RISE | Retrofit information, support & expertise

The role of the supply chain beyond retrofit delivery

Supply chain advice pack

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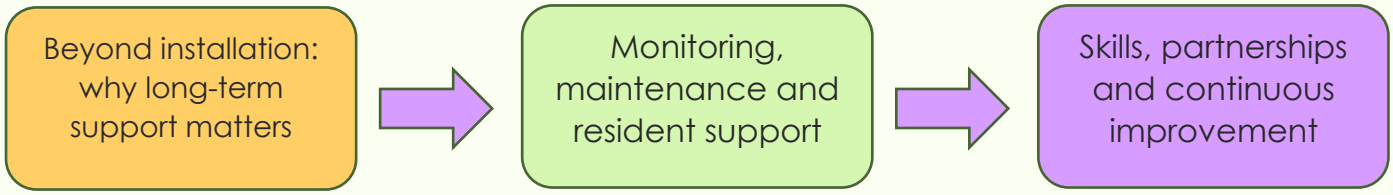
Introduction

Successful retrofit does not end when the installation team leaves site. The condition of the home, the way new systems are operated, the quality of maintenance and the support available to residents all influence whether the intended benefits are achieved and sustained.

As retrofit programmes mature, housing providers need supply chain partners that can help them move from short-term project delivery to long-term asset performance. This creates opportunities for assessors, designers, coordinators, installers, manufacturers, technology providers and maintenance contractors to offer services throughout the retrofit lifecycle.

This Advice Pack explains how the supply chain can support housing providers after installation, including through monitoring, maintenance, resident support, workforce development and continuous improvement. It also highlights the importance of quality and a whole-house approach, rather than treating each retrofit measure in isolation.

Readers that would like this document in a more accessible format should contact **rise@turntown.co.uk**.



From project close to business as usual

Retrofit delivery is often organised around fixed funding periods, installation targets and completion dates. Housing providers, however, remain responsible for the homes and their performance long after the programme has closed. They must manage defects, warranties, resident enquiries, maintenance cycles, data and future improvement decisions alongside their normal housing-management and asset-management responsibilities.

The supply chain can make this transition easier by treating handover **as the start of an operational relationship, rather than the end of a construction contract**. Information should be transferred in a format that housing, repairs, customer-service, asset-management teams and residents can understand and use effectively. Responsibilities for troubleshooting, defects, servicing and escalation should be agreed before completion.

A structured handover should include:

- An accurate record of the measures installed in each home.
- Product specifications, guarantees and warranty information.
- Testing, commissioning and installation evidence.
- Clear operating and maintenance instructions.
- Key contacts and escalation routes for technical issues.
- Resident-facing guidance written in accessible language.
- Training for housing officers, maintenance teams and contact-centre staff.
- Any assumptions, limitations or residual risks attached to the design.
- The property's Medium-Term Improvement Plan, where applicable.

Under **PAS 2035:2023**, greater emphasis is placed on the whole dwelling, interfaces between measures, the role of the Retrofit Coordinator and the Medium-Term Improvement Plan.

Monitoring and evaluation should also be considered from **programme inception through to completion, rather than being added at the end**.



Figure 1: Resident and housing officer at The Housing Network. Source: Inside Housing UK.

Protecting quality and taking a whole-house approach

Quality beyond installation

Installation quality cannot be judged only by whether an individual measure appears complete. A retrofit may pass an initial inspection but still underperform if measures do not interact as intended, commissioning is incomplete, controls are difficult to use or ventilation is inadequate.

Post-installation quality assurance **should therefore consider the home as a system**. Insulation and airtightness may affect moisture and ventilation; a heat pump may require changes to emitters, controls or operating practices; and solar PV and battery systems need coordinated commissioning and maintenance.

PAS 2035 promotes a whole-dwelling approach and emphasises the interfaces between measures. It also supports the sequencing of future improvements through a Medium-Term Improvement Plan.[1]

[1] pas2035_2023-design-best-practice-guidance-final.pdf

The supply chain can help housing providers protect quality by:

1. Returning to completed homes to **review performance**.
2. Checking that commissioning settings **remain appropriate** and are **operating as intended.**
3. Ensuring residents can **operate new systems effectively.**
4. Investigating patterns in **defects, complaints** and **call-outs**.
5. Reviewing whether different **products** and **systems** are compatible.
6. Providing manufacturer-led **technical support**.
7. Maintaining **complete** and **accessible** records.
8. Feeding lessons into future **design** and **installation**.
9. Supporting **remedial action** where measures underperform.

Measure-based approach	Whole-house approach
Focuses mainly on whether one product has been installed	Considers how all measures interact
Completion is treated as the main endpoint	Performance is reviewed after handover
Defects are considered individually	Recurring problems are analysed across programmes
Resident guidance is provided once	Advice is reinforced and adapted over time
Maintenance is arranged reactively	Servicing and replacement requirements are planned

Monitoring performance and outcomes

Monitoring should be proportionate to the scale, complexity and risk of the programme. Not every home requires advanced sensors, but every programme should have **agreed objectives**, **baseline information** and a method for **identifying underperformance**.

What could be monitored?

- **Technical performance:** Energy use, internal temperature, relative humidity, heat-pump efficiency and system faults.
- **Building condition:** Condensation, mould, moisture, ventilation performance and deterioration of installed measures.



- **Resident outcomes:** Comfort, ease of use, confidence with controls, satisfaction and affordability.
- **Operational outcomes:** Defects, repeat visits, complaints, maintenance costs and warranty claims.
- **Programme outcomes:** Carbon savings, value for money, delivery against targets and lessons learned.



