

Facing

Newsletter of Beacon Pathway September 2014



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Ngāti Whātua o Kaipara demonstration houses opened

The first demonstration retrofit has recently been blessed and opened in Helensville.

The house featured on Te Karere: <http://m.youtube.com/watch?v=QA-ljcm50bk>

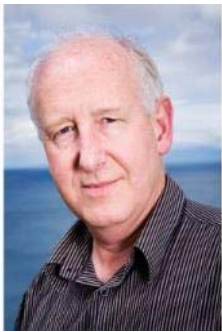


The house is now open to whanau and the local community as an example of what sort of house they can achieve and what the cost is.

Alongside roof, wiring and structural maintenance and redecoration, the house has had ceiling, walls and under-floor fully insulated in a quality installation by InsulPro. This should make these older homes considerably warmer. Downlights were removed and replaced by energy efficient lighting, and tap aerators have been added to the existing dual flush toilet to reduce water bills.

This is the first step in a potentially much larger project to improve housing in the five marae of Ngati Whatua o Kaipara. See <http://www.stuff.co.nz/auckland/local-news/nor-west-news/9475723/Two-homes-are-first-of-many>

Two ex-Defence Force houses were moved from Hobsonville to a new site on Kaipara College land in Helensville. Beacon's Home Assessment and Prioritised Plan tool was used to assess the houses and develop a plan to address deferred maintenance issues and improve performance.



Message from the CEO

Why should housing performance and neighbourhood design be a top priority for local boards over the next three years?

Beacon has just submitted to Auckland's Local Board plans. The key point we made - that local boards should focus on **Housing Performance + Neighbourhood Design + Special Housing Areas** for the wellbeing of their communities – is one that applies to all local councils.

Here's what we said:

Housing quality and neighbourhood design have broad impacts - health, education, resource usage and community wellbeing. They affect the way we raise our families and how we interact with our communities. Current increases in demand for housing supply and growth can have implications for the way we provide quality housing and infrastructure and how we design our neighbourhoods.

Local boards play a critical role in *creating the world's most liveable city*, at a local level - keeping the focus on housing quality and neighbourhoods, and ensuring that long-term successful outcomes are achieved for our communities, and the city as a whole.

Housing performance

Much of New Zealand's existing housing is cold, damp and unhealthy which leads to poor social and health outcomes. It is critical that all new homes built are high performing (warm, healthy, and efficient to run) and that existing homes are brought up to standard.

Poor quality, poorly performing housing affects residents' health, education and quality of life, the resources we use, and general community wellbeing. Collectively, we must ensure that the housing that we are currently building, and our

existing housing stock meets standards that will ensure the health and wellbeing requirements of our city in the future.

Local Boards have an important role to play in encouraging good quality and innovative development, advocating for improving housing quality and performance and in the development and delivery of programmes (such as Retrofit Your Home Project) to their local community in a way that best meets their needs.

Supporting neighbourhood design

Homes should not be seen in isolation, but as part of their neighbourhood. Council and communities must work together to ensure the design and function of local places (dwellings, neighbourhoods and connecting infrastructure such as walk and cycleways, public transport, roads and parks) meets the needs of local communities and effectively link the wider settlement.

Beacon's research has identified that medium density mixed-use is a sustainable neighbourhood which brings benefits to a city. The Auckland Plan recognises this in planning a quality compact city with intensification around transport hubs. Part of the challenge will be developing innovative solutions to intensifying in existing neighbourhoods, such as:

Conversion of a dwelling into two dwellings



Development of small second units separate from the main dwelling on larger sites (>600m²) e.g. above a garage.



Redevelopment of existing buildings for mixed use purposes that also provide for increased residences



The subdivision of larger sites in order to provide additional dwellings with smaller footprints



Local Boards have an opportunity to be an enabler of quality and affordable housing and neighbourhoods by:

Encouraging a bottom up, community-led approach to planning for neighbourhoods. It must be collaborative, including people from all walks of life. Seattle's Department of Neighbourhoods

(<http://www.seattle.gov/neighborhoods/npi>) provides a useful model for neighbourhood planning.

