

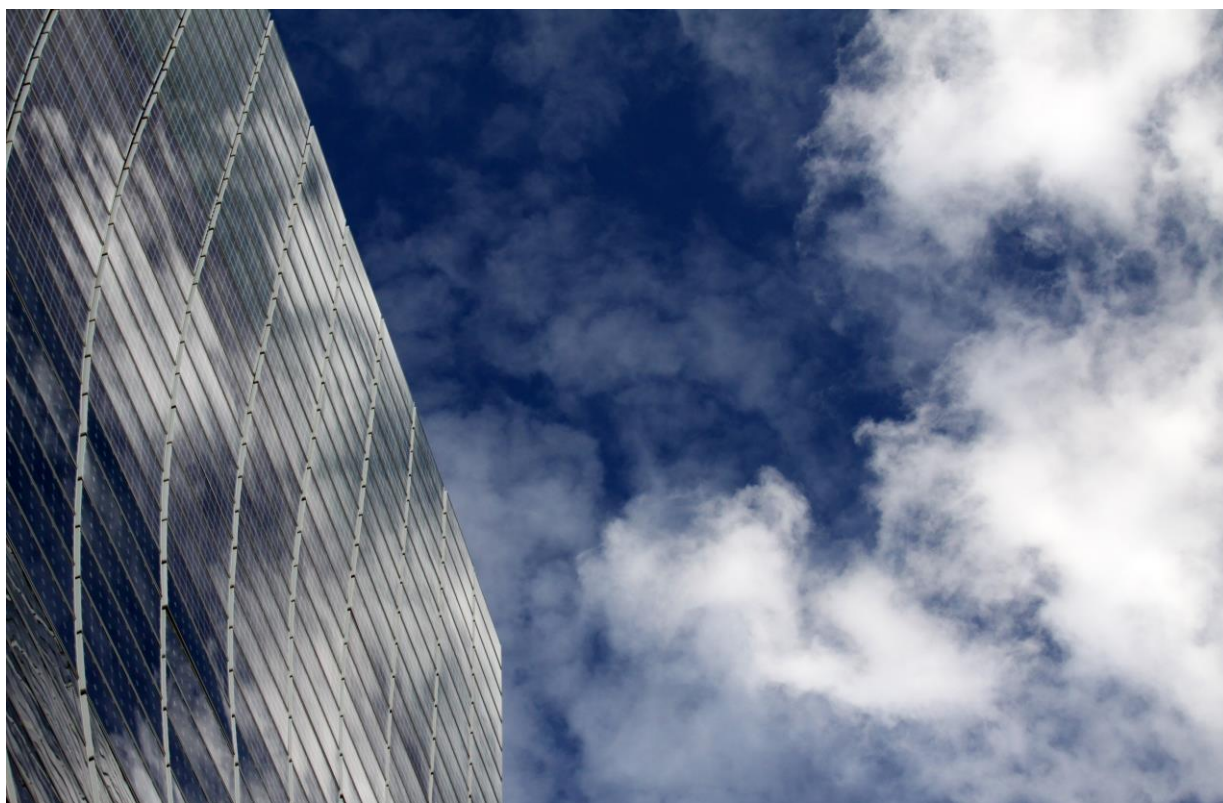


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SHERPA

**Shared Knowledge for Energy Renovation in buildings
by Publics Administration**

SHERPA JOINT ACTION PLAN ON ERB



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Website and contact:

Website: www.sherpa.interreg-med.eu

Contact: flora.leroy@crpm.org; arola@tracis.es

<https://cpmr-intermed.org>



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ACRONYMS

Acronym	Description
BEDES	Building Energy Data Exchange Specification
EE	Energy Efficiency
EEB	Energy Efficiency refers to a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can also result from better organisation and management or improved economic conditions in the sector ("non-technical factors"). The Energy Efficiency in Buildings may refer to either new buildings or renovated existing buildings.
EEMs	Energy Efficiency Measures
EPC	Energy Performance Contracts
ERB	Energy renovations in Buildings — entail various intervention measures (active and passive) on the envelope of a building and its technical systems resulting into significant energy efficiency improvements— are an important pillar for achieving the EU energy efficiency target for 2030 and the transition towards climate-neutral Europe by 2050.
ERPb	Energy Renovation of Public Buildings
ESCO	Energy Services Companies
ESM	Energy Saving Measures
ICT	Information and Communication Technologies
IEQ	Indoor Environmental Quality
IT	Information Technology
IRR	Internal Rate of Return
JAP	Joint Action Plan
PDA	Project Development Assistance
SEAPs	Sustainable Energy Action Plans. European Signatories are now facing the challenge to upgrade their Sustainable Energy Action Plans (SEAPs) which targeted emissions-reduction and turn them into Sustainable Energy and Climate Action Plans (SECAPs) , by aligning with new emissions-reduction targets and timeframes and integrating adaptation measures.



ABSTRACT

This document represents one of the main capitalisation outputs of the Interreg MED European project [SHERPA](#) - SHared knowledge for Energy Renovation in buildings by Public Administrations.

The three-year cooperation project – bringing together twelve Mediterranean partners, including nine regional authorities - aimed to improve the energy efficiency of public buildings in regions across the Mediterranean, contributing to the application of the [EU Directives 2010/31/EU \(Energy Performance of Buildings\)](#) and [2012/27/EU \(Energy Efficiency\)](#), to reach its 20% energy efficiency target by 2020. To do so, SHERPA has developed a specific methodology and project proposals for Energy Renovation in Public Buildings, for around 100 regional buildings, to be extended to further 100 municipalities' buildings of its partner regions.

The **Mediterranean Energy Renovation Buildings¹ Joint Action Plan (MED ERB JAP)** marks SHERPA's completion as a bridge to further application of the developed project methodology. Its wider Mediterranean scope intends to look at the potential for future interventions at transnational and regional/local level taking into account governance aspects, shared information systems, training and awareness raising as well as innovative financing schemes. In this sense, the **MED ERB JAP** aims at setting up a **common framework for integrated strategies** for the Energy Renovation of Public Buildings (ERPB) in the Mediterranean. One of the main goals of the MED ERB JAP is promoting an **investment plan** for ERB projects across the Mediterranean area.

1 Energy Renovations in Buildings (ERB) — entail various intervention measures (active and passive) on the envelope of a building and its technical systems resulting into significant energy efficiency improvements— are an important pillar for achieving the EU energy efficiency target for 2030 and the transition towards climate-neutral Europe by 2050.



On the one hand, the MED ERB JAP **capitalises common experiences** of Regional and Local Administrations engaged in the [Efficient Buildings Thematic Community of the Interreg MED priority axis 2 Low Carbon Economy](#) and beyond. It embodies a coherent and coordinated ensemble of initiatives to be shared, possibly funded and achieved during the 2021-2027 period in the field of the Energy Efficiency (EE) in the Mediterranean.

On the other hand, the MED ERB JAP **seeks the integration of results and initiatives** from other Interreg MED communities as the Renewable Energy Community and others EU projects (ENI CBC MED, Horizon 2020...). Those results and works could apply to promote ERB new projects and consolidate existing ones.

The main actors involved in the elaboration of this Joint Action Plan are [the Government of Catalonia](#) as coordinating region of the Task Force on “*Energy Renovation in Mediterranean Buildings*” of the [Intermediterranean Commission of the Conference of Peripheral Maritime Regions](#) (IMC-CPMR), the IMC-CPMR itself, and the [Centre for Renewable Energy Sources and Saving](#) (CRES) with the contribution of all SHERPA partners and key stakeholders.

The Joint Action Plan, after approval by SHERPA partners will be proposed for endorsement to the IMC-CPMR General Assembly 2020 and will continue to be promoted, implemented and improved during the future years based on opportunities and counting on the valuable input of the SHERPA partners, the members of the IMC-CPMR Task Force on Energy Renovation in Mediterranean Buildings and other key stakeholders, as a multilevel and multi-actor process, catalyser of joint strategies, concrete innovative opportunities, projects and definitely investments on ERB at territorial level.

Therefore, this document should be considered as a “rolling” document and be updated regularly according to the evolution of the cooperation in JAP framework.

I. JOINT ACTION PLAN RATIONALE AND OBJECTIVES

As stressed by the [United Nations Sustainable Development Goals](#), energy is the dominant contributor to climate change, accounting for around 60% of total Global Greenhouse Gas emissions (GHGs). In this sense, Goal 7.3 of the SDGs plans to double the global rate of improvement in Energy Efficiency by 2030.



At the European Council of October 2014, the European Union (EU) set the domestic greenhouse gas emissions reduction target of at least 40% below 1990 levels by 2030, along with the other main building blocks of the 2030 policy framework. The EU also set targets of at least 27% for renewable energy and Energy Efficiency by 2030. The EU's aim was to make the economy and the energy system more competitive, secure and sustainable.

Following the [Paris Agreement](#), the EU adopted a large number of legislative actions that will enable it to deliver its commitment to reduce GHGs. In its Resolution of 25 October 2018, on the 2018 Katowice UNFCCC Conference (COP24), the European Parliament supported the updating of the **EU's target to reduce GHG emissions to 55% below 1990 levels by 2030**, and negotiations between the European Parliament and the Council also raised the level of EU targets for renewable energy sources and **Energy Efficiency** to 32% and **32.5%** respectively for the same period.

More recently, the [COP25 climate summit](#) took place in Madrid from the 2 to the 13 of December 2019. On this occasion world leaders discussed many issues, while the EU presented its goal to reach net-zero carbon by the year 2050. The UN Environment Programme delegation was also in Madrid, as its plan to assist the world transition to a low-carbon and sustainable future is the overall goal of the summit. It seems now more evident the urgency that the world feels in taking more climate action than ever before.

Following the renewal of its Institutions, the European Union has launched the Green Deal, a specific axis of which being addressed to energy renovation in buildings. This Green plan aims to help Europe become the first climate-neutral continent by the year 2050, providing a roadmap of actions that the Union will be able to take in order to improve efficient use of resources, move to a clean and circular economy, stop climate change and revert biodiversity loss while also cutting pollution.

The Deal aims also for the better energy performance of buildings, influencing efficient energy price incentives, circular economy designs, digitalization, climate proofing, and strict enforcement rules as regards energy performance of buildings.²

² All information regarding the Green Deal can be found here (consulted January 2020): https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en



The EC, will work with the European Investment Bank, the InvestEU Fund and other national banks and institutions, as part of their Sustainable Europe Investment Plan, which will help meet additional funding needs that are not met by the EU budget itself.

The Commission will work with InvestEU with innovative investment schemes, aiming to organise renovation efforts to benefit from better financing conditions and economies of scale. The EIB has also set itself a target of doubling its climate target by 2025 from 25% to 50%, which will make it Europe's climate bank.

Under this Green Deal, the European Commission will rigorously enforce the legislation that is related to energy renovation in buildings, starting with an assessment in March 2020 of EU Member States' long-term renovation strategies.

By summer 2020, the Commission will present a plan to increase the EU's GHG reduction targets by 2030. In June 2021, the Commission will also make revisions on climate-related policies, in order to achieve the GHG reduction targets by 2030, where necessary. By the year 2023, Member States should begin updating their climate action plans, reflecting their new climate ambitions. Achieving the 2030 climate and energy targets will need around €260 billion of additional annual investment, which is around 1.5% of the EU's 2018 GDP. EIB loans, along with other EU funds, are predicted to initially be able to mobilise around €100 billion euros.

Moreover, and regarding the Mediterranean geographical scope of this JAP document, [the Union for the Mediterranean](#) (UfM) has brought together the 28 EU member states as well as 15 countries from the Southern and Eastern Mediterranean shores, in order to promote a dialogue and cooperation between all members. The UfM labels certain regional cooperation projects that are given by unanimous decision of the 43 member states, while the label is leverage for funding and finding new partners for the project. With over 25,000 stakeholders, the UfM actively aims to address three objectives within the Mediterranean region, which are: Human development, Stability and Integration. The UfM has energy platforms, such as the UfM REEE Platform, which aim at promoting the importance of deploying renewable energy and energy efficiency measures, for a sustainable energy transition that ensures all citizens and businesses within the region have access to reliable and modern energy services.



Considering all of the above, one can observe that buildings have been identified as an ideal target for Energy Efficiency improvements. There are indeed tremendous margins of improvement in this sector, considering buildings' high energy consumption, the actual status of the building stocks and the availability of cost-effective technologies.

Moreover, **public buildings represent a perfect starting point, because public authorities own a large share of the total building stock and can therefore open new routes, setting the example and taking the lead to decarbonisation.**

Mediterranean regions, as well as the most advanced states and regions of Europe, must respond to the ambitious European and national commitments that have been made with strategies, for instance through the [National energy and climate plans](#) (NECPs) that are adapted to their specific climatic and socio-economic needs. Countries will have to develop NECPs on a ten-year rolling basis, with an update halfway through the implementation period. The NECPs covering the first period from 2021 to 2030 will have to ensure that the Union's 2030 targets for greenhouse gas emission reductions, renewable energy, energy efficiency and electricity interconnection are met.

The situation on the ground implies a significant effort for the whole of the Mediterranean region that not only has to contend with specific summer conditions and a particular socio-economic context, but also with Energy Efficiency standards for buildings that are different from one country to the other, and sometimes less stringent compared to the rest of the European Union.

In addition to national, regional and local **Energy Renovation Buildings** strategies³ to improve the energy retrofit of buildings in the MED area, territorial cooperation has been identified as a key enabler to accelerate the Energy Efficiency of the Mediterranean.

³ Mostly set by the Sustainable Energy Action Plans (SEAPs) in the framework of the "Covenant of Mayors".



During the 2007-2013 programming period, EU projects, in particular strategic MED programme projects such as [MARIE](#), [ELIH-Med](#) and [PROFORBIOMED](#), among others, have highlighted the specific conditions and difficulties related to projects in **Energy Efficiency in Buildings⁴ (EEB)** within the MED area. Specifically, the **Policy Paper “[Responding to challenges regarding Energy Efficiency and Renewable Energy in Mediterranean buildings](#)”** (2014)⁵ developed within the context of the three above-mentioned MED projects, detects – as a consequence of geographical, climatic, social and economic specificities – a huge potential of energy saving.

During the programming period 2014-2020, the **Interreg MED SHERPA project** was developed in order to answer problems identified in the MED area with regards to Energy Efficiency Buildings projects’ implementation. SHERPA project’s overall objective was to **reinforce the capacities of public administrations at regional and sub-regional level** within the territories covered by SHERPA **so as to improve Energy Efficiency in their public buildings’ stock**, address difficulties related to Energy Efficiency in Buildings projects in the Mediterranean area and speed up the implementation of [Directives 2010/31/EU \(Energy Performance of Buildings\)](#) and [2012/27/EU \(Energy Efficiency\)](#).

To do so, a transnational, holistic and peer-to-peer model has been developed to work on the main **barriers** related to EEB strategies in public buildings, namely: **governance structures; information gathering and usage; awareness and training of responsible staff; and financing of actions**. This methodology has been applied to 100 pre-identified regional public buildings from partner regions during the testing phase. Another 65 renovation projects (figure to be updated) following this methodology have been identified on buildings from partner regions’ municipalities during SHERPA’s capitalising phase.

4 Energy Efficiency refers to a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can also result from better organisation and management or improved economic conditions in the sector ("non-technical factors"). The Energy Efficiency in Buildings (EEB) may refer to either new buildings or renovated existing buildings.

5 Developed by AviTeM-France and by the Catalan Government, endorsed by Mediterranean regions during the General Assembly of the IMC-CPMR



In order to **replicate the methodology developed through the SHERPA project** as well as other projects' results, tools, initiatives on ERB and to ensure the implementation of EEB policies and objectives on a Mediterranean level, the creation of a common framework for ERB has been identified as main output of this project.

This Joint Action Plan is thus a **common framework for strategic actions aimed at the EEB in Mediterranean**, based on the strong policy framework mentioned above and with an important level of adhesion to two main policy documents generated in the last few years: the "[Ljubljana Declaration](#)" and the Policy Paper "Responding to challenges regarding Energy Efficiency and renewable energy in Mediterranean buildings".

In this sense, the JAP is not an isolated action, as it will be directly linked to the supported joint initiatives created in the framework of the Interreg MED Programme, with an operational focus, a funding process for the ERB projects developed under SHERPA, and also the other ERB policies and projects generated through regional and national long-term strategies, in line with the new [EU Directive 2018/844](#).

The main **specific objectives** of the JAP are:

- To integrate, consolidate and capitalise the knowledge and the work carried out on ERB projects in the Mediterranean area;
- To create an effective system, practical and "rolling" instrument in support of the ERB policies and practices on public facilities;
- To become a meeting point between public administrations and private agents on ERB to develop joint transnational and local strategies and concrete actions and projects;
- To enable the network to raise investments and to search, provide/promote specific solutions to finance such investments for ERB projects and innovate on funding structures to make that investment real.



II. POLICY AND LEGISLATIVE FRAMEWORK ON ERB

Buildings account for 40% of the EU's final energy consumption, and for 36% of Europe's CO₂ emissions; as a result, Energy Efficiency in Buildings has been identified by the European Commission as a real and major opportunity:

- Energy Efficiency decreases the total amount of energy used, which, in turn, reduces CO₂ emissions;
- The reduction of energy consumption boosts the transition to clean energy, because it reduces the need for investments and for finding sites for the deployment of renewable energies technology;
- Energy efficiency can reduce EU energy import dependency, create growth and employment, reduce fuel poverty, and result in more comfortable and healthier buildings.

The existing policy and legislative framework has been evaluated in the **Policy Paper, "Responding to challenges regarding Energy Efficiency and renewable energy in Mediterranean buildings"**⁶, as strong at European level but **insufficiently implemented by Member States**. In this sense, initiatives such as SHERPA that work with **real Energy Efficiency measures in public buildings should be considered** as very useful to make the implementation possible, extending the influence of EU Policies and legislations at regional and local levels.

