



December 2024

SHDF Wave 1 Case Study

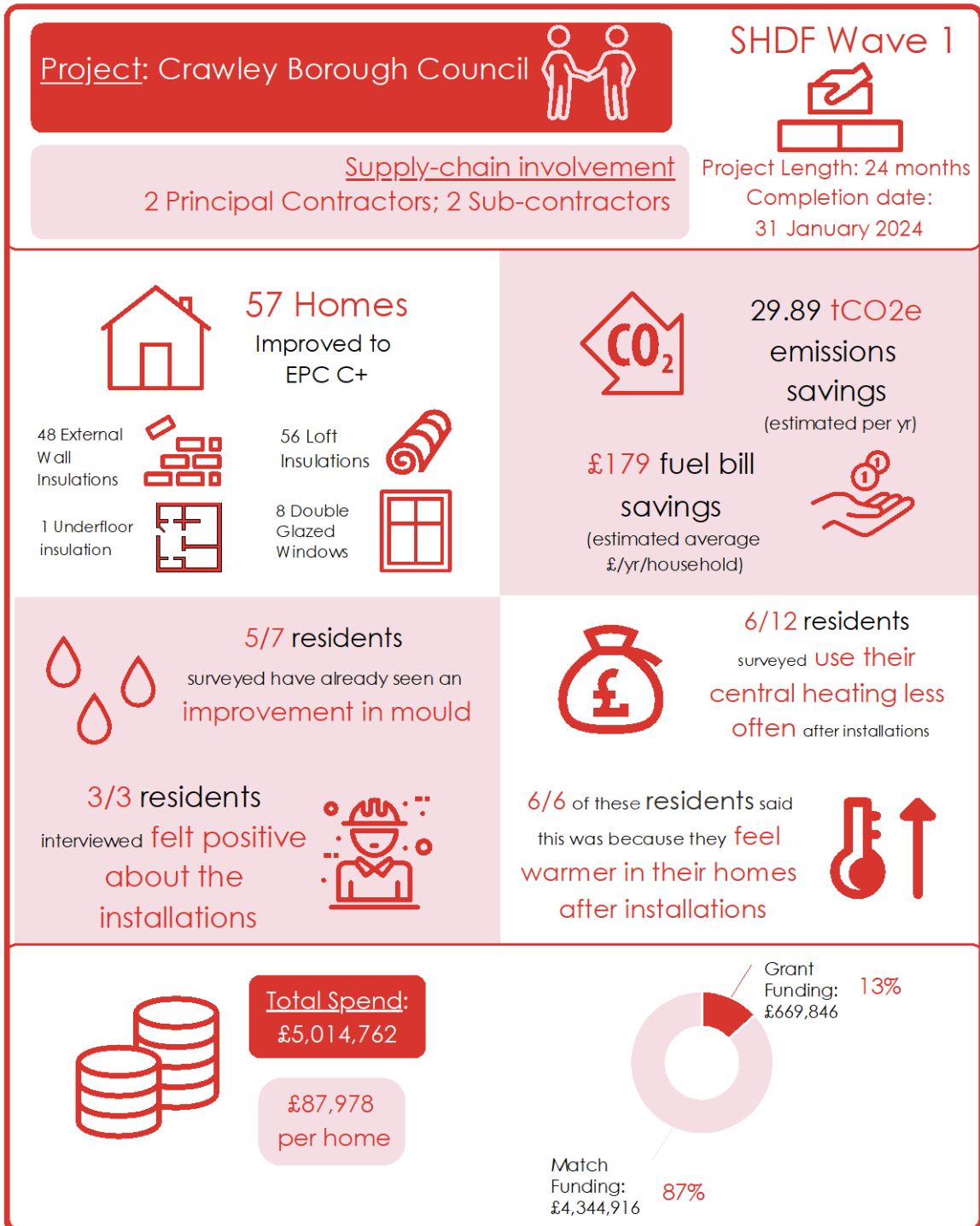


Crawley Borough Council

Table of Contents

1	Project Summary	1
2	Background and Preparation for Wave 1	2
2.1	Previous retrofit experience	2
2.2	Supply chain relationships and readiness	3
3	Resident Engagement and Installation of Measures	3
3.1	Resident engagement activities	3
3.2	Challenges and barriers with resident engagement	4
3.3	Resident satisfaction with the installation process	4
3.4	Resident outcomes	6
4	Installation and the Supply Chain	7
5	Data Sources	8

1 Project Summary¹



¹ Carbon emission and fuel bill figures are taken from the SHDF Wave 1 change control log and are based on the National Household Model. Figures are accurate as of 30th July 2024.

