

Submission by Beacon Pathway Ltd (Beacon)

Submission on the Proposal for a National Policy Statement on Freshwater Management, Section 49 of the Resource Management Act 1991

To	The Chairperson, Board of Inquiry
Date	20 January 2009
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Position	Beacon Pathway researcher

About the submitter:

Beacon Pathway Ltd

- Beacon Pathway Ltd (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.
- 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; considering, promoting or designing technical solutions; 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 scales.

Water related work

- Beacon has undertaken a significant amount of research¹ over the past two years related to water:
 - *Water Efficiencies: Report on existing technologies/expertise in New Zealand*, 2006.
 - *Demand Management through Water Retrofit Programmes*, 2007.
 - *Local Council Sustainable Building Barriers and Incentives: Further case studies*, 2007.
 - *Making Policy and Regulations Rain Tank Friendly*, 2007.

¹ (These reports are available on Beacon's website www.beaconpathway.co.nz)

- Best Practice Water Efficiency Policy and Regulations, 2008.
- *Slowing the Flow: A Comprehensive Demand Management Framework for Reticulated Water Supply*, 2008.
- During 2008 Beacon ran workshops with six councils across the country in order to influence and help councils to intensify their water demand management approaches
- In 2009 / 2010 Beacon is researching:
 - an approach to valuing water which goes beyond standard economic approaches and how the value case can usefully be applied to different sectors
 - design criteria for the most effective products and systems for three waters' management (water, stormwater, sewerage)
 - the link between energy and water in urban water infrastructure
 - removing the barriers to the uptake of distributed water services
- Beacon is also working with Local Government New Zealand, the Ministry for the Environment and the New Zealand Water and Waste Association to help councils in addressing urban water use efficiency.

- Beacon sees the proposed National Policy Statement on Fresh Water Management as an essential step in getting a consistent national approach to such an important issue.

Submission

Beacon supports the need for a National Policy Statement (NPS) on Freshwater Management.

Beacon's primary interest is in the way that water is managed in the built and urban environments but it also views the broader issues of water quality and quantity as very important for the economic, social, environmental and cultural well being of the country.

Most of New Zealand's population live in cities, and that population is predicted to increase. With this increase and the uncertainty of the effects of climate change, the pressure on existing urban water supply systems is increasing and the negative effects of stormwater on water quality in streams and harbours is becoming more pronounced in many parts of the country. ²

Beacon's interest is in designing for and managing the three waters (drinking water, sewerage and stormwater) to enable an affordable and resilient lifestyle for all New Zealanders. It strongly promotes using a demand management approach to water as having a multi-pronged benefit.

2 MfE State of the Environment report 2007

Benefits of Demand Management

There is a wide array of benefits from water demand management interventions. Some of the principal benefits of improving water use efficiency and demand management are related to cost savings which include the following:

- Saving on capital costs through delaying or eliminating infrastructure development.
- Achieving cost savings in wastewater management through reducing the water that goes through the system.
- Saving costs associated with energy through reducing in-house hot water use.
- Saving costs associated with energy and maintenance in both the treatment of water to a potable standard and its reticulation.
- Saving energy and maintenance costs in the reticulation and treatment of wastewater
- Delivering customer benefits from lower water and energy related costs.

Other benefits of a demand management programme include the promotion of resilience in the overall system. Resilience is the ability of a system to withstand shocks, in particular those caused by unexpected and extreme climate events. Some of the resiliency benefits include:

- Reducing competing demands for water in parts of the country where water resources are constrained.
- Reducing the need for further large water supply systems which cause changes to the water cycle and do not operate in harmony with natural water cycles and water catchments' boundaries. In the long-term such systems are inherently unsustainable, being designed at a time when both the human population and economy was considerably smaller and less resource intensive than the present day.
- Anticipating potential climate-related changes and resulting water cycle disturbances and the need to improve the resilience of our supply system to cope with greater variability in climate patterns ³

