



Promise made, promise kept: Cellulose insulation for a greener and more resilient European building stock

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"Promise made, promise kept:
Cellulose fiber insulation continues to play
the first fiddle as the greenest of the green
and most resilient insulation material."



Pasi Typpö
Chairman of the Board

Common European action, as set out by the highly ambitious yet crucial European Green Deal with the overarching goal of making Europe climate neutral by 2050, was never more important than today.

With the crippling effects of the COVID-19 crisis felt across Europe, the action requires not only a joint approach, but even more so a swift and targeted implementation. This is even more true for the fragmented nature of the building sector.

ECIA and its members herewith reaffirm their firm belief that a dedicated renovation fund, together with the commitment to make the renovation wave a green and sustainable, and not a green-washed one, will play an important role in the renovation wave's success.

The time is now for resilient and green insulation materials to take center stage. From low embodied energy, via locally sourced raw materials to decades of bringing comfort to homes and wallets alike - cellulose fibre insulation keeps its made promises.

Pasi Typpö
Chairman of the Board
European Cellulose Insulation Association

Promise 1: Greenest of the Green

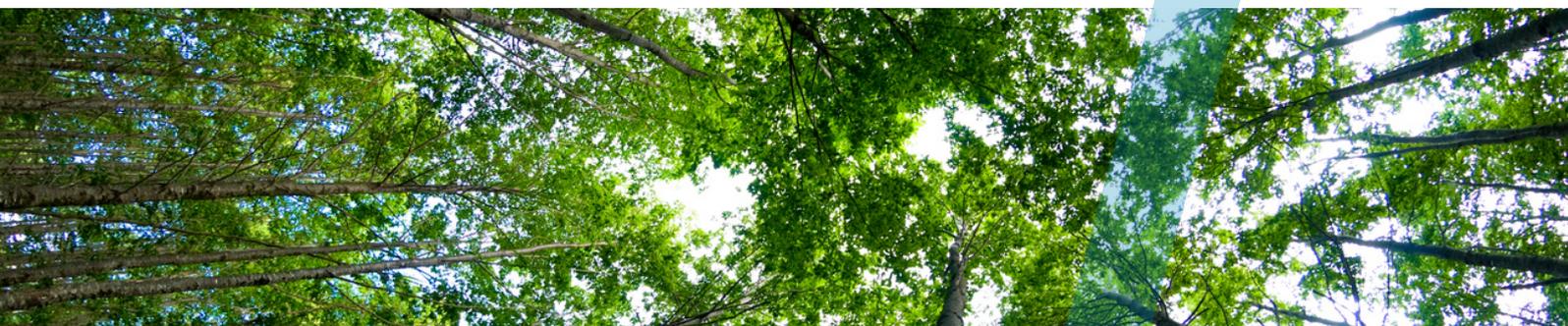
In the heart of the European Green Deal's and #NextGenerationEU's proclamations, the word green is found repeatedly. The initiatives' goal is to make the European Union a greener and more sustainable place to live and work for generations to come, with cellulose fibre insulation ticking all the required boxes.

Yesterday's news is today's insulation:

The bio-based, natural thermal insulation material made of cellulose fibres is produced by upcycling clean and sorted daily newspapers, which make up to 95% of the final product. Through its production cycle, the fibres are treated with mineral additives, which allow the final product to be fire and mould resistant. You may enjoy your daily newspaper with a cup of coffee in good conscience, knowing through ECIA members' cooperation with printing houses, municipalities and recycling companies, your old newspaper will find its way into homes providing comfort through its insulation capacities.

Green through and through:

However, it would be hard to put a green label on the product, even with the manufacturers' commitment to circular economy and upcycling, if the production process itself would require burning fossil fuels or consume high quantities of energy. Good to know that cellulose fibre insulation also delivers here. The low primary energy consumption for production, including all processes, is around 5 kWh / m³ at 50kg / m³, and hence further contributes to the building material's convincing ecological footprint in the production process. Paired with the manufacturers' commitment to using green electricity sources, ready produced material ready to be shipped out to customers convinces as a green product through and through.



