EASI ZERo

EASI ZERO GUIDEBOOK

BUILDING THE BUSINESS CASE FOR BIO-BASED, LOW-CARBON MATERIALS



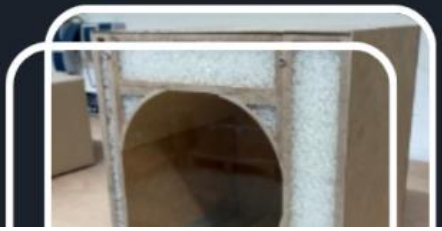














Funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101091531.

	EASI ZERo **GA n°101091531**
Deliverable	**ENVELOPE MATERIAL SYSTEM WITH LOW IMPACT FOR ZERO ENERGY RENOVATION AND CONSTRUCTION**

Deliverable ID	**D8.5**
Deliverable name	**"Training manual and infographics"**
Deliverable description	Associated with workshop reported in D8.4, one infographic and a digital guidebook will be produced that will showcase business cases for contractors to use EASI-ZERo products, and to integrate deep renovation more broadly (task 8.4). Training for professionals and graduate students will be reported, as shared activities with other projects carried on in task 8.5 (Open Innovation, Projects clusters).

WP	8	**Dissemination, Communication and Exploitation**
Task	8.5	**Training manual and infographics**

Dissemination level[1]	PU	**Due delivery date (Annex 1)**	42
Nature[2]	R	**Actual delivery date**	18/06/2026

Lead beneficiary	BPIE
Proprietary project reference	
Proprietary document reference	
Contributing beneficiaries	Fraunhofer, INDRE, SQIM, SIEVR, LFB, HUNT, EDIL-T, DTI

DISCLAIMER

Some content in this document has been created with the assistance of artificial intelligence.

PROPRIETARY RIGHTS STATEMENT

[1] Dissemination level: **PU** = Public, fully open, **SEN** = Sensitive, limited under the conditions of the Grant Agreement
[2] Nature of the Deliverable: **R** = Report

This document contains information, which is proprietary to the EASI ZERo Consortium. Neither this document nor the information contained herein shall be used, duplicated or communicated by any means to any third party, in whole or in parts, except with prior written consent of the EASI ZERo registered representative.

Version Management			
Filename	EZ0_D8.5_V2.1		
Author(s)	Ana Nanu, BPIE		
Approved by task leader	Ivan Jankovic, BPIE	**Visa**	☑
Approved by WP leader	Maja Skovgaard, DTI	**Visa**	☑
Approved by Coordinator	Arnaud Jay, CEA	**Visa**	☑
Authorized by Coordinator	Arnaud Jay, CEA	**Visa**	☑

Version	**Date**	**Author(s)**	**Modification[3]**
V0	28 May 2026	BPIE	Cover, outline, product fiches
V1	19 June 2026	BPIE	Introduction, building the business case
V2.1	7 July 2026	BPIE, DTI	Precisions to infographic and product profiles

EC-Grant Agreement	**101091531**
Project acronym	**EASI ZERo**
Program	HORIZON EUROPE
Client	HADEA
Start date of project	01 December 2022
Duration	42 months
Disclaimer	Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Health and Digital Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Coordinator – Administrative information	
Project Coordinator name	Arnaud Jay
Project Coordinator organization name	CEA
Address	CEA | INES campus | F-73375 Le Bourget-du-Lac
Phone Numbers	+33 4 79 79 21 84
Email	arnaud.jay@cea.fr
Project web-sites	https://www.easizero.eu/

[3] Creation, Modifications, Final version for evaluation, Revised version following evaluation, Final.

Table of Contents

1. How to Use This Guidebook 5

2. What Is EASI ZERo 5

2.1 Seven Principles of the EASI ZERo System 7

2.2 Product Portfolio Overview 7

3. Product profiles 10

2.3 Installer Considerations by Product 18

3. Building the business case 19

3.1 What Customers Want 19

3.2 The Lifecycle Cost Argument 19

3.3 Co-Benefits That Close Deals 19

3.4 Public Procurement and Policy Tailwinds 20

3.5 Building Trust Through Demonstration 20

4. Selling sustainable renovation 21

4.1 Selling to Different Customer Types 21

4.2 Handling the Most Common Objections 21

4.2.1 "It is too expensive." 22

4.2.2 "I'm not sure it will perform as well as conventional products." 22

4.2.3 "It's not certified / I can't get it approved." 22

4.2.4 "My installers don't know how to use it." 22

4.2.5 "What happens at end of life?" 22

5. Navigating regulations and policy 23

1. How to Use This Guidebook

This guidebook has been developed as part of the EASI ZERo project to help contractors, architects, specifiers and renovation professionals understand, adopt and sell the innovative bio-based and low-carbon products developed within the project. It draws on three and a half years of research, testing, demonstration and stakeholder engagement across seven European countries.
Whether you are encountering EASI ZERo products for the first time, or are already familiar with the project and looking for practical sales support, this guidebook will help you:

- Understand the EU policy context and the business opportunity in sustainable renovation
- Get to grips with each product in the EASI ZERo portfolio quickly and efficiently
- Make a compelling case to clients, partners and building owners
- Handle common objections with confidence
- Find the right product combinations for different renovation scenarios
- Navigate certification and regulatory requirements

2. What Is EASI ZERo?

EASI ZERo develops and validates an easy-to-install global building envelope system for efficient energy renovation with a near-zero energy balance and CO_2 emissions. The project brings together a consortium of 16 European partners representing the whole construction industry and renovation value chain, spanning seven countries and three and a half years of research and development.

The system addresses the pressing need to cut the environmental impact of European buildings by improving their thermal performance in an efficient way while minimising the carbon footprint. Materials are based on bio-sourced and recycled inputs: wood fibre, used wood pieces, grown mycelium and recycled construction waste.

The EASI ZERo system is designed to be versatile and adapt to different climate zones, building types, and renovation scenarios. The system consists of several products: a selection of bio-sourced insulation materials with high thermal performance, a durable render based on recycled materials, building-integrated PV tiles, windows and doors with innovative bio-sourced foam frames, a paint that helps purify the air, and an energy storing material for thermal control.

EASI ZERo PRODUCTS



Mycelium Panels (SQIM)

Mycelium-based panels wth 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)



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 ≤ 0.034 W/m·K



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 wth 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



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



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^{2}K
Biobased content of the paint on window frames: 51%.



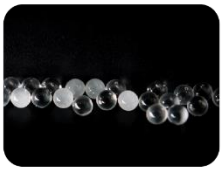
Wood-Fiber Panels (HUNTON)

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



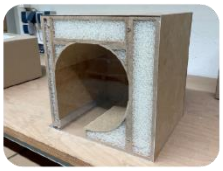
BIPV Solutions (EDILIANS)

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 a rated at 100 Wp



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.



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^{2}K)
Massive brick blind box: Bio-PUR replaces EPS insulation (U-value: 0.59 W/m^{2}K)



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_2 eq/m2 (52% achieved average reduction)

2.1 *Seven Principles of the EASI ZERo System*

Principle	What It Means
Bio-based and recycled materials	Products are developed from renewable or recovered inputs to minimise embodied carbon.
High thermal performance	Products are engineered to deliver insulation and thermal storage.
Compatible with all building types	The system has been tested on residential, commercial and heritage buildings across multiple European climates.
Easy to install and dismantle	Products are designed for straightforward installation using existing skills and equipment, with circularity at end-of-life.
Assessed performance at building scale	Lifecycle assessment covers the full envelope system across a 50-year reference period.
Documented environmental, social and economic impacts	Assessed and partially communicated through Environmental Product Declarations and material passports.
Near-zero energy balance	A demo case in Germany using EASI ZERo materials showed energy savings of up to 71%, with overall climate-change impact reductions of up to 65%.

2.2 *Product Portfolio Overview*

The EASI ZERo system comprises several distinct products covering every layer of the building envelope, from the exterior façade to the interior finish. Some highlights of the EASI ZERo system are:

Product	Application and Developer
PCM Capsule/Encapsulation Technology	Capsules that provide thermal energy storage, produced with a minimum-waste manufacturing approach (Fraunhofer ISC)
NATUREVIC PURE AIR Paint	Interior wall paint that actively neutralises formaldehyde and aldehyde compounds to improve indoor air quality (PINTURES M. VICH)
Insulated Blind Box	Prefabricated system for storing blinds using innovative materials to reduce thermal bridges at window openings (Leipfinger-Bader), to enhance their sustainability and to reduce the carbon footprint.

Sprayable bioPUR foam, BIOPURethane® sprayable foam	Bio-based polyurethane spray insulation with 60% to 70% bio-based content. Designed for walls, roofs, floors and cavities in buildings and industrial contexts. Provides thermal and sound insulation (INDRESMAT)
KLIMA-PUR FRAME, KLIMA-PUR® Window frames	Bio-based polyurethane window frames with 60% bio-content, compatible with existing manufacturing processes (INDRESMAT)
High-Performance Insulating Render	Spray-applied thermal insulation render with aerogel components for exterior and interior walls (Sievert)
Mycelium-Based Panels	Naturally grown interior design panels which increase acoustic insulation (>90% bio-based) (SQIM)
Wood Fibre Insulation Panels	High-density wood fibre insulation provide flexible, wood-based thermal and acoustic insulation for construction (Hunton Fiber AS)

The Future of the Renovation Wave

EASI ZERo

Bio-based materials as the future of sustainable construction and renovation in Europe



Buildings = 40% of total EU energy consumption

36% of EU greenhouse gas emissions come from buildings

The buildings and construction sector is responsible for ~50% global material extraction – the most of any sector

The EU has set binding renovation targets under the Energy Performance of Buildings Directive (EPBD/2024). The deep renovation rate is less than 1% per year – too low to decarbonise buildings by 2050.

