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## Beacon Pathway Submission to the Proposed Auckland Unitary Plan

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### What is Beacon?

Beacon Pathway Incorporated 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 Pathway Inc. builds on the successful research programme completed by Beacon's original consortium which developed a whole-of-house approach to improving the performance of both new and existing homes, using demonstrations and monitoring 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](http://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 a housing/employment training programme being developed by Ngāti Whātua Nga Rima o Kaipara. Beacon welcomes the opportunity to provide feedback on the Proposed Auckland Unitary Plan.

Beacon's Members include: Christchurch City Council, EECA, New Zealand Steel, Fletcher Aluminium, Certified Builders, Resene and InsulPro Manufacturing.

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## Beacon's Perspective on the Proposed Auckland Unitary Plan

Beacon congratulates Auckland Council on developing the Proposed Auckland Unitary Plan and Auckland Design Manual. Since its formation in October 2010, the Auckland Council has had the task of refining a unified vision for the city. The Unitary Plan is a critical step in delivering on Auckland's vision of *the world's most liveable city*.

Auckland is home to one third of New Zealand's population; is the country's largest commercial centre; and has a high concentration of tertiary and research institutes. For New Zealand to function well, Auckland must be all that is envisaged - *the world's most liveable city*. To do this, Beacon agrees that achieving and integrating all the following outcomes is critical.

- A fair, safe and healthy Auckland
- A green Auckland
- An Auckland of prosperity, and opportunity
- A well connected and accessible Auckland
- A beautiful Auckland that is loved by its people
- A culturally rich and creative Auckland
- A Maori identity that is Auckland's point of difference in the world.

To deliver on the vision, all aspects of 21<sup>st</sup> century sustainability must be addressed, requiring a range of innovative strategic and policy approaches, backed up by methods, actions and delivery the like of which have not been seen in Auckland before. The Auckland Plan provides a framework for the region; however, it is what is delivered and, importantly, *how* it is delivered that will produce both the step changes and the transformational changes required in Auckland. The Unitary Plan is a critical mechanism in delivering on the Auckland Plan.

A key component of achieving this vision is increasing and improving Auckland's housing stock and neighbourhood cohesion. However, in many areas, Auckland's housing and neighbourhoods are underperforming, in that:

- Existing homes will comprise over 50% of the 2040 housing stock, yet 294,000 of houses in Auckland were built before 1979, the first full year in which insulation was mandatory, and a further 138,000 built between 1979 and 2000, a period when insulation standards were poor.
- The Auckland Plan identified an existing shortfall of 20,000 to 30,000 new dwellings. To meet Auckland's projected population growth, around 400,000 additional dwellings will be required by 2040, at least 13,000 additional houses built each year.
- Much recently built housing has been poorly performing with a significant proportion suffering from weathertightness issues
- Housing has become increasingly unaffordable in Auckland in recent years, both ownership and rental. Home ownership rates are declining and home ownership is out of reach of a significant proportion of the population.

- Housing performance cannot be disassociated from other household costs such as transport, health and economic wellbeing. Less expensive areas for housing, for example, tend to be on the city fringe where many households incur significant transport costs travelling to work and other activities.
- The limited ability of households with a range of incomes and lifestyles to live in each area reduces local vitality economically as well as environmentally and socially.
- Local communities are often left out of development aspirations, planning and delivery, when they can offer significant insights as to what might be most effective in achieving a high level of liveability in each particular place.

The required changes cannot be achieved by delivering business as usual, nor can they be achieved by Auckland Council alone. They will require strong leadership, innovation and a focus on working collaboratively with and across communities, industry and central government and all parts of Auckland Council (including Local Boards and Council Controlled Organisations (CCOs)). The challenge of the Unitary Plan is to deliver on the key built components of the Auckland Plan and to effectively integrate these to achieve desired economic, environmental and social outcomes.

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## **Beacon's Comments on the Proposed Auckland Unitary Plan**

Beacon supports the general direction of the Unitary Plan in that it gives effect to the Auckland Plan. Beacon acknowledges the considerable work undertaken over the past 3 ½ years by Auckland Council, including planning for future growth. Beacon welcomes the focus that the Auckland Council and central government is placing on improving the quantity, quality and affordability of housing in the Auckland area. The challenge now is to achieve tangible outcomes. The Unitary Plan is a key component in delivering high performing, affordable homes and neighbourhoods, within the Council's goal of a compact urban form.

Beacon raises a number of points in the sections below, based on Beacon's expertise.

