Action Plan for the region of Andalusia (Spain)

Project:

Partner:

Phase 1 “Interregional learning”

a) Exchange of experience - Act a.3 (Sem 4) and Act a.1 (Sem 5)

Part I – General information

Project: Support Local Governments in Low Carbon Strategies (SUPPORT)

Partner organisation(s) concerned: Andalusian Federation of Municipalities and Provinces (FAMP)

Other partner organisations involved (if relevant):
The former managing authority from the initial polity instrument selected, with a support letter provided: Andalusian Regional Ministry of Economy and Knowledge – General Directorate for European Funds.
Managing Authority for the policy instrument FAMP is actually addressing: Andalusian Energy Agency (from the Andalusian Regional Ministry for Finance, Industry and Energy).

Country: Spain

NUTS2 region: ES61 Andalusia

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Part II – Policy context

The Action Plan aims to impact:	□	Investment for Growth and Jobs programme
	□	European Territorial Cooperation programme
	X	Other regional development policy instrument

Name of the policy instrument(s) addressed: Andalusian Energy Strategy 2020

Further details on the policy context and the way the action plan should contribute to improve the policy instruments:

The former policy instrument was the ERDF OP for Andalusia 2014-2020: Thematic Objective 4: To promote the shift towards a low carbon economy in all sectors.

During the development of SUPPORT Phase 1, it was quite challenging to get the MA involved in the process of exchange of experiences, being compromised SUPPORT's potential impact in the policy instrument addressed in the AF. **The policy instrument** that FAMP has the capacity to influence and improve during the current programming period **is the Andalusian Energy Strategy 2020**, which Managing Authority is the Andalusian Energy Agency. The "Andalusian Energy Strategy 2020" is the present policy instrument developed by the Andalusian Energy Agency (which belongs to the Regional Ministry of Finance, Industry and Energy from the Andalusian Regional Government). The Andalusian Energy Agency is the regional and public management agency of the Low-Carbon Economy axis from the originally selected policy instrument for the project: Andalusia ERDF OP 2014-2020, Thematic Objective 4. The Andalusian Energy Strategy 2020 follows the strategy devised by the Andalusian Regional Government for the period 2014-2020.

FAMP, and as consultation and support body regarding Lines of Actions for the Regional Government's policy instrument, has been in close relation during all the project with the Andalusian Energy Agency.

The **"Andalusian Energy Strategy 2020"** established the guidelines for developing the energy policies of Andalusia, in line with the energy policies of the EU. The specific actions developed, have been distributed in Lines of Action, through two Actions Plans: Action Plan 2016-2017 and 2018-2020, which define and specify when and what will be done to achieve the objectives of the Strategy, and therefore of the Andalusia ERDF ROP 2014-2020 Thematic Objective 4.

Therefore, **FAMP have been participating as consultation body regarding Andalusian Energy Strategy 2020 Action Plans, contributing through the development of the progress report of Action Plan 2016-2017 and as Advisor Body, giving some recommendations obtained from SUPPORT exchange of experience process for the development of the last Action Plan 2018-2020 from the Andalusian Energy Strategy 2020**.

During this process of inter-institutional collaboration with Andalusian Energy Agency, FAMP and the Andalusian Energy Agency have both signed a Covenant with the aim of the promotion of energy efficiency and the use of renewable energy in Andalusian cities.

Part III – Details of the actions envisaged

ACTION 1:

Name of the action: REDEMA Regional Energy Observatory // PILOT ACTION

1. **Relevance to the project** *(please describe how this action derives from the project and in particular from the interregional exchange of experience. Where does the inspiration for this action come from?)*

SUPPORT project tackles the difficulties encountered by many cities and towns of partner regions in the implementation of sustainable energy policies. Since the adoption of the Climate and Energy Package, the EU has been supporting local authorities in the implementation of sustainable energy policies. Within the framework of the Covenant of Mayors, more than 4700 municipalities have issued a Sustainable Energy Action Plan (SEAP) to promote energy efficiency. In Andalusia, more than 550 municipalities have issued their own SEAP, being more than 70% of the total.

Based on the outcomes of the regional exchange of experience process and the experiences of the SUPPORT project, FAMP has concluded that, in relation to the implementation of the SEAPs in Andalusia, problems were mainly found in the implementation of regulations, the lack of a specialised technical profile, lack of statistical data, and if it existed no access to it, and lack of information reliability. As there is much data spread in different sources, there is no an obvious reference, nor the knowledge of what institutional sources can be accessed and what data is handled in each of them, nor the possible utility they may have for energy management within Andalusian local entities.

In regard to a better management of energy-related data that could tackle some of the difficulties encountered by Andalusian cities and towns in the implementation of sustainable energy policies, the general conclusion achieved by FAMP and its regional key stakeholders through SUPPORT interregional exchange of experience activities, revolved around the need for a common database at regional level which would gather specific energy data from public buildings so benchmarking-based analysis would be possible in order to increase the possibilities of their analysis for a better energy planning.

Therefore, through REDEMA Regional Energy Observatory, FAMP aims at the enhancement of REDEMA Network jointly with Andalusian Energy Agency and following ANERGO best practice, with the process of energy data collection, analysis and management through the platform with the aim to develop aggregated energy benchmarking guidelines by building typology. The REDEMA Regional Energy Observatory platform and the guidelines will allow the municipalities to observe for themselves, the gap between the same building typology included in the platform that have the best ratios, in order to identify the possible energy efficiency measures to develop. ALEA, the Project Partner responsible of ANERGO, would be involved in order to transfer its expertise and capitalise it in Andalusia pilot action.

Regional learning process

The action is based on the following main findings, problems and proposals from the exchange and mutual learning between FAMP and its stakeholders, through the regional seminars and events, and the development of some outputs with the involvement of key stakeholders in the regional seminars (Regional Background Analysis and the regional shared knowledge framework on energy data collection and management):

☒ Regional Seminars and events

- Lack of awareness of potential energy savings of the investment.
- Lack of information on possible funding sources.
- Importance of technical staff continuous training related to EE.
- Promote networks of entities at the local level for the exchange of experience, training, good practices, etc. with a powerful program of activities and with financing.
- Provide local entities with instruments for innovative public procurement with energy efficiency criteria in tenders and contracts through advice, sheet models, etc.
- Encourage collaboration among local entities for contracting through legal and financial instruments that facilitate this possibility.

