



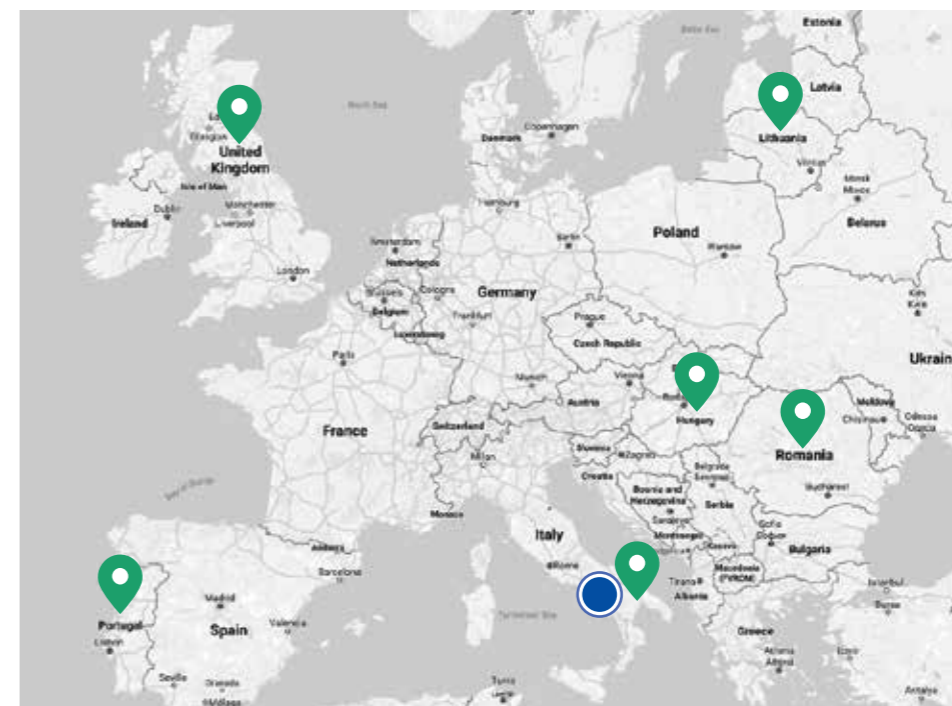
# LOCARBO


Interreg Europe

Novel roles of regional and local  
authorities in supporting energy  
consumers' behaviour change  
towards a low carbon economy



European Union  
European Regional  
Development Fund



-  Lead Partner
-  Partner

**Province of Potenza (IT) – Lead Partner**

Basilicata Region (IT)

Municipality of Vila Nova de Gaia (PT)

Durham County Council (UK)

Kaunas University of Technology (LT)

Hungarian Innovation and Efficiency Nonprofit Ltd (HU)

Municipality of Alba Iulia (RO)



LOCARBO is an interregional cooperation project for improving low-carbon economy policies, through the support of energy consumers' behaviour change.

## MESSAGE FROM THE LEAD PARTNER



The present brochure is an output of the LOCARBO project mid-term period, illustrating the specific actions chosen to integrate each partner regional Action Plan.

During the next two years, these actions will be implemented by the project partners with the cooperation of key-stakeholders and communities. The selected actions aim at the improvement of seven Policy Instruments selected by the partnership and include:

- Promotion of Energy Efficiency and Climate Change awareness;
- Creation of standard calls for tenders specifically for the low carbon economy and applying pre-commercial procurement;
- Promotion of Energy Efficiency and Renewable Energy Sources in buildings, infrastructures and equipment from the public and SME sectors;
- Promotion of smart energy management and monitoring.

This is the result of 2,5 years of intense interregional learning, within which useful information and suggestions have been collected together with a productive exchange of experiences and analysis of specific existing and validated best practices.

Local communities and stakeholders played a fundamental role for the success of the project until this phase and we believe that they constitute an important added value also for the implementation of the Action Plans and results dissemination.

