RETROFIT SUCCESS

Retrofit evaluation
and improvement

SHAP

LOVELL RENEW

EQUANS

West Midlands Combined Authority
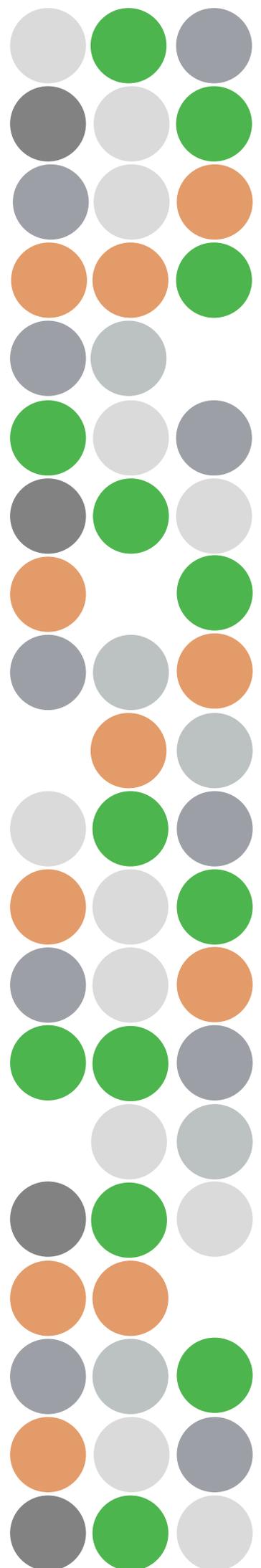
About SHAP

Originating in the West Midlands and now with a national reach, the Sustainable Housing Action Partnership (SHAP) is a not-for-profit organisation working to advance the transition to net zero across the housing sector. We work with organisations from the public, private and third sectors to turn ambition into action.

For 20 years, SHAP has worked at the forefront of sustainable housing, driving change through innovative research, thought leadership, and the development and sharing of best practice. Our network and client base spans housing associations, local and combined authorities, charities, community groups, academic institutions and businesses.

Our Vision is one of thriving communities with sustainable, high quality, low carbon homes.

Our Mission is to accelerate the delivery and impact of net zero, by leading and promoting best practice on the environmental, social and economic aspects of sustainable housing.

SHAP's Board is drawn from across the sustainable housing ecosystem and brings together leaders with deep, collective experience of the sector's successes and challenges. Providing strategic oversight, they help steer SHAP's work, ensuring it responds to sector needs and remains relevant, credible and impactful.

Ellie Horwitch-Smith (Chair), Assistant Director - Route to Net Zero, Birmingham City Council

Steve Hale (Treasurer), Affordable Housing Consultant

Gemma Brookes Head of Asset Optimisation, Orbit

Carl Yale Regional Managing Director, Lovell

Rebecca Reynolds Head of Sustainability, Equans

Gordon Watts Technical Manager - Low Carbon, Energy Saving Trust

Sam Shea Head of Policy, Insight & Engagement, Talan

Gemma Voaden Senior Manager Net Zero, Together Housing Group

Peter Harte Consultant, Turner & Townsend

Monica Mateo-Garcia Associate Professor in Sustainable Built Environment, Birmingham City University

This guide is one of eight thematic guides developed with insights from 70 organisations, drawing on practical retrofit experience in real homes, streets and communities.

Communicating retrofit effectively

Community and resident engagement

Data and digitalisation
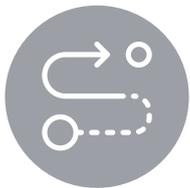
Financing and procurement for retrofit

Governing and managing retrofit delivery

Retrofit evaluation and improvement

Skills and workforce development

Strategic planning for area-based retrofit

Contents

1.0 Introduction

This guide is part of SHAP's Retrofit Success series; practical, experience-led resources to support more effective retrofit delivery. Developed with nearly 100 contributors, the series reflects decades of first-hand insight from those shaping and delivering retrofit on the ground. For fullest value, we recommend reading this guide alongside the Retrofit Success in Summary document which captures the shared context, core insights, and opportunities for adopting great practice, as well as guidance on how we can be more bold in designing and delivering retrofit.

