



REZBUILD

**Towards an innovative and
collaborative refurbishment
ecosystem for Europe**

www.rezbuildproject.eu

Reducing energy consumption in a key sector

The construction sector is the highest energy consumer (about 40%) and main contributor to GHG emissions (about 36%) in Europe. At this stage, tackling refurbishment of existing residential buildings is a top priority and decarbonisation is the main goal aligned with the European energy and climate change policies.

The REZBUILD project (REfurbishment decision making platform through advanced technologies for near Zero energy BUILDing renovation) grows with the main aim of defining a collaborative refurbishment ecosystem focused on the existing residential building stock. Nowadays, the Near Zero Energy Building (NZEB) renovation methodologies are required as one of the key enablers supported by Horizon 2020 Framework Programme in order to promote business research and innovation through energy-efficient buildings.

REZBUILD will address these challenges by opening the construction sector with the integration of innovation technologies in order to pave the way towards an annual renovation rate of 2,5% instead of current rates lower than 1%.

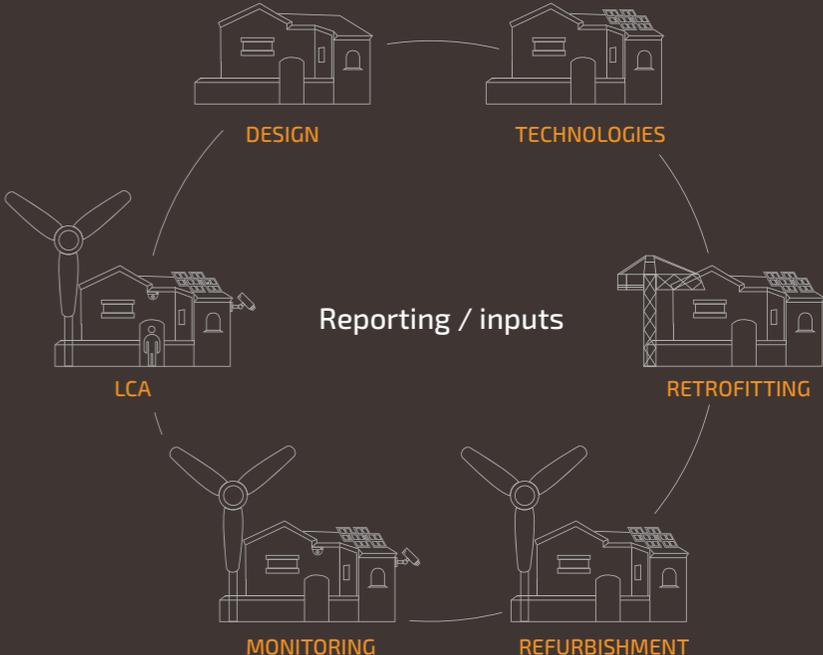
This project is awarded by the European Commission with a H2020 Programme Grant of € 6,996,128.25 and a total budget of € 9,038,208.75. REZBUILD started in October 2017 and will run for 4 years.

A new platform based on sustainability, advanced technologies and social innovation

REZBUILD will base its refurbishment ecosystem on the integration of cost-effective technologies, business models and life-cycles interaction. The project will focus on the retrofit of diverse residential typologies, interconnecting every building renovation stage as well as all stakeholders.

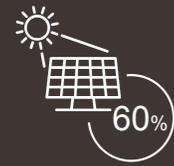
This innovation will establish a multi-collaborative framework within a refurbishment methodology managed by an Agile Project Management (APM) tool capable to interconnect in real-time the key steps of a tailored retrofitting plan among all actors involved within the building renovation value chain.

This platform will establish a communication framework among all the participants to the housing renovation process: designers, constructors, suppliers, private consumers, investors, public and private owners. Key agents and local communities will be involved in the project through social innovation actions.





Three KPIs for a unique project



ENERGY REDUCTION

A deep renovation rate at least 60% of primary energy reduction as a result, the application of a decision tree strategy created from the combination of united principles of the novel sustainable architecture and NZEB design concepts.



RAPID PAYBACK

A rapid payback period maximum 12 years of the best retrofitting technology package installed in the residential building.

