



# EASI ZERO

Low Impact Envelope System For Efficient Renovation And Zero Energy Buildings

www.easizero.eu

## PRODUCTS



### Mycelium Panels (SQIM)

Mycelium-based panels with increased fire resistance properties and good thermal and acoustic insulation. The panels are meant for internal application to give rooms a natural and beautiful look. Fire resistance class: B-s1-d0 (for painted panel)



### Wood-Fiber Panels (HUNTON)

Bio-based thermal insulation manufactured from renewable wood fibre. The panels deliver lower thermal conductivity than standard wood-based insulation, enabling slimmer, more material-efficient building envelopes. Recirculated wood chips and reduced binder content help meet Northern European energy and climate targets. Thermal conductivity: 0.0309 W/m·K



### Insulating Render (SIEVERT)

This high-performance thermal insulation render is developed using a bio-based aerogel to achieve high insulation performance while maintaining low thermal conductivity and reducing raw material costs. Thermal conductivity  $\leq 0.034$  W/m·K



### Sprayable Bio-PUR Foam (INDRESMAT)

60-70% bio-based content, successfully tested/adopted through a commercial gun-spray machine. The system uses a high-pressure spray machine to apply two liquid components that react and foam directly on the surface, creating a closed-cell layer, that bonds well to materials like concrete, wood, or metal and provides gap-free insulation, making it ideal for roofs, façades, and internal cavities. Thermal conductivity: 0.029 W/m·K @ 25°C



### VOC Removal Paint (MVIC)

Bio-based interior wall paint based on recycled polymers and bio-based additives. All components have a very low or near-zero VOC content reducing VOC emissions and odour. The paint eliminates indoor air pollutants, especially formaldehyde providing indoor decontamination properties with no UV light needed. It can be applied on plaster, plasterboard, painted walls, render and mycelium panel. Global Warming Potential: 0.220 kg CO<sub>2</sub> eq/m<sup>2</sup> (52% achieved average reduction)



### BIPV Solutions (EDILIANS)

Specific PV tiles and standard PV modules for integration in roof and façade. A photovoltaic (PV) system compatible with all kinds of façade, that's easy to install. The system uses any type of PV modules, in particular standard PV modules having typically dimensions between 1 and 1.3 meter-wide and 1.5 to 2.5 meter long. PV-specific module is rated at 100 Wp



### Filled Bricks (LEIPFINGER-BADER)

In two rows of the brick (facing the interior side of a room) the insulating mineral wool filling has been replaced by PCM-capsules with thermal storage capacity. This generates a multifunctional brick – isolating and storing thermal energy to reduce the load on active heating or cooling systems. Thermal conductivity: 0.1 W/m·K



### Insulated Blind Box (LEIPFINGER-BADER)

Provides a recessed space for concealing blinds when not in use and reduces window-lintel thermal bridges, ensuring better energy performance of masonry walls. The solution simplifies installation for builders and improves compliance with energy efficiency standards, while remaining compatible with existing construction methods. Wooden blind box: PCM capsules partially replaces hemp-jute insulation, adding thermal storage to reduce loads on active heating and cooling systems (U-value: 0.81 W/m<sup>2</sup>·K) Massive brick blind box: Bio-PUR replaces EPS insulation (U-value: 0.59 W/m<sup>2</sup>·K)



### BIO-PUR window frames + bio-based PU paint (INDRESMAT)

Plant-based insulation designed to reduce environmental impact without compromising performance. It improves energy efficiency by limiting heat loss and gain, helping lower energy use and carbon emissions. Durable and easy to apply, it offers a sustainable alternative to conventional windows in the market. Window frame thermal transmittance: 0.89 W/m<sup>2</sup>·K Biobased content of the paint on window frames: 51%



### Phase Change Materials (FRAUNHOFER)

PCM capsules help regulate building temperatures efficiently, supporting lower energy demand as energy prices rise. They are developed with a minimum-waste manufacturing approach, making the product sustainable from its early life stages. Heat storage in encapsulated salt hydrates with a diameter of less than 4 mm remains stable for more than 100 cycles without supercooling.

## APPLICATION AT WALL SCALE



Demonstration of applicability of material associations in experimental facilities, and analysis of buildability of solutions.

## POTENTIAL AT BUILDING SCALE



Numerical modeling of whole building retrofit with EasiZero solutions: 1) historical building (DE), 2) multi-family dwellings (FR), 3) detached house (NO)