From 2018, the EU policy and legislative framework is based on the EU Directive/2018/844 that modifies Energy Efficiency on Buildings EU Directive/2010/31/EU and Energy Efficiency Directive 2012/27/EU. **Article 2 of the Directive 2012/27/EU**, approved in 2018 by the EU Parliament and Council, establishes the requirements and contents for Member States National Strategies. These **National Strategies on Energy Renovation of Buildings (ERB)** are the technical documents that plan and organise how Member States will implement those policies and legislative frameworks.

⁶ AviTeM et al., op.cit



In 2016, the **Joint Research Centre of the European Commission**, produced the document [“Synthesis Report on the assessment of Member States’ building renovation strategies”](#), analysing the compliance of the 27 Member State Strategies in relation to the Directive regulations and recommendations. This document should be considered a very important part of the framework analysis because it **summarises Member States’ policy framework in this field**.

Also, at local level, several EU Mediterranean Regions have approved **Regional Strategies on Energy Renovation of Buildings**, which is the case of Catalonia, Valencia, Région Sud, and Piedmont. Moreover, the **Sustainable Energy Action Plans (SEAPs)** produced by municipalities which adhered to the [Covenant of Mayors Initiative](#) make up the current policy framework of the ERB.

Nevertheless, the different elements that compose such a – theoretically multilevel – framework are still not coordinated well enough. Consequently, an important effort should be made to increase coherence and complementarity between the different governance levels’ initiatives. The lack of real coordination has led to several and parallel initiatives working for the same goals with unequal proven results and without taking advantage of scale economies and joint efforts. This MED ERB JAP aims at establishing the basis and measures to facilitate coherence and complementarity between the multi-level governance initiatives (see *Strategic Themes/axis: Governance* further on this document).



III. CURRENT INITIATIVES, PROJECTS AND LITERATURE

Many initiatives have been developed in order to promote Energy Efficiency in Buildings in Europe. These initiatives develop different topics or goals but, at the end of the day, they do have a common goal: to **increase EEB projects in the European Union** which could lead to an increase in Energy Renovation practices and investments (ERB practices), in order to achieve Energy Efficiency. At that extent, it seems that we have finally realised that the best source of energy is the energy not consumed in order to reduce impacts exacerbating climate change and to promote a more sustainable world in terms of growth and energy consumption.

On the one hand, the European Commission states that about 35% of the EU's buildings are over 50 years old and almost **75% of the building stock is energy inefficient, while only 0.4-1.2% (depending on the country) of the building stock is renovated each year**. Therefore, more renovation of existing buildings could potentially lead to significant energy savings, reducing the EU's total energy consumption by 5-6% and lowering CO₂ emissions by about 5%.

On the other hand, EE in the building sector is not just a matter of mitigating climate change and creating economic savings; improving Energy Efficiency in Buildings can also generate other economic and social benefits. Better performing buildings **provide higher levels of comfort and well-being for their occupants and improve health by reducing illnesses caused by a poor indoor climate**. It also has a major impact on the affordability of housing and on the concept of energy poverty. Improvement of the energy performance of the housing stock would enable many households to escape energy poverty. Energy renovation of buildings could also rise its real estate value: according to a JRC Report⁷, increase of 3-8% in the price of residential assets can be reached as a result of energy efficiency improvements, and an increase of around 3-5% in residential rents compared to similar non-renovated properties can be observed. For commercial buildings, the impact seems to be higher, over 10%, and in some studies even over 20% of sales price increase compared to similar properties has been reported. Rental prices of commercial buildings have also been positively affected by 2-5%.

⁷ JRC Energy efficiency, the value of buildings and the payment default risk, 2018

http://publications.jrc.ec.europa.eu/repository/bitstream/JRC113215/jrc113215_kjna29471enn_v2_ipo_final.pdf



Moreover, investments in EEB **stimulate the economy**, in particular the construction industry, which generates about 9% of Europe's GDP and directly accounts for 18 million direct jobs. Additionally, SMEs would particularly benefit from a boosted amount of ERB's projects, as they contribute to more than 70% of economic added value in EU building sector.

Therefore, in order to achieve the European CO₂ reduction and Energy Efficiency targets, the modernisation rate in building stock must be increased significantly to overcome the prevailing modernisation backlog.

Both **private and public buildings** need to be renovated at faster rates, but public stakeholders have a more explicit role and responsibility to do so, in order to provide the right background and become an example for the owners of private buildings.

On the other hand, as public budgets are constrained in many countries, it is crucial that private capital be activated along with public capital in order to implement the necessary **Energy Saving Measures** (ESM) in buildings.

A big part of the current initiatives for EBR and promoting EEB seek to face the former challenges though. For example, according to [CORDIS](#) the primary source of results from EU-funded projects since 1990, over the last years, **more than 3,000 European projects have been launched in order to stimulate the market for buildings renovation**.

In the two tables of **Annex 1 on European Initiatives on ERB** of this document, some of them are emphasised.⁸ By analysing the list of projects thereof, the following **5 categories of project topics** are clearly identified:

1. **Governance:** policy-makers assistance, policies evaluation, communication, awareness;
2. **Knowledge and training:** best practices, databases; MOOC
3. **Technical assistance:** Project Development Assistance (PDA), information systems, simulating tools, diagnostic and benchmarking tools;
4. **Networking:** constructing bridges through EE stakeholders, matching platforms;

⁸ In Table 6 a summary is presented of the Efficient Buildings Community of the Interreg MED programme, to which the SHERPA project belongs. In Table 7 there is an analysis of other current initiatives with goals and rationale that could somehow match with the goals and rationale of the MED ERB JAP.



5. Financing schemes and promoting investments: boosting existing funding alternatives, innovating and promoting new ones.

However, and despite that most of them share the same goal, the majority of the projects have a partial approach and hardly connect with each other. Many of them just state their results instead of providing the tools to replicate their results. Besides, even those that have a one-stop-shop approach do not consider all the stakeholders involved in the whole life cycle of the ERB process and ERB investments promotion.

So, to that extent a **holistic approach with an eco-systemic perspective is needed instead of a partial or a limited one-stop-shop vision**. One ecosystem approach that could be able to integrate tools and achievements made so far, order knowledge and training, promote real networking with all the stakeholders related to the whole life-cycle of ERB should be created. This ecosystem could eventually promote and obtain funding for a real investment plan of ERB in the Mediterranean area, first for public buildings and then for all kinds of buildings across the EU.

As already mentioned, the focus should now be on how to scale up and leverage what achieved in the many relevant projects developed and integrate them into a **common strategy**.

Some of the projects could provide tools, others the knowledge produced, others the training structure created, and the user/Energy Efficiency promoters may **find all the tools in one place**, with no need to deal with a lot of different and unrelated websites and platforms.

Some of these websites and platforms work on assessing the potential projects, while others provide precious databases to better understand and compare the performances of buildings with the same characteristics. Integrating this information is crucial to foster ERB investments, both from a technical and financial point of view. Other projects could provide the knowledge and instruments to prepare long-term renovation plans and apply for the most suitable financial solution for them.

As learning is also an important part of the process, some projects that focused on this could share the documents they developed to provide e-learning opportunities. ERB investments are as much about spreading knowledge to the final user.

INTEGRATING RESULTS FROM THE INTERREG MED EFFICIENT BUILDINGS COMMUNITY



Considering all projects belonging to the Interreg MED Efficient Buildings Community, and many others funded and launched by the European Union over the last few years (see **Annex 1** on **European Initiatives on ERB**), a number of projects and topics were identified as interesting for capitalisation purposes and for a larger audience.

A clear potential for the future projects of the Interreg MED Programme (co-funded by the European Regional Development Fund) in the period 2021-2027 has been detected in particular in relation to:

- **Networking:** capitalizing the experience of [NEW FINANCE](#) which links investors and fund seekers through a dedicated platform; [IMPULSE](#) through its networking forum;
- **Innovative financial practices:** integrating [SISMA](#) and [STEPPING](#) results, mainly focused on Energy Performance Contracts, one of the most innovative and viable ways for public administrations to move on with some projects while avoiding creating additional debt in the balance sheet;
- **Training:** almost all the Efficient Buildings Community projects acknowledged the importance of training people. Especially interesting the ones that have prepared digital material (i.e. [TEESCHOOLS](#)) that can be easily replicated and used instantly in different parts of the EU;
- **Tools and apps to assess the footprint of buildings:** [EDUFOOT PRINT](#) has created an app that assesses the footprint of schools. This could probably be adapted for other types of buildings too, in order to provide a larger scope. This could be an interesting tool to integrate into a common set of tools;
- **Database usage:** [CESBA MED](#) and [PRIORITEE](#) focused, among other things, on building databases that make it easier for public administrations to assess potential projects and also help scaling projects by trying to combine buildings in the same neighbourhood (CESBA). This database should be shared with others in order to provide data for further analysis. IMPULSE has also created a website listing public facilities and their energy profiles;
- **Good practice and good methodologies:** several projects offer a section of a tool to look for good practice in building renovations. NEW FINANCE has a searcher for it, as well as [ENERJ](#) and STEPPING (in this case part of the project's scope was to prepare a document that lists Energy Performance Contract (EPC) guidelines focused at Mediterranean countries);



- **Project assessment:** PRIORITEE, IMPULSE and CESBA MED all offer processes that, after the introduction of some building data, assess its performances, the possible measures to adopt as well as the environmental and financial impact they could have on the building.

All these projects could bring their own vision, tools and know-how. When combined, they could achieve a higher number of stakeholders being integrated with each other.

INTEGRATING RESULTS FROM OTHER EU PROJECTS

As already mentioned, over 3,000 projects have been implemented to foster Energy Efficiency in Buildings over the past few years by the EU. All of them – except for BPIE – are funded mainly through the **H2020 programme** and could also provide interesting tools and know-how to integrate in the former identified categories:

- **Networking:** [ENERINVEST](#) bridges the gap between fund-seekers and investors by offering a meeting place for stakeholders on its platform. [EEFIG](#) has also created a tool to foster private capital involvement in the industry;
- **Innovative financial practices:** [CITYINVEST](#) is focusing on innovative ways to finance a project, in order to avoid creating additional debt for the public entity involved;
- **Training:** CITYINVEST is, also, one of the many projects providing training to the stakeholders involved; in general, almost all of the projects also focus on training. [BPIE](#) is instead an independent NGO (not funded by the EU) that focuses on sharing knowledge through studies, policy briefs, presentations and events to promote best practice; Other projects with high component of training in NZEB projects are [BIMPLEMENT](#) that offers a methodology to create and standardize the needed qualifications and learning tools to implement NZEB projects and [PROF / TRAC](#) targets technical experts, architects and managers involved in nZEB design and construction.
- **Tools and apps to assess the footprint of buildings:** [EXCEED](#) has developed a set of tools that make it easier to evaluate the potential impact of Energy Efficiency investments. [IBROAD](#) is also developing a similar tool while also focusing on the long-term management of the investments the residential building stock needs; [ALDREN](#) is doing something similar but focused on commercial buildings (offices and hotels) instead of homes; while [ENERFUND](#) is rating and scoring deep renovation opportunities by mapping energy performance certificates at European level;



- **Good practice and good methodologies:** [SEIMETRICS](#) created a tool to promote good practice in capital allocation, through assessing the exposition of a given portfolio to environmentally friendly or unfriendly investments. [SMART UP](#), on the other hand, is promoting the installation and use of smart meters in private homes, in order to show the users the actual consumption of the building and the high potential for savings to be obtained through a more responsible usage of energy in the building; [TRIPLEA-RENO](#) is developing a decision support platform focused on end-users to accelerate renovation processes by means of providing attractive, understandable and personalized information of real energy, IEQ and financial performances; and [HAPPEN](#) is working on the same topic but focused specifically on tackling the barriers for energy renovation of residential building considering the particularities of the Mediterranean area.
- **Standardisation:** [EEPERFORMANCE](#) is standardising the development of Energy Efficiency investments, in order to make it possible to further scale those investments and let the market grow;
- **Governance:** [COMBI](#) assesses non-energetic benefits of efficiency projects; its tool will make it possible for public administration to fully understand the benefits coming from investing in Energy Efficiency. [ASSIST2GETHER](#), on the other hand, is preparing the “Vulnerable Consumers and Energy Poverty Report”. This report will be used to promote new regulatory policies (Governance).

Note: some few more projects that are also reported in the capitalisation set of toolkits will be mentioned (Boostee-CE (Interreg Central Europe); Buildinterest (Horizon 2020); Conzebs; (Horizon 2020); PREPAIR (Integrated LIFE); Feedschools (Interreg Central Europe))

Many other projects (see **Annex 1**) could also be considered as ERB promoters; therefore, different results and achievement from current initiatives on ERB in Europe and the Mediterranean area must be taken into consideration for a joint strategy to boost an effective investment plan for a real acceleration of Energy Efficiency improvements in the European public and private building sector and thus accelerate the EEB policies implementation. This joint strategy must create the fundamentals, the infrastructures and the processes to integrate these achievements in an easy and single place to develop a better and more effective user experience with the final goal to raise projects and ERB investments.



The **analysis of the on-going EU projects** and the **know-how** acquired with the **SHERPA** implementation are the main **drivers** to set up and support the **ERB JAP Strategy** defined in this document.

IV. JAP STRATEGY

Over the four last years, the European Commission has been legislating on the Energy Efficiency of buildings through many Directives. However and despite its potential and the institutional support received, Energy Efficiency continues to rank at the lower end of the spectrum of realised sustainable energy investment opportunities, with current building renovation rates in the EU of 0.4-1.2% of the building stock per year (depending on the country), below the EU objectives in CO₂ emissions reduction and Energy Efficiency improvements.

The MED ERB JAP strategy is based on the capitalisation of several efforts developed by multi-level actors in the Mediterranean to implement ERB policies over the last 10 years. Moreover, the MED ERB JAP is willing to become a catalyst for Member States, linking up with regional and local ERB strategies, facilitating and promoting the implementation of concrete renovation projects in public and possibly also private buildings.

In this sense the MED ERB JAP strategy should be defined as an open (always accessible) and continuous strategy that facilitates integration of all interested actors at any time. For this reason, the JAP is performing more of a **process** and a common guide for multilevel coordinated action than a static document. For this reason, the first version of this document will evolve and be updated periodically (e.g. each year or biannually) helping to integrate new projects and initiatives on ERB, as well as key stakeholders contributing to common objectives.

A- EU AND MED INTEGRATING APPROACH

From the beginning, the public initiatives in promoting ERB in the Mediterranean area (i.e. ERB MED initiatives), especially in the framework of European Territorial Cooperation, were inspired by an integrated and multi-level approach in order to overcome major governance barriers. The coordination effort between all stakeholders involved in these initiatives was a central element to achieve operative results.



In this sense, the coordination between the 3 MED strategic projects (MARIE, ELIH MED and PROFORBIOMED) between 2011 and 2014 produced important results as the **Ljubljana Declaration** “Responding to challenges regarding Energy Efficiency and renewable energy in Mediterranean buildings”.⁹

The first commitment subscribed by all the Ljubljana Declaration signatories was the **creation of a new model of multi-level governance to implement ERB in the MED area**. As stated in the Declaration, in such a new governance model, the regions and cities should play a key role politically and financially. This model intended to be tested and implemented also through the support of the CPMR Intermediterranean Commission with the aim to: coordinate the use of financial instruments, achieve a better harmonisation of administrative procedures for accessing funds and encourage public-private alliances for innovative solutions.

According to this, the IMC-CPMR Task Force on Energy Renovation Buildings, coordinated by Catalonia, intends to develop the 5 lines of action defined in 2014, in the framework of the MARIE-ELIHMED-PROFORBIOMED capitalisation process, covered in the aforementioned Policy Paper as basic lines of action for the joint design and development of the Joint Action Plan for the Energy Renovation in Mediterranean Buildings:

- Coordination of regional strategies in Energy Renovation in Buildings and development of public-private sector partnerships;
- Actions to improve the market for Energy Renovation at all levels (to interconnect supply and demand);
- Information (availability, comparability, quantity and quality of relevant data for Energy Renovation in Buildings) and awareness raising/awareness activities;
- Capability-strengthening actions (ERB Management, services for housing, new efficient passive solutions etc.);
- Improvement of alignment and coordination of funds (H2020, Life+, CTE, ESIF...) for Energy Renovation in Buildings (mainstreaming).

⁹ signed by key stakeholders at MED level (11 regions, 5 cities, 5 energy agencies, 11 public bodies, 7 institutes, 6 associations, 2 social landlords, 4 universities and 2 international organisations partners of the 3 projects)



The SHERPA project has been developed as a continuity in operative and practical terms of the Ljubljana Declaration and the Policy Paper “Responding to challenges regarding Energy Efficiency and renewable energy in Mediterranean buildings” but more focused on public buildings considering their exemplary effect.

The MED ERB JAP approach will constitute in practice an operative set of tools oriented to make the policy commitment more operational. Besides, the MED ERB JAP, in a long-term perspective, seeks to consolidate the MED integrating approach started with the previous projects and expand and capitalize its results to all the EU and Mediterranean area, not just in public buildings but possibly also to private ones.

B- Strategic Themes/Axes

The ERB barriers identified during the strategic analyses carried out between 2010 and 2014 through the MARIE project and other MED projects, can be summarised in 4 typologies:

- Governance;
- Information;
- Skills;
- Financing.

During the first part of SHERPA testing process, 4 transnational Working Groups were created and focused in these 4 barriers, in order to find practical solutions to overcome them:

The governance barriers identified are in relation to the difficulties to make the coordination between public administrations at different levels of governance (State/Region/province/municipality) effective and operative, but also between public administrations and private entities. Other kinds of governance barriers identified posteriori during the SHERPA testing process are related to the low levels of internal organisation in public administrations to manage and make operative decisions in their own buildings.