- Putting in place principles to ensure good design is especially important when planning more intensive and higher density developments. Beacon welcomes the statutory design requirements included within the Unitary Plan; however, the requirements for sustainable, high performing urban design must be strengthened. In Portland, Oregon, neighbourhoods were offered the opportunity to have design overlays. Those that chose to have mandatory overlays attracted better quality developments.

<http://www.portlandoregon.gov/bps/article/64465>

<http://www.portlandoregon.gov/bps/article/53342>

- Rural aspects need strengthening to address sustainability and resilience issues such as food security. Any proposed development of satellite towns must be designed to include a vibrant local hub with amenity, social and economic activities.

## 1. High performing homes (both new and existing) are needed

Much of New Zealand's existing housing is cold, damp and unhealthy which leads to poor social and health outcomes. It is critical that all new homes built are high performing and that existing homes are brought up to standard. The Unitary Plan has a key role to play in this.

Beacon supports actions to improve the performance of existing homes:

- Retrofitting insulation
- Encouraging local energy generation, water capture and stormwater/wastewater disposal, either at an individual property or neighbourhood level. For example, a neighbourhood energy utility system provides space heating and hot water to new buildings in Southeast False Creek, Vancouver  
<http://vancouver.ca/home-property-development/neighbourhood-energy-utility.aspx>
- Including, encouraging and enabling secondary suites (both new and existing) and secondary dwellings (this will improve the economic performance of homes). See [section 3](#) for examples.
- Ensuring neighbourhoods are effectively linked to the wider settlement by public transport and interconnected locally through the provision of public open space and facilities.
- Where necessary, demolishing sub-standard homes.

In Beacon's view, quality, sustainable and affordable housing and neighbourhoods can underpin much of the progress required to achieve the vision and direction outlined in the Auckland Plan.

Beacon supports actions in the Unitary Plan to increase the performance of new homes, including rules to meet Homestar or Living Building Challenge standards *e.g. Part III - 6.4.2.1 Sustainable Development - Land use controls - Dwellings*

*In new developments containing five or more dwellings, each dwelling must be designed and constructed to achieve:*

- a minimum 6-star level from the New Zealand Green Building Council Homestar Tool (2013), or
- certification under the Living Building Challenge (2013).

Beacon submits that requirements to meet these standards must:

- Be applied to all new residential developments, including those with four or less dwellings.
- Be applied in a manner which is easy to adopt without unreasonable costs for the development community. Christchurch City Council has recently worked through this process – details of their system are included in Appendix A of the Christchurch City Council District Plan Review Residential Chapter - February 2014  
<http://resources.ccc.govt.nz/files/TheCouncil/policiesreportsstrategies/districtplanning/districtplanreview/dprresidentialchapterdraftfeb2014.pdf>.

Beacon submits that processes be adopted to encourage all new buildings, including dwellings, to be designed to be accessible to people of all ages and physical abilities. The Christchurch City Council District Plan Review Residential Chapter - February 2014 provides useful options including the use of Lifemark™.

## **2. Support for compact urban form**

Auckland has developed as a car-based city with dormitory suburbs built at the end of motorways. Suburbs built in the 1960s and 70s, such as Massey, are still being retrofitted to provide a minimal level of amenity and services. Future development must be planned, higher performing neighbourhoods - places where people can work, shop, socialise and live locally, supported by improved public transport and cycle/walkways. Achieving a better urban form will require integrating land use planning with economic development and transport planning, with the land use planning driving the transport planning, not the other way around.

Beacon's research has identified medium density mixed-use as a sustainable neighbourhood form which brings significant benefits to New Zealand cities. Aucklanders' experiences of higher density, mixed use has generally been poor. Therefore it is likely that much of the concern raised by Auckland residents in relation to increased densities is based on experience of poor design and construction. The opportunity now is to plan, design and retrofit Auckland neighbourhoods to realise the liveable city vision. Beacon's Neighbourhood Sustainability Framework and Assessment Kit is a robust evidence-based tool that can usefully guide decision making by Council and others towards achieving improved liveability at the neighbourhood level.

Beacon supports the compact urban form and submits that:

- The Council investigates further increasing densities along key transport corridors as well as in town centres.
- Tools such as Beacon's Neighbourhood Sustainability Framework and Assessment Kit be used in neighbourhood planning, and in verifying the performance of neighbourhoods once they are built. This is particularly important in the development of Special Housing Areas.
- The Rural Urban Boundary (RUB) not be expanded beyond what is already envisaged in the Proposed Unitary Plan.
- Actions be undertaken to ensure uptake of brownfields redevelopment, not just greenfields development. While the Auckland Plan and Unitary Plan reference the supply of additional housing in the context of brownfields development and greenfields development predominantly within the RUB, it is concerning to note that the details of the Housing Accord and Auckland Unitary Plan have a bias towards greenfields development. For example, the Auckland Unitary Plan *Part 1 - 2.2.3 – Development capacity and supply of land for urban development*, while referring to land availability, focuses on the RUB and greenfields expansion.



