

## Submission by Beacon Pathway Ltd (Beacon)

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### Submission on LTCCP for Wellington City Council

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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 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.

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## Submission

Beacon does not wish to make a verbal submission.

### ***Council housing upgrades***

Beacon supports improving both heating and insulation in Council's social housing. Beacon's research indicates that heating on its own and insulation on its own is not as effective as both together in supporting healthy housing.

Beacon also submits that, in terms of the planned Council housing upgrades, Council goes further in ensuring that sustainable building principles and practices are embedded within all of these developments. This can include energy and waste audits and measures to support water, energy and waste reduction.

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 buildings. This Manual can assist the upgrades programme above and is being launched through a series of workshops. Wellington City Council will be invited to the Wellington launch and workshop of this manual, to be held in July 2009.

### ***Walking, cycling and passenger transport***

Beacon supports the Council's planned investment in managing transport demand, particularly by encouraging walking and cycling and supporting the City's bus network.

### ***Water demand management***

Rather than building a new water reservoir or other water storage facility in the short to medium term, Beacon seeks that the Council adopt water metering as a key means to manage and reduce demand for water.

Beacon supports working with the community regarding water use and conservation, alongside the provision of information and education to the community.

Beacon supports the leak detection programme to identify and reduce water leaks from the network.

Beacon supports a collaborative approach to addressing the future capacity and demand from the water network, with environmental, cultural and social impacts prioritised when considering options.

See Beacon's document *Slowing the Flow*, which was prepared to assist local 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 and community education to a range of regulatory methods and economic tools.

### ***Sustainable buildings***

Beacon supports the provision of design advice to enable people to build more sustainably, plus the provision of an Eco Design Advisor.

Beacon seeks that for all new Council facilities, including, for example, the planned Indoor Community Sports Centre at Cobham Drive, sustainable building principles are embedded within their development.

Beacon seeks that, in the review or development of existing policies, rules and regulation over the next ten years, including the District Plan review, the Council makes provision for supporting the development of sustainable buildings. The *Local Government Resource Manual* developed by Beacon can assist in this.

### ***Urban safety***

Beacon supports enhancing lighting and visibility in public areas in the central city and improving safety through initiatives in the inner city.

Note that Beacon's neighbourhood research team have developed a framework which can be used to measure the sustainability of New Zealand's neighbourhoods, including inner city areas. 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.

### ***Wastewater and stormwater***

Beacon supports the proposed stormwater monitoring programme to understand better the impact of stormwater on aquatic ecology.

Beacon supports introducing grit traps in the CBD stormwater environment and seeks that these are provided in the urban residential environment in a staged programme.

### ***Waste reduction and energy conservation***

Beacon supports community education around waste reduction, and planning to reduce waste and manage waste more sustainably.

Beacon supports a major drive to reduce energy use within Council's own facilities and services and advocacy for initiative that reduce energy use by the Wellington community.

Beacon supports the Council entering into a partnership with EECA and other providers to support the uptake of healthy homes retrofits. Note the availability via Beacon's website of New Zealand house typologies information which outlines the types and numbers of houses within all local authority areas throughout New Zealand. This information provides local

authorities with a good understanding of the structure of the housing stock in their area. Note also that large scale renovation programmes targeted regionally could have positive benefits on local economic development (see Appendix One).

Beacon supports the development of a 'sustainability plan' to minimise the Council's waste, energy, transport and water use, including its procurement focus.

Beacon supports the Council reducing its carbon emissions in practical ways such as energy efficiency measures, rather than buying carbon credits.

Beacon supports the planned intensive public education campaign to reduce waste.

Beacon supports paying through recycling through means which do not provide incentives to produce waste, and supports user charges for waste production.

### ***Urban development***

Beacon supports the Council's long term approach to urban development in terms of its focus on compactness, improving the quality of urban design and focusing where benefits are greatest and environmental harm is minimised.

Beacon seeks that sustainable building and neighbourhood principles provide the foundation of the Council's approach to urban development in the next ten years.

### ***Building control and facilitation***

Beacon supports the scheme to offset some building consent fees for sustainable building features including solar water heating, wood pellet stoves and micro electricity generation. Beacon seeks that the current \$30,000 grants pool for this is increased annually and widely promoted.

### ***Public spaces development***

Beacon supports the planned street improvements in the central city, again seeking that sustainable building and neighbourhood principles drive these improvements.

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## **Appendix One: Beacon's research**

Reports and further information can be found at Beacon's website: [www.beaconpathway.co.nz](http://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.

- 2008 [New Zealand House Typologies to Inform Energy Retrofits](#) (PDF 651KB)
- 2008 [Housing Typologies: Current Stock Prevalence](#) (PDF 392KB)