Information barriers are specially related to the information available to make decisions in buildings management. Low levels or bad quality of information generate decisions that are not useful, errors and mistakes in management. SHERPA Information Working Group experienced the utility of a **common information system** that provides useful information to building managers to implement the best solutions to solve main problems identified.



Skills barriers are related to the capacity and knowledge of the staff with responsibilities in buildings management. The persons that take **building management decisions** should have the appropriate training to decide correctly. The SHERPA Training Working Group has designed, implemented and tested an **e-learning platform** with very good results for the partners.

Financial barriers are also very important as they make it difficult to implement the Energy Efficiency measures needed to renovate each building. The SHERPA Financial Working Group has been designed and experimented a **finance tool that facilitates the introduction of financial criteria during the Energy Efficiency Measures design process**, emerging and increasing the awareness of the main financial variables in order to ensure the preparation of financeable projects.

According to the challenges identified, and what has been done in term of promoting ERB projects, and according to our experience and what has been learnt in the SHERPA project, it is believed that **five strategic axes are needed in order to boost the ERB market** in terms of identification, promotion, development and financing of ERB projects.

The **5 Strategic Axes (SA) of the MED ERB JAP** are:

- SA1. Governance;
- SA2. Training and Knowledge;
- SA 3. Technical Assistance and Information Systems;
- SA 4. Networking;
- SA 5. Funding.

1) SA1. GOVERNANCE

SHERPA's Governance Working Group has produced a "**Governance Map**", a tool to facilitate the internal coordination in a Region to make the building energy management effective and operative. The MED ERB JAP development and implementation in the MED regions and cities should **facilitate the establishment of multi-level governance and coordination between the different public bodies and with the private entities operating in the sector.**



The JAP represents an original and coordinated effort of the Mediterranean public administrations to face concretely the challenges of climate change/global warming by coordinated policies contributing to improve the conditions for Energy Efficiency in the Mediterranean area. Indeed, the project MARIE, ELIH-MED, PROFORBIOMED draw the same conclusions: **MED countries are not at the same level of multi-level governance in terms of Energy Efficiency and this is slowing down the decarbonisation objectives set by the European Union.**

Therefore, a decision was made to approach governance from all angles because it is clear that the lack of coordination between the different levels of governance represents the first obstacle to accelerating the decarbonisation of the Mediterranean region.

The MED ERB JAP approaches governance from two main perspectives:

Promotion and development of a multi-level governance system

- a) Coordination of regional and municipal strategies on EE/ERB;
- b) Improvement of the implementation of national strategies within the framework of European directives.

MED ERB JAP governance - coordination of the JAP process

The MED ERB JAP coordination/management includes all actions to coordinate the JAP itself as an on-going process and effective tool to generate ERB projects, notably:

- a) To promote the MED ERB JAP strategy between SHERPA partners, the Interreg MED Efficient Buildings Community and other EU ERB projects' managers;
- b) To incentivise the MED ERB JAP and all its sub-projects that could appear from the MED ERB JAP's framework;
- c) To obtain funding in order to make the MED ERB JAP feasible and sustainable;
- d) To get increasing support and adhesions to the concept and to the strategy;
- e) To run all the MED ERB JAP process and assure a proper adhesion system.

On the operational side, the MED ERB JAP would integrate all projects and initiatives aimed at reinforcing the multi-level governance system.



2) SA2. TRAINING AND KNOWLEDGE

A major barrier to deploying Energy Efficiency projects in Mediterranean countries is the lack of workforce training. This gap in training represents a missed opportunity in places with high potential energy saving. Since a skilled profile is essential to completing ERB projects, SHERPA has developed training actions providing assistance to public administration systems and structures. These actions tend to be channelled through measures aiming to increase the capabilities of public employees and on improving internal processes through tools and guides.

The objectives of the training strategy are **defining appropriate criteria for selecting trainees**, in order to elaborate training content addressing the needs at regional and local level, and to **integrate and combine the training dimension at regional and local level**.

In the framework of SHERPA's training phase, the following lessons were learned:

- **Different formats** should be used in the training phase for the different actors, taking into account their previous knowledge and its field of action;
- The **participation of specialised experts** enables learning about specific and feasible ways to improve Energy Efficiency in public buildings;
- **Exchange with international experts** from across Europe and **face to face discussions** on particular cases enriches active learning on feasible and proved measures;
- **Practitioners** can lead to the best trade-offs between energy savings and cost-efficiency.

The methodology covered a phase of the Energy Renovation in Buildings project, with specific thematic webinars by Typology, and a latter phase of learning by doing.

During the SHERPA testing phase, the Working Group on training and awareness produced a series of training sessions, which were:

Phase I. Energy Renovation project. This was an online training course where each session focused on the following topics:

- General structure energy renovation project;
- Analysis and diagnosis current state;
- Passive measures;
- Active measures;



- Management;
- Financial aspects (cost and benefit, optimal cost, etc.).

Phase II. Monographic online training sessions by typology focused on the following topics:

- Health care;
- Residential (social housing);
- Office;
- Educational;
- Singular.

All the training resources generated in Phase I and II are available in the [virtual classroom](#).

Phase III. Regional Training. Each partner was responsible for the development of the regional training courses adapted to the regional situation.

Besides, the use of an online learning platform (<http://www.five.es/aulavirtual>) has proved to be a perfect tool for the training of all experts involved in the development of projects on the Energy Renovation of public buildings, since it is perfectly adapted to their needs, allowing interactive learning with experts from different fields, with technicians from other administrations that have already developed similar projects (with the same technical and implementation difficulties), and collecting all the knowledge generated to enable the later replication by other administrations.¹⁰

At different levels, regional and local, specific training materials that consider the location strategy could be developed. This strategic axis will have the main goal of providing all the information and technical assistance required in order to identify, promote and develop an ERB project. That means:

- Providing specific training sessions per topic according to specific needs related to the entire life cycle of an ERB project;

¹⁰ The platform is based on Moodle. This open source platform helps build the perfect education solution for specific needs. It has customisable management features and enables extended and tailored learning environments using community sourced plug-ins.



- Integrating experiences of results obtained so far and sharing methodologies applied in order to stimulate and incentivise new projects through similar goals or needs identification.

The MED ERB JAP should be able to **order and systematize the transfer of all the training and knowledge obtained from SHERPA and other projects (Interreg, H2020...)** through its **Market Place** (see specific section) mainly, but also to **promote specific new initiatives between their partners** and members according to new training and knowledge gaps identified.

3) SA3. TECHNICAL SYSTEM AND INFORMATION SYSTEM

As we pointed out in the introduction of this document, the Energy Renovation of Public Buildings stock is lower than the objectives set in the Energy Performance of Buildings Directive (2010/31/EU) and the Energy Efficiency Directive (2012/27/EU), with current annual rate of renovation about 1%¹¹ and around 75% inefficient building stock. Although the problems faced by public administrations are of diverse nature (administrative, financial, technical, social), most of them have in common the lack of sufficient information and knowledge for selecting (i) the most appropriate buildings to renovate, (ii) the most effective measures to apply to each building typology, and (iii) lack sufficient data evidence for the real performance and financial returns from EEMs applied and ERB projects proposed in order to promote Energy Performance Contracts (EPC) or achieve financing.

The Information System's functionalities significantly enable the capabilities to support decision-making and strategic planning for building renovation in public administrations. However, achieving the full potential of this data-driven approach requires the collection of a larger data set of buildings and increasing continuous use of the system by high numbers of public authorities.

¹¹ Energy Efficiency, the value of buildings and the payment default risk, 2018, Zancanella, P., Bertoldi, P., Boza-Kiss, B., JRC Science for Policy Report



A rapid overall increase of data collection related to building energy performance has been observed over the last few years and this is carried out through diverse building monitoring and data acquisition systems that store data in different formats and separate databases. This situation poses some considerable challenges that need to be addressed in order to allow useful analyses and learning from the collected data. This concerns the following issues related to the data:

- **Data organisation.** Although it exists, data is not always well-organised and ready to use by the building owners. Energy performance data is treated separately from financial data; the information is gathered and used by different departments in the building owner organisation (e.g. energy consumption and measures managed by O&M dept. and energy costs and investments managed by Accounts dept.);
- **Data standardisation.** Data is not organised in standard categories and organisations don't use common terms and definitions to enable exchange, comparison and combination of data;
- **Data compatibility.** There is an overall rapid increase in data collection, but the comparison and analysis of this data are hindered by a lack of standard definitions, alignment and comparability;
- **Data availability.** Some of the data belongs to third parties (weather, financial, etc.) and obtaining this data is complicated for building owners;
- **Data sharing.** Building owners have little incentive to share data due to high effort and concerns about security and privacy. There is also a low level of awareness about the value and usefulness of data collection.

The work of the SHERPA Working Group on Information Systems started with the initial version of the information system provided by CIMNE and significantly improved it by enabling functionalities that potentiate its capabilities to support decision-making and strategic planning for building renovation in public administrations.

The achieved improvements have been the result of gathering considerable amounts of building data and the valuable feedback of the pilot in the use of the information system. As a result, the information system has been prepared for extended use for the municipality's buildings.

The information system's features, developed and improved, include:



- Easy uploading of data from users enabled through a variety of automated methods and possibility for manual uploading through Excel files;
- User tutorial incorporated in the web application of SHERPA's information system. The tutorial explains the procedures step-by-step in an accessible way for non-expert users;
- Menu and back-office redesigned to allow each organisation to define its particular structure and individual users;
- A comprehensive set of building construction and used typologies based on widely recognised classifications developed, incorporated and used as a base for benchmarking;
- A comprehensive set of Energy Efficiency measures developed and incorporated, reflecting all measures required by the pilot's regions;
- Benchmarking re-designed and extended to enable comparatives across organisations and according to multiple criteria;
- Detection of erroneous information uploaded into the system through outlier check and the possibility for the user to check the uploaded raw data;
- Enabling of data exporting capabilities allowing the re-use of the data from the database in external reports. Includes graphics, benchmarking and data tables.

The common information system developed in SHERPA offered the necessary Information and Communication Technologies (ICT) infrastructure and contributed strongly to increased awareness, monitoring of the building stock performance and renovation targeting.

A number of functionalities addressing the essential needs of public administrations to support decision-making and strategic planning for building renovation are offered by the information system:

- Storing all building data in one place and monitoring the performance of the whole building stock of the organisation through an easily accessible web application;
- Easy uploading of data from users enabled through a variety of automated methods and possibility for manual uploading through Excel files;
- User Tutorial incorporated in the web application of the SHERPA's Information System. The tutorial explains step-by-step the procedures in an accessible way for non-expert users;



- Rapid identification of worst performing buildings through benchmarking with buildings from the same typology;
- Detection of changes – improvement/deterioration of building performance;
- Generation of reports on individual buildings and the whole building stock of the organisation (public authority) to support decisions in building management and renovation;
- Suggestion of EEM depending on the building typology and current performance considering the energy saving effect and expected return of investments.

During the testing and capitalisation phase of SHERPA, a very good acceptance of the information system was demonstrated. However, several barriers for achieving wider impact were detected and the proposed Joint Action Plan aims to overcome them.

- Benchmarking requires continuous effort and long-term support in order to accumulate large and representative sets of data, which requires the operation of the system to continue beyond the scope of the SHERPA project. Lack of appropriate long-term financing mechanisms at European level (outside competitive projects) is a problem;
- Lack of interoperability between existing databases due to ad-hoc implementation and non-standard data description makes the exchange of data with other systems difficult as well as the analysis of data and extraction of conclusions from them. This is a serious barrier;
- Lack of engagement of the public authorities in the use of the tools due to low awareness of the benefits, lack of human resources, or different energy policies is a problem for further extension.

The training and knowledge axis intends to provide the tools and technical assistance needed to support the process of ERB project's identification and all data processing and ulterior monitoring of the ERB projects and their initiatives.

In the first phase, the MED ERB JAP **seeks to promote the information systems tool developed through SHERPA as a way to identify and simulate Energy Efficiency measures**. However, these actions intend to integrate in the future all the existing tools, knowledge and achievements.



4) SA4. NETWORKING:

The main outputs that we have learnt from SHERPA on the networking topic are:

- The comparison between different realities and synthesis of experiences and knowledge clearly increases awareness;
- Experiences can be replicated more easily with a shared methodology;
- Local administrations should be more involved through a "bottom-up" path that makes them participate from the beginning in projects that concern them, making the most, for example, of the actions developed with the Covenant of Mayors initiative.

A positive aspect of networking is certainly determined by the knowledge of different ways of approaching the same problem. Each SHERPA partner has chosen a certain type of building and this has enabled, beyond the regional specificities, an important overview on the state of real estate in the MED area, in its various forms.

From the comparison with other regions, the representation of a building heritage has emerged which, despite its complexity and vast articulation, presents similar problems. Regardless of the type of buildings, these issues are generally linked to the constructive choices made in terms of Energy Efficiency at the time of construction, and to the need to face the effects of recent climate changes: poor thermal insulation, use of non-renewable energy, ineffective monitoring of energy consumptions and of the related costs.

An obstacle to the transfer of the SHERPA methodology could instead be the Information Technology (IT) support tool, which must be updated and strengthened in order to allow greater interaction between the different partners.

The networking axis will look into creating networking spaces in order to share experiences on how to identify, promote and develop ERB projects. That means two **kind of actions**:

- Networking amongst the **multi-level stakeholders** responsible at the different levels of decision-making: political, technical and user level;
- Networking amongst **public facilities agents** and other **professional agents** involved in the process of developing ERB projects: energy services companies, constructors, engineering, consultants, investors and funders amongst others...



To begin, the MED ERB JAP integrates the networking tools and actions developed by the SHERPA project. However, it integrates existing ones and will develop others according to the needs identified.

5) SA5. FUNDING

From the works of the Financial Working Group of SHERPA we have learnt that:

- The financial view is an essential part of an ERB process;
- Historically, the technical part of ERB process has been prioritised, while giving less importance to make an ERB project financially feasible;
- Many projects have been financed with public funds even if they fulfil the criteria to get private funding;
- Budget constraints in many European countries and high goals set on ERB actions imply the need for the development of new and more standardised financing alternatives (such as third-party financing, Public-Private Partnership).

For these same reasons, it is very important to:

- Understand the financial process methodology that investors and financial institutions apply to assess ERB projects;
- To gain more knowledge about funding alternatives.

Therefore, one of the main goals of the Financial Working Group has been increasing awareness and training about the financial process of an ERB project and being acknowledgeable about funding alternatives in ERB projects.

In order to achieve these objectives, the SHERPA Funding Tool was created to make the application of the financial process methodology and the funding feasibility analysis using real examples of ERB projects more practical.

The tool takes care of the analysis of four pillars (qualitative and quantitative) that, together, assess not only the return the investment will provide but also the capability of the entity to obtain financing and the maturity of the project at a given time.



In addition, each Member of this Working Group prepared an analysis assessing the conditions an entity has to meet in their own area in order to receive funds for an investment. This was carried out because, by interacting with the stakeholders around the MED area, it has become clear that each Region has its own specific financial characteristics. Some financial alternatives applicable in one country are not applicable in another, and so it was important to understand the local situation for each of the partner Regions.

The tool, together with the local characteristics, was applied to each of the 100 regional buildings participating in the project to establish whether there is the opportunity to perform an investment that provides a financial return as well as an environmental one.

Some of the projects that applied the tool are undergoing a process that should end with an investment being carried out. In most cases, the EPC method will be applied, resulting in no debt created by the public entity.

There are certain points to transfer from SHERPA funding methodology:

- A standardised financial analysis methodology;
- A standardised methodology to identify and describe financing alternatives for ERB projects.

On the other hand, the use of the Financial SHERPA Funding Tool as a way to raise awareness of the financial feasibility and the SHERPA funding methodology is conceived as an on-going instrument feeding on new funding alternatives and trying to match these funding alternatives with real and specific cases.

However, there are some barriers to deal with the output outlined:

- Every country could have some financial specifications and different funding opportunities;
- Some levels of administration have small projects that cannot easily access public or private funding alternatives;
- There is a common tendency to claim just for public funds as the only way to finance an ERB project. This tendency is a clear barrier to raising awareness of the financial feasibility of a project on a market basis and it is also a barrier to innovate to identify and develop other private or public-private funding alternatives.



The JAP Funding integrates two main goals:

- Creating a bridge between the technical feasibility of a project and its funding feasibility;
- Ensure all the processes in order to obtain the funding for a specific project or an ERB investment plan that could arise from the MED ERB JAP strategy implementation.

The starting point for the funding strategy will be the methodology applied in the Financial Group analysis and, specifically the SHERPA funding tool, a tool to analyse the financial feasibility of ERB projects considering the financing schemes that currently exist in the South EU Mediterranean countries.

The funding strategy should seek to integrate all the existing financial platforms and all the financial networking spaces already created through H2020 projects and others.

On the other hand, the transnational funding operative axis will have to **build up links between the trans-European and national financing mechanisms** and also possibly **promote the creation of a specific one to promote the MED ERB JAP Investments' plan.**

C- MULTI-LEVEL ERB NETWORK

One of the most important aspects already identified within the Ljubljana Declaration to create an effective instrument and a complete process to promote ERB projects through the MED ERB JAP is the **multi-level network approach**. So far, the Directive (EU) 2018/844 has not yet integrated this key aspect, despite the efforts made within the framework of the European Parliament and the Committee of the Regions to integrate this concept into the new Directive.

The lack of integration of this aspect in the Directive and in the ERB strategies of the 27 has, as a consequence, weakened the strategies' likelihood to achieve the reduction in the consumption and emissions in buildings. The SHERPA experience moves and contributes to overcome this weakness of the existing policy framework and the MED ERB JAP must carry on with offering an eco-systemic approach, considering all the levels and stakeholders included in the ERB process.