Rationale for case study selection

The Crawley Borough Council project was selected as a case study for the Wave 1 evaluation because:

- The project showed good progress against its objectives at the time of selection (August 2023). This was supported by prior retrofit experience and existing relationships with the supply chain.
- The project team reported a successful resident engagement strategy, although some challenges were also experienced.
- The project installed External Wall Insulation (EWI) in poorly performing non-traditional homes.

This case study is based on a survey with residents, interviews with the social housing landlord (SHL) project team and residents, and analysis of scheme monitoring data.

2 Background and Preparation for Wave 1

2.1 Previous retrofit experience

As reported by the project team in interviews, Crawley Borough Council took part in several national and local retrofit schemes before Wave 1, through which they gained valuable retrofit experience. This included Innovate UK's Retrofit for the Future project and DESNZ's Green Homes Grant Local Authority Delivery scheme (phases 1B and 2). The Council also internally funded insulation improvements for some non-traditional homes known as Llewellyn QuikBild homes (Figure 1). These properties are timber framed and complex to retrofit, and they present a high risk of interstitial condensation if they are not properly damp proofed.

In interviews, the project team reported that the Llewellyn QuikBilts,² built between the 1960s and 1980s, were among the worst performing properties of the Council's social housing stock as they are thermally inefficient.³ The Council had begun treating these properties through their own capital expenditure but required additional funding from Wave 1 to cover the final thirty per cent of these properties in their stock. These were end-of-terrace homes with large gable external walls, and therefore required expensive insulation solutions in order to improve their energy efficiency rating to EPC C or above.



Figure 1: Example of Llewellyn QuikBild homes

² <https://nonstandardhouse.com/quikbild-llewellyn-timber-framed-house/>

³ Cui, J. (2015) *Energy use and indoor environment in a sample of monitored domestic buildings in the UK*. In: M. SARSHAR DRISCOLL, A. IANAKIEV and B. SERTYESILISIK, eds., *Contemporary Trends in the Regenerative and Sustainable Built Environment*.

2.2 Supply chain relationships and readiness

In interviews, the Council reported having a network of long-standing relationships with contractors, which enabled them to quickly mobilise the supply chain for project delivery. Mears, the principal contractor for the project, had a 10-year partnering contract with the Council and provided valuable expertise on energy efficiency retrofits. They also had experience with the SHDF Demonstrator, and were assisting with other SHDF Wave 1 projects, including Livin Housing and Milton Keynes Council. As Mears were already familiar with the retrofit works done by the Council and their properties, they were able to plan ahead for the pitfalls of working on the Lewellyn QuikBilids properties to minimise impact on delivery.

3 Resident Engagement and Installation of Measures

3.1 Resident engagement activities

In interviews, the project team viewed proactive resident engagement as a critical enabler for the project's success. Resident liaison officers from Crawley and Mears developed a resident engagement strategy that involved:

- **Holding a resident engagement day.** The Wave 1 team had a stand at a Crawley Borough Council event and the entire team, including a retrofit designer, installer, and Monitoring and Delivery Officer (MDO), was present.
- **The resident liaison officer meeting residents door-to-door,** to explain the scope and benefits of retrofit works and answer questions. For example, some residents stated that their homes were already hot in the summer, so the team explained that the works not only keep heat in during the winter but also out during the summer.
- **Providing regular information to residents,** staying in touch, and informing them about what to expect from Wave 1 via phone calls. The project team felt that Mears' resident liaison officer maintained a positive relationship with residents and became acquainted with them on a personal level. Interviewed residents also reported having a positive relationship with the resident liaison officer.
- Doing **'odd jobs' to keep residents happy,** for example, occasionally cleaning the gutters.
- **Providing a skip** at a new welfare office. The skip was made available to residents as a gesture, especially for those that received measures such as loft insulation, to reduce the need for tip runs or to accommodate for those without transportation. In the welfare office, installers could also access toilets, food, and relax between shifts, with the goal to promote a healthy working environment for installers.
- **Using a resident champion,** who agreed to open up their home after receiving the works to show other residents what their homes could look like following retrofit. Similarly, the success of the earlier internally funded retrofit work supported resident engagement. The Council reported that residents with properties that received measures prior to Wave 1 told other residents how warm their houses were because they retained heat better, and they only needed heating for a few hours a day in the winter.

