

# Retrofit Challenge Understanding the Potential of Natural Fibre Insulation

**Mark Lynn**

**Eden Renewable Innovations**

**Webinar: Natural Fibre  
Insulation and the  
Retrofit Challenge**

**NATURAL FIBRE  
INSULATION GROUP**

# Natural Fibre Insulation

---

NFI  
Solutions are  
Scalable

NFI  
Technology is  
Established

Only NFI is  
Truly  
Breathable

NFI Solutions  
are Cost  
Effective

Thin Layers  
Have a Big  
Impact

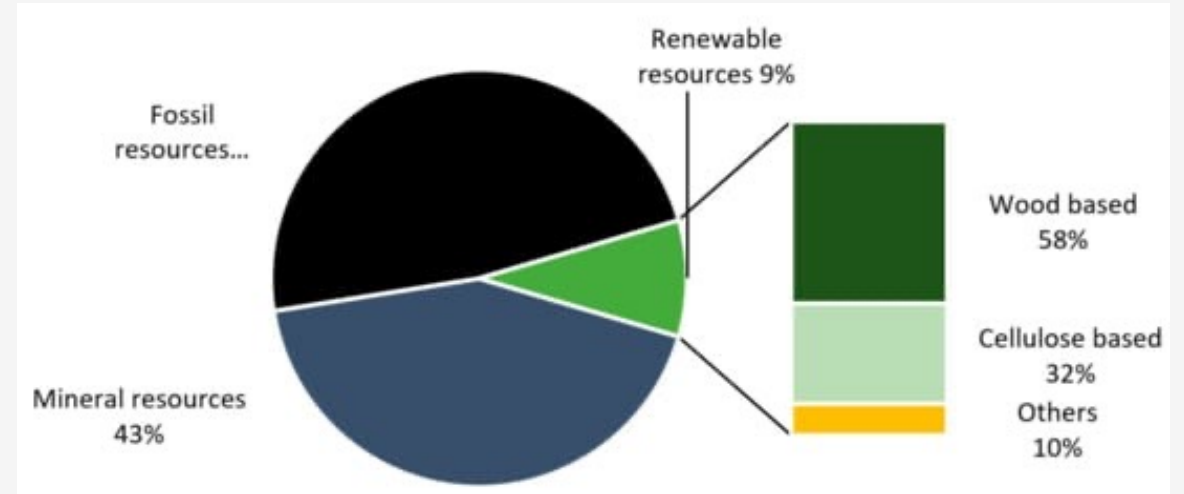
Better Energy  
Savings than  
you Think

Demand  
for NFI  
is Real

# NFI Solutions are Scalable

- Two NFI brands being manufactured in UK at scale.
- 6+ Woodfibre brands being manufactured at scale in Europe and imported in volume.
- At least 6 brands of Cellulose insulation being manufactured at scale in Europe and imported in volume.
- At least 6 other NFI types being manufactured at scale in Europe and imported in volume.
- 20 companies in the UK operating full technical & specification support teams.

Market shares of insulation material by raw materials in Germany in 2019



# NFI Technology is Established

- Gutex was the first in Europe to manufacture insulation boards from ecological wood fibre in 1932. Now in its fourth generation, the family-run company employs 200 people and manufactures 700,000 m<sup>3</sup> of wood fibre insulation annually.
- STEICO (originally as Steinmann & Co) launched in 1986. By 2002 the STEICO plant in Poland is the largest manufacturer of woodfibre in Europe. By 2010, around 1 million m<sup>3</sup> of insulation produced per year.
- PAVATEX, now part of Soprema, was founded in 1932. It has two woodfibre manufacturing facilities, in France and Switzerland and employs 220 staff.
- Cellulose insulation was first used back in the late 19th century, with mainstream use particularly in the USA in the 1970s.
- Thermafleece sheep's wool insulation has been manufactured in the UK for nearly 25 years.