An eco-systemic approach implies that all the processes of the ERB life cycle and those responsible should be taken into consideration, and the MED ERB JAP must also create the interlinks between them.



From a public point of view, this multi-level structure includes supra-national entities and national governments (European Union, transnational organisations, national governments), regions, municipalities and others public entities that are involved in the ERB process. All these entities must interact amongst themselves both horizontally and vertically.

However, all these public agents have to interact with private agents on different levels and processes (in addition to many others in the training and communication ERB process):

On the technical side, Energy Services Companies (ESCO's), Utilities, Energy Efficiency Consultants, Facility Managers, maintenance and engineering companies, software developers.

On the financial side, banks, investments funds, private equity, Financial Consultants.

So, the MED ERB JAP must ensure a multi-level approach, not just integrating the different levels of administration from a top-down perspective and among different countries or different political backgrounds but also between the different private and public players in every single stage of the ERB processes and provide this whole ecosystem with a more oriented instrument to join forces in order to raise projects and investments on ERB in Europe.

The JAP will follow this multi-level integrated approach through its:

- JAP OPERATIVE TRANSNATIONAL ACTIONS
- MARKET PLACE



V. JAP OPERATIVE TRANSNATIONAL ACTIONS PER AXIS

The MED ERB JAP concept is built on an on-going process that has 5 main strategic axes. For each of these strategic axes, potential key operative transnational actions have been identified. More precise actions will be integrated, and concrete projects will contribute to their implementation.

As mentioned, the MED ERB JAP strategic axes are based on the SHERPA project's methodology and the results of its testing phase. Additionally, the goals for the MED ERB JAP will be increased by the results of the ERB projects developed within SHERPA municipalities (capitalisation phase of the project). However, the operative transnational actions would seek not only to focus on SHERPA but to integrate all identified initiatives, proven results and on-going-processes from other ERB projects. First from the Interreg MED Programme (where SHERPA belongs) and then from other initiatives (i.e. Horizon 2020).

A- SA1. GOVERNANCE

The MED ERB JAP multi-level governance axis includes all the operative actions that can be developed in order to promote specific governance related initiatives or arrangements that can help promoting ERB projects in a more efficient, shared and impactful way.

An effective multi-level governance system at MED level should also be based on operational sub-systems at state level, considering the current and different experiences in each country.

As a starting point, the MED ERB JAP proposes the next actions in this field to work for enabling and improving operational mechanisms in the implementation of each national strategy, sharing experience, approaches, methodologies, models, etc. at transnational level:

- **SA1. A. Support, promotion, development of a multilevel governance system**

- SA1. A-1 Coordination of regional & municipal strategies

- Integration of the local level objectives in the regional plans to make sure that the national objectives are as realistic as possible regarding the territorial situation;
 - Setting-up of national Working Groups for Energy Renovation of Public Buildings including regional and local administrations;
 - Creation of EEB platforms at national level – shared with the regional and local level;



- Development of local Energy Efficiency Plans specifically focused on buildings;

SA1. A- 2 Improvement of the implementation of national strategies according to EU directives

- Setting up of national roadmaps for public buildings to understand obstacles that prevent public administration from implementing EE Renovation Plans for their buildings & better identify operational decision support tools;
- Set of guidelines at regional and local level to achieve the objectives defined by the EU Directives in the Multi annual Energy Programme;
- Better link Energy Renovation with Renewable Energy Resources (from SEAPs to SECAPs)
- Establishment of permanent coaching bodies (facilitators) for local administrations and activation of participatory processes

- **SA1.B. Coordination of the JAP Process / JAP Strategy**

- Promote JAP Strategy and projects, boost adhesions, fundraising. Monitoring and follow up of all the process

B- SA2. TRAINING AND KNOWLEDGE

As referred to previously in this document, spreading knowledge about how to face and handle ERB projects is very important in order to promote new initiatives and get a final ERB investment plan. This spread of knowledge should be carried out through an effective basis of technical and practical training from a multi-level perspective.

So, considering this, and for the training and knowledge axis, the following future transnational actions have been identified:

- **SA2. A. Providing Training related with all the life cycle of the ERB project**

- Training and knowledge improvement actions enhancing the building and infrastructure renovation at regional and local level
- Actions to stimulate the demand and improve the knowledge of ERB projects, both among citizens and representatives of local and regional authorities



- Actions to promote and create Training Working Groups organised by specific topics concerning ERB, to work on current situations and specific tools.
 - Actions to train energy managers for each public building;
 - Publication of annual report describing all the EEMs implemented at national, regional and local level to provide a clear idea of the implementation of the EU, national, regional, local objectives.
- **SA2.B. Integrating experiences of results obtained so far in EU projects**
 - Integration with best practices/ initiatives and training platforms for the public administration and main stakeholders on ERB promotion.

C- SA3. TECHNICAL ASSISTANCE AND INFORMATION SYSTEM

One of the main challenges related to the technical assistance and information systems is to promote actions that will ensure the continuity of projects aimed at overcoming the above challenges and filling the technological and knowledge gap in the ERB. All this by enabling an eco-system of interoperable and complementary tools through standardised definitions, data description and common knowledge sharing space.

Moreover, specific operative actions are needed on the following areas:

- **SA3. A. Developing new tools to promote ERB projects.**
 - Interoperability between databases & tools based on standard data description
 - Development & promotion of open, enabling technologies to support different complementary tools & business models around ERB;
 - Development & promotion of data collection/governance and data reporting protocols among public authorities
 - Actions promoting and engaging regional & local authorities to use/contribute with data to common EU tools;
 - Testing and implementation of new policies for energy data disclosure from public buildings
 - Database of available information on the energy performance of the national public building stock;



- Creation of Scientific & Monitoring Committees analysing the state of implementation of measures at local level
- **SA3. B. Integrating tools developed so far in EU projects to promote ERB projects.**
 - Alignment with the current technical achievements on tools & technological systems for data collection and monitoring of ERB projects.
 - Improve Sherpa capitalisation platform as a first step to systematize toolkits by thematic axis.

D- SA4. NETWORKING

Sharing experiences about ERB projects is a very efficient way to develop existing projects with different stages of maturity. Networking between public administration key agents or between professionals and the private and public sectors produces a boost to ERB project generation and allows the spread of knowledge and technical assistance between all the agents in every part of the whole cycle of ERB projects.

On the networking axis, the following potential transnational actions have been identified:

- **SA4. A. Networking among the multilevel stakeholders: political, technical and user level**
 - Actions to increase ERB cooperation, expanding the impact of the implementation of the ERB SHERPA holistic methodology to all the Mediterranean countries, share experiences and achievements, contributing to a more adapted, standardised and consensual process of ERB renovation at Mediterranean scale
- **SA4B Networking amongst ERB promoters and professional agents involved into the process of developing ERB projects.**
 - New projects should be built on a platform for exchanging experiences but also for proposing solutions regarding the problems that specific stakeholders may encounter in carrying out the EEB interventions.

The online SHERPA Capitalisation forum, available [here](#), developed by CRES is a first step on this direction.



D- SA5. FUNDING

Funding is the second key point in an ERB project development after the technical feasibility analysis. Over many years the funding aspects of the ERB projects have been not considered enough and this is a fundamental point to correct in order to achieve the delivery of real projects. An ERB project is an investment that generates some profitability in terms of the energy saving that produces. In addition, an investment needs funding to be developed. Therefore, identifying actions to develop the funding strategy of ERB projects is fundamental to get the job done.

On the funding axis, the following transnational actions have been identified:

- **SA5. A. Creating a bridge between the technical feasibility of a project and its funding feasibility**
 - Projects to scale up and to replicate small and medium-size projects;
 - Promotion of national financing tools and marketplaces for the Energy Renovation Buildings of the regional and local authorities
- **SA5. B. Obtain funding for ERB investment plans that could arise from the JAP strategy implementation**
 - Actions to combine public and private funding initiatives to create new formulas and vehicles in order to finance projects with long paybacks;
 - New actions to conceive new innovative financing alternatives for carrying out ERB projects when standard financing alternatives do not work
- **SA5. C. Integrating experiences of results obtained so far in EU projects**
 - SA5C Integrating experiences of results obtained so far in EU projects



VI. VI. FOCUS ON THE MED ERB “MARKET PLACE”

Introduction to the market place concept

As mentioned above, the MED ERB JAP has designed 2 different ways to integrate SHERPA results after its conclusion and create opportunities to promote new projects, integrating valuable results from others. These 2 ways are:

- a **specific, adjustable and ad-hoc way through the MED ERB JAP transnational actions** that will keep including during its implementation ideas for new cooperation projects related to the MED ERB JAP strategic axes;
- a **standardised, scalable and integrated way through a new innovative market place**, which is conceived as the first integrated transnational action of the MED ERB JAP contributing to all its axes at the same time;

The market place is conceived as a digital hub where the MED ERB JAP strategic axes converge with a final goal of raising ERB investment plans and creating optimal conditions to make it a reality. The SHERPA market place has been thought as a practical, scalable, and integrated way to develop the MED ERB JAP. Once and if implemented successfully, it could become the gate to ERB promotion across the entire Mediterranean area thanks to different services/operative actions, according the following MED ERB JAP strategic axes:

- Knowledge and training;
- Technical assistance and information systems;
- Networking;
- Funding.

The market place services can be related mainly to:

- Sharing knowledge/experiences about EE projects in public facilities (training, workshops, working groups, tools) which are taken from SHERPA and opened to other efficient buildings community projects and other European projects;
- The creation of a meeting point between ERB experts and ERB stakeholders;
- The identification of the best funding tools to match the identified needs.



The basic idea behind this is to create a practical tool for the ERB project's promotion, that goes from the policies to real projects being carried out.

The market place would be a digital meeting point where all stakeholders (public and private) of the ERB could have access with a personalised itinerary with a very practical approach according to their specific needs and goals. In a practical way, the SHERPA market place should become a digital/virtual site (URL) where the user can have access to different content, tools and services after a registration process.

The main users or participants of the market place would be:

- Public administrations, public servants that are somehow related to ERB projects: energy managers, facility managers...;
- Energy services companies and others private companies related to ERB promotion and ERB works: engineers, architects, technical consultancy companies...;
- Investors (private and publics): banks, venture capital, investments funds;
- Others...

The general public could have access to specific contents related to the main indicators of the MED ERB JAP strategy and access to the standard information – not customised - related to each of the topics developed on the market place. The main idea is to gather all these agents and try to give an answer to almost all their needs in order to promote ERB investments plans and make them interact with each other.

Main steps and features of the market place

For the main steps and detailed features of the market place, including practical examples please see Annex 2. For the market place specific detailed budget, see Annex 3.

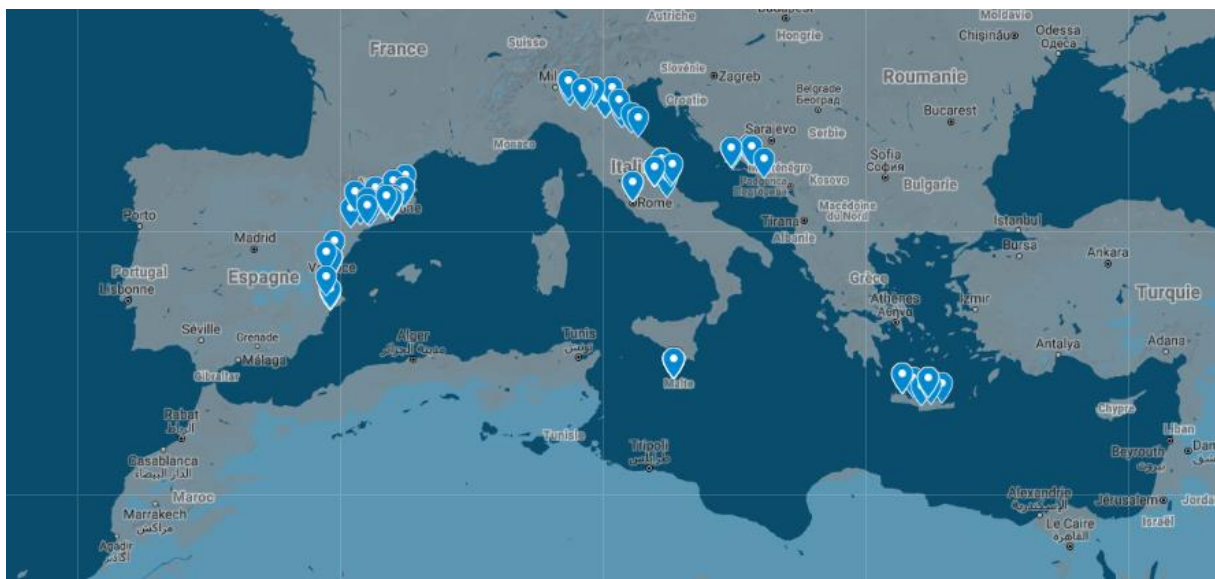


VII. JAP POTENTIAL INVESTMENT PLAN

A- CURRENT REGIONAL AND LOCAL ERB PROJECTS (BASELINE)

In order to give a clear overview of what has been achieved so far in terms of ERB projects across the MED area, a map has been developed. This map shows the detailed ERB projects developed by the SHERPA partners. It is to be updated on a regular basis since the projects need to be implemented and the exact information concerning SHERPA municipal ERB projects is still pending to be included.

For the time being, the following information has been filled in for 100 SHERPA ERB regional projects already identified, providing information on: the Region, Building typology, Year of construction, Last refurbishment data, Constructed surface, Reference year, Electricity consumption (kWh/y), Electricity cost (€/y), Thermal consumption (kWth/y), Thermal cost (€/y), Total energy consumption, Total cost, CO₂ Emissions, EEMs studied, Estimated investment cost, Estimated energy savings, Estimated economic savings, Estimated reduction of CO₂ emissions.



Consult the interactive [map of SHERPA ERB projects](#) [here](#).



B- LEVERAGE INVESTMENT PLAN

The implementation of the SHERPA methodology materializes real investment opportunities for all the partners of the project and beyond. These investment opportunities are clearly identified with detailed public facilities and the respective governments responsible for those facilities have started the planification process that will describe the specific roadmap to execute them.

The investment plan that summarises these opportunities could be simplified with the aggregated data presented in table 1 of the Annex 1. Note: available information in this investment plan is going to be updated according to SHERPA partners indications.

This investment plan stands for the tentative potential investment opportunities at regional level. Around 100 singular projects in regional buildings are included in particular in the first phase and new projects are being identified with the capitalisation phase of SHERPA that involves several municipalities in each region.

The investment figures from the local level will be updated once the specific information will be available. These figures will be added to the regional ones in order to get an even more detailed outlook of the SHERPA methodology proven results. From the investment plan above, and without considering the data from municipalities that it is not available yet, the MED ERB JAP forecasts different levels of potential investments according to the MED ERB JAP strategy implementation and its timeline:

1st phase: ERB projects on public facilities in SHERPA PARTNERS regional level (public facilities)

2nd phase: ERB projects on public facilities in EU MED Regions associated with the IMC-CPMR

3th phase: ERB projects on public facilities in all EU MED REGIONS and Med regions located in EU pre-accession countries

4th phase: ERB projects on public facilities in ALL MED REGIONS, including the authorities located in north and south non-EU Mediterranean countries.

5th phase: ERB projects on public and private facilities in ALL MED REGIONS (north and south Mediterranean)



The methodology applied to calculate the investment plan from the 2nd phase onwards relies on the population of the regions potentially involved in each phase. The ERB investments unlocked by the SHERPA project were compared with the population, in order to obtain the amount in euro of ERB investments per inhabitants.

That data (2.51 euros per inhabitant) was then applied to the number of inhabitants of all the other regions potentially taking part in future phases of the project in order to assess each region's potential.

The population has been chosen as main driver for several reasons:

- Other more specific figures have been researched (such as the total square metres of public owned spaces per region), but the amount of available data and their quality was not sufficient to ensure that a proper result would have been obtained;
- The population of a region directly influences the number of public offices, schools and other facilities; thus, the number of inhabitants can be considered as a good way to approximate unavailable data such as the one stated in the first point;
- There is a strong correlation of ERB investment with the population of the region (0.82 correlation). A 0.82 correlation is considered very strong (with 1 being a perfect correlation) supporting the choice of population as a method to calculate the potential ERB investments.

The average of 2.51 euros investment per inhabitant cannot be considered, by any means, as the maximum amount of ERB investments unlockable per person. The potential amount to be invested goes well beyond this amount, especially if new types of approach will finally encourage small and/or inexperienced public administrations to look for investing in ERB.

These different phases of implementing the MED ERB JAP imply an **overall potential leverage investment plan of 487.5 million euros** without considering the ERB potential investment plan from the municipalities and other complementary factors.

Of course, it is known that in several non-EU Mediterranean countries the term region applies more to a merely administrative or geographical concept than to a territorial government structure.



This calculation has the **purpose of giving an overall approximate idea of the potential investment** to be carried out at Mediterranean level on ERB projects applying the SHERPA methodology. Exemption made for the investments generated in the framework of SHERPA project, it is producing a potential scenario that does not consider investments already promoted in the mentioned regions through other means indeed. Moreover, this calculation has some limitations as it does not consider other variables like differences in constructions' costs between regions/countries, nuances regarding political priorities and other issues that could influence the current investment scenarios. Nevertheless, it gives a powerful picture on the potential embedded in the Mediterranean that, however, would need to be more developed and detailed in the future with a deeper analysis of every region and its peculiarities.

Regarding the 5th phase: ERB projects on public and private facilities in ALL MED REGIONS (north and south Mediterranean), no estimations are provided because the SHERPA methodology has been proved so far only for public facilities. In order to extend this methodology and its conclusions to the private facilities, a new project to adapt the methodology to the private market should be carried out beforehand to obtain conclusions or provide data about new potential investments.

