BUSINESS LEADER INTERVIEW

Neil Hargreaves
Managing Director
Knauf Insulation Northern Europe

1) Why is making progress on Net Zero important to your business?

Knauf Insulation exists to reduce carbon emissions. Every day, our products are actively reducing energy use in millions of homes, schools and workplaces across the nation.

Much progress has been made, but the challenge remains acute. There is no path to net zero without significantly improving the energy efficiency of the UK's buildings, and an enormous national effort will be needed to bring both new and existing properties up to the required standards.

Improved insulation will be at the heart of this. As the UK's largest insulation manufacturer, our products will play a vital role in reducing operational carbon emissions in the built environment.

But we know that's not enough. Operational carbon is only one side of the equation – to create genuinely low-carbon buildings, we need to construct them using low-carbon materials. As a manufacturer, it's our responsibility to give the industry the solutions it needs to achieve this. That means taking bold action now to reduce the embodied carbon and environmental impact of our products.

This is a promise we've made as a business, to all our customers and communities across the globe. In our recent sustainability strategy 'For a Better World', we made specific and ambitious commitments for 2025, to build on the progress we've already made against our long-term goals. These include pledges to further reduce our carbon footprint, minimise waste and develop innovative new solutions.

Net zero is a colossal challenge. To achieve it will require unprecedented collaboration and the sharing of best practice across the construction industry. I want Knauf Insulation to join Construct Zero to share what we've learned, but also to learn from the experiences of others, so we can make our rightful contribution to a built environment that's fit for the future.

2) Which of the nine priorities are more relevant to your business and clients and why?

3) What are you doing to make progress against the relevant priorities (of the nine) in the short and long-term?

BUILDINGS

Priority four:
Work with Government to deliver retrofitting to improve energy efficiency of the existing housing stock

Priority six:
Enhancing the energy performance of new and existing buildings through higher operational energy efficiency standards and better building energy performance monitoring

Why are these priorities relevant to your business and clients?

We cannot achieve a net zero UK without addressing building carbon emissions.

Approximately 80% of 2050's buildings already exist today, and housing alone is responsible for around 14% of the UK's greenhouse gas emissions. It's widely recognised that a national retrofit and refurb programme is urgently needed to make our existing buildings net zero ready.

New buildings also need attention. The upcoming changes to Part L of the building regulations will reduce carbon emissions by 31% compared with today's standards – a big change, but a long way off the level that will ultimately be needed. Further mandated improvements are inevitable, starting with 2025's Future Buildings Standard.

But higher standards alone won't be enough. In parallel, we must close the gap between the energy performance of buildings as designed, and how they actually perform in the real world. Because at the moment, there's a gulf between the two, and it risks fatally undermining our collective efforts.

What are you doing to make progress against these priorities?

We manufacture high-performance, non-combustible insulation, used by the construction industry to create better buildings that meet and exceed the latest energy efficiency standards. Alongside our products, we provide a comprehensive service offering to improve standards of design and installation across the entire supply chain.

This ranges from design support and technical advice, including our 3D U-value calculation service that provides far more accurate modelling of thermal performance; through installer training, which we offer in multiple formats; to our new specification assurance service, which verifies that the correct product has been used in individual homes.

Closing the performance gap

We're proud of all these initiatives, which help to improve quality across the industry, and we'll continue to invest in product and service innovations to help our customers deliver more sustainable buildings. But I'm most excited about our recent work using technology to close the gap between the designed energy performance of buildings, and how efficient they are in the real world.

In partnership with our sister company Knauf Energy Solutions (KES), we've developed innovative sensor technology that measures the 'actual' energy performance of individual homes. By combining these sensors with a quality-controlled insulation retrofit, we've shown how in-situ measurement could work at scale to deliver substantial carbon emission reductions compared with current methods of construction.

Proving the model

On a 1970s social housing estate in Trafford, we saved residents an average £411 per year on their energy bills through our quality-controlled refurb. The interesting part is that all of the homes were listed as achieving an Energy Performance Certificate (EPC) grade D or E before the work began. Afterwards, their notional EPC grades were unchanged – our work simply brought their real-world performance in line with what was claimed.

