

MARCH 2023

CASE STUDY

PARADIGM HOUSING
ASSOCIATION DEPLOYS
HOMELINK ENVIRONMENTAL
SENSORS TO MONITOR POST-
RETROFIT CONDITIONS IN
LINE WITH PAS 2035



PARADIGM HOUSING
ASSOCIATION HAS ALREADY
INSTALLED THE HOMELINK
CONNECTED HOME
SOLUTION TO 69
SUPPORTED HOMES, WITH
516 CONNECTED DEVICES
CURRENTLY PROVIDING
DATA, INSIGHTS AND
REPORTING VIA THE
HOMELINK PORTAL.

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As part of their bid for Wave 2.1 of the Social Housing Decarbonisation Fund (SHDF), Paradigm opted to include Aico's HomeLINK Environmental Sensors to evaluate the success of their retrofit programme and meet the requirements for monitoring, outlined within PAS 2035.

Paradigm Housing's portfolio continues to grow, with over 16,000 homes across 30 local authority areas. The use of the latest technology is paramount not only to drive efficiency but enable informed decision-making during their planned upgrade works to decarbonise their housing stock.

IMPLEMENTING A NEW PROGRAMME TO ACHIEVE NET ZERO GOALS.

Paradigm Housing Association plans to undertake a major investment programme across its housing portfolio to ensure properties are well-maintained and safe for residents. As well as combating environmental issues such as carbon emissions and the energy efficiency of housing stock.

Paradigm programme plans to meet the following targets:

- 100% compliance with health and safety regimes
- 100% compliance with Decent Homes Standards regulatory requirements
- A detailed plan to achieve net zero carbon by 2050
- Starting a programme of works, with the aim of ensuring the majority of their stock reaches EPC C standard by 2030
- Pilot projects to test how they can provide low and zero carbon sources of heating
- Compliance with new building safety regulatory system for high rise buildings
- Commit to an Environmental Strategy to address climate change resilience, energy efficiency and excellent management of waste and hazardous products

Paradigm's new vision has an increased focus on safety and sustainability, while providing excellent service for their customers.



SECURING SHDF WAVE 1 FUNDING TO DELIVER RETROFIT PROGRAMME

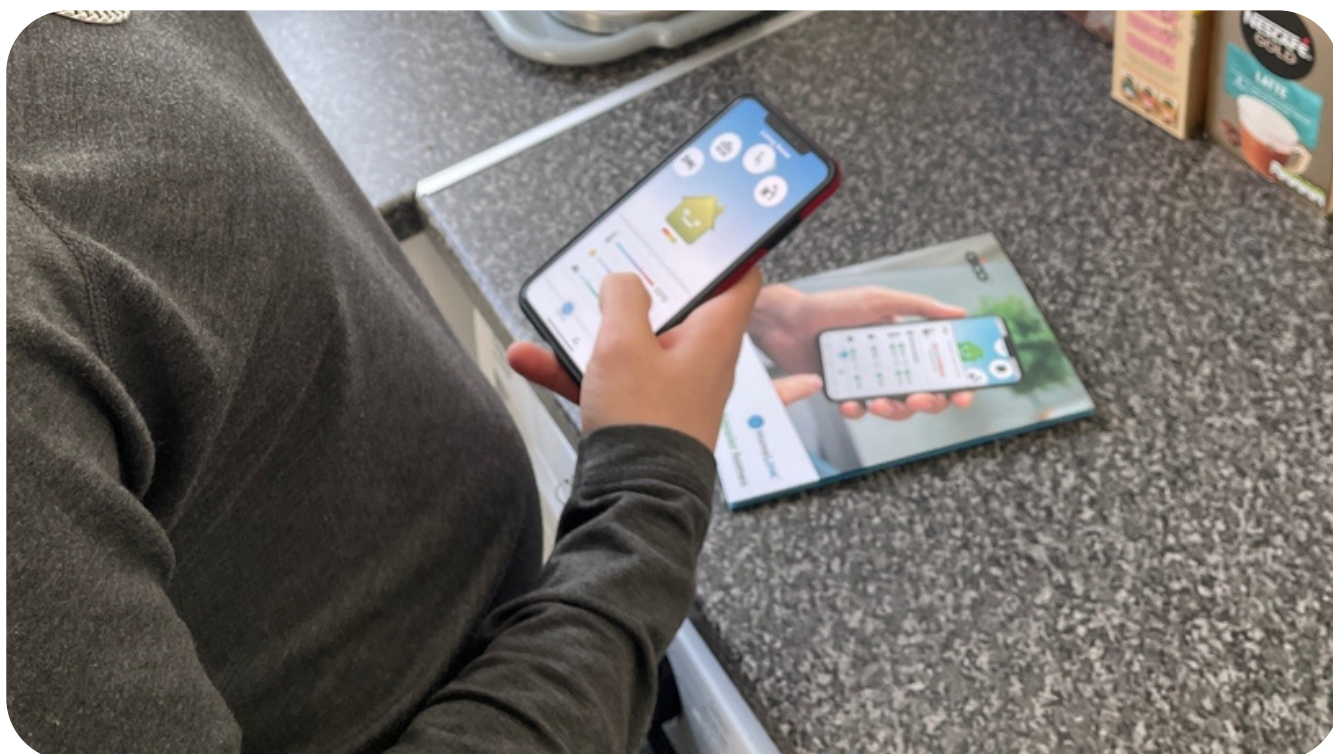
To deliver these planned works, Paradigm Housing Association has been leveraging external government funding, secured within Wave 1 of SHDF.