C- INVESTMENT PLAN FUNDING

One of the main goals for the MED ERB JAP strategy is creating and promoting all the mechanisms to raise ERB projects and encourage their execution. This means not just identifying real and valuable ERB projects but facilitating their funding. Thus, the MED ERB JAP must promote the right ecosystem where to meet projects with funding in an efficient way.

The MED ERB JAP strategy would dedicate its tools (e.g. market place, singular projects...) to channel public and private funds to the leverage investment plan that could be created from the MED ERB JAP strategic axes and their transnational operative actions, quantified around 500 Million euros in the first years of MED ERB JAP potential implementation.

These instruments are already conceptualized in the SHERPA transnational actions (strategic axes funding) and we can summarise with the SHERPA matching tool, the SHERPA Funding Vehicle and all the specific and new projects that could be developed from this strategic axis in order to promote funding in ERB projects.



According to the SHERPA funding methodology and regarding in particular the data obtained for Catalonia (SHERPA partner with most ERB projects identified), the conclusions for the funding of the leverage investment plan with the SHERPA methodology are the followings:

- There are several projects that could be financed by private funding (EPC or other funding formulas) without any public funding support and with a high degree of maturity (in Catalonia that accounts for 30% of the total ERB investments identified);
- There are some projects that, with some small technical adjustments, could easily be funded without any extra public effort (10% of the total ERB investment in Catalonia);
- There are many projects that could be funded by some limited public support (no more than 50% of the project). 40.5% of the ERB total investment raised in Catalonia with the Sherpa methodology could be funded on a balanced public-private structure;
- Small parts of the projects would need a more intense public support (more than 50%) in order to be developed. (This case accounts for 7.5% of the ERB potential investment in Catalonia raised by the SHERPA methodology).

So, the MED ERB JAP investment plan funding will seek to identify private funding mechanisms and match the ERB projects selected with them. In addition, it will also work jointly with public institutions and public administration to create the instruments and mechanisms to promote the private funding initiatives in ERB projects or joint public and private funds to develop the JAP leverage investment plan.

This match should be made on a trans-European basis and also considering the specificities of every region/country in terms of financial market characterisation and also in terms of which public funds are applied in every region in order to optimise public-private funding structures (i.e. some regions have larger proportions of funding of structural funds than others according their level of economic development).



VIII. BUDGET AND FUND-RAISING FOR ERB JAP SPECIFIC ACTIONS

A- BUDGET FOR ACTIONS

The actions and new projects included in the MED ERB JAP strategy and its axis and the MED ERB JAP governance itself will require resources to be developed. The need for these resources is divided into three main blocks:

BLOCK A) Funding the governance of the MED ERB JAP

This means all the resources needed to fund JAP management and coordination but also the singular projects that could arise to improve the governance of the system, coordination of regional and municipal strategies and improvement of the implementation of national strategies within the framework of European Directives. For this block the budget needs to be quantified according to the internal governance and coordination of the JAP strategy, voluntary will to collaborate by JAP involved entities and the specific actions identified under the thematic axis.

SHERPA partners and the three main promoters of the JAP in particular, namely Generalitat of Catalunya, CRES and the IMC-CPMR will in any case make their best to boost the JAP internal coordination and governance to ensure its gradual implementation by making the most of the linkable activities, initiatives, projects and opportunities where they are currently and will be involved in the future.

BLOCK B) Funding the market place

The market place with all the SHERPA developments and its integration with other EU projects on the same topics will require a budget in order to develop its funding plan. The market place will require funding for its technical development and its management.



The detailed budget for the market place is detailed in Annex “MED ERB JAP DRAFT BUDGET”. The process that led to define the draft detailed marketplace budget has been done through a market consultation with three different European experts’ companies (developers and UX experience specialists) that have the capabilities (proven experience in projects with similar scope) to develop the marketplace according to the functionalities explained in the present document. However, this budget estimation should be further verified and updated in the future depending on the specific funding source that will be used to fund it, how and where the potentially related tender(s) for its implementation will be launched and the country or region where the service will be awarded and implemented (the economic circumstances in a given time and location could influence the prices).

The budget is organized in different lines of cost infrastructure, service and user experience for each of the different modules and functionalities of the market place according to the above description in this document.

These 2 blocks could ideally be taken up by SHERPA project partners (counting possibly with external funding contributions), since the management of these tools would allow them to:

- Follow up on the implementation of the ERB projects identified during SHERPA;
- Be aware before others of new funding opportunities/projects for the implementation of ERB initiatives;
- Use and improve the tools available;
- Directly benefit from the network of actors from the ERB world;
- Serve its interests by influencing the operational actions to be put in place in the coming years in terms of ERB;
- Benefit from the support and experts of the IMC-CPMR member regions and Task Force on Energy Renovation in MED Buildings.

BLOCK C) Funding for singular projects and specific actions



Specific, monographic projects are going to be regularly updated in order to contribute to the MED ERB JAP strategy and implement the MED ERB JAP operative actions. Each project will require a specific planning and budget once conceptualised. The MED ERB JAP should assess the alignment of these projects with the MED ERB JAP strategy in order to guarantee the success of the project in terms of governance, funding and, of course, proven results. This block will not include a specific budget so far because it will depend on the specific development and characteristics of each project according to the needs and potential transnational operative actions to develop and on the identified calls (e.g. EU programmes).

The summary and the details for the JAP tentative Budget are described in **Annex 3** MED ERB JAP DRAFT BUDGET.

B- FUNDRAISING

The ERB JAP will try to raise funding from the different European funds and programmes that have objectives aligned with its specific strategic axes (e.g. by presenting competitive proposals to the public calls that will be published from 2020 and beyond). The JAP on its side, could prove itself as a very good instrument for channelling investments on the ground and for contributing to the practical implementation of the new EU Green deal and Energy Efficiency related legislation.

The funding sources could for instance proceed by the Interreg (e.g. MED) programmes in the Mediterranean area, ENI CBC MED programme and their successors in the 2021-2027 period, H2020 Calls and future Horizon Europe, as well as other EU programmes and initiatives that are seeking to reinforce the low carbon economy, Energy Efficiency and Energy Renovation in Buildings. Possibly several further opportunities will appear ahead of the implementation of the new EU Green deal and new programming period.

The process to achieve the proper fundraising will seek specific synergies with the different European agencies and EU Commission DGs that deal with EU financial resources management in the field of interest of the MED ERB JAP (DG REGIO, EASME, DG CONNECT, DG ENERGY and DG CLIMATE) and the European Investment Bank (e.g. Elena).



The fundraising will require an analysis of the different alternatives for the use of the available resources at state, regional and local level for the different lines and actions of the MED ERB JAP budget. An annex including identified programmes, calls and opportunities will be added to the JAP. Labelling mechanisms able to boost the ERB JAP strategy implementation and /or specific projects will also be explored (e.g. Union for the Mediterranean project labelling).

IX. JAP ROADMAP FOR THE FUTURE

A- JAP MONITORING AND UPDATE

As already mentioned, the MED ERB JAP is designed as a process with continuous feedback between governance initiatives, new projects and the market place as a virtual and real meeting place with a final goal to promote and raise ERB investment projects.

The MED ERB JAP roadmap starts with the final validation of this document by SHERPA partners and then by sharing and opening it to the Efficient Building Interreg MED Community and beyond. The document will be shared also with the European agencies/DGs to discuss on its benefits, costs and on the best ways to help implementing and funding it.

The actions included in the document and the funding strategy will necessarily evolve gradually. In this perspective, the MED ERB JAP already has a tentative implementation roadmap (see table below). The development of the market place is combined with the singular and specific projects that could arise from the different MED ERB JAP strategic axes.

The roadmap and the MED ERB JAP implementation could be monitored considering four main indicators:

- Number of adhesions as supporters of the ERB JAP and engagements;
- Number of projects developed under the MED ERB JAP eco-systemic approach (and funding used for this purpose);
- Number of users and agents involved in the MED ERB JAP market place (once it will be created);
- Number of ERB projects and EUR of ERB investments identified and raised from the implementation of the JAP transnational operative actions through its three main areas of action: governance, singular projects and market place.



A summary of the JAP draft roadmap follows.

NOTE: this calendar is merely indicative and will evolve necessarily according to arising opportunities and cooperation. The calendar for the market place related actions is more precise and corresponds to a specific budget and detailed description in annex. It can be perfectly reported in time depending on when it will be funded exactly.



YEAR	JAP RELATED ACTIVITIES	CONCEPT	KPI
2020			
January	JAP final Draft	JAP CONCEPTUALIZATION	Document delivery
January	JAP validation by SHERPA partners and setting up of the internal governance	JAP VALIDATION	Document approved and shared
January-June	Sharing the JAP with EB community and EU Institutions/Agencies and other organizations and institutions for potential synergies and support with fundraising	JAP SHARING FOR SYNERGIES AND FUNDRAISING	Number of ad hoc meetings and mailings
February – December	Market Place Development (if funded) Map of experiences (1st phase: SHERPA Results) Online forum Training Room / Library resources (1st phase: SHERPA Results) Tools Space (1st phase: SHERPA Results) JAP NEW SINGULAR PROJECTS	JAP DEVELOPMENT	Number of users Number of projects registered Number of Interactions Number of users Number of users and tools charged Number of projects conceptualized, presented to calls or launched
2021			

B- JAP ADHESION SYSTEM AND INTERNAL GOVERNANCE

The Governance of the JAP will evolve according to needs, initially the governance Unit will be integrated by the JAP main promoters: Catalan Government, CRES and CPMR Intermediterranean Commission.

Moreover, ERB JAP Supporters network would be ideally developed by active supporters (different type of stakeholders) to boost exchange of knowledge, opportunities, cooperation & projects, networking.

Axes and Operative Transnational Actions/specific projects will have specific entities as leaders that will interact periodically with the JAP supporters' network.

The JAP includes an easy procedure to join the JAP support network through its letter and its "declaration of support and engagement".

Public authorities or other kind of entities that wish to join and have a more active role in the initiative as recognized supporters and thus the "JAP network", shall formalize their adhesion request in a simple and voluntary way.

This should be done with a letter signed by its legal representative or delegated person with power to sign¹² to the JAP coordinators. The adhesion to the MED ERB JAP, if the case is foreseen by the administrative/governance system of the joining entity, could be even adopted with an internal deliberation or other similar act.

¹² e.g. for public authorities: the President of a Region, a Regional Minister in charge of topics concerned by the ERB JAP, a high ranking officer like a Secretary General or a Director delegated by the President, in the case of a municipality a Mayor or other representative.



The authority/entity should send this letter to the Generalitat of Catalunya or to the CRES as authorities entrusted with the MED ERB JAP coordination by SHERPA consortium, manifesting its interest and willingness to adhere to the initiative and be an active supporter (see the letter in the annex 4). Following the answer to the letter, this manifestation of interest is formalized through the signature of a short “Declaration of support and engagement of the ERB JAP” (see the declaration in the annex 5) that would be collected and archived by the coordinators. This letter would aim at engaging the entity with the capitalisation of SHERPA results, supporting the main objectives and strategy of the ERB JAP network by stating the will to cooperate in this framework but not mean any precise financial commitment.

In this sense, on the one side, joining the ERB JAP does not mean necessarily providing or receiving any financing or co-financing by the authorities/entities willing to adhere. No fees and no obligations are requested, but there needs to be willingness to cooperate together with other public authorities/entities on the theme of Energy Renovation in Public/Private Buildings, sharing and following the ERB JAP strategy. On the other side, becoming supporter of the initiative will open the door to a wide range of innovative cooperation opportunities, exchange of experiences and knowledge.

At a practical level CRES/the Generalitat of Catalunya, especially in the first starting up phase of the JAP implementation, could steer the process and keep the signatory authorities/entities informed about the JAP partnership activities and inform periodically its partners about the applications received and share and discuss advancements and concrete cooperation opportunities. The CPMR Intermediterranean Commission will act as a facilitator for these networking activities in connection with its internal Task Force on ERB. Adhesions to the JAP should also be visualized on an online map.

This system of adhesion will be applied to the entities willing to have a more active involvement in the process, which does not prevent any stakeholders to use SHERPA existing tools or the future ones that can be produced in the framework of the JAP itself, as the market place.



Concerning MED ERB JAP internal governance, a simple and light “Governance unit” could be set up from the very beginning, including the 3 main promoters (Generalitat of Catalunya, CRES and the IMC-CPMR). These entities should take care of tracking and integrating document updates, driving and giving dynamism to the process in the very early stages and MED ERB JAP internal governance (unit and mechanisms) will evolve in coherence with its future implementation and new funding resources. All SHERPA partners, together with the new joining entities should form the “ERB JAP Supporters Network”.

Once the JAP will start to be implemented both, Axes and Operative Transnational Actions can have specific entities as leaders that will interact periodically with the JAP supporters’ network. The “market place” in particular should be possibly developed under the leadership of a specific entity and with dedicated funding resources (e.g. co-funded by EU programmes).

Virtual and or physical meetings and exchanges will be organized by the Governance unit and “supporters’ network”, seeking for all type of synergies with existing relevant actions, institutions and initiatives. The activities of the governance unit will start from the date following the end of the SHERPA project.



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ANNEX 1: COMPLEMENTARY INFORMATION AND DATA

Notes on the methodology of calculation for tables 2 and followings:

The methodology applied to calculate the investment plan from the 2nd phase onwards relies on the population of the regions. The ERB investments unlocked by the SHERPA project were compared with the population, in order to obtain the amount in euro of ERB investments per inhabitants. That data (2.51 euros per inhabitant) was then applied to the number of inhabitants of all the other regions potentially taking part in future phases of the project in order to assess each region's potential. This calculation has the only purpose of giving an overall approximate idea of the potential investment to be carried out at Mediterranean level on ERB projects applying the SHERPA methodology.

The average of 2.51 euros investment per inhabitant cannot be considered, by any means, as the maximum amount of ERB investments unlockable per person. The potential amount to be invested goes well beyond this amount, especially if new types of approach will finally encourage small and/or inexperienced public administrations to look for investing in ERB.

Exemption made for the investments generated in the framework of SHERPA project (table 1), these estimations are producing a potential scenario that does not consider investments already promoted in the mentioned regions through other means. In this sense, the methodology has some limitation as it does not consider other variables like: differences in constructions' costs between regions/countries, nuances regarding political priorities, other issues that could influence the current investment scenarios. Besides, the sample of pilot buildings that was originally analysed in each of the regions was selected according to the SHERPA methodology prioritizing ERB projects with ease of implementation and not according to criteria such as the representativeness of the public building stock of the regions or the number of inhabitants of these regions. Therefore, the data of the projection would need to be further revised and updated also considering criteria of this nature.

Will all these limitations, this preliminary projection, gives in any case a powerful picture on the ERB potential embedded in the Mediterranean that, however, would need to be more developed and detailed in the future, with a deeper analysis of every region and its peculiarities.

Table 1 Overview of potential investment plans for pilot buildings

SHERPA Partner Regions	Investment cost [€]	Estimated energy savings [kWh/y]	Estimated economical savings [€/y]
DUNEA (Dubrovnik)	983,125	972,989.40	81,039.60
IVE (Valencia)	1,634,234	3,831,947.75	426,253.33
LAZIO	19,639,957	4,895,959.64	409,192.83
EMILIA ROMAGNA	18,183,527	9,113,830.45	1,057,337.02
ABRUZZO	3,911,875	8,088,051.28	1,109,188.39
CRETE	1,750,900	2,361,672.00	118,164.00
GOZO	436,814	396,072.00	45,669.80
DTES (Catalonia)	16,030,480	36,930,769.19	1,941,367.38
Total general	62,570,912.00	66,591,291.71	5,188,212.35

Table 2 Ratios of SHERPA ERB projects by population



REGION	COUNTRY	INHABITANTS	INVESTMENT	RATIO
LAZIO	ITALY	5,896,693	€19,639,957.00	€3.33
EMILIA-ROMAGNA	ITALY	4,471,485	€18,183,527.00	€4.07
ABRUZZO	ITALY	1,315,196	€3,911,875.00	€2.97
KRITI	GREECE	632,674	€1,750,900.00	€2.77
GOZO	MALTA	37,342	€436,814.00	€11.70
DUBROVNIK – NERETVA	CROATIA	122,257	€983,125.00	€8.04
CATALUNYA	SPAIN	7,522,596	€16,030,480.00	€2.13
COMUNITAT VALENCIANA	SPAIN	4,934,993	€1,634,234.00	€0.33
TOTAL SHERPA PARTNERS		24,914,380	€53,479,149.00	€2.51
			MEDIAN	€3.15

Table 3 SHERPA ratios applied to ERB project on public facilities in EU MED Regions associated with the IMC-CPMR (2nd phase)

REGION	COUNTRY	INHABITANTS	POTENTIAL INVESTMENT
OCCITANIE	FRANCE	5,774,185	14,490,539
SUD PROVENCE-ALPES- CÔTE D'AZUR	FRANCE	5,007,977	12,567,710
CORSE	FRANCE	330,000	828,148
ARAGÓN	SPAIN	1,308,563	3,283,889
MURCIA	SPAIN	1,472,949	3,696,422
ANDALUCÍA	SPAIN	8,409,657	21,104,357
BALEARES	SPAIN	1,151,000	2,888,479
SARDEGNA	ITALY	1,648,176	4,136,161
LIGURIA	ITALY	1,556,981	3,907,304
VENETO	ITALY	4,905,037	12,309,378
TOSCANA	ITALY	3,736,968	9,378,065
MARCHE	ITALY	1,531,753	3,843,993
UMBRIA	ITALY	884,640	2,220,038
CAMPANIA	ITALY	5,826,860	14,622,729