## OBJECTIVES



To improve policy instruments targeting demand-driven initiatives to increase energy efficiency and the use of renewables in the built environment.

To find innovative ways for regional and local authorities to support energy consumers' behaviour change, enhancing motivation and awareness.

To promote more conscious consumers' decisions on energy efficiency in buildings and investments using smart technologies.

# THEMATIC PILLARS

# STRUCTURE



### Supplementary services and products:

Services and products offered by regional and local authorities, such as energy consultancy services to end users and energy ambassadors.



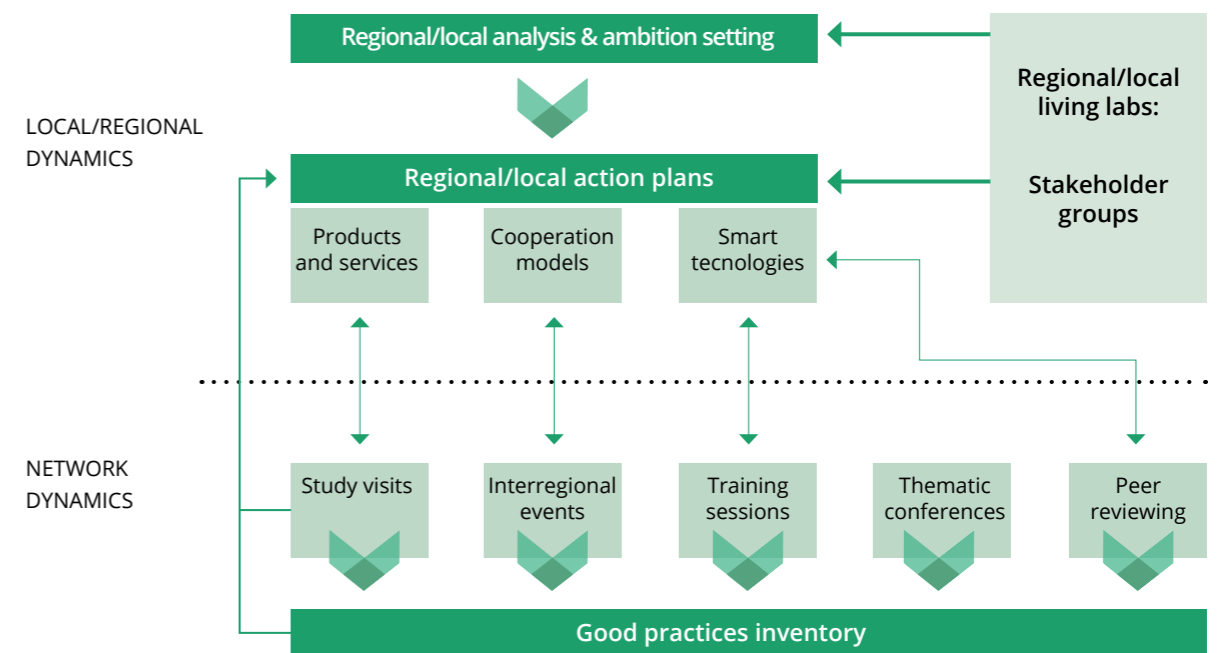
### Innovative cooperation models:

Cooperation models based on Local Energy Communities, composed of economic and civil actors cooperating on energy efficiency and renewable energy, oriented to foster an active involvement of stakeholders, especially energy consumers.



### Innovative and smart/technologies:

Supporting the replication of smart technologies, such as energy management systems and smart meters in regions/countries with lower penetration rates and systematically collecting and analysing data and feedback information in order to support evidence-based policy making.



### ACTION PLAN

The Province of Potenza Action Plan is based on the involvement of communities on energy efficiency and climate change awareness sessions and networking building initiatives, anchored on the *Provincial Territorial Coordination Master Plan* and the *Strategic Framework to Combat Climate Change*.

