
Beacon Pathway Submission to the Draft Annual Plan 2014/15 for Auckland Council

Date	25 February 2014
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What is Beacon?

Beacon Pathway Incorporated (Beacon) aims to transform New Zealand's homes and neighbourhoods to be high performing, adaptable, resilient and affordable. To achieve this, Beacon's work uses demonstrations and monitoring to provide proof of the benefits of improving New Zealand's housing stock.

Beacon builds on the successful research programme completed by its original consortium which developed a whole-of-house approach to improving the performance of both new and existing homes, using demonstrations and research to provide proof of the benefits of improving New Zealand's housing stock. Much of this work was developed with Waitakere City Council and is available free of charge on Beacon's website www.beaconpathway.co.nz. Tools developed by Beacon include:

- Neighbourhood Sustainability Framework – a framework and tools to measure the sustainability of neighbourhoods
- HSS High Standard of Sustainability – performance benchmarks for a sustainable home which take a whole-of-house approach to improving the performance of both new and existing homes. This encompasses energy, water, indoor environment, waste, and material/product selection.
- A HomeSmart approach to assessing existing homes and developing a renovation plan – this underpins the Retrofit Your Home initiative.
- *Policy Options for Sustainable Homes: A Resource Manual for Local Government* – this provides an overview of the range of tools available to councils to encourage people to make more sustainable choices in their homes and neighbourhoods

Beacon has been working with Auckland Council over the past two years, including input to the Housing Action Plan Stage 1 and in the areas of new build, retrofit and neighbourhoods. Beacon has also been working with Rodney Local Board on the housing/employment training programme developed by Ngāti Whātua Nga Rima o Kaipara.

Beacon's Members include: Christchurch City Council, EECA, New Zealand Steel, Fletcher Aluminium, Certified Builders, Resene and Insulpro Manufacturing. Beacon would welcome the opportunity to discuss the benefits that membership of the Society could bring Auckland Council.

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- Beacon wishes to speak in support of its Annual Plan submission to the Auckland Council hearing panel.

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Beacon's Perspective on the Draft Annual Plan 2014/15

Beacon congratulates Auckland Council on developing its draft Annual Plan for 2014/15, the work programme for the next year to deliver on the vision – *the world's most liveable city*. To achieve this vision continues to require a step change in the types of activities provided by the Council and how these activities are delivered. It cannot be achieved by delivering business as usual, nor can it be achieved by Auckland Council alone.

A core theme of the Auckland Plan is growth and opportunity that builds and sustains the quality of life available to Aucklanders. To achieve this will require all aspects of 21st century sustainability to be addressed - housing needs, climate change, a move to a low carbon future, and improved community resilience. In addition, strong leadership, innovation and a focus on working collaboratively across communities, industry and central government and all parts of Auckland Council (including Local Boards and Council Controlled Organisations (CCOs) are needed.

Beacon welcomes the focus that the Auckland Council is placing on improving the quantity, quality and affordability of housing in Auckland. With the completion of Stage 1 of the Housing Action Plan, the Proposed Auckland Unitary Plan and the approval of a number of Special Housing Areas, the challenge is to ensure high performing and affordable homes and neighbourhoods are developed. It is critical that budget and other resources are provided in 2014/15 and subsequent years to ensure delivery on the Housing Action Plan.

Beacon identifies the following key points.

1.1 Quality, well-designed homes and neighbourhoods must underpin Auckland Council's vision

To achieve a quality compact city with intensification around transport hubs requires an urban design framework with a strong emphasis on resilience, low impact design, demand management and diversity of infrastructure supply. Beacon's research has identified that medium density mixed-use is a sustainable neighbourhood form which brings benefits to a city. Part of the challenge will be developing innovative solutions to intensifying in existing neighbourhoods – creating secondary suites within existing homes, converting garages into small, high performing dwellings and creating high performing new secondary dwellings on larger sites. Vancouver provides a useful example of this approach, having created an additional 30,000 dwelling units within existing homes in the past two decades.

Quality housing must include new homes built each year, as well as the retrofit of existing homes which will comprise over 50% of the 2040 housing stock. The highest costs to the economy, environment and to homeowners occurs during the operation of a home (see Appendix One: Beacon Resources). Therefore, strong emphasis must be given to optimising the

operational performance of homes including demand management and opportunities for diversity of supply - water, energy and localised waste management.