PUGLIA	ITALY	4,048,242	10,159,219
CALABRIA	ITALY	1,956,687	4,910,381
SICILIA	ITALY	5,026,989	12,615,422
MOLISE	ITALY	308,493	774,175
IPEIROS	GREECE	336,856	845,353
IONIA NISIA	GREECE	205,431	515,537
DYTIKI ELLADA	GREECE	679,796	1,705,974
PELOPONNISOS	GREECE	579,182	1,453,479
STEREA ELLADA	GREECE	547,390	1,373,696
ATTIKI	GREECE	3,774,000	9,470,998
THESSALIA	GREECE	732,762	1,838,894
NOTIO AIGAIO	GREECE	309,015	775,485
ANATOLIKI MAKEDONIA KAI THRAKI	GREECE	608,182	1,526,256
CYPRUS	CYPRUS	1,170,125	2,936,474
TIRANA	ALBANIA	895,160	2,246,438
SHKODER	ALBANIA	215,483	540,763
TOTAL		64,938,539	162,965,756

Table 4 ERB project on public facilities in all EU MED REGIONS and regions located in EU Med pre-accession countries (3rd phase)

REGION	COUNTRY	INHABITANTS	POTENTIAL INVESTMENT
DURRES	ALBANIA	277,450	696,271
FIER	ALBANIA	313,692	787,222
LEZHE	ALBANIA	136,197	341,792
VLORE	ALBANIA	183,081	459,449
BERAT	ALBANIA	141,230	354,422
DIBER	ALBANIA	135,298	339,536
ELBASAN	ALBANIA	300,119	753,160
GJIROKASTER	ALBANIA	71,257	178,822



KORCE	ALBANIA	222,909	559,399
KUKES	ALBANIA	84,738	212,653
BEOGRADSKI REGION	SERBIA	1,659,440	4,164,428
REGION VOJVODINE	SERBIA	1,931,809	4,847,949
REGION ŠUMADIJE I ZAPADNE SRBIJE	SERBIA	2,031,697	5,098,622
REGION JUŽNE I ISTOČNE SRBIJE	SERBIA	1,563,916	3,924,707
ANDRIJEVICA	NORTH MACEDONIA	4,707	11,812
BAR	NORTH MACEDONIA	32,127	110,098
BERANE	NORTH MACEDONIA	5,026,989	80,624
BIJELO POLJE	NORTH MACEDONIA	42,808	107,428
BUDVA	NORTH MACEDONIA	21,553	54,088
CETINJE	NORTH MACEDONIA	15,353	38,529
DANILOVGRAD	NORTH MACEDONIA	18,260	45,824
HERCEG NOVI	NORTH MACEDONIA	30,647	76,910
KOLAŠIN	NORTH MACEDONIA	7,400	18,571
KOTOR	NORTH MACEDONIA	22,683	56,924
MOJKOVAC	NORTH MACEDONIA	7,748	19,444
NIKŠIĆ	NORTH MACEDONIA	69,653	174,797
PLAV	NORTH MACEDONIA	12,477	31,312
PLJEVLJA	NORTH MACEDONIA	27,531	69,090
PLUŽINE	NORTH MACEDONIA	2,688	6,746
PODGORICA	NORTH MACEDONIA	199,715	501,192
ROŽAJE	NORTH MACEDONIA	23,089	57,943
ŠAVNIK	NORTH MACEDONIA	1,684	4,226
TIVAT	NORTH MACEDONIA	14,923	37,450
ULCINJ	NORTH MACEDONIA	20,151	50,570
ŽABLIJAK	NORTH MACEDONIA	3,158	7,925



ADANA	TURKEY	2,220,125	5,571,489
HATAY	TURKEY	1,609,856	4,039,995
MERSIN	TURKEY	1,814,468	4,553,477
ANTALYA	TURKEY	2,426,356	6,089,033
MUĞLA	TURKEY	967,487	2,427,946
AYDIN	TURKEY	1,097,746	2,754,836
İZMİR	TURKEY	4,320,519	10,842,508
BALIKESİR	TURKEY	1,226,575	3,078,137
ÇANAKKALE	TURKEY	540,662	1,356,812
EDİRNE	TURKEY	411,528	1,032,745
TEKİRDAĞ	TURKEY	1,029,927	2,584,641
İSTANBUL	TURKEY	15,067,724	37,813,031
KOCAELI	TURKEY	1,906,391	4,784,161
YALOVA	TURKEY	262,234	658,086
BURSA	TURKEY	2,994,521	7,514,865
TOTAL		47,571,179	119,381,697

Table 5 ERB project on public facilities in ALL MED REGIONS including the authorities located in north and south non-EU Mediterranean countries (4th phase)

REGION	COUNTRY	INHABITANTS	POTENTIAL INVESTMENT
SĪNĀ' ASH-SHAMĀLIYAH	EGYPT	460,174	1,154,824
BŪR SA'ĪD	EGYPT	760,152	1,907,631
DUMYĀṬ	EGYPT	1,527,189	3,832,539
AD-DAQAHIYAH	EGYPT	6,626,435	16,629,293
KAFR ASH-SHAYKH	EGYPT	3,445,213	8,645,894
AL-BUḤAYRAH	EGYPT	6,337,373	15,903,881
AL-ISKANDARIYAH	EGYPT	5,259,818	13,199,715
MAṬRŪḤ	EGYPT	450,928	1,131,621
AL-BUṬNĀN	LIBYA	164,510	412,844



DARNAH	LIBYA	164,440	412,668
AL-JABAL AL-AKHDAR	LIBYA	209,978	526,948
AL-MARJ	LIBYA	190,001	476,815
BANGHĀZĪ	LIBYA	562,067	1,410,529
AL-WĀḤĀT	LIBYA	165,184	414,536
SURT	LIBYA	117,473	294,803
MIṢRĀTAH	LIBYA	502,613	1,261,327
AL-MARQAB	LIBYA	448,260	1,124,926
AL-JIFĀRAH	LIBYA	443,768	1,113,653
ṬARĀBULUS	LIBYA	940,653	2,360,605
AZ-ZĀWIYAH	LIBYA	300,894	755,105
AN-NUQĀṬ AL-KHAMS	LIBYA	292,440	733,889
MÉDENINE	TUNISIA	479,520	1,203,374
GABÈS	TUNISIA	374,300	939,320
SFAX	TUNISIA	955,421	2,397,666
MAHDIA	TUNISIA	410,812	1,030,948
MONASTIR	TUNISIA	548,828	1,377,305
SOUSSE	TUNISIA	674,818	1,693,482
NABEUL	TUNISIA	787,918	1,977,310
BEN AROUS	TUNISIA	631,842	1,585,632
TUNIS	TUNISIA	1,056,247	2,650,692
ARIANA	TUNISIA	576,088	1,445,715
BIZERTE	TUNISIA	568,219	1,425,967
BÉJA	TUNISIA	303,032	760,470
JENDOUBA	TUNISIA	401,477	1,007,522
EL TARF	ALGERIA	408,414	1,024,931
ANNABA	ALGERIA	609,499	1,529,561
SKIKDA	ALGERIA	898,680	2,255,272
JIJEL	ALGERIA	636,948	1,598,445



BÉJAÏA	ALGERIA	912,577	2,290,147
TIZI OUZOU	ALGERIA	1,127,607	2,829,773
BOUMERDÈS	ALGERIA	802,083	2,012,858
EL DJAZAÏR [ALGIERS]	ALGERIA	2,988,145	7,498,864
TIPAZA	ALGERIA	591,010	1,483,162
CHLEF	ALGERIA	1,002,088	2,514,778
MOSTAGANEM	ALGERIA	737,118	1,849,826
ORAN	ALGERIA	1,454,078	3,649,065
AÏN TÉMOUCHENT	ALGERIA	371,239	931,639
TLEMEN	ALGERIA	949,135	2,381,891
ORIENTAL	MOROCCO	2,427,547	6,092,022
TANGER - TÉTOUAN - AL HOCEÏMA	MOROCCO	3,769,719	9,460,254
TOTAL		56,823,972	142,601,937



Table 6 European Initiatives on ERB: Interreg MED projects

PROJECT NAME & CATEGORY	CATEGORY	GOALS & METHODOLOGY OF THE PROJECT	PARTICIPATING COUNTRIES	ON-GOING PROJECT
CESBA MED https://cesba-med.interreg-med.eu/	Knowledge and training	<ul style="list-style-type: none"> • Test at least 10 tools and methodologies previously developed by other projects in ERB; • Produce a MED passport, which will compare the performances of buildings and neighbourhoods, in line with EC COM 2014 445; • Creation of a network of cities in order to increase transferability of results; • Organise training and workshops in the MED area. 	AUSTRIA CROATIA FRANCE GREECE ITALY MALTA SPAIN	NO
IMPULSE https://impulse.interreg-med.eu/	Technical assistance	<ul style="list-style-type: none"> • Classify public buildings in representative typologies (based on climate zone & other energetic parameters); • Estimate the impact of a combination of measures on the consumption of those buildings; • Build roadmaps for each building in order to gradually renovate stock; • Create a platform to manage data and find patterns and cost optimal pathways for Energy Renovation of Buildings. 	BOSNIA-HERZEGOVINA CROATIA FRANCE GREECE ITALY SPAIN	NO
PRIORITEE https://prioritee.interreg-med.eu/	Knowledge and training	<ul style="list-style-type: none"> • Create a toolbox for public administration to forecast the possible results of a building's renovation; • Target employees and staff of the administration to motivate behavioural change and foster savings; • Organise 15 local technical workshops for public administrations of the countries participating in the project; 	CROATIA GREECE ITALY PORTUGAL SPAIN	NO

		<ul style="list-style-type: none"> Complete 5 pilots (one per partner), in order to help elaborate a local plan for the medium-to-long term. 		
SHERPA https://sherpa.interreg-med.eu/	Knowledge and training Technical assistance Networking Financing schemes and promoting investments	<ul style="list-style-type: none"> Focus on four different areas of ERB projects (governance, information, awareness and training, financing); Help public administrations increase their ability to manage those areas; Train employees of the public administrations; Develop tools that will facilitate the analysis the public administrations need to do; Renovate 100 public buildings from Regions participating in the project and another 100 public buildings from municipalities located in the same area. 	CROATIA FRANCE GREECE ITALY MALTA SPAIN	YES
EDU FOOT PRINT https://edufootprint.interreg-med.eu/	Knowledge and training	<ul style="list-style-type: none"> Reduce the Environmental Footprint in public school buildings, considering the whole life cycle of education services; Create an energy action plan for 61 public schools and universities; Develop the Edu Footprint Calculator. It is a tool that helps to automatically calculate the Environmental footprint of schools; Assess the footprint of schools participating in the project. 	ALBANIA GREECE ITALY PORTUGAL SLOVENIA SPAIN	NO
TEESCHOOLS https://teeschools.interreg-med.eu/	Knowledge and training	<ul style="list-style-type: none"> Design a tool for pre-auditing and carbon footprint calculation; Create a database with all the measures carried out in the pilots of the project; 	BOSNIA-HERZEGOVINA CYPRUS CROATIA FRANCE	YES

		<ul style="list-style-type: none"> • Provide e-learning courses to managers of public buildings. 	<p>GREECE ITALY SPAIN</p>	
<p>NEW FINANCE https://new-finance.interreg-med.eu/</p>	<p>Knowledge and training</p> <p>Financing schemes and promoting investments</p>	<ul style="list-style-type: none"> • Develop a platform containing a searcher of good practices of innovative financial models; • Organise training for building owners. 	<p>BOSNIA-HERZEGOVINA CROATIA ITALY MALTA SLOVENIA SPAIN</p>	NO
<p>ENERJ https://enerj.interreg-med.eu/</p>	<p>Knowledge and training</p>	<ul style="list-style-type: none"> • Create a web platform with audit data of measures already implemented and a section with methodologies and financing strategies to follow; • Create the profile of the Joint Action Coordinator that will take care of, and group together, small municipal projects. This profile is similar to a Project Manager; • Provide training courses and material for public employees. 	<p>ALBANIA CYPRUS CROATIA GREECE MALTA ITALY PORTUGAL SLOVENIA SPAIN</p>	NO
<p>SISMA https://sisma.interreg-med.eu/</p>	<p>Financing schemes and promoting investments</p>	<ul style="list-style-type: none"> • Compilation of good practices on existing financing schemes for implementing Energy Efficiency measures; • Develop new financing models focused on EPC contracts; • Organise training activities. 	<p>BOSNIA-HERZEGOVINA FRANCE GREECE ITALY SPAIN SLOVENIA</p>	NO
<p>STEPPING https://stepping.interreg-med.eu/</p>	<p>Financing schemes and promoting investments</p>	<ul style="list-style-type: none"> • Adapt Energy Performance Contracts to the conditions of the MED area; • Develop 12 pilots; 	<p>CROATIA FRANCE GREECE ITALY</p>	NO

		<ul style="list-style-type: none"> • Training actions to be performed at local and MED level; • Develop the EPC MED guidelines. 	MALTA PORTUGAL SLOVENIA SPAIN	
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Table 7 European Initiatives on ERB: Other ERB EU projects

PROJECT NAME & CATEGORY	CATEGORY	GOALS & METHODOLOGY OF THE PROJECT	PARTICIPATING COUNTRIES	ON-GOING PROJECT
COMBI PROJECT https://combi-project.eu/	Governance	<ul style="list-style-type: none"> • Quantify the non-energy benefits of Energy Efficiency; • Focus on avoided emissions, social impact, economic impact (more than 35 individual impacts are quantified in total); • Create an open-source database, analysable via a graphic online-visualisation tool. 	BELGIUM DENMARK GERMANY HUNGARY UNITED KINGDOM	NO
ENERINVEST https://www.enerinvest.es/en/	Knowledge and training Networking	<ul style="list-style-type: none"> • Build a one-stop-shop platform to match projects with funding sources; • Offer technical, legal and financial solutions for ERB projects. 	SPAIN	NO
ASSIST2GETHER https://www.assist2gether.eu/	Knowledge and training	<ul style="list-style-type: none"> • Fight energy poverty by engaging consumers in the energy market; • Generate a positive change of behaviour in relation to energy consumption; • Influence the design of energy poverty-oriented policies; • Prepare the “Vulnerable Consumers and Energy Poverty Report”; • Create and train the figure of the Household Energy Advisors (HEA) with knowledge on social, communication and technical aspects. The HEA will provide vulnerable consumers with qualified, specific and target-oriented advice; • Create a network of trained HEA. 	BELGIUM FINLAND ITALY POLAND SPAIN UNITED KINGDOM	YES

EXCEED http://www.exceedproject.eu/	Technical assistance	<ul style="list-style-type: none"> • Create a European database made up of several tools for a measured and qualitative data of buildings and districts; • Develop new key performance indicators to provide insight on different aspects characterising energy performance and sustainability in the building sector; • Build a tool that will characterise performances of single buildings, building-local grid interactions, and districts in real operational conditions. 	SEVERAL TRANS-NATIONAL INSTITUTIONS WORKING ON IT	NO
EERFORMANCE http://europe.eerformance.org/	Knowledge and training	<ul style="list-style-type: none"> • Standardise the way Energy Efficiency projects are developed, documented and measured; • Develop the Investor Ready Energy Efficiency™ Certification for Energy Efficiency projects; • Facilitate private investments; • Enable project aggregation. 	AUSTRIA BULGARIA GERMANY PORTUGAL UNITED KINGDOM	NO
SEIMETRICS http://seimetrics.org/	Knowledge and training Financing schemes and promoting investments	<ul style="list-style-type: none"> • Create a tool that measures the exposure of a given portfolio to the energy and technologies that represent climate problems and solutions; • Over 200 investors across 16 countries have committed to testing their listed equity portfolios, testing approximately 500 billion USD of equity. 	SEVERAL TRANS-NATIONAL INSTITUTIONS WORKING ON IT	NO
IBROAD https://ibroad-project.eu/	Knowledge and training Technical assistance	<ul style="list-style-type: none"> • Develop a tool, the Individual Building Renovation Roadmap for single-family houses; • Provide a customised renovation plan (iBRoad-Plan) that will analyse measures to invest in over the long-term (15-20 years). 	AUSTRIA BELGIUM BULGARIA GERMANY GREECE POLAND PORTUGAL ROMANIA	YES

<p>CITYNVEST http://www.citynvest.eu/faq</p>	<p>Knowledge and training</p> <p>Technical assistance</p> <p>Networking</p> <p>Financing schemes and promoting investments</p>	<ul style="list-style-type: none"> • Test innovative financing model (EPC, Third Party Financing (TPF), revolving funds, cooperative models, crowdfunding and green bonds) in three pilots; • Collect data, analyse the results and spread the acquired knowledge to foster the use of alternative financing methods; • Offer training to the partners and other European stakeholders. 	<p>BELGIUM BULGARIA SPAIN</p>	<p>NO</p>
<p>EEFIG http://eefig.org/</p>	<p>Knowledge and training</p> <p>Financing schemes and promoting investments</p>	<ul style="list-style-type: none"> • Create an open source database for Energy Efficiency investments, performance monitoring and benchmarking; • Develop an investments risk-performance modelling methodology; • Develop a common and standardised investment framework for ERB; • Develop a toolkit to assist financial institutions scale up their deployment of capital into Energy Efficiency; the major focus is on value and risk appraisal. 	<p>BULGARIA FRANCE GERMANY POLAND SPAIN</p>	<p>NO</p>
<p>ALDREN https://aldren.eu/</p>	<p>Knowledge and training</p>	<ul style="list-style-type: none"> • Focus on non-residential private building renovation; • Build a tool bridging the gap between calculated and actual energy performance; • Create a renovation passport for each building included in the project in order to address and plan long term investment needs. 	<p>SEVERAL TRANSNATIONAL INSTITUTIONS WORKING ON IT</p>	<p>YES</p>
<p>SMART UP https://www.smartup-project.eu/</p>	<p>Knowledge and training</p>	<ul style="list-style-type: none"> • Encourage customers in the Member States that have embarked on the roll-out of Smart Meters to actively use their Smart Meters and In-House Displays to achieve energy savings. 	<p>FRANCE ITALY MALTA SPAIN UNITED KINGDOM</p>	<p>NO</p>