"Neighbours are the biggest champions – massive enabler – no better enabler to negate the issues of resident engagements." – SHL Interviewee

In interviews, the project team reported that the resident engagement strategies they adopted improved resident consent to receive measures, resulting in a more efficient process and satisfaction with the installation process among residents, as highlighted in section 3.3.

3.2 Challenges and barriers with resident engagement

In interviews, the project team also reported facing some challenges and barriers with resident engagement:

- **Navigating PAS 2035 requirements.** The project team reported that PAS 2035 required at least three different assessment visits to the property (for the retrofit assessment, and by the retrofit coordinator and retrofit designer) before agreeing the measures to be installed. This was to ensure that the combination of measures for each property was suitable and did not create further issues. The assessments were followed by visits to ensure the property was ready for installations (for example, to set up scaffolding or remove asbestos). The project team reported that this made the process more intrusive for residents. One interviewed resident also reported that the extensive surveying was burdensome and the timings were difficult to navigate.

*" We had a woman from the Council who was very helpful and she would say that a survey would be done... **they did about 10 surveys and took about 20 pictures of every room in the house** but then they had the wrong plan when they came to start the work. I got annoyed because the timelines kept shifting and the workers kept turning up unannounced " – Resident Interviewee*

- The project team reported that some **residents were initially resistant to have work undertaken in their homes.** For example, some residents were hesitant about ventilation measures such as fans in windows. However, the resident liaison officer worked closely with each of them before and after installations to try to make them feel more comfortable with works being conducted.
- Similarly, **the project team received some complaints by residents during the installations,** however they were able to deal with them swiftly. For example, if a resident reported to the resident liaison officer that something had broken or was damaged, or if there were any marks left by the work, this was quickly addressed by installers.

Key learnings:

- The Council has improved its understanding of resident engagement, focusing on building relationships with residents, communicating effectively through events and leaflets, and providing welfare offices.
- The project team learned the importance of having dedicated resident liaison officers to maintain relationships with residents.
- For future retrofit work, the project team intends to use empty properties to show residents what the retrofit process involves in practice to provide a better understanding.

3.3 Resident satisfaction with the installation process

The majority of surveyed residents (10 out of 14) reported being satisfied with the installation process overall, and agreed that the way the installation was scheduled was as convenient as

it could have been. Residents were generally satisfied across several aspects of the installation process, as illustrated in Figure 2.

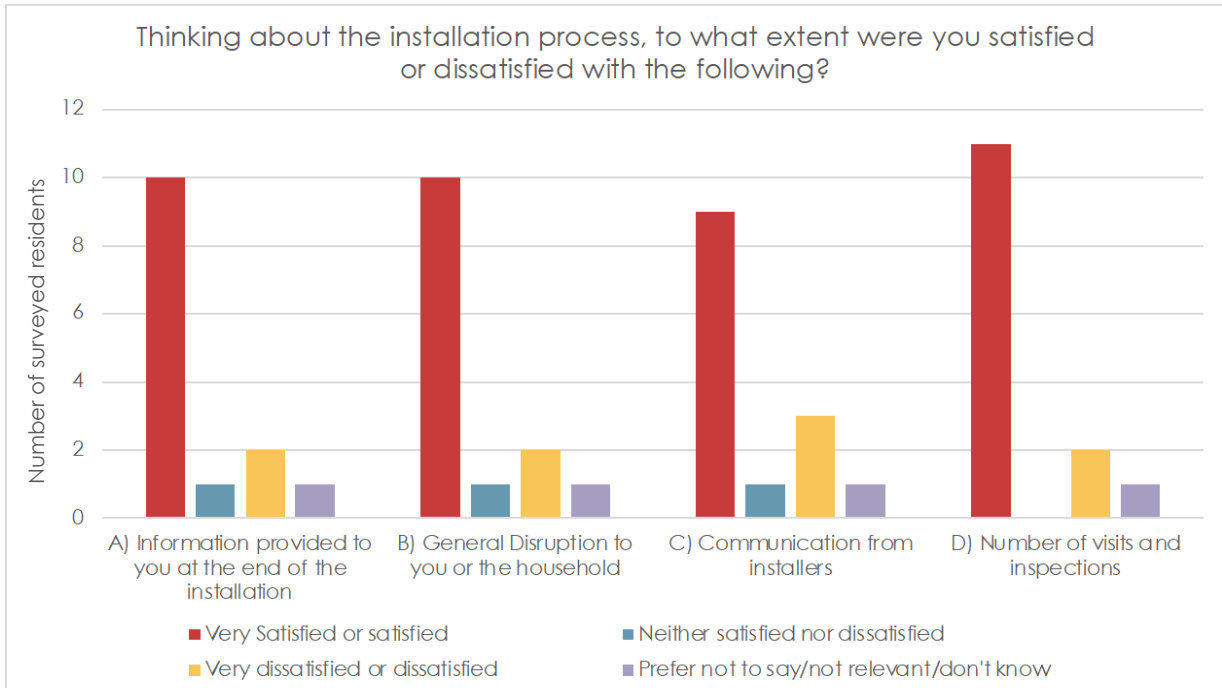


Figure 2: Satisfaction with the installation process amongst surveyed residents (base: 14 residents).