Working with other parts of the Council to more fully address how social infrastructure is to be provided in new greenfields developments. Much of this infrastructure needs to be provided prior to new population growth, rather than after people have come.

Local boards need to engage with developers and community members to assess how they would like to live now and into the future. It is our responsibility to engage with those who construct communities and neighbourhoods to provide places to live that allow people who inhabit them to thrive and prosper.

Special Housing Areas: Quality as well as quantity

Auckland is experiencing high levels of population growth. Under the Auckland Housing

Accord, Special Housing Areas (SHAs) have been identified across the city, both greenfields and brownfields, where fast-track development of housing can take place. This means a lot of new housing and neighbourhoods will be built in shorter periods of time. The Housing Accord targets the consenting or building of 39,000 dwellings in the three years following the signing of the Accord in September 2013.

While it is imperative that we deliver more housing in Auckland, it is critical that we produce good quality high performing housing in well designed neighbourhoods. Auckland, and many other cities, have a legacy of poorly designed suburbs built rapidly in the post-war to early 1970s, such as Tamaki, Massey and Otara. Attempts to regenerate car-based suburbs such as Massey that lacked a heart and local services have provided a degree of success, but not to the level which could have been achieved by good design in the first instance.

In many cases, there is an existing population in development areas and their lived experience and aspirations can be useful in determining local priorities and effective additions to social amenities. Processes of bottom-up planning such as those developed in the US for example (<http://www.theatlanticcities.com/neighborhoods/2012/12/how-hud-went-hyper-local/4074/>)

illustrate the value of actively including existing residents in greenfield, brownfield and infill/refill development. Bottom up neighbourhood plans identify neighbourhood assets, opportunities and needs so great places to live, work and play are developed. More locally, Hobsonville Point provides an example of where provision of infrastructure has led population growth (www.hobsonvillepoint.co.nz).

Beacon's Neighbourhood Sustainability Framework and Assessment Kit is a robust evidence-based tool which can help ensure quality, high performing neighbourhoods are planned and built in Special Housing Areas.

Nick Collins

A Toolkit for Residential Design and Build Competitions

Design competitions can be a powerful way to generate new ideas and approaches for modern 21st century living. They have the potential to generate exciting and original concepts from national and international leaders in construction and design that can help shape our cities of tomorrow. They can also generate a significant amount of publicity and focus attention on new directions proposed for a town or city.

In 2013 Christchurch City Council and MBIE ran the 'Breathe' design and build competition which challenged entrants from around the world to design a medium density, mixed use neighbourhood for inner city Christchurch.

From a pool of 58 entries drawn from 15 countries, the judges identified four finalists who had three months to take their initial concepts through to a more developed design. This resulted in a single winning design for the identified site, with the option that the runners up had viable schemes that could potentially be delivered in other parts of the City.

The successful Breathe competition provided a useful model for other councils to consider in relation to urban revitalisation. This toolkit is a response to increased interest from others in running similar competitions both here in New Zealand and around the world.

Using Breathe as an example, Beacon has developed a tool kit for setting up a design and build competition. It is a starting point for marshalling your resources and allowing you to pre-plan what and how your competition can deliver.

Read the tool kit online at

www.beaconpathway.co.nz/further-research/article/a_toolkit_for_residential_design_and_build_competitions

Building levy funding for Tamaki project

Beacon joined a number of partners in putting in expressions of interest for Building Levy research funding. We are pleased to report that one project has been successful.

Beacon, Nga Iwi Katoa and NZIER are working alongside other organisations such as the Tamaki Redevelopment Company to develop and test a framework for improved decision-making about existing homes at the level of a neighbourhood development.

The Tamaki Regeneration is the largest brown-fields development to be undertaken in New Zealand and will provide approximately 6000 additional homes over the next 20-25 years, mainly replacing state owned housing. However, nearly half (47%) of Tamaki homes are privately owned and are generally not part of the planned regeneration. Beacon, working with Nga Iwi Katoa, has identified that many of the privately owned homes are poorly maintained and provide a low level of performance (cold, damp and expensive to run) for their residents.