The 2019 Conservative Manifesto committed to a £3.8bn Social Housing Decarbonisation Fund. This funding aims to continue over a 10-year period to improve the energy performance of socially rented homes, on the pathway to Net Zero by 2050.

The SHDF aims to assist social housing providers to deliver warm, energy-efficient homes, reduce carbon emissions and fuel bills, tackle fuel poverty, and support green jobs.

The SHDF supports the objectives of the Prime Minister's Ten Point Plan for a Green Industrial Revolution. Up to £160m was made available to Registered Providers of Social Housing, including Private and Local Authority providers in England through Wave 1 of the SHDF. It supported the installation of energy performance measures in social homes by 31st January 2023 taking a Worst First, Fabric First, Least Regrets approach as outlined within the PAS 2035 retrofit protocol.

To date, Paradigm has utilised the funding to begin the retrofit programme, currently completing 69 homes.



APPLICATION FOR WAVE 2.1 FUNDING AND UTILISING DIGITAL TECHNOLOGY.

Paradigm opted to include Aico's HomeLINK Connected Home Solution within their bid for Wave 2.1 of the SHDF, aiming to utilise data from Aico's HomeLINK Ei1025 Environmental Sensors. The project will commence with the deployment of environmental sensors within an initial 30 homes, currently benefitting from electric-only heating.



“The deployment of Aico's HomeLINK Environmental Sensors is a new and exciting chapter in our ongoing relationship with Paradigm. Over the last two years we've worked closely together delivering Aico Expert Installer training to their Fire and CO Compliance Team, Property Management Team, DLO, and Call Centre Team, all of whom have received either CPD or City and Guilds Certification. Our journey with Paradigm's Sustainability Team is yet another milestone, supporting their decarbonisation journey to net zero and the creation of more energy-efficient homes for their customers.

**Ben Malton, Regional
Specification Manager.**



Through measuring temperature, humidity and carbon dioxide, Paradigm can utilise remote data insights to evaluate if the retrofit project is delivering the expected outcome without any unintended consequences e.g. an increased risk of damp and mould due to retrofit works increasing the air tightness of a building. Environmental monitoring also meets the requirements outlined in PAS 2035.

Paradigm's Sustainability team will monitor the indoor environmental conditions of their retrofitted properties, as outlined within Section 14 of PAS 2035.

Paradigm

“The Retrofit Coordinator shall ensure that every retrofit project is subject to monitoring and evaluation to determine whether the intended outcomes of the retrofit project have been realised, and to identify and learn from any project-specific or systematic problems with the retrofit risk assessment, the dwelling assessment, the retrofit design, the installation of Energy Efficiency Measures or the testing, commissioning or handover of Energy Efficiency Measures.

