
Beacon Pathway Submission to the Wellington City Council's Draft Annual Plan 2013/14

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Beacon congratulates the Wellington City Council on developing its draft Annual Plan for 2013/14, the Council's work programme for the next year.

Beacon Pathway is an incorporated society that aims to transform New Zealand's homes and neighbourhoods to be high performing, adaptable, resilient and affordable. Beacon has extensive experience in demonstration projects, a sound base of robust research and a collaborative approach to creating change. 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 Wellington City Council. Further details on Beacon Pathway are provided in Appendix One: What is Beacon? and Appendix Two: Beacon Resources.

Beacon believes that achieving Wellington's goals will require strong leadership, innovative strategic and policy approaches, actions and delivery, and a focus on working collaboratively across communities, industry and central government. In essence, a step change in what is being delivered and how it is delivered.

Climate change strategies, a move to a low carbon future, improved community resilience and other aspects of 21st century sustainability must be drawn through the Annual Plan and future Long Term Plan work programmes. This needs to include not only a demand management approach to the management of natural resources but also opportunities for diversity of supply - water, energy and localised waste management.

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

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Beacon's Perspective on Wellington City Council's Draft Annual Plan 2013/14

Beacon provides the following comments on the Wellington City Council Draft Annual Plan 2013/14. It is difficult to make specific comment on the funding of projects given the aggregated nature of the information.

1. Support for Community Outcomes

Beacon supports the four community outcomes detailed in the Annual Plan

- A connected city
- An eco-city
- A people centred city
- A dynamic central city.

Quality, sustainable and affordable homes and neighbourhoods must be a key component of delivering on Wellington's community outcomes. This will require an urban design framework with a strong emphasis on resilience, low impact design, demand management and diversity of infrastructure supply. Beacon supports the realisation of a quality compact city with intensification around transport hubs.

Council has a key role in building strong, resilient communities where residents feel a sense of belonging to their neighbourhoods and take pride in their region. Beacon believes Council must work closely with communities 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.

Beacon proposes its Neighbourhood Sustainability Framework and Assessment Kit as a robust evidence-based tool for Wellington City Council to use in developing more sustainable neighbourhoods. See Appendix Two: Beacon Resources

2. Housing

Beacon notes and supports the work Wellington City Council is undertaking in the housing area, including development of a Housing Strategy (refer *Update to Strategy and Policy Committee on Housing Work Programme and Next Steps, Strategy and Policy Committee 16 May 2013*). Beacon congratulates Wellington City Council for the coordinated approach signalled in this report: providing leadership, working collaboratively with other parties and strongly signalling the Council's commitment to the importance of housing. Beacon considers housing as a core element of the infrastructure of a thriving city. Beacon requests that the Council provide funding in the 2013/14 Annual Plan and future Annual and Long Term Plans to

ensure that the development and implementation of the Housing Strategy. Unless suitable long-term funding is allocated to implement the work programme over future years, the great opportunity for Wellington City Council to take a leadership role in housing will not be realised and your planning wasted.

3. *Support Smart Energy Initiatives*

Beacon supports the development and implementation of Smart Energy initiatives (Draft Annual Plan Summary p7), and the identified funding of \$250,000 annually for two years. Funding for these and similar projects will be required beyond the two-year period, and must be considered in the 2015-2025 Long Term Plan. Council must work alongside other organisations in the planning, delivering and funding of these initiatives, including sourcing matched funding for the projects. The below initiatives relating to homes and neighbourhoods are supported by Beacon:

- Working with the electricity industry, households and service providers to deliver a smart grid pilot.
- Expanding on existing support for the Government's Warm Up NZ programme and Council's Home Energy Saver programme through existing Long-Term Plan funding of \$100,000 per year.
- Developing solar PV retrofits, in partnership with other organisations.
- Providing a contestable fund for the development of business or community initiatives leading to improved energy efficiency and/or renewable energy.
- Providing incentive funding to encourage suitable energy efficiency work to be undertaken concurrently with earthquake strengthening.

4. *Support Wellington City Council's retrofit programme*

Beacon supports Wellington City Council taking a leadership role in the area of high performing homes and neighbourhoods. This must include relevant aspects of the Council's Smart Energy programme, but also have a wider mandate to include management of residential water demand (efficient use and supplemental on-site collection). A number of Councils across New Zealand prioritise the funding of Eco-design Advisors as a visible commitment to housing improvements: Beacon supports this role in Councils.

5. *Community support*

Beacon supports Council's role in building strong and resilient communities so that Wellingtonians feel a sense of belonging to their neighbourhoods and take pride in their region. 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) meet 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. Quality and affordable housing has many long-term benefits - for

residents: health, productivity and resource efficiency benefits; for the community: savings in infrastructure investment and improvements to air and water quality and the natural environment. Affordability must also take into account ongoing running costs (e.g. energy, water, maintenance, and transport costs).

Beacon supports the Council's role in social housing, particularly while the private housing market is not supplying good quality housing for Wellingtonians. Any upgrade of Council's housing stock must take account of home performance.

