

Submission by Beacon Pathway Ltd (Beacon)

Submission on LTCCP for the Auckland Regional Council

Date	4 May 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 authorities play in both supporting and encouraging the development and management of homes with a greater emphasis on sustainability.

Submission

Beacon does not wish to make a verbal submission.

Regional Coordination

In terms of managing the transition and implementation of new regional governance arrangements (p10), in order to develop a sustainable and dynamic region, Beacon seeks that clear regional priorities promoted by the ARC within the new arrangements include sustainability education, energy efficiency, promoting air and water quality, water demand management (for example, through regional water metering) and sustainable building policies and practices.

In relation to water, the ARC is referred to Beacon's *Slowing the Flow* report, which was prepared specifically to assist councils to put in place a package of water demand management practices, see http://beaconpathway.co.nz/further-research/article/a_framework_for_councils. It draws in a range of methods from more efficient management of infrastructure and community education to a suite of regulatory methods and economic tools.

Transport

Beacon supports increased rail services, the work of the Travel Wise Scheme and the Total Mobility Scheme (p4).

Beacon also supports the Integrated Ticketing System for rail, bus and ferry services to occur at the earliest opportunity.

Built Environment and Urban Development

Beacon supports the ARC's focus on developing a compact form of urban development, and working with others to focus on regionally significant areas to integrate land use and transport activities, such as the waterfront and Onehunga (p7 Chapter One).

Beacon seeks the integration of sustainable building practices into key regional developments such as the tank farm and western reclamation urban village developments, as well as urban development planned in Onehunga to complement the new rail station and train line.

Beacon seeks that sustainable building policies and practices become embedded within appropriate ARC policies and plans and advocated regionally. 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 in mid 2009 and the ARC will be invited to the Auckland launch workshop.

Beacon supports sustainability principles providing the foundation for the ARC's approach to urban development.

Climate change and energy

The ARC has put its work on a regional energy strategy and regional response to climate change on hold until it has direction from the new government (p9 Chapter One). Beacon submits that the ARC show leadership over the next year in establishing core principles for this work regardless of government direction, based on international best practice for energy efficiency and mitigating climate change and the ARC's unique knowledge of the specific needs of Auckland.

Air Quality

Beacon supports the implementation of an education programme designed to reduce air emissions from transport and domestic sources and to educate people on air quality issues (p8).

Planning for the future

Beacon seeks that, in its Regional Policy Statement development, the ARC makes provision for supporting the development of sustainable buildings. Beacon's *Local Government Resource Manual* can assist this (p9).

Beacon also proposes the specific inclusion of funding and staff resourcing to develop appropriate provisions in support of sustainable building across the region.

Resource consents

Beacon supports piloting a new grant scheme to support not-for-profit organisations with their resource consent fees for projects with wide public benefit (p3). As part of this scheme, Beacon seeks that the ARC promotes sustainable building practices and applies waiving of, or reductions in, consent fees as incentives to undertake more sustainable building development.

Rugby World Cup

Beacon submits in support of integrating sustainable building practices within the building of the new stadium and the ARC advocating for these measures. This stadium offers an opportunity to showcase these measures (p3).

One Plan

Beacon supports the development of one Regional Infrastructure Plan. Beacon seeks a strong emphasis within this Plan on energy and water efficiency, environmental education and sustainable building practices and education. Core public infrastructure should be modelling sustainable building practices and this Plan can support this to occur (p3).

Stormwater

Given the pivotal importance of active stormwater management to the region's health, Beacon seeks that grant payments to assist councils to produce integrated catchment management plans are not reduced, and that the research and education programme relating to ICMPs is also not reduced (p3).

Further, Beacon supports the development of an Integrated Water Resource Management Plan as a model for holistic water management being developed via Project Twin Streams in Waitakere City. Beacon would like to see this model developed and applied regionally to support integrated water management across the region.

Beacon supports the ARC's continued support for the implementation of Low Impact Design approaches to stormwater and land management (p74).

Beacon seeks the development of a community education programme to reduce stormwater pollution, and provide information and incentives for people to change their behaviour in order to reduce pollution (p75).

Beacon's research

Reports and further information 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.

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