This particular guide focusses on evaluation, which is increasingly recognised as central to successful retrofit — not just as a way to measure outcomes, but as a tool for learning, adaptation and improvement. Across the sector, there's growing momentum to move beyond technical reporting alone and build a richer understanding of what works, for whom, and under what conditions.

This guide sets out practical steps to embed meaningful evaluation and continuous improvement throughout retrofit programmes — before, during and after delivery. It highlights the role of performance data, lived experience, and feedback loops in strengthening decision-making and delivery outcomes. And it explores how organisations can go further — creating the conditions for evaluation to become a core part of how retrofit is planned, delivered, and improved at scale.
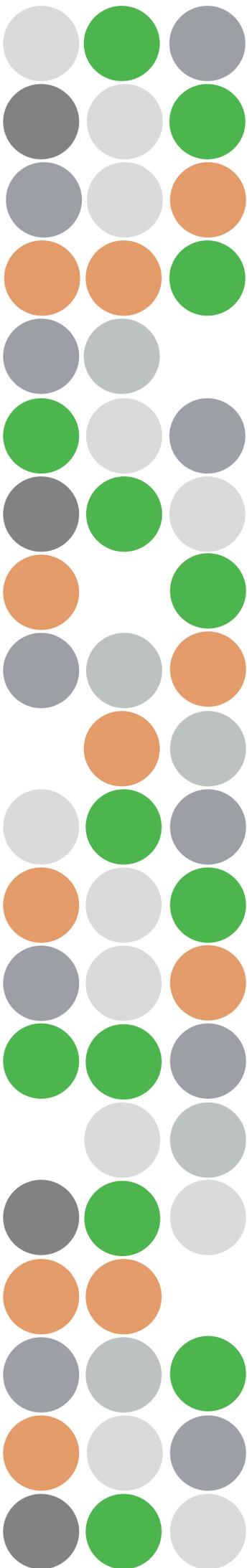
The guidance

2.1 Planning for retrofit delivery

Best practice now

01

Define what 'success' means — beyond technical compliance

Set clear, shared objectives across delivery teams that reflect what matters to residents, funders, and programme leads — not just EPC uplift or carbon metrics. This could include comfort, indoor air quality, usability, or satisfaction.

02

Build evaluation into the programme from the outset — not as an afterthought

Make sure routes for learning and feedback are designed alongside delivery plans. This ensures that data can be collected meaningfully throughout the project, not retrofitted later.

03

Establish baseline data early and consistently

Capture conditions before retrofit — including technical performance, occupancy behaviour, and resident experience — using methods that are proportional but reliable. Without this, meaningful evaluation is near impossible.

04

Involve residents in identifying what should be measured

Co-design KPIs or success metrics with the people living in the homes. This ensures that evaluation reflects real-life outcomes — not just assumptions — and supports buy-in.

05

Clarify who owns evaluation responsibilities and how findings will be used

Be clear about who is responsible for evaluation (e.g. contractor, housing provider, funder), ensuring it is effectively coordinated, minimising disruption for residents, and successfully feeding into decision making, improvements, or future programmes.

How we can be bolder

01

Standardise evaluation frameworks across programmes and funding streams

Inconsistent KPIs make it hard to compare outcomes or build shared insight. Use common frameworks for performance, satisfaction and cost-effectiveness to enable comparison, benchmarking and continuous improvement.

02

Embed evaluation expectations in contracts and funding conditions

Make evaluation a requirement — not a nice-to-have — by incorporating it into funding agreements, delivery contracts and performance dashboards.

03

Use digital tools to automate and integrate evaluation into delivery

Where appropriate, use sensors, dashboards or digital twins to track and analyse performance in real time — reducing the burden on staff and enabling faster learning.

2.2   During retrofit delivery

Best practice now

01

Monitor installation quality in real time — not just at sign-off

Use spot checks, photographic records, and mid-point inspections to assess quality during works. This reduces rework and supports continuous improvement across teams.

02

Create simple, structured ways for site teams to log delivery insights

Frontline workers often spot issues that affect performance (e.g. resident access, ventilation issues, insulation gaps). Capture these insights systematically and share them across teams.

