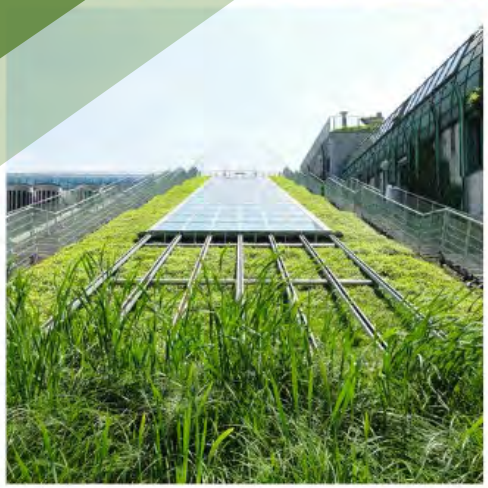
GUIDE OF GOOD PRACTICES

RENEWABLE ENERGIES FOR VULNERABLE GROUPS



POWERTY
Interreg Europe

European Union
European Regional
Development Fund

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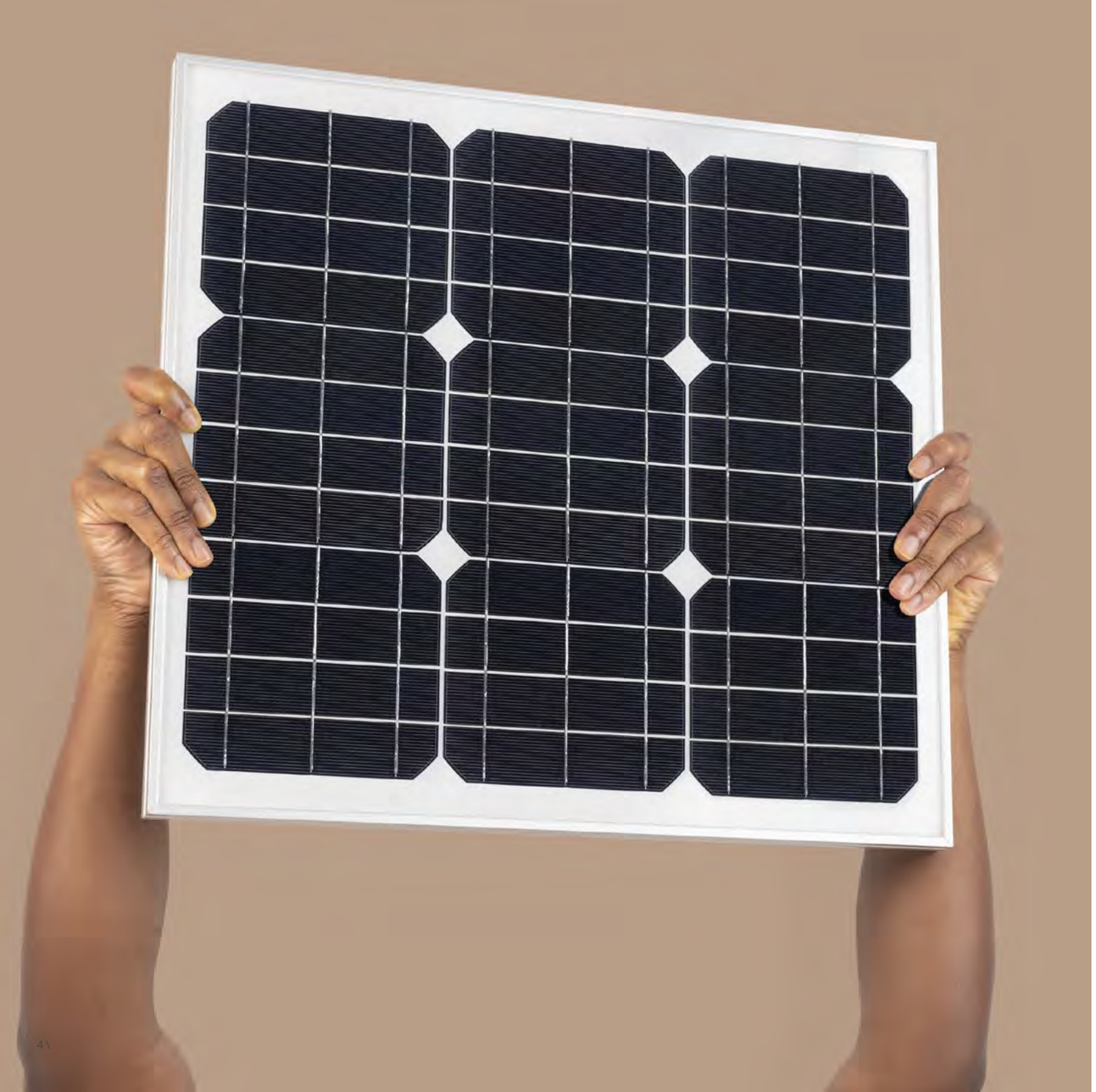


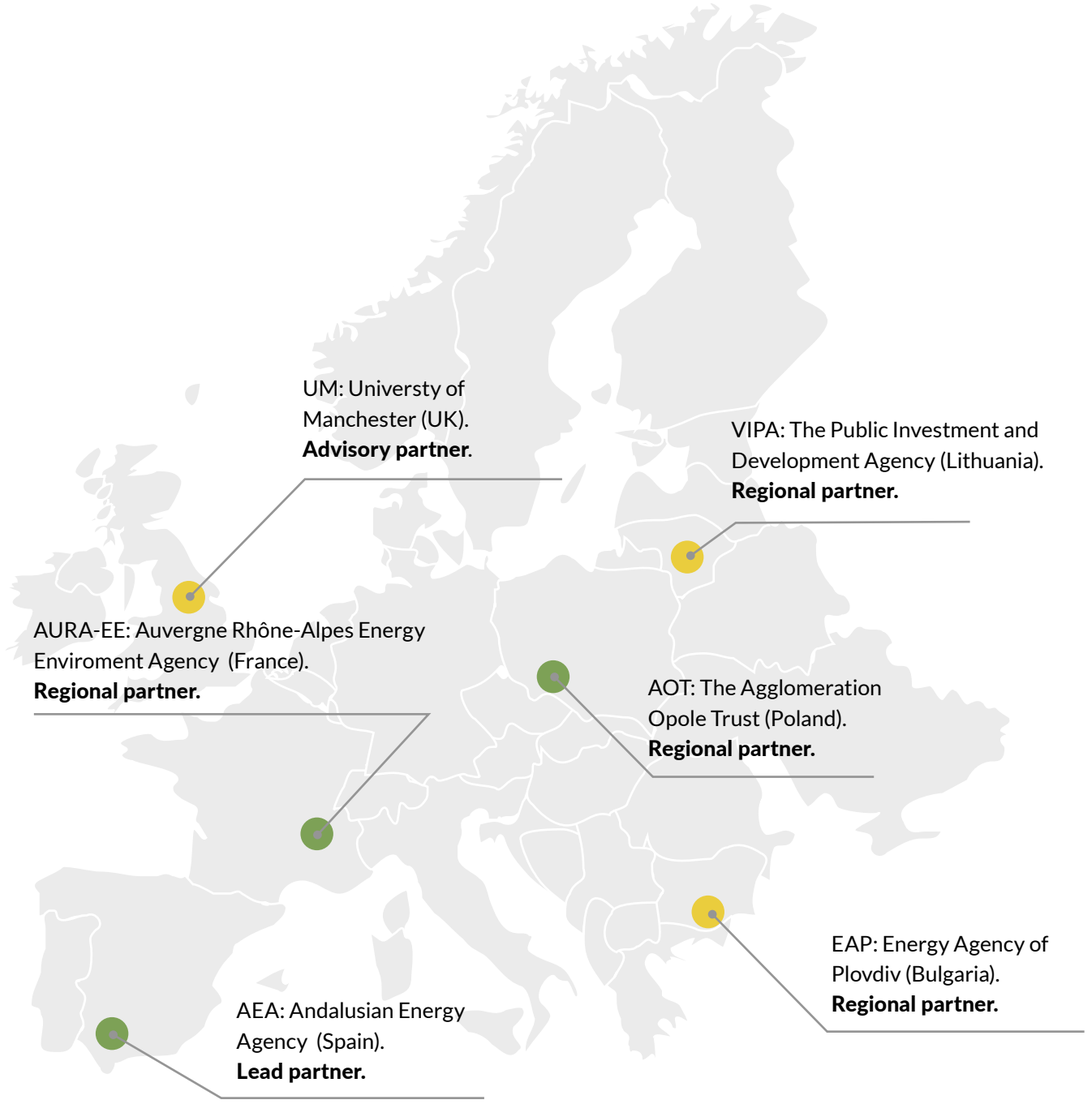
1. INTRODUCTION TO THE POWERTY PROJECT AND THIS GOOD PRACTICES GUIDE.

The decarbonisation of the energy system requires that all European citizens can make full use of renewable energies. However, there is a high percentage of citizens with many difficulties to have renewable energy facilities and equipment, in particular the vulnerable groups, including those affected by “**energy poverty**”. These difficulties are motivated by economic and technological issues (renewable energy solutions are not adapted to vulnerable groups), but also by other factors of a social and cultural type, use and owners of housing, etc., which influence the types of solutions that should be used, as well as how to manage them.

The POWERTY project, approved by the European Commission in the framework of the Interreg Europe programme, began in August 2019 and runs until July 2023, with a budget of 1.227.226 euros, has as a general objective to **increase the use of renewable energies in vulnerable groups**. This way, thanks to the project, new renewable energy installations will be facilitated to provide safe and clean energy to vulnerable households. In addition, companies supplying renewable energies will be encouraged through the project to offer technological solutions that are adapted to vulnerable groups, activating their corporate social responsibility.

In this way, POWERTY will help to tackle energy poverty, promoting vulnerable households with adequate energy supplies, thanks to renewable energies. Given the exceptional conditions of these households, social innovation measures will be promoted, based on greater participation, integration and empowerment of vulnerable groups.

The project will develop a **complete learning process** through periodical meetings, interregional seminars, study visits and other actions to facilitate an effective knowledge flow among regions, among the POWERTY consortium, which counts on six international partners with different complementary expertise and different levels of competences (regional/national) which enriches the transfer of knowledge. More than 50 good practices and almost 50 events involving 60 stakeholders will establish 5 Regional Action Plans covering a population of more than 25 million inhabitants.



To study in depth some of the good practices identified, the different regions of the POWERTY consortium has been visited through the bilateral meetings to learn about adapting these ones to our regions, which is the main goal of the project.

The good practices database is the cornerstone of the project. For this reason, one of the main outputs is a Guide of Good Practices. This document is organised by topics and compiles and makes available to the general public the good practices detected among the consortium and identified and characterised by every consortium partner. Some of this good practices are incorporated into the IE Policy Learning Platform as “success stories”.

The POWERTY project aims to ensure the real impact of the achievements in the long term, which will be achieved through new and innovative initiatives put in place and adapted to the local needs and expectations of society.

2.IDENTIFICATION OF GOOD PRACTICES. GUIDELINES AND METHODOLOGY.

For a successful good practices compilation exercise, a methodological framework was provided as “guidelines” available for every consortium partner to help to identify good practices in renewable energies and energy poverty in Europe, to be done at a regional level.

GOOD PRACTICES IS DEFINED AS AN INITIATIVE (E.G. PROJECT, PROCESS, TECHNIQUE) UNDERTAKEN IN ONE OF THE PROGRAMME'S PRIORITY AXES WHICH HAS PROVED TO BE SUCCESSFUL IN A REGION AND WHICH IS OF POTENTIAL INTEREST TO OTHER REGIONS. PROVED SUCCESSFUL IS WHERE THE GOOD PRACTICE HAS ALREADY PROVIDED **TANGIBLE AND MEASURABLE RESULTS** IN ACHIEVING A SPECIFIC OBJECTIVE. ALTHOUGH THE INTERREG EUROPE PROGRAMME PRIMARILY REFERS TO GOOD PRACTICES, VALUABLE LEARNING ALSO DERIVES FROM BAD PRACTICES WHERE LESSONS LEARNT CAN BE TAKEN INTO CONSIDERATION IN THE EXCHANGE OF EXPERIENCE PROCESS.

The methodology hereinafter proposed is oriented towards results being achieved. That is why these guidelines have been produced following the project deliverable structure, in order to ensure that all relevant aspects have been taken into account.

The guidelines also provided the partners with a template that contains the description and specific required information defining good practices.

There is no limit on the number of good practices to be collected among the consortium members. As a requisite, a total minimum number of 50 shall be collected.

For the POWERTY project purposes we will consider the above quoted definition for Good Practice as stated in the Interreg Europe Programme taking into account the key criteria suggested for the Good Practices selection:

The action can be classified under one or more than one of the 4 topics defined in the Application Form, namely:

1. Identify renewable energy technologies, tools and methods;
2. Highlight new financing mechanisms;
3. Overcome barriers of a normative character;
4. Empower citizens and local authorities.

The action is finished or in progress, but in any case, with proven results.

The action has a clear potential for replication in other territorial contexts.

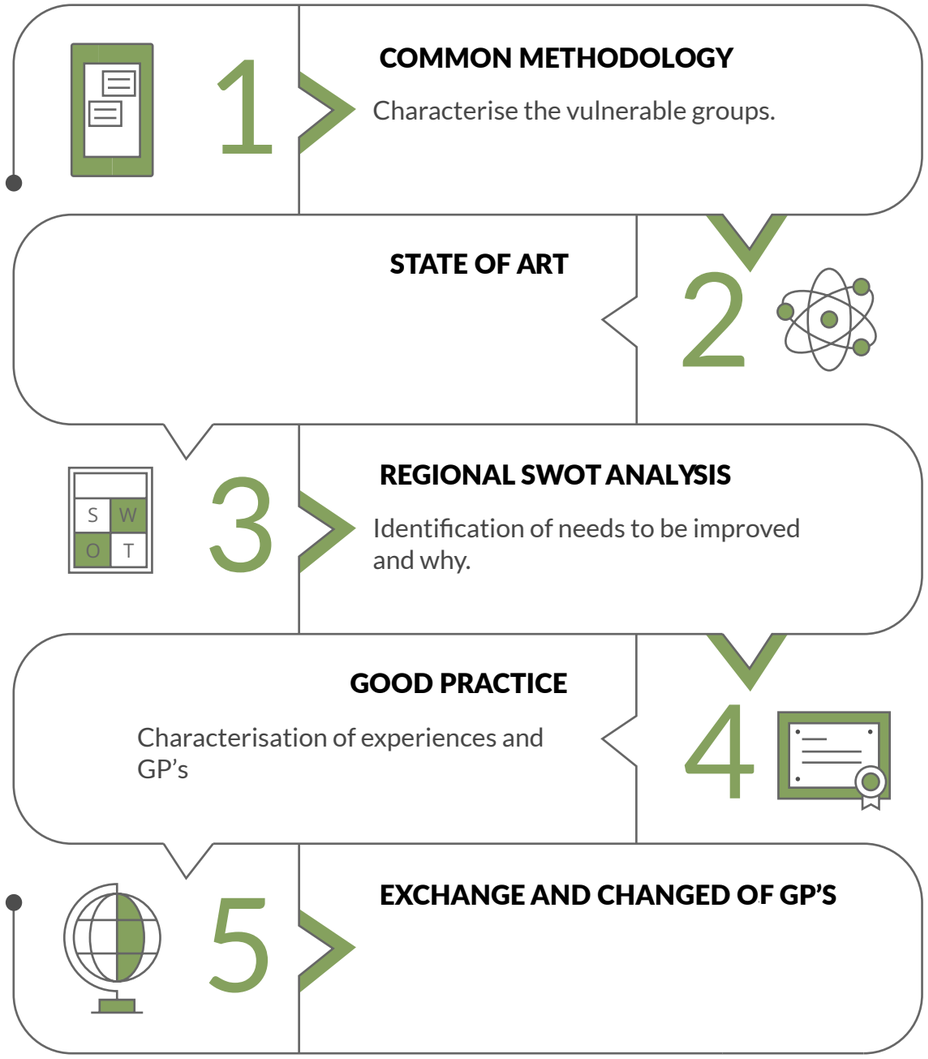
The action has already provided tangible and measurable results in achieving a specific objective. It is recommended (if possible) to be related to one or more of the self-defined performance indicators in the Application Form. This is direct impact estimation:

1. Additional capacity for renewable energy production for vulnerable groups (kW).
2. Number of residential housing that consume renewable energy (collective or individual projects) concerning vulnerable groups.
3. Number of funded projects with energy poor households applicants
4. Number of homes/buildings that consume renewable energy belonging to vulnerable groups.
5. Number of households with increased energy efficiency addressed to vulnerable groups.

Any other features that may enhance the Good Practice potential will be welcome. In particular, impacts on some success indicators might be collected, as total renewable energies associated to the practice, reduction of CO_2 emissions, reduction of energy spending, perceptions by users by survey (comfort quality of life...), research and patents output, total investment outcomes, number of jobs created, etc.

During the good practices collection, it was recommended to the consortium partners that the good practices selected are meant to help other partners' to fully or partially cover their regional needs, previously identified in their respective regional analysis (SWOT analysis).

Also, partners need to meet the output performance indicators stated in the Application Form of the project to **improve their regional policy instrument** as the project success depends partially on it. In consequence, special attention should be paid to the above when making the final selection of regional good practices.



3. GOOD PRACTICES REPOSITORY.

The good practices identified are listed as follows in 4 POWERTY topics.

Some of these good practices were presented during the three **Interregional Thematic Seminars of POWERTY** (here is the link with information about these presentations).

- Topic 1: Renewable energy technologies
- Topic 2: Financial mechanisms
- Topic 3: Normative
- Topic 4: Empowering

TOPIC 1:

RENEWABLE ENERGY TECHNOLOGIES:

S P A I N

Energy improvement of 149 social houses using renewable energy.

Solar neigbourhood.

Solar cookers and ovens as one more measure to overcome energy poverty.

Public policy of Innovative Public Procurement of the Andalusian Regional Government.

Data-driven value-added services for collective self-consumption plant that includes vulnerable groups.

Renewable Energies favour the labour insertion of vulnerable people in a farm in Seville.

#SolSurAutoproduction: Collective purchase model of 50+1 self-consumption photovoltaic installations

F R A N C E

The Grenoble area's district heating network: renewable energy, affordable for vulnerables groups.

Sponsorship to enable residents of social housing to reduce their bills thanks to solar electricity.

B U L G A R I A

Facilitation of renewable energy solution for self-consumption in residential building.

P O L A N D

Home Exchange, a program to eliminate energy poverty in the region by building microhouses.

L I T H U A N I A

Remote renewable energy power plants for prosumers.

Renewable energy platform for prosumers.

1. ENERGY IMPROVEMENT OF 149 SOCIAL HOUSES USING RENEWABLE ENERGY

Solar energy to heat sanitary hot water for social housing of people in vulnerable situations affected by energy poverty.

Andalusia, Spain.

September 2017 - december 2018.

The area where this action has taken place (called “El Rancho”) is considered vulnerable, which causes many households to be in a situation of energy poverty.

The Andalusian Regional Government, through its Housing and Rehabilitation Agency (AVRA), carries out rehabilitation interventions in areas of this type, especially in social housing. Within these rehabilitations, energy improvements play a relevant role, including renewable energy. Specifically, in this good practice, equipment has been installed to produce sanitary hot water using solar energy, which supplies 149 social houses (besides other energy efficiency actions). In addition, this solar equipment includes an on-line, real-time monitoring system that allows to know the operation of the system at all times, allowing to analyse the consumption and performance of the solar energy installations.

The beneficiaries of this good practice are the users of social housing.

Throughout the process of preparation and execution of the works, permanent Contact was maintained with the neighbours, informing them about the works and managing the incidents that occurred with very satisfactory results. For this, several meetings were held with the neighbours and all the particular queries that arose were attended to.

RESOURCES NEEDED

The investment made in this action amounts to 1,440,507€ (80% ERDF Funds).

the employment generated is estimated at 72 jobs.

EVIDENCE OF SUCCESS

The energy rating of the homes has improved from E to D.

Neighbours perceive that the thermal comfort of their homes has improved, and they save approximately one butane cylinder a month and still have more hot water for other uses (such as cleaning the home).

Finalist in the Official College of Architects of Seville awards in 2019, disseminated in international conferences and visited by a group of Chilean government technicians interested in learning about good practices in the energy field.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Permanent Contact with neighbours, who were offered information on the works, is positively valued. In addition, the execution of the works was carried out without temporary relocation of the residents.

As an additional added value, the employment of women and vulnerable people has been promoted.

POTENTIAL FOR LEARNING OR TRANSFER

The intervention includes a specific test plan to control energy measures, before, during and after the works, measuring the air tightness parameters of the houses. In addition, the solar thermal energy production facility has an on-line, real-time monitoring system that allows to know the operation of the system at all times, allowing to analyse the consumption and performance of the installation in each building.

The set of these data will be very useful for the analysis of the operation of this type of facilities with a view to the future application of these systems in other interventions and for the transfer of knowledge to other entities and regions.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Improving efficiency of social housing is challenging due a number of different ownership models across Europe, and a lack of incentives for change. Inhabitants often either lack funds to invest in renewables, or lack incentives to invest in property which they do not own. As such, the public sector must often take the lead. This practice demonstrates the benefits of assigning responsibility to a single agency which can identify buildings for improvement, specialise in appropriate actions and implement them at scale. In this case, ERDF grant funding has been used – an option open to many European regions – but other models for financial instruments are emerging and will be essential for meeting the goals of the EU's climate policy and its Renovation Wave. More information on energy efficiency in social housing can be found in this webinar replay from the Policy Learning Platform: here.

CONTACT FOR MORE INFORMATION:

Agency for Housing and Rehabilitation of Andalucia (AVRA)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

2. SOLAR NEIGHBOURHOOD

Barrio Solar is an initiative aimed at promoting shared self-consumption and solidarity in neighbourhoods in urban and rural areas, through the installation of photovoltaic plants for shared self-consumption in community buildings in the neighborh

In Barrio Solar, both neighbours and businesses that are less than 500 meters from the installation, can participate without having to make any investment or change energy market. They only have to pay a small monthly bill, with which they can benefit from savings of around 30% energy on their bills. Energy that they will now receive from the solar panels of the installation of their neighborhood.

Barrio Solar is an initiative that aims to reach all the people in the neighbourhood where it is installed. Therefore, a percentage of the energy it generates goes to families in the neighbourhood who are in a situation of energy poverty and do not have to pay any monthly fees. These families simply benefit from the savings in the energy bill that the solar self-consumption generates. By not having to change electricity markets, these vulnerable participants can maintain their contracts in PVPC with a social bonus.

The objective of Barrio Solar is not only to promote collective self-consumption in vulnerable households, but also the photovoltaic installation that is carried out should be the first stone of a community work project around the acquisition of awareness, commitment and habits aimed at contributing to the fight against the climate crisis and energy poverty.

For which, it will be launched in the neighborhood where the Barrio Solar Office is held. This office will be a reference space in terms of renewable energy, responsible consumption and sustainability in the neighborhood.

PROMOTER:

ECODES

FURTHER INFORMATION:

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3. SOLAR COOKERS AND OVENS AS ONE MORE MEASURE TO OVERCOME ENERGY POVERTY

Dissemination activities to learn about the technology of solar cookers aimed at the university community and vulnerable groups.

Andalusia, Spain.

October 2014 - ongoing.

The 2030 Agenda obliges university institutions, such as the University of Huelva (UHU), to propose ways to achieve the Sustainable Development Goals (SDGs) such as to end poverty and the reduction of inequalities, affordable and clean energy, sustainable cities and communities and, mainly, climate action.

It was detected that the lack of knowledge of solar cookers by social agents, in particular, and civil society, in general, required an exercise of knowledge transfer to promote these SDGs through this technology and also to encourage energy empowerment of citizens so that they have an active role in deciding what energy they consume.

For this reason, activities have been developed to demonstrate the different ways of cooking with the sun - cooking and tasting a solar menu in real time, its capabilities and utilities - with primary school students and the UHU, promoted by different Services: Department of Integrated Sciences, Sustainability Classroom, Health Unit, Social Council and with unemployed women from Intermon-Oxfam.

In addition, the presence of solar cookers in the curriculum of UHU degrees has been promoted, both in theoretical and practical teaching, as well as in the acquisition of competencies through non-formal activities. For this, a teaching innovation project has been carried out to evaluate the possibilities of its inclusion in formal contents of some degrees and masters.

RESOURCES NEEDED

5,400€, part from UHU through the Sustainability Classroom and Social Council and part from the Andalusian Regional Government through the Ecocampus programme

4 teachers, 2 technicians from the Dpt. Integrated Sciences & 10 students from the volunteer network of the Sustainability Classroom.

EVIDENCE OF SUCCESS

- 4 editions of “Green Days”: 1,200 children from 24 primary schools attended.
- 32 demonstrative workshops: 1,780 UHU students attended. A greater impact was caused given that the workshops were held on public roads, visible to anyone passing by at the time of the activity.
- Inclusion in the Energy Management class of the Environmental Sciences degree course.
- 1 End of degree project on solar cookers.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

• Need for integration in home. The solar cooker must be suitable to space available, your way of cooking and the solar exposure of your home.

• Need to change cooking habits with respect to traditional cooking (temperature & cooking times, attention, etc.).

• Low commercial offer of solar cookers

POTENTIAL FOR LEARNING OR TRANSFER

This technology is rated as very effective, sustainable and adequate by those attending the demonstrative workshops. In other words, it is easily understood by the citizens, which shows interest. Therefore, it is replicable to any European region since a parabolic solar cooker is able to concentrate direct solar radiation from any angle, making it possible to be used at any latitude. That is, on a clear day we could have approximately the same performance anywhere.

CONTACT FOR MORE INFORMATION:

University of Huelva

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

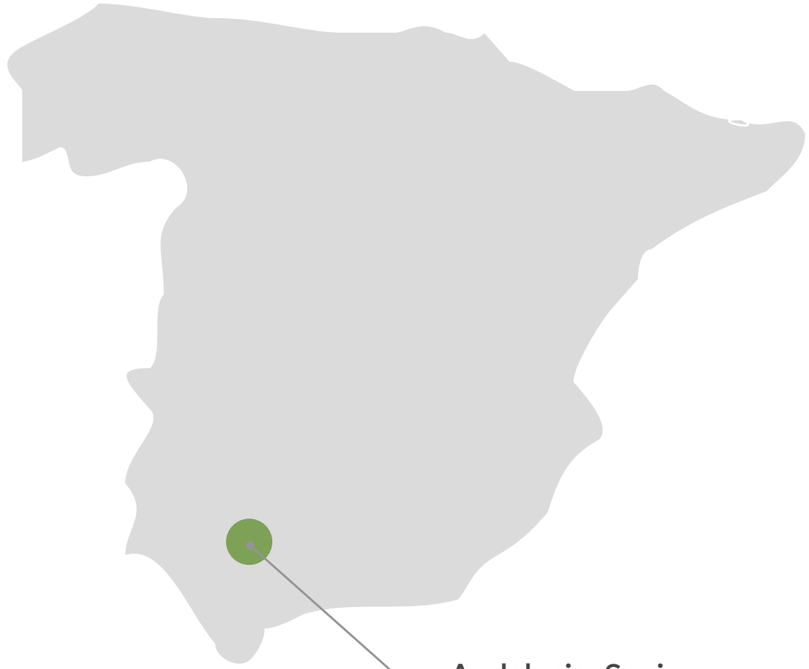
Here

ACCESS TO AN EXPLANATORY VIDEO ON HOW TO MAKE YOUR OWN SOLAR COOKER:

Here

4. PUBLIC POLICY OF INNOVATIVE PUBLIC PROCUREMENT (PPI) OF THE ANDALUSIAN REGIONAL GOVERNMENT

First PPI in Andalusia: Near Zero Energy Industrialised Social Housing Building (nZEISHB) in Andalusia.



Andalusia, Spain.

January 2020 - ongoing.

Since social housing is managed by public entities, the PPI is a way of providing energy efficiency to such housing for vulnerable groups.

The PPI is a public policy aimed at making strategic use of the significant volume of government procurement as a driving force for SMEs, entrepreneurs and companies to make technological choices to meet public sector needs that do not find answers in the market, and for which tendering procedures required are different to the ordinary ones. This is a novel formula based on public-private collaboration that is implemented through public tendering processes.

An example is the Near Zero Energy Industrialised Social Housing Building (nZEISHB) project promoted by AVRA which aims to meet the challenge of the Andalusian public administration to build subsidised social housing with almost zero energy consumption: a modular and flexible system of industrialised multi-family subsidised housing with almost zero energy consumption, as well as the necessary processes for its integration and implementation in multi-family subsidised housing buildings with almost zero energy consumption.

The nZEISHB project promotes a social construction system that values affordable housing, makes buildings adapt to the climatic conditions of each area, withstand the high temperatures of summer but also the cold of winter, and do so with low energy consumption. And of course, reducing energy.