Three of the 14 surveyed residents agreed to take part in a follow-up interview to understand their responses in more detail. All three interviewees stated that the Mears resident liaison officer was very good at keeping in touch about the installation process, and they knew she was available if they had any questions.

However, there was some dissatisfaction with the installation process among interviewed residents:

- One resident reported having to contact the Council frequently due to missed appointments for the installation and having to wait in the house to grant access to installers without sufficient notice.
- Multiple residents noted that the works took longer than expected. In interviews, both the project team and residents mentioned this was due to a long wait for the supply of a special type of brick being used, and for the installer to be available.
- One resident stated that they were extremely dissatisfied with the scaffolding as it blocked their light and was left up for six months after the work was completed. They had to repeatedly request for its removal.

"Mears' resident liaison was very kind and considerate. When she was in the area, she'd pop in to see if everything was ok." – Resident Interviewee

3.4 Resident outcomes

Overall, surveyed residents reported positive outcomes after the installation of measures. In interviews, the project team agreed that most feedback from residents was positive, and they received thank you cards from some residents. Emerging outcomes reported by surveyed residents are shown in Figure 3.

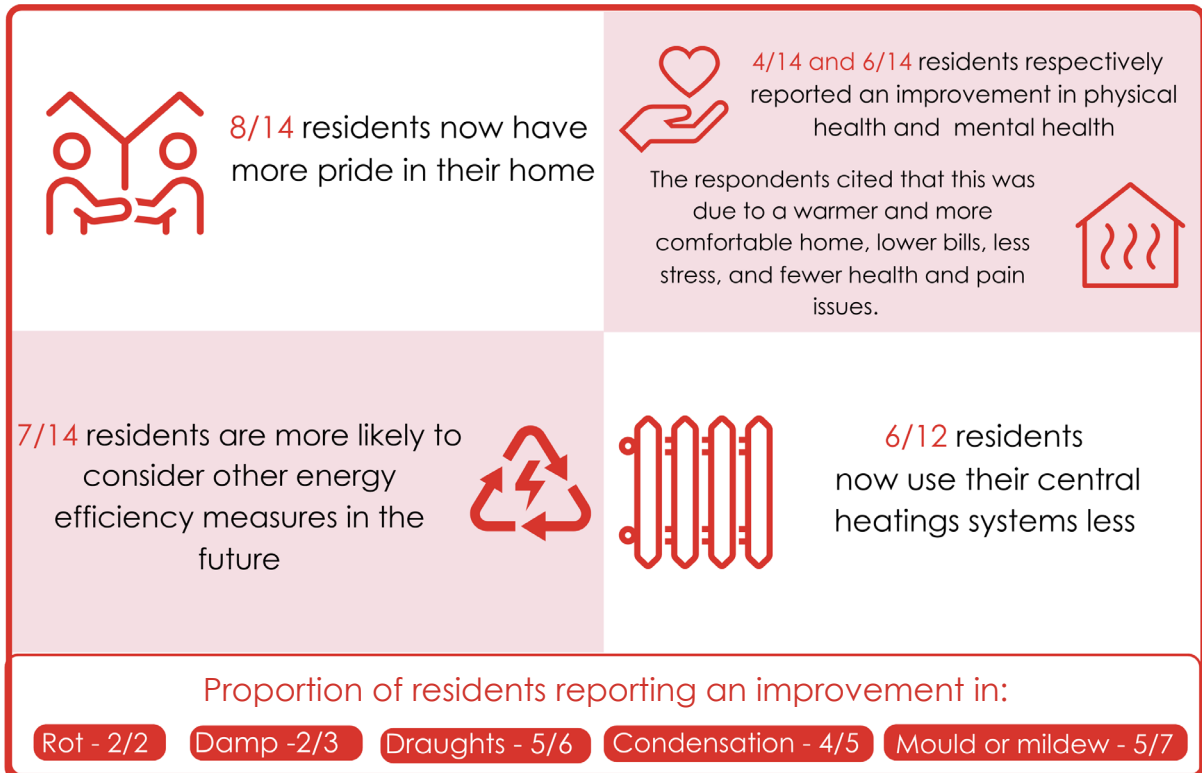


Figure 3: Emerging outcomes reported by surveyed Crawley residents shortly after the installation of energy saving measures (residents with works completed/ongoing) (base: 14 residents). Base sizes for individual survey questions vary as not all questions were applicable and therefore asked to all residents.