- Facilitate and simplify the instruments and requirements for access to financing

☒ Regional Background Analysis

- Lack of political commitment in the matter of energy efficiency and climate protection.
- Excessive bureaucratisation and associated costs.
- Lack of knowledge by public technicians, employees and departments about these interventions and its value.

☒ Regional shared knowledge framework on energy data collection and management. Regional Analysis.

There is a lack of energy-related data about the municipality or its municipal public buildings stock, since there has been no proper sectoral planning or there is no specialised staff, like energy managers, to collect, manage and systematise the data. As there is much data dispersed in different sources, there is no obvious reference. One of the great opportunities is to use the different tools developed and tested to monitor data in real time, having a dedicated energy manager carrying out data processing and including them in some application or database that allows these managers to perform analysis through graphs, statistics and so on.

Interregional learning process

The general conclusion achieved by FAMP and its regional key stakeholders through SUPPORT interregional exchange of experience activities revolved around the need for a common effort to improve the REDEMA Network that fosters EE initiatives in municipalities, including a Pilot Action that is focused in how to collect and access to local authorities' public energy data through an online tool.

The action is inspired in the solutions identified by SUPPORT interregional exchange of experience process, linked lessons learnt from the Interregional Seminars, the Staff Exchange and the Project Partners' good practices:

☒ Project Partners' good practice

ANERGO – Alba Energy Observatory

- Project Partner: ALEA. Alba Local Energy Agency
- Source of the Good Practice: Presentation at the Interregional Seminar, held in Alba Iulia (Romania) on the 9th-10th October 2018.
- Brief description:

The Observatory objective is to identify ways to improve the access of public authorities to energy data for a better implementation and a better monitoring of energy plans (SEAPs). ANERGO has been offering support to local authorities in the Alba region for the elaboration and implementation of their SEAPs. ALEA and ANERGO are currently supporting more than 15 Covenant of Mayors signatories from Romania in the development and implementation of their SEAPs. One of its best features is its capability to produce aggregated reports at local/county level (charts, diagrams on energy consumption and GHG emissions) for different consumer sectors (for example: public lighting, municipal buildings).

- Relation with the action proposed:

With the main structure adopted in REDEMA from SHERPA, and taking into account the actions that are intended to be included in use of energy-related data with the development of an innovative energy data collection and treatment tool to feed local authorities' energy managers with sound data for decision-making and increasing chances to devise, design, implement and assess energy actions, for better implementation and monitoring of SEAPs, this Pilot Action transfer the experience of ANERGO (Alba Energy Observatory) as a regional Energy Observatory.

The development of REDEMA Regional Energy Observatory as the Pilot Action which is an action included in REDEMA's lines on the basis of ANERGO experiences, will allow the process of comparison of energy parameters with the aggregated data by Andalusian public buildings in the platform, developing energy benchmarking guidelines by building typology (sanitary, educational, sports, administrative, other), according to their characteristics (surface, number of workers, number of users, hours of operation, type of public equipment…) and will be the main testing activity implemented on a small scale than ANERGO experience as the Regional Energy Observatory of REDEMA.

This Pilot Action it a testing activity that would be implemented as one of the main action lines for REDEMA, and will follow the Energy Observatories operating methodology, with the support of the partner in charge of

transferring this Good Practice (ALEA). **Thus, during the implementation of the second phase, FAMP will involve ALEA in the development of the Regional Energy Observatory in Andalusia with the aim of improving the transferring and capitalisation of this practice. Future exchanges of personnel are possible, in case of need of greater exchange of experiences.**

☒ Partners' presentation in Interregional Seminars

SHERPA – Shared knowledge for Energy Renovation in buildings by Public Administrations

- Presentation done by: Ministry for Gozo (Malta)
- Source of the presentation: Presentation at the Interregional Seminar, held in Gozo (Malta) on the 26th-28th March 2018.
- Brief description:

The overall objective of the project is to strengthen the capacities of local public administrations at regional and county level in order to improve the EE in their public buildings stock and reduce CO2 emissions. SHERPA builds on the experience gained over years with former European projects developed in the previous programming period, namely MARIE, ELIH-MED and PROFORBIOMED, including the related documents and political outputs, such as the Ljubljana Declaration and the Policy Paper 'Responding to challenges regarding energy efficiency and renewable energy in Mediterranean buildings'. SHERPA Joint Action Plan includes the Mediterranean scope on Energy renovation in buildings (ERB) and takes at the potential for future interventions at transnational and regional/local level taking into account governance aspects, shared information systems, training and awareness raising as well as innovative financing schemes.

- Relation with the action proposed:

SHERPA's "Testing and transferring" module has been developed with 4 working groups, in order to study and analyse the main barriers related to energy efficiency strategies in public buildings.

WG1: Governance structures. The objective is to identify the main agents responsible for public buildings and ensure the operability of the existing governance structure around the energy renovation projects for public buildings at regional level.

WG2: Information system gathering and usage. It aims at creating an operative IT system that collects the data of buildings and analyses it to generate recommendations of the energy efficiency measures to be applied in each case.

WG3: Training of responsible staff. It has developed a mapping of knowledge in the field of energy efficiency in buildings to identify the skills needed for each professional profile.

WG4: Financing

REDEMA, as a network, was included as an action in the Andalusian Energy Strategy 2020 Action Plans and developed through Interreg MED ENERJ Project, however, the main obstacle to its implementation is the lack of an internal structure that vertebrate all the actions included within the Network. After seeing how SHERPA project works through four working groups, it has been decided that REDEMA will use the same scheme and structure to group its activities, focusing on the following four points, with their specific objectives:

- Use of energy data tools to develop energy benchmarking guidelines by building typology (through ANERGO methodology inspiration).
- Capacity Building activities
- Governance and awareness raising.
- Funding.

In addition, these four action lines will generate experiences in each of them, so that gradually, they can be repeatedly developed through the monitoring of the proposed actions.

☒ Staff Exchange

- Members of the delegation: 2 main stakeholders:
  - Carlos Serra from the Andalusian Energy Agency
  - Pablo Quero from the Cadiz Energy Agency
- Region / Country: Thessaloniki / Greece.