Homes should not be seen in isolation, but as part of their neighbourhood. The opportunity is to plan, design and retrofit Auckland neighbourhoods to realise the liveable city vision. Beacon proposes its Neighbourhood Sustainability Framework and Assessment Kit as a robust evidence-based tool for Auckland Council to use, particularly in testing neighbourhood plans and verifying their sustainability once built. This should be used as a tool in all Special Housing Areas to ensure quality, high performing neighbourhoods are planned and built. See Appendix One: Beacon Resources.

1.2 Council must be key player determining Auckland's housing outcomes

Council is a key player in the housing outcomes for Auckland – influencing the supporting infrastructure, and the development of existing and new neighbourhoods and homes. All parts of the Council – the governing body, local boards and Council Controlled Organisations need to be clearly delivering on the intent of the Auckland Plan. For example, Council must:

- Provide leadership developing demonstrations of high performing neighbourhoods and homes.
- Make it easier for homeowners to build and retrofit more sustainable homes. In partnership with councils, Beacon has developed a Resource Manual to support improved housing outcomes (see Appendix One: Beacon Resources), has expertise in this area and has been actively involved in demonstrating the upgrading of existing homes in Christchurch.
- Ensure its strategies, policies and plans take full account of climate change, reducing reliance on fossil fuels and other aspects of resilience and sustainability such as demand management, local sourcing and local initiatives.
- Focus on demand management, resilience, and creating an enabling environment for innovative solutions including localised and diverse networks for all infrastructure – roading, waters, energy. Involving communities in such design and decision making can also help to change behaviour. Infrastructure is a major cost to Council.

Beacon requests that Auckland Council provide funding and resources to undertake the following work in the 2014/15 financial year:

- **Develop a Housing Showcase** – an exemplar of affordable, sustainable, urban living in partnership with key stakeholders. The Housing Action Plan (action 8) identifies the need for exemplar housing development demonstrations. Beacon has experience in this area, being the catalyst for the development of the Christchurch Breathe project, as noted in the Housing Action Plan.
- **Upgrade of existing homes**, particularly as part of locally based projects such as the Southern Initiative and Tamaki Regeneration.
- **Development of high performing neighbourhoods**, particularly as part of Special Housing Areas. Beacon's Neighbourhood Sustainability and Assessment Tool Kit provides

a tested tool to assess the sustainability of neighbourhoods prior to their building and once built.

- **Intensifying existing houses** - creating a regulatory environment to facilitate secondary suites within existing houses, the conversion of garages into quality living environments and the design / build of new secondary dwellings on existing large sections.
- **Design-led solutions for Pacifica families** - undertaking a design-led process to develop a range of sustainable housing typologies to meet the need of Pacifica families

Spatial-based initiatives also provide opportunities for the development of exemplar 'best-practice neighbourhoods'. Such developments will contribute to the tools, incentives and education needed to shift approaches from what is currently accepted as business as usual (e.g. urban sprawl) to more sustainable way of doing things, encouraging homeowners to seriously consider new forms of central city living. Exemplar best practice neighbourhoods will also inform developments in other areas, such as suburban and peri-urban areas, and offer the opportunity for Auckland to be recognised as a leader in eco-city dwellings and lifestyles internationally.

1.3 Beacon resources

A summary of the key programmes of work undertaken by Beacon which could assist Auckland Council is provided as Appendix 1. Further details are available free of charge on the Beacon website www.beaconpathway.co.nz or through contacting Beacon directly.

Beacon Pathway's Comments on the draft Annual Plan 2014/15 document

The below comments are made on the content of the draft Annual Plan. It is difficult to make specific comment on the funding of projects given the aggregated nature of reporting.

2.1 Volume One - The Draft Annual Plan 2014/15

Part I - An Overview of the Annual Plan 2014/15

Beacon Pathway supports the key initiatives identified below and makes the following submissions:

- **Special Housing Areas** - care must be taken that these provide for a range of housing typologies, tenure and levels of affordability, and provide high performing homes and neighbourhoods. The long-term costs of building new homes on the periphery of the City, both to the Council and the final purchaser, is substantial, with high infrastructure costs and significant commuting times time. Page 7 identifies \$75m for stormwater management,

including new infrastructure to support Special Housing Areas. New development must be planned to reduce the need for costly infrastructure - for example by the use rainwater tanks.

- The Tāmaki Transformation project working with Nga Iwi Katoa to progress options for affordable housing in Tāmaki - Beacon has identified the opportunity to develop a community-based service to upgrade existing privately owned homes as part of the redevelopment of Tāmaki. Beacon is currently working with Nga Iwi Katoa to progress this opportunity.
- Supporting marae development and Māori housing initiatives - Beacon draws the Council's attention to papakāinga housing development being undertaken by Ngāti Whātua Nga Rima o Kaipara which is being supported by the Rodney Local Board.

