

Low-carbon retrofits

Retrofitting our existing buildings to reduce their carbon emissions will be challenging but necessary. Recent workshops took a collaborative look at future steps.

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THE BUILT ENVIRONMENT contributes significantly to national energy use and carbon emissions and must play a key role in achieving New Zealand's ambitious climate change targets, including net-zero carbon by 2050.

We need to make further progress in making our homes warm, dry and healthy. At the same time, we must design and construct our buildings to use as little energy and water as practical to reduce greenhouse gas emissions. MBIE's *Building for climate change* programme is just one initiative in ensuring our buildings are prepared for the effects of climate change.

Cutting emissions in existing housing

The retrofitting of our housing stock is an important part of achieving the net-zero targets. It provides opportunities for operational and embodied carbon reductions and substantial additional benefits of higher performance and comfort.

There are significant challenges across the built and natural environment to reducing carbon. However, there are also opportunities for the industry, government, researchers and other stakeholders to collaborate and provide the holistic approach necessary for effectively retrofitting our housing stock.

Taking a collaborative approach

Earlier this year, BRANZ, EECA and Beacon

Pathway ran workshops to discuss the current and desired future state of our housing with a broad spectrum of representatives.

The aim was to develop an understanding of research needs and explore a more collaborative approach to a deeper retrofit of our existing housing stock.

The initial focus was to capture the key drivers and goals across the sector by mapping the current work on retrofitting our housing stock.

Encouraging different perspectives

Participants were invited to view a low-carbon retrofit from several perspectives:

- Considering the case for retrofit beyond a narrow cost-benefit analysis.
- Considering the case for retrofit at a range of levels from individuals to communities and government.
- Thinking holistically about the subject of retrofit and to ask what other impacts it will have for carbon emissions, wellbeing and the energy supply system.

Each organisation was challenged to define what can be achieved in the building sector with a low-carbon retrofit from financial, technical and viability perspectives.

Participants were asked for their thoughts and opinions on the optimal end point and potential barriers for low-carbon retrofit

from the different perspectives - occupants, neighbourhoods, communities and country.

Examining an optimal outcome

The final workshop looked at an optimal end point for existing buildings. Participants were given a template for envisaging potential collaborations that would contribute towards better outcomes for low-carbon retrofit.

Throughout, there were examples of collaborative work, highlighting how this is a complex environment where conflicting information and misalignment is frequently encountered.

Participants were asked to choose a scale focus, a theme and what organisations could be involved and provide a high-level project overview. The outputs provide opportunities for more alignment and consistency across the sector when retrofitting our housing stock.

Many groups involved

Organisations that took part in the workshops included EECA, BRANZ, Kāinga Ora, Beacon Pathway, MBIE, Ministry of Housing and Urban Development, NZGBC, He Kāinga Oranga, Sustainability Trust, Community Energy Action, Passive House Institute, Superhome Movement, Victoria University, Hutt City Council, Auckland Council, Dunedin City Council, Wellington Regional Healthy Housing Group, Insulation Association and Motu. ◀