Criteria for the selected actions included ensuring an integrated approach, feasibility and effectiveness in implementation. The operative vision of the Action Plan has a focus on the following domains of intervention:

- Young people in action: addressing school communities with specific Energy Efficiency and Climate Change awareness-raising actions;
- The Province of Potenza network of municipalities: reinforcing inter-institutional dialogue and collaboration;
- Communities for change: the new Covenant of Mayors as a driver for territorial innovation on energy and climate.

### ACTION PLAN

The Action Plan of the Basilicata Region proposes the application of Pre-Commercial Procurement (PCP) to improve the Regional Operational Programme (ROP) ERDF Basilicata 2014-2020. It foresees the creation of a standard call for tenders within the ROP, addressing the implementation of specific actions to contribute to the transition to a regional low-carbon economy. PCP is a tool for the prototyping of new products and/or services not on the market.

The PCP becomes a useful means of piloting the potential supply of technological innovation from companies and research centres towards the development of solutions capable of improving energy and environmental performance.

### GOOD PRACTICES

#### Integrated agricultural monitoring system for greenhouse gas emissions reduction

Precision agriculture can be a great opportunity for the Region of Basilicata to reduce greenhouse gas emissions. It is a modern agricultural practice based on the observation and measurement of crop variability using high technology, remote sensing data and high spatial/temporal weather forecast data.

The result of ERMES – “an Earth Observation Model based Rice Information Service”, a FP7 project funded by the EC and coordinated by the IREA-CNR (National Research Council) is an integrated agricultural monitoring system. Tested in three European countries (Italy, Spain and Greece), it provides a large amount of almost real-time information on crops, and significant results, focusing on real-world applications for ERMES products and services.



### GOOD PRACTICES

#### Province of Potenza as coordinator for the Covenant of Mayors for Climate and Energy

The Province of Potenza provides coordination to Covenant of Mayors signatories among its 100 municipalities for promoting decarbonized and resilient territories with access to secure and sustainable energy for everybody.

To achieve this objective, it develops several activities, such as the promotion of the Covenant of Mayors, technical and/or financial support to develop and implement Sustainable Energy and Climate Action Plans, and networking activities involving the Covenant signatories.



#### #weResilient, a strategic path to inclusive territorial resilience

The Province of Potenza has constituted a wide territorial network including all its 100 municipalities for developing a common strategy based on a combination of sustainable development, territorial safety and climate change contrasting policies, with the active involvement of stakeholders and communities.

This strategic implementation path consists in both an urban planning coordination activity and in an awareness-raising action with a supportive and subsidiary process addressed mainly to municipalities and communities.

#### Deep exploration in some areas of great hydrogeological and geothermal interest in the northern sector of Basilicata

Following the results of recent works that have highlighted hydrothermal manifestations in the northern sector of Basilicata, a deep characterization and modelling of this area of both hydrogeological and geothermal interest have been carried out. The study of this area is very important for the activities related to the exploitation of hydrothermal water and for potential geothermal applications.

Training was provided to scientific, technical and administrative operators to increase their skills on several aspects of geothermal energy, and an updated database was created.

## Municipality of Vila Nova de Gaia

### ACTION PLAN

The Municipality of Vila Nova de Gaia Action Plan transposes the strategic aim for the municipal transition towards a low-carbon economy, through the promotion of energy efficiency measures on specific target groups, such as schools/sports communities, municipal buildings managers, and domestic consumers.

The promotion of energy efficiency in buildings and equipments under municipal management is associated to the Nearly Zero-Energy and CO<sub>2</sub> Zero buildings concepts, and will stimulate the use of innovative smart solutions/technologies for preventive and corrective actions on energy efficiency.

Awareness-raising measures on the advantages of rational energy use will be implemented within an active and engaged community network, promoting new energy conscious behaviours.

### GOOD PRACTICES



#### Vila D'Este Housing Refurbishment

Vila D'Este Housing Refurbishment represents a successful investment of 12 million Euros, co-financed by EU and national funds, with a direct impact on the quality of life of 7,500 inhabitants.