Part II - Our Activities

Governance Theme

Beacon acknowledges the key roles that Auckland Council, the Local Boards and CCOs play in the leadership of Auckland. CCOs are an important part of delivering on the Auckland vision, and must, as their first priority, deliver on the strategic direction and goals of the Auckland Plan.

Planning Theme

Beacon acknowledges the considerable work undertaken over the past 3+ years by Auckland Council in planning for future growth. The opportunity now is to ensure the delivery of increased numbers of affordable housing, with an emphasis on quality new developments occurring within the urban area. Council has the opportunity to help catalyse this development through activities such those identified in section 2.1.

Spatial-based projects such as the Southern Initiative and Tāmaki Redevelopment should not just focus on new housing. Much of the existing housing is cold, damp and unhealthy which leads to poor social and health outcomes. There is an opportunity to improve wellbeing by retrofitting poorly performing housing stock as part of these programmes of work. Beacon requests that the Council explicitly identifies the need to retrofit existing neighbourhoods and housing as part of these larger spatial based work programmes, and that funding be allocated to initiate this work. Beacon is currently working with Nga iwi Katoa to develop a community-based model to retrofit existing homes as part of the Tamaki redevelopment.

Another challenge is developing innovative solutions to intensifying in existing neighbourhoods – creating secondary suites within existing homes, converting garages into small, high performing dwellings, and creating secondary dwellings on larger sites. Vancouver provides a useful example of this approach, having created an additional 30,000 dwelling units within existing homes in the past two decades.

Beacon supports the exploration of a rental Warrant of Fitness (WoF) as one means of improving poor quality rental housing. However, Beacon notes that:

- Current regulatory instruments which could enforce sanitary standards (Building Code, Tenancy Act, Health Act) are not being enforced by local authorities and asks how this will be different with a WoF
- A WoF will be useless without a package of interventions to address failure. Beacon encourages Auckland Council to work with landlords and industry providers to develop innovative solutions to improve houses which fail the WoF,
- Beacon is concerned that WOF standards (government and private) will be set very low, undermining Beacon's goal for 90% of New Zealand homes to achieve the HSS High Standard of Sustainability® (See Appendix 1). A perverse outcome may be that a WoF could set a new minimum for house performance and the sector then gravitates to that new minimum. An interesting parallel is New Zealand's Building Code for new build which, while being performance based, actually sets a minimum performance standard, and the majority of homes aim to meet Building Code standards rather than exceed them.

Beacon supports the following projects planned for 2014/15 that contribute to achieving Maori outcomes including:

- Implementing a cadetship programme between council and tertiary providers, CCOs and major employers in the Southern Initiative
- Supporting social and affordable housing projects of the Tāmaki Makaurau Collective at Weymouth, the Pukaki Marae and Ōtara Papakāinga developments.
- Housing Action Plan prioritising papakāinga and housing for Māori including a focus on supporting Māori housing providers through opportunities for development partnerships on Māori-owned and other land via the Māori land programme.

The Housing Action Plan Stage (action 8) identifies the need for exemplar housing development demonstrations. Beacon has experience in this area, being the catalyst for the development of the Christchurch Breathe project, as noted in the Housing Action Plan. Beacon continues to recommend that Council develop an exemplar of affordable, sustainable urban living in partnership with key stakeholders and that funding be provided in the 2014/15 and future financial years to ensure that this and other similar projects can be undertaken.

Spatial-based initiatives also provide opportunities for the development of exemplar 'best-practice neighbourhoods'. Such developments will contribute to the tools, incentives and education needed to shift approaches from what is currently accepted as business as usual (e.g. urban sprawl) to more sustainable way of doing things, encouraging homeowners to seriously consider new forms of central city living. Exemplar best practice neighbourhoods will also inform developments in other areas, such as suburban and peri-urban areas, and offer the opportunity for Auckland to be recognised as a leader in eco-city dwellings and lifestyles internationally.