While some of these private homes will have clear upgrade potential, others may be structurally unsound and have other technical challenges to efficient and effective upgrade. Currently the regeneration project does not have a clear plan for these homes.

The proposed research aims to improve understanding of options for upgrading or replacing poor building stock at the development or neighbourhood level. The project will develop a decision making framework which pulls together house information, community and household information, and economic analysis.

New Category of Home project

Hobsonville duplex

The second trial in the New Category of Home project used a Universal Homes design with Warmframe, to trial two alternative methods of off-site construction: 2D walls and 3D modules (framing, insulation, windows). These were assembled inside a factory, transported to site, constructed, and finished with claddings and linings using traditional methods.

The Hobsonville duplex (two adjoining homes) has enabled the partners to assess Warmframe's potential for application in a medium density design. It also provides an insight to delivery to the volume home builder market, and working in a business as usual environment. Full thermal testing and monitoring of this house has yet to be completed. The Hobsonville home has enabled the partners to assess Warmframe's potential for application to an existing duplex design, delivery to the volume home builder market, and working in a business as usual environment.

Both houses have been sold, and, once occupied, the homes will be monitored for temperature, humidity and energy use for one year using SPLASH monitoring.



Learning about off-site construction

These two trials, with varying methods of off-site construction and designs, have provided some key learnings on successful off-site construction.

1. Off-site construction needs to be design-led

Both trials used existing house designs which proved counter-productive to the off-site manufacturing process. A design-led process would have prioritised design and systems more suited to efficient off-site manufacturing. This is an issue that deserves further exploration given that New Zealand's planning framework often ties homebuilders and designers into certain design forms even at the earliest planning stages such as overall subdivision or resource consent stages.

2. Working off-site brings benefits but needs to be well organised

Leasing and setting up a factory was relatively simple and cost effective, and using a good process engineer helps to establish streamlined and efficient ergonomic construction processes.

Quality, productivity and safety were substantively better in the factory than on-site. Having the correct materials and tools available in the weather-proof, single level environment of the factory has significant potential to accelerate construction.

3. What's the best scale to deliver off-site construction?

Testing various scales of off-site construction (entire 3D house, 2D walls, 3D modules) enabled some high level conclusions on efficiency of scale. The 3D components (upper stories) proved to be significantly more complex to construct and transport than the panelised components. They also took up significantly more factory floor space. However, working in 3D means there is more potential for a larger degree of finish to be completed in the factory before moving to site.

4. Need to extend from factory to site to change business as usual

The on-site construction phase was less efficient than expected as an already busy work force with business as usual constraints dealt with the introduction of innovation and the search for 'out of the box' solutions. Off-site construction needs to cover the entire process, from design to on-site fit-out.

5. Dealing with perceptions of 'prefabrication'

The experience of selling the HIVE house brought home a crucial barrier to off-site construction: the general perception from the market that a prefabricated house should be cheap. While there are significant productivity, efficiency, quality and cost benefits from whole house prefabrication, a partial prefabrication approach (e.g. wall panels) may be a more acceptable option within the market, while still realising some of the benefits.

It also suggests that a major learning for the industry is that we need to develop more sophisticated language to describe these innovations. Using the term 'prefabrication' may be less preferable than talking about off-site construction; and the New Category of Home partners are dropping the term prefabrication from their lexicon.



Home Performance Advisors

27 and counting!

Organisations and businesses working in the energy and resource efficiency sector can now train for industry recognised certification.

The Home Performance Advisor training programme, launched earlier this year, now has twenty seven certified advisors across the country. Community Energy Network's Executive Officer Jo Wills says advisors go through intensive science-based training and are expected to provide a full assessment, diagnosis and recommendation based on the needs of the client.

"We have received a positive response from sector leaders who have welcomed the formalised training and subsequent industry-recognised certification," Ms Wills says.

Recently certified Advisor Sarah O'Bryan, Environment Centre Hawkes Bay Centre Manager, says the training was valuable to her work.

"It's amazing how much there is to learn and the trainers are knowledgeable, passionate and generous with sharing their experiences and insights. Getting my certification means we can now offer a service to our community that's independent - we're not trying to sell anything, but rather provide the absolute best advice for the particular house and its occupants."

