

# PROPOSAL FOR SANTANDER REGIONAL ACTION PLAN

EMPOWER PROJECT

October 10<sup>th</sup> 2019



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## 1. Introduction

### 1.1. General information

- **Project title:** More carbon reduction by dynamically monitoring energy efficiency
- **Project acronym:** EMPOWER
- **Partner organization (s) concerned:** Santander city council (PP9)
- **Country:** Spain
- **NUTS2 region:** ES13 Cantabria
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### 1.2. EMPOWER Project

Santander City Council is part of the EMPOWER project consortium which belongs to the Interreg Europe program, together with other eight European partners from Slovenia, Portugal, Ireland, Italia, France, Sweden, Poland and Germany.

The project tackles the need to dispose reliable and economically affordable tools for monitoring the energy efficiency actions applied to municipal public buildings, so that they can be ascertained and evaluated. Main activities making up the project are the following ones:

- Gathering the experiences from different partners and environments of the European Union in order to share best practices, properly identify the objectives and propose the best solutions.
- Developing an Energy Efficiency Action Plan for buildings, verified and reviewed by the set of partners and stakeholders, which represents a significant advance with respect to the current situation.
- Implementing the actions included in this plan in terms of monitoring and evaluation of the energy efficiency improvements and carrying out a monitoring to ensure their suitability.

### 1.3. Motivation to elaborate the Plan

This Regional Action Plan (RAP) has the object of helping to improve Santander public buildings energy efficiency in an effective way through energy consumption monitoring, detection of energy efficiency improvements and planning the actions to reach those improvements

The RAP promotes the improvement of the policy instrument held in the region of Cantabria, called Cantabria Operative Program 2014-2020, making use the lessons learnt through EMPOWER project actions.

Nature of the actions to be implemented, timeframe, stakeholders involved, cost estimation (if existing), and possible financing sources (if existing) are shown in the RAP.

## 2. Socioeconomic and political context

The Operational Program of Cantabria 2014-2020 of the ERDF (European Fund for Regional Development) aims to respond to the economic, environmental and social challenges identified in Cantabria, in coherence with the national and community strategies.

The energy consumption of the region has been gradually increasing due to economic growth and the demographic increase, placing regional energy consumption among the highest in Spain.

In absolute terms by type of energy, the most consumed in thousands of Euros are electricity, 169,203, natural gas, 57,573 and diesel, 20,497, followed by coal and derivatives, 13,112 and fuel oil, 1,904.

The percentage of regional GDP (Gross Domestic Product) of energy consumption in 2011 was 1.70 percent, the third highest consumption in Spain, where the national average stands at 0.89%. The highest relative consumption is concentrated in coal and derivatives, with 5.39% of the national total, electricity, 2.89% and Diesel, 2.20%.

In addition, it must be borne in mind that the final energy demand grows faster than the Community's GDP. This is due to the important weight that the industrial sector, of high energy consumption, plays in the global GDP of the region.

On the other hand, most of the petroleum products, which dominate the consumption structure, are imported from abroad, which, together with a reduced contribution of indigenous resources, has contributed to a high energy dependence, which translates into a reduced degree of self-supply. Cantabria is the second autonomous community with the highest degree of energy dependence in Spain.

With regard to renewable energy, the Government of Cantabria, through the agreements established between its Ministry of Innovation, Industry, Tourism and the Institute for Diversification and Energy Saving (IDAE) has been promoting since 2006 new projects in the solar energy, geothermal, wind and biomass areas. The objective of this aid has been to promote the realization of facilities for the use of solar, geothermal, mixed and biomass energy, located in the Community.

In the field of energy saving, and always by virtue of the afore mentioned agreements, different sectoral programs have been carried out that affect domestic consumption, such as the implementation of energy certification or the promotion of low consumption lighting, to private services, with aid for more efficient thermal installations or for the implementation of integral energy services and public services, such as energy coordination between public administrations or energy audits. Some of the measures have also been aimed at industry, such as the renewal of more efficient energy technology equipment and transport, promoting sustainable mobility or boosting the consumption of biofuels.

The commitment to savings and energy efficiency and renewable energy are, therefore, key elements for the development of Cantabria.