3 IPCC. Climate Change 2001: Impacts, Adaptability and Vulnerability. McCarthy, O.F., et al. Geneva Switzerland

Part A: General Comments on the NPS

1. Intent

- In general Beacon supports the intent of the proposed policy statement, particularly the emphasis on demand management of water. Even though there are many high level rules and policies already in place across New Zealand, the reality is, as the Section 32 analysis and the research for this Policy Statement shows, the quality of many parts of the country's water ways are degraded, in some parts of the country, water resources are at their limit and there is much room for improvement in the way that freshwater is managed. In a country with a small population whose 'green image' is a major economic advantage both for tourism and its dairy industry, this sort of degradation and waste of resource is a real threat. With the impending uncertainties of climate change and a growing population, Beacon agrees that it is timely to have a national perspective spelled out in an NPS.
- One issue that needs clarification is the scope and timing of the implementation of new regional and local policies and rules. If the NPS only applies to new development, that begs the question of how to deal with existing unsustainable practice.
- Beacon is also concerned about the lack of clear water quality standards. As noted by EcoLogic in its submission on the proposed NPS⁴ there are precedents overseas which could set a clear signal about what New Zealanders value: being able to swim and fish in recreational areas such as:
 - The stated objectives of the United States' Clean Water Act call for "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water" (commonly referred to as the "fishable and swimmable standard"); "Good Status" on a holistic and comprehensive set of ecological and hydrological
 - The European Union's Water Framework Directive requires water bodies to achieve standards, which are set out in 30 pages of text. Good Status is to be achieved throughout Europe within 15 years of the entry into force of the directive – ie by 2015.'
- Such a freshwater standard would be helpful as an easily understood target for all stakeholders, urban and rural.

2. Purpose and Objectives

- Beacon generally supports the purpose and objectives, particularly the acknowledgment of the need for wise management of resources and demand management to reduce wastage of water, and the need to plan for a more resilient approach.

3. Particular comments

- Beacon would like to see direct reference to the benefit of diversity of supply in order to achieve more resilience in an urban context. The following Objective is the closest to this:

Objective 6 (b) the need to provide for resilience against the biophysical effects of climate change (such as through infrastructure for supply, storage and distribution of fresh water)

- In the urban context, over the past decade or two, most water supply planning and provision has delivered regional/centralised solutions. At the time these were seen to have big public health advantages-guaranteeing good quality drinking water. But in these times of uncertainty, and with the threat of severe weather events there is a much greater risk to communities and the economy from breakages or failures of centralised infrastructure than with more diversified infrastructure – on-site solutions, or smaller neighbourhood solutions. In the past, such solutions have been thought of as less ‘cost effective,’ but as the global environment changes, so have the risks to communities from the ‘all eggs in one basket’ approach. This does not mean removing regional/centralised solutions but diversifying supply chains.

Suggested amendment to Objective 6b:

*Objective 6 (b) the need to provide for resilience against the biophysical effects of climate change (such as through **rethinking what might be the most appropriate** infrastructure for supply, storage and distribution of fresh water):*

4. Policies

Beacon supports the overall intent of these policies with one suggested amendment and one need for clarification.

Policy 1. i. ii.

“(ii) Provides priority for reasonably foreseeable domestic water supply, over other competing demands, provided that appropriate demand strategies are established for such supply; and

The word ‘appropriate’ weakens this phrase. It needs to be clear that demand management strategies need to be established.

Suggested amendment:

Beacon seeks the following change to the proposal:

“that demand management strategies are established...”

Policy 5 b

(b) The importance of ensuring that the planning and implementation of Land-use Development applies industry good practice in order to –

A definition of 'industry good practice' needs to be developed and promoted which clearly shows how win-win solutions can be achieved (see the following Implementation section.)

Part B: Implementation

Funding

- It is clear that there is a financial cost to carrying out the water quality /land management interface. The cost of delivering drinking water is one aspect and this cost can be reduced by good demand management practices. This in itself will need considerable investment. But there are further costs for waste water/ sewerage and stormwater. There is the need to fund the cleaning up of existing degraded waterways - caused primarily by land management practices and human behaviour - and to prepare for the biophysical threats of climate change. This is becoming more urgent as it is clear that there will be a considerable non-tangible and economic cost to not improving water quality and managing water supply more sustainably throughout the country.
- The cost for stormwater, sewerage and water supply currently lies with local government. But the task is enormous: to turn around human behaviour, unsustainable building stock and land management practice, as well as deal with aging and crumbling infrastructure to prepare for climate change. For ratepayers at the very local level to bear these costs alone would be unreasonable.

As the Report of the Local Government Rates Inquiry (2007) summary said:
“.....greater central government financial assistance is needed for the funding of water infrastructure, much of which is required to meet higher national environmental standards.”

- As the benefit affects the national economy, this cost should be supported by central government funding. Access to funding needs to cover rural management practices and well as stormwater pollution in urban environments and demand management programmes in both rural and urban sectors.

Good practice

- There is also a clear need to share examples of good practice. The Section 32 analysis points to farming and dairy practices which successfully combine ecological and economic outcomes.
- In the cities there are also excellent examples of demand management practices which could be implemented to improve efficiency and effectiveness of water supply management. A range of communication methods could be used to help communities to make changes to existing practices. These could include workshops with Councils, the dairy, horticultural and manufacturing industries and the use of a variety of web based tools to highlight and disseminate helpful case studies and examples of good practice..

Beacon does wish to be heard in support of its submission.

* If others make a similar submission, Beacon will consider presenting a joint case with them at a hearing.

Dorothy Wilson..... submitter

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