

Submission by Beacon Pathway Ltd (Beacon)

Submission on LTCCP for Environment Canterbury

Date	2 April 2009
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About Beacon

- Beacon Pathway (Beacon) is a research consortium that seeks to radically change the design, construction and renovation of New Zealand's homes and neighbourhoods. Beacon aims to bring about a significant improvement in the sustainability of the residential built environment in New Zealand through science-based New Zealand research. Our vision is "Creating homes and neighbourhoods that work well into the future and don't cost the earth".
- Beacon's shareholding partners are organisations with a considerable stake in the quality of the residential sector: BRANZ, Fletcher Building, New Zealand Steel, Scion and Waitakere City Council. Contributions from the shareholders are matched, dollar for dollar, by funding from the Foundation for Research, Science and Technology (FRST).
- Beacon believes it is only through collaboration and the sharing of knowledge that there can be a significant improvement in New Zealand's homes.
- Beacon's goal is to significantly improve housing sustainability through influencing policy and regulation; understanding consumer and industry needs; defining an appropriate high standard of sustainability; and developing the tools to achieve, measure and monitor progress to achieving that standard at the house and neighbourhood levels.

A summary of Beacon's research is annexed to this submission

Reason for Submission

Beacon recognises the need for maximising the sustainability potential of the residential built environment during the development process at all scales - including individual homes, new developments and neighbourhoods. It also recognises the important role that local councils play in both supporting and encouraging the development and management of homes with a greater emphasis on sustainability.

Submission

1. *Air quality*

- Beacon supports the Clean Heat Programme.
- Given the high contribution of inadequate home heating to air pollution in the region in winter (LTCCP p19) and in order to maximise take up of the Clean Heat Programme, Beacon seeks the retention of the full assistance programme for those on a Community Services card.
- Beacon also supports the retention of the 40% subsidy of the landlord programme.
- Beacon supports the provisions in the Air Plan banning the use of open fires and non-complying wood burners.
- Beacon supports ECAN's proposed public education campaign around the Air Plan, in concert with other appropriate bodies.
- Beacon seeks that ECAN allocates adequate resources to enforce the Air Plan to maximise compliance. The Pollution Hotline response service is also supported.
- Beacon supports planned ECAN investigations 2009 to 2019 to monitor the number of homes converting to cleaner forms of home heating, especially as the new Air Plan comes into force.
- Beacon also supports ECAN research into major emission sources and what can be done to mitigate and reduce these.
- Beacon supports the development of working parties with district councils and other bodies to develop air quality and Clean Heat initiatives.
- In terms of home energy initiatives, Beacon research relating to house typologies and energy efficiency is likely to be helpful (see the Beacon website www.beaconpathway.co.nz). This outlines the types and numbers of houses in all local authority areas throughout New Zealand, and what types of home energy efficiency measures are likely to be most effective for each. This information can inform ECAN public education initiatives and communication around the Air Plan.
- ECAN should also be aware of Beacon's HomeSmart Renovations project that is developing tools to assist homeowners to make good choices when renovating their homes. This research will be available late 2010.

- Beacon's 2008 *National Value Case* sets out the importance and benefits of improving the performance and sustainability of New Zealand's housing stock (see Appendix A). This can support regional strategy development around air, energy, water, waste and land use.

2. Energy

- Beacon supports ECAN's ten year focus on promoting energy efficiency, including ECAN's proposed education, communication and advocacy roles.
- Beacon strongly supports the proposed incentives for homeowners to install insulation, more efficient forms of home heating and other energy efficiency measures. Beacon congratulates ECAN on this progressive initiative.
- Beacon also supports the development and adoption of a collaboratively developed Canterbury Regional Energy Strategy in 2009/2010, to contribute to its community outcomes around energy, especially in terms of energy security, energy efficiency and encouraging distributed generation opportunities. This should ensure that all local authorities in the region address these issues within their district plan and LTCCP.

3. Land

- Beacon supports establishing a new flat customer services annual charge for all resource consents.
- Beacon submits that the Greater Christchurch Urban Development Strategy makes provision for supporting the development of sustainable buildings, along with other relevant ECAN regional regulations, policies and plans.
- Note that Beacon is producing a Local Government Resource Manual in June 2009, which provides the rationale, suggested solutions, case studies and best practice policy measures to support sustainable building. This Manual is being launched through a series of workshops, the first of which is being held in Christchurch on 11 June 2009.

Waste

- Beacon supports maintaining annual waste exchange funding at \$87,000, rather than reducing it to \$67,000.

Water quality, quantity and ecosystems

- Beacon supports splitting the funding costs for water investigation and monitoring 70% general rate and 30% consent holders.
- Beacon supports the development of the ten water management and accountability zones, but seeks that these zones are managed within a holistic approach to water management that covers the wider region.
- Beacon supports the installation of water monitoring devices by consent holders and establishing systems for receiving and reporting the water use data.
- Beacon also supports plans to work with consent holders on water efficiency measures, utilising the data received above.
- Beacon submits that ECAN should play a greater role in promoting water conservation. Water abstraction has adverse effects on the aquatic resources in the region and promotion of water conservation would enable greater allocation of water resources to ecosystems.
- Beacon submits that ECAN promote water demand management initiatives in the region, including water metering. Refer to Beacon's *Slowing the Flow*, a document prepared specifically to assist councils to put in place an appropriate package of water demand management practices. These draw on a range of methods from more efficient management of infrastructure, community education and a range of regulatory methods and economic tools.
- Beacon wishes to have the opportunity to be heard in support of our submission.