Talking about direct emissions of greenhouse gases, it has increased by 37% from 1990 to 2010, from 4,500,000 t CO<sub>2</sub> to close to 6,150,000 t CO<sub>2</sub> in 2010. The main emitters are transport and industry, which they concentrate 25% and 56% respectively of the total emissions. It is followed by emissions attributable to the primary sector, with 11% of the total.

Cantabria contributes 1.7% of the emissions from Spain, which makes it the second autonomous community with the lowest level of emissions, but above the weight of the population and the GDP of Cantabria in the whole nation.

Cantabria is far from the 20-20-20 targets set by the European Union, both in reducing GHG (Greenhouse Gasses) emissions, and in the use of renewable energy.

Regarding energy distribution infrastructures and networks, at the end of 2012 in Cantabria there were more than 170,000 natural gas supply points. This places the region above the national average, with 28 supply points per 100 inhabitants, compared to 15 on average in Spain. In addition, the degree of gas penetration represents almost 70% in households. In 2011, the kilometers of high pressure gas pipeline in Cantabria amounted to more than 185 kilometers.

Focusing on Santander city, the City Council is working in an economic and social transformation, fostering a smart, innovative and open to society city model, with the aim of building a more human city, centred on the citizen, where technology is not a barrier but an enabler to improve their quality of life; offering more efficient and better quality urban services through the use of new technologies and, besides, stimulating business opportunities and employment creation.

Based on experience, this transformation must be carried out in a gradual manner, evaluating the needs of municipal services and developing pilots in which new services and applications can be tested, which can contribute to their improvement. This exhaustive analysis of each municipal service would allow the development of the transformation model for each one of them and the city as a whole, defining the roadmap for the coming years.

Traditionally, municipal services' information has remained in isolated silos. In turn, each one incorporates technology in an isolated manner, in order to achieve the improvement of the operational efficiency, but often without having a global vision.

Thanks to the implementation of the Smart City Platform, and the strong decision to implement a smart city governance model, data from all services shall be integrated into an unique data repository, provided by the platform, and based on all city data, creating the intelligence of the city and the dashboards that will help both the municipal managers and the service technicians to carry out an integral management of the city.

In many cases, all that information coming from the city and the municipal services was only for internal consumption. Thanks to the Smart City Platform it will be available to entrepreneurs and the local fabric as open data to serve as an engine of city growth, with the development of new services and applications.

In 2013, in order to foster the efficiency in public services, the city adopted the decision to include technology requirements in all public tenders. Since then, urban services such as water management, cleansing and waste management, street lighting management, traffic and mobility management have included technology in their day-to-day operations, optimising its management and offering a better quality of service. All this data will feed the Smart City Platform in order to develop the integrated management of the city.

With regard to energy, an energy audit was carried out over the whole streetlight and 65 municipal buildings, including 28 educational centres, 19 sports centres and 18 municipal facilities. The main conclusions and improvement proposals of the audit led to a tender for public lighting management and another tender for energy efficiency improvements in buildings.

In the case of the public lighting, the awarded ESCO has made an investment of 11M€ in order to renovate the infrastructure (LED technology in more than 22,000 points of light, renewal of the electric control panels, installation of tele-management point – to - point systems, etc.). ESCO's commitments includes to achieve 80% energy savings, reduce 11.000 t of CO<sub>2</sub> emissions and reduce 35% maintenance cost, during the 15-years contract. The management of public lighting is done through a platform that is fully integrated with the Smart City Platform.

In the case of the municipal buildings, the tender is still in progress. Some of the actions that will be carried out are interior lighting measures, boiler replacement measures, installation of capacitor banks or implementation of renewable energies. Our objective is to integrate energy data from municipal buildings into the Smart City Platform and create the dashboards and reports that help different municipal profiles to monitor the energy efficiency in buildings, and, also, improve their daily work.