RESOURCES NEEDED

Its budget amounts to 2.8 million euros. The nZEISHB project is 80% co-financed by the European Regional Development Fund.

EVIDENCE OF SUCCESS

Preliminary market consultation successfully completed in order to gather ideas and innovative solutions from economic operators and other knowledge agents to solve the needs raised by AVRA in order to advance in the process of defining the future tender for the project.

Reduction of CO2 emissions of around 30%, while with the industrialised implementation system, there will be savings in materials and substantial reductions in both the carbon footprint and construction waste.

POTENTIAL FOR LEARNING OR TRANSFER

This good practice is replicable to any territory of the European Union. It is an example of a public policy model aimed at making strategic use of the significant volume of government procurement as a driving force for SMEs, entrepreneurs and companies to make technological choices to meet public sector needs that do not find answers in the market, and for which different tendering procedures are required. It has the dual purpose of encouraging innovative activity in the business sector and contributing to the modernisation of the Administration through the introduction of new technologies and processes.

All this is very useful to apply to bids for social housing, achieving better energy benefits in them.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE

This good practice from Andalusia demonstrates that public procurement for innovation (PPI) in the social housing sector can be successfully used to enable the construction of nearly-zero energy buildings. This is in line with EPBD obligations for new buildings, with the overarching policy goals pursued under the European Green Deal and, of course, is instrumental to the addressing energy poverty.

CONTACT FOR MORE INFORMATION:

Regional Government of Andalusia and Andalusian Housing and Rehabilitation Agency (AVRA)

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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5. DATA-DRIVEN VALUE-ADDED SERVICES FOR COLLECTIVE SELF-CONSUMPTION PLANT THAT INCLUDES VULNERABLE GROUPS

Digital platform for analysis and advanced energy data management for collective self-consumption of renewable energies. Self-consumption for all.

Andalusia, Spain.

May 2018- ongoing.

Local administrations are starting to develop initiatives to help solve the climate emergency and energy poverty, in particular through collective and shared self-consumption renewable energy installations.

New technologies for obtaining, analysing and managing energy data greatly facilitate the development of this type of installation, given that they make it possible to choose the most appropriate size and characteristics of renewable energy installations with greater precision. This avoids wasting economic resources in oversized installations. In addition, data technologies optimise energy distribution among all the users associated with the renewable energy self-consumption plant, thus maximising the amount of self-consumed energy.

This good practice consists of the digital platform “Pylon-Data”, which performs analysis and energy management data, generating solutions based on the needs of consumers:

- It allows to configure a distribution among all users of the % of electricity and to allocate a higher % of electricity generation to vulnerable groups in a situation of energy poverty.
- It increases the profitability of a collective self-consumption installation by up to 30%.
- It reproduces a collective self-consumption report in a matter of minutes, based on real energy data, compared to several weeks.

RESOURCES NEEDED

During 2020 the total resources used were € 295,000: 2/3 for human resources (11 employees) and 1/3 for operating costs. In addition, € 20,000 were used for marketing campaigns.

EVIDENCE OF SUCCESS

The average reduction of energy poverty through the use of this platform by local entities is 19.58% of their bill. During 2020, a total of 13 municipalities benefited with a total of 1,000 analyses; 700 optimisations and a potential saving of 223,250 €/year.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The main handicap of these services is the accessibility to energy production and consumption data.

Develop solutions with customers and not for customers. It is necessary to ask good questions and understand the real problem of the customer in order to co-design solutions that add value.

POTENTIAL FOR LEARNING OR TRANSFER

Renewable energy and the need to integrate all citizens (including vulnerable groups) is a priority of EU energy policy, and energy communities and collective self-consumption schemes are being introduced as key stakeholders in the energy market.

The platform features can provide information on the adoption of EU legislative directives by all EU member states and the digitalisation of the energy transition. Therefore, we see a remarkably high transfer potential of this good practice.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Community energy schemes will be a key component of our energy transition but managing such projects can be a real challenge. This platform is an interesting, replicable approach for obtaining and managing energy data to enable optimal installation performance and self-consumption within the community. The practice's focus on also tackling energy poverty is especially interesting, enabling vulnerable users to benefit from sustainable energy.

CONTACT FOR MORE INFORMATION:

Pylon Data

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

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6. RENEWABLE ENERGIES FAVOUR THE LABOUR INSERTION OF VULNERABLE PEOPLE IN A FARM IN SEVILLE

PV for pumping the well allows the farm to increase the amount of land used for irrigation and increases labour insertion of vulnerable groups.

Faced with the high number of people in a situation or at risk of social exclusion, Caritas Seville promotes and coordinates its employment insertion company Bioalverde, which through the management and ecological agricultural exploitation (20 hectares) manages to close a cycle that begins with the need of the vulnerable and ends with the coverage of this need.

In 2018, they detected that the use of irrigated land allowed them to increase the number of contracted staff and therefore training places. This good practice focuses on the PV installation to pump water from the well for irrigation, which supplies more than 92% of the energy required to allows hire more poor people and alleviate the energy poverty situation.

It consists of the following steps:

1. Training in skills and organic farming for vulnerable people every year to create a pool of potential new recruits to the company.
2. Reinsertion of vulnerable people into the labour market so that they can gain experience and to make room for potential new incorporations. Development of organic farming with renewable energy supply (fair and sustainable consumption).
3. Supply of food to social kitchens attended by vulnerable people.

RESOURCES NEEDED

PV installation: €18,000, financed by ENDESA funds.

Energy feasibility study of the project and responsible for the supply, implementation and assembly of the solar photovoltaic installation and accessories: Energía Sin Fronteras through its volunteers.

EVIDENCE OF SUCCESS

In August 2019, 13 people hired full time and assisted by two social workers for their insertion and improvement of socio-labour skills. In terms of production, this irrigation expansion has provided us with a two-fold increase in production and the purchase of our products by our members has grown by 177%, allowing the incorporation of 2 more workers for each hectare of irrigated land.

In October 2019, 48 people trained, who have completed the course on skills and organic farming.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

We must highlight the context in which this is happening: In 2018, in Spain, there was the sun tax and many barriers that did not favour the commitment to solar photovoltaic energy.

POTENTIAL FOR LEARNING OR TRANSFER

The forecast for 2020-2023 is to reach 23 people hired and 80 people trained thanks to the continuous expansion of irrigated hectares (2 ha/year) with a corresponding increase in demand for production and therefore employment and training.

Caritas, after seeing the successful results of solar energy, is considering using this technology in other buildings such as training centres and shelters belonging to Caritas. Furthermore, with the new Spanish legislation (2019) that favours self-consumption, the training in ecological agriculture could be extended to include solar photovoltaic installers and thus include this labour reinsertion in the cycle mentioned in the description.

Of course, this good practice can be replicated in any European region with sun and countryside.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The benefits of installing solar parks on agricultural fields are endless. In the case at hand, the energy produced by PVs enables greater access to underground water which allows an organic farm to obtain more vegetables harvested by workers at risk of poverty and social exclusion who, for this precise reason, receive specific training thanks to the partnership between the farm and a charitable organization. The skills training scheme showcased has a great interregional learning value. Its transferability to other European regions where green jobs of this kind could be created is undisputed. Moreover, local and regional policymakers should also be made aware of the growing scientific evidence (among others, see e.g., https://www.sciencedirect.com/science/article/pii/S1364032121003531) on the benefits for pollinators and wider biodiversity stemming from the installation of solar parks on farmlands, which should also be a great argument in favour of their deployment. Finally, because of water stress exacerbated by climate change, policymakers should also be encouraged to promote as much as possible the reuse of reclaimed water in their territories. This would contribute to reducing the pressure on scarce underground water resources and would be aligned with the latest EU policy and legislative initiatives, chiefly the new Circular Economy Action Plan and the recently adopted minimum quality requirements for water reuse (Regulation (EU) n º 2020/74).

CONTACT FOR MORE INFORMATION:

Bialverde - Caritas Sevilla

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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7.#SOL-SUR AUTOPRODUCTION: COLLECTIVE PURCHASE MODEL OF 50+1 SELF-CONSUMPTION PHOTOVOLTAIC INSTALLATIONS

Andalusia, Spain.

January 2020 - ongoing.

Collective purchases 50 + 1: For every 50 PV purchased, 1 is given to a non-profit entity.

Faced with the need for citizens to take a more active role in the production and management of more sustainable, efficient and distributed energy, the Som Energía cooperative makes use of the collective purchasing model (CPM) to implement a set of self-consumption PV installations for members of the cooperative and with a house with its own roof.

This CPM allows to obtain an adjusted market price when buying a large number of self-consumption installations at the same time. In adittion, it facilitates the processing, ensures the execution by a solvent installation company and the advice of Som Energía in all phases of the process from the selection of the installation company, through the registration of interested members as part of the purchase collective, personalised studies in the homes, execution of installations and monitoring and advice to adapt energy uses once the member is already generating their own energy.

The collective purchase is made by zones that include 3 or 4 provinces. In the case of Andalusia, the Local Group of Seville and Los Alcores (GL) manages “SolSurAutoproduction” that covers Huelva, Seville, Cadiz and Córdoba.

For the choice of the installation company, a competition has been carried out, with the criteria and the conditions established by the GL.

For each CPM, a self-consumption PV installation is donated to a non-profit company. In this case, it has been for the AFAR National Association.

RESOURCES NEEDED

To manage all active collective purchases, the development of competitions, coordination with companies and attention to registered people, it represents a total of 2.5 people hired full time.

It is also very important to highlight the work of the volunteers.

EVIDENCE OF SUCCESS

Total registrations: 62

- Total discarded projects: 11
- Installations in operation: 48 and Ongoing projects: 3

Approximate installed power: 145 kW

Approximate generation: 210 MWh / year

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

This CPM not only reduces costs, but also makes it easier to manage the administrative and legal procedures for those who want to self-produce their own electricity.

POTENTIAL FOR LEARNING OR TRANSFER

The results were very positive so it was decided to promote a new edition in Western Andalusia and replicate the initiative in Eastern Andalusia with a new collective purchase.

The collective purchases in Som Energia are already a consolidated action of the cooperative with already some 32 collective purchases promoted and some 1,500 installations underway spread throughout the Spanish state that represent about 6 GWh / year of generation.

This experience shows that the most effective way to promote domestic solar installations is to bring together many interested people at the same time, in order to achieve more competitive prices and simplify installation tasks. The intention is to continue replicating the initiative in other areas of the territory. In fact, there are about twenty more purchases in progress and four in the gestation phase.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This excellent practice shows how to involve citizens and especially communities in the energy transition and how to foster private invstment into roof-top solar PV through a set of supportive actions. Grouping interested roof owners together helps bringing down the costs of the individual roof top installation through one large order. It also allows to call for several offers and get the best price. Support that is non-financial allows to harness private financing, which is a very good way for the public sector to increase the share of renewables. The community approach where for 50 privately financed PV systems 1 is donated to a "good-cause" shows a social economy model that can inspire others. The support to self-cosumption also helps alleviate energy poverty and is an excellent practice in line with Green Deal philosophy of an energy transition leaving noone behind. Highly replicate and already being replicated inside of Andalusia, it can inspire policy makers from all over Europe.

CONTACT FOR MORE INFORMATION:

Som Energia

FURTHER INFORMATION:

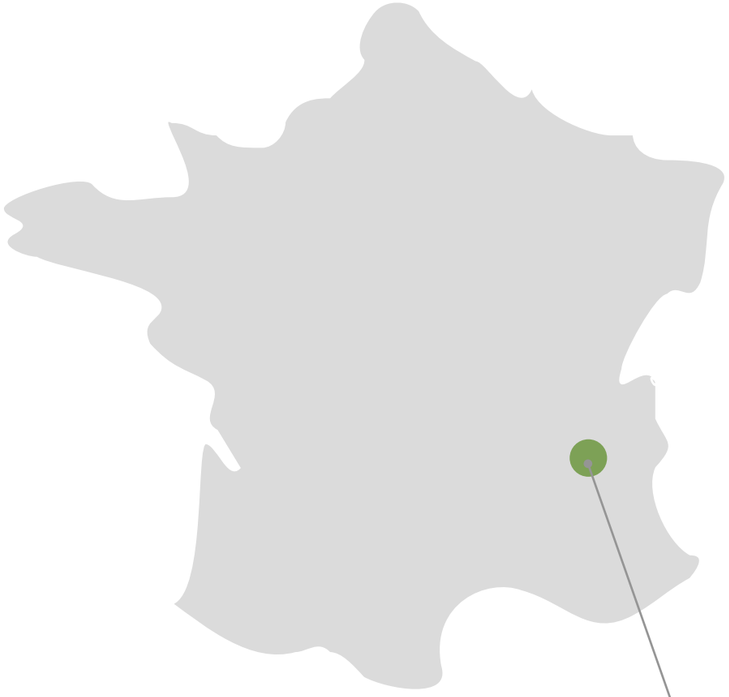
Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

8. THE GRENOBLE AREA'S DISTRICT HEATING NETWORK: RENEWABLE ENERGY, AFFORDABLE FOR VULNERABLES GROUPS

The Grenoble metropolitan area's district heating network uses 79% renewable energy and energy from waste for more than 100,000 inhabitants served.



Rône-Alpes, France.

January 1961 – ongoing.

The municipalities of the Grenoble metropolitan area have been concerned since the 1960s with providing their inhabitants with inexpensive energy.

The economic and ecological crises have encouraged them to introduce renewable energies into their mix.

The Heating Company is a local public company, which has activities of production and distribution of heat and the maintenance and energy performance of the heating installations of collective buildings. By delegation of public service, the Company manages the Grenoble metropolitan area heating network, as well as the incineration and energy recovery unit.

As early as 1994, the Heating Company made a commitment to accelerate the use of renewable energies to replace fossil fuels, with a sustained effort for wood biomass.

In 2020, the share of renewable energy reached 79.3% thanks to an increase in the share of wood, with the objective of reaching 85% of RES by 2022 and 100% by 2033.

All new buildings within the distribution perimeter or undergoing major work are required to be connected to the heating network.

Although the heating network is not specifically aimed at modest households and does not have the right to differentiate its prices according to the public, nevertheless more than 19 % of the population of the municipalities served is considered as vulnerable.

Key figures:

- 2nd largest heating network in France.
- 177 kms of pipelines.
- 100,000 heated housing equivalents 1/3 of the population of the area.

RESOURCES NEEDED

The planned investment over the period of the public service delegation (2018-2033) is €159 million.

229 employees work at the heating company.

79,3%

of renewable and recovered energy (including 42% from the household waste incineration unit and 37% from wood energy).

EVIDENCE OF SUCCESS

1/3 of the inhabitants of the conurbation are served, (100,000 people, 19% of whom are considered poor).

The heating company contains its costs in order to offer a stable energy tariff that is accessible to the greatest number of people.

For 8 years the network has been awarded the “EcoRéseau” label by the association of local authorities AMORCE.

The average bill for a household connected to the Grenoble heating network is €657/year compared to an average of €1,684 in France

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

To guarantee equal access, energy from the heating network is sold at a fixed rate regardless of who receives it. It is not possible for the heating company to set up a specific policy to combat fuel poverty.

The increase in the share of RES must be done in consultation with neighbouring territories.

POTENTIAL FOR LEARNING OR TRANSFER

Once the heating network has been properly distributed, it is up to the local authorities to decide on a renewable energy development policy. Automatically all buildings connected to the heating network benefit from this contribution.

In addition, the single tariff guarantees each beneficiary the same share of RES in the energy mix.

Finally, it seems very important to us to consider the heat needs in the RES development policies. The share of renewable energy can be high with a very good control of costs.

The potential for transfer to other densely populated regions is therefore high.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This good practice shows that woodchips (compliant with RED II sustainability criteria) can be an effective substitute of oil and natural gas to fuel district heating systems and that waste-to-energy has a clear role to play in the transition towards a circular and carbon neutral economy. The results achieved in the Grenoble metropolitan area thanks to forward-looking investments and planning with the view to increase the share of renewables in the energy-mix and to use them to power the local district heating network are remarkable. The choices that were made have enabled a considerable reduction of average energy bills to the benefit of all inhabitants connected to the network. This may certainly inspire other policymakers to follow suit, especially in cities and regions where district heating is still too dependent on fossil fuels.

CONTACT FOR MORE INFORMATION:

The Heating Company

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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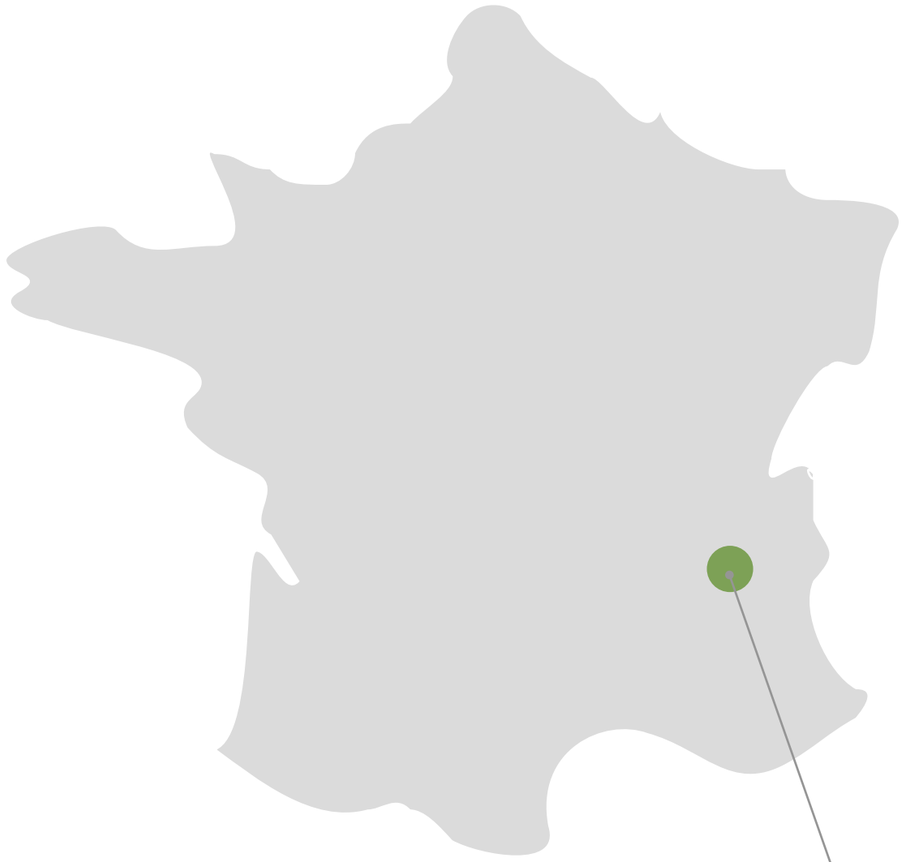
9. SPONSORSHIP TO ENABLE RESIDENTS OF SOCIAL HOUSING TO REDUCE THEIR BILLS THANKS TO SOLAR ELECTRICITY



Rhône-Alpes, France.

December 2019 – ongoing.

Collective systems of photovoltaic self-consumption in social housing financed by the Sol Solidaire sponsorship campaign.

Today, nearly 7 million households in France are in a situation of energy insecurity, according to the founding members of the association ADEME, De Gaulle Fleurance & Associés, Enerplan, Groupe BPCE, TECSOL and the Union sociale pour l'Habitat.

Combining social and environmental progress, this is the challenge of the Association Sol Solidaire, which is launching its first sponsorship campaign to collect funds to cover part of the cost of installing photovoltaic panels, for collective self-consumption systems (powers ranging from 10 to 250 kWp), in social housing (social and public landlords) to reduce their energy bills thanks to solar energy. A reduction in the annual electricity bill by around €200/household.

A donation since ¿from? 500€ to Sol Solidaire has a direct and concrete impact.

The solar energy thus produced will then be distributed directly and free of charge to the inhabitants of the equipped social housing units which represents 10 million tenants for 4.7 million social housing units.

The association manages the call for projects from social landlords with high level requirements on technical and environmental aspects and involvement of beneficiaries; and the fund-raising appeal from patrons and citizens.

500€ is the amount needed to equip a household with two children with solar panels and the saving for a beneficiary family is around 300€ per year for 30 years (i.e. 9,000 €).

RESOURCES NEEDED

1 full time job on SolSolidaire organisation supported by TECSOL group.

Solsolidaire aims to raise 500k€ and plans to gradually increase up to 10 M€ in 2025. Corporate tax reduction for donors of up to 66%.

EVIDENCE OF SUCCESS

- The Sol Solidaire's first national call for projects was launched in November 2020 with:
- 8 social landlords applied according to the specifications,
- 7 collective self-consumption operations were selected: 1,793 dwellings concerned for 1,691 kWp acumulative power.
- 100% funds to cover the full installations, including the maintenance.
- 1 pilot system 9 kWp in a building of 12 apartments, UES Habiter 12 (Aveyron)

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Main challenge is the regulatory context related to collective self-consumption, a complicated economic model without subsidies.

Here, the solution of mobilising private (via sponsorship) and public (via the associated tax deductions) funding has made it possible to remove these obstacles.

POTENTIAL FOR LEARNING OR TRANSFER

At a time when collective self-consumption is spreading in Europe, this experience of selecting projects with high quality requirements (in terms of technical, environmental and beneficiary involvement) carried by social landlords is interesting. The terms of the call for projects from social landlords can easily be adapted to another national context and are available on the website.

The mechanism of financing through patronage and tax deductions also seems to be replicable. The issue of fuel poverty is not a major concern and the tax rescript granted to SOL SOLIDAIRE has made it possible to raise sufficient funds to cover the additional costs of collective self-consumption facilities for 1 793 social housing units.

Sol soldaire is based on a patronage logic that entitles donors to a reduction in income or corporation tax of up to 66%. In addition, the display of donors makes it possible to highlight their participation, which has facilitated the call for patronage.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The added value of this good practice is to be found in the very nature of the funding scheme described which acts on two fronts: the social one and the energy one. Regional and local policymakers from across Europe could consider implementing or supporting similar schemes to tackle energy poverty as a social phenomenon and to boost renewables and energy efficiency at the same time, concurring to what should be the ultimate outcome in the energy sector: the total decarbonisation of electricity production. Provisional data from year 2020 indicate that, where applied, the scheme had a very positive response by social landlords and dwellers.

CONTACT FOR MORE INFORMATION:

Association SOL SOLIDAIRE

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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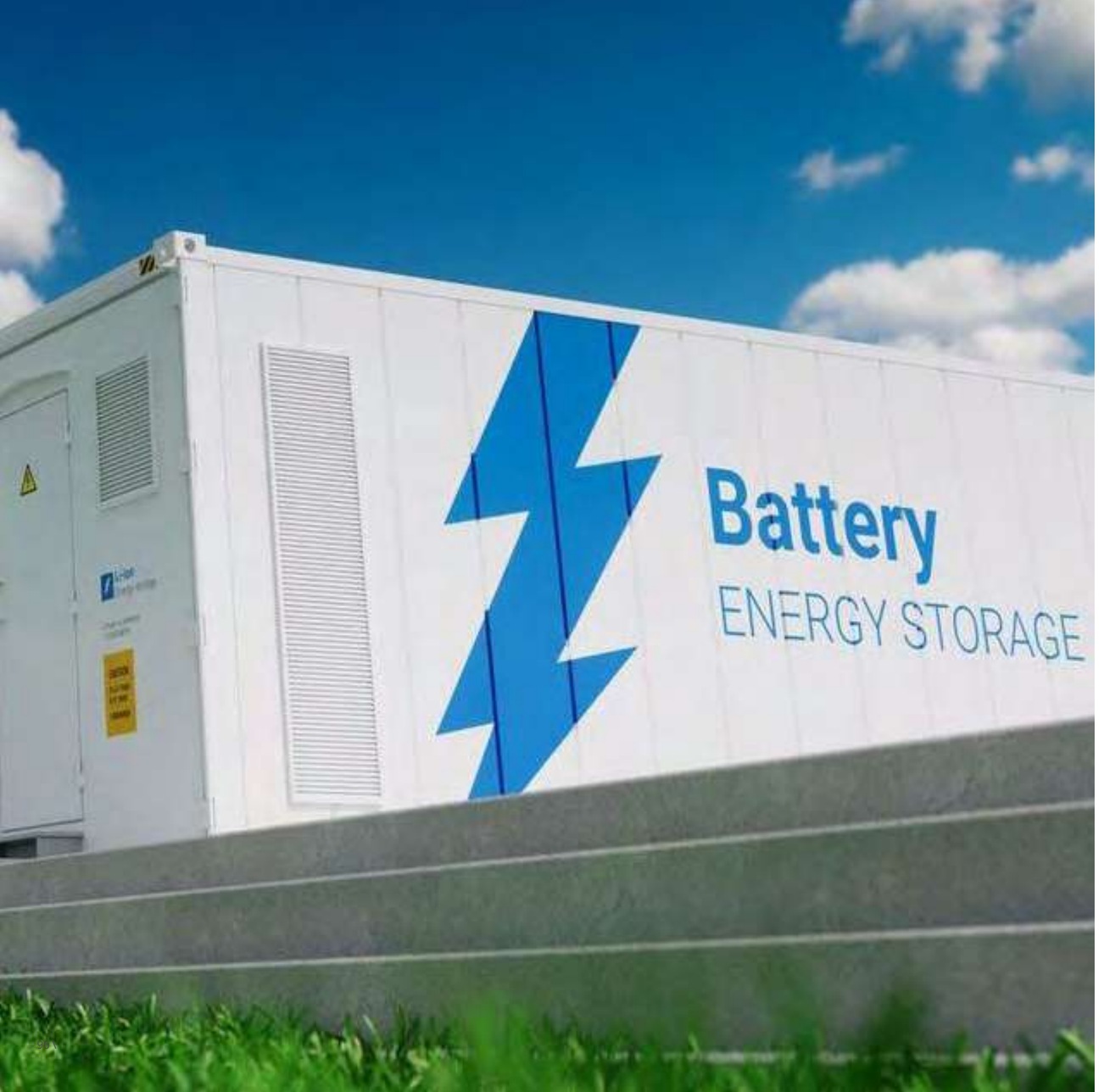
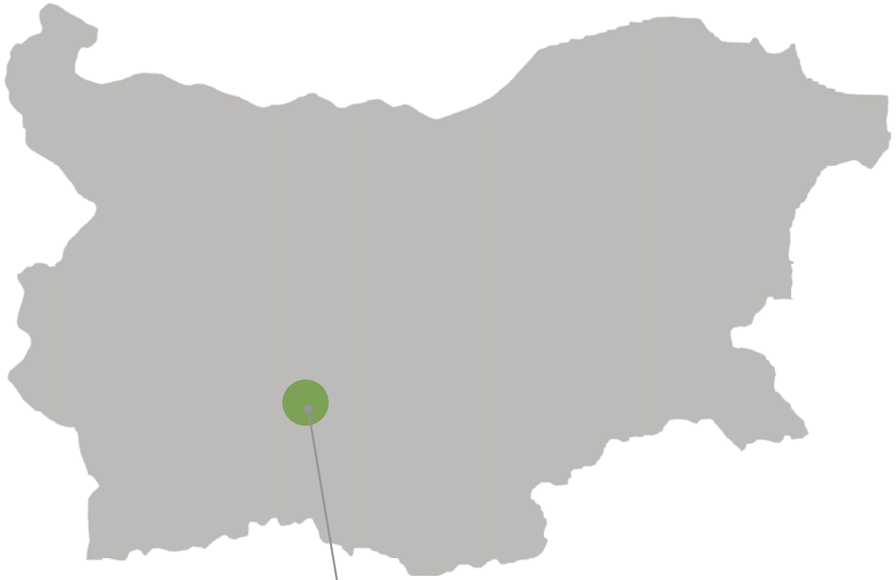


9. FACILITATION OF RENEWABLE ENERGY SOLUTION FOR SELF-CONSUMPTION IN RESIDENTIAL BUILDINGS

Photovoltaic & Battery Energy Storage Systems hybrid solution to increase renewable energy production in areas with high concentration of vulnerable consumers.



Plovdiv, Bulgaria.

August 2021 – may 2022.

Rising energy prices are exacerbating energy poverty, especially in South-Eastern Europe. The seriousness and depth of the problem and the need to protect energy vulnerable consumers requires the implementation of new renewable technology solutions. Transition from large energy systems to decentralized renewable generation is also needed. One of the most promising renewable solutions for alleviating energy poverty is PVs, as it provides competitive renewable power for self-consumption.

However, high PV penetration levels in certain areas may result in unacceptable stresses on the electrical grids during hours with high solar power generation, which could limit their further expansion in specific areas with high concentration of vulnerable consumers and PV generation assets.

As the number of PVs increases their integration in the distribution grids will be very difficult, unless Battery Energy Storage Systems (BESS) is implemented.