- Actions be taken to ensure ‘refill’ development within existing properties, such as secondary suites, secondary dwellings and pocket neighbourhoods, in ways that enable a level of invisible densification and which do not compromise the character and amenity value of existing neighbourhoods. For example, backyards could be amalgamated for development of smaller dwellings along co-housing principles. See [section 3](#) below.

### 3. Need innovative ways of increasing supply of housing, particularly brownfields development

The Unitary Plan focuses on increasing housing supply by providing for new greenfields development, predominantly within the proposed rural urban boundary. In [section two](#), above, Beacon has raised the importance of brownfields development as a source of land for new housing. Beacon draws Auckland Council’s attention to overseas development examples providing additional homes (both rental and home ownership), as detailed below. In some cases these are already being enabled in the draft Unitary Plan.

- Beacon supports Part III - I 3.3. - *the conversion of a dwelling into two dwellings* as a way of providing affordable housing and, in some cases, to cater for the changing needs of households. Similar conversion for both rental and home ownership are being encouraged in other cities with successful outcome, for example

- the City of Langford, Canada

<http://www.cityoflangford.ca/EN/meta/departments/building-department/secondary-suites.html>

- the City of Victoria, Canada

<http://www.victoria.ca/EN/main/departments/planning-development/development-services/zoning.html>.

As an example, the house (right), in Victoria, Canada, has been converted to strata title with three homes, yet remains unchanged from a street perspective.

**Conversion of home into three homes with strata title, City of Victoria, Canada**



- Beacon supports amending the Unitary Plan to enable a small second unit separate from the main dwelling on larger sites (>600m<sup>2</sup>) e.g. above a garage. This has been achieved successfully in Portland as the site plan below shows.



***Site Plan for second unit, Portland, Oregon***

- Beacon also supports the redevelopment of existing buildings for mixed use purposes that also provide for increased residences. In downtown Victoria, Canada, Victorian buildings have been seismically strengthened and redeveloped for residential purposes. In some cases, penthouse suites have been added unobtrusively, set back from the road (see below).



***Redevelopment of downtown building for residential, Victoria, Canada***



- Beacon supports the subdivision of larger sites in order to provide additional dwellings with smaller footprints. In the inner suburbs of Victoria, larger sites have been rezoned for 2 smaller dwellings that are built in a form in keeping with the existing neighbourhood as the photograph below shows.



***Development of smaller dwellings in keeping with existing neighbourhood, Victoria, Canada***

Beacon submits that the Auckland Council continues to investigate statutory and non-statutory methods to encourage such developments so that density is increased less visibly, local businesses and services benefit from higher concentrations of people, and the City's footprint does not extend.

#### **4. Support diversity of development opportunities**

Beacon supports simplifying the existing 99 residential zones into the six residential zones listed below:

- Rural and coastal settlement
- Large lot residential
- Single house
- Mixed housing suburban
- Mixed housing urban
- Terraced housing and apartment buildings

Beacon submits that there may be opportunities to further expand the terrace housing and apartment buildings zone, particularly along transport corridors, and other areas of high amenity, close to good public transport, walking and cycling option.

A key aspect of this is integrating a mixture of scale. Examples of where this has successfully been implemented are shown in the following photographs.



***Integration of a mix of scale  
- West Hills, City of  
Langford, Canada***

***Integration of a mix of scale  
- Dockside Green, Victoria,  
BC***





## 5. Support high performing neighbourhoods

For communities to become stronger, more resilient, and better able to meet their needs, so that Auckland becomes a better place to live, work and play, 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 and neighbourhoods, creating exemplar, mixed-use, medium density developments as part of the redevelopment of council-owned facilities. Beacon submits that:

- Planning for neighbourhoods needs to take a bottom up, community-led approach. It must be collaborative, including people from all walks of life. Seattle's Department of Neighbourhoods (<http://www.seattle.gov/neighborhoods/np/>) provides a useful model for neighbourhood planning. An overview of Seattle's experiences is also published in the Journal of the American Planning Association (Sirianni, Carmen. 'Neighborhood Planning as Collaborative Democratic Design: The Case of Seattle')
- The regional policy statement must include objectives and policies relating to social well-being (both people and communities). Social wellbeing must be considered both in terms of supporting activities such as the provision of social infrastructure and disabling activities such as a lack of affordable housing.
- Beacon supports the inclusion of Part I section 2.2.7 on social infrastructure. However, more detail is required. For example, the rural-urban boundary process needs to more fully address how social infrastructure is to be provided in new greenfields developments. Much of this infrastructure needs to be provided prior to new population growth, rather than after people have come. In many cases, there is an existing population in these areas and their lived experience and aspirations can be useful in determining local priorities and effective additions to social amenities. Processes of bottom up planning such as those developed in the US for example (<http://www.theatlanticcities.com/neighborhoods/2012/12/how-hud-went-hyper-local/4074/> and spoken about by Jim Diers on recent tours to NZ) illustrate the value of actively including existing residents in greenfield, brownfield and infill/refill development. Bottom up neighbourhood plans identify neighbourhood assets, opportunities and needs so great places to live, work and play are developed. More locally, Hobsonville Point provides an example of where provision of infrastructure has led population growth (<http://www.hobsonvillepoint.co.nz>)
- Beacon supports the inclusion of appropriate non-residential activities to support residential zones e.g. Part II Chapter D 1.1 Objective 3 *Non-residential activities that locate in residential areas contribute to and support the amenity of the neighbourhood and provide opportunities for social, economic and cultural well-being.*



## 6. Auckland needs more affordable housing

The lack of affordable housing is already having a range of adverse environmental, economic and social outcomes. This includes overcrowding of housing; reduced home ownership; uncertainty in rental occupation; increased community instability; long-term costs associated with housing needs post-retirement, people having to live further from work and activities increasing transport costs; and increased costs of living flowing into higher costs for businesses.

It is pleasing to see that the Unitary Plan and Housing Accord both address housing affordability. Beacon supports actions to address housing affordability and notes the following:

- Support for Retained Affordable Housing; however, this should not be seen as the only means of supplying affordable housing. Affordability can also be increased by the provision of more efficient homes which are well located for public transport and other services, on small sites, and well designed to allow for a smaller size without reduced liveability.
- Housing affordability must be addressed within neighbourhoods, not just across the region. There needs to be a broader range of housing types and costs within suburbs.

Specific comments are:

- Beacon recommends housing affordability issues be strengthened in *Part I B: 2.1 Providing for growth in a quality compact urban form*. Housing affordability is mentioned in the introductory comments but not in the objectives or policies. Without high level objectives relating to housing affordability, subsequent policies relating to housing choice and diversity will not have any direction relating to cost and affordability. Specifically, Beacon recommends the inclusion of an objective to increase the supply of affordable housing (both for rental and home ownership) for people on low to moderate incomes. Affordability must reference not just the upfront costs, but affordability in terms of ongoing living costs such as transportation and housing designed to reduce running costs.
- Beacon supports the concept of value capture through a betterment levy and/or targeted rate on properties over an agreed value to fund infrastructure or affordable housing. While this would ultimately be implemented through the Long Term Plan, Beacon believes that it is critical that provision is made in the Unitary Plan to enable this to happen.
- Beacon proposes that Auckland Council looks to successful models of US Pacific Rim cities where cities have developed funding mechanisms to leverage the development of affordable housing either through the proposed value capture mechanism above, or a targeted rate of all households for a period of ten years to build up an affordable housing fund.
- Beacon supports *Part I B:2.2 A quality built environment, policy 5* which refers to a range of built forms to support maximum choice, however this also needs to refer to affordability as an aspect of choice. Choice needs to be more clearly defined and include maximum choice within neighbourhoods, not just at a regional scale



## 7. Development must be underpinned by sustainable design

To build and sustain the quality of life available to Aucklanders, all aspects of 21<sup>st</sup> century sustainability must be addressed including housing needs, climate change, a move to a low carbon future, and improved community resilience. Beacon supports projects to manage demand for services and create more resilient, localised and diverse infrastructure networks.

Infrastructure is a major cost to Council. The Unitary Plan must enable and encourage 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 user behaviour to impact positively on the effectiveness of hard infrastructure at both a neighbourhood and regional level.

