



Action Plan of the BUILD2LC Project:

Innovative financial instruments to boost energy
rehabilitation in public buildings

and

a more professional sector by enabling better training and
education

September 2018



Agencia Andaluza de la Energía
CONSEJERÍA DE EMPLEO, EMPRESA Y COMERCIO

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www.juntadeandalucia.es/agenciadelaenergia/

BUILD2LC. <https://www.interregeurope.eu/build2lc/>

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Part I - General information

Project: Boosting Low Carbon Innovative Building Rehabilitation in European Regions (BUILD2LC)

Web: <https://www.interregeurope.eu/build2lc/>

PARTNER ORGANISATION: Andalusian Energy Agency, Regional Ministry of Employment, Enterprise and Commerce, Andalusian Government (AEA). <https://www.agenciaandaluzadelaenergia.es/en/know-agency>

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Part II - Policy context

- THE ACTION PLAN AIMS TO IMPACT:
- Investment for Growth and Jobs program
 - European Territorial Cooperation program
 - Other regional development policy instrument

NAME OF THE POLICY INSTRUMENT ADDRESSED:

Andalusian Operational Programme for investments for jobs and growth, 2014-2020. Objective T.O. 4. Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and housing

Web:

<https://fondos.ceic.junta-andalucia.es/economiainnovacionyciencia/fondoseuropeosenandalucia/prog4.php>

Part III - Details of the actions envisaged

1.1 Action 1: Innovative financial instruments to boost energy rehabilitation in public buildings

1.1.1 Background

The existing public building stock of the Regional Administration of Andalusia consists in approximately 4,500 buildings including hospitals, primary and secondary education schools, universities, retirement homes, sport facilities, general office buildings, in addition to 8,000 social houses managed by the Andalusian Agency for Public Housing Company. Only a small fraction of these are considered to be energy-efficient.

Although the local authorities are fully autonomous on the Regional Administration, they are used to collaborating with the regional government (the Andalusian Federation of Municipalities and Provinces is one of the stakeholders of the project). It is estimated that the local public building stock to be potentially rehabilitated to improve energy performance might be even four times bigger. **This would mean approximately 20,000 public buildings to be potentially energy rehabilitated by 2050.**

The Energy Management Network of the Andalusian Regional Government (**REDEJA**) was created in 2007 with the aim to increase information about energy billing and overcome the existing energy billing fragmentation of buildings property of the Andalusian Regional Government. It is also a tool to promote the principles of energy saving and diversification in the Andalusian Administration properties, as well as deploying renewable energies facilities.

There is currently a high level of information on public building's low performance in terms of energy efficiency through REDEJA, which is also integrated into the AEA:

- Billing of 62 regional bodies
- Several energy optimisation programs and energy retrofitting experiences conducted
- Public buildings energy audits

Although the level of information has increased, the retrofitting and energy rehabilitation rate in Andalusian public buildings is still very low due to the lack of leverage on existing public funding as well as other barriers. Projects undertaken by REDEJA are **too dependent on pure public funding and the private financing participation is null**. The AEA has a large experience in **incentive schemes based on subsidies** and lump sums to support sustainable energy initiatives. This scheme has worked well in some cases.

There are EC recommendations to **reorient this model**, and shift from a subsidies-based culture towards innovative financial schemes: therefore, **the renovation and rehabilitation rates need to be urgently accelerated** to meet the Directives targets.

Financing alternatives

During the course of the first phase of the project, in the several workshops and bilateral meetings, the Andalusian Energy Agency has had the chance to explore in depth the Good Practices (GP) that could

potentially be more adaptable to Andalusia. We have found very inspiring the experience from Lithuania developing the Multi-Apartment Building Renovation Program counting on the development of Innovative Financial Instruments. Lithuania has a useful experience in setting innovative funding mechanisms open to the private initiative, easy to understand by the financial entities.

A new financial instrument, specifically designed to serve the energy rehabilitation needs of the public sector, combined with the use of existing incentives programs managed by the AEA to support and “refresh” the financial burden of these innovative financial vehicles, would give an extraordinary boost to meet the Directive requirements. Though we know that Lithuania works on the development of the securitization model to renovate public buildings with the attractive of an off-balance financing vehicle (SPV), Andalusia finds this model as a long-term aspiration, and has started to develop a line within Axis 1 of this Action Plan, inspired in this GP at a local level.

The ZagEE experience from the Croatian partner on seeking financial resources would serve us as well to understand how to tackle with traditionally risk-averse and conservative commercial banks. With an underdeveloped National financial market, the ZagEE managers found that the financing periods proposed by banks were usually too short for deep renovation of buildings. Therefore, the ZagEE programme was also based on national incentives in form of soft loans from the Croatian Bank for Reconstruction and Development (HBOR) and in the participation of ESCOs (Energy Service Company) with their tested financial model. One of the primary ideas behind ZagEE project was to assess and test different financing instruments/schemes that were available in Croatia since there was no relevant experience within the city with use of instruments such as soft loans, EPC (Energy Performance Contracting) and ESI (European Structural and Investment) Fund grants in energy renovation projects. The ZagEE difficulties, but successful financial path along the project life, will help us to identify the different available choices.