- Host partner: ANATOLIKI Development Agency (Kostas Konstantinou).
- Date of visit: 30th June 2018.
- Good Practices:
  - PV roof and ground heat pump for cooling and heating at a high school in Pilea-Hortiatis.
  - Ground heat pump for cooling and heating at an administrative building in Pilea-Hostiatis.
- Good Practices relevance:

Greece has Mediterranean climatic conditions similar to those that can be found in the region of Andalusia (Spain). This means that the assessment of the possible benefits of specific EE measures is more accurate. In this case, the focus was on the use of renewable energy measures in public buildings: geothermal and solar PV, both with great potential in Andalusia.

In this way, the main aspects of each good practices considered for potential import to our region, through the different roadshows for the municipalities that will be developed through this pilot action, included in SUPPORT Action Plan are:

- O&M activities as a tool to improve renewable energy facilities results.
- Endurance and aging of geothermal equipment.
- Application of energy efficiency measures in public buildings.
- Dissemination possibilities and raising awareness among scholars.
- Use of public funding for energy efficiency and renewable projects.

Integrated measures to reach sustainable energy sustainability (mixed renewable energy installation and windows renovation).

2. **Nature of the action** (*please describe precisely the content of action 1. What are the specific activities to be implemented?*)

The main reason by the Andalusian Federation of Municipalities and Provinces (FAMP) to submit this proposal is to facilitate local regional low-carbon economy initiatives in Andalusia and to promote information sharing among Andalusian local authorities through the collection, management and systematisation of energy data with the creation and development of REDEMA Regional Energy Observatory, in the framework of REDEMA Network (Andalusian Local Authorities Energy Network). This pilot action would make local authorities' Low Carbon Strategies and energy plans more efficient and, thus, would highly contribute to achieve the Andalusian Energy Strategy 2020 goals.

REDEMA is a network created by the Andalusian Energy Agency and FAMP that improves local authorities' capacity and decision-making on energy issues, foster cooperation among them in order to commonly work and achieve their SEAPs goals by increasing their knowledge, methods and tools to concretely devise, design, implement and assess energy efficiency measures.

In the framework of REDEMA and based on the work developed during SUPPORT regional and interregional exchange of experiences, FAMP has single out one of the non-already addressed main issues, the lack of sound local energy data to serve as a reference on which develop the planning processes of low-carbon economy strategies and energy plans at the municipal level. Thus, FAMP with the cooperation of the Andalusian Energy Agency, has decided to strengthen **REDEMA - Energy Network of Andalusian Municipalities,** with the creation and development of REDEMA Regional Energy Observatory based on **the lessons learnt during SUPPORT phase 1**.

Based on those lessons, more specifically in ANERGO work, developed through the production of energy aggregated reports at local and county level for different consumer sectors, the development of a REDEMA Regional Energy Observatory will articulate and feed the process of comparison of energy parameters with the aggregated data by Andalusian public buildings in the platform, developing energy benchmarking guidelines by building typology (sanitary, educational, sports, administrative, other), according to their characteristics (surface, number of workers, number of users, hours of operation, type of public equipment…) and will be the main testing activity implemented on a small scale than ANERGO experience.

Moreover, and based on SHERPA experience, another of the good practices presented at SUPPORT Interregional Seminar in Malta, REDEMA has also adopted SHERPA operational structure and focus now on 4 Group of Activities: GA1.- Governance: Regional Alliance; GA2.- Open innovation for the use of Energy Data; GA3.- Knowledge Transfer and Capacity Building; and GA4.- Local Authorities Energy Funding. The first action envisaged by our Action Plan, REDEMA Regional Energy Observatory, would be included in GA2. With this structure in mind and taking into account the actions to be included in GA2 for the development of an innovative energy data collection and a management tool to feed local

authorities' energy managers with sound data for decision-making and for increasing their chances to devise, design, implement and assess energy actions, for better implementation and monitoring of SEAPs, REDEMA Regional Energy Observatory transfers the experience of ANERGO (Alba Energy Observatory) as a regional Energy Observatory, which was presented as a good practice during the interregional seminar in the frame of SUPPORT Project held in Alba Iulia (Romania) on the 9th-10th October 2018.

Implementation steps and how these actions will achieve its objectives

REDEMA was initially launched during ENERJ Conference (June 2018) and the follow-up was presented during the SUPPORT Regional Final Conference of phase 1 (June 2019), FAMP Action Plan and the actions included on it were presented with the aim to promote the adhesion by local authorities to the REDEMA Network.

FAMP held its 3rd Regional Seminar 2nd day with the FAMP Executive Committee and Andalusian Municipal Council, in order to study with them the possibilities of REDEMA. After the unanimous assessment of the value of promoting the creation and development of REDEMA in Andalusia region for the improvement of the implementation of the Andalusian Energy Strategy, the objective was the promotion of the Network among municipalities with the aim of generating a group with the common specific interest in monitoring their SEAPs and SECAPs measures, based on the possibilities generated by the development of a Regional Energy Observatory that collects municipal buildings energy data and treats it in a way that makes it useful for local planning processes. REDEMA municipalities would sign a cooperation protocol, to collaborate in **the development of the Pilot Action (Regional Energy Observatory) activities during the SUPPORT project phase 2 (2019-2021).**

Also, during this process of inter-institutional collaboration with the Andalusian Energy Agency, FAMP and the Andalusian Energy Agency have both signed an agreement with the aim of promoting energy efficiency and the use of renewable energy in Andalusian cities. One of the Actions included in several meetings between FAMP and the Andalusian Energy Agency (for ex., it was the main topic in the 3rd Regional Seminar) was REDEMA Network and the different tools that needed to be developed. The lessons learnt from SUPPORT project (particularly ANERGO and SHERPA) would be integrated into the Andalusian Energy Strategy 2020 through the development of this Pilot Action (REDEMA Regional Energy Observatory).

REDEMA Regional Energy Observatory specific objectives are:

1. To improve the collection and processing of sound energy data at local level.

   One of the reasons why the actions included in the planning instruments (SEAPs) are not carried out is due to the lack of conviction in the possible potential benefits. For sound planning and for improvements based on specific investment and actions to be evident, it is necessary to have sufficient and accessible energy data. Through a tool based on the tools used in ANERGO and EMIS (Partnership Good Practices) it would be greatly simplified the process of sustainable energy management in local public buildings, as it allows easy access to data on energy and water consumption, enables easy graphical and tabular display and print.
2. To increase the capacities of the municipal technicians as energy managers so that they can upload the energy data of local public buildings, using the tool or web platform developed for this purpose through the Regional Observatory, and have the capacity to use the data analysis and evaluation functions of the platform through benchmarking.
3. To disseminate outcomes by demonstrating a wide range of opportunities at a glance, through the development of aggregated energy benchmarking guidelines by building typology.