What are bio-based materials?



Materials from nature, for a sustainable built environment

Bio-based materials are derived from renewable biological sources, such as wood, wood fibres, fungal mycelium or agricultural residues. Used in renovation, they offer carbon sequestration and lower embodied carbon throughout their life. They can also be reused or re-purposed at the end of their life, offering circularity to the renovation and construction process.



Why contractors should specify bio-based materials





Regulatory demand is growing

The EPBD (2024) requires Member States to target their worst-performing buildings. The revised Construction Products Regulation includes lifecycle data and Digital Product Passports. Bio-based products are future-proof.

Lower bills, faster payback

In addition to ensuring a reduction in operational energy, a lower lifecycle cost is key to evaluating these products.



Better buildings to live and work in

EASI ZERo products actively improve indoor air quality, acoustic comfort, thermal stability: benefits which resonate with residential and commercial clients.

Built for the circular economy

Bio-based, recyclable and designed for disassembly. Mycelium panels are closed loop recyclable. Wood fibre sequesters carbon, KILMA-PUR frames can be re-used directly. Aligned with EU taxonomy requirements.



Funded by the European Union
This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101091531.

3. Product profiles

The following profiles are designed to give you useful information to help specify and sell EASI ZERo products. Each profile covers the problem the product solves, key technical data, sustainability credentials, installation notes, sales arguments and guidance on handling objections.

Phase Change Materials (PCM) Capsule Technology

Fraunhofer Institute for Silicate Research ISC | Incorporated in bricks by Leipfinger-Bader

Smart thermal storage, reducing peak heating and cooling loads passively

Problem Solved	Conventional building materials absorb and release heat quickly, leading to large indoor temperature fluctuations. Heating and cooling systems must work harder to compensate, increasing energy bills and discomfort. PCM capsules help regulate heat and cold peaks.
Key Facts	Salt hydrate PCM encapsulated in 3–5 mm spherical capsules optimised without supercooling at around 29–30°C. New, lower-cost encapsulation technology for a wide range of core materials. When incorporated into bricks (Leibfinger-Bader), EOTA wall tests showed peak brick temperatures reduced by up to 10°C in cycling tests. Sphericity > 0.95, UV curing time < 0.2s.
Sustainability	The salt hydrate core is inorganic and can, in principle, be reused. The encapsulation process is designed for low waste and high throughput (100 capsules/s). The product reduces reliance on active heating and cooling, lowering operational energy consumption.
Installation	PCM capsules are incorporated into brick or façade element production. Installation follows standard masonry procedures. PCM capsules must be combined with building materials for application. No specialist tools required on site. For PCM-filled blind boxes, installation is integrated into standard masonry construction. Can work for deep renovation or rebuilding walls.
Sales Pitch	Offer your client passive thermal comfort without additional mechanical systems. The product works silently within the wall, cutting peak loads and reducing energy bills.
Pairs Well With	Pairs naturally with Leipfinger-Bader's insulated blind box system and with the BIOPURethane® sprayable foam for a complete bio-based wall system.
Handling Objections	Key objections: How do I know it will work long-term? How will I be able to recycle them? Response: validated EOTA wall test data, Fraunhofer ISC's testing record, and the stability of inorganic salt hydrate chemistry. The recycling of combined building materials is a solvable logistics challenge, not a fundamental barrier.

NATUREVIC PURE AIR

PINTURES M. VICH S.A.

Walls that actively clean the air you breathe

Problem Solved	Indoor air quality is a growing health concern. Formaldehyde and aldehyde compounds from furniture, flooring and building materials accumulate in enclosed spaces, contributing to headaches, respiratory issues and long-term health risks. Standard paints do nothing to address this.
Key Facts	Volatile organic compounds (VOC) removal capacity: 65%. Wet scrub resistance: Class 2 (ISO 11998). Fire resistance: A2-s1 d0 (EN 13501-1, applied on gypsum board). Water vapour permeability: sd = 0.04 m (ISO 7783-2). Deep matt finish (<10 gloss units). Global Warming Potential: 0.220 kg CO_2eq/m².
Sustainability	Formulated with bio-based additives, recycled polymers and recycled fillers. Near-zero VOC content. European Ecolabel certification in progress. Low carbon footprint across the product lifecycle, low Global Warming Potential: 0.220 kg CO_2eq/m².
Installation	Water-based formula. Suitable for gypsum board, plaster, fibre cement and previously painted surfaces. Easy to apply by DIY users or professional decorators using standard tools. No specialist equipment or training required.
Sales Pitch	Position this as a health upgrade, not just a decorative product. Clients spend 90% of their time indoors: this paint that actively improves the environment they breathe. Appeals strongly to families with young children, allergy sufferers and occupational health-conscious commercial clients.
Pairs Well With	Pairs well with mycelium panels for interior finishing, and with insulating render for a complete renovation of internal surfaces.
Handling Objections	Key objection: Conventional products do the job just fine. Response: no conventional paint actively removes aldehydes. In fact, they actively add these to the air. This is an upgrade that is invisible to the eye but tangible for occupant health and wellbeing.

