



RE-CONCEPTUALIZE SHOPPING MALLS from consumerism to energy conservation

EUROPEAN SHOPPING MALLS INEFFICIENCIES

Defining shopping malls demands and retrofitting potential

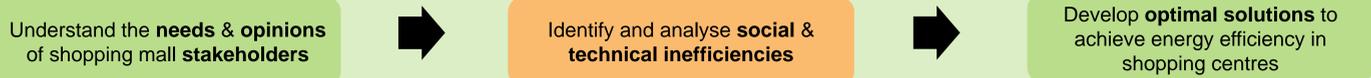


WHAT IS A SHOPPING MALL?

COMMONENERGY DEFINITION

An **arrangement** of one or more **retail buildings** comprising **business units** and “**communal**” areas which are planned and managed as a single entity related in its location, size and type of shops to the trade area that it serves.

WHY IDENTIFY SHOPPING MALL INEFFICIENCIES?



SOCIAL INEFFICIENCIES

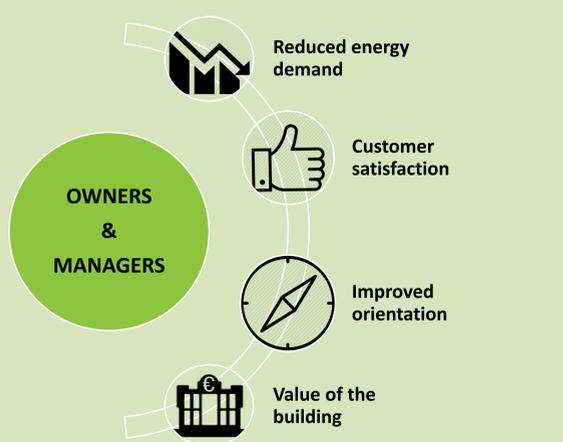
Stakeholders with different roles & priorities



Influence on shopping malls' energy efficiency

Most important aspects when upgrading a shopping mall

Aspects influencing the choice of a shopping mall



TECHNICAL INEFFICIENCIES

LIGHTING	HVAC	BUILDING ENVELOPE	ARCHITECTURE & DESIGN
<ul style="list-style-type: none"> Competing lighting levels to attract customers No lighting design strategy for entrances, or atrium and adjacent shops Lack of / excessive entry of daylight Inefficient lamp technology, luminaires and gear Lack of automatic control and sub-system layouts 	<ul style="list-style-type: none"> Heating and cooling occurs at the same time Wrong choice of system, set point and thermostats No zone isolation, or misdirected condenser heat No demand control ventilation Improper maintenance and error tracking Lack of bioclimatic solutions 	<ul style="list-style-type: none"> Inefficient insulation for especially windows and roofs Leaky building envelope and entrance designs Lack of thermal zoning and buffer zones Improper utilization of thermal mass Design of glass façades and solar shading 	<ul style="list-style-type: none"> Need for flexible building solutions which support the changing needs of the retail industry Integrated design solutions are more effective than individual actions in improving the quality of the built space, both energy and design wise. Universal design, associated with ergonomics and accessibility, has implications for the design of sustainable shopping environments

CONCLUSIONS

Owners and managers	Tenants	Customers
<ul style="list-style-type: none"> Interested in energy efficiency (main decision making group). Reluctant to spend large amounts on a renovation, but the value of the building is an important aspect and therefore energy investments may be expected. Common certifications for energy efficient buildings are by this group not considered suitable for shopping centres, but a certification specifically for shopping centres could be a step towards encouraging interest about energy efficiency amongst owners. 	<ul style="list-style-type: none"> Energy efficient shopping centres is not of primary importance. It is important to improve the flow of information about of energy efficient among employees in shopping centres. Energy performance certificates could be used to strengthen the awareness of how energy efficiency influences stores or retail units. 	<ul style="list-style-type: none"> Low awareness of energy efficiency in shopping centres. Shopping centres are not chosen because of their energy efficiency, although the appearance of an energy efficient shopping centre could encourage “green” thinking. Interested in lower prices and a wide range of products and this is not directly associated with an energy efficient renovation.

WHY COMMONENERGY?

OBJECTIVE

Transform shopping malls into energy efficient buildings, through deep retrofitting and developing innovative technologies and solutions.

METHODOLOGY

The main concept is the shift from single-action refurbishment to a Systemic Retrofitting Approach (SRA).

PERFORMANCE TARGETS

- Up to 75% reduction of energy demand
- Power peak shaving
- 50% increased share of renewable energy source
- Improvement of comfort and health conditions
- Short pay-back times (below 7 years)

DURATION

October 2013 – September 2017 (48 months)

PARTNERS



www.commonenergyproject.eu