This refurbishment project is the largest of its kind in Europe and led to the improvement of the energy performance of 109 buildings and 2,085 dwellings, allowing potential annual savings of 3,800 ton CO<sub>2eq</sub> and estimated annual savings of 837,433.92 €/year.

**Policy instrument**  
Regional Operational Programme of Norte 2014-2020

#### Schools and Sports communities engagement on energy rehabilitation and retrofitting

The Municipality of Vila Nova de Gaia implemented an extensive energy rehabilitation process to turn all municipal schools and sports facilities into neutral CO<sub>2</sub> equipments.

Cooperation between the municipality and beneficiary communities (students, teachers and sport centres users) was essential to change communities' energy habits, and their active involvement represented a sense of co-sharing and increased responsibility.



## Durham County Council

### ACTION PLAN

Durham County Council will be supporting the North East Business Energy Efficiency Support with advice and good practices. This is an ERDF funded project the Durham County Council supported partners to bid for, through learning from LOCARBO.

Through the LOCARBO Local Living Lab it has worked with the National Department for Business, Energy & Industrial Strategy (BEIS) to explore different models of energy efficiency after Britain leaves the European Union as part of the Shared Prosperity Fund and the National Clean Growth Strategy. In Phase 2 Durham will work with the BEIS to develop potential options and assess their viability. It will also continue to support the Huddle tool, by working with Local Living Lab partners to ensure that the benefits are maximised.

Durham is also exploring a pilot of a National Virtual Power Plant in the UK. This would incorporate learning from partners Mi6 in Hungary. This will identify greenhouse gas reductions resulting from all Priority Axis 4 projects delivered across England from 2014 to 2020, analysing these and calculating their impact in terms of a virtual power station.

#### BEEP project

BEEP (Business Energy Efficiency Project) aims to promote the use of energy efficient technologies in the SME sector. It provides free guidance and energy audits to businesses across County Durham, and also grants for installing energy efficient technologies. It is a ERDF funded project.

**Policy instrument**  
ERDF Operational Programme 2014-2020

### GOOD PRACTICES

#### SystemsLink Project

SystemsLink software is designed to provide a cost effective way of implementing an Energy Monitoring and Targeting system, helping to achieve savings of between 5% and 10% of annual costs and carbon and allows easy identification of waste or overspend and allows savings to be tracked. All utilities (e.g. Electricity, Gas, Water, Oil, Solid Fuel, Biomass, LPG, Waste) may be monitored and analysed using the energy manager system. Durham County Council has approximately 800 sites on the SystemsLink database, including 287 schools, Academies, leisure centres, administrative buildings, libraries and depots.



### ACTION PLAN

The Action Plan focuses on the improvement of the Policy Instrument tackled by the University of Kaunas within LOCARBO project: Operational Programme for EU Funds Investment in 2014-2020 - Republic of Lithuania - Supporting the shift towards a low carbon economy in all sectors, with the specific objective 4.3.1. reducing energy consumption in public infrastructures and multi apartment houses.

The Plan will be oriented to influencing the implementation of specific projects, in order to raise the quantity of households with increased energy efficiency class. It will integrate the promotion of complex renovations reaching high energy efficiency standards.

The integration of the end users as proactive actors guarantees the sustainability of the renovation results.

### ACTION PLAN

The Hungarian policy instrument selected within the LOCARBO project for further enhancement is EDIOP (Economic Development and Innovation Operational Programme) 2014-2020 - Priority 4 (energy efficiency and renewable energy for SMEs). The Hungarian case is special, as the strategic and structural modification of the policy instrument has already been achieved, accepted and launched in Phase 1 of the project. The purpose of the Action Plan is to provide a framework for implementation towards improving the policy instrument via monitoring and stakeholder engagement.