The next Home Performance Advisor training intake is scheduled for October 2014 in Dunedin. Contact hpa@communityenergy.org.nz to register an expression of interest or check out further details at

www.communityenergy.org.nz/training/

Beacon Blog_ Why training home performance advisors is a great idea!

By Vicki Cowan

If you've ever undertaken renovations in your home, you'll know what a confusing business it can be! Every product you look at makes different claims. Every expert you speak to has a different opinion. How on earth do you compare apples with apples and make the right choices?

And that's just for the stock standard renovations where you're redoing a tired bathroom or replacing a kitchen.

It's so much more difficult when you're trying to improve the performance of your home – to make it warmer and drier, healthier for your family to live in, and cheaper on your wallet.

Why? Because how buildings work can be very complex. Making changes in one area can have unexpected consequences in other areas, and achieving the right result is often a case of balancing a number of factors.

Here's an example: Installing ceiling insulation is a great way to reduce heat loss into your roof space. However, this also means the air in your roof space will be colder which may lead to condensation on the inner surface of an unlined metal roof. It may be dripping and wetting insulation in certain areas, and getting through to the ceiling plasterboard. The damp air can come from a number of different sources inside your house which overload the roof space air with moisture. One of the biggest sources is the ground under your house which can release 45 litres of moisture a day. So, although it may not seem obvious, a ground vapour barrier can be an important thing to think about alongside your ceiling insulation.

Understanding how houses work is vital when you're looking at the big picture of how to get your whole home working for you. There's lots of research and science behind it – but you don't

have the time (or inclination) to read it all. That's where the new trained and certified Home Performance Advisors come in.

They've been through an intensive science-based training to gain a comprehensive understanding of how a house functions and how to translate this into meaningful and relevant information for Kiwis. A Home Performance Advisor can give you independent and personalised advice on making your home warmer and healthier.

Most importantly of all, their advice is independent. It's not based on selling you a particular product. It's based on looking at your whole house and finding the right solutions to your cold damp problems.

The training programme is the brainchild of Community Energy Network, Beacon Pathway and The Enviroschools Foundation. All three organisations held a lot of knowledge about houses, and knew how important good unbiased advice was to homeowners.

At Beacon we've surveyed homeowners and worked with them on renovations. Consistently, they tell us that the most valuable thing we've provided was information, robust recommendations and a plan they could follow to achieve their goals.

And that's why we're so proud of the new Home Performance Advisor programme. We see it will support homeowners to make the necessary changes to live in warmer healthier homes. And we are growing a group of well-informed professionals who can play an important role in improving New Zealand's housing.

There are already 27 Home Performance Advisors around the country. You can find a list of names and contacts here

www.communityenergy.org.nz/wp-content/uploads/2014/01/Certified-Home-Performance-Advisors2014.pdf

or find out about training to be an advisor yourself here

www.communityenergy.org.nz/training/

Delivering medium density that works well

2015 Study Tour to Vancouver, Seattle and Portland

July - August 2015



The tour focuses on:

- Successful medium density housing developments in both suburban and inner city settings
- Understanding ways to increase density in existing neighbourhoods through smart subdivisions and neighbourhood

redevelopment – see invisible densification options such as laneway houses, secondary suites and adding to existing commercial buildings

- Innovative social housing developments – providing social housing alongside mixed use and mixed tenure developments
- Insights into funding options to encourage more housing, better communities, and better outcomes
- How to achieve a vibrant inner city – mixed use, community involvement and activism

This 2015 tour shares the highlights of the 2013 tour plus we offer not only a new city to learn from, but a broadening of sites and organisations willing to engage and host us. Our long term trusting relationships with organisations and people in these cities will provide unique insights for participants as our hosts are willing to share more of their journey as well as success stories.

Dates

The tour will start in Vancouver and finish in Portland. There will be at least one full free day in Seattle.

Tour price

The price, including 3 star accommodation (separate rooms), transfers and associated tour costs will be announced closer to the time. Participants to cover international airfares, includes food and other subsistence costs. Beacon Pathway reserves the right to withdraw the tour offer if minimum numbers are not met 30 days before leaving.