Beacon also draws the Council's attention to innovative shared equity schemes such as those pursued by organisations including 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.

6. Water, Wastewater and Stormwater

Beacon supports projects to manage demand for services, create a more resilient, localised and diverse network, including supplementing water supply with rainwater tanks. Beacon has done extensive work on the benefits to local government of demand management – including cost benefits and value analysis, and draws Wellington City 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 on best practice demand management approaches and their benefits.

Beacon supports initiatives to reduce demand for water and wastewater services and identify to users that there is a cost associated with their use, including water pricing. Local servicing options and distributed systems must be considered, particularly for areas not currently served by centralised infrastructure. In rural and peri-urban areas, greywater systems should also be supported as a method to sit alongside more conventional on-site wastewater disposal systems. Beacon has worked with Kapiti Coast District Council which requires rainwater and/or greywater systems in new urban development. Beacon draws Council's attention to the report: *Barriers to Water Demand Management: Health, Infrastructure and Maintenance* (www.beaconpathway.co.nz/further-research/article/reports_and_presentations_water)

Localised systems including rainwater tanks must be considered as part of the programme of activities to improve the water network's resilience and emergency preparedness (Draft Annual Plan, p40).

7. Waste Reduction and Energy Conservation

A sustainable city uses resources efficiently, re-uses or recycles them, and only commits them to landfills as a last resort. Sustainability is about reducing the amount of energy we use and using clean energy from renewable sources. It is also about promoting a culture that values the environment and encourages pro-environment behaviour of everyone who lives, works, or studies here.

Beacon supports the Council delivering on its climate change programme, both through developing strategic partnerships to deliver on Wellington's emissions reduction targets, and through investing in existing climate change initiatives.

Beacon supports initiatives to reduce solid waste; including user pays to signal the cost of waste creation and disposal, and policy initiatives. 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 encourages Wellington City Council to explore ways to encourage good waste management practices in the construction industry.

Appendix One: What is Beacon?

Beacon Pathway Incorporated aims to transform New Zealand's homes and neighbourhoods to be high performing, adaptable, resilient and affordable. Beacon has extensive experience in demonstration projects, a sound base of robust research and a collaborative approach to creating change. A number of Beacon's tools, developed through earlier research and projects, have the potential to contribute to the developing Wellington. 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 also considerable experience in collaborative demonstration and exemplar projects:

■ **New build**

- The High Performance House at HIVE. Beacon has project managed the design, construction and demonstration of an innovative show home at the HIVE Home Innovation Village. The house showcases a new technology, Warmframe, which allows speedy accurate offsite construction and very high performance, and was developed collaboratively by five industry partners (NZ Steel, Fletcher Aluminium, Frametek-RFS, InsulPro and Resene). It was awarded 8 stars by Homestar (one of only two 8 star houses in NZ) and five stars by Lifemark.
- Breathe. A design competition to deliver innovative and sustainable medium density housing to meet 21st century housing needs in Christchurch. Beacon, along with Christchurch City Council and MBIE, facilitated the scoping of the 'Breathe – a New Urban Village' project, contributed to the technical working group and assisted in securing industry funding for stage 2 of the competition.
- Havelock North Best Home. Beacon provided expert input into the design and build of an exemplar sustainable home by Hastings District Council and Horvath Homes.

■ **Retrofit**

- Build Back Smarter. Beacon (with support from Council along with CAFE, EECA, Fletcher Building and the Ministry for Science and Innovation) initiated a project which has effectively demonstrated that performance upgrades can and should be carried out at same time as repairs of Christchurch housing without delaying the repair process. Upgrades include: insulation in walls, ceiling and under-floor, efficient space and water heating, energy efficient lighting, double glazed windows, rainwater re-use.
- Scale-able home retrofit scheme. Beacon is working with Wellington City Council, Kiwibank and others to explore options for the City to implement a comprehensive whole of house upgrade scheme. The principles are: customer centric; transparent; evidence-based information /services; consistent, quality services; independent; and, scale-able.
- Rental housing sector. Beacon is working alongside a range of partners (three city councils, Auckland, Wellington, and Christchurch), MBIE, EECA and the not-for-profit sector to consider improvement of rental housing performance. We are developing a "Fact Bank" to provide a commonly agreed context to all who are considering interventions (e.g. Warrant of Fitness).

- **Ngāti Whātua Nga Rima o Kaipara housing**. Beacon is working with Ngāti Whātua Nga Rima o Kaipara to develop of programme of housing upgrade surrounding five marae at South Kaipara. This work is being progressed with support from Rodney Local Board, EECA and other organisations and will comprise retrofit of houses from the former Hobsonville airbase and relocation to areas of need, retrofit of existing houses surrounding the five marae (including demolition of houses which are not suitable for retrofit) and new build. A pilot retrofit of two homes is being undertaken during Q2 and Q3 of 2013.

Appendix 2: Beacon Resources

Neighbourhoods

Neighbourhood Sustainability Framework and Assessment Kit

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.

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 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 assist Wellington City Council.