Commercial and Investment Theme

Beacon submits that the primary focus of CCOs such as Auckland Council Property Limited be on delivering on the Council's vision, with a secondary goal of achieving good financial returns. Auckland Council, through ACPL, has a unique opportunity to contribute high performing and affordable homes and neighbourhoods. These must be an exemplar of what can be achieved, not demonstrate more of the past unsustainable development. Beacon supports the following identified key project for 2014/15 *Delivering housing developments with both the private sector and the 'not for profit' sector to give effect to Auckland Council's Housing Action Plan. ACPL's focus will be housing developments in the more affordable spectrum of the market.*

Economic Development Theme

Beacon supports a holistic economic development approach focussing on delivering a more resilient and self-reliant economy, and providing opportunities for all Aucklanders. The next 30 years will provide significant challenges to the economy of Auckland from the perspective of energy price increases, resource availability and energy security as well as vulnerability to global economic events. Beacon recommends that Council should be setting the stage for supporting an economy that is not primarily dependent on export products which in turn are dependent on imports of energy (in particular oil and gas).

The upgrading of Auckland's cold, damp unhealthy houses has significant economic benefits to the region. Warm, dry healthy homes contribute to our productivity by reducing time off work. Beacon research shows that retrofit can be a key provider of employment. For every 1000 houses retrofitted to Beacon's HSS High Standard of Sustainability®, a total of 392 full time equivalent jobs are created (see Appendix One: Beacon Resources).

Built and Natural Environment Theme

Auckland Council's role in the built environment needs to be emphasised in this theme, particularly around housing quality and affordability– new build and retrofit of existing houses. Affordability must also take into account ongoing running costs (e.g. energy, water, maintenance, and transport costs).

These problems will only be addressed through multiple parties working together. Beacon has a track record of bringing together collaborative models to successfully address complex problems, for example, in Christchurch the Breathe project and Build Back Smarter (a demonstration project aimed at developing a robust approach to including home performance interventions into 'standard' repairs without slowing down the rebuild process). Beacon also draws the Council's attention to innovative shared equity schemes such as those pursued by organisations such as the New Zealand Housing Foundation. In the face of declining home ownership, these 'third sector' partnerships show great promise in delivering new models of ownership.

Beacon supports the Retrofit Your Home programme but seeks that the water, wastewater and stormwater components of the Retrofit Your Home project be incorporated as originally

envisaged in the whole-of-house approach endorsed by the Strategy and Finance Committee (resolution SF/2010/30). Beacon supports the continued funding and future expansion of the Retrofit Your Home programme including provision of a targeted rate and the rates funding of free home assessments.

Retrofit Your Home is the Council's main programme by which Auckland can transform existing housing stock to deliver:

- Improved health outcomes – cold damp homes pose serious health risks
- Improved productivity outcomes – for individuals, communities and business
- Economic benefit – Large scale renovation is BIG on job creation. Beacon research for the 2009 Job Summit showed that for every 1,000 houses retrofitted to perform to Beacon's HSS®, a total of 392 full time equivalent jobs are required. (see Appendix One: Beacon Resources)
- Reduced load on water infrastructure – household level water efficiencies have direct benefits at the community scale, particularly where there is growing demand for new housing within catchments, as in the Auckland area. (see Appendix One: Beacon Resources)
- More efficient resource use, resilience and reduced operational costs – protecting the community from inevitable price increases and providing a more resilient infrastructure and carbon savings.

Eco Design Advisors play an important role in Retrofit Your Home and other sustainability initiatives and Beacon supports the continuation of these roles.

Solid Waste Theme

Beacon supports Auckland Council initiatives to reduce solid waste; in particular, user pays to signal the cost of waste creation and disposal. The highest costs to the economy, environment and homeowners are during the operation of the home and better design can reduce the amount of waste generated and energy required to run a home e.g. through better solar orientation, design to increase the ease of activities such as recycling and composting.

Construction waste is a major contributor to landfill; the building of an average three bedroom house sends five tonnes of new material waste to landfill. Good construction management can cut this to two tonnes without significant cost to the builder/developer. Beacon submits that Auckland Council explore ways to reduce the amount of construction waste being developed and going to landfill, and take the opportunity to learn from the best practice developed in other local authorities such as Christchurch City Council's use of bylaws.

Stormwater and Flood Protection Theme

Beacon notes (p59) *To support growth throughout the region council is assisting the Housing Project Office to investigate and design stormwater infrastructure projects within the Special Housing Areas. To achieve this, a Special Housing Design Group has been set up that will focus*

on this key priority. Beacon submits that this must take a holistic approach to water e.g. reuse, reduced housing footprints, and onsite management, not just the provision of hard infrastructure.