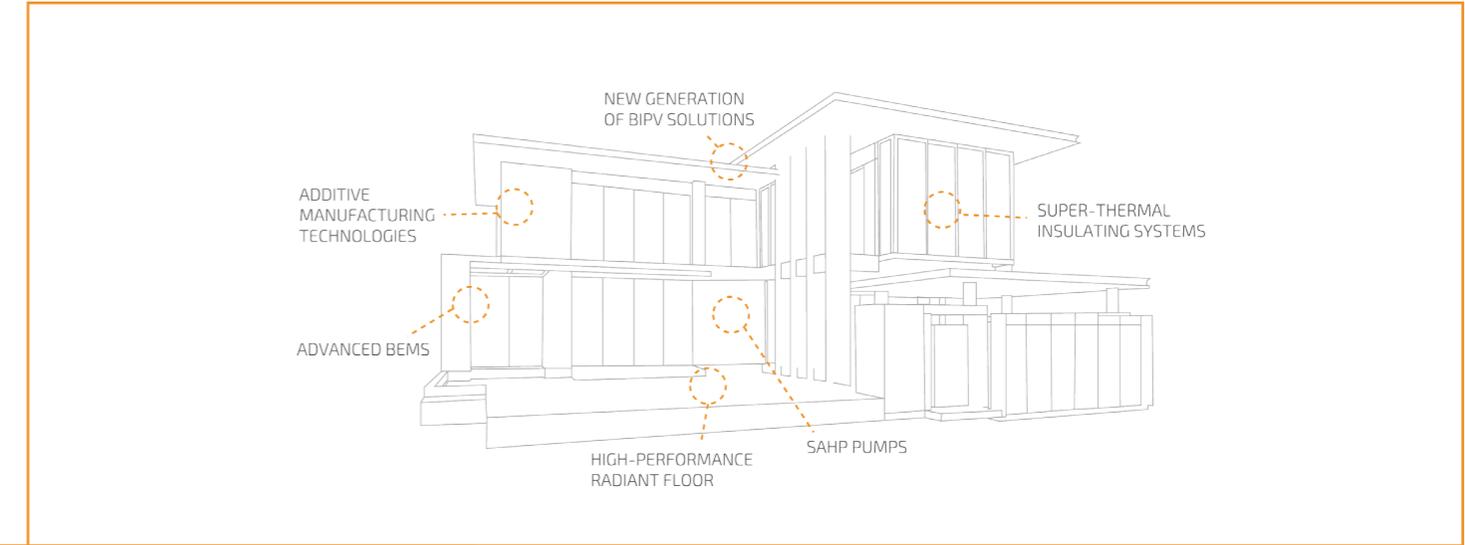


TIME SAVING

A reduced installation time at least a 30% of time saving in comparison with traditional refurbishment works.

Collaboration, advanced technologies and new business models

Besides the KPI's the REZBUILD project is aimed to achieve the following specific goals:



- A multi-collaborative refurbishment ecosystem as an accessible platform.

- Develop and demonstrate the first set of cost-effective advanced technologies for housing retrofitting based on Key Enabling Technologies (KETs) and one advanced BEMS as a reduction of 60% in energy consumption, enhancing indoor environment comfort in three different housing typologies.

- Provide the first retrofitting plan as systemic methodology, selecting the best retrofitting technology package as a tailored plan through one single platform specification, interactive and fully-integrated with value chain actors.

- Decrease the installation time related to the whole building renovation value chain by 30%.

- Define new business models to accelerate the refurbishment of the existing building stocks paying special emphasis on the maximum payback time of the solution below 15 years enhancing new investors.

- Define and design guidelines and propose specifications for new EE procedures interconnecting with final consumers.

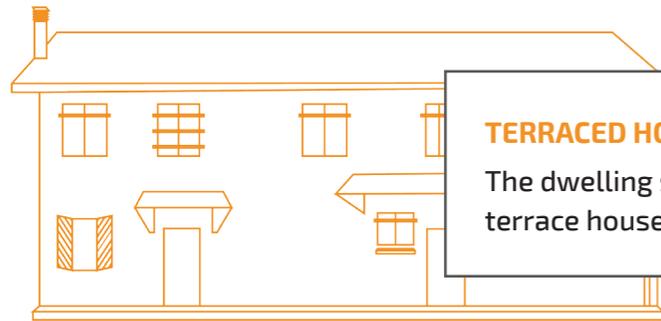
- Provide new training procedures focused on decentralized construction models, development new high-skilled jobs according to Europe 2020 challenges.

Demo buildings scenarios



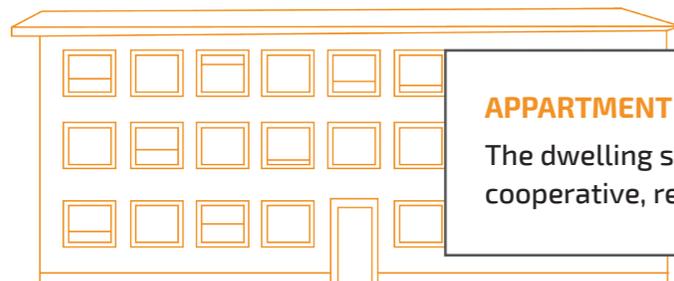
SINGLE-FAMILY BUILDING LOCATED IN MADRID (SPAIN)

The dwelling selected for the demonstration is a semi-detached house, representing typical single familiar dwellings in different districts in the Community of Madrid, Spain.