If you are interested in coming along on the tour, please register your interest with Denise Bijoux deniseb@beaconpathway.co.nz. Places are limited - registering your interest keeps you up to date with any proposed changes and carries no obligation.

Confirmations of participation need to be received by 30 April 2015. Places are secured by full payment before 30 June 2015.

A taste of the itinerary...

Vancouver



- Inner suburbs neighbourhood development, heritage preservation, community gardens, transit development and densification (Cambie Corridor, Strathcona)
- Walkability, mixed use and low income housing (False Creek, Downtown Eastside)
- Transit development, laneway housing and row housing (Oakridge, Marine Gateway, New Westminster, Metrotown.)
- Overview of City/Region with City Hall staff, Gordon Price, key architects, designers, funders, property/neighbourhood developers and social housing providers.

Seattle



- Affordable and artists' housing (Low Income Housing Institute, Youngstown Cultural Arts Centre, Art Space)
- Seattle Housing Authority community redevelopment (Yelver Terrace, High Point)
- Pocket neighbourhoods - meet Ross Chapin and visit Greenwood Avenue Cottages (eight small houses that enclose a shared community green)
- Mixed use and residential (ID Village Square, Delridge library and apartments)
- Meet social housing providers, City Hall staff, architects, planners, designers, developers and activists.

Portland



- Co-housing developments with shared space or facilities (Sabin Green, Pardee Green, Peninsula Park, Woolsey Court, Cully Grove)
- Transit oriented design, affordable housing (Gray's Landing)
- Housing for the homeless (Dignity Village)
- Inner city mixed use (Pearl District)
- Meet experts in design, architecture, planning, property development.

Building Community Workshops with Milenko Matanovic

Auckland 16-17 February 2015
Christchurch 25-26 February 2015

Milenko Matanovich, founder of the Pomegranate Center in Washington State, is bringing his successful learning programme for community leaders to New Zealand.

The workshops focus on collaborative planning including facilitation, transparency in communication, multi-disciplinary engagement and networking.

Who is it for? Community builders, design professionals, government staff, anyone wanting to engage in collaborative practices. Milenko is available while he is here to work with community groups, councils or design / development professionals.

For more information visit www.beaconpathway.co.nz

Found on Facebook!

We're finding a range of interesting links through our Facebook feed. Here are some of them:

UK retrofit help for fuel poverty

The UK Department of Energy and Climate Change has made the link between housing and health explicit in its draft strategy to tackle fuel poverty. The strategy pledges to focus housing retrofit help on residents with housing-related health issues.

The strategy consultation document, *Cutting the cost of keeping warm: a new fuel poverty strategy for England*, highlights the physical and mental health impacts of cold, draughty housing. It refers to a 2012 review of fuel poverty by Sir John Hills, which noted that more people die as a result of living in a cold home than are killed on the roads every year. The real cost of poor housing, published by IHS BRE Press in 2010, found that treating the health problems of those living in England's poorest quality homes could be costing the NHS £600m a year.

The Department of Energy and Climate Change says that more research is needed into the links between fuel poverty and excess winter deaths. It wants to help remove barriers to joining up action on health and energy efficiency, and is working with the Royal College of General Physicians and National Association of Primary Care to raise awareness among health care professionals. It also plans to explore the potential for building health into eligibility criteria for fuel poverty interventions.

Of interest to New Zealand in light of our current Warrant of Fitness trials, are draft regulations to improve the energy efficiency of private rentals. The proposed fuel poverty strategy includes a legal obligation for as many fuel poor homes as "reasonably practicable" to be raised to an energy performance certificate (EPC) rating of E by 2020, D by 2025 and C by 2030.

At the same time the government has published draft minimum energy performance standards for privately rented domestic and non-domestic buildings. These implement the Energy Act 2011's stipulation that by 2018 most domestic and non-domestic properties in England and Wales should have a minimum EPC rating of E before being let.

<http://www.building4change.com/article.jsp?id=2457#.U-gZ908cRmM>



www.facebook.com/beaconpathway