The project tested the implementation of the hybrid PV and BESS as a mean to increase the renewable self-consumption and self-sufficiency within 5 residential buildings. A total of 13.5 kWp + 48 kWh storage capacity is implemented within 5 prosumers in Plovdiv area, each one consisted of: 2.70 kWp PV panels + 9.6kWh LiFePO4 ESS + 5kW hybrid inverter.

In countries with high solar potential coupled with the decreasing costs of PV and BESS, makes such hybrids a viable, cost-effective and attractive solution for energy poverty alleviation.

RESOURCES NEEDED

A PV+BESS hybrid achieving nearly 80 % of self-consumption ratio is estimated in the price range between 9,500 to 11,500€ per pilot. Human resources costs are up to 15 % of the total costs.

EVIDENCE OF SUCCESS

Data from monitoring activities showed that:

- Pilots with no electricity heating demand managed to cover 80% of their annual power due to the PV+BESS hybrid, while in the case of no BESS just 48%.
- Pilots with electricity heating demand are able to cover 60% of their annual demand, while with no BESS just 38%.

On average each household achieved:

- The emissions CO2 avoided: 2.8 ton/year.
- The energy savings achieved: 3.4 MWh/year.
- Financial savings of 390 €/year.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The broad phase-out of renewable energy support in Bulgaria, due to the early achievement of the 2020 RE targets, and the aim to reduce household energy prices, lead to a lack of any form of national incentives for self-consumption, especially in the context of energy poverty amelioration.

POTENTIAL FOR LEARNING OR TRANSFER

Given the expected abolition of Feed-in Tariffs and Net-Metering schemes in the EU by 2023, the described project provided data on the efficiency from the implementation of an innovative hybrid of PV plus Battery Energy Storage System. The hybrid targeted to maximise the self-consumption of PV production in 5 single household buildings, as a possible solution for them to achieve power neutrality. Data was collected to test and validate to which extend the ratio of renewable self-consumption and self-sufficiency could be achieved. Pilots with no electricity heating demand covered 80% of their annual power consumption. Hence, this type of solution has multi benefits applicable to low income households. BESS can also have many other applications in a power network, such as power balancing and frequency regulation through the provision of ancillary services. PV+BESS maximises profit and self-sufficiency, while reducing energy poverty and achieving improved access to the energy market.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Expanding residential battery storage in Europe is fundamental for reaping the full range of benefits stemming from a wider deployment of renewables, including the reduction of energy poverty. This good practice clearly shows the difference between installing PV only and installing PV together with battery energy storage systems (BESS). The latter case allows to maximise self-consumption of decentralized electricity produced from renewables by prosumers and energy communities. This replicable good practice may certainly inspire policymakers, especially in the many European regions where the uptake of BESS in residential buildings is still rather limited.

CONTACT FOR MORE INFORMATION:

Energy Agency of Plovdiv

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

11. HOME EXCHANGE, A PROGRAM TO ELIMINATE ENERGY POVERTY IN THE REGION BY BUILDING MICROHOUSES

This good practice is in process and has not been finalized at the time of completing this guide, therefore a summary and the promoter of the project are indicated below.

From a financial perspective, it turned out that to introduce renewable energy in such houses, the buildings must first be insulated and this requires large financial outlays, much larger than constructing a small house that fully uses renewable energy. So, this program consists of families who own a large house or apartment, and can exchange it for a microhouse, which is a modern modular house, fully equipped and which can fully use renewable energies.

A microhouse is offered by a developer, organization, local government or other entity.

The difference between the market price of an apartment and the price of a microhouse is considered as an income for investor.

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A microhouse is offered by a developer, organization, local government or other entity.

The difference between the market price of an apartment and the price of a microhouse is considered as an income for investor.

PROMOTOR:

Agglomeration Opole Trust (AOT)

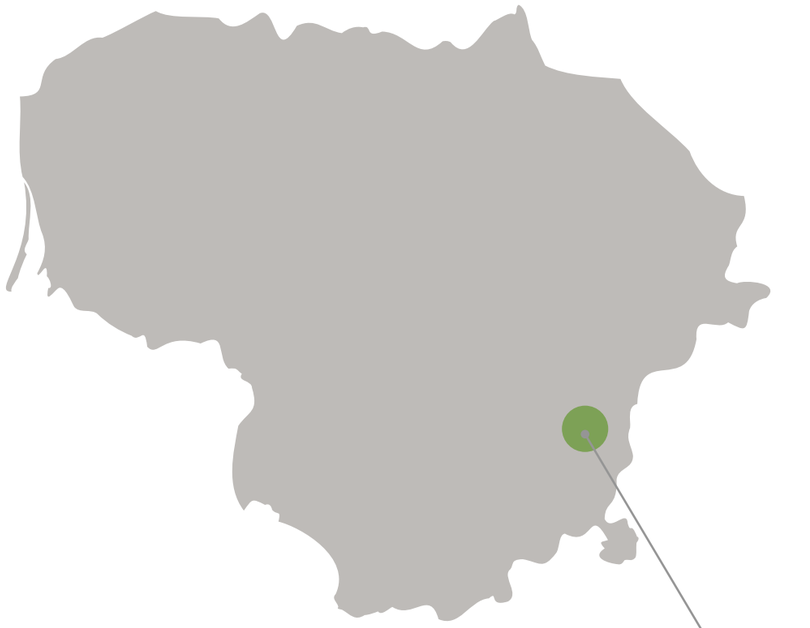
ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

Here

ACCESS TO VIDEO ABOUT THE VISIT:

Here (minute 2:50)

12. REMOTE RENEWABLE ENERGY POWER PLANTS FOR PROSUMERS



Lietuva, Lithuania.

April 2018 – ongoing.

Lithuania is among the pioneers in Europe to implement remote green energy development model, when electricity generated and consumed in different locations.

In 2019, the Lithuanian Parliament approved amendments to the Laws on Renewable Energy and on Electricity which opened opportunities for any electric energy user to become electricity producing consumers and consume electricity generated from remotely situated renewable energy sources. Consumers will be able to build a power plant in one location, while its generated energy can be consumed in a different location, for example, to produce electricity in a farm and to consume it in their apartment. Electricity generated in such plant would be supplied to the electricity grid, while during the accumulation period; every resident will be able to recover the quantity of electricity supplied to the grid, by paying only a fixed fee for the use of the electricity system. This created an attractive, flexible and progressive system promoting electricity users to produce and consume green and clean electricity, to enable quicker investment payback and to feel tangible benefits sooner, through smaller bills for electricity. This brought the opportunity to multi-apartment building owners as before that the only one option was to install such power plants on the roofs of their block of flats.

This model enables consumers (incl. vulnerable groups) to produce and consume renewable energy in a much more simplified way and allows to avoid technical risks related to technical and behavioral challenges.

The model allows power plant developers to sell or to rent (or both) the power plants to the prosumers.

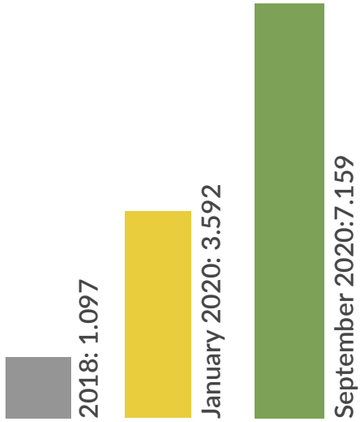
RESOURCES NEEDED

No additional financial resources needed. Human resources at the level of policy makers. The average cost of building remote power plants is about 950 euros per 1 kW + annual administration fee of 20 euros. The price of 1 kWh of storage services is 0.045 euros for use electricity networks.

EVIDENCE OF SUCCESS

At the end of 2020 there were more than 10 MW remote solar power plants being built in Lithuania. It should be noted that all new power plants were started after the model indicated in this good practice was introduced.

The numbers of prosumers in Lithuania increased significantly - from 1,097 in 2018 to 3,592 in January 2020 and to 7,159 prosumers in September 2020.



DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Although this model is technology neutral, currently it is dominated by solar power plants, because of challenges related to other renewable energy sources.

POTENTIAL FOR LEARNING OR TRANSFER

Other partners can learn about models/innovations that enables countries to boost the use of the renewable energy sources in cases when there are technical (not enough space for installations, roof orientation or obstacles, cultural heritage, etc.) or behavioral (people don't like or are not comfortable with changes, don't trust new technologies, waiting for new more innovative technologies etc.) challenges or other renewable power sources are considered (e.g. high capacity wind power plants).

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Decentralised energy generation will be essential for tackling our carbon emissions with widespread roll-out of renewable technologies at small scale and is being encouraged under the revised Renewable Energy Directive (RED II). National and regional governments will have to play an enabling roll to create frameworks to ensure rollout, and Lithuania's example is a strong one. This net-metering scheme enables decentralised generation where there is space and renewable resources, for consumption at another grid connected site at no-cost (except grid costs). It helps to overcome space limitations in cities, and particularly for blocks of flats where roof space is limited, and will undoubtedly also stimulate new business model development as companies rent/lease space and technologies and take advantage of the new provisions. The increase in prosumer rates already achieved is impressive.

CONTACT FOR MORE INFORMATION:

Ministry of Energy

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

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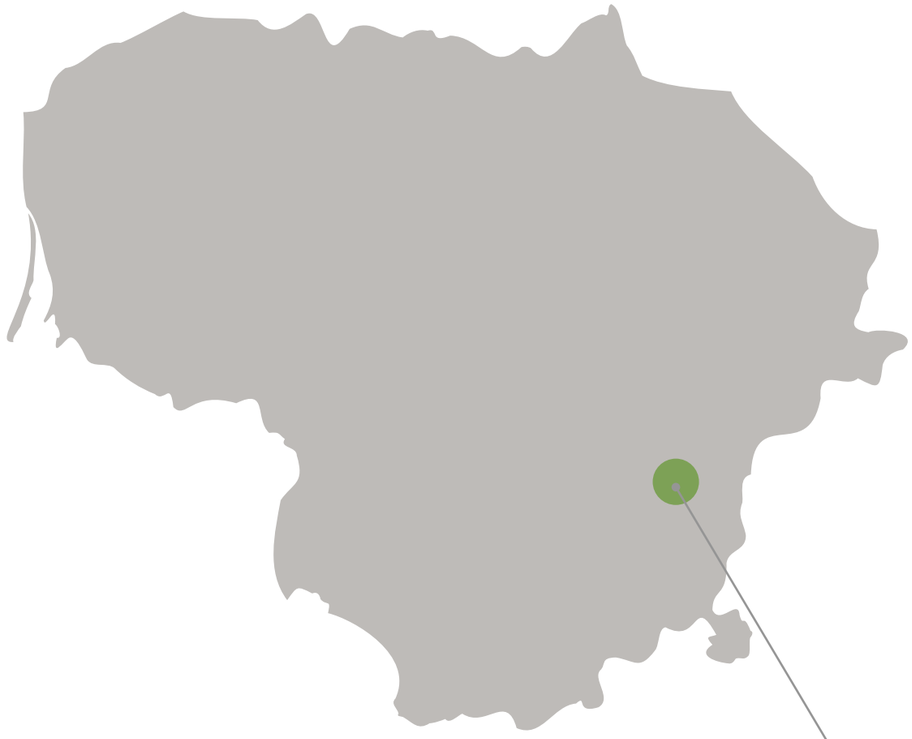
13.RENEWABLE ENERGY PLATFORM FOR PROSUMERS



Lietuva, Lithuania.

October 2019 – ongoing.

RES platform, developed for retail prosumers groups, including vulnerable groups, acts as neutral entity bringing together solar parks' developers and prosumers.

In order to make it is a popular alternative for energy and consumption conscious residents as well as businesses to become renewable energy users on 1st of October 2019, the world's first nationwide platform Saulės Parkai (Solar parks) has been launched and is available to residents willing to produce solar energy for their homes.

In order to encourage residents to take advantage of new opportunities in the energy sector, state owned company "IGNITIS Group" developed an online platform (here to access).. Through this platform, the energy users will be able to purchase or rent a part of the remote power plant, wherever its location in Lithuania. A web page has been launched, where potential prosumers can calculate solar power requirements and make a supply order.

The user will be able to cover energy user own electricity consumption with the power produced by the remote solar power plant. The platform acts as independent and neutral to all market players' entity bringing together solar parks developers and prosumers. As this organisation has a high number of clients it is easy marketing and pooling clients, collecting reservations and funds (plants are started being built after certain percentage of foreseen is reserved). After project is finished platform is collecting payments for plant maintenance and sending it to the developer.

RESOURCES NEEDED

It should be noted that a political support and mutual work on supporting RES legislation is essential.

EVIDENCE OF SUCCESS

Information on the platform of 10th of January 2020:

- First project of 1 MW solar plant was reserved by 280 prosumers in 2 days.
- Project amounting to more than 6.1 MW finished;
- More than 2.6 MW projects are under development;
- Consumer interest expressed for additionally for more than 10 MW of power.
- 10,000 individuals are expected to become prosumers via the platform at the end of 2020.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- Still relatively high investment needed in RES (long payback period);
- Lack of knowledge about RES technologies among individuals.
- Increasing renewable energy technologies production area extends job opportunities for unemployed people, who are part of vulnerable groups.

POTENTIAL FOR LEARNING OR TRANSFER

Other partners can learn how to encourage residents to take advantage of new opportunities in the energy sector through an online platform so boosting renewable energy use.

Project developer is planning to promote this initiative and the scheme in other countries.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

With the change in Lithuania's national law to enable net-metering and prosumerism, this practice represents an innovative business model coming from the new enabling framework, enabling individuals to invest in renewables even if they do not have the space at home to have their own installation. It is a very interesting model for stimulating investment and triggering uptake of renewables, overseen by a state company which is able to make use of scale to bring good deals to consumers. In particular, many people living in cities, including renters, are an untapped market for renewables investment as they do not have space, capacity, permission or inclination to have own projects. The very high interest demonstrates this potential and it will be interesting to watch further development as the plants are built. The practice goes hand-in-hand with the law presented in the practice, 'Remote renewable energy power plants for prosumers'.

CONTACT FOR MORE INFORMATION:

Ministry of Energy

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

TOPIC 2:

FINANCIAL MECHANISMS.

S P A I N

Inclusion of social criteria in incentive programmes for energy improvement in housing.

Self-consumption and collective renewable: Ola Solar de Lebrija (OSL).

Crowdlending financing for solar installation in local entity.

Photovoltaic installation for self-production in a building for 19 families in vulnerable situations.

QUANTICO rental. Financing model for solar self-consumption facilities.

F R A N C E

Equipping precarious households with renewable energy through citizen investment.

Production of renewable energies through collective investments of citizens in Voiron.

Air-wood fund.

P O L A N D

Municipalities against energy poverty - STOP SMOG program.

Efficient heating systems for the vulnerable groups in Sofia Municipality for improved air quality.

B U L G A R I A

Photovoltaic installations with battery storage in social buildings

Efficient heating systems for the vulnerable groups in Sofia Municipality for improved air quality.

L I T H U A N I A

Energy Efficiency and Renewable Energy Source investment platform.

Change of legislation to foster building renovation program which includes vulnerable groups.

U N I T E D K I N G D O M

Free solar installations for social housing in Manchester.

Shine Social Housing Project: Solar PV Installation in a Local Housing Association in Devon, UK.

O T H E R C O U N T R I E S

Subsidising investment for renewable energy and energy saving measures in vulnerable homes in Cyprus.

Solar Savers Adelaide: Solar PVs for Low-Income Households.

14. INCLUSION OF SOCIAL CRITERIA IN INCENTIVE PROGRAMMES FOR ENERGY IMPROVEMENT IN HOUSING.

Increase of social criteria from the “Sustainable Construction” 2017-2020 incentive programme to the “PREE” 2021.

Andalusia, Spain.

January 2017 – ongoing.

Following the increase in the number of people living in energy poverty, the incentive programmes reflect the need to consider social criteria alongside the technical criteria to determine the percentage of incentive granted. Therefore, an additional (extra) percentage is added to the basic percentage based on compliance with the social criteria established in the regulations.

Between 2017 and 2020, the “Sustainable Construction” incentive programme, aimed at energy improvements in housing, contemplated an additional incentive percentage of 10-55% over the base incentive percentage for beneficiaries that were social housing owned by a public business agency of the Andalusian Regional Government or a local entity. In this programme a maximum incentive rate of 80-85% could be reached with the limitation of a minimum investment of between 500 €/housing.

During 2021, the “PREE” incentive programme aimed at energy rehabilitation in existing buildings contemplates an additional incentive percentage of 10% over the base percentage for beneficiaries that are dwellings qualified under a public protection regime or located in Urban or Rural Regeneration and Renewal Areas, as well as for consumers who have been granted the social bonus. In this programme, a maximum incentive rate of 85% can be reached with the limitation of a minimum investment of €6,000/house for some actions.

RESOURCES NEEDED

“Sustainable Construction” 2017-2020:
Funds of 182.8 million euros from the ERDF 2014-2020.

“PREE” 2021:
Funds of 49.3 million euros from the ERDF 2014-2020.

EVIDENCE OF SUCCESS

“Sustainable Construction” 2017-2020:

- 9.779 applications (projects), 15 with social criteria

“PREE” 2021:

- 575 applications, 78 with social criteria

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The documentation proving the social criteria needs to be agreed between the different administrations.

POTENTIAL FOR LEARNING OR TRANSFER

The incorporation of social criteria in incentive programmes is transferable to any EU subsidy/incentive programme and is a way of leaving no one behind. Vulnerable groups need a bigger boost and the additional increase is a way to give that boost.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The good practice at hand shows that ERDF resources can be accessed and used in a forward-looking and helpful way by local and regional policymakers to help alleviate energy poverty, which is now exacerbated by the economic and social effects of the Covid-19 pandemic, by increasing the amount of support that can be made publicly available to affected households. It also demonstrates that in light of the current crisis it is possible to revise and expand with success the scope of the social criteria that need to be used to determine the eligibility of households under ERDF-funded energy efficiency schemes. For these reasons it deserves to be considered for replication in other local and regional context. Further insight on measures to protect energy consumers and shield vulnerable groups from the impacts of the ongoing pandemic can be consulted on the website of the EU Energy Poverty Observatory (https://www.energypoverty.eu/).

CONTACT FOR MORE INFORMATION:

Diversification and Energy Saving Institute (IDAE) and the Andalusian Energy Agency (AEA)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

15. SELF-CONSUMPTION AND COLLECTIVE RENEWABLE: OLA SOLAR DE LEBRIJA (OSL)

Andalusia, Spain.

May 2012 – ongoing.

Solar photovoltaic installations on municipal public buildings that have been collectively financed by private individuals.

There are many people who cannot use renewable energies in their homes because they do not have the space or live in rented accommodation or they do not have the financial capacity to afford a complete installation.

OSL is a pioneering mechanism in Spain that allows these people to participate in renewable energy installations through small financial contributions. With a minimum investment of 100 euros, they become “co-participants” in the installation with a return of 6% (after taxes). This installation, as with all those promoted and developed by ECOOO, has been recognised by the Spanish Ministry of Industry for 30 years from its commissioning as being reasonably profitable.

OSL has installed collective photovoltaic solar energy on the roofs of 11 municipal buildings in Lebrija (Seville), on loan from the town council (public schools, a senior citizens’ centre, a fire station, a sports centre, etc.).

The highlight of this initiative is that it is a collective renewable energy installation, in which renewable energy is generated in a way that promotes citizen participation and supports an economy that is more respectful of the environment and people. The energy is sold on the electricity market. The revenue from the sale is used to repay the money lent to the citizens who participate in the project.

RESOURCES NEEDED

885,000 euros, which was provided by 129 “co-participants” with their contributions”.

the ECOOO team has had to dedicate hours to the management of the entire project.

EVIDENCE OF SUCCESS

129 “co-particiants” for financing the installations.

11 installations with a total peak power of 233 kW (collector area of 7,200 m2).

350,738 kWh of annual production, equivalent to the electricity consumption of 117 households.

103 tonnes of CO2 avoided, equivalent to that emitted by driving 665,000 km by car.

11 cherry trees planted. ECOOO wanted to highlight the positive impact that OLS has on the environment by sponsoring cherry trees planted in the Jerte Valley, Cáceres. There has bee

DIFFICULTIES ENCOUNTERED / LESSON LEARNT

Public distrust as a result of the regulatory uncertainty in the field of renewable energies that existed at the time the project was developed.

There were no similar initiatives in Spain that could serve as a reference.

ECOOO was a company that was little known in 2012.

POTENTIAL FOR LEARNING OR TRANSFER

Public administrations across the European Union have large areas available to place renewable energy installations (mainly roofs and rooftops of office buildings and educational establishments). Due to economic and debt restrictions, many public authorities find it difficult to invest in renewable energy. However, they can cede these areas to the public so that they can collectively install and finance renewable energies.

The OSL offers a clear testimony of a successful citizens’ initiative, promoted and managed through a small energy company such as ECOOO, which can therefore be replicated anywhere in the EU.

OSL was developed in 2012, in an uncertain regulatory context in Spain. Today, with a much more advanced legal framework for renewable energy, this initiative greatly helps citizens across the EU and small companies similar to ECOOO to develop projects of this type.

CONTACT FOR MORE INFORMATION:

ECOOO and City Hall of Lebrija (Sevilla)

FURTHER INFORMATION:

Here

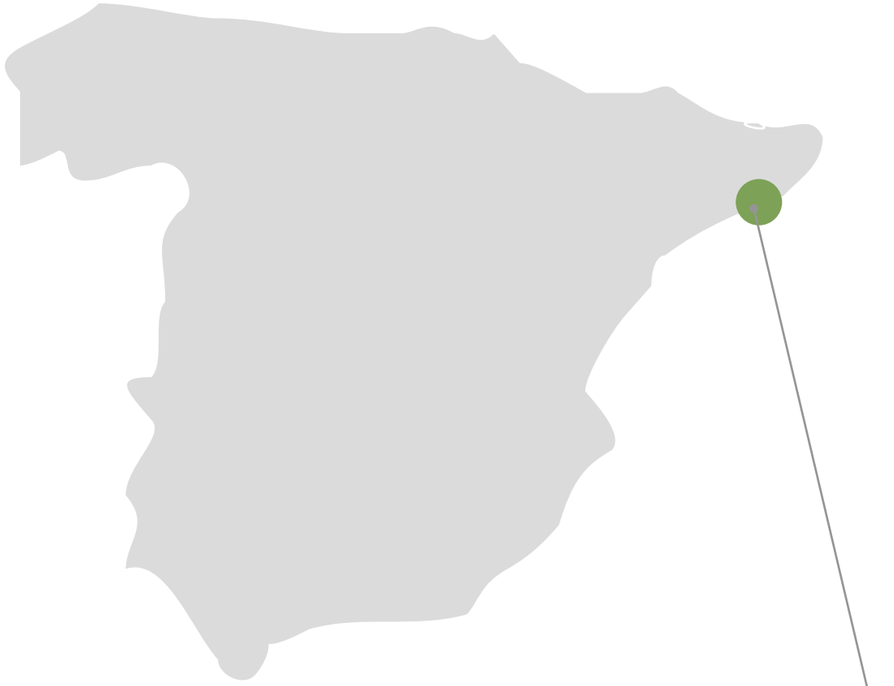
ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO VISIT REPORT IN ENGLISH:

Here

16.CROWDLENDING FINANCING FOR SOLAR INSTALLATION IN LOCAL ENTITY



Catalonia, Spain..

March 2019 – june 2020.

Photovoltaic installation for self-consumption in a Barcelona City Hall building financed with citizen participation.

Faced with the complexities or difficulties of traditional financing, the crowdlending alternative allows people to contribute small amounts of money in exchange for a financial return (installments), collected in a loan contract.

ECROWD, having prior experience of this type of financing through citizen participation in a local entity (Viladamat), proposes to the Barcelona City Council to opt for this type of financing.

The Barcelona City Council put out to tender the hiring of the installation company, and also - for the first time in Spain - of the company in charge of managing the crowdlending of which ECROWD was awarded.

ECROWD managed to raise 105,000 € for the implementation of the 32kWp solar installation in a public building through citizens' investments, which they will recover with a nominal interest of 0.95% per annum in semi-annual installments for five years, with the deadline for making contributions (from 50€ to 3,000€) being from March to June 2019 (90 days).

ECROWD has many self-consumption projects for different types of beneficiaries, so it is applicable to any recipient.

RESOURCES NEEDED

Total amount: 71,860€

• Contract for the ECROWD platform: 9,700€.

• Contract for the solar installation: 62,160€ (it was tendered for 105,000€ and very economic offers were presented, so ECROWD returned the remaining 42,840€ to investors through a partial early repayment of the collective loan)

EVIDENCE OF SUCCESS

- 38,880 kWh / year have been generated, which is equivalent to the consumption of 17 homes.
- 14,700 kg CO2 / year has been avoided
- 166 citizens participated in the crowdlending

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The difficulty was the lack of awareness of this type of financing by local entities and the resistance, and the increase in bureaucracy (a novel procedure and little used until now). The Diputación de Barcelona has published a manual on crowdlending for local entities following the ECROWD proposal.

POTENTIAL FOR LEARNING OR TRANSFER

When intervening in energy poverty and addressing actions to vulnerable groups, an essential actor is the municipal entity as an instrument to promote self-consumption in social housing directly or through local self-consumption. Therefore, this form of financing (crowdlending) is a strength for the promotion of self-consumption that directly benefits social housing or buildings or indirectly their benefits can be dedicated to social purposes.

This good practice is easily transferable to any European region due to the fact that this reference of how a City Hall finances a solar installation through crowdlending already exists and citizens are gaining more knowledge and participating more in projects through crowlending.

CONTACT FOR MORE INFORMATION:

ECROWD and Barcelona City Hall

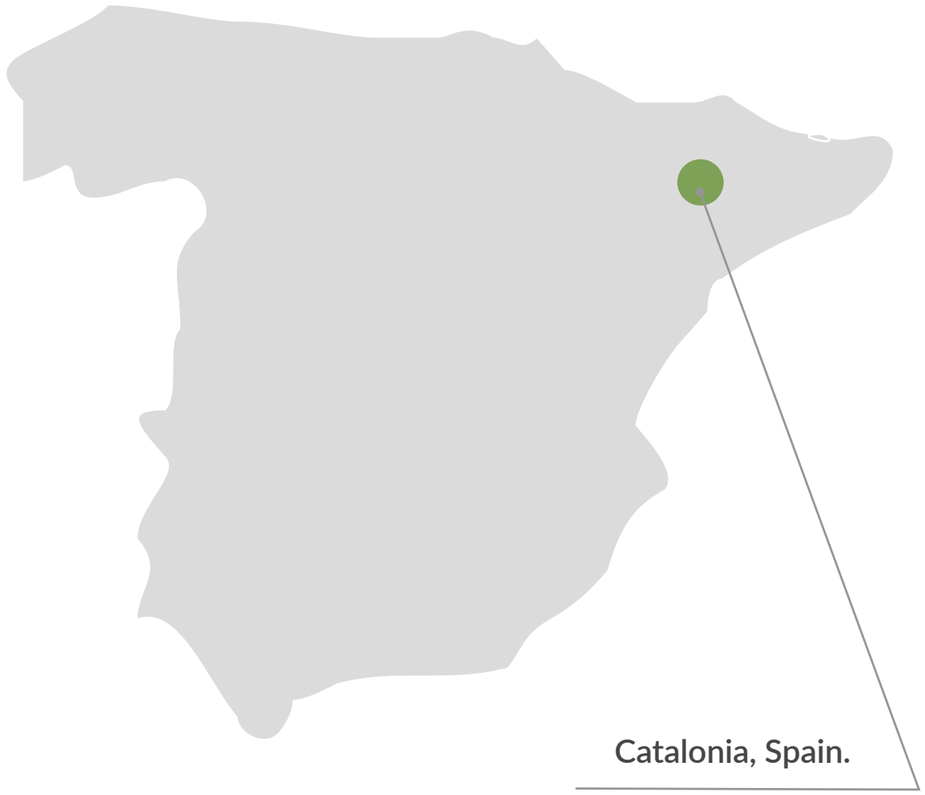
FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

17.PHOTOVOLTAIC INSTALLATION FOR SELF-PRODUCTION IN A BUILDING FOR 19 FAMILIES IN VULNERABLE SITUATIONS



This good practice is in process and has not been finalized at the time of completing this guide, therefore a summary and the promoter of the project are indicated below.

Som Energia has financed its first photovoltaic project in Lleida aimed at alleviating the effects of energy poverty. The project, called “Llars del Seminari”, has been developed in collaboration with the Enre Tots i per al Bé de Tothom foundation, in a building of 19 houses in Lleida. This project allows 19 families in a situation of social or economic vulnerability living in this building to save around 30% in energy costs each year.

The project has been promoted by the initiative of the Lleida Local Group of Som Energia as a result of a power optimisation study carried out in these homes (Llars). The financing has been possible thanks to the voluntary contributions that can be made through the electricity bill. For an average use of a family (approximately 200 kWh / month), this represents a contribution of 2 euros per month (0.01 euros / kWh).(0,01 euros / kWh).