These objectives are coherent with the main SUPPORT objectives.

In addition to SUPPORT project, and other European projects related to low carbon economy, work is being carried out with a number of municipalities, by the elaboration of audits, identifying good practices, analysing SEAPs, and so on. Currently, FAMP has energy related data from 62 buildings belonging to 33 Andalusian municipalities.

The objective during phase 2 (2019-2021), once the Regional Energy Observatory is created, is to achieved at least data from 150-200 buildings, in order to have a more representative sample of the Andalusian municipalities with the aim to develop the aggregated energy benchmarking guidelines by building typology. FAMP will carried out meetings during the development of the Pilot Action during phase 2 (2019-2021) with the Andalusian Energy Agency, County Councils and County and Local Energy Agencies as key stakeholders, in order to stablish an **inter-institutional cooperation through the creation of a Regional Energy Observatory and the signature of a framework agreement** addressed to foster energy diagnosis (audits campaign) and the energy data treatment and the use and dissemination of regional tools and strategies for investment in renewable energy sources.

The durability of the action will be achieved by its insertion within REDEMA's structure and activities, and as the database, on which the Regional Energy Observatory would be based, has a representative sample of data, that would allow FAMP to issue useful energy benchmarking guidelines by building typology. In this way, more municipalities will become involved in the different actions of REDEMA network, as well as they will collaborate by introducing their data in the Observatory platform, so that they could clearly see the usefulness and benefits of having these data accessible and analysed, in order to improve their energy planning, promote energy efficiency specific actions in their buildings stock, funded by the Decree of Incentives which is included in the Andalusian Energy Strategy 2020.

3. **Stakeholders involved** *(please indicate the organisations in the region who are involved in the implementation of the action1 and explain their role)*

FAMP is expected to have the key role for REDEMA Regional Energy Observatory overall process as the main promoter and coordinator of the action.

The inter-institutional cooperation with the **Andalusian Energy Agency**, as the Andalusian Energy Strategy 2020 Managing Authority, would be key for the development the actions integrated in REDEMA with the aim of improve the instrument development, specially the REDEMA Regional Energy Observatory Pilot Action, as they are responsible for Andalusian Registry of Building Evaluation Reports and the Andalusian Regional Energy Certificates' Registry, where all this data is collected, although the data included in them is not accessible to the public.

Beneficiaries:

the **Andalusian Local Governments adhered to REDEMA Network would be the main beneficiaries**, as **they will directly participate in the implementation of the Regional Energy Observatory**, through the collection and record of energy data in the platform and the participation of their technical staff in the Capacity Building Roadshows in order to become familiar with the tool and to learn about the guidelines elaborated by the Observatory. Through these Pilot Action, FAMP does not offer a specific reporting service for each municipality, the local authorities will be able to solve themselves instead some of the main problems mentioned above that hinder them from developing their energy efficiency planning and specific measures included in their SEAPs and SECAPs.

4. **Timeframe** (*please specify the timing envisaged for action 1*)

PHASE 2: 06/2019 – 06/2021

Semester 1

- Confirmation that the Pilot Action is funded by Interreg Europe Programme and initiation of the administrative procedures for the launching of the pilot action.
- Round of preparatory meetings with the Andalusian Energy Agency, County Councils, and County and Local Energy Agencies in order to establish an inter-institutional cooperation with the signature of a framework agreement, for the development of the Regional Energy Observatory, one of the main actions included in REDEMA Network activities, especially those related to energy diagnosis and energy data treatment.

  - 2 Regional Energy Observatory Alliance meetings.

  - Documents: Regional Energy Observatory Framework Agreement.
- Staff Exchange and Expertise Support from ALEA in order to capitalise ANERGO experience.

  - 1 Staff Exchange and ALEA visit as external expert to the roadshows.
- Collection and access to local authorities' public energy data through the development of an innovative tool for collection and visualisation of energy data.

  - 1 tool for collection and visualisation of energy data.
- Knowledge Transfer and Capacity Building Roadshows for local technicians, politicians, and so on with the objective to train them as energy managers on how to use the platform: data record and benchmarking.

  - 2 Knowledge Transfer and Capacity Building Roadshows consisting of:

2 Roadshows (one in Eastern Andalusia and one in Western Andalusia) for 20 people each with a total of 40 people from local administration. The capacity building roadshow will be organised around 4 topics: Energy efficiency regulations, Objectives of REDEMA Regional Energy Observatory, Platform manual, and Diagnosis (Audits / monitoring) and possibilities for intervention and financing

The attendees will capitalise the knowledge gained through the action, as it will promote the inclusion of the available energy data from their public building stock on the web platform, or after carrying out energy audits and certifications. This set of data and its treatment through the platform will allow the development of benchmarking guidelines by building typology, facilitating the design and implementation of energy actions by the local entities that have participated with the Observatory and roadshow. In addition, the capacity building roadshows will show them the financing possibilities for energy efficiency actions, either by facilitating access to public financing opportunities or through EPC contracts with ESCOs.

Semester 2

- Elaboration of guidelines and additional support tools and online accessibility for local public authorities.

  - 1 Guidelines for Energy Management and Monitoring Tools through Web Platforms.

- Collection and analysis of energy-related data

  - 100 buildings.

Semester 3

- Collection and analysis of energy-related data

  - 150-200 buildings as a goal.

- Development of aggregated energy benchmarking guidelines by building typology

  - 1 Energy benchmarking guidelines of Andalusian Local Authorities Public Buildings by typology.

- Improving the implementation of Andalusian SEAPs: energy efficiency action in public buildings through the Decree of Incentives included in the Andalusian Energy Strategy 2020.

  - 20 Buildings from the municipalities adhered to REDEMA and that had use the Regional Energy Observatory that will optimise power and/or modify its facilities.

  - 10% increase in energy saving for the 20 buildings adhered to REDEMA and that are users of the observatory.

- Final meeting for the evaluation of the Pilot Action and the sustainability of the actions envisaged with the alliance members with which the Regional Energy Observatory Framework Agreement would be signed: Andalusian Energy Agency, County Councils and County and Local Energy Agencies.

  - 1 Final Alliance Meeting for Evaluation.