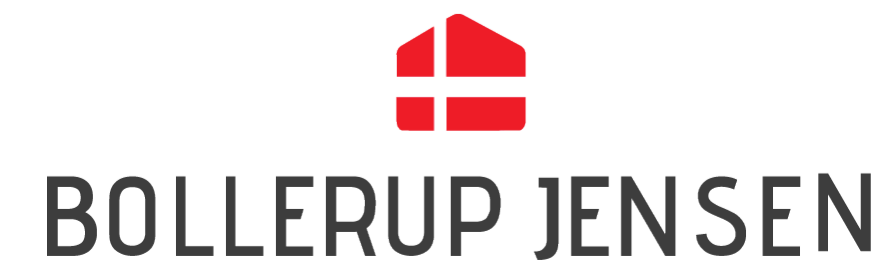
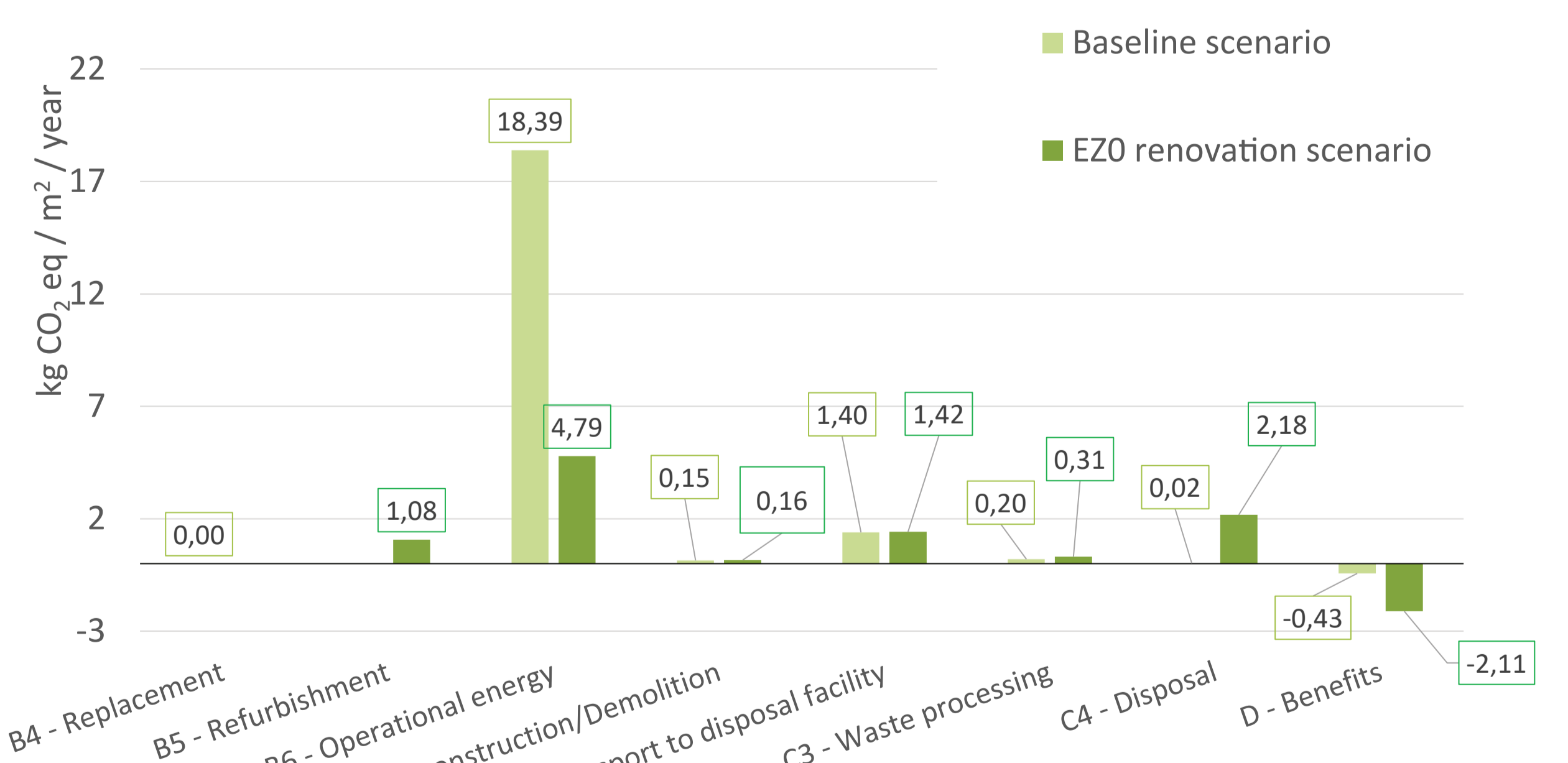
### EXAMPLE: NORWAY

Detached house retrofitted with mycelium-based insulating panels, bio-PUR window frames, wood-fibre, exterior insulating render

	Baseline	Renovated (envelope)	Renovated (envelope+ systems)
Energy consumption	128,4	101,9	46,3 kWh/m <sup>2</sup> /year
Operational carbon emissions	2,2	1,7	1,2 kgCO <sub>2</sub> /m <sup>2</sup> /year
Net energy use reduction	-	-20,6 %	-57,1 %
Net zero with PV	-	86,0	24,0 kWh/m <sup>2</sup> /year

### EXAMPLE: FRANCE

Multi-family dwellings, retrofitted with bio-PUR sprayed foam, bio-PUR window frames, wood-fibre



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