### 3. Policy context: Thematic objectives addressed and justification

The EMPOWER project has focused on supporting and improving specific objectives of the Operational Program of Cantabria 2014-2020.

a) The justification for the election of strategic thematic objectives based on the determination of regional and, where appropriate, national needs is highlighted below, especially those considered in EMPOWER. Selected thematic objectives and investment priorities:

- **Thematic objective:** 04 - Support the transition to a low carbon economy in all sectors
- **Selected investment priority:** 4c - Support for energy efficiency, smart energy management and the use of renewable energy in public infrastructures, including public buildings, and in housing
- **Justification of selection:**
  - Priority objective Europe 2020 Strategy. (Nº3)
  - Priority challenge identified by European Commission in Position Paper of Spain (nº4)
  - European Directive 2012 / 27 / EU of the European Parliament and the Council, October 25, 2012, energy efficiency
  - Objectives of the National Action Plan for Saving and Energy Efficiency 2011-2020
  - Objectives of the Energy Sustainability Plan of Cantabria 2014-2020
  - Needs:
    - Increase people's awareness on energy consumption and support the upgrading of public and private infrastructure to minimize energy waste
    - Increase residential energy savings, reduce waste production and the excessive use of water per inhabitant, higher than the national average.
    - The convenience of introducing energy management and certification systems in public infrastructure, including public buildings, and also in residential buildings.

b) Presentation of the operative program investment strategy:

- **Priority axis:** 04 - Support the transition to a low carbon economy in all sectors
- **Fund:** ERDF (FEDER in Spanish)
- **EU aid (€):** 7.2 MM€
- **% of the total of the EU for the fund:** 12.8
- **Investment priority/ Specific objective:**
  - 4b - Promotion of energy efficiency and the use of renewable energies in companies
    - 040b1 - OE.4.2.1. Advance in the evaluation and improvement of the energy efficiency of companies, in particular SMEs.



- 4c - Support for energy efficiency, smart energy management and the use of renewable energy in public infrastructures, including public buildings, and in housing
    - **4c1 - OE.4.3.1. Improve energy efficiency and reduce CO<sub>2</sub> emissions in the building and infrastructure and public services.**
    - 4c2 - OE.4.3.2. Increase the use of renewable energies for the production of electricity and thermal uses in buildings and public infrastructures, in particular in favour of small-scale generation in points close to consumption.
  - 4e - Promotion of carbon reduction strategies for all types of territory, especially urban areas, including the promotion of sustainable multimodal urban mobility and adaptation measures with mitigation effect
    - 4e1 - OE.4.5.1. Promotion of sustainable urban mobility: clean urban transport, public transport, urban-rural connection, improvements to the road network, bicycle, pedestrian, electric mobility and development of clean energy supply systems.
- c) Specific objectives corresponding to the investment priority and expected results
- **Selected investment priority:** 4c - Support for energy efficiency, smart energy management and the use of renewable energy in public infrastructures, including public buildings, and in housing
  - **Title specific Objective:** 4c1 - OE.4.3.1. Improve energy efficiency and reduce CO<sub>2</sub> emissions in the building and infrastructure and public services.
  - **Results member States intend to achieve with the help from the EU:**
    - **EXPECTED RESULT:** Transform public and residential buildings of Cantabria into references in efficiency and energy sustainability. By the end of the programme period, the application of these measures will have led to a reduction in final energy consumption in public infrastructures by 2000 ktoe/year and an increase in the number of homes with better energy consumption by 630.
    - **JUSTIFICATION:** In the framework of the previous program, progress was made in the professionalization and existence of companies providing energy services based on energy efficiency (in parallel with quality or environmental seals promoting the creation of energy efficiency brands in their products, processes, services , etc.) in all sectors. In addition, energy efficiency programs in Public Administration buildings were promoted, as an exemplary saving measure.  
From the domestic equipment approach, emphasis was placed on the measurement of electrical consumption (total and partial tariffs) and thermal consumption (central heating measuring consumption by homes / radiator, ACS (warmed water for human consumption), etc.) to enable users to react and the impact of their efforts on their invoices.  
Changes in market behavior were deepened, specifically the demand for more efficient equipment. Labeling was extended to all equipment and approached manufacturers, vendors and users.

In the field of building, progress was made in the energy certification of buildings and their visibility was improved, as a means to increase the demand for buildings with low energy consumption (high efficiency, bioclimatic, sustainable, etc.) and related innovation.

