

# ARCHITECTURE

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Y E A R B O O K



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# BUILDING FOR A NET-ZERO FUTURE

**BY CLARE BOOTH**

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*Clare is the Co-Founder and Co-Director of Coldwells Build, a leader in Scotland's sustainable housing sector. Inspired by the climate focus of COP26, Clare set out to make high-performance, energy-efficient homes more accessible. She and her husband, Ross Booth, developed the Coldwells Build Passivhaus—a range of prefabricated homes that far exceeds Scotland's standard building regulations. With a focus on sustainability and innovation, Clare has helped position Coldwells Build at the forefront of Scotland's green building movement. The company simplifies Passivhaus construction, offering turnkey and self-build solutions that blend modern design with world-leading energy efficiency. Clare's industry leadership has been key to Coldwells Build's success in delivering certified Passivhaus homes that reduce carbon emissions, lower energy bills, and enhance occupant comfort. Through her work, she is shaping the future of Scottish housing, ensuring that net-zero living becomes a mainstream reality.*

As Labour's housing plan gains momentum, Scotland is setting a bold precedent. In the coming years, all new homes in Scotland will need to meet a Scottish equivalent of the Passivhaus standard—a globally respected benchmark for energy efficiency. At Coldwells Build, we're helping clients and the construction industry adapt to this transformative shift. Passivhaus, developed over 30 years ago in Germany, is now recognised worldwide as the gold standard for energy-efficient residential design. By prioritising airtight construction, high-quality insulation, mechanical ventilation with heat recovery, and triple-glazed windows, Passivhaus homes provide comfortable indoor temperatures with minimal heating or cooling needs. These homes typically achieve reductions in heating bills by as much as 79% and



Above: The Arbor House by Coldwells Build | Photography by Jim Stephenson



have a significantly lower carbon footprint. As Scotland embraces this standard, we at Coldwells Build are committed to creating high-quality, prefabricated homes that not only meet but exceed these new requirements. This national policy shift isn't just about meeting a regulatory goal; it represents a long-term commitment to creating homes that add lasting value for both occupants and the environment. For Scotland, it's a climate-conscious move that brings tangible benefits, but it also presents a challenge: aligning construction practices with rigorous energy performance standards while keeping costs in check and maintaining design quality. Founded in 2016, Coldwells Build has developed a range of Passivhaus-certified homes that simplify the building process for clients across Scotland. Our prefabricated homes are designed to make Passivhaus accessible not only for high-end custom builds but also for self-builders, developers, and first-time buyers seeking eco-friendly options. Our approach merges traditional Scottish architectural aesthetics with cutting-edge building science, all while allowing us to deliver homes that are both high-performance and achievable at scale. Prefabricated in our Aberdeenshire workshop, each home is built to exacting standards, ensuring consistent quality, reducing on-site build time, and minimising waste. Our journey toward Passivhaus began with a simple question: how can we build better? The environmental and financial pressures of traditional construction were clear. After



attending events around COP 26 climate summit, we began exploring models that would allow us to build homes that are energy-efficient, accessible, and scalable. Passivhaus was the clear answer. Moving towards a net-zero future requires collaboration and shared knowledge. To support the industry's transition, we've partnered with leading Passivhaus specialists, including John Gilbert Architects, to refine designs and establish best practices. Our team has also undertaken rigorous Passivhaus training and certification through BE-ST (Built Environment – Smarter Transformation), equipping every member with a deep understanding of the science

and techniques that make Passivhaus so effective. One challenge for builders is adapting to the heightened demands for airtightness and insulation. We've simplified this through our prefabricated panel system that ensures high-quality airtightness and insulation from the outset. The Coldwells Build Passivhaus Panels are produced in a controlled environment, pre-fitted with insulation, cladding, and high-performance windows, and then transported to the site for quick assembly. This process reduces on-site variability, speeds up installation, and ensures that each Passivhaus feature is built to precision.

While Scotland leads the way in adopting net-zero standards, the rest of the UK stands to benefit from our approach. Here are a few takeaways we believe can support a successful transition:

- **Embrace Rigorous Standards:** Scotland's commitment to adopting a Passivhaus equivalent standard shifts the focus to science-backed, energy-efficient solutions. Adopting similar standards across the UK would provide measurable results and reduce the energy burden on homeowners.
- **Prioritise Education and Skill Development:** Equipping tradespeople, architects, and contractors with the necessary skills is essential. Scotland's model emphasises training and certification, ensuring everyone involved understands Passivhaus principles and can

execute them to a high standard.

- **Streamline Processes with Prefabrication:** Coldwells Build's prefabrication approach is a model for producing high-quality, energy-efficient homes while controlling costs. Prefabrication can play a crucial role in meeting net-zero targets by reducing waste, increasing efficiency, and improving quality control.
- **Engage Homeowners and Communities:** Educating homeowners about the benefits of energy-efficient homes builds trust and encourages wider adoption. We've seen how sharing the long-term financial and environmental advantages of Passivhaus can make a difference.

Our commitment to building ultra-low-energy homes goes beyond regulations; it's rooted

in a philosophy of creating homes that work harmoniously with their environment. By embracing Passivhaus principles, Coldwells Build is helping homeowners reduce their environmental impact, improve comfort, and lower heating costs. Each home we build represents a thoughtful balance between advanced building science and the timeless appeal of Scottish design. As the rest of the UK considers its path towards net-zero building, Coldwells Build offers an example of what's possible when traditional values meet cutting-edge standards. With our commitment to craftsmanship, sustainability, and the science of high-performance building, we're proud to help shape a net-zero future for Scotland—and perhaps, one day, for the entire UK.

[www.coldwellsbuild.com](http://www.coldwellsbuild.com)

*Below: Coldwells Build Passivhaus House 01*