03

Check residents' experience during delivery — not just afterwards

Build in short feedback loops (e.g. doorstep surveys, phone check-ins) that allow residents to flag issues or confusion during the works — improving responsiveness and reducing dissatisfaction.

04

Track early indicators of long-term success

Monitor things like installation consistency, workmanship, and early resident behaviour. These often correlate with long-term outcomes such as energy savings or satisfaction.

How we can be bolder

01

Pilot real-time evaluation models

Test models that combine contractor reporting, resident feedback and technical monitoring into a live dashboard — enabling agile responses during delivery and a richer picture of performance.

02

Build peer learning into live delivery cycles

Use insights from ongoing projects to inform other schemes in delivery — creating a rolling improvement loop. This could include contractor forums, shared lessons logs or weekly issue roundups.

03

Link evaluation to supply chain learning and accountability

Where performance issues arise, ensure there's a structured way to feed that back into supplier or contractor development — including training, process updates, or quality audits.

2.3   After retrofit delivery

Best practice now

01

Measure post-retrofit outcomes across multiple dimensions

Evaluate comfort, energy use, carbon savings, usability, satisfaction, and maintenance — not just headline metrics. A holistic picture – encompassing broader indicators including health and fuel poverty — enables a truer understanding of success.

02

Give residents a voice in evaluation

Use structured interviews, surveys or home visits to understand how retrofit feels to live with. Residents' insight is essential for understanding performance in real-world conditions.

03

Compare predicted versus actual performance

Use pre- and post-retrofit data to identify performance gaps, and understand where assumptions in the modelling process may need refining.

04

Feed evaluation findings back into strategy and future programmes

Create formal routes for learning to inform future procurement, specification, training and funding bids — not just post-project reports that sit on shelves.

05

Make evaluation findings visible and accessible

Share what's working (and what's not) with stakeholders, delivery teams and community partners — helping others learn and adapt more effectively.

How we can be bolder

01

Develop longitudinal evaluation to track performance over time

Short-term data misses how retrofit performs across seasons, tenures and usage changes. Invest in follow-up data collection over 12–24 months to understand lasting impact.

02

Open up evaluation data to enable sector-wide learning

Where appropriate, publish anonymised findings in accessible formats to help others improve. Shared learning reduces duplication and builds sectorwide capacity.

03

Create a shared retrofit learning ecosystem

Link local authorities, housing providers, contractors and researchers through open forums, data-sharing agreements or digital tools — to turn individual evaluations into collective improvement.

04

Incorporate evaluation findings into funding case-making

Use real-world outcomes — including social impact, cost savings, and resident wellbeing — to strengthen the case for future funding and long-term investment.

Thank you to our contributors

furbnow

Nottingham City Council

switchee

Colleges West Midlands

SuSy

MADISON MAY
RETROFIT CONSULTANTS

Shropshire Council

sustainability west midlands

zero carbon house

energy saving trust

acocks greener

Herefordshire Council

Dodd Group

BIRMINGHAM CITY University

CARDIFF CAERDYDD

together housing

lendology·cic

JRHT JOSEPH ROWNTREE HOUSING TRUST

Seddon

Amplius

Sanctuary Housing

Q

mixergy

NOVUS Property Solutions

Sandwell Metropolitan Borough Council

Wates

SOLAR CITY

WITTON LODGE Community Association

CHIC

Cocuun
reliable · responsible · retrofit

bvsc

orbit

Green Square Accord

The Wrekin Housing Group

Dudley Metropolitan Borough Council

SHIFT

Acivico GROUP

Nehemiah HOUSING

SOUTHERN HOUSING

ENERGYSPECIFICS
Because Energy Matters

InstaGroup

CITIZEN

MECC TRUST

BRIGHTER COMPLIANCE
Unlock your organisation's potential

Unyte GROUP

NextEnergy
Your Solution to NetZero

baxter kelly

VIVID

EEC ENERGY
EFFICIENCY CONSULTANTS

surefire

Act On Energy

Westdale

Solihull METROPOLITAN BOROUGH COUNCIL

Robert Heath
a member of DAIKIN group

LIVERPOOL CITY REGION
COMBINED AUTHORITY

midland heart

Birmingham City Council

BELL PLUMBING SUPPLIES

SHAP

LOVELL RENEW

EQUANS

West Midlands Combined Authority