

ENERGY RETROFITTING IN EU



EU CONTEXT

The EU defined the **retrofitting** of existing public and private buildings as a strong priority in the **European Green Deal**. Energy efficiency retrofitting involves **replacing** obsolete systems with updated and more efficient technologies and features. The renovation of existing buildings offers opportunities to **reduce energy consumption** and **save costs**. One of the main challenges of building renovation is to provide smart and low-impact technologies to ensure a long-term sustainable building.

Combined, the buildings in the EU are responsible for 36% of energy-related greenhouse gas emissions. These emissions are largely released during construction, renovation and demolition. It is also the inhabitants of poorly insulated buildings who create emissions while powering their homes. With warmer summers and cooler winters caused by climate change, regulating the temperature inside homes has become a particular challenge for many European citizens. Increasing energy prices, combined with the energy inefficiency of many buildings, has exacerbated rates of **energy poverty** in Europe.

The urgent need for sustainable solutions to lessen the economic and environmental strain of our energy usage is evident.

Innovative technologies such as bio-based insulation materials, circular energy systems, and data collection of heating and cooling systems are playing a key role in the renovation wave in response to the energy and climate crises. Funding for research to advance sustainability in EU buildings is provided by the European Commission through programmes such as Horizon Europe, which has funded the RE-SKIN project.

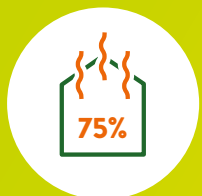
FACTS



European buildings are responsible for 40% of the EU's energy consumption



The price of consumer energy in the EU increased by 39% in 2022



75% of EU building stock is energy inefficient and in need of renovation.



The EU Climate Target Plan highlights the need to decrease direct emissions of the building sector by 80%-89% by 2040.

RESOURCES

- EU Renovation Wave Strategy
- EU Climate Target Plan
- EU Energy Poverty Advisory Hub
- Energy performance of buildings directive
- New European Bauhaus
- International Energy Agency IEA – Energy efficiency report 2022

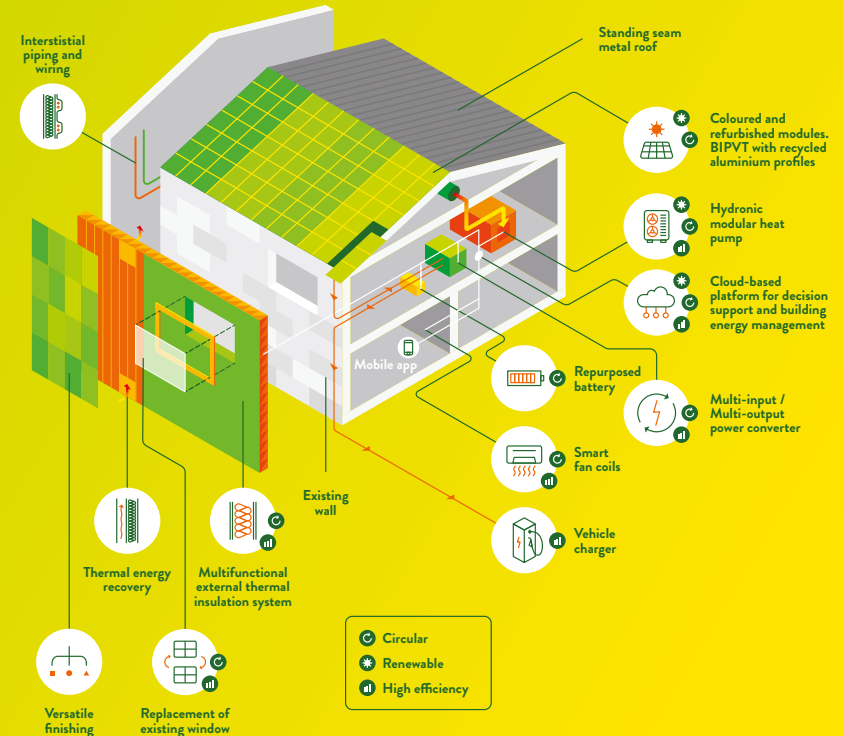
PROJECT OVERVIEW

ABOUT

The RE-SKIN - Renewable and Environmentally Sustainable Kit for building INtegration - project aims to develop a multifunctional package capable of transforming an existing, energy-intensive building into a modern, efficient and, above all, sustainable structure. Integrating ICT, renewable energy, sustainable materials, and new-generation installations, RE-SKIN offers a holistic and systemic solution for the energy retrofit and smart upgrade of residential, commercial and public buildings. The system's special configuration and flexibility make it suitable for application all over Europe.

The project started in January 2023 with a total budget of around 13M€, and has received a total grant of over 9M€ from the European Commission under the Horizon Europe research and innovation programme, addressing the topic of "Green research and innovation" under agreement n° 101079957 – RE-SKIN – HORIZON-CL5-2021-D4-02.

RESKINPROJECT.EU  



PARTNERS

Coordinated by



KEYWORDS

- Smart energy systems
- Energy performance
- Climate adaptation
- Building retrofit
- Energy poverty
- Energy consumption
- Energy efficiency
- Bio-based construction material
- Circular economy
- Recycled material
- Low impact buildings

BUDGET

9 615 236.90 euros



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