During the course of the BUILD2LC project, the Croatian good practice croenergy.eu has also taught us that rising and promissory alternative funding sources shall not be ignored. [Croenergy.eu](http://croenergy.eu) is a specialized crowdfunding platform for financing projects in the field of energy efficiency, renewable energy sources and environmental protection developed and launched by REGEA (partner of BUILD2LC-<http://regea.org/>) in 2016. In Spain, participative financing schemes are financially regulated and growing fast. The Andalusian authorities might take advantage of the increasing awareness of citizens regarding alternative but also green investing to let the citizenry participate in ethical and green projects fully aligned with their interests (reducing the public spending would allow them to have better funded services / lower tax charges). This possibility was explored during several stakeholders meetings that were held during the project and prior to the Action Plan elaboration.

Financing the plans

Due to the existing model in place that is too dependent on subsidies, there is a need to increase leverage of public funds dedicated to energy efficiency rehabilitation projects and for that purpose it is foremost to involve the private sector.

Regarding the financing of the study phase to select the buildings to be funded we found extremely useful the experience of a Project Development Assistance (PDA) both in ZagEE as well as in the Lithuanian programme PDA which is a financial instrument that supports primarily public sector investors (cities, regions, public infrastructure operators) by bridging the gap between project idea and

finance. Zagreb applied to a Mobilising Local Energy Investment - Project Development Assistance (MLEI PDA) in the Intelligent Energy Europe programme. The PDA was used to fund preparatory activities while financing of the capital investment, e.g., to develop a buildings stock database (register), a comprehensive database of buildings which included all information and data available from previously performed energy audits as well as from regular gathering of data on energy performance and consumption of buildings within the City of Zagreb. Furthermore, Lithuania applied to an ELENA (European Local Energy Assistance – European Investment Bank EIB), a technical assistance facility managed by the European Bank for Reconstruction and Development (EBRD) to create the project pipeline and to involve a certain number of stakeholders (Lithuanian ESCOs, public authorities and building owners).

Alignment with existing policies and political commitment

The barrier that Andalusia has found regarding this topic is, as in every multilevel administration, the limited collaboration capacity between different public bodies. On the other hand, the strengths the AEA has found are the existing strategies and previous collaborating initiatives that set a positive framework and pave the path.

The sustainable construction sector is one of the priorities of the Smart Specialization Strategy (S3) of Andalusia. Its strategy in this field passes through the redefinition of sustainable construction in terms of energy rehabilitation of buildings, the physical, social, economic and environmental recovery of urban environments, the reuse of consolidated urban lands and the rehabilitation of cities. The opportunities are based on the development of new designs and materials for construction and the sustainable processes.

Furthermore, the Sustainable Construction Programme in Andalusia (PICSA) seeks through energy saving and renewable energy to promote the energy rehabilitation and renovation of buildings, rehabilitate urban areas, improve the competitiveness of companies of the construction sector, create skilled employment and reduce energy poverty.

From ZagEE we have learned the lesson of the importance of improving collaboration between different bodies and we found it very useful to find a clear political leadership in this project. However, the aim of this action is fully aligned with the existing policies and political strategies. The ZagEE initiative was explained during the good practices exchange meeting in Zagreb (Croatia), September 2016. A bi-lateral meeting was held on 15 March 2018 to obtain more details.

The Lithuanian experience on innovative financial instruments to rehabilitate buildings was explained during the good practices exchange meeting in Vilnius (Lithuania), January 2018.

1.1.2 Actions to be implemented

Taking into account all the decision elements that were on the table in terms of types of financing, scope and stakeholders engagement and taking into account the Project's best potentially adaptable experiences, the AEA has designed Action 1 "Innovative financial instruments to boost energy rehabilitation in public buildings" split into two different sub-lines:

- A) An ELENA PDA to support retrofitting within REDEJA'S Investments Plan

- B) Development of an Innovative Financial scheme to support energy efficiency in Andalusian municipalities

LINE A: Aims at establishing an ELENA PDA (Project Development Assistance mechanism) addressed to provide Technical Assistance for the implementation of projects and programs of energy efficiency. This is a joint initiative of the European Commission and the EIB European Investment Bank within the H2020 program. Projects have to comply with these requirements:

- Projects above EUR 30M with maximum implementation period of 3 years
- Financing up to 90% of technical assistance costs (around 5% of total investment amount)
- Minimum leverage factor: Program Investment costs supported must be at least 20 times the total amount of ELENA contribution

The PDA ELENA will be aimed at providing technical assistance for the development of energy efficiency rehabilitation projects in the building stock of the Andalusian Regional Government within REDEJA's Investment Plan. A variety of projects could be supported within the thematic area of Energy Efficiency, such as:

- ✓ Public or private buildings retrofitting to reduce energy consumption, thermal insulation, air conditioning, efficient ventilation, efficient lighting etc.;
- ✓ Integration of renewable energy sources in the built environment;
- ✓ Investments to renovate, extend, build new heating / cooling, networks, cogeneration systems, local infrastructure etc.

LINE B: Development of an Innovative Financial scheme to support energy efficiency in Andalusian municipalities

This line aims at establishing general scheme of PPPs (Public-Private Partnerships) to finance energy efficiency projects at municipal level in Andalusia. For that purpose, a SPV (Special Purpose Vehicle) will be formed with two different possibilities: complete private capital or a mixture of public and private capital.