Post-occupancy evaluation can combine resident surveys, energy information and targeted home visits. This helps close the feedback loop between residents, designers, contractors and housing providers. The **Greater London Authority's process note on post-occupancy evaluation**[2] provides an example of this approach.

Maintenance, servicing and managing new technologies

Retrofit measures have different inspection, cleaning, servicing and replacement requirements. If these are not incorporated into planned maintenance, performance may decline and faults may go unnoticed. Housing providers therefore need **accurate asset data and an understanding of the long-term cost and resource implications** of each technology.

Measure or system	Post-installation considerations
Insulation and airtightness	Check for damage, water ingress, cracking, failed seals and deterioration at junctions.
Ventilation	Clean or replace filters, inspect terminals and confirm that fans and controls remain operational.
Heat pumps	Service in line with manufacturer requirements; review settings, temperatures, emitters and controls.
Solar PV and batteries	Monitor generation and faults; maintain safe access and retain warranty information.
Smart controls and monitoring	Maintain connectivity, software access and responsibility for responding to alerts.
Windows and doors	Inspect seals, vents, hinges and interfaces with insulation systems.

[2] ProcessNote_Delivering_Post_Occupancy_Evaluation.pdf

Procurement should account for these requirements from the outset. A low installation price **may not represent value for money** if components are difficult to maintain, replacement parts are unavailable or the housing provider becomes dependent on one supplier.

Specifications should therefore consider whole-life cost, interoperability, product support and expected service life.

Resident engagement after installation

Post-installation engagement should be tailored to each household and reinforced over time. A single demonstration on completion day may not be sufficient, particularly where residents are adjusting to unfamiliar heating patterns, tariffs or digital controls.

Housing providers and their supply-chain partners should offer:

- **A practical demonstration** using the equipment in the home.
- **Simple instructions** covering normal operation and common issues.
- Accessible formats and **translated information** where required.
- **A named contact** or clearly signposted support route.
- **Follow-up contact** after the system has been used.
- **Seasonal advice**, particularly before the first winter.
- Additional support for households with **specific needs**, including digitally excluded residents, or residents with accessibility, language or communication requirements
- Clear explanations of **warranties, defects** and **emergency** procedures.
- Opportunities for residents to **provide feedback**.



Figure 2: Householders satisfied with "*quicker and more convenient*" heat pump. Source: North Kesteven Council.

Resident feedback should be treated as performance evidence, not only as customer-service information. Repeated reports that a home is cold, overheating, noisy or difficult to control may identify a design, commissioning or maintenance problem.[3]

[3] ProcessNote_Delivering_Post_Occupancy_Evaluation.pdf

Workforce and long-term opportunities

Moving beyond installation requires a broader mix of skills. Alongside technical competence, organisations may need capability in **customer support, data analysis, building performance evaluation, remote diagnostics and maintenance planning**.

This creates opportunities for the supply chain to develop longer-term services rather than relying only on individual installation contracts.

Potential services include:

- Planned and preventative maintenance.
- Monitoring and building performance evaluation.
- Resident aftercare and technical advice.
- Defect diagnosis and remediation.
- Warranty and replacement management.
- Asset-data management and reporting.
- Staff training and resident demonstrations.
- Seasonal optimisation of heating and controls.
- Programme evaluation and lessons-learned reviews.
- Support with future phases of improvement plans.

Closing the feedback loop

Strong post-retrofit relationships are based on shared outcomes. Housing providers and suppliers should agree what success means, how performance will be measured, who will respond to issues and how lessons will influence future work.

Contracts can support this through **defined aftercare periods, response times, data-sharing arrangements, maintenance responsibilities and performance reviews**. Indicators should extend beyond the number of installations completed and could include resident satisfaction, repeat defects, system downtime, energy performance and first-time resolution.

Regular reviews should bring together **housing management, asset management, resident engagement, designers, coordinators, installers and manufacturers**. This allows technical and resident evidence to be considered together through a continuous improvement loop:

1. **Collect:** Gather performance, maintenance and resident information.
2. **Review:** Identify patterns, exceptions and emerging risks.
3. **Act:** Adjust settings, provide support or undertake remedial work.
4. **Learn:** Record what worked and what did not.



5. **Improve:** Apply lessons to future designs, specifications and contracts.

Useful documents

[Retrofit and Wellbeing in Rushden – RISE Case Study]

[Monitoring and evaluation as evidence for retrofit – RISE Article]

[Housing monitoring and evaluation strategy – UK Gov]

Summary

A successful retrofit programme does not finish at practical completion, as long-term outcomes depend on effective handover, maintenance, monitoring and continued resident support. Supply-chain organisations can help maintain whole-house quality, optimise new technologies and measure technical, operational and resident outcomes.

They can also develop the skills and long-term services needed to turn performance evidence into improvements for future programmes. By moving from an installation-led model to a lifecycle partnership, the supply chain can help retrofit measures deliver their intended benefits over the long term.

Resources



Podcast: All RISE podcasts are available here.

Beyond retrofit podcast: "The importance of retrofit testing with BSRIA" available here.





Masterclass: All RISE masterclasses are available here.

M&E masterclass: "Integrating Monitoring and Evaluation" available here.





Advice pack: All RISE advice packs available here.

Post-retrofit advice pack: "Role of retrofit coordinator in post retrofit completion" available (here).



This pack aims to share insights, good practices, and lessons learned from the sector. It is intended for informational purposes only and does not constitute as recommendations or endorsements of specific suppliers, products, or services or as legal advice. Please always check the latest regulations.

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