

Facing

Newsletter of Beacon Pathway March 2014



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New Category of Home – two Hobsonville duplexes nearly finished

The New Category of Home project has been investigating the potential to take cost and time out of building through off-site construction, combined with the benefits of high performance building.

Currently the project has been building a duplex alongside Universal Homes as part of their Hobsonville Point development.

The houses use a Universal Homes design, but have been in modules off-site. The lower walls were built as wall panels with the upper modules being constructed and craned into place once the lower walls were braced and ready.

Once on site, the roof and external cladding was installed, and the cladding painted.

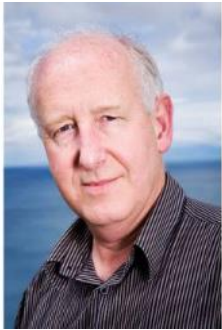
The high performance insulation, which is an integral part of the Warmframe idea, was completed. Plumbing and electric work has been

completed. The next step is installing internal plasterboard linings.

Now that the houses are nearing completion, the sales process is about to begin. These houses will not be used as open homes or evaluated for operational performance. Instead the learning has been all about off-site construction and its potential to add value to the market.

A presentation on the project will be given at the PrefabNZ conference, 26-28 March in Auckland.





Message from the CEO

We are often asked to comment on the work underway to trial a Warrant of Fitness for rental housing. We are certainly watching it with interest.

Beacon takes a ‘whole of house’ approach to home performance.

We believe a house is a complex system, with all aspects working together. To get a warm dry healthy and resource efficient house, we need to assess the whole house and work out all the steps that need to be taken to achieve overall improvement. Interestingly, we note the same [integrated approach](#) being used in the UK to avoid “‘improvements’ in one area [having] damaging and unintended impacts on another”.

Beacon sees that renovation is a pathway – series of carefully considered steps toward the goal (a warmer drier healthier home). We recognise that most people can’t do this all at once (that’s where new homes have the perfect opportunity to get it right!) and so, offering a plan with prioritised steps is the best way to lead people along the pathway.

Consequently, we applaud the two initiatives underway by the Government and 5 city councils to trial a Warrant of Fitness.

Housing New Zealand is checking 500 homes from around the country in a Warrant of Fitness trial. Each home will receive an upgrade plan focusing on insulation, moisture, safety and security, as well as access to essential amenities.

At the same time, 125 rental properties - 25 in each participating city – are being evaluated in a national rental housing Warrant of Fitness trial. Participating councils include Beacon member Christchurch City Council, alongside Auckland, Tauranga, Wellington and Dunedin. The assessment tool was developed by the NZ Green Building Council and the University of Otago, with feedback and input from the five councils,

Accident Compensation Corporation and other housing experts.

Trialling these WOFs will set rental properties on the first step on the pathway to a high performing home – getting the basics right. It’s a great first step in an area of housing which has been difficult to shift toward better performance.

However, the Warrants of Fitness being trialled are essentially a minimum standard only. In the same way that the Building Code sets minimum standards, the WoFs address the baseline of what renters should expect from their accommodation. Much of this is already mandated in existing legislation – see Beacon’s [Rental Housing Fact Bank](#) for more information.

Research shows that to achieve health benefits from a warm dry home, comfort AND resource efficiency (lower bills), more steps are needed. These steps need to encompass a full gamut of insulation, ventilation, heating, water heating and use, and product selection. That’s why we see the Warrant of Fitness as a first step –an important one but one which needs to be followed by support to move further along the pathway to a better rental home.

In an ideal world, those who fail a Warrant of Fitness would have access to information, funding and intervention packages to help them improve the properties in order to pass the WoF. Not only that, but we would like to see landlord given a plan to fully tackle all the steps that are needed to upgrade their rentals, so that owners who pass the WoF will build on this important first step and keep on the journey of improving the performance of their rentals.

The potential for a WoF to improve the lives of many New Zealanders can be seen in the case study of [Chantal and Gregory](#). It is the first step of a journey all New Zealand homes should be on.

Nick Collins

The Build Back Smarter Service

Beacon's contract to establish the Build Back Smarter Service is well underway. Currently we are seeking seed funding for a three month start-up of the Service. Alongside this, we are exploring options for helping homeowners fund their upgrades.

The Build Back Smarter Service will help homeowners to upgrade their homes during earthquake repairs.

Case managers will:

- Undertake a whole-of-house assessment of each house
- Provide an upgrade plan that covers each step toward a warmer, healthier, more efficient home
- Help the homeowners prioritise which steps to take during earthquake repairs
- Provide information on why each step is needed and how it will improve the home
- Help homeowners access any funding available to Canterbury residents for home upgrades
- Refer homeowners to accredited installers who will do a quality job
- Coordinate the upgrades with the insurance repair process

Critically, the Build Back Smarter Service will be a one-stop-shop, taking homeowners from getting advice on what to do, to accessing funding from different organisations, to getting the job done.