Semester 4

The last months of the project will be entirely dedicated to the project SUPPORT closure.

5. **Costs** *(please estimate the costs related to the implementation of action 1)*

Staff costs:	
FAMP staff will launch the administrative procedures for the launching of the Pilot Action and will review the documents, coordinate, organise meetings, events and capacity building events and will establish a direct connection with the participating local entities within the observatory and the network,	**10.860,00 €**

and with the entities with which the Alliance Framework Agreement would be signed for the development of the Observatory. Then, the technical assistance will develop the technical documents and activities described below. The total amount is really tight as it comes from the calculation of the dedication of: - 60 days per 1 person in the development of Pilot Action during phase 2 of the project (2 years). This implies a dedication of 15 days per semester or the equivalent of 2.5 days per month, to carry out the activities described above.	
Office and administration	**1.629,00€**
Travel and accommodation ALEA visit as external expert to the roadshows (2 x 800,00€)	**1.600,00€**
External expertise and services: 1. Elaboration of 2 technical documents: Guidelines for Energy Management and Monitoring Tools with Web Platforms and the new online tool and elaboration of energy benchmarking guidelines by building typology. (1.400,00€) 2. Organisation and materials for 2 Knowledge Transfer and Capacity Building Roadshows for energy managers (3.800,00€) 3. Collection and access to local authorities public energy data through an online tool (the Regional Energy Observatory): 1 tool based on the tools used in ANERGO and EMIS (Partnership Good Practices). The Budget is the total amount for all the activity related to the development and implementation of the platform through the following activities: 1- Development of the platform. Characteristics and main content of the platform: aggregated data of how much energy is consumed by buildings typology (sanitary, educational, sports, administrative, other) total and ratios, evolution of consumption (annual and month by month), potential energy to be saved. Data by building: total energy consumption and ratios, comparison with the general ratio (very low consumption or well above the average), comparison with similar equipment, origin of the energy consumed (electricity, gas, renewables), list of measures taken to reduce energy bills/consumption. 2- Initial data dump. 3- Technical assistance/support to local entities for the use of Observatory platform.	**20.000.00€**
TOTAL	**34.089,00€**

6. **Funding sources** *(please describe how action 1 will be financed. Is it through the policy instrument(s) indicated in part II):*

The expenses of the REDEMA Regional Energy Observatory, have been submitted as the Pilot Action call for the 2nd Phase of SUPPORT project (Interreg Programme)

FAMP is studying also the opportunity for funding tools through cooperation projects such as Interreg programme (POCTEP, SUDOE, Med…), so the development of the REDEMA Regional Energy Observatory could be progressive, increasing its resources and capacities to develop the activities and actions it undertakes, in case the Pilot Action would not be financed through the Interreg Europe's Pilot Action programme.

ACTION 2

Name of the action: 50 LOW-CARBON EMISSION MUNICIPALITIES IN ANDALUSIA

1. **Relevance to the project** *(please describe how this action derives from the project and in particular from the interregional exchange of experience. Where does the inspiration for this action come from?*)

The main motivation by the Andalusian Federation of Municipalities and Counties (FAMP on its initials in Spanish) is its firm commitment to advancing the sustainable management of public services and contributing to the transition to a low-carbon economy by all the Andalusian Municipalities.

Regarding the fight against Climate Change, from the different levels of governance and environmental administration, regulations have been developed from the international level of the UN to the national level, passing through the European Institutions, without forgetting the regional and local levels. Community regulations give major importance to the axis of Low Carbon Economy, including it in the Thematic Concentration. Spain, in particular, faces, in the case of not limiting global warming, a scenario of reduced annual rainfall, significant loss of biodiversity, advancing desertification, coastal regression in some areas and increased extreme weather phenomena such as droughts, floods and forest fires.

In the view of these risks, at regional level, the Andalusian Regional Government has recently developed, by means of Law 8/2018 of October 8th, measures to combat climate change and for the transition towards a new energy model in Andalusia. In the law mentioned above, it is included as strategic areas for adaptation in the of economic, environmental and social risks that climate change entails both urbanism and land use planning as well as building and housing.

Specifically, the assessment of the qualification of "Low-Carbon Emission Municipality" comes from the development of "Municipal Climate Change Plans", which includes low carbon economy strategies with the aim to reduction the CO2 emissions. In addition, according to the 4th Article, it is also established that, in the regulatory bases of aid or subsidies related to strategic areas of mitigation and adaptation to climate change, may incorporate.

Regional learning process

The action is based on the following main findings, problems and proposals from the exchange and mutual learning between FAMP and its stakeholders, through the regional seminars and events, and the development of some outputs with the involvement of key stakeholders in the regional seminars (Regional Background Analysis and the regional shared knowledge framework on energy data collection and management):

☒ Regional Seminars and events

Importance of improve the implementation of existing planning instruments by allocating budgetary capacity to its development and the harmonization from SEAP to SECAP (SEAPs, SECAPs ...)

Aid for the updating of energy planning instruments.

Encourage the diversification of measures or actions in the low carbon strategies by reviewing the necessary requirements for each one of them. There are measures whose implementation has very simple requirements compared to others whose implementation is very demanding. This causes many municipalities and councils to decide on the same type of measure.

☒ Regional Background Analysis

State of the art on the implementation of policies and energy efficiency plans:

In Spain, there are several Autonomous Communities that are part of the Covenant of Mayors, being Andalusia the community with the largest number of municipalities adhering to this Covenant (68.5%), affecting 6,952,130 inhabitants, with the provinces of Cordoba and Granada with fewer municipalities adhering to the Covenant of Mayors.

Nowadays, at state level 1,432 municipalities have Sustainable Energy Action Plans (SEAP). Andalusia is currently the region with the highest number of municipalities with SEAP (533 in total), reaching the 69.13% of the total in the Community, but the number of municipalities with SECAP is only 7. The percentage of commitment of the Andalusian municipalities with the new Covenant of Mayors for Climate and Energy (SECAPs) is negligible.

In addition, and after the results obtained from the first comparative analyses, being a signatory municipality of the Covenant of Mayors has positive effects to achieve energy and electrical savings, since non-signatory municipalities would increase the decrease of electric energy consumption by signing the Covenant of Mayors, although they began to have a decrease in energy consumption because of the economic crisis. Therefore, it would be interesting to promote measures that encourage municipalities to adhere to the Covenant of Mayors and develop the measures included in their SEAP and SECAPs, making the municipalities more aware of the benefits of low carbon strategies development.