High Energy-Efficient Insulated Blind Box

Leipfinger-Bader GmbH

Eliminating the thermal bridge where windows meet walls

Problem Solved	The junction between a window frame and the surrounding masonry wall is one of the most common sources of heat loss and condensation risk in existing buildings. Conventional blind boxes (roller shutter housings) are poorly insulated and create significant thermal bridges.
Key Facts	Wooden blind box with PCM-capsules U-value = 0,81 W/m²K (calculated) f_{RSI} (min) = 0,62 (calculated) Ψ incl. slab = 0,33 W/mK (calculated) Brick blind box with bio-PUR insulation U-value = 0,59 W/m²K (calculated) f_{RSI} (min) = 0,68 (calculated) Ψ incl. slab = 0,19 W/mK (calculated) Thermal simulations confirm improved surface temperature behaviour and reduced condensation risk at window reveals.
Sustainability	The bio-PUR insulation option (from INDRESMAT) contains 60-70% bio-based content. The PCM capsule option provides passive thermal storage. Both options reduce the operational energy demand of the building by improving the thermal performance of the most vulnerable part of the façade.
Installation	Prefabricated, drop-in solution for masonry wall construction. Installed directly during the masonry phase without additional insulation steps or specialist tools. Compatible with standard roller-shutter systems. Available in brick or timber construction.
Sales Pitch	This is an invisible upgrade that pays dividends over the lifetime of the building. Clients replacing windows in a renovation project should always be upgrading the blind box at the same time, as the incremental cost is small compared to the thermal improvement achieved.
Pairs Well With	PCM-filled wall bricks, energy-efficient masonry systems and high-performance façade solutions.
Handling Objections	Key objection: 'It costs more than a standard blind box.' Response: the payback period through reduced heat loss is relatively short, and the product eliminates condensation risk, a liability that can be costly to remediate later. Certification and additional validation are in progress to support wider adoption.

Sprayable BioPolyurethane foam, BIOPURethane® SF

INDRESMAT S.L.

High-performance insulation from renewable sources — comfort without compromise

Problem Solved	Conventional spray polyurethane foam is highly effective but derived almost entirely from fossil fuels. For contractors and clients seeking to reduce embodied carbon, conventional foam offers no credible sustainability story. Meanwhile, bio-based alternatives have historically sacrificed performance to achieve lower carbon content – until now.
Key Facts	Thermal conductivity (λ) - 0.029 (25ºC) / W/m·K, Density (applied foam) - 40 - 44 kg/m, Compressive strength - 160 - 170 kPa Water vapour diffusion resistance - M = 80 (dry-cup-method); μ = 65 (wet-cup-method), Water absorption - 1.6 % after 24h related to initial mass Dimensional stability 23 °C/ 50 % relative humidity) after 28 days - Less than 2% expansion/compression Fire behavior - Class F , Bio-based content – 60-70% All the Key performance results are validated and performed by accredited testing bodies.
Sustainability	The polyol phase is derived predominantly from natural oil based sources. End-of-life options include in-house mechanical recycling and chemical recycling through external processing facilities. The product supports circular economy principles while delivering performance comparable to fossil-based alternatives.
Installation	Compatible with existing spray foam equipment and standard gun configurations (impingement or mechanical mixing). Consistent foam quality achievable under varying climatic conditions. Substrate must be clean, dry and structurally sound. Apply in controlled layers. Mechanical removal using oscillating blades or rigid scrapers for easy disassembly.
Sales Pitch	Lead with performance, follow with sustainability. This product matches conventional spray foam on every key metric while cutting fossil-based content by nearly two-thirds. It gives your clients a credible carbon story without any sacrifice in performance or workability.
Pairs Well With	Natural partner for KLIMA-PUR window frames and insulated blind boxes. Suitable for cavity filling in combination with wood fibre insulation boards and insulating render.
Handling Objections	Key objection: 'Bio-based foams don't perform as well.' Respond with: accredited third-party test data confirming performance at or above conventional alternatives. INDRESMAT has resolved the early-generation challenges through extensive reformulation and industrial-scale testing.