PROMOTER:

Som Energia

REFERENCE FOR MORE INFORMATION:

Here

18.QUANTICO RENTAL. FINANCING MODEL FOR SOLAR SELF-CONSUMPTION FACILITIES

Rental of turnkey solar self-consumption installation, providing any family with access to the benefits of self-consumption with no initial investment

Andalusia, Spain.

August 2020 – september 2021.

It has been detected that citizens need easy and simple mechanisms, turnkey, that do not require large payments when switching to the use of solar self-consumption in their homes.

QUANTICO Rental is a formula for complete access to self-consumption and its benefits, with the possibility of acquiring ownership at any time, and which integrates 3 aspects:

- Technical: solar self-consumption installation with 20 years of warranty, including full maintenance of the installation. Data of previous savings is provided to be assessed by the user.
- Financial: immediate savings on the electricity bill and financing assumed by Quantica Renovable through the rental contract that establishes a monthly fee (introductory offer of 1€ for the first 3 months). The standard monthly fee ranges from 25-40€, depending on the user's real energy needs.
- Environmental: 100% renewable green energy consumption.

The QUANTICO Rental is a practical case of how to apply the ESCO model in social housing and renewable energy. The Public Administrations, in particular, the public managers of social housing, both regional and local, can find in this ESCO model a way to finance the actions of renewable energy in said housing. It is important to remember that the ESCO model is a formula for public-private collaboration that, although it has been developed in other settings of Public Administrations, there are still few experiences in the field of public housing and vulnerable groups.

RESOURCES NEEDED

250,000€, equivalent to approx. 50 projects.

12 full-time staff.

EVIDENCE OF SUCCESS

20 projects implemented during 2020:

- Installed power: 65.8 kWp
- Kg CO2 avoided: 109,900 kg/year
- Overall first year net savings: 7,070 €/year
- Total net savings 25 years: 334,950 €.
- Employment generated: 6 technicians and installers of photovoltaic energy.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Citizens associate self-consumption solar installations with high investments and complex legalisation and installation procedures, as well as expensive and unknown maintenance work.

Dissemination of the model is necessary and requires time for users to overcome the psychological resistance

POTENTIAL FOR LEARNING OR TRANSFER

Its replication potential is high due to that the mentioned obstacles such as the large initial investment or the long and tedious legalisation procedures are absolutely assumed by Quantica Renovable instead of by the user, who benefits directly from the advantages of self-consumption, reducing their electricity bill and empowering themselves energetically.

ESCO model is rarely present in the field of public housing and vulnerable groups, so there is transfer potential for the Administration to implement this initiative.

The transfer to any type of geographical area and to any residential or community sector is absolutely feasible, allowing to promote the Energy Transition in an integral way and to include all social groups without exception in this process: an indispensable factor to successfully address the structural change in the productive system demanded by our societies in the 21st century.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

A full energy transition means that all parts of society are taking part in it. This good practice recognises the reality that socially vulnerable groups cannot participate in the same way as more wealthy citizens. Self-consumption of RES for social housing tenants through a rental-model is an innovative way to address this problem. In Africa, the solar-rental model is much wider used than in Europe, and Andalucia is doing excellent work in introducing it in Spain.

CONTACT FOR MORE INFORMATION:

Quantica Renovables

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

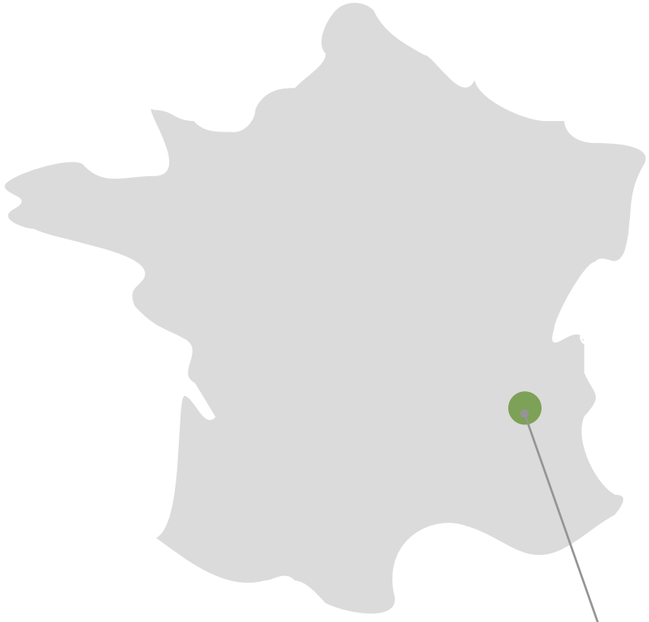
Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

Here

19. EQUIPPING PRECARIOUS HOUSEHOLDS WITH RENEWABLE ENERGY THROUGH CITIZEN INVESTMENT

Two energy communities and the Regional and Local Agencies for Energy Transition have devised model to enable low-income households to acquire renewable energies through citizen investment.



Rhône-Alpes, France.

July 2021 – ongoing.

Within the framework of POWERTY project, the studies that have been carried out on the issue of low-income households and renewable energy installations show that among the barriers that prevent low-income households from equipping their homes, three criteria are blocking them: the cost of access, the technical complexity and the administrative burden.

These barriers can be overcome if the investment and the project are carried out by a third party. However, because low-income households are not always solvent and the return on investment is long, no private offer currently exists on the market.

The energy communities as intermediaries for households, one urban and one rural, mobilising citizen financing to install RES. With them, a contractual and economic model has been devised which allows the citizen community to take full responsibility for this type of procedure, both administratively and financially, by installing renewable energy on behalf of the household.

The idea is to intervene in collective housing buildings as well as in individual houses. The Agencies for the Energy Transition study the dossiers and propose the best technological solutions for each case. They also study the subsidies and aid available, and check the feasibility of the project.

The energy community can then intervene to take charge of the equipment and the administrative procedures. The beneficiaries pay back the amount of the investment through a rent calculated on the basis of the expected savings as an ESCO model.

Switching from a fossil fuel-based installation to a RES results in a slight decrease in the beneficiary households' bills and also makes them less dependent on energy price fluctuations.

Energy communities are patient investors and can tolerate longer payback periods (they can amortize an installation over periods of 10 to 15 years).

RESOURCES NEEDED

- **€ 20,000 for legal studies and business plan development;**
- **€ 15,000 for advisory visits from the Agencies for the Energy Transition.**

The energy communities are run by volunteers (free) who put about 2 man months.

EVIDENCE OF SUCCESS

1 contractual and economic model that allows an energy community to take full responsibility for administrative and economic procedures

Detected the interest of low-income households for this good practice

Identify 5 single-family homes and 2 buildings with more than 100 homes interested in this model.

Study of the different investments in technological fields as diverse as heat pumps, wood energy, solar thermal... the range of possibilities is significant.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The main challenge was to design a legal model of responsibility sharing compatible with the means of energy communities and the subsidy systems of renewable energies

POTENTIAL FOR LEARNING OR TRANSFER

A national level, the 300 French energy communities will be able to directly benefit from the legal and economic contributions through the dissemination of the results in the AURACLE and Energie Partagée networks.

At the European level, the recent European directives on energy communities allow the offer of energy services, these communities remain patient and interested investors in the fight against fuel poverty, but adaptations of the contractual modes to the national legal frameworks are to be expected.

CONTACT FOR MORE INFORMATION:

AURA-EE

FURTHER INFORMATION HERE:

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ALL DETAILS OF THE GOOD PRACTICE HERE:

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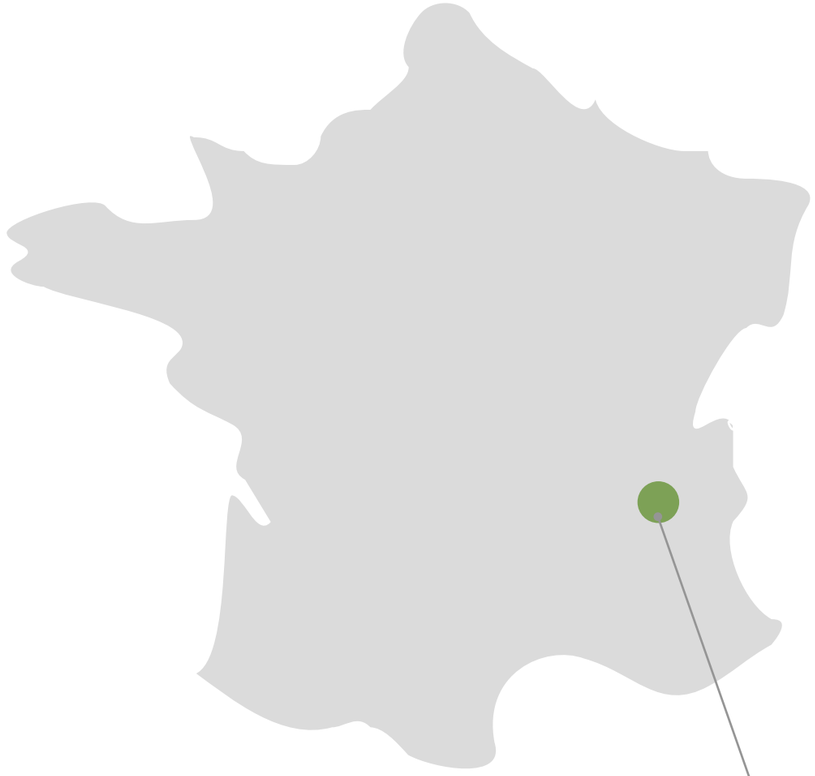
20. PRODUCTION OF RENEWABLE ENERGIES THROUGH COLLECTIVE INVESTMENTS OF CITIZENS IN VOIRON



Rhône-Alpes, France.

November 2017 – ongoing.

Citizens investments financed the combination of photovoltaic and solar thermal power supplies in a participatory housing project in Voiron.

The co-owners of the housing project are very committed to ecology and have chosen to build an efficient shared habitat with eco-materials. They wish to pursue their energy transition approach by implementing renewable energies by using the roof to install both photovoltaic and thermal solar panels. Several co-owners involved in the project are retired people with low incomes and had already mobilized their entire debt capacity with banks to finance the construction of their houses.

Buxia Energies (BE), a citizen energy company, was able to make a third-party investment in order to pay for the solar thermal and photovoltaic energy installations in accordance with their statutory purpose. In line with the vision proposed by the NegaWatt association to reduce energy consumption in the same time to replace production with more ecological energy sources, they seek to create projects that make sense for the territory and its inhabitants.

BE pays a rent to exploit the photovoltaic roof of the participatory housing estate.

BE has invested in solar thermal panels and hot water tanks. The real estate civil company that brings together the co-owners rent the use of these installations for 10 years. The rent is based on the expected gas savings thanks to solar thermal installation. Thus, the installation does not present any extra cost for the inhabitants compared to a gas installation but works with 50% renewable energy.

RESOURCES NEEDED

BE invested 15k€ for thermal installation and received a 9k€ AURA region's subsidy.
PV system cost is 20k€ reimbursed through electricity sale by feed-in tariff.

Legal advice requested to approve the contractual model and local manufacturer's system and installer.

EVIDENCE OF SUCCESS

- High degree of customer satisfaction both in terms of the quality of the installation and in gaining temperature comfort.
- Control of energy expenses for the co-owners in accordance with the forecasts.
- 2019-2020 result: + 50% gas saving for 5 households.
- High potential development in thermal sector for energy communities (66% of the building's energy needs are heat requirements).
- 3 new projects in development in 2021 at regional level.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- This project would not have been possible without the third party citizen investment
- Direct use of production with 24/7 operation
- Design of a new economic and contractual framework
- Rentability only possible with the subsidy of the Region
- Decision-making in co-ownership are difficult

POTENTIAL FOR LEARNING OR TRANSFER

This project is very replicable with co-ownerships that would request it and that would be at the limit of their debt capacity. The contractual framework is now consolidated and replicable for other energy communities.

Other targets could be approached (small tertiary sector businesses with heating needs, existing social landlords' buildings, etc.) once the contractual model is consolidated.

Local energy communities are spreading around Europe. They represent a high potential to bypass the barrier of bank financing for RES systems.

This economic model can be transferable to other RES provided that their global cost (investment and functioning) is lower than fossil fuels.

Thermal systems are less often installed and operated by energy communities because the economic model appears to be riskier. However, heating needs are in the majority in the building sector, and we need to support the growing expertise of energy communities in this area.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Decentralised renewable energy installations will be essential for the low-carbon transition, and many innovative investment structures and business models are used across the continent to make the transition possible. This practice is a very interesting one for a number of aspects. 1) The investment being made by a group of citizens via a commonly owned limited company (SAS). The company itself represents a good practice for citizen investment. 2) The rental model in which roof space is rented by the SAS and use of the installed installation is rented by the real estate company, 3). That this model results in no additional costs for the inhabitants. The practice should be explored further by other community energy companies as the target audience is considerable.

CONTACT FOR MORE INFORMATION:

Buxia energies, SAS

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE VIRTUAL STUDY VISIT:

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE FIRST POWERTY INTERREGIONAL SEMINAR:

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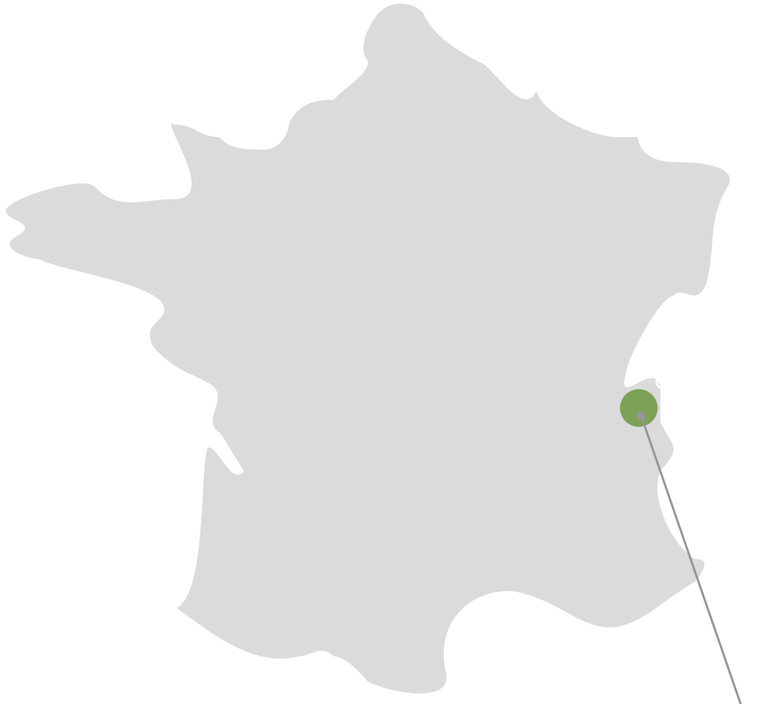
21. AIR-WOOD FUND

Air-wood fund subsidizes the replacement of old wood heating equipment with high-performance renewables ones, with additional premium for vulnerable households.



Rhône-Alpes, France.

October 2015 - ongoing..

The high air pollution linked to the fine particles, responsible for many health problems, has entailed the objective to reduce the emissions of these particles from 8% to 5% with this “Air-wood fund”.

3 public authorities located in an atmosphere protection plan area (PPA), Grenoble Alpes Métropole, Le Grésivaudan and Le Pays Voironnais, in conjunction with ADEME (French Environment and Energy Management Agency), have decided to promote financial aid the replacement of inefficient wood heating appliances (pre-2002 appliances or open fireplaces) with renewable wood energy.

Replacing an obsolete device can be expensive for individuals (about 3,500€), this is why the Wood-air fund (Prime Air Bois) is presented as a “scrapping bonus”: a household undertakes to replace its old appliances with a new one with the “7-star green flame” label which guarantees performance, in exchange for which the local authority pays you a bonus of 1,600€ or 2,000€ depending on the household’s resources.

Open fireplaces are often found in older, uninsulated dwellings where an ageing population lives. Thus, this support system has effects both on the environment (improved efficiency and air quality) and on social aspects thanks to the additional premium for precarious households.

This air wood fund is addressed to every households that have a heat system with fireplaces.

RESOURCES NEEDED

A total of 6,985,000€ funded by Grenoble metropole (60%) and by ADEME (40%):

- **6,125,000€ used for 5,000 individual wood heating.**
- **860,000€ used for processing the applications, assessment and communication.**

EVIDENCE OF SUCCESS

Number of individual wood heating funded: Total 5,000:

For 2019: 1,879 households have been assisted, 15% of them concern modest households' beneficiary to additional bonus.

5% reduction of emissions of fine particles which have positive consequences on inside and outside air quality.

The "Air-wood bonus" can also be combined with the national aid, thus limiting the remaining costs for these vulnerable households.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Difficulty to identify which energy poverty households use wood heating system among the population.

Beyond the financial barrier, lifted thanks to the additional premium and the possibility of combining several grants, there are still administrative barriers (complexity of preparing applications).

POTENTIAL FOR LEARNING OR TRANSFER

The air-wood background initially tested in the Arve Valley has already spread to 10 territories in France.

The fact that we are replacing an existing device is quite simple both in terms of the culture of the project owners (they already know how to use wood energy) and in terms of the impact of the work, which is generally very short - around the order of the day - and generates little nuisance (casing of the existing duct, replacement of old equipment).

In all mountain regions where wood energy is often very present and where there are air quality problems linked to the topography of the valley, this measure makes sense.

For the modest households concerned, it is both a gain:

- in terms of health (indoor and outdoor air quality),
- an energy gain (less fuel) and cost savings,
- and a gain in comfort.

Depending on the pre-existing equipment, the gain is estimated between 40 and 75%.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Subsidies for technology uptake are well proven tools, widely used across a number of sectors, helping to overcome market imbalances and irregularities. Replacing heating systems may not be a top priority for home owners who do not recognise the benefits that come from new systems, do not consider the externalities of their actions (pollution, air particles), or simply do not have the resources available to them to invest in new equipment. Subsidies, with accompanying promotion schemes, can trigger investment by reducing perceived risks for investors in technologies that they may know little about. The additional focus on vulnerable households is an excellent feature, recognising where there is particular need for intervention

CONTACT FOR MORE INFORMATION:

Grenoble Alpes metropole

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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22. PHOTOVOLTAIC INSTALLATIONS WITH BATTERY STORAGE IN SOCIAL BUILDINGS

The practise demonstrates a technical solution consisted of PV plus battery energy storage system within 3 buildings with high level of vulnerability as an instrument to alleviate energy poverty.

August 2021 – may 2022.

The recent sharp rise in energy prices is putting stress on buildings with a high concentration of vulnerable consumers, such as the social housing sector. Most of the current practices in Bulgaria related to the support of the most vulnerable groups are limited to the provision of short-term financial support, without focusing on sustainability matters.

There is an urgent need to establish innovative practices and protect end users by making use of renewable energy. Hybrid photovoltaic and battery energy storage are a key technology option for achieving sustainable energy supply, as these systems provide competitive renewable energy to meet the needs of buildings. These hybrids allow a significant increase in energy self-consumption and self-sufficiency of the building by storing excess energy for use during hours without photovoltaic generation.

To demonstrate the feasibility of such technology, the Energy Agency of Plovdiv **implements in three buildings for social purposes a total of 3 photovoltaic storage systems together with batteries with a total installed power of 26 kWp and 82 kWh respectively**. This good practice demonstrates a model where self-sufficiency increases considerably when battery storage exists, which improves the autonomy of the prosumer, especially in the low heating season. Thus, any user of this technology can achieve significant cuts in electricity consumption and CO2 emissions, especially in the months of high solar radiation. In the end, this is a prerequisite to minimize the risk of energy vulnerability.

RESOURCES NEEDED

Project management – €5,000

Executive projects and permission €2,000 per building

PV (10 kWp) and 35 kWh storage – €20,800

PV (5.8 kWp) and 12 kWh storage – €11,600

EVIDENCE OF SUCCESS

Performance calculations are showing that in summer months the self-sufficiency ratio goes over 70-80 %, thanks to the PV+storage hybrid. On annual basis the hybrid systems can reach 40 % of renewable power demand.

- Additional estimated impact from implementation of the practice:
- Social buildings with reduced electricity costs – 3
- Renewable energy produced – 30.3 MWh/y
- CO2 avoided - 24,8 t/y
- Potential financial savings– 6980 €/y
- Payback 7.7 years

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

National legislation still lacks simplified procedures for PV construction permission and connection of a power plant to the electricity distribution network.

In some cases, such procedures could take several months (up to 3-6 months) and is backed up with bureaucracy in the implementation stage.

POTENTIAL FOR LEARNING OR TRANSFER

Through PV+storage hybrids end users can achieve significant share of self-sufficiency, especially notable during the off-heating season and months with high solar radiation. Such type of technical solutions has multi benefits - they generate renewable energy, while cutting onside CO2 emissions and decreasing electricity costs. The produced power is stored locally to be used during off-sun hours. Battery storage can also have other applications in a power network through the provision of ancillary services. Thus, such hybrids may also maximise profit, while reducing energy poverty and achieving improved access to the energy market. This establishes the practise as a viable tool in policy making. Hybrids between PV+battery storage should be included be integrated into the legislation related to energy poverty and vulnerability and used by policy makers. To facilitate the use of battery storage alongside PVs new policy schemes should be adapted promoting an increased self-sufficiency.

CONTACT FOR MORE INFORMATION:

Energy Agency of Plovdiv (EAP)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

23. EFFICIENT HEATING SYSTEMS FOR THE VULNERABLE GROUPS IN SOFIA MUNICIPALITY FOR IMPROVED AIR QUALITY

The campaign replaces the inefficient combustions plants of vulnerable households with alternative forms in order to improve efficiency and reduce air pollution.

Sofia, Bulgaria.

February 2020 – ongoing.

In Bulgaria, many vulnerable and low-income households rely on low quality wood and coal for heating, utilized in combustion plants with low-efficiency. Due to the overall inefficiency, households burn more wood than is technically necessary to stay warm, which drives up their costs and also creates additional indoor and outdoor pollution. The effect of this practice is winter air pollutants of PM10 that are several times higher than those during the summer season, proving the strong influence of the current heating patterns.

Nearly 55,000 households are using such heating model in Sofia. Recognising that the up-front cost of an efficient heating installation is a huge barrier for the vulnerable groups, Sofia Municipality is performing a campaign for the free replacement of wood and coal based combustion plants with new fully automated and highly efficient installations based on: pellets (incl. pellet boilers and pellet domestic heaters); air-to-air heatpumps. In some cases eligible participants may also connect to district heating network and to the gas distribution network, where a highly efficient condensing gas boiler is installed.

Nearly 20,000 vulnerable households, currently heated with coal and wood with high humidity, are eligible for a new efficient heating system. Thus, the practice contributes to greater thermal efficiency in the dwelling, increased share of renewable energy and lower energy costs for each vulnerable household and less air pollutants.

RESOURCES NEEDED

The average price per household is estimated at 1,500 €. The total budget available for 20,000 households worth 31 M€ and is funded through OP "Environment". Administrative and campaign costs are 5% of the total budget.

EVIDENCE OF SUCCESS

- 20,000 vulnerable households equipped with efficient heating systems
- Increased energy efficiency in heating - from 45-55% efficiency to >90 % for the new equipment and SCOP >4.0 % for A2A heatpumps)
- Lower final energy consumption with at least 20%
- Decreased energy expenses
- Increased thermal comfort
- PM10 avoidance per household – 24.2kg
- Total PM10 avoidance 484 t/y
- Increased environmental awareness of the society in general due to large campaign

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Although the campaign provides an efficient new device for free for 20,000 households, only 5,500 have applied during the first stage. In overall, there is lack of culture of trust and difficulties in engagement and empowerment of citizens, especially the vulnerable groups.

POTENTIAL FOR LEARNING OR TRANSFER

The described project foresees action aimed at the most vulnerable parts of the society, who often struggle to adequately heat their homes at reasonable price and comfort, creating opportunities for vast air pollution, due to their old and inefficient heating infrastructure. This phenomenon affects most of the European countries, however highly demonstrated in South-Eastern Europe. The project foresees implementation of efficient devices based on renewable energies among the most vulnerable groups. Citizens' involvement, energy efficiency and renewable energies, air pollutions and awareness raising of environmental issues are EU top priorities. This makes this type of measure transferable among different countries and regions.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Due to a lack of financial resources and incentives, vulnerable households are in need of support in upgrading and modernising homes, aggravated by the fact that much of Europe's social and affordable housing is old and deeply inefficient. As well as carbon emissions, the impact of air quality and health from old heating systems is significant. Use of public funds as in this practice can have a huge impact therefore, not only in reducing emissions, but in reducing healthcare costs and improving quality of life. Vulnerable groups are a particular target of the current Renovation Wave initiative so measures like this one can be taken as a benchmark of the kind of action needed, though use of funds through financial instruments rather than grants should represent the new norm.

CONTACT FOR MORE INFORMATION:

Sofia Municipality

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

24. MUNICIPALITIES AGAINST ENERGY POVERTY - STOP SMOG PROGRAM

Reduction of pollution emissions from single family houses thermo-modernization, replacement of heat sources. Support for poor people .

Opolskie, Poland.

May 2019 – december 2024.

The program is for municipalities / cities that have a problem with air quality and have a documented bad air condition.

Reduction of pollutant emissions from single-family houses, insulations and replacement of heat sources from 2019 to 2024.

An example of the maximum facilitation for energy-poor citizens, who usually have limited knowledge about energy efficiency and sources of financing. Real support in the fight against energy poverty is the STOP SMOG program which gives a 100% subsidy to replace of high-emission heat sources and insulations in residential buildings connection to the heating or gas network of energy-poor people in cities with more than 100,000 inhabitants.

The key actors of the program are the municipalities, who are the investors and the residents who are the beneficiaries (energy-poor people). The residents have to submit an application (sign a contract) to the municipality and they take care of the rest of the formalities. This is the first step for energy poor people to think about using renewable energy in their everyday lives.

It is a project that together with “Clean Air program” form a coherent whole.

RESOURCES NEEDED

270 million€, up to 70% from the state budget and up to 30% of the municipality's budget (including the residents' own contributions, if any).

In each municipality at least 2 employees. In Opole 4 employees of the Provincial Fund for Environmental Protection and Water Management.

EVIDENCE OF SUCCESS

During nearly 2 years of the program:

- Over 50 million of PLN 1.2 billion was spent, approximately 4 % from the budget of the program.
- 1,000 single-family houses were benefited.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

There is no official definition of energy poverty in Poland, so there are no indicators related to energy poverty to measure.

At the moment, Municipalities in Opolskie voivodeship have not joined this program yet because changes are being made to the program in order to include provisions in it.

POTENTIAL FOR LEARNING OR TRANSFER

The STOP SMOG program is a good practice towards cleaner air in our region through improving the energy efficiency in buildings (insulated buildings and replaced ineffective heat sources) for the poorest people, who have difficulties in applying for funds on their own and then settling them in other aid programs. People suffering from energy poverty will be fully financed with the costs of thermal modernization.

This good practice is easy to implement in other countries because the investor, which is the Municipality, is responsible for the renovation and all documentation. Energy poor people only have to make available their own houses.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Domestic heating is a significant contributor to carbon emissions in Europe and one that is particularly difficult to change as it requires installing new, individual technologies in people's homes. In particular, Poland has struggled with the change, with many homes still using coal boilers, and many Polish cities have pool air quality as a result. This practice recognises the urgency of the transition, and also that poor households lack before the financial and knowledge resources to make that transition themselves. 100% subsidies are increasingly avoided in favour of a percentage of funding that could stimulate private investment, but the high costs can also result in very high impacts. Another good aspect is the minimisation of administrative burden for the homeowner, with the municipalities supporting these aspects.

CONTACT FOR MORE INFORMATION:

Provincial fund for environmental protection and water management in Opole

FUTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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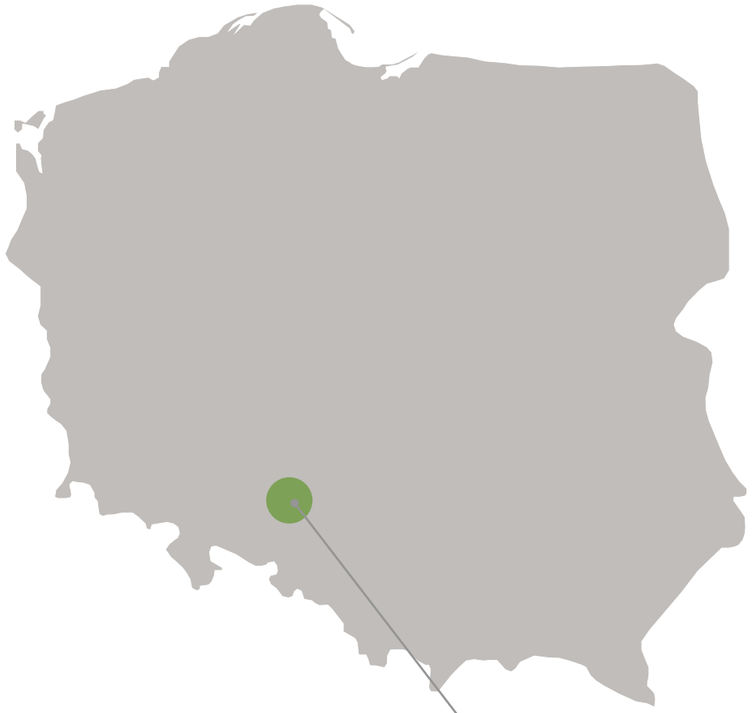
25. CLEAN AIR PROGRAM TO INCREASE THE USE OF RENEWABLE ENERGY BY PEOPLE SUFFERING FROM ENERGY POVERTY

This program consists of replacing old non-ecological heat sources with renewable solid fuels with others by people suffering from energy poverty.