We had similar results on an estate in Eccles, built more recently in 2014. These newer houses were theoretically built to recent standards for energy efficiency. The energy efficiency of the houses improved by an average of 17%, but again, without a corresponding change in their EPC ratings.

What's next?

Our findings have been shared with the government, and KES's sensor technology is currently being assessed as part of the Smart Meter Enabled Thermal Efficiency Ratings (SMETER) project to test solutions that could underpin a new 'real performance' model for EPCs. Meanwhile, we're actively engaging with a number of prospective partners to identify further projects for quality-controlled construction or retrofit as the Knauf Energy Solutions model is rolled out commercially in the UK.

TRANSPORT

Priority one:
Maximising use of Modern Methods of Construction and improved onsite logistics, reducing waste and transport to sites

Why is this priority relevant to your business and clients?

Knauf Insulation supplies merchants, distributors and construction sites across the country, and uses packaging to protect our products for customers. Addressing the distribution and logistics side of our operations is an essential part of reducing our carbon footprint.

What are you doing to make progress against this priority?

We've taken a number of actions to minimise our road miles. We manufacture our insulation here in the UK, with sites in St Helens, Queensferry and Cwmbran. The recycled glass we use to make our Glass Mineral Wool insulation comes from used bottles and jars collected and processed locally – in the case of our St Helens factory, from a Veolia site literally across the road. This alone saves 375,000 road miles annually.

This year we've upgraded our industry-leading compression technology to a 10:1 ratio, so we can fit even more insulation in every pack, and more packs on every pallet. That means we can use fewer lorries for distribution.

It also reduces the amount of plastic packaging we use per metre of insulation, which contributes to our efforts to reduce waste to landfill. Between 2010 and 2020, we reduced our waste to landfill by over 67%. In our recent sustainability strategy 'For a Better World', we've made an ambitious commitment to eliminate it from our business globally by 2025 (see final page for a visual overview).

We will also continue to explore the potential for Modern Methods of Construction, building on partnerships we've launched with specialist contractors and developers to pioneer the use of our Supafil® Blowing Wool range in timber-framed offsite construction to create ultra-efficient homes.

CONSTRUCTION ACTIVITY

Priority nine:
Support development of innovative low carbon materials (prioritising concrete and steel), as well as advancing low carbon solutions for manufacturing production processes and distribution

Why is this priority relevant to your business and clients?

The construction industry uses Knauf Insulation products to reduce operational carbon in buildings, and their positive impact offsets the carbon used to manufacture them many times over. In fact, for every kilowatt of energy we use to manufacture our products, they'll save 500 kilowatts over a 50 year lifespan. But that doesn't mean we shouldn't also reduce our own carbon footprint. It's our aim to provide high-performance insulation with minimal impact on the environment. In other words, low-carbon insulation for low-carbon buildings.

What are you doing to make progress against this priority?

We've taken action to reduce our carbon footprint across every element of our operations (see final page for an overview).

I've already mentioned our use of locally-collected recycled glass to manufacture our Glass Mineral Wool insulation here in the UK, thanks to our partnerships with Veolia and Recresco. Most of our products are manufactured with ECOSE® Technology, our unique bio-based binder made from rapidly-renewable raw materials. ECOSE® Technology is 70% less energy-intensive to manufacture than traditional binders.

Since 2015 we've shared a strategic sustainability partnership with Siemens to reduce energy use at our manufacturing sites. The efficiency improvements from this programme have reduced our CO_2 emissions by over 5,000 tonnes a year.

In the previous section, I explained how we're using industry-leading compression technology to reduce distribution road miles and our use of plastic packaging. We're taking other action on plastics too. Later this year we'll be introducing new packaging across our range that's made from a minimum 30% recycled content, and is also itself easier to recycle.

Our 'For a Better World' sustainability strategy commits us to reducing the embodied carbon of our products by 15% between 2019 & 2025, and cutting our organisational carbon footprint by 25%.

