Opportunity to upgrade

Opportunities exist in the rebuild to improve the warmth and energy efficiency of the housing stock. The Build Back Smarter project has shown how this can easily be done alongside earthquake repairs.

BY LOIS EASTON, BEACON PATHWAY

Community Energy Action installer putting in the new wall insulation.

THE UPGRADE OF THE FIRST Build Back Smarter home has seen a substantial improvement in thermal performance - an improvement that the homeowners report they would be willing to pay for.

Build Back Smarter delivers

Build Back Smarter is a 10-home project to show that performance upgrades can and should be included with earthquake repairs in Canterbury (see *Build* 132, pages 82-83). With the first upgrade in the Build Back Smarter project completed, it is timely to evaluate the Huntsbury-2 homeowners' experience and upgrade outcomes.

For David and Helen, the opportunity to be part of Build Back Smarter came at the end of a difficult 20 months as their earthquake repairs moved from EQC to insurer IAG. Although David and Helen praise IAG's case management approach and Hawkins' project management, their house is still one of the first to be repaired in Christchurch.

David and Helen report that the steps in the Build Back Smarter process brought unexpected benefits. The process includes an independent assessment by partner Community Energy Action and a written upgrade plan laying out how to improve the home's performance.

The homeowners said this helped them make informed decisions about what upgrades were useful to include and how to prioritise them. Another outcome was that they have engaged more with the home's performance, investing in temperature and humidity sensors and actively managing heat transfer.

Performance improvements

Assessed before and after upgrade, the house's pre-upgrade Homestar rating of 2 stars rose to 5 stars.

This pleasing result was backed up by the homeowners' experience of living in the house since installing the upgraded insulation, double glazing and heat transfer kit. Already they are feeling the difference. A cold October and November in Christchurch meant that the improved warmth of the house was one of the aspects most valued.

The most notable change has been the ease of heating their home and the warm, even temperatures throughout the house.

Weighing up the cost of upgrades

The homeowners report that, knowing what they know now, they would not hesitate to get insulation installed at the time of repair.

However, as a retired couple, they are very budget conscious and carefully weighed the costs and benefits. If they were paying themselves, they consider they might not have undertaken some of the other interventions.

Total extra costs for upgrade over repairs amounted to $14,524 excluding GST (see Table 1 for major costs).

Going that bit extra

As well as the Build Back Smarter upgrades, this household also took the opportunity to get the builder to undertake some additional work not covered by the insurance scope. This included:

- replacing a sagging beam from the 1980s addition
- replacing rubber-sheathed wiring that could be a future fire hazard
- including fibreglass reinforcing as part of the cladding replacement to prevent damage from future earthquakes.

Although the wiring and the fibreglass reinforcing are likely to reduce the risk of future insurance claims, these kinds of repairs are not covered in insurance companies' like-for-like policies.

Happy customers

Overall, David and Helen were very happy with participating in Build Back Smarter. The upgrades look to have substantially improved the thermal performance of Huntsbury-2, and this will be further confirmed next winter.

For more A video of the Huntsbury-2 case study is available on YouTube.

Foil found in the walls in part of the house.

Table 1

UPGRADE COSTS

Ceiling insulation	$2,600
Underfloor insulation and vapour barrier	$3,160
Wall insulation	$3,310
Double glazing	$3,900
Heat transfer	$600
Rangehood and external ventilation	$940

Upgrades to Huntsbury-2

- Topped up ceiling insulation to R4.6 and cut hatches to access and insulate previously inaccessible roof cavity.
- Installed underfloor insulation to R1.6.
- Installed underfloor vapour barrier.
- Installed R2.8 wall insulation to the ground floor (except the bathroom) where both external wall cladding and internal linings were replaced and building wrap added as part of the repair.
- Installed building paper and wall insulation to upper floor where internal linings were replaced.
- Double glazed the south-facing windows in the upstairs bedrooms.
- Draught-stopped doors.
- Lagged hot water pipes.
- Installed a rangehood vented from an internal wall to the outside.
- Installed a heat transfer kit and thermostat from the main living area to the upstairs bedrooms.