



KEY FACTS:

Partners:

NHBC, Leeds Building Society and Lloyds Banking Group

Scheme overview:

A smaller parcel of the wider Chase Farm Regeneration project. Delivering 100+ homes on the ex colliery site.

Gedling Green is a 33 home scheme built to the new Future Homes Standards.

EV Charging, Air source heat pumps, solar panels and increased wall cavity.

Launched for sale in November 2023

A 2 year during and post customer occupancy study run by Birmingham City University with dedicated PhD students.

FUTURE HOME PILOT

Gedling Green, Nottingham

The Future Homes standards (FHS) pilot at Lambley Lane in Gedling is a ground-breaking initiative, contributing significant learning and experience on how homes of the future will be constructed, delivered and lived in. The collaborative project enables all stakeholders to gain valuable tangible results prior to the building regulations changing in 2025.

This innovative 33 FHS home pilot site gained planning approval in early 2022, with the first customers collecting their keys in early 2024.

Our work, along with our partners, is helping us understanding how the relationship between new technology and healthy living requirements, will shape experiences of customers in the future. This industry-leading venture allows us to share valuable research directly to the governments Future Homes consultation. Assisting in the promotion of new technologies and the development of tools such as SAP testing for the purpose of compliance.

The digital capabilities that Keepmoat has developed over recent years, allows us to internally model all our house types and enable the team to breakdown precisely the changes required to the internal and external fabric of the home to the regulatory standard.

This is a constantly moving process and stakeholders are learning together as we go.

Key points we have learnt to date.

- ▶ Increased cavity width to enable enhanced thermal performance
- ▶ Requirement for robust thermal bridging details and good workmanship
- ▶ Improved detailing and training to achieve reduced levels of air leakage
- ▶ Proposed low carbon heating solution
 - Proposal eliminates requirement to work with refrigerant
 - Enables all maintenance to take place outside of the home
 - Enables additional free space within the home for storage optimization of efficiency and comfort
 - Benefits of Alternative Heat Emitters:
 - Health, safety, low maintenance, no replacement, low bills.

TIMELINE

Phase 1: Introduce the interim uplift

December 2021
Interim Part L, F and
Overheating regulations
made for domestic and non-
domestic buildings.

June 2022
Interim Part L, F and
Overheating regulations
come into effect.

Phase 2: Technical work and engagement

Autumn 2021 – Summer 2022
Research and analysis to
develop proposed technical
specification.

Summer 2022 – 2024
Develop sector specific
guidance and embed
understanding of the FHS.

Phase 3: Consultation and Policy Development

Spring 2023
Technical consultation on the proposed specification of the
Future Homes Standard

Phase 4: Full FHS Implementation

2024
Part L FHS regulations made.

2025
Part L FHS regulations come
into effect.



Birmingham City University occupancy study

A fundamental pillar of this pilot at Gedling Green is the educational piece for the wider industry and customers. With a dedicated team and funded PhD programme Professor Mike Leonard, a visiting professor in construction and of the Building Alliance will be collecting pre, during and post occupancy information to help teach customers on how to maximise the efficiency of their homes. A valuable tool for stakeholders to understand what the new regulatory changes will mean.



Delivering in partnership

To officially launch the scheme and celebrate the journey, we were delighted to welcome Parliamentary Under Secretary of State in the Department for Levelling Up, Housing and Communities - Baroness Penn and VIP Guests from all key strategic public and private partners to the site in January 2024. Keepmoat is Homes England largest strategic partner, and the agency are land owners of Gedling Green. Lloyds Banking and Leeds Building society are joint lead sponsors and supporting the green affordability element into mortgage assessments.



New supply chain and specification.

Establishing a quality and robust supply chain for this new range of houses and sweep of technology has been a significant task. Making sure we're able to deliver the new homes at scale once the regulatory changes are implemented in 2025. Below are the partners involved with Gedling Green;

- ▶ AES sustainability consultants advising on Energy Compliant solutions
- ▶ Panasonic - Air source Heat Pumps
- ▶ REDD - Heating Design
- ▶ WMS - Underfloor heating and controls
- ▶ Mixergy - Smart hot water energy store
- ▶ Smart Car Charging Cylinder
- ▶ Gigabit Broadband Free for 2 years - Hyperoptic



Key learning

- ▶ Air source heat pumps are being used to replace the need for Gas boilers which will be banned from 2025. This requires a change of mentality for customers. Learning to have larger radiators, having temperature constant rather than the instant hit of heat from adjusting the thermostat.
- ▶ Under floor heating - This has been found to offer a more comfortable living experience and targets the heat where you want it. Resulting in more space as there isn't any radiators on the ground floors but also less dust being moved around the room due to convection.
- ▶ PV Panels have been an additional feature at the expense of Keepmoat, this to allow electricity bills to fall for customers. At the moment electricity is triple the price of gas, it defeats the objective when a customer buys a house but its more expensive to run.
- ▶ The water tanks have redesigned to heat specifically what is required when using rather than slowly heating the whole tank.
- ▶ The living environment is cooler but more efficient as its constant temperature.
- ▶ Support of Lenders Lloyds Bank and Leeds Building Society Their support is integral to the recognise the importance and viability of the pilot moving forward.

Sustainability

We've studied of the energy reduction value of individual components and equipment - investigating the performance gap and how design can produce effective energy-in-use reduction

Temp and humidity - to check conditions across the home in relation to living room and connect to lifestyle Study into the role of windows in low carbon living - to relate land and planning to the provision of low carbon living.

Study of behaviour change in families through engagement with children - to encourage community engagement with the project and investigate changes in family behaviour. Gaining positive publicity for the development as an educational opportunity.

About Echo

As the homes are completely revolutionary to current homes. We have had to think about our sale and marketing process to differentiate them.

Echo is the new way to live, work and play in perfect harmony with nature. With more open spaces, trees and hedgerows, wildflowers and wildlife habitats, our sustainable designs support cleaner, healthier low carbon living.

Echo
A new way of living