"Knowing I can stay here makes me feel really good... The energy bill reduction has made a big impact on me, yeah ... It helps me physically because I'm not getting any swellings and pains. That's had an effect on me emotionally and mentally." – Resident Interviewee

In interviews, the project team reported additional outcomes following the installation of measures:

- **Extending homes' expected lifespan.** The Llewellyn QuikBild homes which had measures installed under Wave 1 were quickly built in the post-World War 2 period⁴ and the project team reported that were not built to last more than 50 years. The retrofit works have extended their lifetime for the homes, allowing residents to enjoy better homes for a longer period of time.

⁴ Harrinon, H.W. et al. (2012) Report AP 294-4 Non-traditional houses: Identifying non-traditional houses in the UK 1918-75. Part 4 - Timber framed houses. Available at <https://www.thenbs.com/PublicationIndex/documents/details?Pub=BRE&DocId=307023> >

- Homes are now significantly **more airtight than before Wave 1 installations**, resulting in fewer draughts and greater comfort for residents.
- Works have provided some residents with an opportunity to complete **other home improvements** they had been meaning to do for a while (for example, cleaning the attic or decorating). The homes now have a new external aesthetic, which was appreciated by residents, as reported by the project team.
- The project encouraged residents to interact with one another to help **restore the area's sense of community**.

Project Highlight – 48 Non-standard Homes given EWI Measures

In interviews, the project team reported factors that facilitated successful installation of EWI in non-traditional homes:

- **Leveraging local contractors familiar with the properties.** For EWI, the team had two delivery contractors. One of them, Ordex Construction, was a local company that delivered the first series of internally funded retrofit works, and therefore knew the properties very well.
- **Identifying further supplier expertise and capacity.** As the existing delivery contractor was small, another supplier was required. For this reason, Mears brought in a larger contractor, N&J Building Services. They had not previously worked with Crawley Borough Council but were known for having completed several retrofits on similar properties in London.
- **Contractor expertise and adaptability were crucial** for resolving discrepancies between proposed and actual installation methodologies. For example, this occurred when they removed the cladding from properties and opened up the timber frame and they encountered asbestos or a number of fixings in the racking board that needed to be removed. Ordex Construction's expertise helped the team of designers and contractors to work quickly with residents to come up with a solution.

4 Installation and the Supply Chain

In interviews, the project team reported experiencing several challenges that resulted in a 10-month extension of the project, from March 2023 to January 2024. The project team also used more internal funding than expected to finish delivery (co-funding comprised 87% of the project value rather than the intended 66%). These challenges included:

- **The Council's planning department requirements were more demanding than expected**, especially for brick slip matching, as the existing brick slips were acrylic and therefore harder to match. As a result, the team had to spend more time and resource on this than anticipated.
- **Issues arose from using the same architect** for both retrofit designs and planning statement elevations, leading to resource constraints and delays.
- The project faced **cost challenges due to industry-wide cost increases**, particularly in labour and materials, despite efforts to mitigate this.

However, as reported in interviews, the project team were overall satisfied with delivery of their project and have successfully retrofitted 57 of their most poorly performing homes to EPC C.

They stated that they have taken learnt several lessons on retrofit and are applying them to the delivery of Wave 2.1 of SHDF and other retrofit funding schemes.

5 Data Sources

Data sources used to produce this case study	
<i>Social housing landlord Interviews</i>	2 interviews (Q3, 2023) with: <ul style="list-style-type: none"> • Project lead from Crawley Borough Council. • Resident liaison officer from Crawley Borough Council.
<i>Resident surveys and interviews</i>	14 respondents from tranche 3 (Q1 2024) of a survey with residents from Crawley for whom installation work had started or had their works recently completed. 3 in-depth interviews with Crawley residents who took part in the survey and consented to take part in a follow-up interview (Q 1, 2024).
<i>Scheme monitoring data</i>	Scheme monitoring data, as reported by the project team and assessed by the Wave 1 Delivery Partner.

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