MAINTAINING AND RETROFITTING HOUSES

With our existing housing stock likely to last past 2050, there are plenty of opportunities for companies to specialise in retrofitting.

By Wayne Sharman, Manager, Construction Industry Development, Building Research

When looking at technical aspects of housing in New Zealand, the question inevitably arises of what can be done with the existing housing stock. Our houses last over 80 years on average, so a large part of the existing stock will still be around in 2050. Adequately addressing this issue represents a huge opportunity for builders.

Some house defects widespread
BRANZ has carried out three house condition surveys. These were in 1994, 2000 and 2005. Similar trends emerged in each survey, including:
- poor subfloor ventilation
- poor or missing subfloor fixings such as nails, screws or bolts
- inadequate ground clearance for wall claddings
- poor ventilation of kitchens and bathrooms.

The 2005 survey also showed:
- too high or too low shower flow rates
- thermostats that delivered hot water at temperatures above or below the settings
- decks with unsafe barriers.

Why do homeowners put up with these defects? Most are not life threatening, nor will they result in any immediate failures. Many homeowners seem unaware that their houses have defects. Interestingly, the best maintained parts of homes are the interiors, particularly the kitchens and bathrooms (aside from ventilation). Areas like subfloors tend to be ‘out of sight and out of mind’.

The surveys also showed that the older the house is, the more numerous and severe the defects and hence the higher the cost of...

In this major renovation of 'Woodgrove' in North Canterbury heating has been greatly improved by retrofitting a heat pump and underfloor heating. The original open fires have been retained but are not used.
repair. Delaying maintenance means that a defect will often cost a lot more to fix than if it had been dealt with much earlier. The 2005 house condition survey estimated that, if repairs were delayed for 10 years, they would cost three times as much as if they were only delayed for 5 years. The average cost of repairs needed was estimated at about $3,700, or around 2% of the value of the average house excluding land value. However, only $1,300 per year was actually being spent.

This lack of maintenance is avoidable with comprehensive home maintenance information available, both from BRANZ (for example, Maintaining your home) and from websites such as www.consumerbuild.org.nz and www.level.org.nz.

A maintained house makes a healthy home

Repairing and maintaining homes is not just good for the house, it is potentially good for occupiers too. The BRANZ HEEP study completed in September 2007 found that New Zealand houses are not heated enough in winter. This adversely affects the health of occupants. A study by the Wellington-based staff of the University of Otago School of Medicine and Health Sciences showed that retrofitting insulation and other measures allowed houses to be slightly warmer in winter, and this had a positive effect on the health of their occupants. Beacon Pathway has carried out more extensive retrofits on some older houses in Porirua (see pages 34–35) and is currently monitoring the effects.

But it is not enough. To bring a house back to its ‘as-built’ condition, particularly if it was built before 1978 and doesn’t have any insulation. Beacon has recently published the National value case for sustainable housing innovations (see www.beaconpathway.co.nz), which shows the personal and nationwide benefits of making New Zealand’s housing stock sustainable. Beacon estimates that householders would benefit by $2 billion over the next 10 years, or just over $1,400 per household (1.4 million houses), mostly by making houses more energy and water efficient.

The cost of retrofitting must be taken into account, but New Zealand as a whole benefits from a healthier, more productive population.

Adapting to our ageing population

A further reason for both maintaining and upgrading our houses is the increasing age of our population. Summary data from the 2006 Census shows that the New Zealand population aged 65 and over is predicted to increase rapidly over the next few years, particularly as the post-war baby boomers reach retirement age (see Table 1).

An investigation of accommodation options for older people in New Zealand was published by the Centre for Housing Research Aotearoa New Zealand (CHRANZ) in 2004 (see www.chranz.co.nz/publications.html). One of the higher factors influencing the wellbeing of older people was housing, making the planning and provision of suitable accommodation an important issue. Most older people in New Zealand remain in their own homes, and such households are typically small (one or two people). A growing number of older people also have special care and support needs.

The ageing population is a worldwide phenomenon. Research carried out in the USA and published by the National Association of House Builders (NAHB) showed the majority of the 30,000+ people aged 55+ surveyed wanted to stay in their own homes for the foreseeable future. Two-thirds of them were planning to remodel their homes to allow this. NAHB has a specialist training and qualification for member builders undertaking this remodelling work – Certified Ageing in Place Specialist (CAPS). NAHB provides similar training and resources for its members to build sustainable houses.

Business opportunities

A lot of maintenance and retrofitting is a one-off activity, like exterior painting or retrofitting insulation, and is often carried out by the homeowner. However, homeowners are often ill informed about the type of maintenance or retrofits possible with their houses.

There are opportunities for companies specialising in maintenance and retrofitting across a range of features to offer ‘turn key’ type operations. This might take the form of comprehensive sustainable upgrades like Beacon has undertaken in Porirua, where energy and water efficiency, indoor environment quality and materials are being addressed.

There is also a growing opportunity in specialist retrofitting of houses for New Zealand’s ageing population. The construction industry, our people and our houses could all be much better off.

Table 1: Increases in New Zealand’s over-65 population between 2001 and 2016.
(Source: www.researchnz.com.)

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<tr>
<th>Year</th>
<th>Number</th>
<th>% of total population</th>
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<tr>
<td>2001</td>
<td>450,426</td>
<td>12.1</td>
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<tr>
<td>2006</td>
<td>495,603</td>
<td>12.3</td>
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<td>2016</td>
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