Opolskie, Poland.

September 2018 – ongoing.

The Clean Air program 2018-2029 has a main goal to reduce air pollution and reduce energy consumption. It can be said that the basic source of this program is the replacement of old non-ecological heat sources with renewable solid fuels with other heat sources.

To take advantage of this, you need to be the owner or co-owner of a single-family residential building with a specific income as of today (depending on which income group) and then proceed with the implementation or modernization, first of all by replacing the heat source, but you can also get a subsidy for replacement of windows or thermal modernization, i.e. wall insulation, modernization of ventilation, as well as modernization of central heating and domestic hot water, and - which was introduced after May 15, 2020 - photovoltaic installation, if it is also carried out together with the replacement of the heat source.

This program is important because it contributes significantly to the fight against energy poverty: the replacement of an ineffective heat source helps to save energy and reduce bills, and the possibility of simultaneous use of renewable energy sources makes our Clean Air program additionally a part of the POWERTY project goals.

RESOURCES NEEDED

Total of 229 million euros of national funds: 140 million euros: Subsidies (including those granted under the "STOP Smog program"), loans for municipalities and thermo modernization tax relief. 89 million euros: Bank loans..

EVIDENCE OF SUCCESS

In November 2020, a total of 4,943 applications were approved. Including 129 applications for photovoltaic installations for the total amount of 601,928 euros, biomass boiler: 1,278 units, gas condensing boiler: 1,159 units, heat pump: 1,024 units and coal boiler: 677 units.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

There is no official definition of energy poverty in Poland, so there are no indicators.

Poland needs to improve air quality, which results, inter alia, from the European Green Deal. Then, the replacement of non-ecological furnaces brings an improvement in air quality already.

POTENTIAL FOR LEARNING OR TRANSFER

The project can be inspiring because it reduces pollution through the replacement of ineffective heat sources and increases the use of renewable energy sources by the poor. In conjunction with the STOP smog program, it is an ideal way to combat energy poverty in single-family and even multi-family housing.

The procedures this year have been significantly simplified, which has translated into the number of applications submitted so far.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The heating system switch programme set up in Opole is a straightforward support for hosueholds to switch to a cleaner heating system. This type of scheme is of particular interest to those counties that still heavily rely of inefficienty and high-emissions fossil fuel heating systems.

The link to energy poverty alleviation is less strong; single-family houses indicate a certain level of wealth, and the income level check was not fully explained.

It will be interesting to look at multi-family house heating systems, and also at multi-apartment-bloc buildings in the near future.

An excellent feature is the optionto combine the heating swith with another energy savings measure. This should be made compulsory or strongly recommended especially when moving on to tackling multi-apartment-blocs.

CONTACT FOR MORE INFORMATION:

Provincial fund for environmental protection and water management in Opole

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

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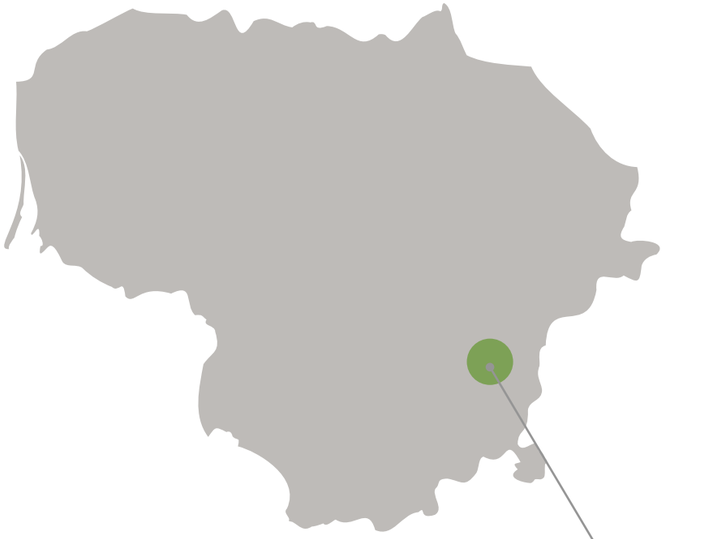
26. ENERGY EFFICIENCY AND RENEWABLE ENERGY SOURCE INVESTMENT PLATFORM

Investment platform facilitating investments in Energy Efficiency and Renewable Energy, operating as private partnership entity with VIPA as General partner.



Lietuva, Lithuania.

January 2017 – ongoing.

In the process of implementation of the Energy Efficiency Directive Law on Energy Efficiency (EE Law), was adopted on 3 November 2016. Under this law, the Energy Companies (electricity and natural gas transmission and distribution companies) must enter into an agreement regarding the required amount of annual energy savings for each separate energy company (proportionally to their annually transmitted or distributed energy amount). The Energy Companies may save the energy by implementing energy efficiency and renewable energy projects (EERES) at their own facilities or at the facilities of any other consumer. EERES projects might be implemented by the Energy companies themselves, or by delegating this obligation to another subject (e.g., the manager of energy efficiency increases project investment fund). VIPA agreed with one of the energy companies to establish IP which would be financing ERES projects.

IP is designed to respond to the market failure to finance energy efficiency projects, as the banking sector is reluctant to finance such projects. It is an innovative and flexible financing mechanism, which allows to raise and blend different sources of funding and achieve high level of investments and leverage effect with the goal of developing green and sustainable economy. Platform is reaching different groups of beneficiaries via shareholders webpages and seminars. The IP is targeting market with a huge market potential through discussions with EIB and EBRD.

RESOURCES NEEDED

With equity in amount of 10 MEUR. Investment platform borrowed additional 12.5 MEUR from EIB and negotiating additional 12.5 with ERBD.

To set-up the platform, the following resources were incorporated: VIPA's human resources, external consultants, investor. VIPA took the role of General partner.

EVIDENCE OF SUCCESS

As of the end of 2020 IP has received applications for an amount exceeding 66 MEUR, 24 MEUR of which is RES. Platform investors are offered a return on the investment and the lenders get interest for the provided funding. The IP is targeting markets with funding gap and insufficient financial situation (green investments) and generates energy savings and reduced CO2 emissions, which has a direct impact on tackling climate change, thus its important vehicle to reached ambitious sustainability goals.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Finding right investor (willing to invest with first loss risk with relatively low required return and with long with long term commitment);

In case of Lithuania there are challenges related to adapting investors mandate to investment platform investment strategies

POTENTIAL FOR LEARNING OR TRANSFER

Other partners can learn that investment platform can be established as a private partnership entity which is common structure for the funds in most of EU countries, thus having high potential of transferability. Such scheme should be also developed by National promotional banks or institutions, to dedicate considerable resources for the development of such scheme while maintaining favorable conditions for final beneficiaries and if possible, acting as one stop shop while blending grants with financial instruments.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Investment platforms help to finance small projects and bundle together a number of funds and different finance sources. Energy investments are still not fully understood by the financial sector and often viewed as risky or small, requiring state intervention to de-risk and bundle. IPs direct finance to key national or regional priorities and can combine EU funds, national finance and private investment, to invest through loans guarantees and equity in a diversified portfolio to spread risk. VIPA's platform is a strong example, pooling national funding (from VIPA) with private investment and European Investment Bank support. Such platforms could be created in other European countries, and indeed, even at regional level with either public or private actors in the lead.

CONTACT FOR MORE INFORMATION:

Public Investment Development Agency

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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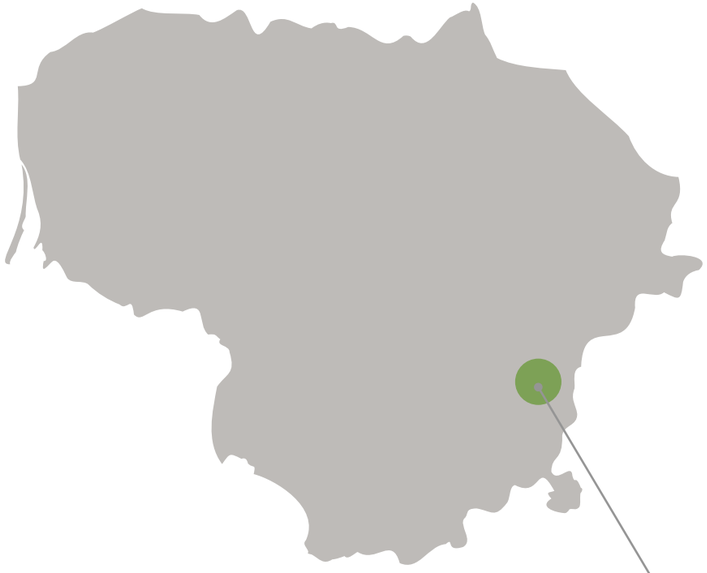
27. CHANGE OF LEGISLATION TO FOSTER BUILDING RENOVATION PROGRAM WHICH INCLUDES VULNERABLE GROUPS

To foster renovation process additional grants was provided, as well, to discipline those who voted against renovation heating bill compensations were excluded.



Lietuva, Lithuania.

June 2012 – november 2020.

The initial Multi-Apartment Building Renovation (MABR) programme implementation process was slow and insignificant without state support, due to following reasons:

- long deep renovation payback period.
- unwillingness of owners to change existing situation.
- commercial banks reluctance to provide financing.
- large share of owners on fixed low income.
- many low-income people were eligible for heating bill compensations and had no incentive to join the program.
- chronic distrust of population in Government.

To foster MABR process Lithuanian Government decided to provide interest rate subsidies and additional grants to final beneficiaries, including vulnerable groups.

- providing interest rate subsidies (result based);
- providing additional grants to final beneficiaries (result based, funded from Climate change fund and state budget);
- covering monthly instalments for low income households (covered from municipalities funds).
- providing technical support financing.providing long term financing.

As well, Lithuanian state decided to discipline those who are not willing to join building modernization process amending the Law on Monetary Social Benefits to Low-Income Residents:

- refusing heating bill compensations to those who voted against their building modernization;
- imposing requirement to gradually accumulate funds for building renovation.

RESOURCES NEEDED

As this good practice is related with legislative changes, no financial resources were used.

EVIDENCE OF SUCCESS

Multi-Apartment Building Renovation (MABR) process in Lithuania was fostered, and by December 2020, 3,066 multi-apartment buildings were renovated and inhabitants, including vulnerable groups, have received interest rate subsidies and additional grants.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

It is still uncertain due to demographic problems in remote areas and smaller cities (lower investments due to uncertainty of possible relocation).

POTENTIAL FOR LEARNING OR TRANSFER

This good practice can be used in other regions as an example that discipline requirements could be a support action to additional grants provided. All the legislation changes have to be initiated at state level to be effective. The main legislation changes have to be, on the one hand, about subsidies, grants, financial and non-financial help and, on the other hand, about some limitations, state support reduction, if the owners of apartments do not want to participate in the Multi-Apartment Building Renovation (MABR) programme.

CONTACT FOR MORE INFORMATION:

Ministry of Environment

FURTHER INFORMATION:

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ACCESS TO VISIT REPORT:

28. FREE SOLAR INSTALLATIONS FOR SOCIAL HOUSING IN MANCHESTER

Manchester, United Kingdom.

December 2014 – december 2015.

Installation of free solar phovoltaic panels in social housing trust homes in Manchester.

Solar PV installations carried out on approximately 2,000 of social housing provider Southway Housing Trust's homes, free of charge to tenants, for whom rising energy price and risks of fuel poverty are a big concern. The project is financed by a private investor, for whom the investment cost is repaid by the UK government's feed-in tariff scheme which gives a fixed cost back to green energy generators, (i.e. the initial investor who installed and owns the solar panels), and free maintenance on the panels for 20 years.

RESOURCES NEEDED

3.46 million euros in funding from private investment

Social housing contractors for installation and maintenance

EVIDENCE OF SUCCESS

Approximately 1/3 of Southway Housing Trust's 6,000 properties (occupied by low-income social tenants) are fitted with solar panels which can reduce annual energy bills by up to 58% and providing free daytime electricity at no cost to the end user.

Reductions in CO2 by over a tonne per household per year.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Only properties with roofs with good sunlight supply received the panels, so ineligible properties miss out on the scheme.

POTENTIAL FOR LEARNING OR TRANSFER

Large upfront investment needed to subsidise the entire cost of the solar panels, as well as government policies such as the feed-in-tariff needed to pay back investments and to ensure cheap or free electricity for vulnerable tenants. Demand for solar PV installations on social housing stock has grown exponentially (according to project) and this investment model has the interests of residents at its core (provision of free solar energy with no upfront costs).

CONTACT FOR MORE INFORMATION:

Southway Housing Trust Ltd.

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

29.SHINE SOCIAL HOUSING PROJECT: SOLAR PV INSTALLATION IN A LOCAL HOUSING ASSOCIATION IN DEVON, UK

Devon, United Kingdom.

January 2015 – january 2017.

Installation of solar PV in low-income and local housing association properties across the Totnes region of Devon to reduce bills and carbon emissions.

Project aimed at tackling rural energy poverty in Devon, UK, where levels are around the UK average of 11%, and the second highest average fuel poverty gap of the UK regions (money required to reach the threshold for fuel poverty). Contributors include a low-wage economy, lack of affordable housing, high percentage of rural households and growing elderly population.

Installation of 607 solar PV on 40 South Devon Rural Housing Association (SDRHA) households (which houses predominantly lower-income or vulnerable people, including those at risk of fuel poverty), a 25-bed care home and the SDRHA's HQ, funded by Totnes Renewable Energy Society (TRESOC - a Devon-based community investment fund for renewable energy projects) and SDRHA.

The installations benefited from the UK Government's feed in tariff which guaranteed a set income for each unit of electricity generated for 20 years, which pays for the panels, whilst

tenants of the homes benefit from reduced energy costs. If people generate their own renewable electricity, they can apply for payments from their energy supplier for each kWh of electricity generated. Generators of electricity can sell half of their units back to the grid for 0.06 Euro per unit.

TRESOC also provided tenants with information about the need for and benefits of clean energy, by having in-depth discussions and printed information leaflets.

RESOURCES NEEDED

Upfront investment. Funded by TRESOC's community investment fund and SDRHA for the solar panels

Local companies to provide installation/ care of PV and data analytics.

UK Gov Feed-in tariff to provide payback on investment.

EVIDENCE OF SUCCESS

85 tonnes CO2 reduced/year across the project, generating 148,000kWh of electricity/year. Based on a 15p/kWh cost, combined energy savings for residents could be 15,590 €/year. 40 low-income households in the region benefitted & increased knowledge & involvement in the energy generation process. 70% of participants saw a reduction in their energy bills. Awarded the Regen (a non-profit centre of energy expertise and market insight based in the UK) South West Green Energy Community Award in 2015.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Needs upfront investment from housing associations and thus some may find this initial cost an untenable amount, even if the returns are guaranteed. Requires a government feed-in tariff to guarantee the return on investment.

POTENTIAL FOR LEARNING OR TRANSFER

High replicability due to easy model; upfront investment, paid back from fixed feed in tariffs, and low, fixed electricity costs for tenants. Use of local businesses and investment means that profits of the scheme benefits the local economy and local people, it is a win:win scenario. However, it requires a government feed-in tariff to guarantee the return on investment.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This good practice shows that private investments to boost the uptake of renewable energy technologies can be successfully stimulated by public support mechanisms ('feed-in tariffs' - FIT) that enable a return of investment and that simultaneously have the effect of lowering energy prices for households. FIT and feed-in premiums (FIP) e.g. in the form of grants and bonuses were the main support schemes that drove the large-scale deployment of renewable technologies in the European electricity sector so far. Such measures were adopted by almost all EU countries and the results achieved in the UK as exemplified in the case at hand are remarkable: other local and regional policymakers may certainly take advantage of existing public support mechanisms for the uptake of renewables and be inspired by the use of community investment funds to finance the installation of solar PV panels with the purpose of addressing energy poverty in rural areas.

CONTACT FOR MORE INFORMATION:

TRESOC (Totnes Renewable Energy Society)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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30. SUBSIDING INVESTMENT FOR RENEWABLE ENERGY AND ENERGY SAVING MEASURES IN VULNERABLE HOMES IN CYPRUS

Nicosia, Cyprus.

January 2020 – ongoing.

The Fund provides financial incentives, through government sponsorship, to encourage implementation of renewable energies & energy saving measures in residences.

The Renewable Energy Sources (RES) and Energy Conservation (EC) Fund (the Fund) is the main financial tool of the Republic of Cyprus to promote RES and EC, with a view to achieving the binding national targets. In addition, it aims to provide energy upgrades for old buildings and reduce energy costs. Category 3B of the fund, which is named “Installation of Photovoltaic System using the Net Metering method in existing dwellings” provides sponsorship for installation of solar PVs in the homes of vulnerable consumers. Vulnerable consumers are defined as are Individuals who, either themselves or another person with whom they live permanently in the same house and with whom they have a first-degree kinship, is a vulnerable consumer of electricity – large families who receive welfare benefit, recipients of care or disability allowance, recipients of public assistance, minimum guaranteed income and low income pensioners. These consumers can receive 750€ per kW Photovoltaic System up to a maximum amount of 3,750€.

RESOURCES NEEDED

Fund budget amounts to 8.1 million euros, expected to cover 6,500 applications.

EVIDENCE OF SUCCESS

Up to end of December 2020, there were 725 applications from vulnerable consumers, of which 434 were accepted, for solar PV installation using net metering and 1,356 applications from non-vulnerable consumers. In 2020, 83 new PV systems were implemented.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Although the subsidy does cover a proportion of the cost of the solar PV, consumers do need to cover the remainder of installation costs, which might discourage some from applying for the grant.

POTENTIAL FOR LEARNING OR TRANSFER

This fund, which is specifically allocated to increasing the use of renewable energies, as well as having an energy efficiency aspect, has the potential for replication in many areas where solar PV is a financially viable and a year-round possibility. By providing a high subsidy to vulnerable consumers in receipt of certain benefits or who are elderly, or disabled, there is an increased incentive to implement renewable, cheap electricity in

households who might otherwise struggle to pay their bills, without having to pay a large upfront bill.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The question is: who pays the electricity bill for vulnerable groups. If it is the vulnerable consumer in a low-income household or on social welfare, the monthly electricity bill is a recurring burden. If the kWh electricity is on top as expensive as in Cyprus and the electricity needs a high due to a hot climate with need for airconditioning, the burden can easily become a deep financial drain. In such settings, the promotion of PV for self-consumption is an excellent strategy as a one-time support will result in a very long-term benefit. What remains not fully convincing is the requirement for vulnerable groups to put up part of the upfront investment costs, probably about 50% of CAPEX: this will in itself be a barrier to the general deployment of such systems for vulnerable groups who rarely have extra money to put on the table at once. It would be worth the while looking into options to pay back the own financing contribution in monthly instalments as such a payment method is more compatible with the financial situation of the target group. On top, the beneficiaries would experience savings from their usual electricity bill that would free every month the capital to pay part of the CAPEX.

CONTACT FOR MORE INFORMATION:

Ministry of Energy, Trade and Industry

FURTHER INFORMATION:

Here

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31. SOLAR SAVERS ADELAIDE: SOLAR PVS FOR LOW INCOME HOUSEHOLDS

Alleviating barriers to installing solar PV systems for low-income households to maintain healthy indoor temperatures and keep cool.

Southern Australia is experiencing increases in frequency/intensity of heat waves, and energy prices, meaning elderly, vulnerable & low-income communities are forced to consider affordability of energy costs of air conditioning, as well as significant health impacts if unable to maintain healthy indoor temperatures.

Barriers to installation of solar PV systems include access to upfront capital to purchase; lack of clarity and trust in the solar market; and split incentive between landlords and tenants.

Low-income households eligible (owner-occupied and rental, using existing income-tested measures) are given a separate rate that is charged to the land, and is paid off by participating property owners in quarterly instalments over a 10 year period. The charge avoids households paying an up-front cost for solar and allows Council to recover the cost for supply and installation over a longer time frame. The principle is that households are forecasted to save more on electricity bills than they will pay for the solar panels each year over the 10 year period.

The Council provided €650 upfront rebate on the total cost of the solar PV energy system as part of the City of Adelaide's Sustainability Incentive Scheme. It also bore the administrative and program costs, as well as the costs of the Solar Analytics energy monitoring system. An interest rate of 3.55% was applied to the total cost of the system in order to cover Council's costs of financing the system over 10 years

RESOURCES NEEDED

Government assured contractor, awarded contract after public tender process.

SSV is government funded and implemented by a partnership between not-for-profits and local councils.

Solar PV manufacturer.

Upfront costs to Council for installation/ equipment.

Solar Analytics monitoring system.

EVIDENCE OF SUCCESS

40 eligible households have had Solar PV systems installed in 2016, households could save up to 323 €/year on energy bills. Low-income groups don't pay upfront for clean, renewable solar PVs, and don't need to choose between a cool, comfortable home and other necessities. Solar capacity in Adelaide increased by 87kW. In 2017/18, applications more than doubled.

POTENTIAL FOR LEARNING OR TRANSFER

Being applied in other Australian regions: Solar Savers Darebin and Solar Savers Victoria (SSV) are also being rolled out so is applicable to other contexts, in sun-rich regions. The programme is economically sustainable as the money is repaid to the government.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Similar in context to the Cyprus support scheme for PV in low-income homes, this good practice from Australia has on top the benefit of allowing the payback of the non-subsidised part of the CAPEX of new PV systems over a 10-year period in quarterly payments made by the low-income housholds which they can afford due to the savings compared to their electricity bill before the new PV systems were installed. This is a very plausible financing model in line with the capabilities of the target group. It is also financially sustainable funding from the municipality as it comes as a long-term loan that is eventually being repaid.

CONTACT FOR MORE INFORMATION:

Adelaide City Council

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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TOPIC 3:

NORMATIVE.

S P A I N

Decarbonising thanks to the renewable self-consumption guide for Andalusian local municipal entities.

Regulatory changes for the promotion of collective self-consumption in Spain.

National Strategy against Energy Poverty 2019-2024 in Spain (ENPE).

Strategic plan to alleviate energy poverty in the elderly in Andalusia.

CONFIA project to improve management of vulnerable citizens with blockchain.

F R A N C E

The zero-rated eco-loan scheme to encourage renewable energy (ECO-PTZ).

The energy voucher, an automatic aid for vulnerable households.

Target energy saving certificates quotas (CEEs) fees to vulnerable households.

“Habiter Mieux sérénité” to accompany households on their way out of fuel poverty.

P O L A N D

Programme LIFE.

L I T H U A N I A

Bureaucratic nightmare solution for development of renewable energies.

32. DECARBONISING THANKS TO THE RENEWABLE SELF-CONSUMPTION GUIDE FOR ANDALUSIAN LOCAL MUNICIPAL ENTITIES

Andalusia, Spain.

December 2018 – april 2020.

Guide aimed at local public entities to promote the implementation of renewable self-consumption facilities in Andalusia and influence regional regulations.

Given the lack of knowledge by local public entities (LPE) on the developments in self-consumption regulations in Spain, the opportunities offered by self-consumption and the ways in which LPEs can participate and promote self-consumption in their municipalities, the Andalusian Energy Agency (AEA) disseminates a digital guide, in order to promote demonstrative and exemplary installations, detailing:

- updated regulations
- types of renewable self-consumption
- administrative and technical procedures to follow
- examples already carried out
- recommendations such as the simplification of the technical and administrative procedure
- municipal tax credits.

In addition to offering practical and detailed information to LPEs on energy self-consumption, the guide offers a model/template of specifications to facilitate public employees carrying out the public tenders necessary for the contracting of self-consumption facilities, both for the project and for the material implementation. In this way, bureaucratic procedures are greatly facilitated, in addition to overcoming the obstacle posed by lack of experience and the scarcity of other similar tenders that could serve as a reference.

The guide has been distributed among members of the “Round Table for Self-Consumption in Andalusia” which groups all the agents involved, under the coordination of the AEA. The Andalusian Federation of Municipalities and Provinces (FAMP) has incorporated this guide in its training courses.

RESOURCES NEEDED

522 hours of specialised personnel.

EVIDENCE OF SUCCESS

In December 2020, the guide was consulted more than 1,000 times through the website of the AEA, and it has been disseminated through FAMP courses to more than 300 local agents in 142 Andalusian municipalities.

The training courses will continue in 2021.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The only difficulty was obtaining data from the installer companies of existing installations to provide examples in the guide.

Among the lessons learned, the need to standardise the procedures for all municipalities since each municipality acts differently is highlighted.

POTENTIAL FOR LEARNING OR TRANSFER

The creation and distribution of a guide of this type is a good practice that can be transferred to any region that wishes to empower its LPEs as key actors in simplifying procedures for users and also as executors of self-consumption in municipal facilities (schools, sports centres, etc.).

The creation of standard contracting specifications for the project and material implementation of self-consumption facilities in LPEs is an example to be followed by other regions as a means of training for municipalities and other local entities to participate in self-consumption.

CONTACT FOR MORE INFORMATION:

Regional Government of Andalusia

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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33. REGULATORY CHANGES FOR THE PROMOTION OF COLLECTIVE SELF-CONSUMPTION IN SPAIN

RD-244/2019 promotes collective PV self-consumption, simplifying procedures and without taxes.

Andalusia, Spain.

April 2019 – november 2020.

On 5 April 2019, the Spanish government approved RD-244/2019 establishing the conditions for photovoltaic self-consumption, which completed the regulatory framework of RD-15/2018 that eliminated the well-known sun tax in Spain. RD-244/2019 regulates the administrative, technical and economic conditions of RD-15/2018 on urgent measures for the energy transition and the protection of citizens who had made an investment in photovoltaic self-consumption.

The most important changes established in the new regulation are:

- Simplified administrative and technical procedures, especially for small installations (> 100kW)
- Energy produced by self-consumption without taxes
- Right to collective self-consumption, defining the concept of nearby installation
- Power for self-consumption without limits with respect to the contracted power
- Right to rent roofs and / or covers so that third parties can produce electricity
- Definition of the allowed schemes and the location of the measuring equipment
- Establish the types of self-consumption modalities (with and without surpluses (with and without compensation))
- Definition of compensation systems for surpluses
- Regulation of the operation of the self-consumption register.

On the other hand, on 3 November 2020, RD-960/2020 was published, which regulates the economic regime for renewable energies for electrical production facilities based on the long-term recognition of a price for energy. Auction mechanism.

RESOURCES NEEDED

As this good practice is related to legislative changes, no financial resources were used.

EVIDENCE OF SUCCESS

Increase in the installed capacity of solar self-consumption:

- Spain: 2018: 236 MW; 2019: 459 MW.
- Andalusia: 2018: 8 MW; 2019: 32 MW.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Administrative simplification requires taking into account many factors that influence each other.

The large number of actors involved in the legalisation of self-consumption makes any change in the work chain difficult.

POTENTIAL FOR LEARNING OR TRANSFER

All this regulatory development facilitates the path of Renewable Energy Communities (REC) whose main objective is that various consumers in the same community (neighbours, a neighbourhood, an industrial estate, etc.) can collectively benefit from the same generation facilities located in its area, maximising the use of generation capacity and, therefore, of the investment to be made.

Taking into account that the European Commission is focused on the definition and promotion of these RECs, this good practice is replicable to any region interested in the promotion of photovoltaic self-consumption or any other renewable energy.

CONTACT FOR MORE INFORMATION:

Ministry for the Ecological Transition and the Demographic Challenge (MITECO)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRATCICE:

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34. NATIONAL STRATEGY OF ENERGY POVERTY 2019-2024 IN SPAIN (ENPE)

IStrategic instrument to address energy poverty comprehensively and with a long-term vision in Spain.

Andalusia, Spain.

October 2018 – october 2024.

In 2019, final energy prices suffered very significant increases as a result of the high prices of raw materials in international markets and the increase in the price of CO2 emission rights as a result of and anticipation of the decisions adopted in the EU. The Spanish government then published RDL 15/2018 of urgent measures for the energy transition characterised by decarbonisation and consumer protection, establishing the obligation to publish the National Strategy against Energy Poverty 2019-2024.