Table 8 Projects directly or indirectly related to ERB Promotion

PROJECT NAME	FUNDED BY	ADDITIONAL INFO	INSTITUTION
EPATEE ^(bibl 35)	HORIZON 2020	Agreement 746265	EU
INTENSSS PA ^(bibl 36)	HORIZON 2020	Agreement 695982	EU
EMPOWERING ^(bibl 37)	HORIZON 2020	Agreement 695944	EU
PLANHEAT ^(bibl 38)	HORIZON 2020	Agreement 723757	EU
RHODOSHOP ^(bibl 39)	HORIZON 2020	Agreement 748425	EU
EU MERCI ^(bibl 40)	HORIZON 2020	Agreement 693845	EU
INNOVATE ^(bibl 41)	HORIZON 2020	Agreement 754112	EU
COMPETE4SECAP ^(bibl 42)	HORIZON 2020	Agreement 754162	EU
E3P ^(bibl 43)	JOINT RESEARCH CENTRE		EU
ET RISK ^(bibl 44)	HORIZON 2020	Agreement 696004	EU
OXFUTURES ^(bibl 45)	European Regional Development Fund		EU
EFIDISTRICT ^(bibl 46)	FEDER		EU
SEAF ^(bibl 47)	HORIZON 2020	Agreement 696023	EU
FESTA ^(bibl 48)	HORIZON 2020	Agreement 649956	EU
GUARANTEE ^(bibl 49)			
LEMON ^(bibl 50)	HORIZON 2020	Agreement 695863	EU
TRUSTEE ^(bibl 51)	HORIZON 2020	Agreement 696140	EU
ESI EUROPE ^(bibl 52)	HORIZON 2020	Agreement 785061	EU
EUROPACE 2020 ^(bibl 53)	HORIZON 2020	Agreement 785057	EU
ENERGYFINANCING ^(bibl 54)	HORIZON 2020	Agreement 785081	EU
HAPPEN ^(bibl 55)	HORIZON 2020	Agreement 785072	EU
FIT-TO-NZEB ^(bibl 56)	HORIZON 2020		EU
TRIPLE A-RENO ^(bibl 57)	HORIZON 2020	Agreement 784972	EU
ACHIEVE ^(bibl 58)			



ENFORCE (bibl 59)	INTELLIGENT ENERGY EUROPE		EU
ENERGY AMBASSADORS (bibl 60)	THE POLLUTION PROBE FOUNDATION		
ABRACADABRA (bibl 61)	HORIZON 2020	Agreement 696126	EU

Among the many other projects, some that could be referred to are:

EPATEE - Governance - <https://epatee.eu/about>

INTENSSS PA - Governance, Knowledge and Training - <http://www.intenssspa.eu/about/>

EMPOWERING - Governance - <https://www.empowering-project.eu/en/sample-page/>

PLANHEAT - Governance - <http://planheat.eu/project-brief>

RHODOSHOP - Knowledge and Training, Financing Schemes and Promoting Investments - <https://cordis.europa.eu/project/rcn/210315/factsheet/en>

EU MERCI - Governance - <http://www.eumerci.eu/>

INNOVATE - Knowledge and Training, Financing Schemes and Promoting Investments - <https://cordis.europa.eu/project/rcn/210340/factsheet/en>

COMPETE4SECAP - Governance, Knowledge and Training - <https://cordis.europa.eu/project/rcn/212281/factsheet/en>

E3P - Knowledge and Training - <https://e3p.jrc.ec.europa.eu/>

ET RISK - Knowledge and Training - <http://et-risk.eu/>

OXFUTURES - Technical Assistance - <http://oxfutures.org/>

EFIDISTRICT - Technical Assistance - <https://www.efidistrict.eu/>

SEAF - Technical Assistance - <https://www.seaf-h2020.eu/>



FESTA - Technical Assistance - http://www.festa-project.eu/index.php?option=com_content&view=featured&Itemid=117&lang=en

GUARANTEE - Technical Assistance - <https://guarantee-project.eu/>

LEMON - Technical Assistance - <http://www.lemon-project.eu/>

TRUSTEE - Networking - <https://www.trust-ee.eu/>

ESI EUROPE - Networking - <https://www.esi-europe.org/>

EUROPACE 2020 - Networking - <http://www.europace2020.eu/>

ENERGYFINANCING - Networking - <http://energyfinancing.eu/en/>

HAPPEN - Knowledge and Training, Financing Schemes and Promoting Investments - <https://cordis.europa.eu/project/rcn/213576/factsheet/en>

FIT-TO-NZEB - Knowledge and Training - <http://www.fit-to-nzeb.com/>

TRIPLE A – RENO - Knowledge and Training - <https://triplea-reno.eu/>

ACHIEVE - Knowledge and Training - <https://ec.europa.eu/energy/intelligent/projects/en/projects/achieve>

ENFORCE - Governance, Knowledge and Training - <https://ec.europa.eu/energy/intelligent/projects/en/projects/enforce>

ENERGY AMBASSADORS - Knowledge and Training - <http://www.energy-exchange.net/workplan/energyambassadors/>

ABRACADABRA - Knowledge and Training - <http://www.abracadabra-project.eu/>



ANNEX 2: MAIN STEPS AND FEATURES OF THE MARKET PLACE

1st Step: REGISTRATION

The user registers in order to access the website. A humanoid BOT or semantic mechanism will help the user with all the information and functionalities to be carried out on the platform.

Some information is requested in order to complete the registration of the user. This information should allow the market place to create different and segmented profiles of information requirements, interests and activities on ERB.

EXAMPLE: The small municipality of ABC, located on a Mediterranean island, is looking to renovate its public school. Since the size of the community is quite limited, the Mayor and public employees do not follow many ERB projects and lack the know-how to complete such projects in an efficient manner. Thus, the Mayor decides to take advantage of the market place and signs the municipality up.

The sign-up form is intuitive and, if help is needed, an interactive BOT is always present to guide users when joining. The sign-up process is also a great chance for the market place to gather information regarding the user in order to optimise its experience and offer precious advice. This information should allow the market place to create different and segmented profiles of information requirements, interests and activities on ERB.

2nd Step: ACCESS TO THE CONTENT

a) Training and knowledge content

Often, the promotion of new projects is slowed down, not by financial or technical specific issues, but by the lack of know-how and knowledge of some of the crucial stakeholders involved.



Improving the knowledge of the actors involved in the development of ERB projects is therefore really important. The benefits coming from such an approach are innumerable. Too many times there are misunderstandings regarding the potential financial gains resulting from ERB investments. Social benefits other than merely energetic savings are also overlooked.

The next phase of the European and Mediterranean effort in Energy Efficiency should therefore continue focusing (and increase if possible) on spreading knowledge, especially among public employees and managers.

In order to reach this goal, several paths are available. In this regard, a centralised place where all the information needed can be found (training, consultancies, past experiences...) is perhaps the most effective method to deliver knowledge to the stakeholders.

If, for instance, a public employee that usually performs tasks completely unrelated to Energy Efficiency, finds himself suddenly involved in a potential project, a centralised place where all the information and knowledge needed to be able to understand and assess pros and cons of such a project can be found, is preferable to a multitude of smaller spaces, spread across the Internet.

The market place will collect all the learning material and knowledge emerged from the SHERPA Training Group. Its architecture will be based on an online learning tool with topics designed and offered according to specific needs and provided by experts.

Two main features will integrate the knowledge section:

- Map of Experience (the searcher);
- Training Room.

Map of Experience (the searcher)

The Map of Experience is a sort of a semantic searcher, which will return results based on key words inserted by the user. The main result that this tool will provide is, as the name suggests, an in-depth description of past projects or experiences carried out so far. Such documents will help in clarifying doubts of the user, making the flow of the project smoother.



In order to help the user find out what s/he is actually looking for, the material will be organised into several categories, amongst others:

- Geographic zone (island, interior, coastal...);
- Climatic zone (continental, Mediterranean...);
- Type of administrative entity involved (Municipality, Region, Country...);
- Type of project that has been developed (renewable, active measures, passive measures...);
- SOTA of the project (project terminated, on-going, still in development phase...);
- Amount of the investment (total cost of the ERB measures by project).

The experiences can be parametrised into a multi-variable matrix.

By being able to find an extensive list of projects, the users will not only develop their technical skills in the topic, but also feel somehow part of a community that is willing to share and help. This is also crucial especially for small local entities that invest in such projects very rarely and could risk feeling alone in this venture, resulting in loss of confidence and even in stopping the project.

The first ERB projects inserted in the Map of Experience can be those developed within the SHERPA Interreg MED project. After this first phase, other projects from the Efficient Buildings MED thematic community will be added.

EXAMPLE: The municipality of ABC looks for similar experiences within communities located in islands, with a Mediterranean climate, and for projects developed by other municipalities. It looks for projects that have already ended in order to check their results. Every type of measure is fine, so the user sets all renewable, active and passive measures as acceptable for this research.

The result shows over 10 projects with these characteristics already present on the platform. These experiences will help the municipality of ABC to gather additional information and know-how.



Training Room

The other main digital place available for the users will be the Training Room. The Training Room has a wider scope and focuses on other ways to deliver additional knowledge. The Training Room will focus on published and created resources related to ERB promotion. It will suggest specific knowledge resources to the user according to the user's needs.

The Training Room will also follow the users throughout the project design, suggesting specific training and seminars based on their needs or lack of knowledge. It will also advise the user in undertaking web seminars and recommend specific learning tools.

On the other hand, the Training Room will also include a standard step-by-step guide destined for ERB promoters as an introduction to a roadmap of the whole life of an ERB project.

The Training Room will be developed in two stages:

- **(1st. STAGE): LIBRARY RESOURCES** that include:
 - A semantic learning space linked to all the resources and digital platforms related to ERB projects;
 - Creation of a repository (interactive library) of educational content on ERB;
 - Public policies database: a database where users can register and make public policies to support, promote and develop public policies initiatives.
- **(2nd. STAGE): ONLINE PROGRAMMES/WEB SEMINARS** pre-defined training itineraries on ERB issues according to specific needs identified.

All the content of the Training Room is going to be provided initially by the SHERPA outputs and secondly by the Efficient Building Community. However, other Interreg MED communities and other H2020 projects training and knowledge results and outputs will be integrated in this action.

EXAMPLE: ABC's Project Manager looks for additional material to be used to improve his/her knowledge on the topic.



At this stage, the Training Room proves to be helpful as additional material can be found there. The material is not only related to past experiences but provides more theoretical material to be applied to real cases.

Since the Project Manager is interested in both a theoretical and practical approach, he will first use the library resources in order to look for material using a semantic research method.

The platform should be able to match keywords with the material available and also with the data the user itself provided during the registration phase and thus to suggest the most effective documents for this specific case.

In addition, the online programme web seminars section, coupled again with the information provided during the sign-up process, can provide the municipality with some recent webinars to learn about the ERB project in public schools.

b) Technical assistance and information system content

Another section of the market place can be dedicated to offering the users several technical tools developed with SHERPA and many others that have been developed over the years from different EU projects and initiatives.

The tools' space

The “tools' space” aims at supporting all the stages of ERB projects: identification process, selection, technical analysis, financing, communication and more. These tools are going to describe the entire production/investment cycle of an ERB project.



The SHERPA four Thematic Capitalisation toolkits , developed by CRES with the contribution of the SHERPA partners, available [here](#), are a first step in this direction. They constitute a collection of deliverables, best practices, experiences and results from both SHERPA and other related MED or EU projects and initiatives on EEB, organised in 4 thematic areas: policy, technical, financial and awareness. This hub of useful information, that is operational after the end of SHERPA, will be available for regions, municipalities and other parties and interested stakeholders in energy efficiency in buildings. In the new “Tools” section, as already mentioned, the first tools to be integrated are those from the SHERPA Testing Module, followed by any other tool deemed as useful and developed by any European ERB initiative.

The aim of this section is to improve the SHERPA information system’s tool, making the results more accurate, and providing an objective and standardised way to collect the data.

This proper data collection will allow not just a proper benchmarking between facilities but a tool to develop specific proposals on ERB measures on the facilities analysed.

The evolution of the SHERPA information system’s tool will connect with the SHERPA funding tool in order to develop a complete continuing cycle of technical and financial analysis on ERB measures/projects.

On the other hand, the MED ERB JAP aims to overcome the lack of interoperability between existing systems and databases that exchange and compare data, by adopting recognised standards (such as BEDES) for its tools’ eco-system and promoting their use among public administrations.

Moreover, through its other strategic axis (Governance Training and Networking...) the MED ERB JAP and the market place are seeking to increase the use of tools promoting awareness and also obtaining the proper funding instruments to develop a homogeneous and effective information systems methodology on a long-term basis.

EXAMPLE: The same island community mentioned in the training chapter could also be interested in assessing the potential of the project. In order to do that, several tools are available in the market place.



There are tools related to the financial potential of the project that will help the administration choose the right path in order to optimise the financial return of the investment while maximising the chances of it being financed by banks or private companies.

There are also many other tools helping the public entity make optimal decisions and managing the project to the best.

All this will also provide a clearer picture of the non-environmental benefits of such investment, incentivising the local community in evaluating other projects left behind for lack of knowledge on the potential benefits.

c) The networking contents

Letting the project developer understand that s/he is not alone in his/her ERB journey could make the difference between completing a project and enjoying the benefits of it or just stopping at the preliminary phase.

The exchange of contacts and information is therefore another crucial section of a market place. In the market place presented here, two sections are specifically built in order to incentivise interaction among different stakeholders.

When it comes to networking, it is necessary to determine whether or not time spent networking is practical and if it leads to obtaining good information. In this regard, networking can play a vital role when it comes to getting the right information when it is needed, in exchange for not too much effort.

So, the market place intends to create a forum to exchange experiences between the ERB stakeholders through two main functionalities:

- The forum;
- Experts.



The Forum

The forum could become the main engagement tool for ERB promoters, that will finally have a single place, not only to assess the information and look for funds, but also for the exchange of experiences, advice and contacts.

The SHERPA Online Capitalisation Forum developed by CRES in the framework of SHERPA, available [here](#), is a first step on this direction. It is a networking forum of public authorities and other interested stakeholders involved in EEB in the MED area, where knowledge, ideas, and project results are exchanged, while fostering future collaborations and it is operational after the end of SHERPA.

When stakeholders interact efficiently, this benefits the project in regard to efficiency and effectiveness.

In order for the forum to become a precious asset of the market place and considering the specific situation in which European Projects operate, it will be important to identify common and specific topics to discuss. The forum must include the moderator figure and in addition the possibility to create working groups on specific topics according to the needs identified should be included.

EXAMPLE: The municipality would like to share experiences of other public entities in ERB projects and therefore decides to take part in the online forum. Thanks to this, it has the chance not only to get to know past experiences but also to get in touch and share opinions with other communities undertaking the same journey.

Experts

Another area of the market place will be dedicated to the interaction between users and experts in several fields. The market place will create a place where experts can register at every single stage and specific area of an ERB project promotion. These professionals will cover areas of expertise including finance, engineering, marketing and many other services such as:



- ESCOs;
- Technical offices;
- EPC facilitators;
- Energy;
- Facility managers;
- Financial entities;
- Any firm interested in providing its services.

In order to become part of the list of experts, the market place should assess the profile and experience of the expert. This should be done in order to guarantee the users the best possible services.

The main advantage for the users is to be able to find many experts in any field, without the need to look for each of them and with the possibility of comparing the services offered for a specific, identified need.

The expert section will be linked to the SHERPA Matching Tool, facilitating the journey for unexperienced users that will look for support.

EXAMPLE: In addition to this, the municipality is also looking for experts in several fields to help the finalisation of the project. In the expert section, there is a vast number of experts and the administration is finally able to choose those that fit its requests. This is done in a smooth way that saves the municipality money, time and delivers greater results thanks to being able to find all these experts in one single place.



d) The funding contents

One of the main obstacles in the development of an ERB project is getting funds for the project. A big part of the research about ERB funding (including conclusions from MARIE and SHERPA works) agreed that there is a mismatching between the technical side and the financial side of an ERB project.

The reason for this mismatching could be related to several factors:

- The existing barriers between the technical and the financial side of one project:
 - Lack of knowledge from project developers about funding requirements from one side and lack of knowledge about technical issues about the key funding stakeholders.;
 - Lack of risk-return assessment from the very beginning;
 - Technical conditions of the projects:
 - Size/volume of the projects;
 - Long paybacks/low IRRs; (The amount invested for a quite big number of projects do not provide enough financial return for the main investor or funding alternatives (banks, investments funds, venture capital..)).
- The administrative and legal restrictions of the public sector;
- Others...

The market place funding actions intend to face all these issues through two main features:

- Matching Tool;
- SHERPA Funding Vehicle.

Matching Tool

The Matching Tool, as the name suggests, is a place where the promoter of the project will not only have the opportunity to assess the data of the potential investment, but also to match the result with a wide offer of experts that will help with the development of such a project in order to get funding.



The Matching Tool is an evolution of the SHERPA Funding Tool, where the project is not just categorised as financially feasible, but it gives a detailed road map with the specific steps to get funding. On the other hand, the matching tool refers to specific partners and experts to help accomplish the defined road map.

The outcome of the Matching Tool is not suggesting which areas should be worked on in order to close a financial deal, but to match the project with specific and existing financial alternatives or investors who could potentially be interested in the project. The Matching Tool is a meeting point between promoters and investors.

To do this, the Matching Tool is divided in two main parts:

- Project completion roadmap;
- Funding alternatives matching.

On the first part, the promoter identifies which areas and specific features of the project should be improved in order to complete the maturity of this project and then the matching tool refers to experts, training itineraries, and tools to help this completion.