MARCH, 1928

GARDEN & HOME BUILDER

## 1928

*It tucks in*  
— there is no other way to make your house heat-tight

Balsam-Wool is a blanket of fluffy wood fibre that looks and feels like sheep's wool and is its practical equivalent in insulating efficiency. Balsam-Wool is windproof, water-proof, fire-resistant, sanitary and durable.



Would it be good judgment for you to use an insulation all over your house yet leave open all cracks and crevices around windows, doors, in corners, etc.? Many are making that mistake. Doesn't it seem reasonable that you should caulk these cracks—seal the openings, where the great heat losses occur?

You can, easily, if you use a flexible insulating material such as Balsam-Wool. Balsam-Wool comes in rolls and in widths which fit snugly between studs and joists. It is used as an insulating lining—added to houses without changing their basic construction in the slightest. Balsam-Wool tucks-in—windproofs all the cracks and open joints. There's no other way to make your house heat-tight.

Another thing: Balsam-Wool is the only blanket form of building insulation sold in full-inch as well as half-inch thicknesses. Use a full inch of Balsam-Wool throughout your house and you can save 75% of its first cost by reducing the size and number of radiators required. And you will save 35% to 45% on fuel thereafter.

Investigate this important subject before you spend a cent. Mail the coupon now for a free sample of Balsam-Wool and our instructive booklet, "House Comfort That Pays for Itself"—the facts about true insulation.

**WOOD CONVERSION COMPANY**  
Makers of both flexible and rigid insulation  
Mills at Cloquet, Minnesota  
Sales Offices in Principal Cities

# Balsam-Wool

—the flexible insulating and sound deadening blanket  
SOLD EXCLUSIVELY THROUGH RETAIL LUMBER DEALERS

The Weyerhaeuser Guarantee is behind Balsam-Wool. It assures highest quality and lasting satisfaction to users.

WOOD CONVERSION COMPANY  
Dept. 42, Cloquet, Minn.  
Give them your name and address. Please send me sample of Balsam-Wool and booklet "House Comfort That Pays for Itself". I expect to build a house. I own an old house. □