Water Supply and Wastewater Theme

Beacon supports projects to manage demand for services, create a more resilient, localised and diverse network, and, where appropriate, maintain the network. Beacon has done extensive work on the benefits to local government of demand management – including cost benefits and value analysis. Beacon draws Auckland Council's attention to the report *Slowing The Flow – A Comprehensive Demand Management Framework for Reticulated Water Supply and Water Demand Management: An Economic Framework to Value* (www.beaconpathway.co.nz/further-research/article/reports_and_presentations_water) as sources of information around best practice demand management approaches.

Beacon submits that Auckland Council investigates local servicing options and distributed systems, particularly for areas not currently served by centralised infrastructure. In rural and peri-urban areas, greywater systems should also be supported more strongly as a method to sit alongside more conventional on-site wastewater disposal systems.

Community Theme

Beacon supports Council taking key roles in facilitating the building of strong communities. For communities to become stronger, more resilient, and better able to meet their needs, Council and communities must work together to ensure the design and function of local places (dwellings, neighbourhoods and connecting infrastructure such as roads and parks) meets the needs of local communities. The Council also has the opportunity to be an enabler of quality and affordable housing, creating exemplar, mixed-use, medium density developments as part of the redevelopment of council-owned facilities.

Beacon notes p80 that \$1.4m has been allocated in 2014/15 for social housing refurbishment and renewals. The focus of refurbishment must be on ensuring the housing is well maintained and high performing - warm, dry, healthy and cheap for the tenants to run.

2.2 Volume Two - Local Board Information and Draft Agreements

Beacon Pathway supports the important role of Local Boards to enable democratic decision-making by, and on behalf of their communities and to promote the social, economic, environmental and cultural wellbeing of their communities. Quality and affordable housing is a key component of wellbeing, benefitting the health, productivity and resource efficiency of building occupants, as well as generating community-wide benefits such as savings in infrastructure investment and improvements to air and water quality and the natural environment. Despite the importance of housing to community wellbeing, Beacon is surprised

that few local boards made any reference to housing or provide budgets in support of housing initiatives in their draft Local Board Agreements.

Beacon submits that all Local Boards include in their current and future Local Board Plans and Agreements:

- a strategic priority - *Our people have good quality and affordable housing and neighbourhoods*
- an initiative - *support participation of their residents in the Auckland Retrofit Your Home programme and other sustainability initiatives/programmes.*

Beacon supports the delivery of demonstration projects at the localised level. There are particular opportunities around locality based projects such as the Southern Initiative, Tamaki Redevelopment, Special Housing Areas, and Ngāti Whātua o Kaipara housing. These must include significant input from local communities.

Beacon supports the following initiatives included by Local Boards in their draft Local Board Agreements:

- Great Barrier Local Board investigating initiatives around affordable housing to support their community
- Henderson Massey Local Board advocating for the governing body to provide sufficient resources to ensure both intensification and greenfield development is of the highest quality, supported by employment and the infrastructure that is necessary for communities to thrive.
- Maungakiekie-Tamaki Local Board's focus on the delivery of good quality and affordable housing including continuing to work on a voluntary warrant of fitness scheme for private rental accommodation and supporting the Tamaki Regeneration. Beacon submits that the Local Board continue to work with key local housing organisations such as Nga Iwi Katoa to ensure that new housing is high performing, affordable and enables local people to remain in the community.
- Rodney Local Board initiatives around providing additional opportunities for Rodney residents to participate in environment/community-led programmes, supporting Retrofit Your Home principles within the Ngāti Whātua o Kaipara housing project, and supporting youth employment and training initiatives, including the Ngati Whātua o Kaipara housing project. Beacon supports the ongoing funding the Rodney Local Board has provided to Ngāti Whātua Nga Rima o Kaipara housing project
- Waitemata Local Board advocating that the governing body adopt an Affordable Housing policy that includes appropriate mechanisms and tools within the Long Term Plan, the Unitary Plan and through regulatory changes at central government level to encourage and achieve housing affordability and housing diversity
- Hibiscus and Bays Local Board working collaboratively with Auckland Council and CDAC on a pensioner housing development at Torbay. This must deliver better quality, high performing homes which are more affordable to run.

- Whau Local Board advocating for support for quality housing developments in Avondale in partnership with local developers and landowners (including Housing New Zealand)

Appendix One: Beacon Resources

Neighbourhoods

Neighbourhood Sustainability Framework and Assessment Kit

Neighbourhoods are important because the way they are laid out and organised has significant impacts on how a home performs and on the direct, as well as indirect, costs to households.

Beacon's Neighbourhood research team has developed a framework and tools to measure the sustainability of New Zealand neighbourhoods - *The Neighbourhood Sustainability Framework and Assessment Kit*.