Beacon supports the explicit reference to climate change, and the objectives and policies in the *Regional Policy Statement Part I B.9 Responding to Climate Change* and submits:

- That policy 1 d *enable the retrofit of existing buildings to improve their energy efficiency and where appropriate incorporate renewable energy generation* be amended to explicitly identify that this refers to both residential and non-residential buildings

In addition, the objective, policies and rules within the Unitary Plan need to more strongly emphasise sustainability issues that include social, economic and environmental aspects. For example:

- Water - the capture and reuse of rainwater must continue to be supported by policies and rules in the Unitary Plan. Unnecessarily restrictive guidelines and rules relating to water use and water tanks must be removed - for example, Clevedon Village Design Guidelines p 20 requires *tanks must not be situated in front yards, or where they are visible from the street* and Catalina Design Guidelines requires *tanks may only be sited in front yards if they are underground* (p17), and it is recommended *that external storage units, rain water tanks and clotheslines are grouped together where practicable, and located within the rear or side yard of the small house lot* (p23). An enabling environment allowing people to have a supplementary water supply with rainwater tanks and the aggressive promotion of demand management and good neighbourhood design is required. 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 reports *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](http://www.beaconpathway.co.nz/further-research/article/reports_and_presentations_water)) as sources of information around best practice demand management approaches.
- Mechanisms should be included in the Unitary Plan to ensure that a greater level of sustainability e.g. provision for their own energy, heat, cooling and water needs, is integrated within all new and existing developments, either at a house and neighbourhood level. One way of achieving this is through a renewable energy policy requiring a certain

percentage of any new developments to offset their carbon footprint through renewable energy provision on site (following the Merton Rule example from the UK<sup>1</sup>).

- Beacon supports *Part III - 6.4.2.1 Sustainable Development - Land use controls - Dwellings* requiring new developments containing five or more dwellings to incorporate best practice sustainable design, based on Homestar or Living Building Challenge criteria. However, as detailed in Section 1 of this submission, Beacon submits that requirements to meet these standards must be applied to all new residential developments of one dwelling or more, and should be applied in a manner which is easy to adopt without unreasonable costs for the development community.
- Sustainable design is also about enabling community and neighbourhood involvement with a bottom up planning process. Beacon recommends that the Council work through key neighbourhoods and Local Boards in further developing the draft Unitary Plan. This is particularly important in developing Area Plan overlays, where the planning must be community/neighbourhood driven and inclusive of all sectors of the community.

## **8. Support for Maori development including papakāinga housing**

Beacon supports activities to enable the development of papakāinga within the Auckland area and draws Council's attention to work that Ngāti Whātua o Kaipara is undertaking to improve the quality of housing for their iwi and hapū. Beacon has been working with Ngāti Whātua o Kaipara scoping this project, alongside Rodney Local Board and other project partners. The project will deliver on a number of the Council's strategic goals including those related to improved health outcomes, quality of housing, training/employment and contributing to the Māori community.

Beacon identifies the following key points.

- That an enabling process be developed for papakāinga housing, which takes a holistic approach including:
  - Where appropriate, allowing activities that enable people to support themselves financially. Beacon supports *Part II D: 8.5 Maori Purpose Zone* in its supporting economic development to ensure thriving and self-sustaining Māori communities.
  - Providing for communal facilities and activities where planned by whānau e.g. meeting spaces, communal provision of facilities such as laundry, kitchen, bathroom rather than individual provision in homes.
  - Encouraging and enabling sustainable design such as local water and waste water systems and energy generation.
  - Allowing densities to meet the need of whānau within sustainable design principles.

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*1 For more information please see 'The Merton Rule, A review of the practical, environmental and economic effects' available from [www.nhbcfoundation.org](http://www.nhbcfoundation.org)*

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## Beacon Resources

A summary of the key programmes of work undertaken by Beacon which could assist Auckland Council is provided in this section. Further details are available free of charge on the Beacon website [www.beaconpathway.co.nz](http://www.beaconpathway.co.nz) or through contacting Beacon directly.

## 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
- Community inclusion and leadership, including bottom-up planning.

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. This is currently being updated. Please contact Beacon for further details.

### ***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, socially, economically and environmentally. 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](http://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)
- 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 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](http://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 CO<sub>2</sub> emissions of 3600kt/year.
- Direct water savings of 130 million m<sup>3</sup>/year.

### **Renovation and job creation**

Beacon research, supplied to the Job Summit 2009, 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](http://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](http://www.beaconpathway.co.nz/further-research/article/reports_and_presentations_water)

## **Expertise**

Beacon Pathway has considerable expertise and networks in the sustainability of New Zealand homes and neighbourhoods, has viewed best practice overseas, and has worked extensively with local councils. We welcome the opportunity to further discuss how we can help with Auckland Council and Local Boards.