BioPolyurethane Window Frames, KLIMA-PUR®

INDRESMAT S.L.

Bio-based window frames: reducing dependency on fossil materials without performance compromise

Problem Solved	Standard window frames (PVC, aluminium or conventional PUR) have a significant fossil-fuel-derived content and high embodied carbon. As buildings move towards whole-life carbon accounting, frame specification decisions will increasingly come under scrutiny. The frames effectively address heat loss, moisture ingress, poor indoor air quality, high carbon footprint, low acoustic insulation. They are a bio-based polyurethane solution that improves the sustainability of window frames while maintaining performance and industrial compatibility.
Key Facts	Thermal transmittance - 0.97 (W/m^2K) Air permeability - Class 4 (UNE-EN 12207:2017) Water tightness - Class 9A (UNE-EN 12208:2000) Wind load resistance - Class C1, Class A2 (UNE-EN 12210:2017) Static torsion resistance - Class 4, 350N Air borne sound insulation - Sound reduction 40 (-2; -6) dB Burglary security - RC2
Sustainability	Polyol phase mostly derived from natural oil based sources. Preferred end-of-life route is direct reuse (recovered profiles recut for smaller window units). Mechanical recycling reintroduces 15–20% of offcuts into production. Chemical recycling is also available as an alternative pathway.
Installation	Suitable for all kinds of buildings and renovation depths. Installation follows standard window installation procedures. Check opening dimensions, dryness and substrate condition. Position frame with rigid packers and avoid excessive clamping pressure. Fix with corrosion-resistant screws at reinforced points (150 mm from corners, 500–700 mm centres). Insulate reveals with low-expansion PUR foam. Seal externally and internally for weather and airtightness.
Sales Pitch	Compatible with existing window manufacturing processes, it is a drop-in sustainable upgrade. Pitch to building owners as evidence of whole-life carbon commitment. Supports green building certification credits.
Pairs Well With	Natural partner with insulated blind boxes, BIOPURethane sprayable foam and interior paint for a complete bio-based window and reveal system.
Handling Objections	Key objection: 'Are bio-based frames as durable as PVC?' Response: full weathertightness and structural testing to EN standards, including RC2 burglar resistance, provides a strong assurance of durability and performance.

High-Performance Insulating Render

Sievert Baustoffe SE & Co. KG

One-step insulation and façade protection from a spray gun

Problem Solved	Many existing buildings, particularly older masonry and heritage structures, cannot accept external insulation boards without disrupting façade details. Sievert's thermal insulation render is a special type of render that provides additional insulation for exterior walls while also acting as a protective layer on the façade.
Key Facts	Thermal conductivity: λ ≤0.034 W/m·K. Fire classification: A2. Water vapour permeability: μ ≤15. Bio-based content of aerogel component: 10–20%. Excellent spray-pump stability and workability. High productivity application.
Sustainability	Mineral-based, recyclable materials. Aerogel component contains 10–20% bio-based content. Reduces heat loss through the building envelope, lowering operational carbon. Suitable for historic and listed buildings where external insulation boards would be inappropriate.
Installation	Spray-applied using standard pump equipment. Three-layer system: (1) Reinforcing render with mesh reinforcement: a reinforcing plaster, with embedded mesh reinforcement, is applied over the thermal insulation render. Its purpose is to reduce tension in the render system and prevent cracks. (2) Finishing render: a weatherproof and diffusion-open finishing render serves as the final or topcoat. (3) Façade paint: Additional algae and fungus resistance and colour. Tools: spray pump, smoothing trowel, straight edge.
Sales Pitch	Position as the solution for buildings that cannot accept rigid insulation boards: heritage properties, irregular façades, constrained eaves and window details. The single-step spray application also offers significant productivity advantages on large areas. Particularly suitable for residential buildings constructed before 1980 (existing structures, old masonry), multi-family and single-family homes (standard and heavy masonry, mixed masonry), historic and listed buildings (half-timbered structures, churches, vaulted cellars, buildings with round arches).
Pairs Well With	Combines with PCM-filled bricks as the substrate for the thermal insulation render, wood fibre insulation or mycelium panel for interior walls, and VOC-free interior paint for complete internal finishes.
Handling Objections	Key objection: 'Long-term performance under UV and freeze-thaw is unproven at scale.' Response: standard mineralogy and fire classification A2 provide assurance on key parameters; long-term environmental resistance data is being developed and will be communicated as it becomes available. Cost savings thanks to quick installation and excellent thermal insulation.