Appendix A: Beacon's research

Further information and research can be found at Beacon's website: www.beaconpathway.co.nz.

National Value Case

Beacon believes there is a significant role for Government to drive the necessary upgrade of the existing housing stock to a higher standard of sustainability as well as substantially raise minimum standards in the Building Code for new houses. Furthermore, our research indicates a strong value case at a national level to transform a significant proportion of the New Zealand housing stock to Beacon's HSS High Standard of Sustainability® with beneficial social, health, environmental and economic outcomes.

- [National Value Case for Sustainable Housing Innovations](#) (PDF 2MB)

Large-scale renovation is big on job creation

Prudent investment by the Government in New Zealand's residential infrastructure, in partnership with local government and industry, will maintain employment and critical mass in the building, building product manufacturing and building retail industries. Beacon's submission to the Government's Job Summit showed that, for every 1,000 houses retrofitted, a total of 151 full-time equivalent jobs would be required for delivery solely of on-site retrofitting services; a total of 392 full-time equivalent jobs would be required to provide the products and services involved in the renovation activity.

HomeSmart Renovations

The HomeSmart Renovation project involves the assessment and evaluation of renovations undertaken by approximately 600 homeowners across New Zealand to improve their building performance. Each home will receive an individually tailored renovation plan (based on our research so far) which shows participants how to get the best return on their investment, by drawing up a detailed pathway to improve the sustainability of their home. Through the project, we're developing tools which will assist homeowners in making good choices when they make changes to their homes, and collecting information to assess the benefits of renovating homes and the best ways to do this. The research outputs from the project will be available late 2010.

Barriers to sustainable building

Beacon has conducted detailed work looking at the barriers to sustainable building within local government and that this has resulted in the development of a Local Government Resource Manual which provides the detailed rationale, suggested solutions and case studies for best practice policy measures to support sustainable building. In 2009, this Resource Manual is being launched through a series of workshops in Christchurch, Wellington, Rotorua and Auckland. This resource will be available through our website to all councils.

- [Best Practice Policy Approaches to Encourage Sustainable Residential Building and Retrofitting: Evaluation and shortlist of initiatives](#) (PDF 118 KB)

- [Best Practice Policy Approaches to Encourage Sustainable Residential Building and Renovation: Survey and Literature Review Results](#) (PDF 820 KB)

Neighbourhood research

Beacon's neighbourhood research team have developed a framework which could be used to measure the sustainability of New Zealand's neighbourhoods. Our aim is to create a tool for developers, planners and local government which both measures neighbourhood sustainability and suggests improvements. The goal is how to design, construct, and manage neighbourhoods which: are adaptive; are resilient; allow people to construct rich satisfying lives; and, respect the limits of the environment.

Water research

Beacon has undertaken a significant amount of research over the past two years related to water. Our premise is that the increasing cost, the decreasing availability of water supply in some parts of the country, and conflicting demands for water allocation between some rural and urban parts, will require a more efficient and conservation-orientated approach if New Zealand is to achieve widespread household sustainability.

During 2008 Beacon ran workshops with six councils across the country in order to explain in detail the range of methods that Councils could consider to intensify their water demand management approaches. Each Council then prioritised their next likely steps. Beacon continues to observe their progress, so that ways of overcoming potential barriers might be identified and shared with others.

Three other current pieces of work are aimed at deepening our understanding of water issues. One looks at the value case for water, one looks at the relationship between water and energy, and the third looks at the benefits of the integrated management of the three waters.

Key water reports are:

- 2008 [Slowing the Flow: A Comprehensive Demand Management Framework for Reticulated Water Supply](#) (PDF 1.4MB)
- 2008 [Best Practice Water Efficiency Policy and Regulation](#) (PDF 1.4MB)
- 2007 [Demand Management Through Water Retrofit Projects \(Public report\)](#) (PDF 737KB)
- 2007 [Making Policy and Regulations Rain Tank Friendly](#) (PDF 234KB)
- 2006 [Water Efficiencies: Report on Existing Technologies/Expertise in New Zealand](#) (PDF 116KB)

Energy research

Our Energy Retrofit research will provide robust information to inform decision makers and actors in the value chain on how to cost effectively renovate New Zealand homes to a high standard of energy sustainability. We're tackling this in three ways.

- 1) We're looking at how hard or easy it is to renovate the energy performance of **different types** of existing homes. Our houses were built significantly differently over the last century and each type poses different problems for energy retrofits.
 - 2) We want to understand how **different consumers** see the energy performance of their home and respond to retrofit opportunities. Specifically we've focused on landlords, high energy users and recent home buyers.
 - 3) We're using what we learned along with our experience in the HomeSmart Renovations project to build a series of **energy retrofit packages** that will provide effective improvements for each type of home and different consumer groups.
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- 2008 [New Zealand House Typologies to Inform Energy Retrofits](#) (PDF 651KB)
 - 2008 [Housing Typologies: Current Stock Prevalence](#) (PDF 392KB)