Promise 2: Resilient product made in and for Europe

"Europe must regain its resilience and independence" is a statement à la mode in today's political discourse. While for years, production processes have been shifted to seemingly more cost-efficient corners of the world, the push for key industries to restore and rebuild their capacities in continental Europe is gaining traction. It is further accelerated by the effects of the COVID-19 pandemic revealing flaws in global supply chains and a lack of preparedness of European societies. However, the pandemic only kick-started what has been brewing under the surface for decades, in particular when it comes to climate change making consequent catastrophes reported on European TV screens a much more frequent occurrence.

Safeguarding people, communities and economies from climate-related shocks and disasters requires to be one of the priorities of stimulus policies aimed at Europe's recovery from the aftermath of COVID-19. Resilience-building needs to be an integral part of the sustainability transition advanced by the European Green Deal, combining economic, technological, social and institutional innovations.

How can insulation material help in this regard, you may ask?

ECIA and its members, looking back at more than 40 years of experience on the European market, know of their responsibility towards the European Community facing current and future challenges.

As to cellulose fibre insulation, the production plants were and will always to be found in the heart of Europe. Additionally, cellulose fibre insulation materials are locally sourced, produced and used, ensuring its independence from external shocks in the global supply chain.

Lastly, cellulose fibre insulation tackles, through its thermal capacities, with energy poverty and more extreme weather conditions two of the most pressing issues faced by, in particular, the poorer segments of society.



Promise 3: Comfort and health for generations

In Europe, homes are built for generations. In most European countries, at least half of the existing residential buildings were built before 1970. Combined with the fact that thermal insulation and energy efficiency was not at the forefront of discussions until the 2000s, this consequently leads to a grim picture of the current European building stock, in particular when it comes to the ambitious but crucial goal of carbon neutrality by 2050. As of today, less than 3 percent of current buildings within Europe do not need to be upgraded until mid of this century.

Based on estimations that 75 - 90% of current buildings will be still standing by 2050, retro-fitting moves to the center of attention for any home owner and public and private housing associations.

Cellulose fibre insulation continues to remain a trusted choice for retrofitting projects to provide multi-generational comfort, as it

- continuously performs for the life span of the building in normal use conditions,
- adapts to your surroundings in storing and releasing humidity,
- naturally serves as CO2 storage, and
- provides a pleasant inside temperature no matter the harsh conditions outside.

With the continued rise of temperatures and extreme weather occurrences, repeatedly resulting in heat waves and heavy storms and flooding, having an adaptable and tough insulation material to weather any climatic conditions is important for a long-term retrofitting project.



Promise 4: Proven performance and trusted expertise

ECIA and its members stand behind cellulose fibre insulation not only because it presents itself as the logical sustainable and resilient choice for energy renovations of the building envelope. In hundreds of tests conducted by universities, research facilities and in-house testing rounds, the integrity and performance of the material under assessment were proven time and time again.

This means for public stakeholders, contractors and customers alike the reassurance that any stated information in technical documents and elsewhere was not merely fabricated to describe a desired state, as recently and over the years discovered among market contenders' practices. To the contrary, the promises cellulose fibre insulation manufacturers make every single day by bringing their product to the market is a promise kept.

But the promise does not end at the doors of the production plant. Throughout a network of trusted experts, who are undergoing regular training and updates on the newest technologies available, the material is being blown in at the respective attics or walls, seamless and without waste but with a guarantee for a green, resilient, healthy comfort within each home for years to come.



ECIA's recommendations for a green and sustainable renovation wave:

The European Cellulose Insulation Association **fully supports** the European Commission's assessment that buildings and the renovations thereof play a decisive role in achieving carbon neutrality by 2050.

Hence, **investments in carbon-neutral buildings are of utmost importance and represent an opportunity to reconcile climate goals while jump-starting the European economy.** The construction sector's environmental responsibility and sustainability are indispensable preconditions for the implementation of the EU Green Deal, the Renovation Wave as well as the Circular Economy Action Plan.

The Renovation Wave initiative is **a unique opportunity to tackle climate change while delivering concrete benefits to European citizens:**

- **Single largest energy consumer:** Buildings are the single largest energy consumer with approximately 40% of EU energy consumption. It is estimated to go up to 50%, if the construction industry and its upstream value chain are included.
- **Increased urbanization:** In Europe in 2050, the volume of floor additions could top 20 billion square meters by 2050. The renovation of buildings in the residential sector has the most potential for energy savings. Residential buildings represent the largest share of the total building floor area in the EU (76%) and suffer from chronic investment barriers.
- **Engine to recovery:** The building sector represents 7-10% of today's workforce in the OECD, a major source of employment, hence economic growth and social welfare, with SMEs contributing more than 70% of the value-added in EU's building sector. Investments in energy efficiency stimulate the economy, especially the construction and renewable energy industries, generating about 9% of Europe's GDP and directly accounting for 18 million direct jobs.
- **Energy efficiency measures for healthier and more inclusive societies:** Buildings are where people live and work, and where people spend 95% of their time. Energy poverty, a major issue before the economic crisis, is now set to explode. 80 million Europeans already live in homes that make them sick. Buildings in Europe are highly inefficient: a 2017 BPIE study has shown that more than 97% of buildings must be renovated to achieve decarbonisation. Inadequate buildings can be tied to half of excess winter deaths. Prioritizing the usage of bio-based, natural and sustainable materials and technologies can significantly contribute to the health of its inhabitants and lifts people out of energy poverty.
- **Products & Know-how Made in Europe:** Europe has a lot of strengths in the construction area, with leading players covering the whole spectrum of the value chain (construction industry, technology providers, utilities, services business and specialized software companies).

Precondition for making the renovation wave a success:

In order to allow the EPBD's goal of decarbonizing the EU building stock by 2050, the Renovation Wave should be designed to reach **a minimum of a 3% renovation rate per year.**

Transforming the buildings sector will both take decades and require substantial financial and human resources, as well as integrated approaches and measures to be taken on multiple stakeholder levels:

Guiding Principles:

- **Swift implementation** of the “Energy Efficiency First” principle as the fastest and most cost-effective way to reduce emissions and stimulate sustainable economic recovery.
- **Political accountability** to be ensured through specific, enforceable milestones and review mechanism, given the 2050 decarbonisation objectives is decades away
- Assessment of environmental and energy performance by categories of buildings, reflecting the results into a minimum green public procurement threshold for sustainable products to **boost the use of bio-sourced, natural carbon storing materials** and solutions for better resource and energy efficiency
- Definition of clear energy efficiency measures as **improvements of the building envelope** (insulation, new windows, etc.), driven by economical, technical and environmental assessments
- **Connection** of Renovation Wave to **relevant, interlinked policy initiatives**: Circular Economy Action Plan, the SME strategy and EU Industrial Strategy.



Swift and unbureaucratic implementation:

- **Exempt** energy efficiency building renovation projects **from EU state aid rules**. More complex state aid procedures constitute barriers to swift implementations of building renovation projects.
- Encourage Member States to use **exceptional fiscal measures** to support the renovation of existing buildings (e.g. reduced VAT rates on labour intensive services in the construction sector and efficient construction materials, eco bonus, etc.)
- **Support** the introduction of **building renovation passports**, accompanied by specific financing/funding information and one-stop-shops (regional and local level) that accompany the building owner
- **Address potential liquidity problems** of the construction ecosystem involved in renovating the existing building stock, due to COVID-19 crisis
- **Ensure public funding from well-designed investment programmes** to complement the already committed private investments. High volumes of investments are necessary. Housing providers already committed to large investments for renovating houses before COVID-19. However, in order to adapt the entire social, cooperative and public housing stock, more investments are needed

Education and support for homeowners:

- Establish an EU wide programme to **massify free advice on renovation** (e.g. online tools to plan/sketch renovation developed under Horizon 2020)
- **Raise awareness** and increase public relations work **to communicate the consequences of low embodied energy materials** (grey energy), CO2 pricing, etc., so that owners can make educated decisions on the costs and benefits for the renovation projects of their buildings
- Reduce barriers to renovation for building owners by alleviating inconvenience of renovation for buildings owners and providing technical and financial assistance

Renovation wave as green, sustainable wave:

- **Prioritize the use of bio-sourced, natural carbon storing construction materials** and solutions with low embodied energy (grey energy)
- **Define accurate accounting rules** to measure and confirm the substitution effect of using bio-sourced products instead of carbon-intensive materials
- Ensure that materials used for construction and renovation return to the value-chain by fostering eco-design, **increasing recycling targets** and favouring wherever possible the use of secondary raw materials for construction and renovation products



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