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

75

# NFI is Truly Breathable (Vapour open & Sorptive)

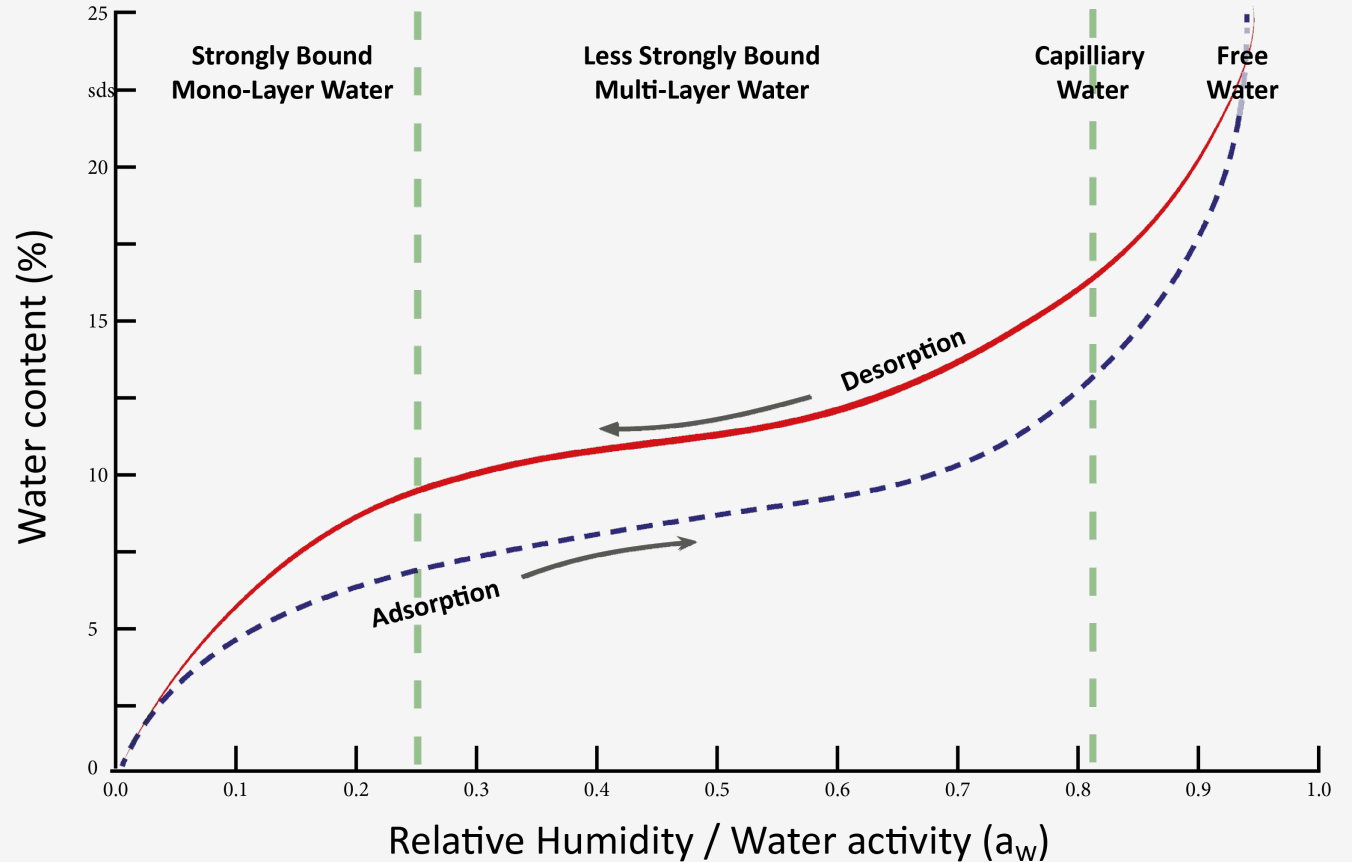
Sorption is an important aspect of a fully functioning breathable structure.

Sorption enables NFI to pull humidity away from the dew point as temperature falls.

NFI forms bound water which is less damaging than liquid water.

**NFI transforms the building fabric into a safe moisture buffer.**

Sorption is a predictable property that enables accurate modelling.