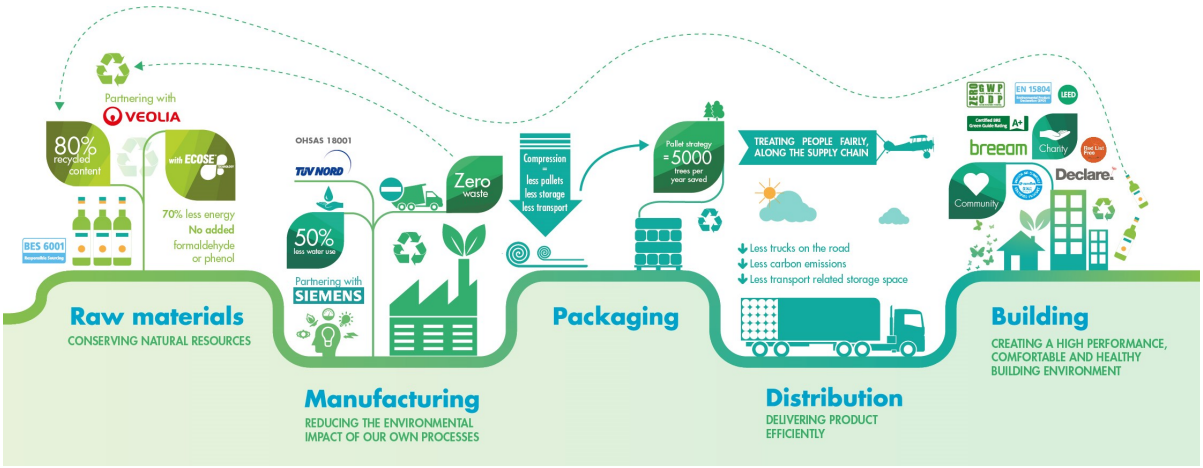
4) How have you helped your supply chain understand what is required against the nine priorities?

As a sustainable manufacturer, we're not just responsible for our own carbon footprint. If our vision is to lead the change in smarter insulation solutions to help create a better world, then we have a duty to ensure we're giving the supply chain the tools it needs to deliver one.

I hope my answers in the previous sections have shown how seriously we take this at Knauf Insulation. We combine product innovation with active advocacy for, and support of, higher standards in design and installation. We're not just a supplier of high-performance insulation, but a partner in high-performance buildings.

So, we work closely with our full supply chain – contractors & installers, merchants & distributors, architects & specifiers and housebuilders & developers – to provide the resources they need to build lower carbon buildings, and do so more efficiently.

Turning to our own suppliers, Knauf Insulation was independently certified as achieving BES 6001 for the Responsible Sourcing of Construction Products in 2017. BES 6001 sets standards for product manufacturers to ensure their entire supply chain operates with social and environmental responsibility. Achieving BES 6001 requires a stringent set of policies to be in place, and robust management of both ourselves and our supply chain.



5) As a business leader what do you think the biggest challenge is and how are you working to overcome it?

6) In your view what is the one innovation or change that is going to have the biggest impact on carbon or progress in our industry?

We know zero carbon buildings are essential, but current methods of construction and (lack of) measurement mean the industry has no way to be sure it's actually delivering them.

Climate crisis doesn't respond to notional U-values. To achieve net zero, we have to close the performance gap between the as-designed and as-built energy efficiency of our buildings.

That's why I'm so excited by our work with Knauf Energy Solutions. It proves the opportunity to combine technology with installation expertise to deliver a new model, one in which building energy performance can be assured, and outcomes measured. We can be sure of the real performance of our buildings, and that they're truly zero carbon.

For the government, it connects the dots between a few different policy initiatives; from the EPC Action Plan to the New Homes Ombudsman. And it provides a means of accurately assessing the return on taxpayer investments in building energy efficiency, and the 'actual' carbon emissions savings that result.

For the construction industry, real performance will enable greater quality assurance and unlock new models, including opportunities to deliver retrofits to homeowners via energy service contracts.

And for homeowners, it provides reassurance that their home is genuinely low cost to run, and that it has minimal impact on the environment.

EMERGING LEADER INTERVIEW

Christopher Price
Technical Development Manager
Knauf Insulation

1) What do your peers and wider employees within your company think about the businesses' approach to net zero?

The launch of the 'For a Better World' strategy was given pride of place at the annual conference, presented by senior leadership from across the business.