Mycelium-Based Panels

SQIM

Grown, not manufactured — bio-fabricated panels for acoustic and thermal interior design

Problem Solved	Conventional acoustic and thermal insulation panels are often aesthetically unappealing and provide limited design flexibility. Most focus on high-frequency sound absorption, while low-to-medium frequencies (the most problematic in offices, restaurants and schools) are poorly addressed. End-of-life is not considered. Mycelium-based panels are bio-fabricated bio-based and 100% circular panels for acoustic and thermal insulation applications. The panels are VOC free and have unique aesthetics and touch and feel.
Key Facts	For low density: λ23/50 = 0.04385 W/mK; acoustic absorption: 0.40 aw For high density: λ23/50 = 0.06097 W/mK; acoustic absorption: 0.25 aw Third-party SBI fire certification: B-s1-d0. Panel form factor is fully customisable (shape, thickness, texture, colour).
Sustainability	Grown on low-value agricultural by-products (renewable biological resources). Bio-based content >90%. 100% circular at end-of-life: closed-loop recycling. VOC-free. No synthetic binders. CO_2 is sequestered in the mycelium biomass during growth.
Installation	Multiple installation methods: glue, screw-based, magnet-based, or fastening strips. Can be shaped and moulded to fit any wall geometry. Suitable for interior walls and ceilings. No specialist tools required.
Sales Pitch	Lead with design and wellbeing. These panels are a conversation piece: grown from living organisms, entirely unique in their texture and appearance, and certified to a respectable fire class. They differentiate your projects visually while delivering measurable acoustic improvement.
Pairs Well With	All other EASI ZERo thermal insulation materials that go inside the wall.
Handling Objections	Key objection: 'Too expensive'. Rebuttal: position against premium acoustic panels; the added value of circular credentials and design uniqueness supports the price point.

Wood Fibre Insulation Panels

Hunton Fiber AS

Renewable insulation that stores carbon and performs

Problem Solved	Standard wood fiber insulation panels have traditionally offered lower thermal resistance per unit thickness compared to traditional insulation products, limiting their competitiveness where wall or roof build-up thickness is a constraint. This product narrows that performance gap while retaining renewable, bio-based credentials. It also addresses the high carbon footprint associated with conventional mineral- and petroleum-based insulation.
Key Performance	Thermal conductivity (full scale production): λ = 0.0359 W/m·K (0.0309 W/m·K achieved at pilot scale) Bio-based content: 89.77%; recycled content: up to 20%. Reaction to fire (EN 13501) – Euroclass E Tensile strength (EN 1607) – TR1 (TR Class) Air flow resistivity (EN 29053) – 6 (kPA*s/m2) Water vapor transmission (EN 12086) – 2/5[μ] Thickness (EN 823) – T2 (T class)
Sustainability	Based on renewable wood fibre, a carbon sink that sequesters CO_2 throughout its service life. Nearly 90% bio-based content and up to 20% recycled content. Lower embodied carbon than mineral wool or petroleum-based alternatives, as documented in the Environmental Product Declaration. Demonstrated performance in real-world demonstration building in Norway. Wood fibre insulation can be recycled or recovered depending on local infrastructure.
Installation	Standard installation for thermal insulation boards. Cut boards slightly oversized for a tight friction fit against structural posts, rafters, beams, sill and other structural elements. Compress vertically as needed. When installing in multiple layers, offset joints to eliminate gaps. Comfortable to handle.
Sales Pitch	Sell on the combination of carbon credentials, comfort in use and hygroscopic performance. Wood fibre manages moisture buffering naturally, reducing condensation risk in timber-frame renovation. A natural fit for Passivhaus-influenced renovation projects and for clients with strong environmental commitments.
Handling Objections	Key objection: 'It's thicker than mineral wool for the same results.' Respond with: like all wood-based products the panels are combustible, it has Euroclass E, but fire performance is managed through correct detailing and protective claddings/renders. Highlight carbon sequestration throughout service life. Wood fiber also has preferable hygroscopic properties. The insulation boards have a high density, and therefore a good heat storage capacity and good

	sound-absorbing properties. Wood fiber insulation is comfortable to work with and easy to install.

2.3 *Installer Considerations by Product*

Product	Installer Guidance
BIOPURethane® foam	Compatible with existing spray foam equipment. Rheological behaviour optimised for standard gun configurations. No additional training required beyond standard spray foam certification.
KLIMA-PUR® window frames	Standard window installation procedure. Manufacturer guidance covers specific fixings, foam filling and sealing requirements.
Insulating render	Applied with standard spray pump equipment. Application sequence (insulation render → reinforcing render with mesh → finishing render) follows conventional render system practice.
Wood fibre panels	Standard thermal insulation board installation. Comfortable to handle and causes no skin irritation. Cut slightly oversized for tight fit.
Mycelium panels	Multiple installation options (glue, screw, magnet, strips). Guidance available from SQIM for each method.
NATUREVIC PURE paint	Standard brush, roller or spray application. Suitable for DIY (Do it yourself) or professional use. No specialist tools required.
PCM insulated blind box	Prefabricated unit; installed during masonry phase using standard masonry tools and procedures.