TERRACED HOUSE BUILDING LOCATED IN VENICE (ITALY)

The dwelling selected for the demonstration is a two stories terrace house in Venice, Italy.



APARTMENT BLOCK BUILDING LOCATED IN OSLO (NORWAY)

The dwelling selected for the demonstration is a housing cooperative, representing typical dwellings in Oslo, Norway.

Education and training

REZBUILD aims at delivering effective training and education programme for producers (especially, SMEs), research infrastructures, as well as to non-specialists to enable the uptake of technologies. Skills and knowledge will be imparted through the structured and hands-on demonstrations around the REZBUILD solutions within the 3 demo sites of the project.

The education and training will establish the basis for the creation of new skilled workers and SME contractors aligned with new refurbishment methodologies applied in the construction sector in the future. In addition, specific training focused on using the APM platform in rehabilitation sector will be developed involving key potential clients such as SMEs, Construction Companies and ESCOs.

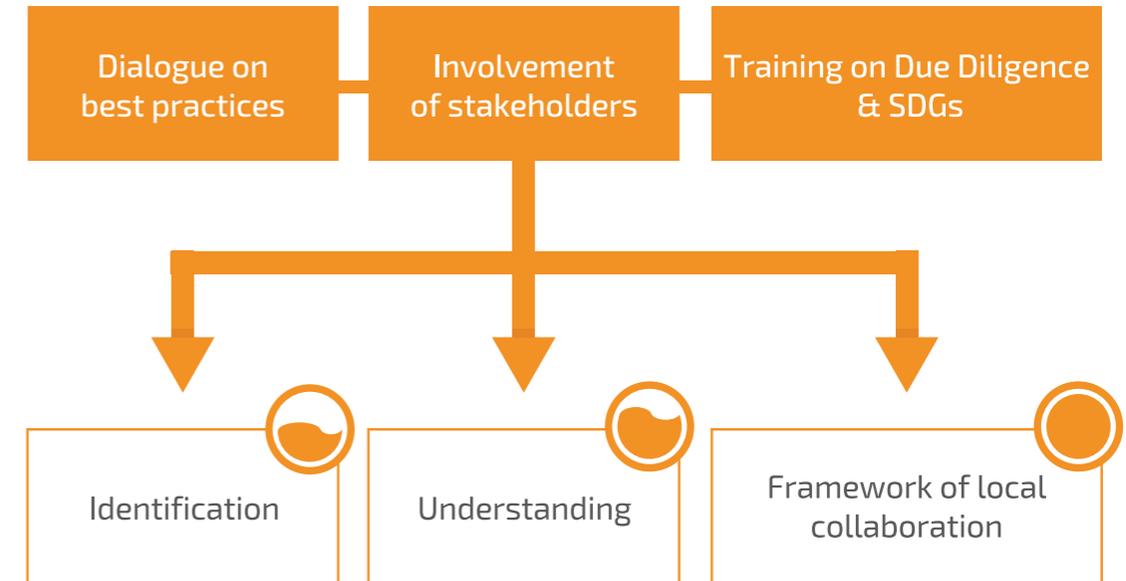
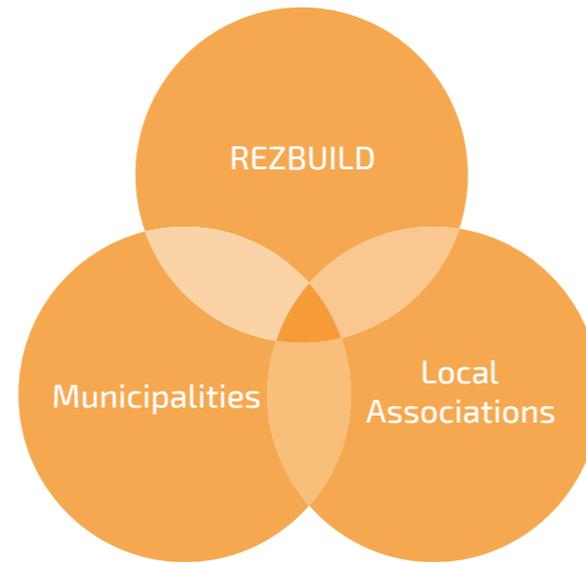