Within any organisation, there can be a friction between achieving the company's primary objectives and sustainability. When questioned about it, David Ducarme, the Group COO, gave detailed technical answers about factory technology and routes to achieving zero carbon. It's clear the company is committed to the policy, actively investigating viable solutions and building them into future plans.

When tackling a business challenge, there is always someone in the room not only asking if our approach is right for the business, but questioning if it's the right thing to do from a moral and environmental standpoint. It's not a few lone sustainability voices banging the drum for greater ambition, it's at the core of our values.

'Menschlichkeit', which roughly translates as 'humanity', encourages and empowers staff to act with integrity, to make decisions that make society a better place both now and in the future. Can this situation act as an opportunity to lead; to demonstrate that companies can treat our environment with respect and create a better world while also remaining profitable?

There's a general recognition that sustainability is a business opportunity if approached in the right way – it's not seen as a legislative burden, or a nice-to-have add on, but another area in which the company can position itself as a market leader.

2) How are the younger generation within your business engaged in this?

Engagement doesn't lead to change. Change requires bold business decisions by those in leadership positions now, not engagement of a younger generation in the hope they'll take action in the future.

For any policies to be a success, they need to be embraced by the whole organisation – it needs to be within the DNA of an organisation, with buy-in from everyone. Would this question be asked about Health and Safety?

The younger generations don't want to be engaged; they already are. What they want is for their employer to understand the role they play in the climate and ecological crisis, to take responsibility and make socially and environmentally responsible decisions.

So, I believe the more pertinent question to ask is how are senior leaders engaging in this? In that respect, the signs at Knauf Insulation are encouraging. It's clear that 'For a Better World' is a substantive commitment taken seriously by leaders across the business.

3) What more do you think your business could be doing against the nine priorities?

The pandemic has shown us what bold action looks like, shifting entire workforces to working from home, or swiftly introducing new health and safety protocols to allow production to continue safely. Bold structural change is needed in other areas too.

I want to address priority nine – the need to advance low-carbon solutions. In 'For a Better World', Knauf Insulation has committed to reducing its carbon footprint by 25% by 2025. This short-term target is welcome, it focusses minds now, but there needs to be a roadmap to zero in line with the science. How will it be achieved and when? What needs to happen? Do we upgrade our plants to hydrogen to eliminate burning gas in our furnaces? What supporting infrastructure would be needed to enable this?

4) A Youth Voice COP climate is being organised in Milan to bring together young people globally. What would be your key issue to raise?

Bold action creates a legacy. How do the world's leaders want to be remembered?

When will we move away from just setting targets and start implementing, at scale, the structural changes required?

How will any new policies be policed, and what resources will be committed to do so?

5) What do you do in your daily life / job that makes a difference?

I try to live up to the old adage to 'be the change you want to see'.

I switched to 100% renewable electricity six years ago when I bought my first house and I'm now working with specialist architects to give it a low carbon retrofit. Being in a mid-terraced property, I'm naturally encouraging my neighbours to join me too.

Having a child can be an environmental nightmare; but there are simple steps I take to reduce her impact. She's been in reusable nappies her whole life – it wouldn't feel right to throw hundreds of single use items in the bin every month – and the clothes she wears are largely pre-loved.

Sustainability goes beyond climate, we also need to tackle the ecological crisis we're facing with the collapse of numerous species including bees. I trained as a beekeeper with the Manchester and District Beekeepers' Association and now engage the public in the role and importance of pollinators, receiving a Queens Award for Volunteering in 2019.

At work, I'm part of the Green Building Task Force – a group of colleagues from across Europe sharing ideas and challenges on how Knauf Insulation can contribute to more sustainable construction. Externally, I represent the company on numerous groups including the Passivhaus Technical Committee, and the UK Green Building Council's Whole Life Carbon Roadmap Task Group.

I've also been coordinating the renewal of Environmental Product Declarations for all three of Knauf Insulation's UK plants. These documents are used by architects and specifiers to make informed decisions about the embodied carbon of construction products, an increasingly important agenda as we ramp up action on climate change to achieve net zero.

GLOBAL SUSTAINABILITY IN NUMBERS