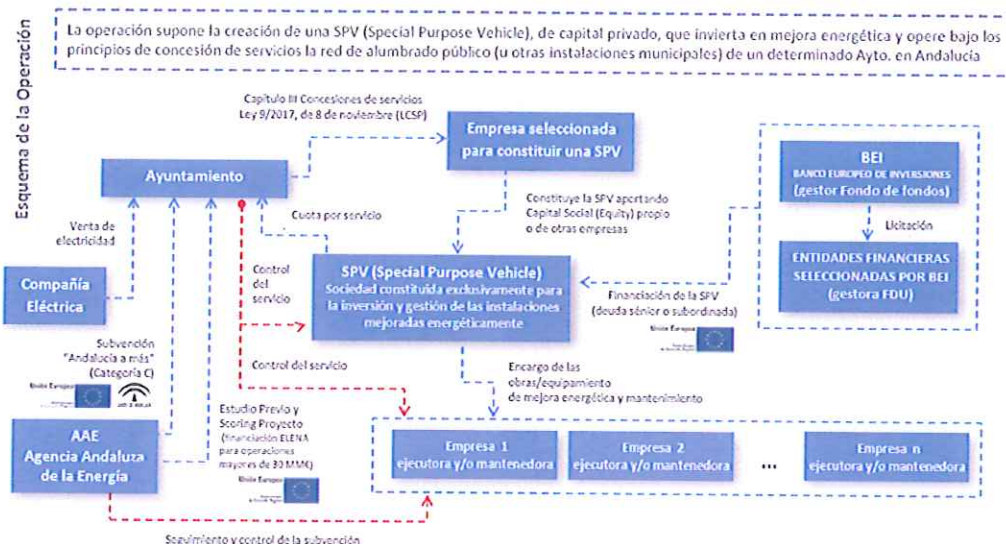
In both cases, the company will be operating under the principles of service concession of the public lighting network or provision of energy in general.

A first version of this financial vehicle, based on the development proposed by VIPA (Lithuanian partner of BUILD2LC), has already been analysed for its application in Andalusia in the city of Seville (with the collaboration of the City Hall of Seville), and its application in other Andalusian cities, together with other public entities, is being considered as well.

Modelo de financiación de grandes inversiones en las ciudades andaluzas Eficiencia energética, movilidad sostenible y EERR bajo criterios de Alianzas Público – Privadas (APP)

julio de 2018

Objetivo: establecer los criterios básicos de un sistema de APP para la financiación de proyectos de mejora energética a nivel municipal en Andalucía



When designing this line, it will be very important to take into account the rule of expenditure of the operation and the accounting conditions and rules for public deficit, respecting not only the National Law regulating Municipalities' expenditure but also the Guide to Statistical Treatment of PPPs published by the EC and the EIB.

1.1.3 Players involved

- **Andalusian Energy Agency (AEA)** – to plan, coordinate and promote the objectives set. Collaboration with public administration in the design of plans and programmes and management of energy incentives. The AEA has large experience as responsible for the whole management of funds for energy in close collaboration with the Regional Managing Authority (Directorate General of European Funds of the Andalusian Regional Government). The AEA is already participating in ROP Regional Operational Programme monitoring committees and also has experience in monitoring and evaluation.
- **The Energy Management Network of the Andalusian Regional Government, REDEJA¹** - currently integrated into the AEA, is the tool to promote the principles of energy saving and diversification in the Andalusian Administration properties, as well as deploying renewable energies facilities.
- **The Andalusian Agency for Housing and Rehabilitation (AVRA)** with extensive experience in rehabilitation of their own stock of public social buildings. <http://ws03.epsa.junta-andalucia.es/avra/>

¹ <https://www.agenciaandaluzadelaenergia.es/en/redeja>

- Private business associations as *Federation of Promoters and Builders of Andalusia* and the *Sustainable Construction Cluster of Andalusia* – to ensure participation of private actors. <http://clusterccs.org/>
- Ministry of Public Finance and Civil Service- Directorate General of European Funds - Operational Programme managing authority. <https://juntadeandalucia.es/organismos/economiahaciendayadministracionpublica/consejeria/sge/dgfe.html>
- Andalusian Regional Government – decision-making body and political leadership. <https://juntadeandalucia.es/>
- Municipalities – As potential intermediaries to extend the plan to municipal buildings. Represented by the Andalusian Federation of Municipalities and Provinces (FAMP).
- Private banking – open to discussing proposals for financial mechanisms.
- IDEA Agency - financing and business development, which brings together in a single Unit all the aids and financing company Programs. <http://www.agenciaidea.es/web/eng>

1.1.4 Timeframe

The implementation phase is planned to start from December 2018 and to finalize by the end of the project, in September 2020.

1.1.5 Costs

REDEJA'S Investments Plan is estimated at approximately 30 million euros (ERDF funds), while the funds available for town/city halls in the form of financial instruments is yet to be determined, although the regional government is currently working together with the European Investment Bank to setup a fund of 250 million euros, co-financed with ERDF funds for sustainable investments in public and urban infrastructures, which the town and city councils are expected to access.

Several meetings have already been held with the EIB and the Andalusian Innovation Agency, which is responsible for managing public financial instruments, to integrate the lessons learned from the BUILD2LC project.

1.1.6 Funding sources

In addition to ERDF funds, there are several financing alternatives for the SPV and the operation, which should be studied on a case by case basis depending on each Town Council situation and their financing needs:

- The EIB, through a loan addressed to urban development or climate change
- European Fund for Strategic Investments
- Urban Development Fund of the IDEA Agency (JESSICA)
- Commercial Banks
- A PDA ELENA to provide a Technical Assistance according to the complexity of such operations

1.2 Comprehensive planning of investments to be made in public buildings

1.2.1 Background

As specified in the previous measure, at present there is an investment plan in buildings of the Andalusian Regional Government to energetically improve these buildings, through energy saving and efficiency and renewable energy measures, for an amount of 30 million euros to be implemented up to 2020.

In addition to the economic resources needed to carry out the energy improvement measures, which are already addressed in action 1, it is necessary to design and develop complementary measures to ensure the maximum efficiency of the investments that are going to be made, as well as to guarantee the durability of the energy efficiency of these solutions.

In this sense, the BUILD2LC project has identified and analysed a series of useful good practices as complementary measures in the implementation of the foreseen investment plan.

Specifically, through the Croatian partner, and the good practice GP "Monitoring and verification of energy consumption and achieved savings through Energy Information System-ZagEE project", the usefulness of the information systems for the investment planning, centralising the energy information of the different energy metering devices installed in the buildings and detecting errors in time to be corrected, has been verified.

As mentioned in the previous paragraph, in the framework of this good practice, smart meters were introduced in the buildings to register their energy consumption. The introduction of this equipment is essential for the correct monitoring of the energy consumption of the different buildings and to verify the suitability of the energy improvement measures carried out.

In the same line, and through the GP "Development of buildings stock register – ZagEE Project", also from the Croatian partner, the importance of having the appropriate tools to help manage high volumes of information on the characteristics of the buildings prior to the energy improvement, the measures proposed in the energy audits, and the energy improvement actions, have been proved.

Finally, it is also essential to define from the outset a method of reporting and verification of real savings and the predictions which will be easily compared with the actual achieved results, which is the action that the Croatian partner proposes in the GP "System for monitoring, measuring and verification of energy savings (SMIV)".

The previous GPs, and in particular, the incorporation of information systems in public buildings, will be implemented in the development of the Investment Plan to be carried out in the buildings of the Andalusian administration.

In this sense, the Andalusian Industrial Strategy (the base document of the Andalusian industrial policy for supporting the development of a strong and sustainable industrial base), within the actions aimed at promoting industrial development in Andalusia around the Internet of things in the scope of buildings and sustainable construction, has already incorporated as a stimulus measure approved in the Co-decision Committee held in December 2017, facilitating the implementation of ICTs in the public sector

(hospitals, senior residences, educational centres, administrative centres, etc.) to improve the energy efficiency of its facilities.

1.2.2 Action

The development of this measure will be carried out through the actions of the Energy Management Network of the Andalusian Regional Government. Thus, in the investment projects carried out in the buildings of the Administration of the Andalusian Regional Government, the introduction of ICTs for the energy management of public buildings and installations will be compulsory.

A system of reporting and verification of real savings and predictions will also be implemented.

1.2.3 Players involved

- **Andalusian Energy Agency (AEA)** – to plan, coordinate and promote the objectives set. **The Energy Management Network of the Andalusian Regional Government, REDEJA** - currently integrated into the AEA, is the tool to promote the principles of energy saving and diversification in the Andalusian Administration properties, as well as deploying renewable energies facilities.

1.2.4 Timeframe

The implementation phase is planned to start from December 2018 and to finalize by the end of the project, in September 2020.

1.2.5 Costs

This measure will affect the investments included in REDEJA'S Investments Plan, whose value is 30 million euros.

1.2.6 Funding sources

Funds from operative programme ERDF, Andalusian Operational Programme for investments for jobs and growth, 2014-2020. Objective T.O. 4. Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and housing

1.3 A more professional sector by enabling better training and education

1.3.1 Background

Different good practices developed in the framework of the BUILD2LC project have been of inspiration for developing this second Action 2 of the Action Plan of the Andalusian Energy Agency concerning the improvement of the training of the professionals working in the field of sustainable construction. This way, from the “Warm and Well” programme developed in Gloucestershire and through the partner’s meetings in Slovenia (March 2018), Málaga (September 2018) and the bilateral meeting held in September in the UK (September 2018), we have explored synergies. From the “Young Energy people” programme from UK we have explored how to send the message across through “hands-on” activities and creative workshops to involve the whole education community.

From “Crosskills” GP (lifelong training plan for building workers) in Croatia we have discovered the importance of this type of programme to be integrated in the regional policy.

Finally, from Poland (GP “Podparkapie Academie Certification”) we have learnt about some new experiences to integrate regarding the importance of training to increase workers’ skills.

Network of energy advisors to the energy poor established through this action will also build on the example of “Warm and Well” but keeping more similarity to the Slovenian case due to national similarities.

The Agenda for Employment of the Andalusian Regional Government, the basic document of the strategic planning at regional level, has as objective to strengthen the competitive position of the Andalusian business fabric, achieve a greater integration of all sectors and actors in the value chain and the diversification of markets through internationalization, and in particular achieving **increased employment and professional qualification**. This will be attained through a new niche of employment identified in this Agenda, which is sustainable construction. This niche will be integrated by the labour force that comes from self-employment, from the social economy, and from the insertion of disadvantaged or underrepresented collectives. The aim is also to favour associations through the promotion of clusters, in which the Sustainable Construction Cluster of Andalusia will play an important role.

The Sustainable Construction Plan² approved in 2015 by the Andalusian Regional Government established the basic lines to increase the quality and quantity of employment in sustainable construction and rehabilitation, as well as to improve and increase the training, qualification and levels of professional accreditation of sustainable construction workers.

Although the Sustainable Construction Plan defines these basic lines, it does not include within its scope the implementation of specific measures, so therefore from the BUILD2LC project, successful experiences have been identified, such as those mentioned previously, which will serve as an inspiration to plan specific actions in this area.

² Plan for the Promotion of the Sustainable Construction and Rehabilitation Sector of Andalusia HORIZON 2020. <https://www.agenciaandaluzadelaenergia.es/es/documentacion/tipo-de-documento/folletos-divulgativos/plan-integral-de-fomento-para-la-construccion-y-rehabilitacion-sostenible-de-andalucia>

1.3.2 Action to be implemented

As commented in the previous point, the action to be implemented builds upon the Sustainable Construction Plan in Andalusia (PICSA). Thus, the overall objective of the action is to develop a specific program of Dual Vocational Training in sustainable construction for the training and qualification of personnel, which improves the actual offer in this sector.

Furthermore, in the scope of Sustainable Construction only a total of 45 projects of Dual Vocational Training have been counted for in Andalusia, promoted by 26 educational centres. It is expected that a total of 376 students participate in these projects and will be trained in 320 companies of the construction sector. By sector, as can be seen in the graph, the highest participation occurs in the fields of "Electricity and Electronics", followed by "Installation and Maintenance", areas closely related to the energy installations of buildings.

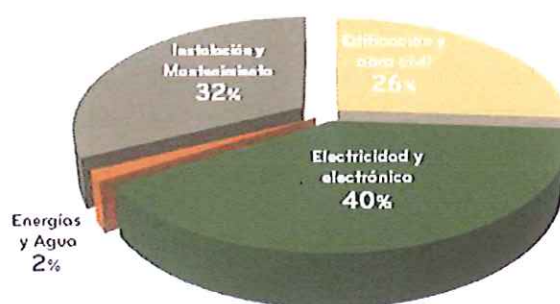


Figure 1 Distribution of participating companies in the Dual Vocational Training

The challenges of this educative initiative are:

- To increase the projects of Dual Vocational Training in the cycles directly related to Sustainable Construction, which allows taking advantage of new green employment and contributes value to the sector, in particular, on matters as the nearly zero energy buildings, energy management systems, smart buildings (taking into account the new Smart Readiness Indicator), renewable energy and hybridization of energy sources, energy certifications such as Passivhaus, LEED, BREAM.
- To adapt the educational offer to the demands of the construction sector: identifying the deficiencies of the training offer to promote a new offer.
- To put the benefits of Dual VT at the service of Sustainable Construction: improvement of the transfer of knowledge and technologies, the working environment in the companies, the responsibility of the companies of the sector with the environment, etc.
- To attract the interest of teachers, schools and students for the new model of sustainable construction.
- To include the gender perspective, to promote equality between women and men in the construction sector, as well as a greater integration of people with disabilities.
- To favour greater mobility among the different European countries of the future professionals in the construction sector, within the framework of already existing programmes such as Erasmus +.

This Action 2 also aims to connect the supply and demand of workers and in a joint work with FADECO (Andalusian Federation of Construction Companies) and the Construction Labour Foundation, work together on the adaptation and development of new professional qualifications. Both entities have played the role of stakeholders in the development of the BUILD2LC project.

1.3.3 Players involved

- **Andalusian Energy Agency (AEA)** – to plan, coordinate and promote the objectives set.
- **Regional Ministry of Education (Directorate General for Vocational Training and Education), of the Andalusian Regional Government.**
- The participation of social and economic agents, as well as specialised entities and companies of the construction sector, is essential to identify the needs of the business environment, as well as to disseminate the educational projects of dual vocational training. Among others, participation of the following will be counted on:
 - **Social agents (trade unions).**
 - **FADECO - Andalusian Federation of Construction Companies**
 - **The Sustainable Construction Cluster of Andalusia**
 - **The Construction Labour Foundation.**

1.3.4 Timeframe

Phase 1. Identification of sector needs by professional family **July, August and September 2018**

The Dual Vocational Training (Dual-VT) project has been made for the needs of the environment, so it is essential to identify the needs of the workers' specialisation to meet the demand of the sector.

This phase will determine the shortages of supply that may exist and if there is a need for an educational offer. The procedures established by the Ministry of Education (of the Andalusian Regional Government) will be followed, receiving support from the entities participating in this initiative.

Phase 2. Identification of interested companies and educational centres **October and November 2018**

The Andalusian model of Dual-VT is characterised by its flexibility and quality: not all projects are the same, needing to be adapted to the deadlines and particularities of the business environment and the possibilities and resources of the educational centres, and the involvement of companies and centres in the projects is necessary. A workshop will be organised to facilitate the meeting between the teachers and the companies of the sector

Phase 3. Support to educational centres and teachers for the presentation of projects **December 2018, and January and February 2019**

The technical support to the teaching staff of the educational centres will be essential to obtain quality educational projects adapted to the needs of the future workers and the companies in the construction sector.

Phase 4. Promotion of projects among students
July, August and September 2019

Recruitment of students in order to cover the number of places offered in the projects while promoting interest in the new construction sector, sustainable and attractive.

Phase 5. Starting up of dual vocational training
September 2019

1.3.5 Costs

The cost of this action in principle is not relevant, since it is a question of reorienting the existing educational offer to the new market niches, such as sustainable construction. That is, a change in the planning of the educational offer and not an increase of the same. In addition, the private entities are collaborating selflessly in the development of the studies because they know that better educated students will result in an improvement of the competitiveness of their companies.

In any case, the possibility of paying a minimum wage to the students, which can be financed by European funds, is being analysed, although this measure has not yet been made concrete so it is not possible to advance a cost of the action.

1.3.6 Funding sources:

In addition to the Education funds, the actions of the Andalusian Energy Agency will be financed through the Andalusian Operative Programme ERDF, Andalusian Operational Programme for investments for jobs and growth, 2014-2020. Objective T.O. 4. Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and housing) or ESF ROPs 2014-2020.

1.4 Promotion of employment related to sustainable construction

1.4.1 Background

Related to the previous action, this measure aims to stimulate the generation of employment through the promotion and development of new companies and professionals specialised in the field of energy efficiency in buildings. For this, a battery of measures is proposed to support these new companies and professionals, especially self-employed and SMEs, who start their activities in the sustainable construction sector.

Within this measure, the integration of unemployed persons from disadvantaged and particularly vulnerable groups or with little representation in this sector, as in the case of women, will have a special consideration. Thus, 2 of the 3 main horizontal principles defined in the AF of the BUILD2LC project have been integrated into this action, namely: equal opportunities and nondiscrimination, equality between men and women.

The proposed action is aligned with the lines of action foreseen in the Sustainable Construction Plan of Andalusia, approved by the Andalusian Regional Government in 2015, aimed at improving the quality and quantity of employment in sustainable construction. More specifically, the aforementioned plan expressly cites the promotion of self-employment and social economy companies in the sustainable construction sector and the incorporation of women into employment, through concrete actions in new emerging occupations, as well as in those where women are underrepresented.

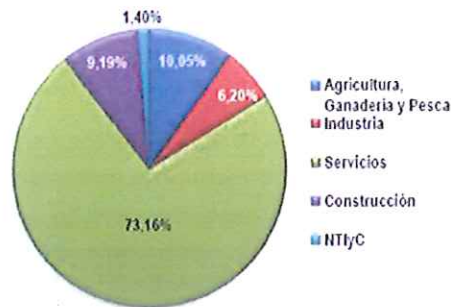
However, even though the Plan was approved in 2015, the development of these measures has not been possible until the month of July 2018, where a specific working group was constituted to concrete its start-up. Within the framework of this working group, concrete measures to be developed in the next two years in the field of training and employment are being defined, which will benefit from the knowledge acquired through the GP identified in the BUILD2LC project related with the proposed action.

Specifically, from the Polish partner we highlight the GP "Podkarpackie Academy Certification" a program aimed at prolonging the professional activity of people over 45 years of age who participated in the project; and increasing the chances of career advancement among people who completed trainings. We also highlight from this GP the high percentage of women who participated in the project.

Also, from the English partner we highlight the GP "ACHIEVE – Actions in low income Households to Improve Energy Efficiency through Visits and Energy diagnosis" that seeks the integration in the labour market of workers of disadvantaged groups, through its adaptation and specialisation in the field of sustainable construction.

Finally, we emphasize a good practice from the Slovenian partner "Education" European Energy Manager-EUREM ", aimed at promoting the figure of the energy manager, one of the niches of employment also identified in Andalusia and to be promoted in the framework of this measure.

According to the Report "Evaluation of the self-employed in Andalusia. May 2018" of *Andalucía Emprrende*, all sectors show a growth in the number of self-employed compared to last year. The construction sector has had a significant growth, with the figure of 2,000 more autonomous, increasing its relative weight compared to other sectors, from 8.97% to 9.19%, with the number of self-employed of 48,345.



Andalucía Emprende is a public entity of the Andalusian Regional Government whose mission is to promote the entrepreneurial initiative and business development to contribute to the stimulation of the regional economy, promoting and supporting the creation and consolidation of companies and employment through the provision of quality services.

The data abovementioned confirms the need of the Andalusian administration to maintain and even increase this trend with effective measures, so the lessons learned with the BUILD2LC project will undoubtedly be of great use.

1.4.2 Action

As commented previously, with the lessons learned from these good practices we will be able to design a more complete action that responds to the needs of employment generation and the integration of the most disadvantaged groups in the sustainable construction sector, with special attention to the participation of women in this sector.

