CommONEnergy

RE-CONCEPTUALIZE SHOPPING MALLS
from consumerism to energy conservation

Edito

We designed CommON*Energy* with the aim of developing solutions and tools for deep and systemic retrofitting of shopping centres - very peculiar buildings, with an extremely high energy demand - to foster their effective operation while ensuring the satisfaction of customers' needs.

18 months since the project start, we have almost closed the first phase of the project with a comprehensive analysis of the context that allowed us to identify 10 reference buildings representative of the EU building stock. Main inefficiencies and energy retrofitting drivers have also been detected considering the architectural, social and economic contexts.

We are now developing an energy-integrated approach for retrofitting including architectural, functional and technological solutions, such as: optimized layout refrigeration cabinets, natural ventilation and lighting strategies, modular adaptive facade system, envelope-integrated vegetation, multi-functional coatings, material for thermal & acoustic rehabilitation, intelligent Building Energy Management System, energy grid interaction scenarios, efficient generation and distribution systems, effective artificial lighting and mobility system integration.
The development of a shopping centre retrofitting with solution-sets coming from the intense RTD activities will be supported by an Integrative Modelling Environment (Trnsys-based), continuous commissioning, costs/benefits, and sustainability assessment tools, as well as construction sites' management strategies inspired by the "Lean philosophy".
Working with three demo-cases made the members of the consortium face and solve several practical issues, discussed with local working groups directly involved in the design and implementation of the retrofitting.

The next period will be crucial to finalize the RTD activities, implement the retrofitting solution-sets and then measure the results. We are sure the re-conceptualization is possible, increasing awareness of owners/managers, tenants, customers and the whole local community; with benefits for all.

Roberto Lollini, EURAC, CommON*Energy* project coordinator

Highlights

Work in progress in Valladolid, Trondheim and Genoa

Renovation works of the Mercado del Val in Spain started end of 2014. The market will be converted into a smart building with the ambitious target of decreasing the energy consumption to up to 75%. Façade and installations will be renovated to achieve an optimal level of energy efficiency while keeping the traditional layout. Read about the work progress and foreseen solutions in a short article. No renovation works have started in Trondheim and Genoa: proposals for retrofitting still need to be finalised and approved by local authorities. In Genoa, the designs are ongoing and first meetings are planned with CommON*Energy* technology providers.

Try out new mapping tool of non-residential and shopping centers data

An interactive and user-friendly Data Mapper was recently launched, integrating data sets for the building sector and final energy demand for non-residential buildings and shopping centers.

It allows a tailor-made and comparative access to national and international indicators on the commercial building stock in EU-28 and Norway and lists useful resources.

The Data Mapper also offers the possibility to download and export maps.

Publications

Key findings on shopping malls features in EU-28 and Norway

This report includes an evaluation and a cross-country comparative analysis of ten EU shopping centres.

A number of good practice examples are also presented.

The findings could enhance further related research activities and help Member States and Norway make sustainable decisions on energy efficient commercial buildings.
>> More about this report

Identifying and analysing shopping malls inefficiencies

Developing optimal solutions to reduce energy use in shopping centres starts with identifying and analysing technical and social inefficiencies. Based on survey results, interviews and an extensive literature review, this report identifies both within shopping centres. Owners and managers, tenants, and customers could benefit from this report's findings.
>> More about this report

Typical functional patterns and socio-cultural context

Understanding functional patterns allows identifying relevant performance indicators, key when retrofitting shopping centres. The report analyses the aspects which may influence deep retrofitting and design processes, as well as the behavior and expectations of four main stakeholder groups: owners and managers, tenants, customers and the community.
>> More about this report

Discovering CommON*Energy*

[Brochures] CommON*Energy* in a nutshell

A brochure presenting the project is available in English, French, German, Italian and Spanish. It provides an overview of the project, introducing the aims and challenges to be addressed. A poster also available allows to quickly understand the objectives and the methodology used in CommON*Energy*, as well as the expected results. For more information, visit our website which is updated regularly.

[Poster] Environmental, technical and social inefficiencies of European shopping centres

To gain a European-wide understanding of the technical, functional and social situation in shopping centres, a survey was carried out amongst three groups playing central roles within the day to day life of shopping centres: owners and managers, tenants and customers, gathering information about energy efficiency, facilities, functions, management, ergonomics, safety, logistics and

	more. Results are presented in this poster.
	**[Articles] CommON*Energy* in the media** An article for European Energy Innovation considers sustainable shopping centres as a reflection of modern society and mentions CommON*Energy* as a potential step towards energy efficient shopping centres. Another article for REVOLVE puts the spotlight on the retrofitting of the Spanish market Mercado del Val in Valladolid, explaining the foreseen activities and the benefits of its renovation. More articles in different languages (English, Italian, Spanish) are available on our website.
	**[Videos] Discover CommON*Energy* in 2 minutes** The project coordinator, Roberto Lollini, presented Common*Energy* during a round table discussion in Milan, focusing on energy efficiency in the retail sector. A video of his presentation (in Italian) is available here. Other videos presenting the project are available and subtitled in English, here and here.

Meet the partners to learn more about the project

- Nilar exhibits their low and high voltage battery energy storage solutions with battery management systems at the **Hannover Fair** in Germany this week.
- **eceee Summer Study** in Presqu'île de Giens, France from June 1 to June 6. BPIE will co-lead a panel on energy use in buildings: projects, technologies and innovations.
- You can meet SINTEF at the **Nordic Environmental Social Science Conference**, June 9-11 in Trondheim, Norway.
- June 14-17, SINTEF will be in Torino, Italy for the **International Building Physics Conference**.
- SINTEF will be in Lausanne, Switzerland September 9-11 for the **International Conference CISBAT**.
- EURAC will present the project at **EUMEPS masterclass**, September 21-22 in Prague.
- **MAPIC**, November 18-20 in Cannes, France.
- SINTEF will participate to the **IBPSA Building Simulation Conference** December 7-9 in Hyderabad, India.

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