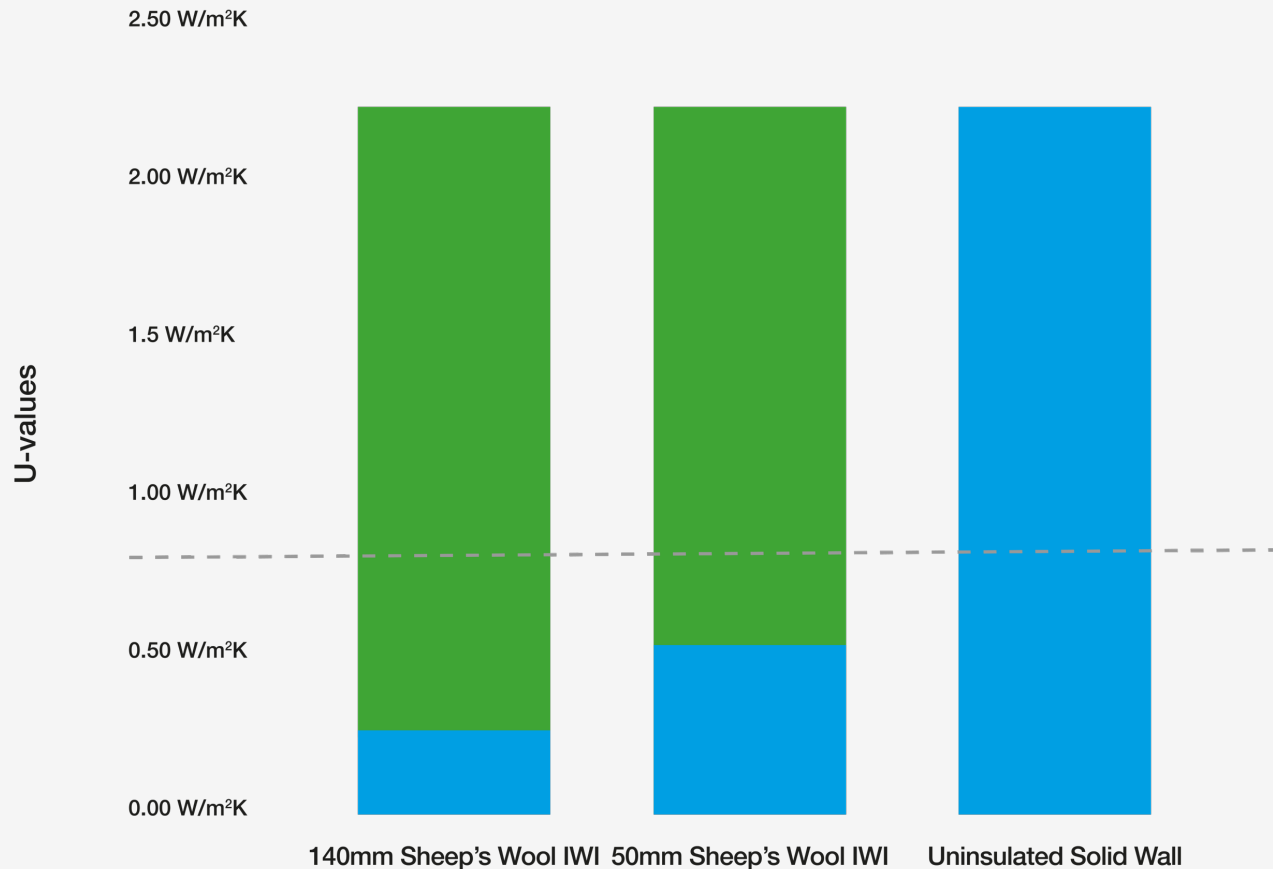
# NFI Solutions are Cost Effective

	U-Value W/mK	Energy Savings W/mK	Annual Energy Savings (AES)/ m <sup>2</sup> kWh/m <sup>2</sup> .yr	AES/m <sup>2</sup> £/m <sup>2</sup>	15 Year Payback Limit £/m <sup>2</sup>	Potential Savings against 0.30 %
<b>Uninsulated solid brick wall</b>	2.21	0	0			
<b>40-50mm NFI</b>	0.70	1.51	26.97	£4.06	£60.84	79.1%
	0.65	1.56	27.86	£4.19	£62.86	81.7%
	0.60	1.61	28.75	£4.32	£64.87	84.3%
<b>60-75mm NFI</b>	0.55	1.66	29.65	£4.46	£66.88	86.9%
	0.50	1.71	30.54	£4.59	£68.90	89.5%
	0.45	1.76	31.43	£4.73	£70.91	92.1%
<b>120-140mm NFI</b>	0.40	1.81	32.33	£4.86	£72.93	94.8%
	0.35	1.86	33.22	£5.00	£74.94	97.4%
	0.30	1.91	34.11	£5.13	£76.96	100.0%