The Action Plan defines three specific objectives, each of which aims at further mobilising MI6's strength in bridgebuilding and matchmaking capacity between the policymakers (supply side) and SME applicants (demand side) of the EDIOP-4 calls:

- Improving stakeholder engagement with SMEs using the Virtual Power Plant Programme (demand side);
- Further developing EDIOP Priority 4 (supply side);
- Monitoring the performance of the policy instrument (matchmaking).

### Virtual Power Plant Programme

The Virtual Power Plant Programme (VPPP) is Hungary's most well-renown energy efficiency award and company merit scheme. It was established in 2011 with the goal of setting off the capacity of a 200 MW fossil power plant using fragmented bits of energy savings.

The programme has been selected among the TOP3 energy efficiency programmes by the EC and EASME (Executive Agency for SME) in 2015. It earned recognition from all key stakeholders in Hungary, including government, academia, schools and companies. By using social innovation as the core of operations, as well as gamification for energy saving, VPPP collected 205 MW in energy savings by 2018 with 8,500 partner companies and 200+ awarded applicants.

## GOOD PRACTICES

### Energy Conscious Schools Programme

The Energy Conscious Schools Programme is a school and student merit programme, which started in 2016 with the aim to promote energy efficiency and consciousness for youngsters via gamification and intergenerational learning. It reached 2,500 students in the first two months of operation, accounting for 0.5% of the students in Hungary.

With the government engagement from 2017 onward, the programme has set out to reach the critical mass. With the integration in the annual Sustainability Thematic Week, it achieved a record of 350,000 students with 4,200 students participating directly further on in the programme.



## GOOD PRACTICES

### Housing Energy Efficiency Agency (BETA)

BETA, established by the Ministry of Environment of the Republic of Lithuania, provides energy efficiency consultancy services and assistance for the residents of multiapartment buildings and for the administrators of public houses.

The Agency is responsible for the implementation of national programmes on energy efficiency. It also evaluates and approves submitted investment plans and procurement documents, and cooperates with municipal authorities, engineering consultancy companies, educational institutions, non-governmental organisations, etc. BETA has 10 branch offices in Lithuania.

### Energy Service Company (ESCO) Model in Lithuania

ESCO is an alternative model for financing energy efficiency investments in industrial companies and municipal facilities, including buildings and public lighting. Its benefits include providing a comprehensive service and optimal financing schemes to municipalities/companies, as well as reducing their liability regarding the investments.



#### Policy instrument

Operational Programme for EU Funds Investment 2014-2020 - Republic of Lithuania

#### Policy instrument

Economic Development and Innovation Operational Programme 2014-2020

### ACTION PLAN

The vision of Alba Iulia Municipality, on a medium and long-term perspective, is to promote EE, smart energy management and RES in public infrastructures.

In this regard, the following actions are proposed:

- Disseminate good practices on public buildings;
- Share findings on new funding sources for greening the public sector;
- Perform campaigns related to green building, outreaching projects and activities;
- Organize workshops with relevant actors for the public building sector;
- Transmit to the Regional Development Agency ideas for improving ROP (Regional Operational Programme) - Axis 3.1;
- Update the city's Plan for Energy Efficiency Improvement, promoting it to the stakeholders from public institutions.

## GOOD PRACTICES

### Ensuring sustainable alternative energy sources for public institutions in Alba Iulia

The overall objective of the project was to promote increased quality of life, sustainable development, and the economic attractiveness of Alba Iulia Municipality through the diversification of technology and infrastructure for electricity production from RES in four locations: Technical College "Dorin Pavel", Home for the Elderly, Day Centre for the Elderly, and Programmes Directorate.

The main results were 1,714 photovoltaic panels installed, totalizing 257 kW and 14 temporary and 5 permanent jobs created during implementation.

### Software implementation for energy monitoring and management

The system is based on hardware and software designed by Building Management Systems (BMS) specialists for monitoring and managing energy, with a well-defined goal of achieving a very high level of optimization. It is defined to meet the requirements of the Energy Efficiency Standard ISO 50001 and the Energy Efficiency Law.







Low-carbon  
economy



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