In the new period, efforts will focus on energy efficiency related to buildings, for two types of dealers:

- Residential, community or individual housing, with actions aimed at reducing the energy rating of buildings by at least one letter. The same neighbours or energy services companies will be in charge of promoting the projects. Special attention will be paid to the groups most affected by energy poverty.
- The obligations of the Administration, European regulations. Directive 2010/31 / EU establishes the obligation of the Member States to draw up national for almost zero energy buildings. It is established that as from January 1st, 2014, 3% of the usable surface area of buildings with more than 500 m<sup>2</sup> that have HVAC systems must be renewed. From July 2015, this measure will be extended to buildings over 250 m<sup>2</sup>. In 2018, public buildings must follow criteria of minimum energy consumption with self-consumption, as it is defined in article 2.

In order to avoid overlaps between actions of the General State Administration and the Autonomous Regions, coordination criteria have been established and a specific coordination mechanism will be created to integrate the different actions.

The implementation of these measures will contribute to the achievement of the objectives established by the 2020 Strategy in relation to the improvement of energy efficiency and the reduction of CO<sub>2</sub> emissions.

Starting from the same objective, energy efficiency will be promoted in singular actions that, due to their enclave or socio-economic singularity advise the intervention of the public administration.

#### d) How EMPOWER and the lessons learnt will influence the Policy instrument

The Policy instrument is focused on several main issues which will be directly improved by EMPOWER outcomes. The ones focused are improving energy efficiency, reducing CO<sub>2</sub> emissions and supporting the smart energy management in public buildings, while introducing cost-effective monitoring tool together with as well as increasing people's awareness on energy consumption.

In the Peer to Peer Review meeting, the activation of the public sector stakeholders was mentioned to be difficult, therefore several municipal meetings will be organized to involve and aware public managers and civil servants to activate energy efficiency and energy monitoring, also expanding it to the people in the buildings increasing their awareness. Also it was explained the need to improve not only the collection of energy data but also its use and analysis in order to facilitate energy efficiency as well as the scarce time available, thus thanks to EMPOWER project, the Municipality is going to integrate energy data in

preparing the Smart City Platform to monitor energy demand, as well as indicators to support decision makers towards energy efficiency.

During Lorient Study Visit there were collected inputs from the monitoring in buildings, how to collect data and to make it useful for the purposes of energy efficiency and renewable production.

In Maribor Study Visit inputs from energy and financial monitoring were explained as the basis for any action to be taken on energy related topics in buildings or other municipal areas regarding energy. Also there were introduced KPIs will enable benchmarking between buildings and how raise people's awareness such as decision makers, technicians, headmasters, housekeepers, users,...

In Cork Study Visit it was learned about energy monitoring, how much behavioral change can be reached and how to launch large scale actions in many buildings reducing costs. Also about local and Cloud based systems.

In Almada Technical workshop it was discussed the difference in the use of the smart meter that is already installed by utilities and often has tele-management options, or the use of specific monitoring systems installed by the end user. Santander will use both of them as they provide useful information.

Magdeburg Financial workshop provided insights on how to gain energy efficiency financing for the transition to a society with low carbon emissions and climate resilience, considering energy monitoring as a key issue to convince financing organizations to provide it.

For further information on how the project will influence the policy instrument go to part 3d) and sections 4.1.2 and 4.2.2.

#### 4. Details on the actions

Based on the background indicated in the previous sections, a set of two actions have been designed to support the Operational Program of Cantabria 2014-2020 from the experience and knowledge acquired in the EMPOWER project, as described below.

## 4.1. Action 1 – Cost-effective Municipal Energy Monitoring system

### 4.1.1. Description

The policy instrument CANTABRIA ERDF-OP 2014-2020 –Thematic objective 4 is dedicated to supporting the shift towards a low-carbon economy in all sectors. The specific objective of the policy instrument addressed in EMPOWER is section 4.3.1. “Improving energy efficiency and reducing CO<sub>2</sub> emissions in buildings and infrastructures and public services”<sup>1</sup>

The overall aim is to transform the public and residential buildings of Cantabria into references in efficiency and energy sustainability. In this sense, Santander Municipality will focus on Municipal facilities.

Moreover, the learning needs detected following the policy instrument targets related to this action include the improvement of:

- The potential of metering infrastructure in public buildings.
- The use of automatic and manual data generated by the buildings.
- The energy demand monitoring and reporting method for energy efficiency aims.
- Key actors related to energy use engagement and capacity building increase, focused on municipal staff related to energy (engineers, architects, heads with responsibilities in energy and environment, etc.).

