

# Homes for the Homeless

Net Zero | Passivhaus Plus | Modular | Relocatable





Ferry Road is the first Net Zero relocatable, residential development in Europe to be built to the Passivhaus Plus standard.

Client	Cardiff Council
Location	Ferry Road, Grangetown, Cardiff
Brief	48 x volumetric modular 1, 2 and 3 bed apartments with 2 support blocks, housing offices, a training room, training kitchen, medical office and crèche

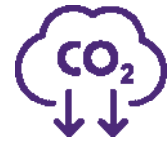


**OFFSITE AWARD WINNER!**  
Beattie Passive won 'Building Performance Pioneer' for this project at the 2022 Offsite Awards.

## Passive Power

All 48 of the 1, 2 and 3 bedroom homes at Ferry Road have been built to the Passivhaus Plus standard. These homes don't just use less energy - they produce their own!





## Net Zero

**Ferry Road has achieved a Net Zero rating. This aligns with Cardiff Council's vision for a carbon neutral city by 2030.**

One of the simplest ways to achieve Net Zero is to build a Passivhaus and then add a source of renewable energy. Because the energy demand is so diminished, it only takes a small amount of renewable energy to balance it out.



### **Photovoltaic panels capture the sun's energy**

Not only does this mean that the buildings are phenomenally energy efficient – effectively eliminating fuel poverty – it also means that the entire development is rated Net Zero.





## Lifecycle Analysis

Independent analyst-house Cercula has completed a lifecycle analysis for Ferry Road. The potential life cycle cost savings exceed £17 million!

### BEATTIE PASSIVE



### TRADITIONAL MASONRY

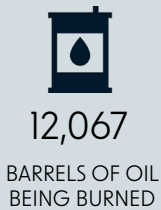


Fig 1. Potential lifecycle cost savings when compared to a like-for-like traditional masonry build with average energy consumptions. Lifecycle of build assumed to be 60 years, in line with guidance from the RICS.

By choosing the Beattie Passive system over a traditional housebuilder, our client is estimated to have saved 5,189 tonnes of carbon.

That's equivalent to...

Fig 2. Carbon equivalents



**"Residents will save ~ £2,200 on their annual bills"**

Cercula, 2022

Fig 3. Carbon saving



**78%**

Less whole life carbon compared to a traditional build



## Relocatable Housing

Our volumetric modular homes can be demounted and relocated. The development at Ferry Road is an agile solution and the potential carbon savings are enormous.

**"The flexibility of this fully demountable system means they can be moved elsewhere in the future if required, enabling us to respond to changing housing needs over time."**

**Councillor Lynda Thorne, Cabinet Member for Housing and Communities, Cardiff Council**

**Image:** The original CGI visualisation of the project at Ferry Road. We model everything in 3D using REVIT BIM (Building Information Modelling) software.





## What is Passivhaus Plus?

According to the Passivhaus Trust, "A building certified to Passivhaus Plus not only dramatically reduces energy use, but it also produces as much energy as occupants consume, turning them into Passivhaus Powerhouses."

"The energy generated must come from renewable sources and provide enough energy to operate the building throughout the entire year."

### The benefits of Passivhaus

At Beattie Passive, we've been committed to Passivhaus from the start because the benefits are so compelling. It's the Passivhaus standard that raises living standards for occupants, lowers their energy bills and cuts their carbon emissions. It ticks all the boxes. The energy efficiency is absolutely remarkable.

With concerns about climate change intensifying and rates of fuel poverty rising at an alarming rate, Passivhaus really does sell itself, but not enough people know about it. We're on a mission to raise awareness and make Passivhaus more accessible to everyone."





## Volumetric Modular

We've combined all the energy efficiency, comfort, and carbon-saving benefits of Passivhaus with the speed and versatility of offsite volumetric modular technology.



## Offsite MMC

Built to rigorous Passivhaus performance standards, our modular homes are highly energy efficient. Unlike traditional housing developments, which can often take a long time, modular housing can be delivered comparatively swiftly.





## The Benefits of Timber

Designed and modelled in the Passivhaus Planning Package (PHPP) and constructed around a sustainable timber frame, our patented build system maximises airtightness and minimises thermal bridging to dramatically improve energy efficiency and reduce CO<sub>2</sub>



**Above:** our patented Passivhaus certified timber frame build system.

**"We use timber because it has the lowest embodied carbon of any mainstream material"**

Ron Beattie, Founder and Managing Director, Beattie Passive

With over 100,000m<sup>2</sup> of manufacturing space, we can deliver large offsite projects.

Our offsite operations are unimpeded by external factors - such as the UK's famously inclement weather!





Residents can attend sessions with trained staff that cover parenting skills, cookery, employment and money advice services



### Regenerating a Brownfield Site

The Ferry Road development has been constructed on the site of a former gasworks in Cardiff.

## Support Services

Cardiff Council provides wraparound support services for residents. This development is already having an enormous social impact.



## Working in Partnership with Cardiff Council



"I've worked in temporary accommodation for Cardiff Council for over 18 years and it's fair to say I've never seen a development on this scale or anything this impressive. It's really forward-thinking in the way it's been developed. It's been really well-received by residents that have moved in so far.

"We've had lots of happy tears and to have a separate office for staff is an absolute godsend. To say we're pleased is an understatement and we're all looking forward to working here."

**Lisa, Supported Accommodation,  
Cardiff Council**



The original brownfield site was derelict and in dire need of regeneration. But what a tremendous opportunity to build back greener! We couldn't wait to get started.





## Accreditations & Certifications



## Our Patented Passivhaus Build System

Beattie Passive is the first UK company to be certified by the Passivhaus Institut in Germany for a complete build system.

We're certified by BOPAS (the Buildoffsite Property Assurance Scheme) to give you complete confidence in our offsite manufacturing capabilities and the overall quality of the modular homes we build.







Image: The kitchen



Images: Residential blocks have individual courtyards, baths, showers, drying facilities, lifts and cycle storage

# Accolades & Awards



- Project of the Year
- Contractor of the Year
- Best Use of Timber
- Offsite Pioneer of the Year
- Building Performance Pioneer



- Project of the Year
- Low Energy Project of the Year



- Carbon Reducation Champion
- Net Zero Trailblazer of the Year
- Offsite Specialist of the Year



- Development of the Year



- Excellence in Sustainability (Highly Commended)