☒ Regional shared knowledge framework on energy data collection and management. Regional Analysis.

The data sources at the regional and provincial level are quite detailed, but there is a lack of information at municipal or buildings level. Particularly, the Andalusian Energy Agency has a lot of energy-related data that allows it to carry out a quite accurate energy planning at an Andalusian level, through its Energy Strategies as well as the promotion of certain actions through its incentives programmes. In other areas, especially in smaller municipalities, there is a lack of energy-related data about its municipality or public buildings, since there has been no proper sectoral planning or have no one of a specific profile, as an energy manager, to collect, manage and systematize the data.

As there is much data dispersed in different sources, there is no obvious reference, nor the knowledge of what institutional sources can be accessed and what data is handled in each of them, nor the possible utility they may have for energy management within local entities. With regard to a better management of energy-related data, it would be interesting to have a common database at regional level which would gather specific energy data from public buildings.

Interregional learning process

The general conclusion achieved by FAMP and its regional key stakeholders through SUPPORT interregional and exchange of experience activities revolved around the importance of testing this type of low-carbon economy planning, which still suppose a territory without experimenting within the territory and the regional scope. This testing would be a action that will improve the capacity of the local authorities to deal with these issues, inspired in the lessons learnt by the previous experience of the Project Partners, as they had reflected it in the SUPPORT interregional exchange of experience activities:

☒ Project Partners' good practice

☒ Partners' presentation in Interregional Seminars

"Energy Efficiency Municipalities" in cooperation with German Energy Agency (DENA)

- Project Partner: Energy Agency of Rhineland-Palatinate.
- Source of the Good Practice: Presentation at the Interregional Seminar, held in Alba Iulia (Romania) on the 9th-10th October 2018 and Gozo (Malta) on the 26th-28th March 2019.
- Brief description:

The activities included in the Energy Agency of Rhineland-Palatinate project are based on a systematic energy controlling and components of the Plan-Do-Check-Act-method: Collection of consumption data (electricity, heat, water), Ongoing documentation of technical (e.g. boiler performance and type) and organizational (e.g. maintenance intervals) data, Cost recording and allocation, permanent reporting. To help municipalities to reduce their energy consumption and CO2 emissions the DENA (German Energy Agency) developed a structured process for implementing an ECM. This process was especially adapted to municipal requirements. It is build up as a cycle consisting of successive steps starting from creating organizational structures to implementing specific measures.

The implementation of a Local Energy Management System has the following steps:

- Step 1: Establish organizational structures.
- Step 2: Energy and climate policy mission statement.
- Step 3: Analysis of the starting situation.
- Step 4: Set operative goals.
- Step 5: Financing and planning measures.
- Step 6: Realisation of measures.
- Step 7: Monitor target achievements.

The practice shows that it is important to not only provide local authorities with an energy management tool (metering device, software, etc.) but to support them to establish a structure of actually managing energy consumption. Also meaning to implement efficiency measures. With this process, it is possible to support municipalities in their political decision-making processes.

Next to the professional help from the Energy Agency the peer-to-peer approach is important. Municipalities learn together and take the same steps at the same time: it motivates, they can discuss challenges and help each other with their own experience.

- Relation with the action proposed:

The idea of carrying out a pilot action on a group of municipalities, supporting them in their strategic planning and the implementation of their low-carbon strategies, followed by the explanation of the good practice of the German partner, in parallel with the introduction of the new concept in the Andalusian Law against Climate Change.

Therefore, it was seen as interesting to develop a pilot action on a set of municipalities with similar characteristics of the Andalusian region, to develop a model of action so that each municipality could develop its own Plan, through a process of constant assessment and evaluation, becoming, finally, “Low-Carbon Emissions Municipalities”.

In the successive presentations of the good practice by the project partner, during the last two interregional seminars, the processes and key points in each of them were defined, to follow with each of the municipalities. Among the main keys, which will also be included in the development of this pilot action are the following two: the establishment of organizational structures and the adoption a mission statement by each municipality.

EMIS – Energy Management Information System

- Project Partner: IRENA: Istrian Regional Energy Agency Ltd. and the Ministry of Construction and Spatial Planning of the Republic of Croatia.
- Source of the Good Practice: Presentation at the Interregional Seminar, held in Alba Iulia (Romania) on the 9th-10th October 2018.
- Brief description:

EMIS is a national web application for monitoring, analysis and verifying of energy and water consumption data and savings in public sector buildings. EMIS provides a transparent overview and control of energy and water consumption in all the public sector buildings and thus it is inevitable tool for sustainable energy management. Data contained in EMIS are used for many energy performance calculations, analysis and continuous oversight and control of energy usage. This enables easier understanding of how and where we consume energy and water in a particular building, the comparison of individual buildings with other similar buildings, as well as identifying unwanted, excessive and irrational energy and water usage.

- Relation with the action proposed:

One of the main obstacles to overcome is the gap between the realisation of local planning instruments and the subsequent implementation of measures. One of the reasons why the actions included in these planning instruments are not carried out is due to the lack of conviction in the possible potential benefits. For correct planning and for the advantages and/or improvements provoked by a specific investment in specific actions to be evident, it is necessary to have sufficient energy data in an open platform that allows its treatment.

Through a tool based on EMIS it would be greatly simplified the process of sustainable energy management in public buildings because it allows easy access to data on energy and water consumption, enables easy graphical and tabular display and print of the data. This leads to easier identification of potential measures of energy efficiency improvements, development of local energy efficiency improvement plans, implementation of projects that deliver energy and financial savings and at the end to monitoring and verification of achieved results. In addition to embedded analytical functions, EMIS allows data export in other forma. For each building of the public sector Energy managers responsible for energy management gather and enter relevant data and information in EMIS. Once the data is in the system, EMIS application enables easy access by log in from any computer with Internet access by typing your own user name and password.

With this improved access to energy data, it will be easier to raise awareness of the importance of the gradual implementation of the low carbon economy measures included in the Municipal Climate Change Plans, in order to achieve more reduction of CO2 emissions.

One of the steps proposed within the "Energy Efficiency Municipalities" good practice process, which will also be implemented through this action, and which is key for municipalities to get enough commitment, is to carry out an evaluation system, to choose the best measures for realization after its presentation to the political authorities.