To reach these objectives municipal energy-related staff -such as managers, ICT and energy engineers together with technicians and heads with responsibilities in energy management - will be provided with a cost-effective energy monitoring system for public buildings. This system, that will be integrated in the Smart City Platform, will allow them to obtain in an easy way more reliable and frequent information, which will help them to improve their knowledge of energy demand, start projects regarding the potential for energy efficiency and CO<sub>2</sub> reduction, energy costs improvement and taking informed decisions.

The energy monitoring system will enable to establish and maintain a long term energy consumption (kWh) and energy cost (€) monitoring system for public buildings, keeping the focus on municipal facilities energy efficiency and environmental impact.

More in detail, includes the generation of KPIs based on key energy information to understand the progress of energy consumption and energy efficiency in public

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<sup>1</sup> p.99 of the OP, version 2.0

buildings and thus make informed decisions for the search for improvements. These KPIs (i.e. the energy consumption per square meter) will allow monitoring each building individually, and also enable benchmarking between municipal buildings generating an overall picture of the situation in the Municipality of Santander for better energy management.

It will also allow the preparation of periodic reports with the municipal buildings energy information to municipal decision-makers, such as the Mayor, Councillors, technical and financial managers, on the current situation, trend and achieved municipal energy savings and other data on the evolution of municipal energy demand.

Both in the definition of the KPIs and the dashboards as well as the content of the reports we are working closely with the municipal energy and environment-related staff, as they will use this monitoring system.

This action will have an impact on the policy instrument by generating new projects regarding the use of buildings energy data aimed at increasing energy efficiency and renewable energies, thus reducing the CO<sub>2</sub> emissions by monitoring the energy systems. On the one hand, this monitoring system will make it possible to quantify the savings due to the energy efficiency measurements undertaken in buildings, by allowing the comparison of energy consumption before and after applying the energy efficiency measures. On the other hand, it will allow an assessment of the economic viability of the investment in energy efficiency measures, by comparing the cost of the works with the savings achieved, taking into account not only the economic but also the environmental side.

#### 4.1.2. Lessons learnt from project activities and partners

The monitoring action described in the previous section has benefitted from the lessons learnt through the Interregional Exchange of experiences, learnings and knowledge carried out within the first phase of Empower's project, such as:

- During the Peer to Peer Review meeting it was explained the need to improve the collection of energy data and its use to facilitate energy efficiency as well as the scarce time available, thus Santander Municipality is preparing to integrate energy data into the Smart City platform to monitor energy demand, as well as indicators to support decision makers towards energy efficiency. There are no technical barriers and stakeholders have interest in receiving better energy information for their decisions.
- In Lorient Study Visit there were collected inputs from the monitoring in buildings, how to collect data and to make it useful for the purposes of energy efficiency and renewable energies production.

- In Maribor Study Visit inputs from energy and financial monitoring were explained as the basis for any action to be taken on energy related topics in buildings or other municipal areas regarding energy. Also there were introduced KPIs will enable benchmarking between buildings and how raise people's awareness through specific materials and activities for each target audience (decision makers, technicians, headmasters, housekeepers, users,...). Additionally, they presented the energy monitoring system that are currently using, including not only energy consumption but also KPIs. All this information was very worthwhile to be shared with the energy-related municipal staff and local stakeholders in order to define our monitoring tool.
- In Cork Study Visit it was learned about energy monitoring, how much behavioral change can be reached and how to launch large scale actions in many buildings reducing costs and also about local and Cloud based systems.
- In Almada Technical workshop it was discussed the difference in the use of the smart meter that is already installed by utilities and often has tele-management options, or the use of specific monitoring systems installed by the end user. Santander will use both of them as they provide useful information.
- Local stakeholders meetings introduced the need to simplify the information and make it available to those people that will use it.

Thanks to these lessons learnt within the frame of EMPOWER project, Santander Municipality aims to support smart energy management in order to improve energy efficiency and reduce CO<sub>2</sub> emissions as well as increase people's awareness on energy consumption in public buildings. Once energy data is integrated into the smart city platform, specific dashboards will be defined depending on user's profiles: one for decision makers, such as municipal managers, city councilors and head of service, and another for municipal technicians. Dashboards definition will be done in collaboration with energy-related municipal staff, as the best connoisseurs on this matter, with the aim of facilitating their daily tasks since they will be the users of the monitoring tool. Additionally, the fact of having energy consumption data accessible in a clear, well-organized and user-friendly format will help the analysis and decision making based on reliable data.