This research indicates that the neighbourhood scale presents opportunities for:

- House retrofit
- New design and construction awareness/desirability
- Distributed reticulation systems – electricity and water
- Improved stormwater management
- Improved connectivity and mixed use
- Reduced transport costs

The Kit is available free to help planners, designers, neighbourhood managers and developers identify, discuss and prioritise changes to improve the sustainability of both new and existing neighbourhoods.

Download from

www.beaconpathway.co.nz/neighbourhoods/article/the_neighbourhood_sustainability_framework

The value of neighbourhoods

Beacon's research has identified that low density non-mixed use (e.g. neighbourhood that are almost entirely residential) generate net costs rather than net benefits for a city. As a corollary, mixed use, medium density neighbourhoods are of value to cities. Research which awarded monetary values to different neighbourhoods showed that a sustainable neighbourhood is worth \$1,362 per household compared to a negative value of \$595 per household for NZ's least sustainable neighbourhoods.

Find out more at

[www.beaconpathway.co.nz/images/uploads/Final_Report_NH3112\(2\)_Valuing_neighbourhoods.pdf](http://www.beaconpathway.co.nz/images/uploads/Final_Report_NH3112(2)_Valuing_neighbourhoods.pdf)

Homes

HSS High Standard of Sustainability®

New Zealand homes can and should perform better. Homes that perform well have benefits that go beyond direct financial savings; they benefit the whole economy, local council budgets, and, most importantly, families.

A sustainable home is the sum of its parts. Beacon's focus is on whole-of-house sustainability - encompassing energy, water, indoor environment, waste and material/product selection. This focus is reflected in our work on a set of performance benchmarks to achieve a sustainable home - the HSS High Standard of Sustainability®.

See

www.beaconpathway.co.nz/being-homesmart/article/beacons_hss_high_standard_of_sustainability

Policy Options for Sustainable Homes – A resource manual for local government

Beacon Pathway has conducted research into the council-induced barriers to building and renovating homes to a high standard of sustainability. The research found that policy and regulatory barriers to sustainable building choices exist in:

- administering the Building Act and Building Code;
- inflexible conventional infrastructure standards (particularly for water); and
- District Plan provisions that provide no allowance for sustainable designs such as passive solar orientation or features such as rainwater tanks (e.g. traditional development controls for height, yards, and height-in-relation-to-boundary).

Beacon research has shown that councils throughout New Zealand have developed a range of initiatives to encourage people to make more sustainable choices in their homes and neighbourhoods, and are seeing some good results. The resource manual of policy options for councils provides an overview of the range of tools available to councils, and gives detailed examples of policies and practices already in place in New Zealand. Beacon recommends that Auckland City Council explore a number of the options outlined in the Resource Manual to assist in realising the visions outlined in the Auckland Plan.

Download the Manual from

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

National Value Case

Beacon's National Value Case for Sustainable Housing Innovations showed that there were clear national benefits to encouraging housing improvements on a wider scale. In particular, it showed the economic value to New Zealand of:

- A direct private economic gain to households of 1% GDP (\$2 billion in 2007 \$ terms).
- Savings in household energy consumption of 22PJ/year with reduction of CO2 emissions of 3600kt/year.
- Direct water savings of 130 million m³/year.

Renovation and job creation

Beacon research, supplied to the 2009 Job Summit, established the value to the nation of large-scale home renovation by illustrating that housing is a critical part of urban infrastructure and that renovation is a viable source of job creation. Large scale renovation is BIG on job creation showed that for every 1,000 houses retrofitted to perform to Beacon's HSS®, a total of 392 full time equivalent jobs are required.

See www.beaconpathway.co.nz/further-research/article/large_scale_renovation_creates_jobs

Water demand management

Beacon's water research has demonstrated the value of a demand management approach and provided a framework for councils considering instituting it. *Slowing the Flow: A Demand Management Framework* is a guide to the development of water demand management strategies and policies for all those working in reticulated water supply.

Beacon's research has also developed a comprehensive approach to valuing council implementation of water demand management. A case study of Tauranga City Council's demand management measures showed that the Council delayed the implementation of the next major water supply infrastructure by approximately 10 years with a net benefit to the community of \$53.3 million in 2009 terms.

See www.beaconpathway.co.nz/further-research/article/reports_and_presentations_water

Expertise

Beacon Pathway has considerable expertise in the sustainability of New Zealand homes and neighbourhoods and has worked extensively with local councils. We welcome the opportunity to further discuss how we can help with Auckland Council and local boards.