Meet Roger Woods - new Build Back Smarter Service Manager

I've recently spent 3 years managing a Fletcher EQR hub repairing earthquake damage to Chch homes. This was both challenging and rewarding - it was great to be involved with helping people after such an event.

Prior to that, I was based in the UK for 9 years, mostly project managing large residential construction contracts in London - a job with challenges surprisingly similar to those in Christchurch.

In another life back in NZ I was involved in construction, and had a career with the NZ Fire Service, ending up with operational and project management portfolios.

Home Performance Advisor training courses coming up

These courses are ideal for anyone who advises clients on improving home performance, particularly if you have input during the design of renovations. There's never a better time to get to get the basics right!

The Level 1 Certificate in Home Energy Awareness course is coming up **14 April 2014** in Wellington.

Once you have done Level 1, you can choose to be certified as a Home Performance Advisor by taking the level 2 course (**7-9 May 2014**, Hamilton).

Find out all the details at:

<http://www.communityenergy.org.nz/training>



Home
Performance
Advisor

The latest happy Build Back Smarter customers: Chantal and Gregor

When Chantal and Gregor Healy walked back into their family home after their earthquake repairs they couldn't believe the transformation. Not only had they included extensions in their cramped home but they also took part in Beacon Pathway's Build Back Smarter trial to create a warmer, drier home.

Chantal describes the family home pre-earthquake as an ice box, only made worse by damage to the interior and liquefaction outside.

"I don't like the cold, I'm a warm person and our heat pumps and old wood burner weren't enough to heat our home. We used to be bundled up in so many clothes."

Built in the 1930's, their three-bedroom home had no insulation. Through Build Back Smarter, they received wall, ceiling and under floor insulation, including a vapour barrier, a heat transfer system, moved the hallway heat pump into their front bedroom, an extractor fan in the bathroom along with a 1000 litre rainwater tank.

"We are very grateful to be part of the Build Back Smarter trial. We have kept the bones of our old house with the wood paneling but it is modernised and more energy efficient," says Gregor.

In addition to the Build Back Smarter upgrades, Chantal and Gregor also installed double glazed windows in the conservatory, bought a new hot water cylinder with wetback, a new low emission freestanding wood burner, removed the chimney, used thermal curtains and installed both an externally vented range hood and a dual flush toilet.

During the earthquake repairs they also extended their front bedroom and opened up their kitchen and conservatory area.

With a drier home, the Healys have noticed that old colder days they now set their heat pump at a much lower temperature, the house heats

more quickly and stays warm for longer, saving in electricity costs.

The new water tank is used to water the gardens using run-off from the roof and also is the added bonus of being a water supply "if we ever don't have water again".

Gregor and Chantal took part in Build Back Smarter through their insurer, State, and their Hawkins project manager. He suggested the project after the February earthquakes not only resulted in a significantly damaged house but also both Gregor and Chantal lost their jobs.

"It was a terrible time and he obviously felt sorry for us." To make the Build Back Smarter upgrades as seamless as possible Beacon Pathway's Bill King was project manager and helped the Healys to make some minor changes to improve their home's heating.

"Bill suggested moving the heat pump. He explains things very well and knew what he was talking about and related it to our situation," says Gregor.

"We feel very fortunate. This is our home. We have been here for 35 years and brought up our children here. It's now a lovely space to come home to."



Coming up in 2014

Medium density North American tour

18 August – 2 September 2014

Starting in Vancouver and finishing in Portland, this tour focuses on successful examples of sustainable medium density developments.

The tour is a response to the challenges of rebuilding Christchurch and finding more affordable and effective medium density housing solutions in Auckland and Wellington.

Vancouver, Victoria, Seattle and Portland have all taken innovative approaches to tackling issues of housing availability and affordability. There is plenty for New Zealand to learn from their experiences, and considerable parallels between their situations and New Zealand.

Beacon's tours are a chance to network with others sharing the same goals, and to make international connections with relevant industry and government professionals.

The draft itinerary currently includes:

- Vancouver
 - Laneway housing
- Victoria
 - Dockside Green (master-planned sustainable community)
 - Loreen Place (supportive housing)
 - Camas Gardens (homeless housing)
 - City of Langford (mixed use, medium and high density)
- Seattle
 - ID Village Square (mixed use inner city redevelopment)
 - HomeSight's Pontadera – not-for-profit developer - 1st home buyers
 - High Point (master-planned sustainable community)
 - Croft Place (apartments with shared facilities)
- Portland
 - South Waterfront (affordable housing project)
 - Sabin Green (4 units on 1 lot)

Contact deniseb@beaconpathway.co.nz for more information

Building a Better NZ conference

3-5 September 2014, Auckland

Get this into your calendars now!