**0.65 – 0.70 W/m<sup>2</sup>K – The point where doing something is substantially better than nothing.**

**0.45 – 0.50 W/m<sup>2</sup>K – Best “bang for buck”, half the insulation >90% of the savings.**

# Thin Layers Have a Big Impact on Energy Savings

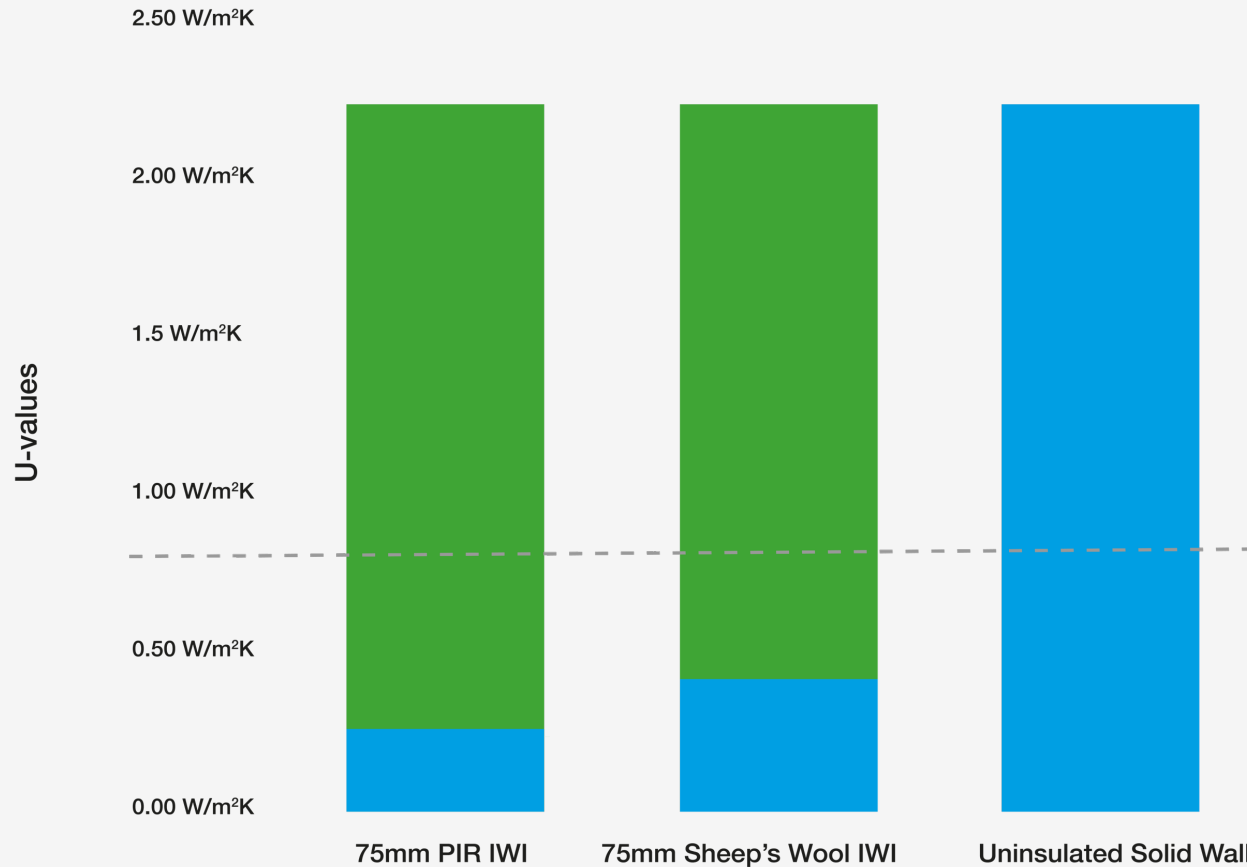


Even thin insulation layers provide significant savings.

50mm Sheep's Wool provides >80% of the savings from 140mm with 70% less insulation.

Energy savings provide the means for calculation ROI.

# Better Energy Savings than you Think



75mm Sheep's Wool v's 50mm PIR + Low E cavity (75mm total).

U-value comparison shows 50% performance difference between PIR & Sheep's Wool.

Energy Savings comparison shows 8% difference in performance.



## Demand for NFI is Real

---

Momentum behind NFI is unstoppable.

Hundreds of thousands of M<sup>3</sup> used in UK each year

Interest in NFI is at an all-time high with 1000s attending recent ASBP webinars.

NFI is a credible part of the mix.

NFI is the optimal solution to many projects.

# Thank you

Mark Lynn

Chair, The Alliance for Sustainable Building Products

Managing Director, Eden Renewable Innovations Ltd

[mark@thermafleece.com](mailto:mark@thermafleece.com)

