



RESSEEPE is a research project co-funded by the European Community Seventh Framework Programme for European Research and Technological Development, and has received research funding from the European Union.

Grant Agreement N°: 609.377



Centre Tecnològic de Transferència de Calor
UNIVERSITAT POLITÈCNICA DE CATALUNYA



*REtrofitting Solutions and
Services for the enhancement of
Energy Efficiency in Public Edification*

June 2013 / 2017

www.resseepe-project.eu

Project Concept

RESSEEPE is intended to gather design and decision making tools, innovative building fabric manufacturers in the frame of a strong demonstration programme, aiming at the demonstration of the improved building performance through innovative retrofitting methodologies. The goal of **the reduction of around 50% in terms of energy consumption** will be achieved. As a consequence of the project, a systemic process will be generated that will allow the selection of the best possible retrofitting techniques, customized in terms of the needs of a particular building.

Several remarkable innovative **technologies and materials** will be integrated in the retrofitting process such as:

Envelope Retrofitting: Ventilated Facades, Aerogel-based Superinsulating mortar, Wooden Insulating Wall Panels and VIP Panels

Integration of RES: PV Energy, Thermal Collectors

Energy Storage Systems: Thermal storage and PCMs

Nanotechnologies and smart materials: EC/PV Windows

ICT: Strategies at building and district level

Intelligent Building Controls: HVAC systems

Expected Impact

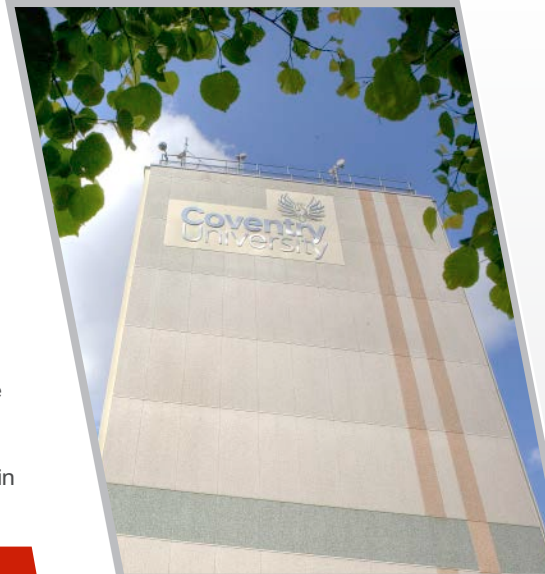
Expected ROI → **7,6 years**

Reduction of the building energy requirements (average for all areas) → **63%**

Savings in the electricity/gas annual bill of a public building (average) → **102.583 euros**

Saving for the whole expected lifetime in the energy bill of the European building market (public buildings) → **17.000 million euros**

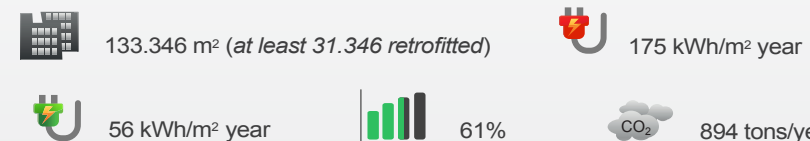
Potential new jobs created by 2020 → **160.000 to 280.000 jobs**



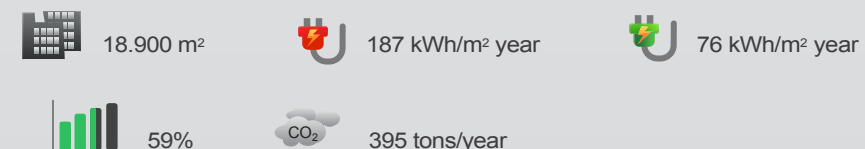
Demonstration Buildings

The RESSEEPE innovative technologies will be validated in three different demo-site locations:

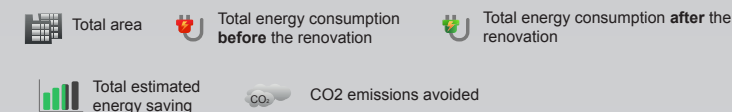
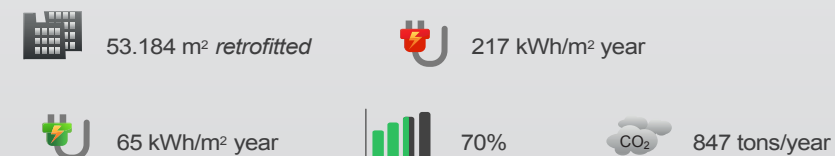
George Elliot Building, Coventry University (Coventry, United Kingdom)



Skellefteå City Council (Sweden)



District hospital public buildings, Barcelona (Spain)



Objectives

5

To execute, supervise, monitor and evaluate the demonstrators, and setting up a model based commitment of building owners towards users.

4

...ensuring and improving high indoor environment quality levels in all demo sites.

3

To develop of a systemic view for selection of the most empowering retrofitting mix pointing at the Net-zero energy renovation of existing public districts...

2

To develop and enhance innovative retrofit technologies aiming to achieve energy savings of 50% in public buildings; and exploiting envelope retrofitting techniques like ventilated façades, thermal/solar collectors, smart systems and nanotechnology.

1

To set up a diagnosis methodology for an integrated renovation of public edification at building and district level.