Noel Brosnan, Paradigm.

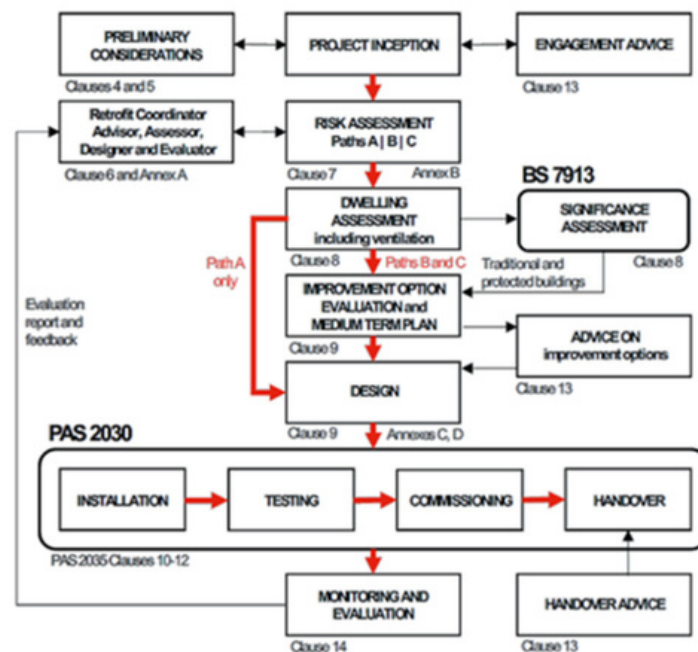


Diagram of Retrofit Process outlined in PAS 2035:2019 –
Retrofitting dwellings for improved energy efficiency – specification and guidance.

POST-RETROFIT MONITORING AND VALIDATION WITH THE CONNECTED HOME SOLUTION

The data and insights from the Gateway and HomeLINK Environmental Sensors will be an invaluable tool for Paradigm's Retrofit Coordinators. Assisting them in:

- Basic monitoring and evaluation e.g. Measures-specific questionnaires delivered to resident's via the HomeLINK app through our resident messaging feature.
- Intermediate monitoring and evaluation e.g. Monitoring of internal temperatures and relative humidity, and identification of occupancy factors influencing retrofit performance.
- Advanced monitoring and evaluation e.g. Monitoring of internal temperature, relative humidity and CO2 for at least one year.



Furthermore, the HomeLINK Connected Home Solution will provide Paradigm's housing and asset management teams with ongoing data and insights for key areas of housing compliance and legislation. These include;

- Homes Fitness for Human Habitation, e.g. condensation, damp and Mould
- Structural vs Environmental insights to pinpoint the root cause of damp and mould
- Fire and Carbon Monoxide Compliance

Paradigm fully appreciates that their internal stakeholder engagement maximises their return on investment and enables them to keep their customers safe, healthy, and warm through energy-efficient, well maintained and safer homes well into the future.

SUPPORTING THE ROLLOUT WITH EXPERT INSTALLER TRAINING

Aico has offered further support through the delivery of free FIA accredited CPD Expert Installer training to QHS – Paradigm's appointed Electrical Contractors. The course provides information on how to correctly install domestic fire and carbon monoxide alarms.

As part of the mobilisation process for this retrofit project, Paradigm's Retrofit Co-ordinator and QHS, have completed additional learning modules, covering both the siting and commissioning of Environmental Sensors for efficient and effective installation.





"Aico's Regional Specification Manager, Ben Malton has been supporting QHS for the last 12 months providing Aico's award-winning CPD accredited training for our installers, managers and call centre staff. This training has been essential in delivering a best-in-class, right first time and compliant installation of Fire, Carbon Monoxide and Environmental Sensors. Undoubtedly, as an accredited Aico Expert Installer, we are best placed to keep Paradigm residents safe and well within their homes.

Dave Godwin, Electrical
Manager, QHS.



To find out more about Aico's HomeLINK Connected Home Solution, and how it can support with post-retrofit monitoring and validation, please visit their website: www.aico.co.uk/homelink/retrofit/