2. **Nature of the action** (*please describe precisely the content of action 1. What are the specific activities to be implemented*)

The main objective of this action is to support Andalusian cities in their strategic planning and the implementation of their strategies for low-carbon strategies, through the development of a pilot action on a set of Andalusian municipalities with similar characteristics: different sizes, coastal, inland, mountain, lowlands, and so on, to develop a model for the "Municipal Climate Change Plan" proposed in the new Law, through a technical assistant and evaluation and monitoring process.

This pilot action will concentrate the work in a sample of 50 municipalities, a group through which they will receive support through specializes technical assistance and trainings to improve their political decision-making process in climate change issues and specially on the low-carbon strategies, not only by providing them with an energy management tool to improve their collection and treatment of energy data from their public buildings stock, but through the establishment of a necessary structure that allows them to improve their municipal energy management, with the aim of developing their local planning, so that they can obtain the qualification of "Low-Carbon Emissions Municipalities", coined by the Andalusian Climate Change Law 8/2018. In different phases of the implementation of the pilot action, these municipalities would have some meetings and training actions that allow them to analyse and review among peers (peer-review), with other representatives of cities and experts in climate change, the development process of municipal strategic planning in climate change and its measures implementation.

Specific objectives:

a. To generate a pilot action that provides a space for contact, debate and possible consensus on all the issues that affect cities in their Low-Carbon Strategies included in the Municipal Climate Change Plans and their future qualification as Low-Carbon Emissions Municipality".
b. To obtain a methodology for the procedures and actions to be carried out at municipal level, in order to obtain the qualification of "Low-Carbon Emissions Municipalities", in order to generate a stock of experiences and knowledge in this regard, which can be used as a model among the other Andalusian municipalities.
c. To exchange thoughts on the operational aspects related to the development, design and management of the local planning and what it means to be a "Low-Carbon Emissions Municipality".
d. To generate shared knowledge on topic of common interest as low-carbon economy, based on the particular experiences of each of the participating municipalities.

Implementation steps and how these actions will achieve its objectives

The implementation of the proposed action will have and implementation structure configured in the following stages:

1. Establish the organisational and governance structures. A first call for potential municipalities interested in participating in the pilot action will be made, organising the first specific meetings.

2. Municipalities adhesion to the pilot action and signature of an "Low-Carbon Economy and Climate policy commitment" statement by each local authority.

3. Energy diagnosis of the current situation, obtaining energy data and possible measures, through the use of a system based on EMIS model, to be developed and implemented in the municipalities. Technical assistance will be provided for it, as well as specific trainings for municipal technicians in order to increase their capacity as energy managers.

   - Carrying out peer-review meetings for a joint review of the energy analysis and diagnosis process.

4. Elaboration of the Low-Carbon Strategy included in the "Municipal Climate Change Plan". Harmonisation of the rest of municipal low-carbon economy planning: SEAPs and SUMPs.

   - Carrying out peer-review meetings for a joint review of the local low-carbon strategy planning process.

5. Signature of the Covenant of Mayors for Climate & Energy. Integration of the local low-carbon economy planning into SECAPs.

6. Technical assistance for the development of specific measures, through specific calls from the ERDF ROP for Andalusia 2014-2020, the Order of Incentives, included as a grant in the Andalusian Energy Strategy 2020, and so on.
7. Development of a common methodology from the testing phase, which allows the capitalisation of the results among the rest of Andalusian municipalities, so that they can carry out their energy and climate planning.
8. Dissemination of good practices and common methodology among Andalusian municipalities through final meetings and conferences of the whole action.

The experiences by the German partner, with its "Energy Efficiency Municipalities" project, shows that it is important to not only provide local authorities with an energy management tool (metering device, software, and so on, that will be based on EMIS for this action) but to support them to establish a structure of actually managing energy consumption and climate protection. Also meaning to implement efficiency measures. The peer-to-peer approach is important, because the municipalities would learn together and take the same steps at the same time: it will motivate them, because they can discuss challenges and help each other with their own experience.

Through this pilot action, based on the experiences disseminated by the project partners' in the interregional exchange of experiences activities, as with the "Energy Efficiency Municipalities" from the German partner and "EMIS" from the Croatian ones, it will be possible to establish a model at regional level in Andalusia considering the new concept coined by the new Andalusian Climate Change Law 8/2018: the "Low-Carbon Emissions Municipality".

In this way, it will be possible to improve the collection and processing of energy data, with the aim to improve local energy planning, and will jointly promote energy and climate change planning among Andalusian municipalities. It will enable the municipalities to participate in future specific calls from the ERDF ROP for Andalusia 2014-2020 for proposals and funding for low-carbon economy measures. This will also significantly increase the number of municipalities that will adapt its SEAPs and integrate them into de SECAPs, signing the new Covenant of Mayors for Climate and Energy.

The creation of a pilot group of municipalities to generate experience around the new Andalusian Climate Change Law 8/2018, will increase the number of municipalities that know the Law and its benefits, once the experience is capitalised. This will increase the municipalities knowledge and awareness about the low-carbon strategy benefits in order to avoid climate change hazards. As is reflected in the RBA, the results obtained from the first comparative analyses, being a signatory municipality of the Covenant of Mayors (with the elaboration of low-carbon strategies) has positive effects to achieve energy and electrical savings, since non-signatory municipalities would increase the decrease of electric energy consumption by signing the Covenant of Mayors.

Also, increasing the number of beneficiaries reached, and therefore, of municipalities that are familiar with the objectives and possibilities of the Andalusian Energy Strategy 2020, besides the new Andalusian Climate Change Law 8/2018 and the ERDF ROP for Andalusia 2014-2020, will have a greater easiness to participate in the implementation and achievement of the main objectives of the Andalusian Energy Strategy 2020 through the development of its own local energy planning, after it has been facilitated their access to funding from the Andalusian Energy Strategy 2020 and ERDF ROP for Andalusia 2014-2020.

3. **Stakeholders involved** *(please indicate the organisations in the region who are involved in the implementation of the action1 and explain their role*)

FAMP will foster the pilot action between the Andalusian municipalities and will developed the governance structures, trainings and the peer-review meetings, due to its experience gained through the action developed because its main motivation is its firm commitment to advancing the sustainable management of public services and contributing to the transition to a low-carbon economy by all the Andalusian Municipalities.