3. Building the business case

The EASI ZERo Academy workshop series brought together over 120 stakeholders across four sessions, including contractors, architects, manufacturers, researchers and policymakers. Their collective insight forms the basis of the business case guidance in this section.

3.1 *What Customers Want*

Workshop participants were asked to identify the most important factors in purchasing decisions for renovation materials. The findings are as follows:

Priority	What Customers Need to Hear
1. Price and affordability	Upfront cost remains the dominant factor in most purchasing decisions. Sustainable products will not achieve mainstream adoption if they carry a significant premium without a clear, communicated value story.
2. Safety and fire performance	Fire safety is a non-negotiable prerequisite. Regulatory compliance and third-party fire certification are required before most specifiers will consider innovative materials.
3. Regulatory compliance	Products without CE marking or equivalent certification face significant barriers to specification, particularly in public procurement.
4. Technical performance	Demonstrated, evidence-based performance data (preferably from real buildings) is more persuasive than laboratory results alone.
5. Sustainability credentials	Growing in importance, particularly in public procurement, green financing and commercial development. These considerations still generally come secondary to cost, safety and performance.

3.2 *The Lifecycle Cost Argument*

One of the most powerful arguments for innovative renovation materials is the lifecycle cost comparison. Most clients compare products on upfront purchase price alone. Contractors who can shift the conversation to total cost of ownership (including energy savings, maintenance costs and durability) can win business that would otherwise be lost on price.

3.3 *Co-Benefits That Close Deals*

Workshop participants consistently identified a range of benefits beyond energy savings that can differentiate sustainable renovation materials in the marketplace. These co-benefits are particularly

persuasive with residential clients who are less motivated by carbon figures, and who think more holistically about their buildings and the health and experiences of those occupying them:

- Improved indoor air quality: Reduced formaldehyde and VOC concentrations (NATUREVIC PURE AIR paint; mycelium panels)
- Enhanced acoustic comfort: Lower noise transmission and better sound absorption (mycelium panels; wood fibre insulation)
- Thermal comfort: Reduced temperature swings and draught elimination (PCM capsules; blind boxes; spray foam)
- Reduced condensation and mould risk: Hygroscopic materials manage moisture passively (wood fibre panels; insulating render)
- Health and wellbeing: Bio-based, low-toxicity materials reduce occupant exposure to chemical emissions
- Circular credentials: Many of the products are designed for end-of-life recovery, reuse and recycling

3.4 *Public Procurement and Policy Tailwinds*

Public authorities are increasingly required to apply green procurement criteria that favour low-carbon and bio-based materials. Contractors who can demonstrate competence in sustainable renovation systems are better positioned to win publicly funded renovation contracts, which represent a significant and growing share of the market under the EU Renovation Wave.

The revised EPBD creates obligations for Member States to prioritise the worst-performing buildings, including social housing, public sector buildings and schools. These are typically procured through public frameworks where environmental criteria, including lifecycle carbon and bio-based content, are increasingly weighted.

3.5 *Building Trust Through Demonstration*

Consistently across all four EASI ZERo Academy workshops, participants identified demonstration projects as the most effective tool for overcoming market scepticism. Real-world case studies, such as the ones coordinated by the EASI ZERo project with documented performance data, reduce perceived risk and accelerate adoption by subsequent clients.

4. Selling sustainable renovation

4.1 *Selling to Different Customer Types*

Different clients respond to different arguments. The table below maps the most persuasive selling approaches to the most common client types you are likely to encounter in a renovation context.

Client Type	Recommended Approach
Private homeowner	Lead with comfort, health and energy bills. Avoid technical jargon. Focus on how the home will feel different after renovation: warmer in winter, cooler in summer, quieter, fresher air. Provide a simple payback calculation in euros per year.
Housing association or social landlord	Lead with energy poverty reduction, tenant wellbeing and regulatory compliance. Highlight EPBD obligations and green financing opportunities. Demonstrate lifecycle cost advantages over the portfolio.
Commercial building owner	Lead with asset value, green certification and corporate ESG commitments. Show carbon accounting data. Emphasise material passports and Environmental Product Declarations where available.
Architect / designer	Lead with design possibilities (mycelium panels, insulating render textures), technical data sheets and certification documentation. Provide BIM-ready data where available.
Public authority	Lead with green procurement compliance, lifecycle assessment data and policy alignment with EPBD and CPR. Reference EU funding opportunities for renovation.
Property developer	Lead with market differentiation, green building certification credits and the growing premium commanded by certified low-energy buildings in the residential and commercial market.