Join others in focusing on the future of New Zealand's build environment and how to transform the building sector to deliver on the needs of future New Zealand.

The Building a Better New Zealand conference will span policy, planning and design, construction, maintenance, refurbishment, reuse and deconstruction for both residential and commercial buildings.

Conference themes will cover:

- Innovative, high performance and low impact approaches to developing, maintaining and retrofitting the built environment
- Building better cities and communities
- Sustainability
- Improving the performance of existing buildings
- Meeting New Zealanders' housing needs
- Productivity
- Improving the performance of materials

Bringing together researchers and the building industry, the conference will be of interest to:

- Researchers
- industry leaders
- policy makers
- innovators
- designers
- manufacturers

Early bird registration is available until 5 August

Find out more at:

<http://www.buildingabetternz.co.nz/overview>

The Beacon Blog

Clever ways to increase housing supply

Beacon has been busy recently making a submission to the Auckland Unitary Plan. It's a huge document – there's a lot to say about it – but the one aspect I'd like to talk about is increasing housing supply.

This goes to the crux of housing affordability in Auckland. The Auckland Plan identifies the current shortfall in houses to be in the order of 20,000 to 30,000. With Auckland's population growing, around 400,000 additional dwellings will be required by 2040, with at least 13,000 additional houses built each year. That's a big ask!

There's a lot of resistance to increasing the density of our city. Perhaps that's because our current experience of denser housing is not a great one. Shoddy building, noisy environments, little storage and personal space, ugly out-of-character developments – all things we associate with higher density.

However, having just been over to Canada and the US in 2013 to see how they increase density, I can tell you that it is possible to develop additional housing in existing properties in a way that is invisible and does not compromise the character and amenity value of neighbourhoods.

We saw some great examples in Portland, Seattle and Victoria BC of providing additional homes in existing neighbourhoods. Portland for example, calculates there is about 20 year land supply within the urban growth boundary, by counting infill development as much as greenfields. A third of all residential development is what they call refill – a mix of infill and redevelopment.

Converting a house into several dwellings can provide affordable options, new rental opportunities and cater for the changing needs

of households. In Canada these are called secondary suites and zoning specifically caters for areas where this is allowed, for example, in the City of Langford, Canada (www.cityoflangford.ca/EN/meta/departments/building-department/secondary-suites.html)

This house, in Victoria, Canada, has been converted into three homes, yet remains unchanged from a street perspective.



This policy in Victoria has delivered 20,000 suites, contributing to more affordable housing options for residents.

In Portland, Oregon, a small second unit, separate from the main house, can be built on larger sites (over 600m²), as can be seen in this site plan.



These are called accessory dwelling units where the second unit is in addition to, and smaller than, the main dwelling. Accessory dwelling units can be created in a variety of ways, including converting part of an existing house, adding to an existing house, converting an

existing garage or constructing an entirely new building. (www.portlandoregon.gov/bds/36676)

One striking aspect of inner city redevelopments in Victoria BC, was the inclusion of residential apartments alongside retail and amenities. This has been particularly the case in Victoria where heritage tax incentives have encouraged the seismic strengthening of many downtown buildings on the condition that they are redeveloped for residential purposes at the same time. Take this building which has had penthouse suites added unobtrusively, set back from the road.



Using often vacant upper floors or adding floors are both ways inner city housing can be added to existing buildings. Victoria calculates 631 residential apartments have been added through this initiative.

Subdividing larger sites enables additional houses, each with smaller footprints. In the inner suburbs of Victoria, larger sites have been rezoned for 2 smaller dwellings. Most noticeably, these are built in a style which is in keeping with the existing neighbourhood.



Our experience of these North American cities suggests there are options there for Auckland Council to encourage less visible development of existing neighbourhoods. Not only will this help housing supply and therefore affordability, but also local businesses and services will benefit from higher concentrations of people, and the City's footprint need not extend.

Check out other Beacon blogs

- Excessive prices an issue in Christchurch rebuild
- Ground vapour barriers vs underfloor insulation
- Thinking about materials
- Why bigger is not always better
- Common house design mistakes

www.beaconpathway.blogspot.co.nz



Latest review of the Eco Design Advice Service

Warmer, more comfortable homes, less mould and condensation, and lower heating and water bills, are the most immediate - but not the only - benefits of councils providing advice and promotion for sustainable buildings.