As mentioned in section 2, a tender is currently underway for the implementation of energy efficiency improvements in a set of municipal buildings. Therefore, this cost-effective monitoring tool will make it possible to measure the savings achieved when energy efficiency actions are implemented, by comparing consumption before and after, being able to assess the investment made.

#### 4.1.3. Stakeholders involved

- Santander City Council: preparation and acceptance of the RAP, energy data acquisition, KPIs definition, dashboards definition, preparation of reports,

management of all actions of the RAP and leadership of the collaboration between all stakeholders involved, including local stakeholders (listed below) and municipal staff (Mayor, city Councilors, managers, directors and technicians from different municipal departments (computing, engineering, environment,...)).

- Companies that provide energy data such as energy companies (conventional or smart measurement) or other monitoring equipment suppliers. (Viesgo, Endesa, Nortegas).
- Telefónica-NEC Temporary joint venture to integrate energy data into the Smart City Platform.
- Private sector companies that compete in bids or participate in actions dedicated to the exchange of experiences (such as open workshops). (Escan consultants, Elecnor, Soningeo).
- Universities, research centers or consulting companies that provide technical and non-technical knowledge to use energy data for energy efficiency measures. University of Cantabria.

#### 4.1.4. Implementation period

2019 - 2021.

2019 - 2021 – Monitoring system definition, implementation and testing. Evaluation and monitoring of the energy consumption in municipal buildings through the developed tool.

#### 4.1.5. Costs (if existing)

The estimated cost to implement this action is around 57.500€. This amount takes into account that before the EMPOWER project, the energy consumption of municipal buildings was verified by means of monthly bills and thanks to the participation in EMPOWER Exchange of Experiences activities, such as Peer Review, Technical Workshops, study visits, local stakeholders meetings and Import Workshops we have acquired the necessary knowledge to develop a monitoring tool that satisfies the needs of the municipal energy-related staff and improves their daily work. Additionally, this amount includes the evaluation as well as possible tool updates.

#### 4.1.6. Financing (if existing)

The implementation of this action will be done with own resources, while the monitoring will be partially financed by EMPOWER, following the INTERREG rules.

### 4.2. Action 2 – Improvement in decision-making based on historical data

#### 4.2.1. Description

The policy instrument CANTABRIA ERDF-OP 2014-2020 –Thematic objective 4 is dedicated to supporting the shift towards a low-carbon economy in all sectors. The specific objective of the policy instrument addressed in EMPOWER is section 4.3.1. “Improving energy efficiency and reducing CO<sub>2</sub> emissions in buildings and infrastructures and public services”<sup>2</sup>

The overall aim is to transform the public and residential buildings of Cantabria into references in efficiency and energy sustainability. Santander Municipality will focus on Public Buildings.

Moreover, the learning need detected following the policy instrument targets related to this action includes the improvement of key actors related to energy use engagement and capacity building increase, focused on municipal staff related to energy (engineers, architects, heads with responsibilities in energy and environment, etc.).

A substantial improvement not only for the municipality but for any municipal area, is the improvement in decision-making based on the analysis of reliable information. Currently, identifying and prioritizing buildings that require energy efficiency measures, as well as quantifying the investment-to-savings ratio, is time-consuming, as energy consumption is checked by means of monthly bills. Additionally, a key aspect is that usually higher energy efficiency equipment leads to higher investment cost than conventional units, which might be seen as a barrier for public tenders.

In this sense, thanks to the development of the previous action, municipal workers not only will be able to monitor in an easy and efficient way the energy consumption in buildings (i.e. consumption per square meter or benchmark of consumptions among buildings), but also make decisions for future energy-related tenders.

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<sup>2</sup> p.99 of the OP, version 2.0



More in detail, they will have access to historical energy data through a dashboard depending on their profile, being able to monitor the energy consumption of a building individually in specific periods of time, as well as make benchmarking among buildings through KPIs. The energy data assessment will be optimized thanks to this monitoring tool, which will help them to solve more efficiently the identification and prioritization of buildings with larger potential for energy and cost savings, opening of biddings for renewal energy systems and greater energy efficiency in public buildings, such as LED lighting, boiler-burners, regulation systems, etc. Thus, decision making will be based on reliable information.

The investment costs for the dedicated to energy efficiency measures are typically assumed by the own municipal budget, included in the forecast prepared the year before. It might be supported by the financial instrument PAREER or a similar one, which is opened frequently (every year) by IDAE, the National Energy Agency. By the time of writing this report, the financial instrument is closed.

#### 4.2.2. Lessons learnt from project activities and partners

The support for the opening of biddings for energy systems action described in the previous section has benefitted from the lessons learnt through the exchange of experience activities carried out within the first phase of Empower's project, such as:

- In the Peer to Peer it was explained that due to the lack of financing resources, individuals are open-minded to trying to learn new mechanisms and systems to find new sources (such as savings) and that the interested parties are willing to learn.
- In Lorient Study Visit there were collected inputs related to energy monitoring would help convince local investors and local supervisors of the benefits of energy efficiency.
- In Almada and Magdeburg Technical workshops it was discussed public funding actions and private funding opportunities, as the one Elecnor has signed with Susi Partners funds (second time) to receive funds for energy efficiency projects.
- Local stakeholders meeting introduced the need of support to better justify the energy efficiency measures when opening bids with this purpose, as financing auditors and controllers usually need specific information to understand it.

The cost-effective monitoring tool will facilitate the analysis of energy consumption data and benchmarking among buildings. This will allow not only to measure the savings achieved when energy efficiency actions have been implemented (as described in action1), but also, to establish priorities among

those buildings that shall be included in new public procurements in order to improve its energy efficiency. On the basis of the experience acquired in the energy efficiency actions carried out, future actions may be planned more precisely and based on reliable data, which will help to optimize the municipal budget for energy.

Additionally, one of the lessons learnt that has been reiterated throughout the different activities carried out within the EMPOWER project is that collecting data is the first step in order to implement a monitoring system. However, it is even more crucial data analysis task which will allow making informed decisions.

Santander Municipality will consider using the financial instrument PAREER or a similar one, which is opened every year by IDAE, the National Energy Agency.

#### 4.2.3. Stakeholders involved

- Santander City Council: preparation and acceptance of the Regional Action Plan, preparation and management of tenders, management of all actions of the Action Plan and leadership of the collaboration between all stakeholders involved, including local stakeholders (listed below) and municipal staff (Mayor, city Councilors, managers, directors and technicians from different municipal departments (computing, engineering, environment, legal...))
- Companies that provide energy data such as energy companies (conventional or smart measurement) or other monitoring equipment suppliers. (Viesgo, Endesa, Nortegas).
- Private sector companies that compete in bids or participate in actions dedicated to the exchange of experiences (such as open workshops). (Escan consultants, Soningeo).
- Universities, research centers or consulting companies that provide technical and non-technical knowledge to use energy data for energy efficiency measures. University of Cantabria.

#### 4.2.4. Implementation period

2019 - 2021.

2019 - 2021 – Monitoring system definition, implementation and set up. Energy data assessment in case of preparing future energy tenders together with its evaluation and monitoring.

#### 4.2.5. Costs (if existing)

The estimated cost to implement this action is around 6.500€, taking into account the capacitation of municipal staff to use this monitoring tool and support in

energy data assessment, taking into account lessons learnt within EMPOWER project

#### 4.2.6. Financing (if existing)

The implementation of this action will be done with own resources, while the monitoring will be partially financed by EMPOWER, following the INTERREG rules.

## 5. Signature

Santander city council agrees to support and promote the implementation of the plan detailed above.

DATE: 18 December 2019

NAME: Mrs. Margarita Rojo Calderón

POSITION: City councillor for the Environment, Santander City Council

SIGNATURE:



NAME: Mr. César Diaz Maza

POSITION: City councillor for Development, Housing and Sustainable Mobility, Santander City Council.

SIGNATURE:



On behalf of

NAME: Mrs. Carmen Ruiz Lavin

POSITION: City councillor for Neighbourhoods, Citizen Participation, General Services and Technical Services of Santander City Council.

STAMP OF THE ORGANIZATION