Public participation

PARTICIPATIVE PROCESSES

“ Participation is a way of viewing the world and acting in it. It is about a commitment to help create the conditions which lead to significant empowerment of those who at present have little control over the forces that condition their lives ”

**Marjorie Mbilinyi
and Rakesh Rayani**
Research and Social Action
with the Grassroots

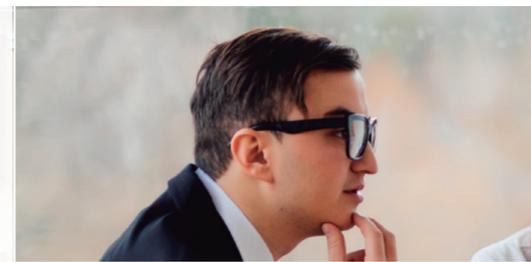


Why?

Involve all the relevant expertise in the process: "people are experts in their life"

What?

Methodology for decision making processes which involves all the stakeholders



When?

Before, during and after the implementation of the project/measure



Who?

All the stakeholders involved: Local Communities, Private sector, Local authorities/policy makers

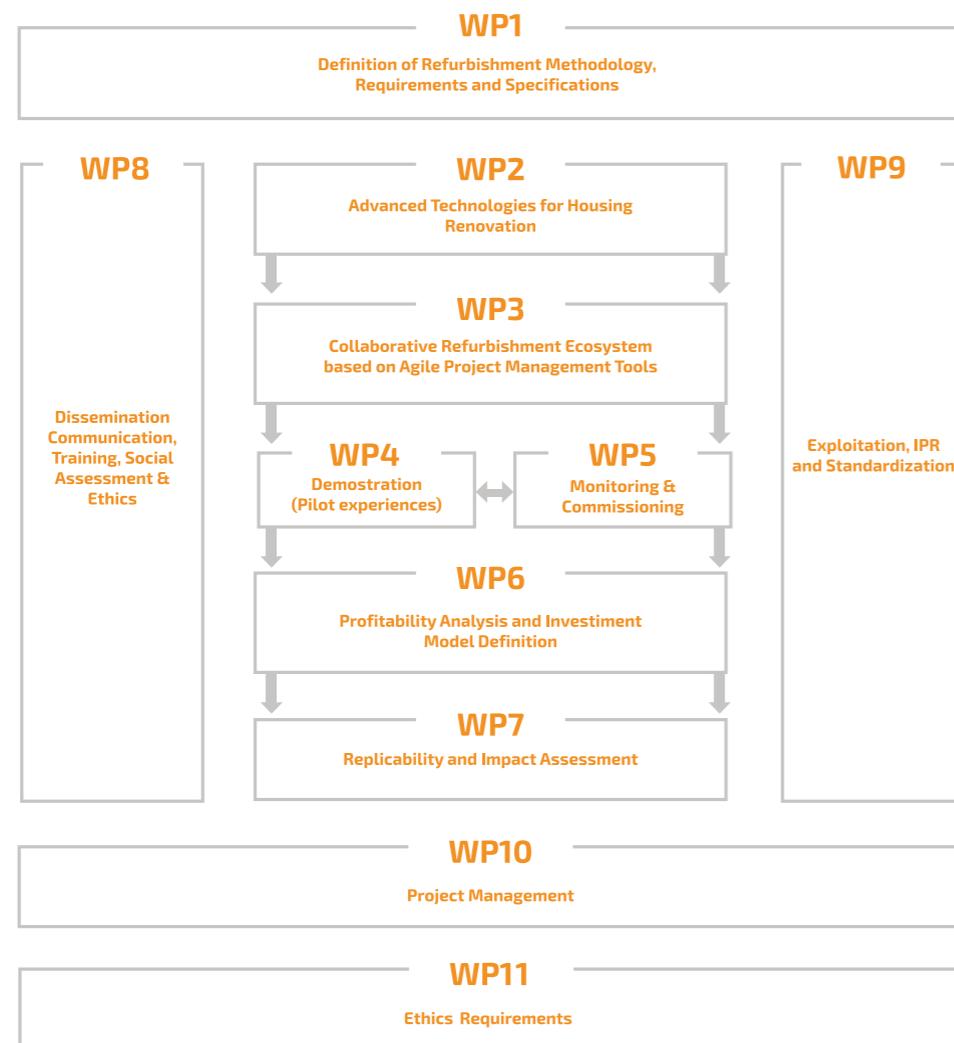


Where?

Local level

We've got a plan!

To implement the REZBUILD project, a work plan has been designed, consisting of the following steps (work packages, WP):



Who is involved?

REZBUILD consortium brings together 14 Partners from 5 different countries.





Find out more at:
www.rezbuildproject.eu

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REZBUILD



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