In this sense, the present initiative is aligned with the UNIVERGEM programme of the Andalusian Regional Government. This programme is aimed at promoting initiatives such as self-employment and the entrepreneurship of university women and promoting equal opportunities for men and women, through innovative and contextualized projects. On the other hand, the Equality Plans, as an instrument for the incorporation of equality between women and men in companies, are being promoted in Andalusia through subsidies that encourage the establishment of objectives of equality, strategies and practices to be adopted, or by compulsory character in certain companies. In this sense, from the Andalusian Employment Service, assigned to the Andalusian Regional Government, several training initiatives have been carried out aimed at female victims of gender-based violence, in the field of renewable energy installations (solar photovoltaic).

In particular, this action aims to create a network of entrepreneurs who develop their activity around the following areas of opportunity:

- Offer of eco-efficient solutions: services of sale and execution of works that are directed to improve the energy efficiency, the use of renewable energies in the buildings or the use of local and natural materials and products with low carbon footprint in the construction and rehabilitation of buildings.

- Energy managers: which fulfill the conditions of the Royal Decree 56/2016, of 12 February, which transposes the Directive 2012/27/EU of the European Parliament and of the Council, of 25 of October of 2012, relating to energy efficiency with regard to energy audits, accreditation of service providers and energy auditors.
- Integration of innovative solutions in construction: services to other companies in the construction sector in order to integrate innovative solutions for energy improvement or energy monitoring in construction and rehabilitation works.

And concerning the integration of women in the labour market, a specific project to promote the employment of women in specific areas of sustainable construction will be launched "(renovation of windows, air conditioning, installation of renewable energies, etc.), which integrates the following elements:

- Commitment of a group of companies to an equal recruitment, selected in collaboration with the social and economic agents.
- Development of specific training aimed at women in the specific areas identified, or the identification of the persons that have already received specific training in the areas (as in the case of training in photovoltaic installations for women in a vulnerable situation).
- Search for the collaboration of actors that facilitate or support the development of the project.

1.4.3 Players involved

An initiative promoted by **Andalucía Emprende, Fundación Pública Andaluza**, of the Regional Ministry of Knowledge, Research and University of the Andalusian Regional Government, in collaboration with the Regional Ministry of Employment, Business and Trade, through the Andalusian Energy Agency. All these entities are assigned to the Andalusian Regional Government.

Collaboration will also be made with the Andalusian Institute of Women and the Andalusian Employment Service.

The participation of the social and economic agents (Spanish trade unions as UGT- and CC.OO., and the Confederation of Entrepreneurs), as well as the specialised entities and companies of the construction sector, will be essential to facilitate an adequate ecosystem in the scope of sustainable construction and rehabilitation.

1.4.4 Timeframe

- **Phase 1.** Detection of concrete opportunities for entrepreneurship in the field of sustainable construction and identification of successful initiatives: celebration of five meetings with industry experts (on insulation, windows, efficient lighting, energy self-consumption through renewable energies, high energy efficient systems and installations), in which a panel on the integration of women has been included (July, August and September 2018). **Already finished.**

- Phase 2. Preparation of information and material for the promotion of the Network. Offer of services, which includes technical support to the enterprise, offered from the Andalusian Energy Agency in collaboration with Andalucía Empeñde (October and November 2018).
- Phase 4. Network launch. Promotion and initiation of the recruitment of new initiatives of entrepreneurship and development of the "Project to promote the employment of women in specific areas of sustainable construction" (from November 2018).
- Phase 5. Enterprise support services for companies of the network and accompanying measures to encourage the recruitment of women (from November 2018).

1.4.5 Costs

As in the previous action, the cost of this action in principle is not relevant, as it is a question of reorienting the actions of Andalucía Empeñde, the Andalusian Institute of Women and the Andalusian Employment Service, towards the sustainable construction sector. That is, a change in the planning of the services of Andalucía Empeñde and not an increase of the same. In addition, the private entities that are participating in the various measures are doing it selflessly.

1.4.6 Funding sources

The actions of the Andalusian Energy Agency in this project will be financed through the Andalusian Operative Programme ERDF, Andalusian Operational Programme for investments for jobs and growth, 2014-2020. Objective T.O. 4. Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and housing) or ESF ROPs 2014-2020.

1.5 Promoting innovative solutions for sustainable construction

1.5.1 Background

One of the topics in which the BUILD2LC project has focused the exchange of good practices has been innovation in the construction sector. Specifically, the BUILD2LC project aims to encourage innovative solutions, the use of new materials, boosting public procurement, and the cooperation between companies and knowledge institutes.

In this sense, the GPs identified in this area have been very interesting and have aroused great expectation among the Andalusian stakeholders. Specifically, within this category we can include the Slovenian partner's GP "Complete renovation of apartment buildings-system Dominum", an innovative system to improve the energy efficiency of homes.

The GP was presented at the partner meeting held in Semester 4 of the project, which also involved various Andalusian stakeholders, such as the Sustainable Construction Cluster of Andalusia. To deepen the knowledge of this GP, a Slovenian expert was invited by the Cluster to participate in the regional Workshop "Energy efficiency in Construction", held in Málaga, in June 2018.