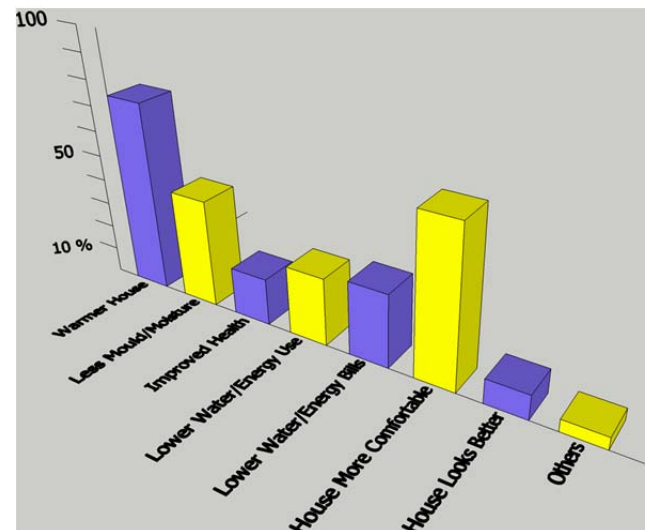
The Eco Design Advisor service got a big tick from customers who took advantage of the two hours free advice on offer, according to the latest customer survey. More than 80% took action as a result of the advice, putting in more insulation, curtains, draught proofing, underfloor vapour barriers and efficient heating and moisture extraction. Of these, only 21% did so with the help of Government subsidies, indicating the advisors' help has led to a much broader uptake of insulation and clean heating than ECEA figures suggest.

More than 60% also changed the way they use the house, making better use of the sun and windows for ventilation during the day, and closing curtains at night, drying clothes outside and turning off lights and appliances when not needed.

The advisors also encourage more efficient water use, and 13% reported changing shower heads, 8% adding a water efficient toilet and 7% collecting rainwater.

Customers have noticed immediate results, with 77% saying the house was warmer, 63% was more comfortable, 43% noticing less mould and moisture, and 30% saying it has led to lower power and water bills. Twenty per cent reported

improved health outcomes as a result (see graph).



The service began in Waitakere, Hamilton and Kapiti Coast about seven years ago after a BRANZ study found there was a lack of factual, independent, tailored advice for homeowners about sustainable building, how to improve the overall performance of their home, and to ensure better use is made of resources.

Research on the pilot showed that the face-to-face nature of the advice was a key part of its success. People were able to discuss their plans for new homes or renovations on a one-to-one basis, and a home assessment enabled them to have the confidence that the information provided was specific to their circumstances.

The service was extended to the former Auckland City five years ago and is now available across the Auckland region as well as in Hamilton, Palmerston North, Kapiti Coast, Hutt, Nelson and Invercargill.

The Eco Design Advisors in all seven participating councils work to upgrade the condition of housing stock, reduce household running costs and improve the health and comfort of residents. Their advice is focused on better insulation and ventilation, renewable and efficient space and water heating, energy and water efficient appliances and fittings, better indoor environmental quality, lowering toxicity

and use of resources, and minimising construction waste.

The customer survey found that the face-to-face nature of Eco Design Advisor consultations allows an exchange of ideas and provides an opportunity to discuss barriers as they are raised. Feedback from research has shown this is consistently beneficial and has prompted not only very high levels of satisfaction with the service but also real improvements to housing.

The main findings of the 2013 survey were:

- Most homeowners were undertaking modifications to their existing homes, although 13% were involved in new building projects
- Energy efficiency was the major motivation for seeking advice, followed by making homes warmer and reducing running costs
- The advice received from the EDAs received a 94% satisfaction rating
- More than 81% had made changes as a result of the advice and 83% were still intending to make more changes in future
- The top ranking interventions were ceiling insulation, underfloor insulation, curtains, energy efficient lighting, draught proofing and accessing Government subsidies
- 61.5% made changes to behaviour – using the sun and opening windows during the day, closing curtains at night, and drying clothes outside
- 81% have noticed positive effects as a result - a warmer, more comfortable, healthier house, with less mould, and lower water/energy bills.

For full report, go to

www.ecodesignadvisor.org.nz.

New on the website:

Information on the new Home Performance Advisor training set up by CEN, Enviroschools Foundation and Beacon

http://www.beaconpathway.co.nz/further-research/article/home_performance_advisor_training

Build Back Smarter case studies

Spreydon 1

http://www.beaconpathway.co.nz/existing-homes/article/spreydon_1

Somerfield 1

http://www.beaconpathway.co.nz/existing-homes/article/somerfield_1



Resources for homeowners

A range of factsheets, case studies and articles, including:

- Retrofitting double glazing
- Thermal mass in Rotorua and Waitakere NOW Homes
- Achieving good solar water heater performance
- Battling the summer drought
- Whole house ventilation systems

http://www.beaconpathway.co.nz/further-research/article/factsheets_case_studies_and_articles