The Regional Ministry of Finance, Industry and Energy (**Andalusian Energy Agency**), as the Andalusian Energy Strategy 2020 Managing Authority and the Regional Ministry of Agriculture, Livestock, Fisheries and Sustainable Development (**Andalusian Environment and Water Agency**), both from the Andalusian Regional Government, would be the key to provide the professional help and the funds for the pilot action development.

Beneficiaries:

The **municipalities that will participate through the pilot action**.

The **municipalities that will participate through the capitalisation process** of the methodology tested in the pilot action.

4. **Timeframe** (*please specify the timing envisaged for action 2*)

PHASE 2: 06/2019 – 06/2021

Semester 1

- Establish the organisational and governance structures. A first call for potential municipalities interested in participating in the pilot action will be made, organising the first specific meetings.
- Municipalities adhesion to the pilot action and signature of an "Low-Carbon Economy and Climate policy commitment" statement by each local authority.

Semester 2

- Energy diagnosis of the current situation.
- Elaboration of the Low-Carbon Strategy and Municipal Climate Change Plan guidelines with a common methodology.
- Peer-review meetings.

Semester 3

- Elaboration of each Low-Carbon Strategy included in the Municipal Climate Change Plan
- Signature of the Covenant of Mayors for Climate & Energy. Integration of the local planning into SECAP.
- Peer-review meetings.
- Development of a common methodology from the testing phase, which allows the capitalisation of the results.
- Final meeting for the Dissemination of good practices and common methodology among Andalusian municipalities with low-carbon emissions.

Semester 4

The last months of the project will be entirely dedicated to the project SUPPORT closure.

5. **Costs** (*please estimate the costs related to the implementation of action 2*)

The main costs would be related to technical knowledge and assistance and it would be guaranteed through:

Staff and Office and Administration costs related to the personnel dedicated to exclusively to the pilot action development.

Technical Assistance for the methodology development and technical assistance for the "Municipal Climate Change Plan" diagnosis and planning process.

Costs related to the organisation of governance, peer-review and training events.

Travel and subsistence costs related to the possible realisation of new staff exchanges to Germany and/or Croatia, for a better importation of the tools and methodology from the Good Practices identified.

The estimate costs needed for this action will be around 30-50.000€.

6. **Funding sources** (*please describe how action 2 will be financed. Is it through the policy instrument(s) indicated in part II*):

The actions of the Andalusian Energy Agency and the Andalusian Environment and Water Agency will be included in the Andalusian Energy Strategy 2020 Action Plans and would be financed through the ERDF ROP for Andalusia 2014-2020.

FAMP is studying also the opportunity for funding tools through cooperation projects such as Interreg programme (POCTEP, SUDOE, Med…) in a partnership with the Andalusian Energy Agency and the Andalusian Environment and Water Agency and other partners, so the development of the pilot action could be enriched with the exchange of interregional experiences that the testing and capitalisation stages would provide with the participation of more regions and countries. Once the project would be presented and approved, FAMP would contract staff and/or the technical assistance for the development of SEAPs adaptation to SECAPs and the Municipal Climate Change Plans development included in the Law 8/2018.

Date:_____

Name of the organisation(s):

Teresa Muela Tudela. FAMP (Andalusian Federation of Municipalities and Provinces) General Secretary

Signatures of the relevant organisation(s): _____

ANNEX - Monitoring plan of Action Plan

Name of the policy instrument addressed: Andalusian Energy Strategy 2020

Policy: Policy 6

Self-defined performance indicators: Municipalities of Andalusian Region involved in the development of the actions included in the Action Plan.

Target: 70.

The former self-defined performance indicator was the "*% of the CO2 reduction in the Andalusia region by 2020, due to the implementation of energy efficiency actions activated by the project in the public infrastructure/equipment sector*" and its target was 10% reduction. This indicator was self-defined because its link with the former policy instrument, the ERDF OP for Andalusia 2014-2020: Thematic Objective 4: To promote the shift towards a low carbon economy in all sectors.

As it was previously described in section 2. Policy Context, due to the difficulties to involve the MA of the former policy instrument, it was changed to the Andalusian Energy Strategy 2020. The Andalusian Energy Strategy implementation is being carried out though biannual Action Plans during its period of validity (2014-2020), acting in all sectors of Andalusian society. FAMP have been participating as consultation body regarding Andalusian Energy Strategy 2020 Action Plans.

The local public administration, as the main entity managing resources at the local level, under the premises of maximum effectiveness and efficiency, will find through this Action Plan the necessary actions and tools to have a greater knowledge of the possible Low Carbon Economy strategies to implement in connection with the objectives set by the Andalusian Energy Strategy 2020. Thus, local authorities will have a more efficient and sustainable energy system to reduce their energy bill, which will obtain a highly positive results, positively affecting society in general by the exemplary effect of their measures.

With the aim to have a clear link with the territorial level and the new Policy Instrument to be influenced by the Action Plan, the new self-defined performance indicator is **"Municipalities of Andalusian region involved in the development of the Actions included in the Action Plan"**.

The general self-defined performance indicator is directly linked with the monitoring indicators shown below, which have been selected from the list of monitoring indicators included in the biennial Action Plans drawn up for the implementation of the Andalusian Energy Strategy, in order to achieve a tangible change in the policy instrument based on the monitoring indicators that evaluate the state of implementation of the Andalusian Energy Strategy 2020. The performance and monitoring targets are defined per action (not per year) and should be confirmed at the end of the implementation timeframe of the action during Phase 2 (2021).

Action	Self-Defined performance indicator	Target
Action I: REDEMA Regional Energy Observatory	**Nº Andalusian municipalities adhered to REDEMA and that would use the Regional Energy Observatory in order to optimise power and/or modify its facilities**	**20**
Performance and monitoring indicators (end of implementation timeframe 2021) Andalusian Energy Strategy 2020		

Documents: projects, studies, reports, dissemination materials…	4
Events	4
Impacts: Dissemination actions, trainings…	2
Buildings: buildings that will optimise power and/or modify its facilities	20

Action	Self-Defined performance indicator	Target
Action II: 50 Low-Carbon Emission Municipalities in Andalusia	**Nº Andalusian Municipalities participating in the pilot action and through the capitalisation process**	**50**
Performance and monitoring indicators (end of implementation timeframe 2021) Andalusian Energy Strategy 2020		
Documents: projects, studies, reports, dissemination materials…		155
Events		5
Impacts: Dissemination actions, trainings…		4