Subsequently, a bilateral meeting was held between LEAG and the AEA in Ljubliana (Slovenia) in March 2018, which is highlighted by the active participation of the Andalusian stakeholders who learnt first-hand about the renovation system of apartments called "Dominum", as well as the legislative changes that have been necessary to introduce in the local regulations to be able to develop the project. This was presented directly by the municipal managers of Ljubliana.

In addition to the Dominium system, we highlight the GP "Sports Tech Research Centre" from the Swedish partner, which is a multidisciplinary research centre that focuses on applied science of sports engineering and product development. The lab has shown to be an excellent environment to conduct research, as well as being important resource for the university's engineering programs and outside partners. Through corporate collaboration companies and organizations can receive help from researchers and students to develop and test products and materials.

Also, regarding innovation material we find interesting examples in the case of the UK partner in the manufacturing of low cost modular housing. In this sense, an Andalusian delegation travelled to Gloucester for a bilateral meeting on 25-26/09/2018 to explore the modular housing factory owned by totally modular LTD.

We highlight, in this sense, that the Andalusian Energy Agency currently leads a Partnership on Sustainable Buildings³ with the objective of promoting innovative solutions in this sector through interregional collaborations, so that solutions such as those proposed in the framework of the BUILD2LC project are fully integrated in this initiative.

It is necessary to take into account that innovation constitutes a basic pillar of the Sustainable Construction Plan of Andalusia referred to previously. Specifically, the Sustainable Construction Plan

³ <http://s3platform.jrc.ec.europa.eu/sustainable-buildings>

aims to make Andalusia a reference in innovation in sustainable construction, and therefore the GP identified will help to achieve this goal.

The innovation in the construction sector is also linked to the opportunities for industrial development in Andalusia, as highlighted by the Swedish partner's GP. In particular, within the framework of the Andalusian Industrial Strategy, the incorporation of new materials and technological improvements for energy efficiency in buildings will be promoted, reorienting the activity of the construction sector towards the production of inputs for sustainable construction, reducing dependence on the cyclical construction sector, and adapting the sector to new industrialised models in construction.

On the other hand, the **Andalusian Smart Specialisation Strategy**, which includes sustainable construction within its 8 priorities, defines the lines of action in the innovation field for this sector.

1.5.2 Action

With the lessons learned from the good practices, we will be able to design a more complete action that helps to achieve the objectives included in the Sustainable Construction Plan and in the Andalusian Smart Specialisation Strategy.

In particular, the feasibility of integrating the Dominion system into the current legislative framework, as a previous step for the training of companies in this technique, will be analysed.

In relation with innovative constructive processes: light prefabrication of low-cost housing, advanced manufacturing for new construction elements, we will explore possible collaborations with the UK company Totally Modular Ltd, to implement these solutions in Andalusia.

With regard to promoting innovation in new materials and technological improvements for energy efficiency in building and rehabilitation, a roadmap will be designed and implemented, which includes the start-up of initial demonstration projects and pilot projects through innovative public procurement in line with the Swedish partners GP. As mentioned in the background, in the development of this measure we will count on the actions already planned in the framework of the Partnership on Sustainable Building, such as the creation of a network of Living Lab-based laboratory to foster energy efficiency and energy sufficiency of large panel building systems.

1.5.3 Players involved

- **Andalusian Energy Agency (AEA)** – to plan, coordinate and promote the objectives set.
- **Andalusian Agency of Knowledge**, entity of the Regional Government, assigned to the Regional Ministry of innovation, and in charge of the development of the regional plans in the innovation area.
- **IDEA Agency** – entity of the Regional Government, responsible for the development of the Andalusian Smart Specialisation Strategy
- **Sustainable Construction Cluster of Andalusia**
- **FADECO**

1.5.4 Timeframe

December 2018- September 2020

1.5.5 Costs

The cost of this action cannot be determined at this time until the viability of the projects that will eventually be implemented is not assessed.

1.5.6 Funding sources

The actions of the Andalusian Energy Agency in this project will be financed through the Andalusian Operative Programme ERDF, Andalusian Operational Programme for investments for jobs and growth, 2014-2020. Objective T.O. 4. Priority Line 4.c: Support the Energy efficiency and use of renewable Energy in public infrastructure, including public buildings and housing) or ESF ROPs 2014-2020.

Conclusion

- This Action Plan has emerged with the need to improve the policy instruments in the field of sustainable construction and rehabilitation, in particular, the operative programmes ERDF.
- The action plan is composed of different concrete measures that have been the result of the compilation, analysis and adaptation of the good practices identified by the different partners of the BUILD2LC project, thanks to the interregional work carried out and thanks to the important role of the stakeholders of the project.
- Some of the proposed actions, as well as their associated costs, are still pending further definition. It is expected these will be concluded in the first months of 2019.
- The action plan has developed actions in the 4 topics initially established by BUILD2LC: New financial instruments; Professionalization of the construction sector; Activation of demand and combating energy poverty; Innovation
- Also, the 3 main horizontal principles defined in the AF of BUILD2LC have been integrated into the five actions, as a common denominator, namely: Equal opportunities and nondiscrimination, Equality between men and women, Digital agenda for Europe.

Date: February 2019

Signature of representative of the organisation: _____



Stamp of the organization:

