



# PROJECT FINDINGS

**BUILD2LC Project  
Boosting Low Carbon  
Innovative Building  
Rehabilitation in  
European Regions**

**BUILD2LC**  
Interreg Europe



European Union  
European Regional  
Development Fund



# INDEX





# INTRODUCING BUILD2LC

**The** European project **BUILD2LC** (Boosting Low Carbon Innovative Building Rehabilitation in European Regions) is part of the **Interreg Europe Programme** and is co-financed with European Regional Development Fund (ERDF). The general objective of the project is to increase the energy rehabilitation of buildings to reduce energy consumption and enhance policies to favor the creation of a market of specialised companies in this sector.

75% of European homes are inefficient from an energy standpoint, which offers a great potential for initiatives focused on energy saving. BUILD2LC will contribute

greatly to the achievement of the energy goals of the European Union and will do so through a multidisciplinary approach, based on improving the competitiveness of the construction sector, generating qualified employment, promoting innovation and alleviating fuel poverty, as well as its results being easily replicated in other regions of the European Union.

The key innovative aspect of BUILD2LC is its multidisciplinary approach, that counting on different complementary expertise at local (Gloucestershire County UK, and Gorenjska SI), regional (Andalusia ES, Rzeszow PL, North-West Croatia and Jämtland Region SE) and national (Lithuania) level, will allow achieving the energy goals

and a sustainable development of the construction sector, based on improving the competitiveness, generating qualified employment, promoting innovation, and alleviating energy poverty, in line with the European objectives for smart, sustainable and inclusive growth.

The project with a high replicability impact will design innovative financial instruments, adapted to the needs of citizens, new mechanisms that contribute to a more competitive business network, special programmes to support innovation, and innovative collaboration actions, focusing on vulnerable groups. Home-owners, business sector, policy makers, local authorities, knowledge institutes and vulnerable groups will benefit from the project.

**BUILD2LC developed a complete learning process to facilitate an effective knowledge flow among the partnership's members with a bottom-up approach methodology counting on the regional stakeholder groups. 72 good practices and around 60 events involving nearly 400 stakeholders, gave birth to 7 Regional Action Plans for each project partner covering a population of more than 15 million inhabitants and improving energy efficiency over 25% at the participating regions.**



European Union  
European Regional  
Development Fund

# WHAT WILL THIS PROJECT CHANGE?

BUILD2LC aims at increasing the energy rehabilitation of buildings in Europe, reducing energy consumption and enhancing policies which favor the creation of a market for specialised companies in this sector. To ensure the real impact of the achievements in the frame of the sustainable construction sector, including financial schemes, capacity building, innovation, awareness raising and combating against energy poverty, amongst others, it was necessary to progress simultaneously in all these fields to promote improved energy efficiency of buildings and consolidate a solid development of a business sector linked to energy rehabilitation.

All the participating actors have specific funds in their operative programme of ERDF funds for energy rehabilitation and energy planning tools with objectives set on energy efficiency and renewable energy, ensuring the visibility of the improvements foreseen in the project scope.



# MAIN PROJECT RESULTS

**BUILD2LC** sought to fulfill these five objectives...

1

**Encourage** the demand and promotion of investments, facilitating that citizens undertake energy rehabilitation activities in this field.

2

**Promoting** the competitiveness of the business network, reformulating business models and integrating all actors in the value chain of the energy rehabilitation sector.

3

**Improve** the skills of workers aimed at the new market niches of energy rehabilitation of buildings.

4

**Encourage** innovative solutions, the use of new materials, boosting public procurement, and the cooperation between companies and knowledge institutes.

5

**Eliminate** barriers that impede the rehabilitation of buildings, especially those of a normative or administrative nature.

## ... by getting these outputs:

- 3 interregional thematic seminars on:
  - *New financial instruments*, Lithuania.
  - *Professionalisation of the construction sector and innovation*, Poland)
  - *Activation of demand and combating energy poverty*, United Kingdom.
- 1 specialized interregional meeting on innovation (Sweden).
- 7 study visits.
- 9 bi-lateral meetings and 4 multi-lateral meetings between partners, involving 32 good practices exchanged.
- 35 regional workshops with stakeholders group.
- 4 topic reports based on the interregional seminars.
- 1 innovation map with a compilation of technological innovations in energy rehabilitation.
- 1 high level dissemination event at European level.
- 7 dissemination events at regional/local level.
- 7 regional action plans.
- and 72 **good practices** detected among the partnership to support the whole learning process.

# INTERREGIONAL LEARNING EVENTS

## Project timeline



## Kick-off Meeting in Seville, Spain

18–19 May 2016

Shortly after starting in April 2016, the city of Seville, where the Andalusian Energy Agency (AEA) is headquartered, hosted the Kick-off meeting during 18-19 May 2016.

During meeting, **the different topics to be developed during the project lifetime were defined**, such as the professionalisation of the construction sector; innovation; activation of demand and new financial instruments.



*Study visit: Regional Parliament of Andalusia*



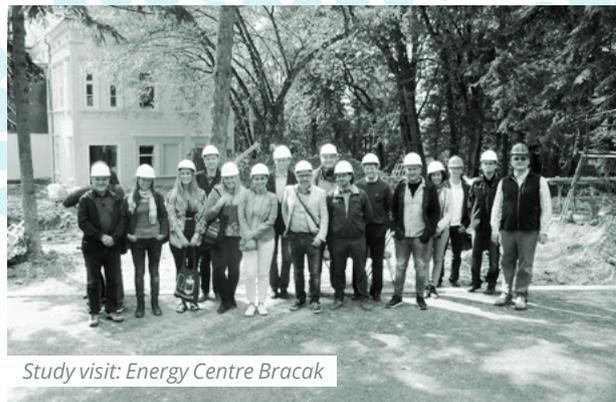
*Study visit: Higher Technical School of Engineering – University of Seville*

BUILD2LC project partners also had the opportunity to visit two examples of sustainable construction and low energy consumption facilities in Andalusia. The first **study visit** was dedicated to the **Andalusian Regional Parliament**, an historical building, formerly a hospital, as an example of HVAC (Heating, Ventilating and Air conditioning) with geothermal energy by underground waters with very high efficiency.

The second study visit took place to the **Higher Technical School of Engineering**, where partners learnt about the energy management of the building through elements such as solar cooling, natural lighting or thermal exchange using river water for the sake of a superb energy efficiency.

## First Interregional Meeting in Zagreb, Croatia / 21–22 September 2016

This first interregional meeting took place in Zagreb on **21-22 September 2016**, hosted by the North-West Croatia Regional Energy Agency (REGEA) and was focused on the **preliminary exchange of good practices**. Partners also had the opportunity to learn for the first time the current state of art of sustainable construction in each region, as well as main barriers, needs and opportunities presented by each particular market, which will facilitate the creation of joint initiatives of bilateral cooperation among different partners and participating regions.



*Study visit: Energy Centre Bracak*



Study visit: ZagEE project

Two study visits were performed:

- **Energy Centre Bracak**, a building of high heritage value being renovated to offer high energy efficiency and incorporate innovative solutions in the field of energy sustainability, respecting at the same time the architectural heritage.
- **ZagEE project**, an ambitious project lead by the Zagreb municipality for the energy rehabilitation of public buildings, including standard renovation measures but also the installation of renewable energy sources.

## First Interregional Seminar in Vilnius, Lithuania / 10–11 January 2017

Vilnius, the capital city of Lithuania hosted on 10-11 January 2017 an interregional seminar on **New instruments for financing and management of European funds for energy rehabilitation of buildings** organized by the Public Investment Development Agency of Lithuania (VIPA).

With more than 120 attendants and the presence of all project partners and collaborating entities from their regions, as well as representatives of ministries and several public and private entities from the host country, participants discussed strategies to allocate European funds for the energy rehabilitation of buildings and presented good practices detected in some of their regions on financing innovative projects.



## Appointments in Lithuania



During their stay in Lithuania, partners of the BUILD2LC project also carried out two study visits; one to the Museum of Energy, in Vilnius, and the other to the town of Jonava, to visit many cases of energy rehabilitation in the ambitious multi-apartment buildings renovation programme in Lithuania.

## Second Interregional Seminar in Rzeszów, Poland / 20–21 March 2017

An interregional seminar on **Professionalisation of the construction sector** organized by the Rzeszow Regional Development Agency (RRDA) took place in Rzeszów during 20-21 March 2017.

The Conference was attended by nearly 70 people, including representatives from the BUILD2LC seven partner countries, as well as stakeholder, government representatives, public administration, media, universities, clusters, associations and entrepreneurs working in the field of construction.

Examples of detected good practices and possible solutions to the threats and weaknesses detected were presented, such as the work in cross-sectorial cooperation groups between the construction industry and renewable energy sources, as well as the possibilities of



financing activities affecting the professionalisation of the construction and rehabilitation sector. Also, different business meetings were held among entities working in the field of energy saving technologies in order to identify opportunities for cooperation and potential projects.



The participants also had the opportunity to learn about some examples of energy efficiency in buildings, as three study visits were carried out: to the Faculty of Law and Public Administration of the University of Rzeszow (to which the energy modernisation of classrooms has been



*Study visit: University of Rzeszow*

made), the University Centre of Technology Transfer, where participants saw the operation of the Centre and its laboratories and the Centre of Research and Photovoltaic Development of the ML SYSTEM – a prominent R&D photovoltaics company within the Aeropolis innovation area.



## Third Interregional Seminar in Gloucester, United Kingdom

13–14 June 2017



Over 60 local and international delegates converged at Gloucester Guildhall for the **New energy culture, citizen involvement and energy poverty** Interregional Seminar on 13-14 June 2017 organized by Severn Wye Energy Agency (SWEA).

Significant social, economic and health effects can arise from the 30,000+ energy vulnerable households within Gloucestershire. Therefore, sharing knowledge and understanding about strategies to reduce fuel poverty, and the direct links to health and social care, was particularly important at a time when there were pressures on public funding and increasing financial constraints on citizens.

The event brought together stakeholders who wanted to share knowledge and practical strategies to engage organizations and the public in fuel poverty and retrofit. The BUILD2LC representatives shared their strategies to reduce energy poverty and improve health in their respective nations.

Project partners and stakeholder attended as well a site visit to the new Gloucestershire Science and Technology Park, Berkeley Green, formerly a nuclear power plant which is currently being decommissioned. The park has been developed in response to a skills shortage in the region: hence the site is specifically catering for this demand. Construction skills are also in short supply: these are already taught at other SGS facility but the scale can be increased with the movement of some courses to the Berkeley Green site.

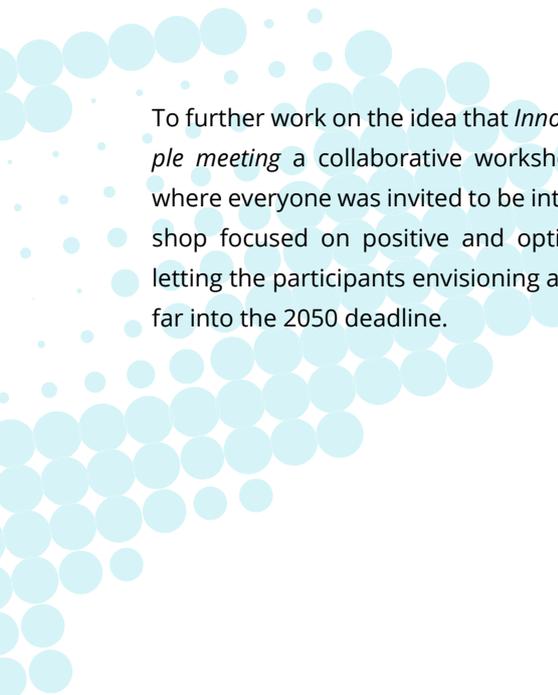


## Interregional Meeting on Innovation in Östersund, Sweden / 12–13 September 2017

A special Interregional Meeting on Innovation was organized by Region Jämtland-Härjedalen (RJH) in Östersund during 12-13 September 2017. It hosted over 40 regional and international delegates **to further accelerate innovation creation** and uptake in the construction sector as a key role in order to reach the ambitious EU energy efficiency targets in new and existing building stock.

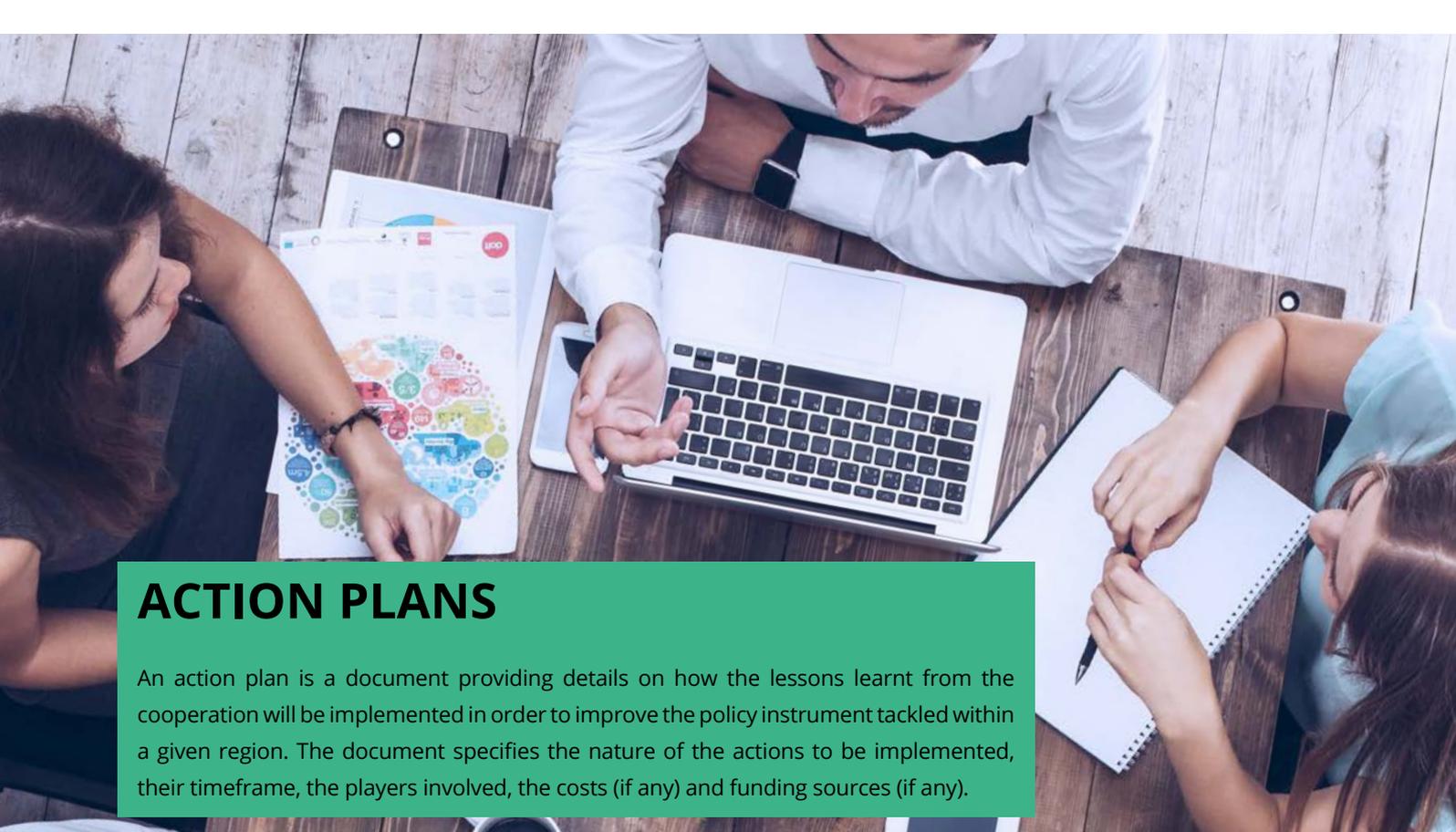


*Study visit: District Storsjö Strand*



To further work on the idea that *Innovation is about people meeting* a collaborative workshop was organised, where everyone was invited to be interactive. The workshop focused on positive and optimistic feelings, by letting the participants envisioning a desirable scenario far into the 2050 deadline.

Two study visits were also organised during the seminar. One to Sports Tech Research Centre, a multidisciplinary research centre with a focus on applied science within the field of sports and innovative product development. The research centre has interesting collaboration between the researchers, students and businesses. The second study visit to the new city district Storsjö Strand in Östersund showed the results of detailed sustainable city planning, where dialogue between all stakeholders early proved especially successful.



## ACTION PLANS

An action plan is a document providing details on how the lessons learnt from the cooperation will be implemented in order to improve the policy instrument tackled within a given region. The document specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs (if any) and funding sources (if any).

**The seven BUILD2LC partners participated in two different meetings to foster their respective action plans elaboration.**

## Coordination Meeting on Draft Action Plans in Ljubljana, Slovenia



On 13 March 2018, the Coordination Meeting to know the seven draft Action Plans from the BUILD2LC partners was organized in Ljubljana by the Local Energy Agency of Gorenjska (LEAG).

Each partner did their best preparing a first action plan draft using a multidisciplinary team specifically set up for that purpose in every organization with the active participation of every stakeholders group and including the outcomes from the good practice exchanged and the celebrated bi-lateral meetings. The respective draft action plans, which are the result of the previous cooperation of all project partners, With this, BUILD2LC approaches the completion of the first part of the activity, which aims to prepare the action plans of each of the project partners, a very appropriate moment to qualitatively identify obstacles and concrete challenges for energy efficiency projects and, of course, overcome them in the future.



In the margins of BUILD2LC, it was emphasized that participating of this was an excellent opportunity to gain additional knowledge and experience that will be transferred to the immediate local environment.

The working day finished with an afternoon Policy Board session in parallel Roundtables gathering the BUILD2LC topics: professionalization of the construction sector, innovation, activation of demand and combating energy poverty and new financial instruments, discussing the needs and barriers in implementing the measures included in every regional action plans.

This partners' meeting was followed the day after by a multi-lateral meeting to exchange in-depth good practices from Slovenia.

## Exchange of Experiences Meeting on Final Action Plans in Málaga, Spain

Six months after the action plans were drafted, AEA organised a meeting of partners and stakeholders in Málaga on 13 September 2018 to share information and perform benchmarking of the delivered Final Action Plans.

After analyzing the seven Action Plans, it is clear that BUILD2LC will promote a substantial increase in the number of buildings that are rehabilitated to improve their energy efficiency, with the beneficial effect of reducing energy consumption and greenhouse gas emissions, and thereby contributing to a low-carbon economy. Gathering all the plans together we find new, more flexible, transparent and innovative financial instruments adapted to the needs and expectations of society, accompanied by innovative collaboration actions with citizens. It is noticeable also how it is being enhanced the public - private partnership to get a higher leverage of public funds.

Regarding the private actors, we found activities planned to promote guarantees and operating mechanisms that will contribute to the development of a higher quality and more competitive business network and mechanisms to support innovation in equipment and systems of higher energy efficiency in buildings as well as the promotion of innovative strategic projects, demonstration projects and pilot projects in buildings. And latest, but not last, we must highlight the special concern on the energy measures targeted at vulnerable groups affected by fuel poverty where the energy rehabilitation can have a greater impact.

In addition, an Open Conference as dissemination event was organised the day after to present the Andalusian Action Plan, the related selected good practices and the main results of the Phase 1 project to specific target groups.



# BI-LATERAL AND MULTILATERAL EVENTS

Once the most promising good practices were collected among the partnership's members we counted on a very complete database to be exploited for the utmost benefit of all the involved regions. To learn in-deep from each other, we had specific meetings, both on-site and by electronic means, on exchange matters so we could help to develop the respective Action Plans.





*Multi-lateral meeting in Vilnius, Lithuania, January 2018 on new financial instruments. Attended by VIPA (Lithuania), SWEA (Gloucestershire), LEAG (Slovenia) and AEA (Spain)*

We must stress the high quality of these meetings that counted not only on the project partners, but especially on their directly related stakeholders. This has allowed putting the respective stakeholders more directly in contact with peers from different regions all over the EU to promote the interregional network of stakeholders of the project and to foster the exchange of information ensuring, this way, future collaborations beyond the duration of BUILD2LC.

There were in total **nine bi-lateral and four multi-lateral on-site meetings**, as well as other two by electronic means to save costs. These meetings have allowed partners to deepen in their learning process collecting details on how to adapt and monitor specific good practices. In total, through these meetings, 32 exchanges of good practices have been registered. So far, all partners have participated in, at least, two bi-lateral meetings, according to what was planned.

# BUILD2LC IN INTERNATIONAL EVENTS

Dissemination is a key element at BUILD2LC. To gain the most, the project partners participated in many international events.



It is necessary to highlight the high impact of the actions carried out under BUILD2LC at European level. Thus, all events organised by BUILD2LC counted on experts representing the European Commission, to offer a vision of the different topics covered in the project at European level. This has allowed us to have a network of international stakeholders that receive timely information on the progress of the project.

For this reason we collaborated with the European Commission in the organisation of the different meetings of the **Energy and Managing Authorities Network (EMA)**. This Network brings together representatives of national energy authorities with representatives of Cohesion Policy Managing Authorities dealing with energy. It aims to help EU countries make the best possible use of Cohesion Policy funding to promote energy efficiency, renewable energy and smart energy infrastructure, as well as energy-related research and innovation.



## Interregional partnership for Smart Specialisation on **SUSTAINABLE BUILDINGS**



### Leaders

Led by the regions of **Andalusia (ES)** and **North Great Plain (HU)**, the Sustainable Buildings partnership engages the participation of

**45**  
REGIONS AND  
MEMBER STATES



### Participants

**55 Entities** from **45 different regions / Member States**



### Reference topics

The Sustainable Buildings partnership will work on the following reference topics:



### Key factors

- 1 Energy and environment**  
The building sector is the largest energy consumer in Europe, amounting to **40% of the total EU consumption** and 36% of CO<sub>2</sub> emissions.
- 2 Innovation**  
High innovation potential through innovative solutions of **maximum energy efficiency**, eco-materials, or renewable energy installations.
- 3 Employment and Industry**  
The construction industry generates about **9% of European GDP** and accounts for 10 million direct jobs.  
Construction activities that include renovation work and energy retrofits add almost twice as much value as the construction of new buildings. SMEs contribute more than **70% of the value added** in the EU building sector.
- 4 EU and Regional Collaboration**  
The decisive commitment of the EU to improve the energy efficiency of the building stock is highlighted by the reformulation of the energy regulatory framework within the framework of the Clean Energy for All Europeans strategy.



Concretely, we collaborated with the EMA Network in the organization of the 5th meeting held in May 2017 and in the 6th meeting held in November 2017, aiming to reflect the good practices identified in BUILD2LC. Both REGEA and representatives of Lithuania were expressly invited to present the funding cases identified in the BUILD2LC project.

AAE, as the Lead Partner, has also presented BUILD2LC in several energy related forums, such as the **European Sustainable Energy Week** held in Brussels in June 2016, organized by the European Commission. Just a bit later, AEA partici-

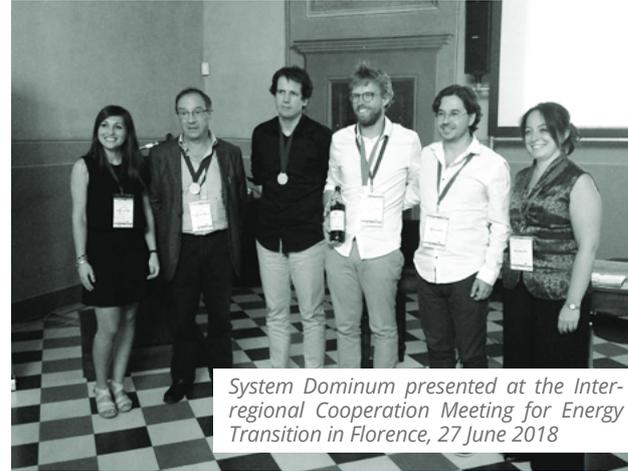
pated in the conference about Smart Specialisation Strategy (S3) in the field of energy, invited by the Joint Research Centre of the European Commission. This meeting was found later to be very useful in the conception and development of a very interesting EU initiative: **The Partnership of European Regions on Sustainable Building** led by Andalusia region.

AAE also participated in the **European Week of Cities and Regions**, held in Brussels in October 2016 and 2017 and in the framework of which presented the activities and objectives of the project to the rest of the participating regions.



But the wide dissemination at European level has not been exclusive to the Lead Partner, the rest of the BUILD2LC partnership have also been very active in the dissemination of the project at national and international level. For instance, REGEA (Croatia), in addition to its participation in the EMA Meeting described previously, has participated and disseminated BUILD2LC in another 9 national and international events, just to mention some of them:

- **International Conference on Social Housing And Energy Poverty.** 14 September 2017 in Varaždin, Croatia.
- **CROENERGY 2017.** October 2017 at the Energy Center Bračak, Croatia.
- **International Conference on Financing Energy Efficiency Projects,** organised by the European Commission and French Ministry of Ecology Transition and Solidarity. 11 December 2017 in Paris.
- **Annual meeting of the European Federation of Agencies and Regions for Energy and the Environment (FEDARENE).** September 2018 in Brussels.



*System Dominum presented at the Inter-regional Cooperation Meeting for Energy Transition in Florence, 27 June 2018*

On 27 June 2018 BUILD2LC participated as well in the **Interregional Cooperation Meeting for Energy Transition**, a friendly competition organised in Florence, Italy, by our project siblings VIOLET, REBUS and SET-UP. We presented the innovative good practice System *Dominum* and got a valuable third position out of 14 projects!

[www.interregeurope.eu/build2lc](http://www.interregeurope.eu/build2lc)

#BUILD2LC

### Andalusian Energy Agency

internacional.aae@juntadeandalucia.es

+34 954 786 335

*This publication has been produced with the financial assistance of the European Union under the Interreg Europe Programme. The content of this leaflet are the sole responsibility of Andalusian Energy Agency and can under no circumstances be regarded as reflecting the position of the European Union or of the Programme's management structures.*

*The Interreg Europe programme of the European Union is an initiative of territorial cooperation for the period 2014-2020 which aims to encourage cooperation between regions of the European Union. The aim is to help European regions to design and implement regional policies and programmes more effectively, particularly Growth and Jobs programmes of the European Structural Funds and Investments, but also programmes of the European Territorial Cooperation, through the exchange of experiences, knowledge and best practices between stakeholders of all European regions. The programme has four thematic objectives: research and innovation, SME competitiveness, low-carbon economy, the environment and resource efficiency. The Interreg Europe programme covers.*

#### PROJECT LEADER



Andalusian Energy Agency  
MINISTRY OF EMPLOYMENT, BUSINESS AND TRADE

#### PARTNERS



**BUILD2LC**  
Interreg Europe



European Union  
European Regional  
Development Fund