This Strategy:

- carries out a diagnosis and characterisation of energy poverty in which between 3.5 - 8.1 million people are detected in a situation of energy poverty in Spain.
- officially defines energy poverty for the first time.
- designs 4 measurement indicators proposed by the European Energy Poverty Observatory (EPOV) and adopted as main indicators for its monitoring in Spain.
- sets reduction targets for 2025: a 50% target and, at least, a 25% reduction.
- proposes 19 concrete measures to achieve the objectives, including its financing channels.
- prohibits the cutting of supply in extreme weather situations.

RESOURCES NEEDED

As this good practice is related to legislative changes, no financial resources were used. However, within the definition of the 19 concrete measures, financing channels are cited such as the ordinary budgets of the organisations involved.

EVIDENCE OF SUCCESS

- inadequate temperature values in the home in winter (2018: 9.1%; 2019: 7.6%)
- late payment of housing utility bills (2018: 7,2%; 2019: 6,6%).
- the disproportionate spending indicator (2018: 16,9%; 2019: 16,7%).
- the hidden household poverty indicator (2018: 11%; 2019: 10,6%).

It is detected that energy poverty is more present in vulnerable groups (unemployed, first quintile income, old rented flats and unheated homes).

The results for the case of Andalusia show a reduction until 2019.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- Need for a multiple indicator system to measure ENPE results.
- The impact of COVID-19 on vulnerable households was not foreseen in the ENPE.
- Increase in electricity prices in Spain and change of electricity tariff (01/06/21).
- Difficulties in accessing own consumption data from the smart meter.

POTENTIAL FOR LEARNING OR TRANSFER

Thanks to the SWOT analysis of the regions of the POWERTY project consortium, it has been detected that those regions that do not have such a strategy have difficulties in tackling energy poverty as they lack a definition, concrete measures and monitoring and evolution indicators. Therefore, this good practice is of interest to other regions and is eminently replicable.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Blockchain The Spanish national energy poverty strategy is a good practice in the sense that it provides a definition along multiple criteria for energy poverty. This is very important as the term is not clearly defined in many countries yet. The definition allows the identification, which in turn allows to assess who and how many people are concerned. This then makes it easier to channel support and take measures to reduce energy consumption. It is also important that the Spanish strategy is aligned in its indicators with the European Energy Poverty Observatory. Overall, establishing a national strategy gives the important topic of energy poverty a prominent frame and quantified targets that are likely to help tackle the problem in a more structured way than before.

CONTACT FOR MORE INFORMATION:

Ministry for Ecological Transition and the Demographic Challenge of Spain (MITECO)

FURTHER INFORMATION:

Here

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35. STRATEGIC PLAN TO ALLEVIATE ENERGY POVERTY IN THE ELDERLY IN ANDALUSIA

Andalusia, Spain.

November 2019 – june 2023.

Andalusia has drawn up the 1st Comprehensive Strategic Plan for the elderly, which addresses energy poverty and measures to combat it, such as renewable energy.

The group of elderly people has a high degree of energy vulnerability derived from the fact that their homes are old and energy deficient and their financial resources are limited, which places them in a situation of energy poverty (impossibility of rehabilitating their homes and meeting the payments of the energy supplies: 1.6 million older people have difficulties to pay their electricity bills throughout Spain).

This energy poverty, such as the lack of adequate heating in winter, seriously damages the health of the elderly and also poses a serious risk of fires.

The social bonus is an insufficient mechanism for which the regional government has prepared the I Comprehensive Strategic Plan for the Elderly in Andalusia 2020 - 2023, which has required a prior diagnosis of energy poverty in the elderly group, by the Andalusian Energy Agency, which has led to a line of action: Program P3_3 for the reduction of energy poverty in the group of older people, whose objective is to facilitate that this group can access a safe, clean and reliable energy supply, based on renewable energies.

Specifically, it is intended to develop a battery of measures of various kinds that provide a minimum vital energy supply to older people who have difficulty maintaining adequate conditions of temperature, humidity and ventilation inside their homes, while reducing the impact associated that these conditions have on the health and safety of the elderly.

RESOURCES NEEDED

- **Budget corresponding to the preparation of the I Strategic Plan: € 199,063.25.**
- **Budget for the execution of the Plan may be set once the measures to be included are defined.**
- **Origin of ERDF funds - European Interreg Europe program**

EVIDENCE OF SUCCESS

I Comprehensive Strategic Plan for the Elderly in Andalusia 2020 - 2023 prepared and published so far. It will not be until 2022 that the Plan's action plans are defined, therefore until then there will be no definition of concrete measures that will be carried out in 2023.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- Integrate in a single document the multidisciplinary views that affect older people.
- Mobilize and manage work teams of many councils (departments) of the Andalusian Regional Government.

POTENTIAL FOR LEARNING OR TRANSFER

The aging of society is a general phenomenon of the entire European population; Furthermore, the threats and difficulties faced by the elderly group are largely common throughout the European Union. Therefore, the development of plans such as this good practice can be inspiring in other regions both for the group to which they are directed (elderly people) and for contemplating a specific line to serve elderly people in situations of energy poverty.

On the other hand, as established by the European directives on energy matters, all European citizens must benefit from the energy transition, which is why this type of strategic plan is very necessary in all European regions to achieve this objective, in particular, facilitating that the elderly have access to quality energy supplies and from Renewable energies.

CONTACT FOR MORE INFORMATION:

Regional Government of Andalucia

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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36. CONFIA PROJECT TO IMPROVE MANAGEMENT OF VULNERABLE CITIZENS WITH BLOCKCHAIN

Andalusia, Spain.

March 2019 – ongoing.

A blockchain distributed network that automates the operation of the process of energy poverty associated with the vulnerable citizens.

Since 2016, the figure of the vulnerable consumer was established in the Spanish regulation (RDL7/2016) in response to the 4.5 million people who were at risk of energy poverty, establishing 3 categories of severity of said risk and based on which they had a social energy bonus, a discount on their energy bills of 25-40%. To access the social energy bonus, the citizens must request it and present documentation to the Social Services of the City Councils, where it is analysed and, if it is approved, they would benefit from a discount on the electricity bill. The energy poverty management is a slow, inefficient and time consuming process for all the parties involved.

CONFIA project shares all the communication related to cut-off notices, debt and payments of energy poverty citizens between all the parties involved in the process (Social Services from the City Councils, Regional Communities and Electricity Companies). To be able to do this a blockchain system (software) shares the information in real time, with all the parties, encrypted on a distributed network platform with security, traceability, immutability, reliability and in accordance with the General Data Protection Regulation and the right to be forgotten.

This project has been awarded by the European Digital Mindset Awards of the Digital Enterprise Show (DES) as finalist in the category “Best Digital Accelerator, Public Sector”, finalist of ASLAN as “Technology in Social Services”.

RESOURCES NEEDED

Outsorced software of more than 400 k€

2 years of a team made up of more than 20 experts from Endesa, Malaga City Council, Izertis, University of Malaga and AYESA.

The project has been financed by ENDESA with a grant from Corporación Tecnológica de Andalucía of 61 k€ and with a loan of 115 k€.

EVIDENCE OF SUCCESS

July 2021:

CONFIA network is up and running on IBM's blockchain with:

- 7 City Councils have signed an agreement to adhere to the environment and it is expected that at least another 2 will be added during August. With the current adhered City Councils, we would have 35,000 contracts managed per year that could carry out a process in real time that now takes at least 2 months.
- 86 people from Social Services received training sessions. 2.100 vulnerable families will be benefitted.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Other electric companies might want to develop their own system non-compatible with CONFIA.

There is a need of a few city councils to be cost effective.

POTENTIAL FOR LEARNING OR TRANSFER

CONFÍA started in Malaga as a pilot and there are 86 Social Service users testing the blockchain system. Once verified, it can be extended from Andalusia to Canary & Balearic Islands, and finally to all Spanish regions.

The project shows an important use case of Blockchain networks. A new kind of blockchain network is emerging combining permissioning with a decentralized governance model. Public-permissioned blockchain networks bridge the gap between public-permissionless blockchain networks and private consortium networks. This blockchain network that shares information between city councils, autonomous communities and energy companies can open a new way of interchange of information to develop new use cases between public and private organizations.

This good practice is replicable in any region that has vulnerable citizens that can benefit from the current regulation that finances the cost of electricity supply where different parties share information.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Blockchain is revolutionising many sectors, enabling secure and streamlined data sharing without a centralised managing entity, cutting out the intermediary and making up-to-date information available to many actors all at once. This project is an excellent example of its application to tackle a societal challenge, that of energy poverty, allowing faster responsiveness than the existing system.

CONTACT FOR MORE INFORMATION:

ENDESA

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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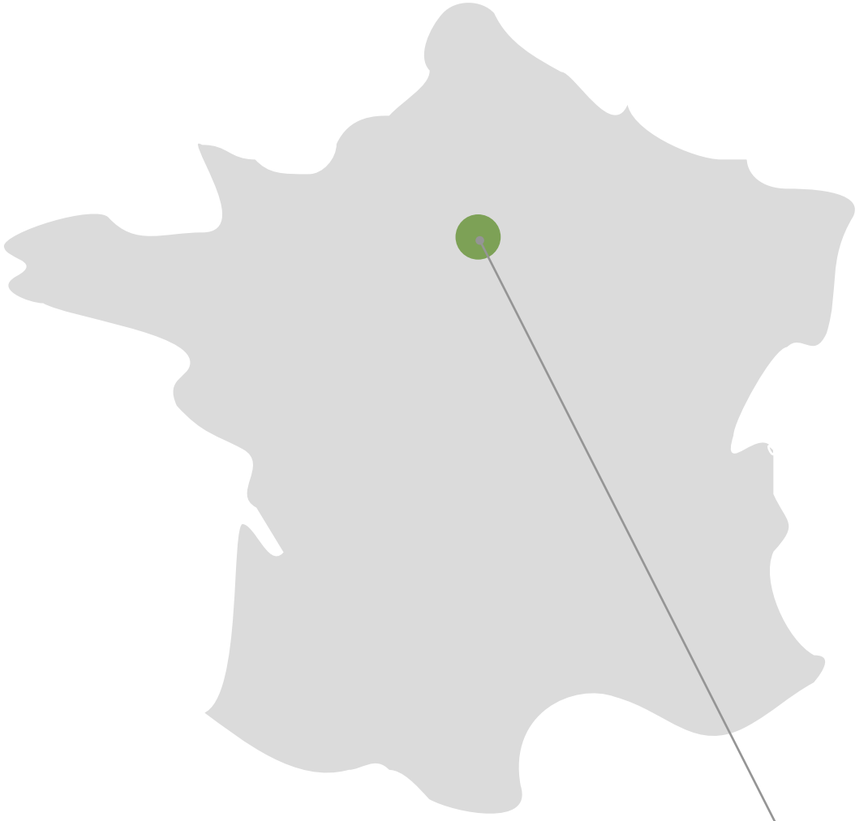
37. THE ZERO-RATED ECO-LOAN SCHEME TO ENCOURAGE RENEWABLE ENERGY (ECO-PTZ)



Île de France, France.

January 2018 – december 2021.

A zero-interest eco-loan to facilitate the energy retrofits and access to renewable energy for all thanks to the partnership between the banks and the State.

The zero-rated eco-loan scheme (eco-prêt à taux zero or ECO-PTZ in French) was introduced by the “Finance law 2009” (loi de finance 2009) to allow landlords (occupiers or lessors) to get a loan to finance energy refurbishment works (insulation, heating or water heating using renewable energies) for their main residence, built more than 2 years ago without any income condition.

The maximum amount of this loan is between €7,000 and €30,000, refundable for 15 years following works.

It is granted by banks which have concluded specific agreements with the French State under conditions fixed by the General Taxes Code. This scheme has been subjected to different evolutions in 2015 and 2019 to improve the coherence between the different energy saving aid schemes.

The work must meet performance criteria and must imperatively be carried out by a company with a recognized quality sign guaranteeing the environment (RGE).

Since 2014, a collective ECO-PTZ allows the co-owners’ associations to benefit from it to finance works of collective interest carried out on the private parts (energy saving works or reduction of greenhouse gas emissions) and on the common parts and equipment of the building. Only co-owners of housing units used as a principal residence can participate in the collective ECO-PTZ.

RESOURCES NEEDED

In the frame of granting an eco-PTZ, the absence of interest on the amount of the loan takes the form of a tax credit from the State paid to the crediting institution distributing the loan (bank), corresponding to the difference with the market rate. For 2019, the tax expense was 39 million€.

EVIDENCE OF SUCCESS

- About 20 banks have signed an agreement with the State and distribute the ECO-PTZ.
- 35,574 loans were granted in 2019, for an average amount of €13,342.
- 55% of the files concern households with incomes below the 1st to 8th decile, i.e. less than €36,360/year.
- The use of renewable energies concerns 10,330 files for a total amount of associated works of more than 85 M€.
- Works financed by the ECO-PTZ over the 2009-2010 period has resulted in total savings of around 2.8 MtCO2 and 14.9 TWh.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

ECO-PTZ is underused because of current low bank interest rates and the administrative burden of contracting the ECOPTZ.

Maximum debt ratio at 30% of income limits access to the scheme for the most modest households.

ECO-PTZ concerns only the owners who are often not vulnerable households.

POTENTIAL FOR LEARNING OR TRANSFER

The ECO-PTZ makes it possible to promote complete work packages and to embark on renewable energy solutions at the same time as energy efficiency in global renovations. For modest, owner-occupied households, this makes it possible to cover the advance of the investment over a long enough period to make it profitable.

For the State, covering the expenditure via a tax credit granted to commercial banks, which offers the ECO-PTZ, allows the investment to be deferred and costs much less than a subsidy system because only the interest is covered.

One can also imagine this type of mechanism at a more local level between a community and a bank through a partnership.

Fuel poverty is a phenomenon that affects all European countries and the ECO-PTZ is a strategy that limits energy expenses and promotes the use of renewable energy for all citizens, especially the most vulnerable, is essential.

Therefore, the transfer potential of this good practice is very high.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Rolling out the low-carbon transition will require rapid mobilisation of finance, including movement by financial institutions and investors who often see energy efficiency as a risky investment as they do not always understand the market or potential return on investment. Correcting such market failures is a typical goal for state involvement in setting up financial instruments such as preferential loans (as in the ECO-PTZ). This loan incentivises homeowners to invest by reducing the cost of the loan (to zero) and also incentivises banks to loan by placing conditions on what technologies can be used, installed only by accredited installers, to ensure the soundness of projects. Enabling collective applications by co-owners of property is a very interesting approach not widely seen in similar instruments.

Further information (in French) is available here.

CONTACT FOR MORE INFORMATION:

Etat Francais

FURTHER INFORMATION:

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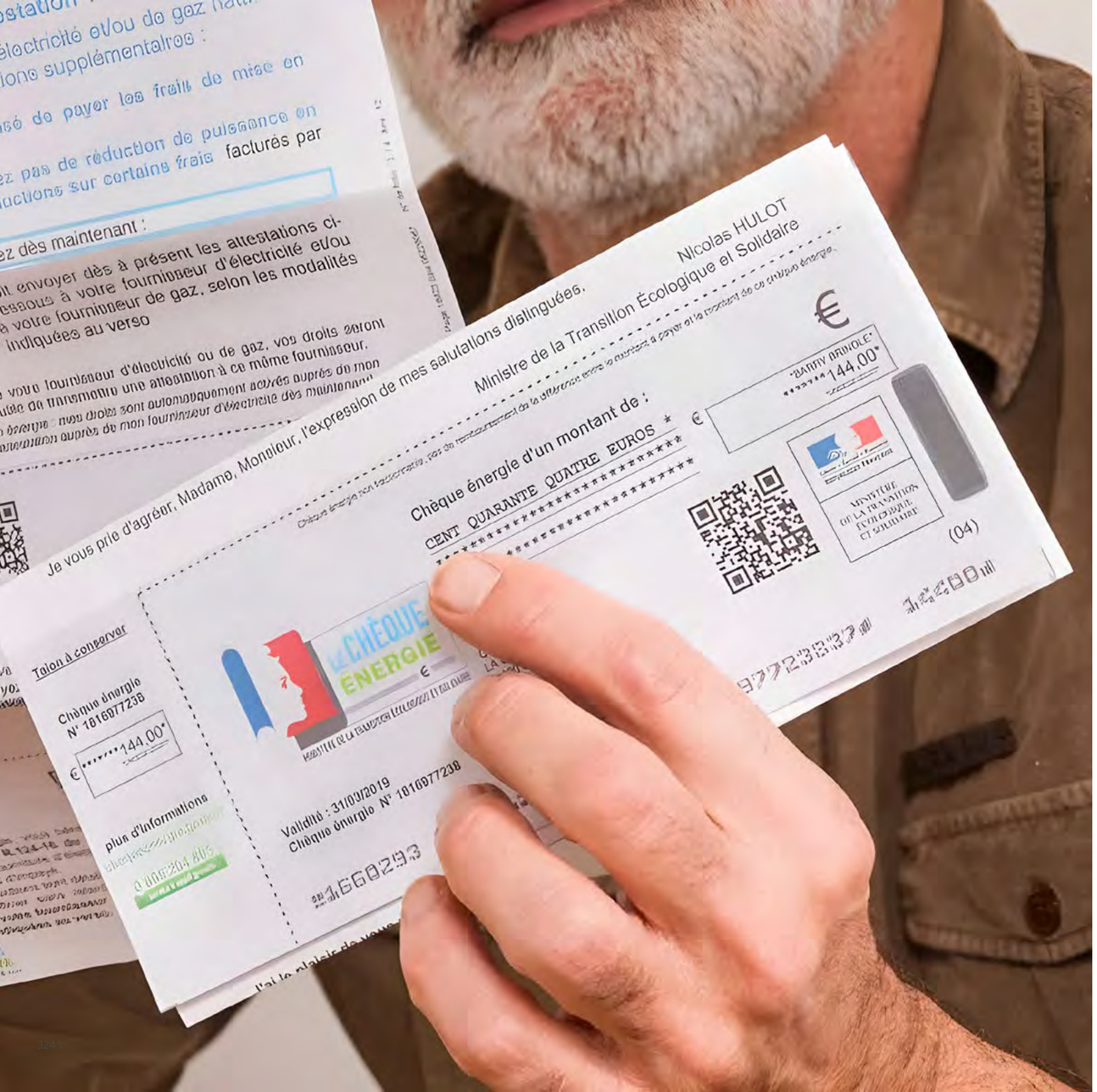
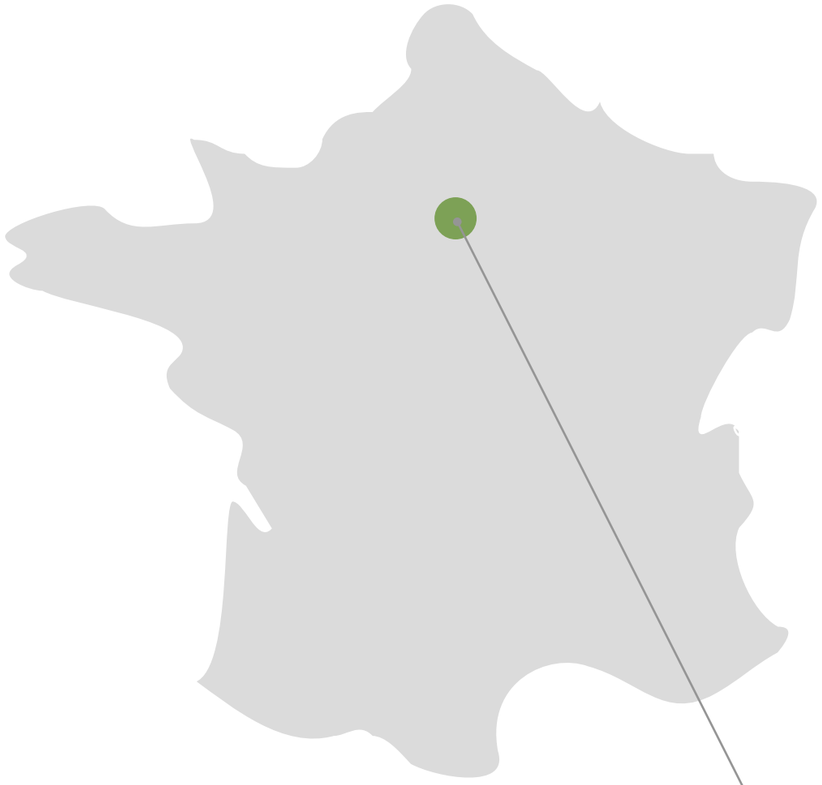


38. THE ENERGY VOUCHER, AN AUTOMATIC AID FOR VULNERABLE HOUSEHOLDS



Île de France, France.

January 2018 - ongoing.

The energy voucher, an automatic aid to pay energy bills for 5.8 million of vulnerable households in France.

The energy voucher is a payment aid for energy expenses, regardless of the heating energy used. This scheme replaces the social tariffs which were abolished in 2018.

It is awarded automatically to households according to two criteria: income and household composition. It is also necessary to be a tenant or owner of a dwelling subject to property tax on 1 January of the year.

The State examines the resources declared to the tax authorities and automatically sends an “energy voucher” of between 48 and 277 euros to eligible households in April.

This energy voucher can be used to pay a housing energy bill (electricity, natural gas, tank gas, fuel oil, wood, etc.) or housing charges. It can also be used to pay for energy renovation work in the home. Energy suppliers and distributors are required to accept it as a method of payment.

The energy voucher is available to households whose annual tax reference income does not exceed: €10,800 per year for a single person; €16,050 for a couple; €19,260 for a couple with one child; plus €3,210 per additional person in the household.

Its attribution gives access to other advantages such as:

- Free connection of electricity and natural gas,
- 80% discount on the cost of a trip in the event of suspension of supply due to non-payment,
- No charge for rejected payments,
- In electricity, no power reduction during the winter break.

RESOURCES NEEDED

The average value of vouchers issued was €148 in 2020. So, the total amount of cheques distributed is EUR 811 million, to which is added approximately 4% in management fees for the service provided by the "services and payment agency"."

EVIDENCE OF SUCCESS

- Energy voucher concern 5,5 millions of households in France i.e. 19% of households (in 2020).
- The voucher use rate is 80.1%.
- This is an important simplification because this aid is obtained automatically without any action on the part of eligible households.
- Both tenants and owners are eligible.
- This aid can be used to pay for renewable energies such as wood, or a "green" energy supplier.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The scheme is still fairly new and requires education for households to use their energy voucher.

COVID 19 crisis has increased the households energy consumption locked in poorly insulated houses. The national fuel poverty observatory recommends doubling the amount of energy vouchers for 2021.

POTENTIAL FOR LEARNING OR TRANSFER

This aid responds to the issue of administrative simplification necessary for accessibility to the most modest households.

The automation of the distribution of the aid makes it easy to access and simplifies the work of the social services. The State uses information it collects on the tax situation of households and this also simplifies management.

Consideration could be given to covering other scales with local authorities that have access to household tax situations.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Measures to address energy poverty like bill support schemes adopted by EU Member are especially important in the present conjuncture, characterized by the need to take people and the economy out of the Covid-19 crisis and project them towards the 2050 climate neutrality goal enshrined in the European Climate Law. The 'chèque énergie' described here is the main instrument for alleviating energy poverty identified in the National Energy and Climate Plan (NECP) adopted by France to comply with the EU Energy and Climate Governance Regulation and map out the country's decarbonisation efforts in the 2021-2030 period. The automatic calculation and allocation of the voucher to energy poor households that are therefore spared from undertaking ant specific administrative steps to be able to receive such form of support is certainly the central element of this good practice. Even though the measure is applied at country level, European regions may be inspired by its innovative design for the purpose of conceiving and implementing measures in their territories adding up to national ones and offering further support to households affected by energy poverty. The fact that the voucher can also be used to pay for energy efficiency and renovation works besides paying energy bills is an element that is equally worth underlying.

CONTACT FOR MORE INFORMATION:

Ministry of Ecological Transition (email)

FURTHER INFORMATION:

Here

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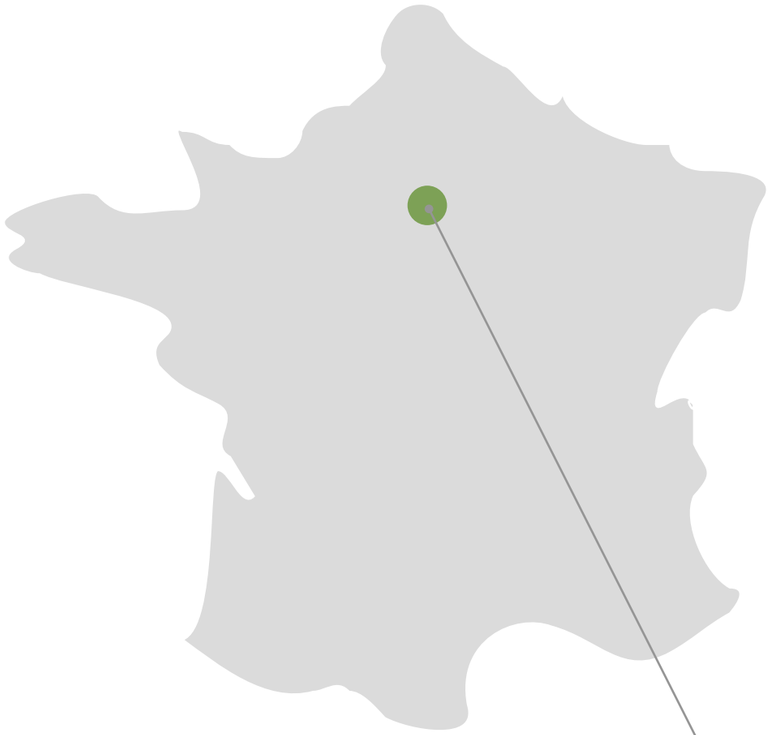
39. TARGET ENERGY SAVING CERTIFICATES QUOTAS (CEES) FEES TO VULNERABLE HOUSEHOLDS



Île de France, France.

January 2018 - ongoing.

The new normative of 2015 include vulnerable groups in the CEEs to encourage energy suppliers to address their scheme to household in energy poverty situation.

The problem of increasing energy demand has created the need to regulate the energy market. Then, the CEE scheme, created in 2005 by the French goverment, is one of the main instruments for regulating the energy market to involve energy suppliers in the demand reduction strategy.

This system is based on a three-year obligation imposed by the public authorities on energy suppliers (under legal duty) to make energy savings which is measured in CEEs: 1 kWh Cumac (for cumulative over the life of the system and actualised) of final energy = 1 CEE.

The CEEs are allocated, by the services of the Ministry of Energy, to eligible actors carrying out energy saving operations. These actions can be pursued in every activity sector they have identified to make energy savings. Standardised operation sheets, defined by decree, are drawn up to facilitate the setting up of energy saving actions. Some renewable energies are eligible for CEE, such as efficient heat pumps, wood-fired heating systems or solar thermal systems.

The law on energy transition for green growth (2015) has introduced a new obligation for the CEE scheme's obligated parties, to be carried out exclusively for the benefit of low-income and very low-income households (precariousness CEEs). This policy has a strong social dimension. For the 4th period (exceptionally prolonged over 4 years 2018-2021): the target is 2,133 TWh cumac, of which 733 TWh cumac for households in fuel poverty (preacairousness CEEs).

RESOURCES NEEDED

Their implementation lead very few additional costs for public funds as the obligation is supported by the energy suppliers. Currently, the cost of CEE precariousness is about 8 €/MWh cumac according to the Emmy base.

EVIDENCE OF SUCCESS

Each energy supplier has to meet different targets for the standard CEE and the precarity CEE, which can be traded on a specific market. The prices of these two types of certificates are different (average price around 6 €/ MWhcumac for the precariousness CEE in 2020).

For the year 2020, more than 236 TWh cumac of precariousness CEE have been delivered by the national Contact for more information point. This represents more than 1.4 billion euros paid to vulnerable households to carry out their energy saving work.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

The price of the precariousness CEE, has led actors to build up a stock of certificates to be exchanged: They are “ahead” of their target, but prices are falling.

Guidelines are currently being discussed to strengthen 5th period (2022-2025) targets for very precarious households.

POTENTIAL FOR LEARNING OR TRANSFER

The CEE schemes are constantly improved as they are implemented: this tool, whose ambition is growing and effectiveness improving, is fixed according to the needs of the field.

The CEE scheme is already applied in several European countries (Italy, Denmark) and in the rest of the world.

The focus on targeting directed towards vulnerable households makes it possible to reduce fuel poverty and remaining costs for these households, while considering the targeted renewable energy equipment. The effort to mobilise vulnerable groups is supported by the energy companies. This scheme is therefore quite effective and can be replicated in other countries.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Vulnerable households face particular challenges in improving energy performance, but are also a group that could benefit most significantly from improvements, with corresponding bill reductions and diminished energy poverty. Expanding the CEE (white certificate) obligation to include measures for vulnerable users can be very effective, as the evidence of success suggests. Many other countries with white certificates could also replicate the approach.

CONTACT FOR MORE INFORMATION:

French Ministry of the Ecological Transition

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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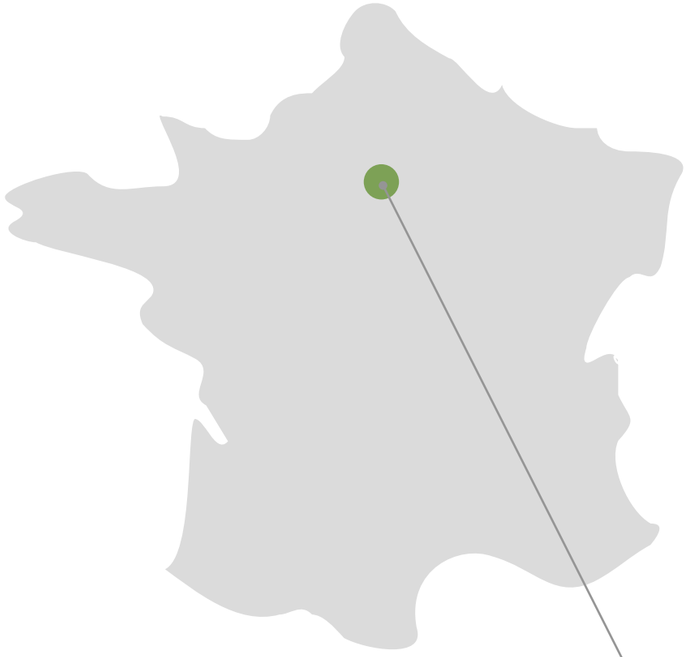
40. “HABITER MIEUX SÉRÉNITÉ” TO ACCOMPANY HOUSEHOLDS ON THEIR WAY OUT OF FUEL POVERTY

“Habiter Mieux sérénité” a global support for vulnerable households in order to get them out of fuel poverty.



Île de France, France.

January 2010 – ongoing.

“Habiter Mieux sérénité” (HMS) is a program led by the National Housing Agency (ANAH) which provides advice and financial assistance to support households with modest resources in their overall energy renovation project of their home.

HMS concerns all the works allowing an energy gain of at least 35%. The financing is proportional to the amount of your work.

The amount of HMS aid depends to household resources, assessed on the basis of household tax returns for taxation:

- For “very modest resources” category: 50% of the total amount of the work before tax and €15,000 maximum.
- For the “modest resources” category: 35% of the total amount of work before tax and €10,500 maximum.

You can also benefit from 2 cumulative bonuses:

- A bonus of €1,500 for the most energy-intensive housing whose energy label before work is F or G, and whose label after work is E or better.
- A high performance “BBC” (low energy building) bonus of €1,500 in addition for homes whose energy label after work is A or B.

HMS includes specific technical and administrative support to help the household to define and carry out the work.

The operator-advisor is a professional (from a specialised association or a design office) who accompanies the household so that the project is adapted to the characteristics of your home and your situation. It includes: Diagnosis of the home, definition and costing of the project and taking steps to obtain all the financial aid to which the household may be entitled.

RESOURCES NEEDED

For the year 2020: 597.3 million € were devoted to financial aid for work and 65 million € to technical and administrative support services for households.
Funds by French State.

EVIDENCE OF SUCCESS

For the year 2020:

- 41,241 owner-occupiers assisted for an average aid of 6,197 € per dwelling
- 30,609 landlords assisted for an average aid of 22014€ per dwelling
- 7,117 joint owners' associations assisted for an average aid of 6,788 € per dwelling

The HMS requires an increase in performance of at least 35%, but the gain observed is higher, since it is on average 42%.

The zero interest eco-loan (ECOPTZ) can be mobilised to finance the remaining costs.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

RES not very much valued by the scheme, which concentrates its efforts on the energy gain.

Energy gain does not always allow the household to get out of fuel poverty

Competition with other aid systems put in place by the State (Ma prime renov', CEE) despite the interest of global support.

POTENTIAL FOR LEARNING OR TRANSFER

This system provides global support to households on technical and financial aspects and guarantees the achievement of a minimum energy gain. This meets the needs of the vulnerable groups identified in the POWERTY project. This is why we consider that it can be transferred to other regions of Europe with a strong benefit in the fight against fuel poverty.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Households in energy poverty will need focused support in renovation to improve energy performance and meet our carbon targets, but such renovations are also essential for improving quality of life. This practice acts like, to an extent, like a one-stop-shop – which have been advocated as best practice by the European Commission in the EPBD – providing auditing, technical, administrative and access to financial support. The differentiated funding rates and funding ceilings help to ensure efficient use of resources, and the take up rate suggests a good level of success. The global approach, from audit to implementation, should be standard for other regions looking to create support instruments.

CONTACT FOR MORE INFORMATION:

National Housing Agency (ANAH)

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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41. PROGRAMME L I F E

This good practice is in process and has not been finalized at the time of completing this guide, therefore a summary and the promoter of the project are indicated below.

Before the need to increase public awareness of air quality issues by increasing the involvement of local governments, society, non-governmental organizations and local entities in taking remedial actions to support activities in the field of Air Protection Program (POP).

A methodology has been created to implement a uniform management system supporting the implementation of POP of local governments of Opolskie Voivodeship, at all its levels (municipality, district, voivodeship (province)):

1. Preparation and maintenance of a partner cooperation platform.
    - Main coordinating beneficiary: Opole Voivodeship
    - Associated beneficiaries: 42 municipalities
    - Associated beneficiary: Opole University of Technology
2. Preparation and implementation of an air quality management system.
3. Preparation of a regional air quality diagnostic system.
4. Database with inventory of low-emission sources.
5. IT system for monitoring, reporting and updating of POP.
6. Educational campaign.
7. Postgraduate studies.

PROMOTER:

The Agglomeration Opole Trust (AOT)

FURTHER INFORMATION:

The Agglomeration Opole Trust (AOT)

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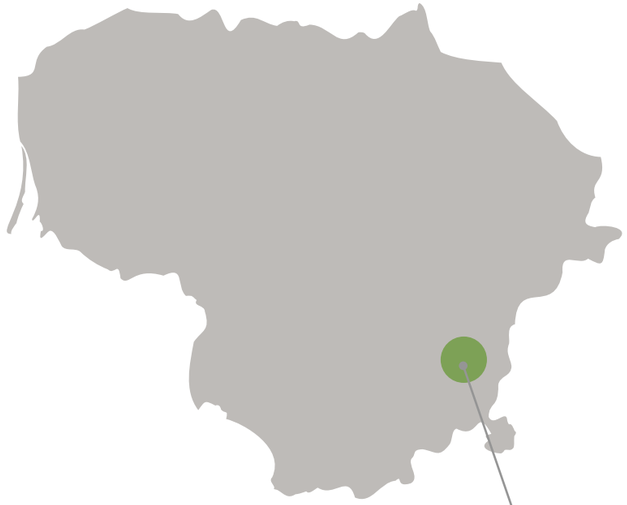
42.BUREAUCRATIC NIGHTMARE SOLUTION FOR DEVELOPMENT OF RENEWABLE ENERGIES

Simplification of administrative procedures to allow prosumers, including vulnerable groups, to use energy from renewable energy power plants in their household.



Lietuva, Lithuania.

April 2019 – october 2019.

Lithuanian legislation to install small scale renewable energy source power plants was difficult and lengthy. Also, very limiting legislation related to the prosumers who produce electricity from renewable energy sources.

After a review of legislation amendments were taken to foster use of renewable energy sources:

- The prosumer definition was identified and clarified;
- Companies (not only natural persons) can become prosumers;
- Number of procedures, documentation and days needed to become a prosumer was reduced. Procedures from 11 to 4; documentation from 30 to 3 and days from minimum 105 days to up to 21;
- The simplified procedures were applied to power plants of 5 kW, this number was increased to 10 kW in 2018 and to 30 kW in October 2019;
- The prosumers were allowed to build renewable energy power plants of up to 50 kW, this number increased to 100 kW in 2018 and to 500 kW in October 2019;
- The prosumers were allowed to build renewable energy power plants of 100 MW, this number increased to 200 MW in October 2019. By distributing 100 MW to household and non-household electricity consumers differentiating fees for power plant connection to the grid was introduced in 2018 to make it cheaper for households.

Main stakeholders:

- Ministry of Energy of the Republic of Lithuania
- National Energy Regulatory Council – independent entity responsible for the calculation of the “grid fee”
- Power plant developers

Beneficiaries: Electricity users.

RESOURCES NEEDED

As this good practice is related with legislative changes, no financial resources were used.

EVIDENCE OF SUCCESS

Highlight not just reductions in energy poverty but also the increased participation of vulnerable groups in decision-making, and improved access to energy market mechanisms. Due to these changes, new prosumers from 2,200 in 2019 increased till 3,700 new prosumers in 2020, and 18.8 MW RES installed capacity in 2019 increased till 38.5 MW RES installed capacity during 3 quarters of 2020 accordingly.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Relatively high investment is still needed in RES (long payback period) and few inhabitants' know-how about renewable energy technologies.

POTENTIAL FOR LEARNING OR TRANSFER

This good practice can be used in other regions as an example of the solution for development of renewable energies and how policy changes make renewable energy easy to use and install, as the simplified procedures were applied to renewable power plants and the prosumers were allowed to build renewable energy power plants, this enabled electricity users, including vulnerable groups to have and use energy from renewable energy power plants in their households.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

The transition to low-carbon energy will require not only new large-scale installations such as wind farms but also many small, decentralised contributions. However, most small-scale investors looking to own and operate their own installations do not have the full expertise required to navigate complex permitting requirements. Often requirements are outdated, lacking modern definitions and not reflecting advancements in technologies. Legislatures can work with stakeholders to identify these unnecessary bottle necks and barriers and propose suitable simplification processes, as, indeed, is encouraged by the revised Renewable Energy Directive (RED II) to enable decentralised energy generation. The specific measure taken here can be seen as good practice: clear definition of prosumers, faster approvals, and widening the definition of included technologies.

CONTACT FOR MORE INFORMATION:

Ministry of Energy

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONL SEMINAR:

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TOPIC 4:

EMPOWERING.

S P A I N

Energy and Educational Community in a vulnerable area in Seville.

An installing solar panels insertion company whose employees are people at risk of exclusion.

No home without energy.

Citizen participation as a tool to create the Local Energy Community (LEC) “ALUMBRA” in Andalusia.

F R A N C E

AEELA Program. Energy Saving Accelerator for the Housing of the low income farmers.

Autonomous Building for Citizens (ABC) with solar self-consumpltion for 62 social housing.

B U L G A R I A

Sustainable reduction of energy consumption of low-income households through energy advice.

Empowering vulnerable citizens to save energy with the “Give Energy” campaign.

P O L A N D

WARM UP YOUR BUSINESS as an opportunity to find the RES technologies for vulnerable groups.

U N I T E D K I N G D O M

Heart-smart orkney (HSO): Using wasted renewable energy to heat homes experiencing fuel poverty.

43.ENERGY AND EDUCATIONAL COMMUNITY IN A VULNERABLE AREA IN SEVILLE

A pilot installation of collective solar self-consumption located on the roof of two public schools, which supplies energy to vulnerable families.

Andalusia, Spain.

June 2021 – may 2022.

The neighbourhood of Torreblanca in the city of Seville is classified as a Vulnerable Zone by the Andalusian Regional Government. More than 18,000 people live in this neighbourhood, a large number of whom live in energy poverty.

The creation and implementation of the Energy and Educational Communit allows these vulnerable groups to have access to renewable energies while at the same time promoting energy culture, integrating an educational dimension in energy matters.

The first action to set up this Energy and Educational Community, called “Torreblanca Ilumina”, consists of a pilot installation of collective solar self-consumption (15 kW), located on the roof of two public schools, which supplies energy to 11 families.

The Energy and Educational Community has been developed with the support of assistance, including:

- Legal assistance, which has analysed the most appropriate legal figures for the creation of an Energy and Educational Community and the mechanisms of public-private collaboration for the cession of the roofs of public schools by the City Hall of Seville to the “Torreblanca Ilumina” Association.
- Social assistance, which has carried out a complete process of social management, citizen participation and awareness-raising, during which informative and active workshops have been held. The “Energy Office” has also been set up to provide personalised advice to families in the neighbourhood.
- Technical assistance for all design work, energy analysis, processing and legalisation of the self-consumption installation, as well as analysis and improvement of families’ electricity bills.

RESOURCES NEEDED

Equipment for installation: 18,000 € from Interreg Europe (POWERTY- Andalusian Energy Agency) and solar panels from the cooperative Som Energía from a donation

Legal assistance: 17,520 € from Interreg Europe (POWERTY – Andalusian Energy Agency)

Social assistance: 17,910 € from Interreg Europe (POWERTY – Andalusian Energy Agency)

Technical assistance: 6,480 € from Interreg Europe (POWERTY – Andalusian Energy Agency)

EVIDENCE OF SUCCESS

- 2 methodologies (legal and social) for the creation of an Energy and Educational Community in vulnerable areas compiling all lessons learned.
- 2 collective PV installations of 15kW in total (10 kW + 5 kW)
- 1 video on this good practice
- 11 vulnerable households with energy from the collective PV installation
- More than 60 families have received advice in the workshops.
- 30% energy savings for families
- Dissemination through the EPAH, POWERTY, RESCOOP network, Interregional Partnerships of the European Comission, working group on energy communities at national (EnerAgen) and regional level (Andalusian Self-consumption RoundTable)
- Participation in different events which shows enormous interest.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Challenges encountered include:

- There is no other experience in Spain
- Energy and Educational Community in a very vulnerable context (no references)
- Make the vulnerable protagonists of the energy system
- Public-private collaboration: 2 Public Administrations and 1 Association
- Administrative legalisation process of collective self-consumption (new)
- Reduced deadline for this pilot
- Area with great concerns: eating, dressing... (priorities)
- Bring energy to low educational levels
- Labour insertion

Lessons learned include :

- Exchange of the good practices for the cession of roofs
- Synergies with other movements in the neighbourhood
- « Ambassadors » to explain the Energy and Educational Communit
- Agreement between Andalusian Energy Agency & Torreblanca Ilumina
- Social processes take a lot of time
- Social Servicies facilitate dialogue with families
- Funding is a barrier to continue the Energy and Educational Communit
- Old electrical system, additional investment not foreseen
- Educational complements facilitate the acceptation of the pilot
- Complex coordination of the number of agents involved

POTENTIAL FOR LEARNING OR TRANSFER

Any vulnerable area can use this good practice as an inspiration to use the roofs of public buildings for collective installations and share energy with the neighbours of the neighbourhood. This is one of the actions to be carried out by an energy community, although it is not the only one. For example, energy saving and efficiency and sustainable mobility measures can be implemented to complement renewable energies. Leaving no one behind and being a protagonist of the energy transition are essential values of this good practice.

CONTACT FOR MORE INFORMATION:

Andalusian Energy Agency and Association “Torreblanca lumina”

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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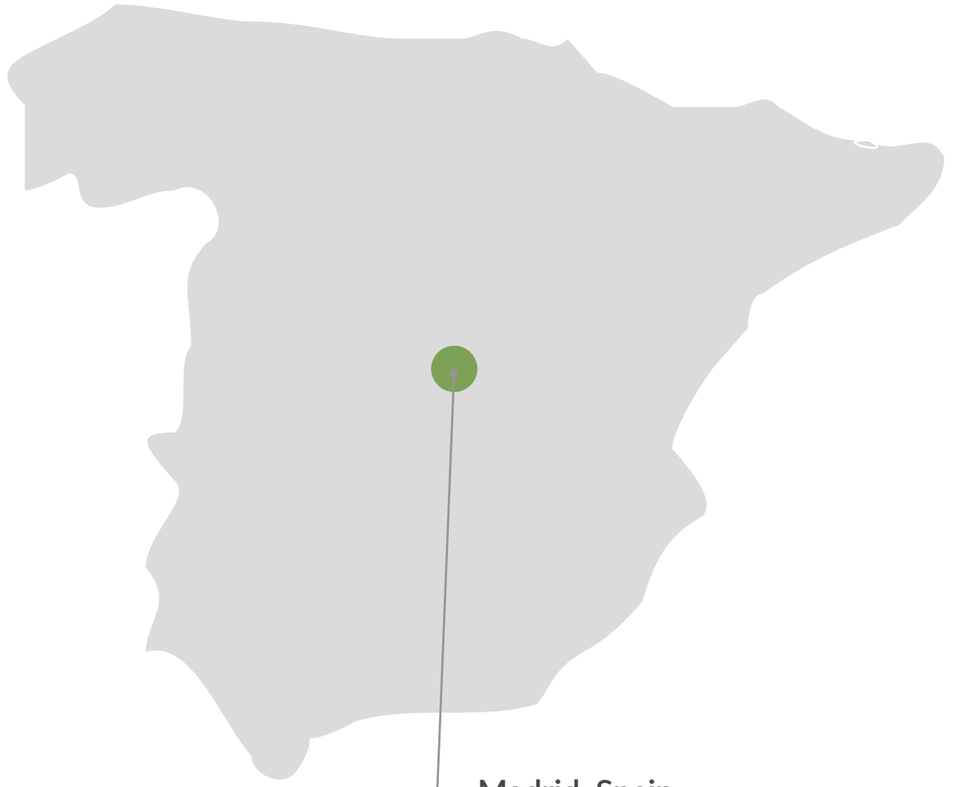
44. AN INSTALLING SOLAR PANELS INSERTION COMPANY WHOSE EMPLOYEES ARE PEOPLE AT RISK OF EXCLUSIÓN



Insertion of people in situation of social vulnerability in the renewable energy and self-consumption labour market.

In the coming years, the number of renewable energy installations will increase substantially, in order to achieve a decarbonisation energy system. This will require an increasing number of workers, in particular from medium and low self-consumption power plants.

On the other hand, there are people with severe difficulties in entering the labour market, in particular those at risk of social exclusion who, in many cases, are affected by energy poverty. This good practice consists of integrating people at risk of social exclusion into the renewable energy labour market. The promoters of this action are the non-profit renewable energy company ECOOO, and the insertion companies Amoverse and El Zaguán. These companies have created a temporary union of companies to provide ECOOO service, which provides its experience in the solar energy sector and the installation of self-consumption. The objective of the temporary union is to provide a service of a photovoltaic self-consumption installation in order for the people hired to broaden their professional profile with quality training in a growing sector and with great possibilities of insertion in the ordinary market. For its part, ECOOO is committed to carrying out qualified marketing and supervision. The 3 organisations seek the formation of a more just society, promoting the energy transition towards a sustainable and decentralised energy model and generating qualified technical employment for people in situations of vulnerability

RESOURCES NEEDED

3 people are needed for the management of this project.

EVIDENCE OF SUCCESS

This GP has led to the creation of the first company of photovoltaic installers, for the development of businesses that allow the hiring of people in vulnerable situations with a view to their professional training and their insertion in the ordinary market.

- Nº of persons participating: 6

Results:

- 6 photovoltaic installations in single family homes.
- High degree of customer satisfaction both in terms of the quality of the installation and for the humane treatment of the team members.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Training from scratch of people who had not had access until now to a regulated job or Contact for more information with photovoltaics beyond a theoretical and practical course.

The business start-up of this activity within the legal-technical framework of an insertion company without experience in this type of work.

POTENTIAL FOR LEARNING OR TRANSFER

As can be seen from the EPOV indicators, energy poverty is a phenomenon that affects all European countries, to a greater or lesser extent. In addition, renewable energies and the need to integrate all citizens (including vulnerable groups) is a priority of EU energy policy, which will necessarily have to be reflected in the regulations and strategies of the different countries and regions.

Therefore, the transfer potential of this good practice is very high.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Skill development for the energy transition should be a topic of high importance to regions as it results in employment creation in support of structural change to a renewable, decentralised energy system.

Renewables have a higher employment creation potential than fossil fuels, and the jobs are decentralised in the sense that every territory must have qualified installers, energy auditors, etc. The range of jobs includes both academic and blue collar jobs - with the majority of jobs at the level of technician and installer, specialised plummer, electrician, etc. for the different renewable energy forms. This is also the level that is suitable for the insertion of vulnerable groups into the employment market. This good practice should inspire regional policy makers in search of re-skilling programmes.

CONTACT FOR MORE INFORMATION:

ECOOO

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

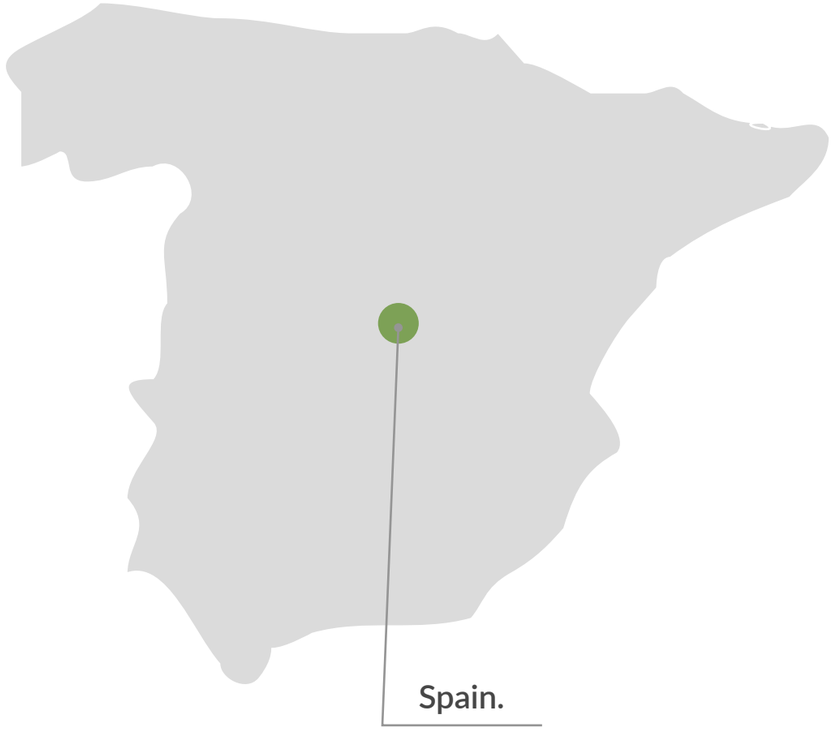
Here

WEBINAR WHERE THIS GOOD PRACTICE WAS PRESENTED:

Here

45. NO HOME WITHOUT ENERGY

This good practice is in process and has not been finalized at the time of completing this guide, therefore a summary and the promoter of the project are indicated below.



"No home without energy" is the ECODES´programme to promote energy efficiency among citizens (ODS 7), fight energy poverty (ODS 1) and contribute to climate action (ODS 13). This initiative offers information and tools to understand and reduce energy supply bills, learn responsible energy consumption habits and learn about energy efficiency measures to be implemented in their homes, as well as financial assistance or programmes to finance them provided by national, regional and local public administrations. The information is transmitted to the population, and especially to the most vulnerable people, through different channels: web, on-line energy management tools, workshops, service points, home visits, publicity and dissemination, corporate and citizen volunteer programmes.

From its website, citizens can fill in the "I want to save" questionnaire with which they will receive recommendations on efficient energy consumption habits, energy efficiency and optimisation measures of their contract to reduce energy bills. All of this is done in a personalised way with respect to their family, work and economic situation and the state of their homes, equipment and private energy consumption.

In addition, it allows them to know if they can benfit from (or not) the electrical social bond from the parameters stipulated in the legislation. If you do not have the bond, instructions are provided in order to obtain it, as well as the form from your reference marketer. In this sense, the “No home without energy” project has developed an online tool for the management of energy poverty (ENERSOC) with the objective of facilitating the diagnosis and attention to vulnerable people by social NGOs, city councils, consumer organisations and corporate volunteer programmes. Moreover, it allows the technicians to know additional information about the particular situation of the user that allows an exponential improvement in the treatment of other situations of vulnerability, either physical or material. This tool has received the support and collaboration of different companies, public administrations and non-governmental organisations.

“No home without energy” has been conceded the award as the Best Spanish Project of Social Innovation to Tackle Energy Poverty in the second edition of the Programme for Social Entrepreneurs “Social Innovation to Tackle Fuel Poverty” of Schneider Electric Foundation and Ashoka Foundation.

PROMOTER:

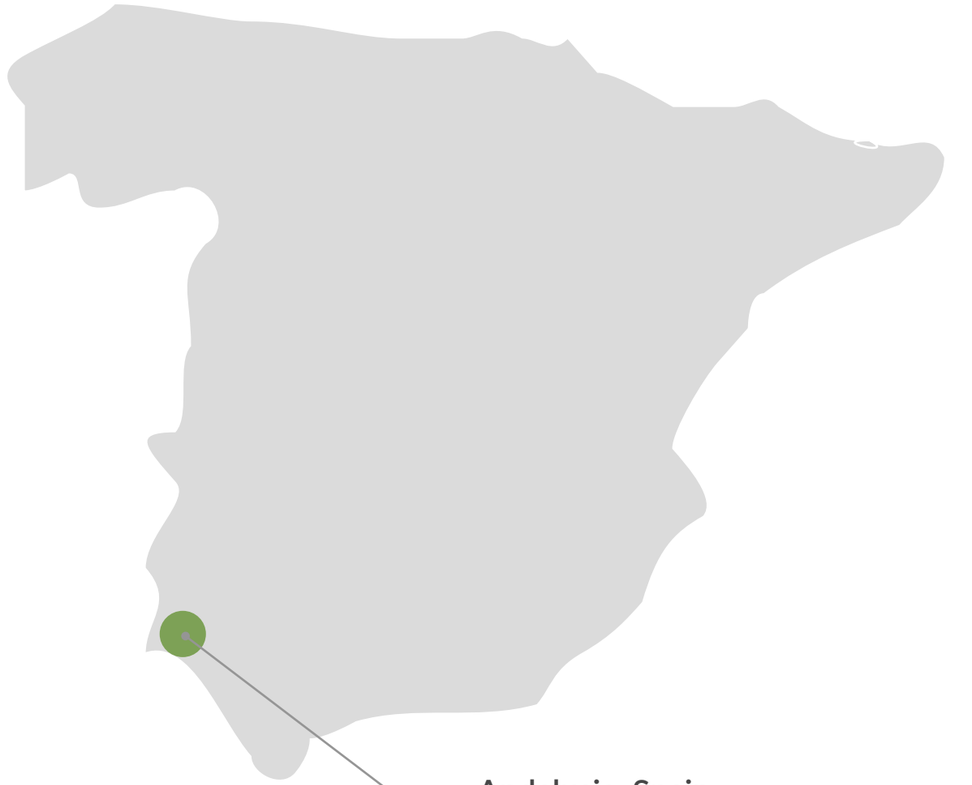
ECODES

FURTHER INFORMATION:

Here

46. CITIZEN PARTICIPATION AS A TOOL TO CREATE THE LOCAL ENERGY COMMUNITY (LEC) "ALUMBRA" IN ANDALUSIA

Influence of the LEC on local development, vulnerable families and schools in the rural area.



Andalusia, Spain.

October 2019 – ongoing.

MUTI Association consists of a network of people with links to the rural environment, committed to sustainable development in economic, social and environmental terms. It is characterised by its desire to weave networks and public-private-citizen alliances. Energy soon became one of the lines of action.

The implementation of the line of action began with the celebration in October 2019 of a 2-day conference on “energy in rural areas”, with more than 26 speakers and the attendance of people from 39 different municipalities. As a result of this conference, the LEC driving force was created and an agreement was signed for MUTI to act as an energy office “La Alterna” in the town of Arroyomolimos de León (Huelva) from October 2020. Derived from the work, MUTI trains schools in the area in the field of energy, highlighting that it has been awarded by the “Renovathon” of Greenpeace 2021 for its project “Energy in schools” which consists of an energy audit process of the primary school building with the environmental commission of the centre and whose profits will be reinvested in the school to continue improving its energy efficiency (50/50 methodology).

The creation of the bottom-up type LEC, between the Arroyomolinos de Leon City Council and a network of neighbours, including vulnerables, begins with the installation of a collective self-consumption system (shared municipal and citizen ownership) that will end in December 2021.

RESOURCES NEEDED

Financial donations from the Unicaja Foundation (3,000€) and SOM Energía (1,000€).

Assignment of spaces for office use and celebration of events by the Arroyomolinos de León City Council.

Part-time technician (6 months) in "Energy Office" and hours of municipal technical staff.

EVIDENCE OF SUCCESS

- Conference "energy in rural areas": 123 people (61 men and 62 women).
- Creation of 1 "La Alterna" energy office that has served 25 families.
- College: Creation of 1 monitoring commission
- LEC: Appears in 2 recent Friends of the Earth publications and has participated as an ongoing speaker on LEC organised by EnerAgen and the AEA.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Difficulties:

- Financing the dynamiastion processes
- Lack of vision in the medium and long term in rural areas

Lesson learned:

- Verifying that each LEC is a model in itself
- Participatory work and the commitments and alliances that are generated are crucial to guarantee its sustainabilit

POTENTIAL FOR LEARNING OR TRANSFER

Rural LECs are very valuable instruments within a comprehensive approach linked to the demographic challenge, where inhabitants decide what energy they need for a dignified, healthy and sustainable life in their municipalities. The just, inclusive and democratic energy transition should be a fundamental vector for the backbone of rural communities.

Our commitment to the local energy community as a tool to make this possible is based on a triple vision:

- learning community, where to build knowledge about energy and daily life, highlighting the traditions inherited from the rural energy culture in a context of energy and climate crisis.
- community of care, where no one is left behind in the benefits of renewable energy in the framework of sustainability
- community of governance, where well-informed decisions are made and participation goes beyond the act of consuming energy.

This good practice is replicable to any region in rural areas.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

Local energy communities are powerful tool to enrol large fringes of the population in the energy transition. especially in rural areas they are also a tool for integration amongst people of different backgrounds and capabilties to participate in the energy transition. The public contribution to foster such communities can be small as in this case: providing office spaces and dedicated some person hours, the real work being done be the volunteers themselves.

CONTACT FOR MORE INFORMATION:

MUTI Association

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

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ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

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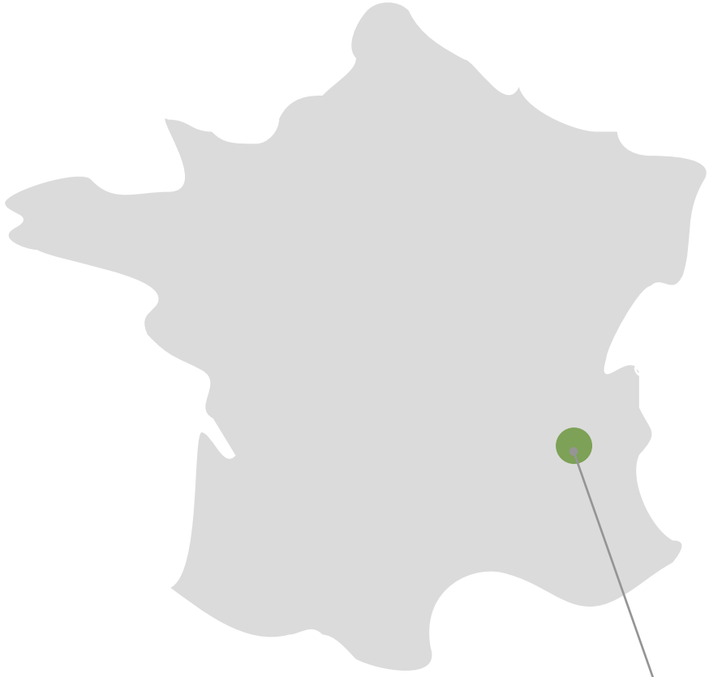
47. AEELA PROGRAM. ENERGY SAVING ACCELERATOR FOR THE HOUSING OF THE LOW INCOME FARMERS

The AEELA programme, financed thanks to energy saving certificates, supports low income farmers in renovating their homes and enhancing local resources.



Rhône-Alpes, France.

January 1961 – ongoing.

The AEELA programme is aimed at a particular public exposed to the problems of energy comfort in mainly low income farmers housing in a situation of fuel poverty, as shown by the figures of the National Observatory of Energy Insecurity and is based on a previous experimental project carried out on the theme of the fight against housing insecurity. This programme supports to help them cope with their situation within 2 years.

The main assets of the project are:

- The role of a trusted third party, played by the Mutualité Social Agricole (MSA), which knows well the farmers and is used to supporting them in their social approaches,
- SOLIHA's dual social and energy expertise,
- Empowerment of farmers through the self-rehabilitation component, particularly suitable for this audience,
- The program is financed by Energy Saving Certificates, therefore without public money.

AEELA encourages energy savings for farmers' housing by using 3 levers: a massive communication campaign and local events (territorial animations), efficient technical support and an innovative diagnostic approach and accompanied by an offer of self-rehabilitation.

A territorial analysis is carried out on the vulnerability of populations to target the most relevant territories. Then, a questionnaire was sent out to the farmers, some of them thanks to territorial animations. After answering the questionnaire they receive a diagnosis of their home and engage in accompanied self-rehabilitation support.

RESOURCES NEEDED

The program's cost is €2.5 million, covered by an "obligated actor" through the energy saving certificates scheme.

It allows the recruitment of 6 territorial facilitators and 7 local facilitators on accompanied self-rehabilitation.

EVIDENCE OF SUCCESS

The results are so far:

- More than 500 animations (communication campaign).
- 20,000 questionnaires were sent to targeted farmers.
- Around 500 families received a diagnosis of their home and 120 of them engaged in accompanied self-rehabilitation support.
- 1,300 farmers were supported by a team of experts in energy-saving works.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- Gaining the targeted farmers' confidence many commercial companies canvassing individuals, creating a mistrust climate.
- Articulate with public service actors for renovation. This service is currently undergoing in France, slightly shaking up the schedule of this public service.

POTENTIAL FOR LEARNING OR TRANSFER

AEELA is particularly well designed precisely because it is not sector specific but a special target. The MSA is not an actor in the energy transition but is a social partner for farmers in whom they have confidence. Other countries can learn from this program by identifying institutions that can act as "trusted third parties".

Secondly, the choice to offer these particularly vulnerable targets, who are often producers of renewable energy resources (biomass), support for self-rehabilitation will make it possible to reduce the "remaining costs" and thus favour equipment that allows the resources produced to be used.

Finally, SOLIHA, which carries out the diagnostics, is also the operator of the funds entrusted by the ANAH (National Housing Agency) to combat fuel poverty. Where appropriate, they will therefore be able to articulate these programs to combat fuel poverty, optimized to help households reduce their vulnerability.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This is an excellent practice, in many ways, for engaging with a low-income group to improve energy performance. It has a number of particularly strong aspects within its design, including using a trusted intermediary group to connect with the target audience, wide communication and in-depth territorial analysis. Identifying those in need is one of the major challenges in tackling energy poverty and the project's territorial analysis is an approach that could be replicated. The other good aspect is that no public money was needed. To explain Energy Savings Certificates further (as not all countries use them): all energy suppliers are obliged to make energy savings related to their share of supply and either implement efficiency projects or purchase certificates from others in order to meet their obligations. Effectively, they create a market mechanism for energy savings – similar systems have been set up in Italy, Denmark and the UK.

CONTACT FOR MORE INFORMATION:

Mutualité Sociale Agricole (M.S.A.)

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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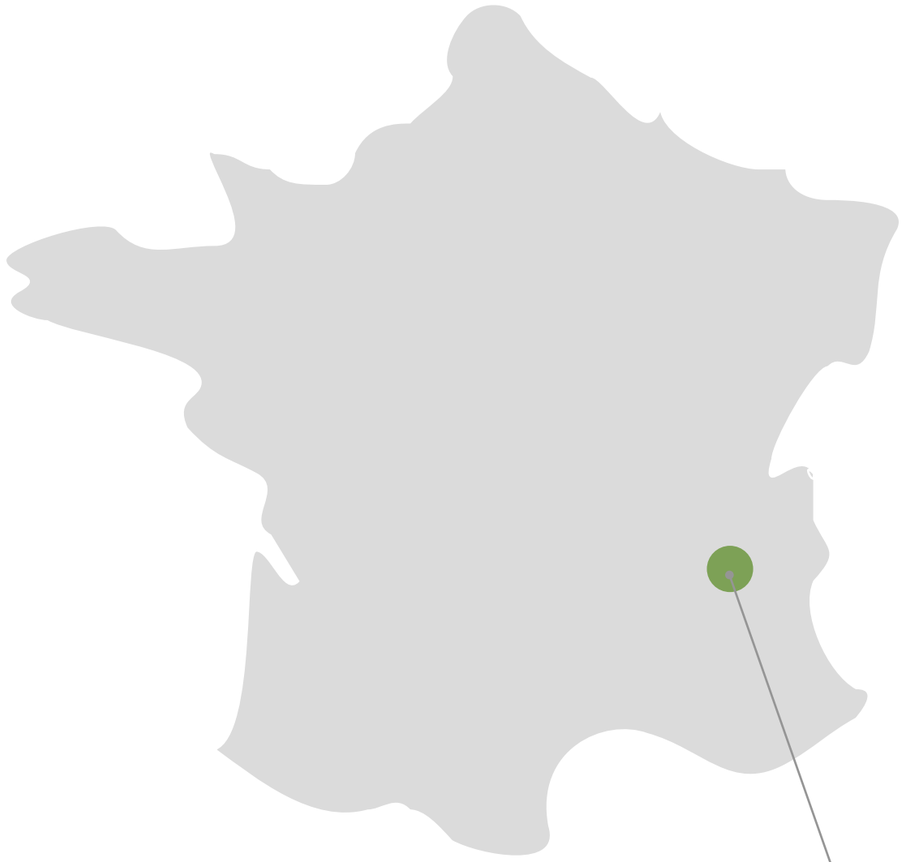
48. AUTONOMOUS BUILDING FOR CITIZENS (ABC) WITH SOLAR SELF-CONSUMPTION FOR 62 SOCIAL HOUSING



ABC demonstrator is a a building that demonstrates that energy sustainability is possible for all households.

The ABC demonstration building, built by Linkcity and Bouygues Construction, was born in 2011. It is a prototype building that would be autonomous in terms of energy and resource consumption. It aims to achieve 70% annual energy autonomy (collective self-consumption with storage system from the photovoltaic farm on the roofs), a 2/3 reduction in water consumption from the city network and a 40% reduction in the volume of household waste. To achieve these objectives, the building produces and stores the energy and water needed by its inhabitants. In addition to the photovoltaic panels, grey water is recycled and reused for toilets, common areas and the vegetable garden. Rainwater is collected, purified and used for housing. Delivered in September 2020 after 2 years of work, the building has 42 intermediate rental units and 20 social rental units. ABC building is based on a series of innovative technologies integrated into its design (cork insulation, low-carbon concrete, etc.) and equipments (battery radiators, showers connected to recycling, consumption monitoring application, A+++ household appliances, etc.). Autonomy of the ABC building is above all achieved through the approach of user assistance, well beyond the technical aspects. It is a question of facilitating the emergence of a community of inhabitants, to generate knowledge share and emulation between peers. The Grenoble Habitat teams will monitor and analyse the building and the uses of its inhabitants for 5 years.

RESOURCES NEEDED

Construction cost: 13 M€ for 5000 m2 funded by Grenoble Habitat with subsidies form city of Grenoble, Grenoble Alpes Métropole, State and Region AURA.

Solar system is about 250 k€.

Animation cost of the community of inhabitants is 64 k€ for the year before delivery and the 3 first years after.

EVIDENCE OF SUCCESS

- 62 dwellings, 20 of which are social, with a high level of comfort (through-viewing, with balconies and pre-equipped)
- Energy self-sufficiency 70%, thanks to 213 kWp photovoltaic power plant of which 44 kWp dedicated to collective self-consumption on the roof of the building and a storage system of 365kWh.
- Water self-sufficiency 55%,
- 40% waste reduction,
- common areas: shared room, educational showroom, vegetable gardens
- Certification Well lodgements - gold
- Label E+/C- : E4C2

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Perpetuation of the local citizen approach in long term and during COVID crisis - To achieve the autonomy of the inhabitants for the animation of their community

Adaptation with a specific housing allocation process for households to ensure the appropriation of their housing.

POTENTIAL FOR LEARNING OR TRANSFER

Duplicate this approach to other buildings under design.

This project was conceived as a demonstrator, it is intended to inspire other projects, in France and elsewhere, to involve the inhabitants of buildings, whatever their social background, in the energy transition.

It demonstrates that access to renewable energy and the best available energy efficiency technologies is possible for vulnerable households. This is why this project is likely to be transferred to other parts of Europe.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This good practice demonstrates the benefits of integrating different technologies into social housing, integrating renewables, sustainable construction materials, energy efficient equipment, and greywater treatment. Such buildings will be needed across Europe to meet the requirements of the EPBD and to tackle energy poverty and its resulting health impacts. The 70% energy self-sufficiency is particularly impressive for social housing and should be interesting for other regions that are also trying to tackle energy poverty.

CONTACT FOR MORE INFORMATION:

Grenoble Habitat

FURTHER INFORMATION:

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ALL DETAILS OF THE GOOD PRACTICE:

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ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

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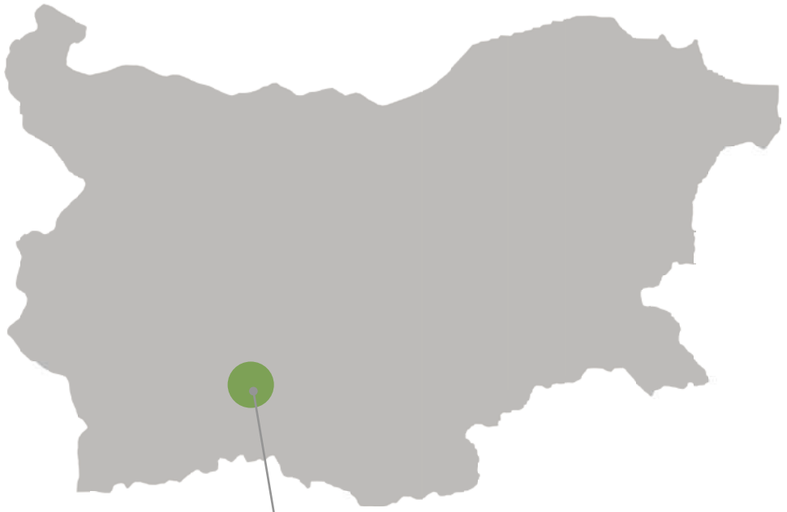
49. SUSTAINABLE REDUCTION OF ENERGY CONSUMPTION OF LOW-INCOME HOUSEHOLDS THROUGH ENERGY ADVICE

A living-lab aiming to “give energy” to vulnerable households through provision of energy saving devices and building sophisticated knowledge.



Plovdiv, Bulgaria.

June 2016 – june 2019.

Bulgaria remains the most affected EU country in terms of energy poverty, as 30,1 % of the population (approx. 2,080,000 people) in 2019 struggled to keep their home adequately warm. All major factors escalating energy poverty are present– large share of the population living below the poverty line, low incomes in general and poor energy efficiency of the dwellings and the heating system, etc.

The current practise, established by the Energy Agency of Plovdiv and Schneider Electric Bulgaria focused on two main aspects of the issue - lack of sophisticated knowledge and the absence of wide-spread comprehensible energy services through creation and implementation of a local living lab to help energy poor households.

The living-lab implemented a total of 3 capacity building campaigns in 2016, 2017 and 2018 and thus delivered sophisticated knowledge and set of energy saving devices to vulnerable households. To do so, students from the Vocational School of Electronics in Plovdiv were engaged to take part in a specific training programme, which built better energy skills among them and teached them on how to become energy advisors of low-income households.

All 3 campaigns improved knowledge and influenced more sustainable energy behaviour of the participating households. This resulted to decreased energy bills of households. The living-lab also helped local communities to develop, implement and sustain their own solutions to the energy poverty problem.

RESOURCES NEEDED

50€ per household in form of energy saving devices

2500 – 5000€ to coordinate the campaign

Av. cost for 1 campaign for 50 households – 5000 - 7500€

10 Volunteering students to become energy advisors

EVIDENCE OF SUCCESS

A total of 3 campaigns were organized leading to a total of:

- 10 students from the Vocational School of Electrical Engineering and Electronics and other 20 volunteers completing training on energy advising;
- 130 households receiving professional advice and various energy-saving gadgets;
- 130 households were supplied with a guidebook on how to save energy and be energy efficient;

Some additional side visits to RES facilities were completed for volunteering students.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Lack of culture of trust and difficulties in engagement and empowerment of the vulnerable groups is one of the key challenges. Thus, any coordinator should rely also on the external help of charity organisations, such as Caritas and Red Cross, to act as door openers to the low-income hoseholds.

POTENTIAL FOR LEARNING OR TRANSFER

The described campaigns are transfering experience derived from the sucess stories developed within two IEE funded projects – Achieve and Reach.

In general, citizens empowerment through advice, leading to behaviour change and to improved knowledge on sustainable use of energy and RES, is highly beneficial. Especially, when the most vulnerable part of the society are targeted, such as the households relying on social aid for heating, using social protection measures to secure their electricity supply, utilizing low-quality fuels or living in inefficient building stock.

The project contributed to additional benefits for the volunteering students engaged in campaigning. It built better energy and communication skills and provided them with improved understanding on how to efficiently consume energy and water at home. This makes this type of measure transferable among different countries and regions. Finally, similar collaboration improves access to relevant assistance organisations.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

There are many ways for providing energy advice. Strategies and structures to rely on for this purpose vary greatly according to the peculiarities of the local and regional context. Recurring to students enrolled in technical courses offered by VET institutions and conduct energy advice campaigns supported by major companies producing electricity can be an effective way to reach energy poor households and give them information and tools to improve energy efficiency and their living conditions. What is signaled here as one of the difficulties encountered, namely the fact that support of charity organisations like Caritas and the Red Cross was needed to win some resistances can actually be seen as a plus, given that synergies and public/private partnerships also involving actors of this kind may be explored by policymakers to reach multiple societal goals at the same time. In any case, the next step for this good practice would be to continue and systematize the training programme for energy advisors with the view to keep their numbers growing and their skills constantly improving. Further insights in this regard can be found in this policy brief: https://bit.ly/3gvetT8

CONTACT FOR MORE INFORMATION:

Schneider Electric Bulgaria

FURTHER INFORMATION:

Here

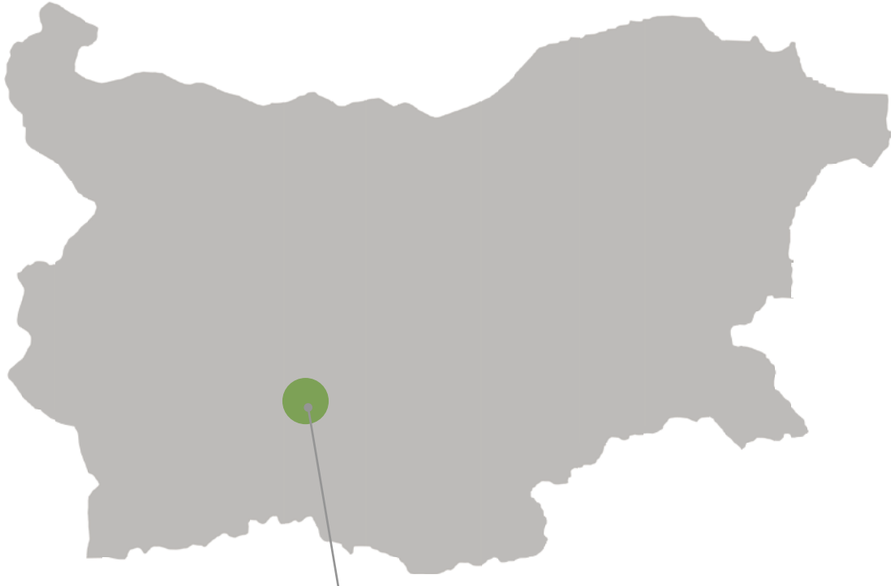
ALL DETAILS OF THE GOOD PRACTICE

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

Here

50. EMPOWERING VULNERABLE CITIZENS TO SAVE ENERGY WITH THE “GIVE ENERGY” CAMPAIGN



The “Give energy” campaign is a crowdsourcing method to provide energy saving devices and tips on how to further save energy to low-income households.

There are over 60,000 energy-poor people in Plovdiv who are experiencing difficulties in covering their energy bills and are heated by polluting solid fuels or with electricity in an inefficient way. In continuing the local tradition organised by Schneider Electric Bulgaria (SE) and Energy Agency of Plovdiv (EAP) to fight energy poverty, in 2019, SE launched a 7 day campaign entitled “Give Energy”. It aimed to engage citizens by focusing their attention on the energy poverty topic, where citizens were able to contribute by:

- Doing 100 steps in order to illuminate a specifically created “Tree”. Each tree illumination would lead to the provision of an energy saving package.
- A total of 2019 vulnerable households are selected to receive an energy saving package (set of devices and a leaflet on how to be energy efficient, including tips for RES), empowering them to reduce their consumption. The majority of selected households are heated with wood and coal.

In order to engage the communities and reach out to the most vulnerable NGOs are joining and will help with the communication and delivery. An agreement with a local logistics company is also completed to deliver some of the packages for free. The local action supports a positive impact on the climate by reducing the energy consumption of a number of households and by delivering sophisticated knowledge on more sustainable energy behaviour. The project is helping local communities to develop, implement and sustain their own solution.

RESOURCES NEEDED

45,000€ in form of energy and water saving devices;

3,000€ for communication materials;

5,000 – 10,000€ to build and coordinate the campaign;

Volunteers and a logistics company to deliver the energy saving packages for free.

Funding source - private (Schneider Electric Foundation)

EVIDENCE OF SUCCESS

- 5 NGOs and a number of volunteers engaged in volunteering action;
- 2019 households receiving energy saving packages;
- 2019 people achieved 100 steps to iluminate the tree, many more participated;
- Average reduction of 2-4 % of energy bills per household;
- An average of 100 kg of CO2 reduction per household.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

- Lack of culture of trust in providing something for free and thus in engagement and empowerment of the vulnerable groups remains one of the key challenges;
- Activation of volunteers and/ or logistics company in a charity action (delivering packages for free).

POTENTIAL FOR LEARNING OR TRANSFER

The described campaigns are transfering experience derived from the sucess stories developed already at local level. Between 2016-2018, 3 small scale campaigns were coordinated by EAP and SE engaging students and other volunteers in energy advising of low-income households and delivering sets of devices.

In general, citizens empowerment through advice can lead to behaviour change and to improved knowledge on sustainable use of energy and RES, which is highly beneficial.

This makes this type of measure transferable among different countries and regions. Finally, similar collaboration improves access to relevant assistance organisations, NGOs, companies with CSR (corporate social responsibility).

CONTACT FOR MORE INFORMATION:

Energy Agency of Plovdiv

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE PRESENTATION OF THIS GOOD PRACTICE AT THE POWERTY INTERREGIONAL SEMINAR:

Here

51. WARM UP YOUR BUSINESS AS AN OPPORTUNITY TO FIND THE RES TECHNOLOGIES FOR VULNERABLE GROUPS

Opolskie, Poland.

March 2018 – ongoing.

The aim of the competition is to create innovations in the field of energy production, RES and environmentally friendly technologies.

Competition for young innovators organized by Science and Technology Park in Opole (STP Opole) and Heat Engineering Company of the Opole Region (ECO Opolskie). Both of them are stakeholders in the POWERTY project.

In 2019, during the 2nd edition, they included the field of renewable energies (RES) and the goals were:

- Development of eco-friendly energy technologies,
- Building of a startup ecosystem that enables the creation of an innovative environment for new types of start-ups, spin-offs, etc.

The initiative is addressed to a wide audience, including students, doctoral students, startups, inventors, but also high school students as well as foreign students.

Ideas can be submitted in three areas in the field of energy:

solutions for changing or developing technologies, pro-ecological and pro-environmental solutions as well as organizational and marketing solutions.

The authors of the ten best ideas will take part in free training in public speaking, building business models, design thinking, commercializing research and patents, as well as in individual meetings with mentors.

One of the winners during the 2nd edition was “Backyard wind panel” – a simple and cheap technology for small wind turbines operating at low wind speeds (noiseless, height of 150cm, diameter of 10cm, possible combination for larger modules, 300 W (250 x 153 cm) panel cost around 210€.

RESOURCES NEEDED

Prize money of €2,500 The main sponsor is ECO - Energetyka Cieplna Opolszczyzny (thermal energy of the Opole region). The core business of the Group's companies is the production, transmission, distribution and sale of heat and electricity.

EVIDENCE OF SUCCESS

A project won in the 2nd edition of the competition - a wind panel is an innovative product on the market because, unlike other devices that draw energy from the wind, it does not make any sounds, and from the outside it looks like a house fence. The cost of producing a wind panel compared to a photovoltaic panel is almost the same, and therefore it will be an ideal method of using renewable energy for people who are energy poor and have low sun exposure.

POTENTIAL FOR LEARNING OR TRANSFER

This practice allows the selection of the best innovative technical solutions enabling the use of renewable energy sources to reduce energy poverty. An example of the awarded invention that has great potential in the field of combating energy poverty is a backyard wind panel (winner of the 2nd edition of the competition). This panel allows the use of low wind speeds for energy production. The awarded installation has a large surface area, but takes up a small space and could be used in any other EU country. It will be easy to transfer to other countries because: only the idea is awarded. The originator does not have to worry about securing funds for creating and implementing his solution because all he has to do is prove that it is a good idea.

CONTACT FOR MORE INORMATION:

Science and Technology park in Opole

FURTHER INFORMATION:

Here

ALL DETAILS OF THE GOOD PRACTICE:

Here

ACCESS TO THE VIDEO ABOUT STUDY VISIT:

Here (minute 1:30)

52. HEART-SMART ORKNEY (HSO): USING WASTED RENEWABLE ENERGY TO HEAT HOMES EXPERIENCING FUEL POVERTY

North Eastern Scotland, United Kingdom.

June 2015 – june 2019.

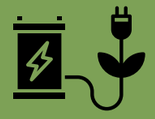
To divert unused renewable energy from marginalised wind turbines into affordable heat for remote communities in the Orkney Islands

Levels of energy poverty in Orkney are high due to long heating seasons, stagnating wages and high energy costs (63% in fuel poverty, 85% of elderly people). Despite community wind turbine ownership, this is often switched off due to low grid capacity so potential energy is wasted. Climate is harsh, cold and windy. Many inhabitants heat their homes using primary fuels such as oil, coal and wood burners. A Heat Smart “VCharge” system, connected to the local grid, identifies when a specific turbine is being curtailed (switched off due to overloading in the national Grid), which signals to the Heat Smart system to switch on the local heating systems. The turbine is then able to keep turning, diverting this energy into the Heat Smart system, which charges domestic storage heaters, hot water cylinders or thermal stores in local homes. Provides smart linking of demand and generator. Main beneficiaries are local homes experiencing fuel poverty.

RESOURCES NEEDED

£1.3m (€1.475m) awarded by Scottish Government Local Energy Challenge Funf.

3 new jobs created



Heat-Smart technology installation.

EVIDENCE OF SUCCESS

The income generated for the participating generator, by the turbine turning when it would have otherwise been switched off was used to rebate the cost of running the heating systems, thus providing affordable warmth for vulnerable consumers. 70 households benefited, and the renewable energy used displaced the burning of 8,000 kg of coal and wood over the project time frame. The community will continue funding the project as it is showing live-matching as a business-as-usual activity.

DIFFICULTIES ENCOUNTERED / LESSONS LEARNT

Since the installations were completed, the amount of marginal curtailment was small, which was not helpful for gathering data for the HSO project, letting households see the benefit of their installed equipment or to create income for the rebate payments.

POTENTIAL FOR LEARNING OR TRANSFER

Replicability where there is no additional grid capacity for renewable energies, such as in remote locations with low population numbers, or where the grid is weak or restrictive. The learnings from this project have been transferred to two multi-million £ projects based in Orkney which have implications for the rest of the UK, such as ReFLEX Orkney which seeks to optimise storage and distribution of the islands' renewable energy sources, and to allow heat, transport and electricity to be managed holistically, and to stop importing carbon intensive energy from the mainland of Scotland.

EXPERT OPINION OF POLICY LEARNING PLATFORM OF INTERREG EUROPE:

This good practice may certainly inspire local and regional policymakers in remote areas with a geographically dispersed population affected by energy poverty and with wind turbines on their territories. Implementing systems to avoid loosing the electricity that could still be generated by such turbines when the grid is overloaded and divert it to local households for heating purposes is indeed a great way to optimise energy production from renewables, address energy poverty and reduce the consumption of fossil fuels which is harmful for the climate, the environment and public health.

CONTACT FOR MORE INFORMATION:

Heat Smart Orkney Ltd

FURTHER INFORMATION:

Here

ALL OF THE GOOD PRACTICE:

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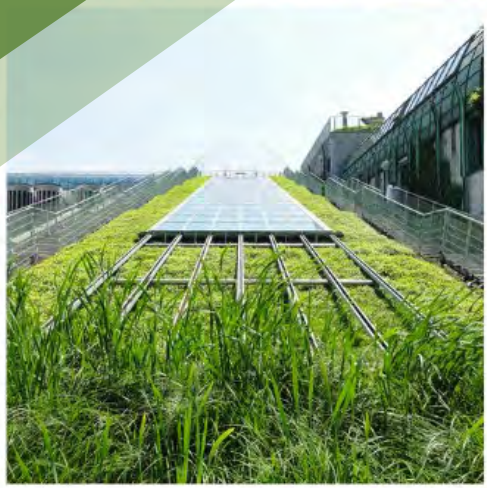
GUIDE OF GOOD PRACTICES

RENEWABLE ENERGIES FOR VULNERABLE GROUPS



POWERTY
Interreg Europe

European Union
European Regional
Development Fund