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**Submission by Beacon Pathway Ltd (Beacon)**

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**Submission on LTCCP for Rotorua District 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 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**

### ***Energy***

Beacon supports the Council's moves to develop more geothermal generated electricity, but seeks that some Council funding is provided for this in the LTCCP, as not all costs will be met through private/public partnerships and the associated costs are likely to be significant.

Beacon also supports geothermal energy use for wider application than RDC buildings and facilities, in order to utilise this renewable resource to create a cleaner, greener Rotorua.

### ***Waste***

Beacon supports the Council's Waste2Gold initiative and the building of a pilot plant to convert wastewater sludge into useable energy.

A public/private partnership/s to develop this treatment plant is supported, as long as the ownership of the asset stays in public hands, the public benefits remain paramount and the partnership is transparent to the community.

Beacon submits that, in terms of waste minimisation, RDC focuses on community education to minimise waste at its source, as part of regulations and waste minimisation services that move Rotorua towards a zero waste future.

### ***Air Quality and Healthy Homes***

Beacon is disappointed that the Council does not propose to play stronger roles than advocacy and facilitation in enhancing air quality or supporting healthier more sustainable housing over the next ten years. This is despite the LTCCP noting the increasing importance of healthy homes, particularly on air quality (LTCCP p6).

Beacon submits that Council review healthy housing initiatives being undertaken by other local authorities (for example, Waitakere's Retrofit the City project and Canterbury's Clean Heat project), and seeks to develop partnerships to support healthy and sustainable housing in Rotorua as a priority in the next three to five years. 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).

Beacon's research highlights the link between sustainable housing and economic development (and we note that two of RDC's three main themes are economic growth and sustainability). For example, Beacon's submission to the Government's Job Summit showed that, for every

1,000 houses retrofitted for energy efficiency and other sustainability features, 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. Focusing on sustainable, healthy housing would significantly promote RDC's two main themes at the same time.

### ***Maintaining current assets***

Beacon seeks that, when RDC upgrades its pensioner housing and other community assets, it utilises the latest sustainable building designs and technologies. RDC is referred to a Local Government Resource Manual that Beacon is launching in June 2009, which provides the rationale, suggested solutions, case studies and best practice policy measures to support sustainable building (see Appendix A).

### ***District Plan***

Beacon submits that, in its Draft District Plan which is due for formal notification in late 2009, the Council makes provision for supporting the development of sustainable buildings. The Local Government Resource Manual developed by Beacon can assist in this.

Beacon also seeks the specific inclusion of funding/staff resourcing to develop appropriate provisions in support of sustainable building, within RDC.

### ***Urban Design***

Beacon strongly supports the development of an Urban Design Strategy by RDC in the next two years, as essential for the District's focus on sustainability. Beacon's research on its website and as set out in Appendix A can assist this process.

### ***Integrated Planning***

Beacon supports moves by the RDC to undertake more integrated planning with the regional council (and other stakeholders) around key issues such as water and air quality, reviewing the regional policy statement and transport.

### ***Water***

Beacon supports the provision of information and education to the community regarding water use and conservation.

Beacon supports water metering as a key means to manage and reduce demand for water. 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.

### ***Wastewater***

Beacon supports the extension of wastewater collection, treatment and disposal during the next ten years.

### ***CBD Integration and Lakefront Redevelopment***

Beacon supports Council investment in redeveloping the lakefront and the CBD.

Beacon submits that sustainable and low impact design approaches drive these new developments, so that they are people friendly, impact minimally on the environment and support sustainable social and economic development.

### ***Building services and environmental planning***

Beacon seeks the appointment of an Eco Design Advisor to advise resource and building consent applicants on how to build sustainably.

In line with its main theme of sustainability, Beacon submits that RDC make sustainable building and urban design a core feature of its approach to environmental planning and Building Services, as a priority.

Beacon seeks simplified consenting processes and reduced consent fees (or waiving of fees) for key sustainability features such as solar water heating, solar photovoltaic installations and rainwater tanks.

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## Appendix A: 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.

### ***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 Home*Smart* 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)