4.2 *Handling the Most Common Objections*

The following objections were identified through the EASI ZERo Academy workshops as the most common barriers to market adoption. Suggested responses are drawn from evidence generated within the project.

4.2.1 "It is too expensive."

Acknowledge the concern and reframe the conversation around total cost. Break down the energy savings in euros per year. Show the payback period. Highlight that green renovation financing (subsidies, green mortgages, EU cohesion funds) can significantly reduce the net cost to the client. Note that prices will fall as production scales, so early adopters gain competitive advantage.

4.2.2 "I'm not sure it will perform as well as conventional products."

Draw on accredited third-party test data. Reference the EASI ZERo demonstration buildings in Norway, Germany and France where energy reductions of 45–71% were achieved using these materials in real buildings. Offer to connect the client with project reference sites.

4.2.3 "It's not certified / I can't get it approved."

Review the certification status of each product. Several products have completed or are completing CE marking and third-party certification. For products where certification is in progress, voluntary certification from recognised bodies provides interim market credibility. The revised Construction Products Regulation's more flexible standardisation processes should accelerate future certification timelines.

4.2.4 "My installers don't know how to use it."

This is a legitimate concern and one to take seriously. Emphasise that all EASI ZERo products are designed to be compatible with existing skills and equipment. Hands-on demonstration is the most effective training tool: consider requesting a product demonstration from the manufacturer before the first installation. Many manufacturers offer technical support for early adopters.

4.2.5 "What happens at end of life?"

EASI ZERo products have defined end-of-life pathways: mycelium panels and wood fibre insulation are recyclable in closed loops; KLIMA-PUR window frames can be directly reused or mechanically recycled; bio-PUR foam can be chemically recycled and compressed into boards or reintroduced in KLIMA-PUR window frames as fillers. Material passports will document these pathways formally.

5. Navigating regulations and policy

The regulatory environment for sustainable renovation materials is changing rapidly. The following overview focuses on the frameworks most relevant to contractors specifying EASI ZERo products.

The revised EPBD, which entered into force in 2024 and had its transposition deadline for Member States on 29 May, is the most significant driver of demand for high-performance renovation solutions. Meanwhile, the revised CPR expands product assessment requirements beyond traditional performance parameters.

Upcoming key policies and provisions which contractors and specifiers should be aware of are the following:

- Minimum Energy Performance Standards (MEPS) for the worst-performing buildings, with Member States required to phase them out of the market from 2030
- Renovation passports to support staged deep renovation pathways for individual buildings
- Whole-life carbon reporting requirements from 2030, covering both operational and embodied carbon
- Near Zero Energy Building requirements for all new buildings
- Environmental Product Declarations: growing in importance for product specification in public procurement and green building certification
- Digital Product Passports: Products will be required to carry machine-readable information on material composition, performance and end-of-life (expected after 2026)
- Lifecycle assessment: Building-level carbon calculations will increasingly require product-level lifecycle assessment data
- Durability requirements: Products will potentially need to meet durability, reparability and recyclability requirements and demonstrate long-term performance

Finally, CE marking remains the primary market access requirement for construction products in the EU. For innovative products, the certification pathway can be complex. The closer a new product is to an already existing product which has received its certification, the smoother the pathway. A solution for product developers is pursuing private voluntary certification from recognized testing institutes and bodies – this is an alternative which also provides market credibility while standards evolve, and can be used to strengthen a sales argument.

The following resources are available to support your work with EASI ZERo products:

Resource	Details
Project website	www.easizero.eu — full product portfolio, publications and news
EASI ZERo Academy recordings	https://studio.youtube.com/playlist/PLBoIy-X5N2Xo/videos

Product developer	Contact details
Fraunhofer Institute for Silicate Research ISC	Neunerplatz 2 97082 Germany Customized Material Innovations – Fraunhofer ISC - Fraunhofer ISC
PINTURES M. VICH S.A.	Roure 7. Pol. Industria Jardi 17843 Girona (SPAIN) Inici | PINTURES M.VICH S.A
Leipfinger-Bader GmbH	Ziegeleistraße 15 84172 Vatersdorf Leipfinger-Bader GmbH
INDRESMAT SL	Ctra. del Mig, 75, 08907 L'Hospitalet de Llobregat, Spain Sustainable bioPolyurethane Building Materials
Sievert Baustoffe SE & Co.KG	Mühleneschweg 6 49090 Osnabrück https://sievert-international.com/DE_de
SQIM	Via San Francesco d'Assisi 62, Inarzo, Varese 21020, Italy SQIM | Sustainable Biomaterials for a Regenerative Future
Hunton Fiber AS (public)	Niels Oedegaardsgate 8 Postbox 633 N-2810 Gjoevik Norway www.hunton.no