On this second part and once the project is mature and complete enough the tool assigns the specific project to a concrete funding alternative or matches it with a concrete investor that seeks investment opportunities.

If there is no matching with specific funding alternatives, then the matching tool diverts the project to the SHERPA Funding Vehicle.

EXAMPLE: The small island community is now assessing the financial viability of the project. After properly inserting the data in the financial tool available in the market place, the software returned some insights on how to improve the efficiency of the project. Some further measures could be carried out to improve energy and financial savings, with a positive impact on the project.



Normally the municipality, as well as the public servants running this project, would be stuck at this point. They do not know anyone that can help them in making the further steps to finalise the project. Thanks to the market place though, the contact details of several experts in each category are provided and the municipality now has a wide list of contacts to select the best collaborators from.

SHERPA Funding Vehicle

As noted earlier in this document, one of the main outcomes, if not the most important one, of the market place is raising a proper investment plan for ERB projects.

The market place will not only match potential projects with the best experts and investors operating in the market but will also provide the opportunities for small-scale projects to be carried out.

In order to be attractive from a financial point of view, a project must not only be able to provide a minimum IRR, but also have a minimum size that will ensure that the investors do not waste too much money in fixed costs for the project, making it attractive for the stakeholders.

The SHERPA Funding Vehicle will combine small projects together with others of similar characteristics in order to increase their size and make them more attractive for the stakeholders looking to provide funds.

The SHERPA Funding Vehicle intends to aggregate some projects in order to facilitate their funding with already existing funding alternatives, either promoting new ones (new investment funds or new special purpose vehicle formulas) to work and promote jointly with the financial agents and the EU/national funds with the main goal to channel such investments into proper funding possibilities.

On the other hand, the SHERPA Funding Vehicle could develop by creating public-private funded financial instruments that will help projects with long paybacks and low IRR (ERB projects with an important number of passive measures for instance) to be carried out. Public-private funds mixed together reduces the need of a high IRR.



EXAMPLE: Once the project is mature enough then it is ready to be matched with already existing specific funding alternatives or investors. In the event there is no financial match, the project goes directly to the SHERPA Funding Vehicle. Whereas some small size projects that are mature enough, with viable financial characteristics in terms of IRR, will join each other in order to get the attractive size and volume needed for existing and new investment formulas.

The tool also let the municipality know that its project is too small in order to attract private investors. Hence, it may suggest that the Mayor combines it with other similar projects in the same area, in order to build a single bigger project with the same profitability. This will attract more investors and provide better financing conditions that will have lower costs for the public entity.

The SHERPA Funding Vehicle will analyse existing funding alternatives with public funds and will propose new financial structures/tools (public-private special purpose vehicles) that could make the project feasible with a long payback and a relatively low IRR.

e) The Market Place Incentive Programme

In order to create the engagement between all of the market agents on ERB projects, the JAP could create an incentive programme for the marketplace.

One specific incentive system could promote the participation and exchange of services inside the SHERPA eco-system. The idea behind this system is to stimulate entities to be active actors of the energy saving process. The more active public entities are, the more likely Energy Efficiency projects will become a reality.

This incentive system implies the creation of a virtual exchange mechanism that could assign some resources to specific promoters and projects in order to develop them throughout the lifecycle of an ERB project. The promoters and this project could receive “credits” or Bonus” to apply to experts and technical assistance to help them in the development of the project. These “credits” or “bonus” should be included on the Budget and fund-raising for JAP actions.



So, with these “credits” and “bonus” technical assistance; energy audit processes, financial assistance... (and other services, according to the regional SHERPA methodology) could be provided to the project developers/promoters.

The only entity accredited to issue and assign the virtual currency would need to be defined before the formal launch of the incentive system, for instance it could be the SHERPA market place or MED ERB JAP coordinating entity/ies. On the other hand, the MED ERB JAP and the coordination entity/ies in particular, should be able to obtain the concrete funds (e.g. through the EU mechanisms) to back this virtual currency that will finance specific services.

EXAMPLE: In our example, the municipality that registers and shares its projects on the market place could receive a specific amount of virtual currency to dedicate to develop and complete its project through the services offered in the market place.



ANNEX 3: DRAFT ERB JAP BUDGET

JAP BUDGET MATRIX

JOINT ACTION PLAN OVERALL DRAFT BUDGET (TRANSNATIONAL OPERATIVE ACTIONS)			NOTE : MATRIX TO BE DEVELOPED ACCORDING TO FUTURE OPPORTUNITIES AND PROJECT IDEAS			
STRATEGIC AXIS	GOALS (main project lines)	CODE	TRANSNATIONAL OPERATIVE ACTIONS	PROJECT DEVELOPMENT UNIT/PROMOTERS	TOTAL BUDGET	COMMENTS
AXIS 1 GOVERNANCE	Support, promotion, development of a multilevel governance system	SA1A1	Coordination of regional and municipal strategies			
		SA1A2	Improvement of the implementation of national strategies according to EU directives			
	Coordination of the JAP Process / JAP Strategy	SA1B	Promote JAP Strategy and projects, boost adhesions, fundraising. Monitoring and follow up of all the process			
AXIS 2 TRAINING AND KNOWLEDGE	Providing Training sessions related with all the life cycle of the ERB project	SA2A	<ul style="list-style-type: none"> - Training and knowledge improvement actions enhancing the building and infrastructure renovation at regional and local level - Actions to stimulate the demand and improve the knowledge of ERB projects, both among citizens and representatives of local and regional authorities - Actions to promote and create Training Working Groups organised by specific topics concerning ERB, to work on current situations and specific tools. - Actions to train energy managers for each public building; - Publication of annual report describing all the EEMs implemented at national, regional and local level to provide a clear idea of the implementation of the EU, national, regional, local objectives. 			
	Integrating experiences of results obtained so far in EU projects	SA2B	Integration with best practices/ initiatives and training platforms for the public administration and main stakeholders on ERB promotion.			
AXIS 3 TECHNICAL ASSISTANCE AND INFORMATION SYSTEMS	Developing new tools to promote ERB projects.	SA3A	<ul style="list-style-type: none"> - Interoperability between databases & tools based on standard data description - Development & promotion of open, enabling technologies to support different complementary tools & business models around ERB; - Development & promotion of data collection/governance and data reporting protocols among public authorities - Actions promoting and engaging regional & local authorities to use/contribute with data to common EU tools; - Testing and implementation of new policies for energy data disclosure from public buildings - Database of available information on the energy performance of the national public building stock; - Creation of Scientific & Monitoring Committees analysing the state of implementation of measures at local level 			
	Integrating tools developed so far in EU projects	SA3B	<ul style="list-style-type: none"> - Alignment with the current technical achievements on tools & technological systems for data collection and monitoring of ERB projects. - Improve SHERPA capitalisation platform as a first step to systematize toolkits by thematic axis. 			

AXIS 4 NETWORKING	Networking among the multilevel stakeholders: political, technical and user level	SA4A	- Actions to increase ERB cooperation, expanding the impact of the implementation of the ERB SHERPA holistic methodology to all the Mediterranean countries, share experiences and achievements, contributing to a more adapted, standardised and consensual process of ERB renovation at Mediterranean scale			
	Networking amongst ERB promoters and professional agents involved into the process of developing and ERB projects	SA4B	- New projects should be built on a platform for exchanging experiences but also for proposing solutions regarding the problems that specific stakeholders may encounter in carrying out the EEB interventions.			
AXIS 5 FUNDING	Creating a bridge between the technical feasibility of a project and its funding feasibility	SA5A	- Projects to scale up and to replicate small and medium-size projects; - Promotion of national financing tools and marketplaces for the Energy Renovation Buildings of the regional and local authorities			
	Obtain funding for ERB investment plans that could arise from the JAP strategy implementation	SA5B	- Actions to combine public and private funding initiatives to create new formulas and vehicles in order to finance projects with long paybacks; - New actions to conceive new innovative financing alternatives for carrying out ERB projects when standard financing alternatives do not work			
	Integrating experiences of results obtained so far in EU projects	SA5C	Integrating experiences of results obtained so far in EU projects			
INTEGRATED ACTIONS (addressing different axes)	OBJECTIVE	PROJECT DEVELOPMENT UNIT/PROMOTERS	CONTRIBUTION TO JAP AXES	PROJECT DEVELOPMENT UNIT/PROMOTERS	TOTAL BUDGET	COMMENTS
MARKET PLACE	Share knowledge/expertise on ERB projects in public facilities (training, workshops, wgs, tools), create a meeting point between ERB experts and stakeholders, identify the best funding tools, matching with identification needs	To be defined	Axis 1, 2, 3, 4, 5		864.700,00 €	Specific description of the action, detailed budget and calendar ready to use for call for projects /fund raising
CODE SA1A1=Strategic Axis 1, Action 1						

MARKET PLACE BUDGET

DETAILED BUDGET OF THE MARKET PLACE IN RELATION WITH THE JAP AXES			NOTE : SIMULATION ON A 3,5 YEAR PERIOD (READJUSTABLE, ACCORDING TO FUND RAISING, RESPONSABILITIES & REAL CALENDAR OF IMPLEMENTATION)											
STRATEGIC AXIS	STRATEGIC GOALS	CODE	TRANSNATIONAL OPERATIVE ACTIONS	PROJECT DEVELOPMENT UNIT	EXPENSE TYPE	NUMBER OF UNITS OF EXPENSES	COST PER EXPENSE UNIT	2020 (6 month)	2021	2022	2023	TOTAL	TOTAL (ESTIMATION WITH CURRENT COSTS)	
AXIS 1 GOVERNANCE	Coordination of the JAP Process / JAP Strategy	SA1B1	JAP MARKET PLACE: Structure and registration system	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design			27.400,00 €				27.400,00 €	
						Infrastructure Design (semantic model, web architecture and Uex) and Development			32.000,00 €				32.000,00 €	Architecture of the system, basic info about the market place, interactive BOT (now with very few information) , registration with sign-up form to collect info and interests of the user ; capabilities to create segmented profiles. Identification of high level semantic model (main entities and relationships - properties not detailed yet); main entities: project and experience; educational resource (from different types); public policy and public initiative; tool; expert; funding vehicle
		SA1B2	JAP MARKET PLACE: DESIGN AND	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design						3.700,00 €	3.700,00 €	
						Infrastructure Design (semantic model, web architecture and Uex) and Development					35.000,00 €	35.000,00 €	35.000,00 €	

AXIS 2 TRAINING AND KNOWLEDGE	Providing Training sessions related with all the life cycle of the project	SA2A1	THE TRAINING ROOM: Library Resources (SHERPA + EU Projects)	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design				4.050,00 €			4.050,00 €	
											110.000,00 €			110.000,00 €
		SA2A2	THE TRAINING ROOM: Online Educational programs /Web	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design				2.100,00 €			2.100,00 €	
										130.000,00 €			130.000,00 €	
		Integating experiences of results obtained so far in EU projects	SA2B	THE MAP OF EXPERIENCES: the ERB searcher (SHERPA + EU Projects)	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design			8.050,00 €			8.050,00 €	
												210.000,00 €		
AXIS 3 TECHINICAL ASSISTANCE AND INFORMATION SYSTEMS	Integating tools developed so far in EU projects	SA3	THE TOOL' SPACE	MARKET PLACE	CRES	UX/ Graphic design	To be defined.			2.750,00 €			2.750,00 €	2.750,00 €
											9.750,00 €	29.250,00 €		39.000,00 €

AXIS 4 NETWORKING	Networking amongst the responsible of the multilevel stakeholders: political, technical and user level	SA4A	THE FORUM	MARKET PLACE	CRES	UX/ Graphic design	To be defined.			2.200,00 €			2.200,00 €	2.200,00 €
							Infrastructure Design (semantic model, web architecture and Uex) and Development	To be defined.			15.000,00 €			15.000,00 €
	Networking amongst ERB promoters and professional agents involved into the process of developing and ERB projects	SA4B	THE EXPERTS DATABASE	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design				3.700,00 €			3.700,00 €	
							Infrastructure Design (semantic model, web architecture and Uex) and Development				66.000,00 €			66.000,00 €

AXIS 5 FUNDING	Creating a bridge between the technical feasibility of a project and its funding feasibility	SASA	THE MATCHING TOOL	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design				5.500,00 €			5.500,00 €					
						Infrastructure Design (semantic model, web architecture and Uex) and Development				41.000,00 €	41.000,00 €		82.000,00 €					
	Obtain funding for an ERB investment plans that could arise from the JAP strategy implementation.	SASB	THE JAP FUNDING VEHICLE	MARKET PLACE	To be defined. Public Procurement	UX/ Graphic design					5.400,00 €		5.400,00 €					
							Infrastructure Design (semantic model, web architecture and Uex) and Development				33.750,00 €	11.250,00 €		45.000,00 €				
UX = user experience													828.850,00 €					
													SUM					
													Services linked to the setting up of the actions (not included above)	- €	7.170,00 €	14.340,00 €	14.340,00 €	35.850,00 €
													UX/Graphic Design	35.450,00 €	20.300,00 €	9.100,00 €	0,00 €	64.850,00 €
													Design, Semantic Model and UX, and Development	32.000,00 €	451.750,00 €	269.000,00 €	46.250,00 €	764.000,00 €
													Total					864.700,00 €
													Hours a year	1780				

Note for the reader: this tentative budget has been elaborated through a market consultation with three different EU experts' companies (developers and UX experience specialists) that count on the experience and capabilities to develop the functionalities of the market place. However they will not be necessarily the implementers and this budget estimation should be further verified and updated in the future depending on the specific funding source that will be used to fund it, how and where the potentially related tender(s) for its implementation will be launched and the country or region where the service will be awarded and implemented (the economic circumstances in a given time and location could influence the prices).

ANNEX 4: LETTER OF ADHESION

Letterhead of the joining region/entity

Date/ registration number

Address of Generalitat of Catalonia/Cres
to be added

Object: adhesion of the entity to the MED ERB Joint Action Plan support network

The public authority/entity that I hereby represent – name of the entity - is aware that the Mediterranean area is facing important challenges related to energy consumption and CO₂ emissions, which are accelerating the current world “Climate Crisis” and is convinced that Energy Efficiency in Buildings is a real and major opportunity to develop a more sustainable, competitive, secure and decarbonised energy system both at EU and Mediterranean level.

We realize that a stronger and more active cooperation among key stakeholders, especially in the Mediterranean area, is needed in this field to prevent the negative climate impacts of energy consumption and foster the sustainable development of this area together with multilevel governance schemes and public-private investments.

We acknowledge the results of the SHERPA Interreg Med project and the main objectives, as highlighted in chapter 1 “Joint Action Plan Rationale and Objectives”, that the Joint Action Plan set up on the topic of Energy renovation in Mediterranean Buildings (MED ERB JAP) and we would like to collaborate in the promotion of joint actions in the Mediterranean, we wish to **manifest our interest in joining the MED ERB JAP support network.**

Through its past and current actions, the authority/entity I represent (section to be adapted by each entity)

- promotes Energy Renovation Buildings projects, which is recognized as one of the priorities in its policies, strategies and programmes
- provides technical/financial support to public entities on ERB projects’ implementation
- provides knowledge/services to ERB operators other...

We have participated in particular in the project/s X, Y, Z which promote Energy Efficiency /Renovation in Buildings (please specify public/private buildings and adapt to your related relevant experience in short).

Our authority/entity developed also/supported the development of a Regional Strategy on Energy Renovation of Buildings / Sustainable Energy Action Plan (SEAP) / Sustainable Energy and Climate Action Plans (SECAPs) (please specify if relevant).

As “MED ERB JAP supporter”, the public authority/entity I represent would be glad to capitalize upon the results produced by SHERPA project and **engage to foster cooperation** with other administrations, private actors, international organizations and initiatives and new concrete actions related to Energy Renovation in Buildings.

We would be thus grateful if we could formalize the adhesion of the public authority/entity to the MED ERB JAP network by signing the “Declaration of support and engagement of the MED ERB JAP” (identify when).

Final auspicious.....

Signature of the official representative



ANNEX 5: DECLARATION OF SUPPORT AND ENGAGEMENT

Joint Action Plan on

Energy Renovation in Mediterranean Buildings (MED ERB JAP)

“Declaration of support and engagement”

This document aims at engaging the signatory entity with the opportunity of capitalizing the results of interest produced by SHERPA project, supporting at the same time the main objectives and strategy of the MED ERB JAP and its network towards the implementation of significative cooperation actions on Energy renovation in buildings at European and Mediterranean scale.

By signing this document, I declare that my entity, engages to:

- **capitalize the main results, the tools and the methodology of interest of the project SHERPA (SHared knowledge for Energy Renovation by Public Administrations)** implemented in the framework of the Interreg MED Programme 2014-2020 and focused on improving the energy efficiency of public buildings in its own field of action;
- **share the main objectives and support the future achievement and the implementation of the MED ERB JAP strategy with its 5 axes of work** (Governance, Training & knowledge, Technical assistance & information systems, Networking and Funding), through the potential collaboration in concrete actions;
- **actively participate as a supporter of the MED ERB JAP network and thus process of aggregation of key multilevel stakeholders**, which could imply to:
 - share new cooperation and funding opportunities contributing to the implementation of the MED ERB JAP (e.g. in line with its scheme for operative transnational actions);
 - seek synergies with other relevant projects and initiatives on ERB for capitalisation purposes and share knowledge and experiences with the ERB JAP network;
 - encourage other public and private authorities/entities to join forces for Energy renovation in buildings in the framework of the MED ERB JAP network.

I declare that my entity understands that joining the MED ERB JAP does **not imply financial engagement** and that no fees and no obligations are required but that becoming an active supporter will open the door to a wide range of innovative cooperation opportunities, exchange of experiences and knowledge.

This Declaration of support and engagement comes into effect as of the date of the signature of the joining entity.

Done in [XXX] on [XXX] in English.

On behalf of [Name of the institution/organization], [Name of the representative]

Signature:

