MINISTRY OF RESEARCH, SCIENCE & TECHNOLOGY
ENVIRONMENT RESEARCH ROADMAP

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I am happy to be contacted about our submission.

About Beacon

Beacon Pathway Ltd is a collaborative research consortium working to find affordable, attractive ways to make New Zealand's homes more sustainable: warmer, healthier, cheaper to run and kinder to the environment. Beacon aims to drive sustainability outcomes consistent with New Zealand sustainable development requirements.

Beacon is funded by industry, with matched revenue from Government research funds from the Foundation for Research, Science and Technology. There are currently five shareholding partners –

Building Research,

Scion,

New Zealand Steel,

Waitakere City Council,

Fletcher Building.

Beacon's vision of:

Creating homes and neighbourhoods
that work well into the future
and don't cost the Earth

will be realised through the achievement of the following two goals:

1. To bring the vast majority (90%) of New Zealand homes to a high standard of sustainability by 2012 and;
2. That every new subdivision and any redeveloped subdivision or neighbourhood from 2008 onwards be developed with reference to a nationally recognised sustainability framework.

The consortium has been established to bring about significant improvement in the sustainability of the residential built environment in New Zealand, by carrying out research, managing resultant Intellectual Property, and facilitating development and increased availability of products and systems via emergent markets, through working together with like minded organisations, and by lobbying regulatory authorities.

Beacon intends to develop interventions, which meet sustainability goals in a manner that aligns with consumer lifestyle and choices, achieving home quality and comfort with appropriate affordability.

Beacon is committed to funding research and initiating projects on interventions that will enable a more sustainable residential built environment. This will assist New Zealand building and construction industry to deliver, and consumers to adopt, more sustainable residential built environment outcomes, ensuring better returns (social, environment, cultural, and economic) for shareholders, stakeholders and the wider public.

Reason for Submission

Beacon Pathway is an unusual research consortium with a mix of industry, local government and research shareholders who share a common goal to transform the residential built environment. The internal and external challenges which Beacon has had to overcome over its first two years provide a unique insight into some of the challenges which will confront integrated, collaborative research programmes as proposed in the Environment Research Roadmap.

Beacon has adopted a systems thinking approach to our research programme and our programme of work is principally within the Urban ecosystem defined in 1.4.5.

For New Zealand to build resilience to the global challenges of the 21st century, we need a step-wise change in our research delivery.

Submission

General Comments

Support for Environment Research Roadmap

Beacon supports the Environment Research Roadmap and suggests that MORST should not underestimate the challenges of bringing together integrated complex collaborative research programmes. Beacon acknowledges that improvement is needed – it is a challenge to find suitably skilled organisations who have the capability to deliver on time in full to specification, rather than a reoccupation with their own research agenda.

We wholeheartedly support the initiative to deliver "*integration and effective prioritising and drive excellence and improved performance in environmental research.*"

However we found the vision of how environmental science will deliver to Government goals in the future to be extremely complex and difficult for stakeholders to buy into – we would suggest the vision needs to be simple, compelling, and easily understood.

Beacon supports the 2026 integrated platform - it would enable Beacon to deliver on our target of "New Zealand becoming a world leader in sustainable building materials used in dwellings by 2040"

Comment [B1]: Is this right? Sounds as we will be selling them by 2040

Beacon's current work is hampered by inadequate data sets; much of the information is in organisations, but not always in a form which makes it easily accessible or of practical use.

Specific responses

Figure 1.2 Current Situation.

This adequately depicts the limitations of our current research delivery which is focused at site scale and with data analysis and explanation, rather than at regional / national scale focusing on synthesis, predictive and decision making tools.

1.4.6 New Directions.

Improved environmental management, enhanced and environmentally sustainable industry and resilient adaptable communities are all central to a sustainable residential built environment, which Beacon is focused on achieving.

1.5.1 Economic transformation.

Beacon supports the Government goals for economic transformation, but are concerned that a key component in delivering economic transformation is missing from the process. Industry needs to play a key role in the Environment Research Roadmap – because ultimately it will be industry who delivers the economic transformation. There is a need to adopt an integrated design process which includes industry.

1.5.3 Long term funding signals with respect to urban systems.

Beacon supports the proposed short term increase. We would suggest that, as almost all of New Zealand's anticipated population growth will be in urban areas, principally in the Auckland region, then it is necessary to increase long term funding of urban systems as it will be the growing complexity of urban systems which will impact on the marine, land and biodiversity subsystems.

4. Broad directions

Beacon supports the broad directions as we are currently hampered by a lack of data in these areas:

- The full health consequences of the current cold, damp housing stock,
- Houses which are extremely resource hungry for energy and water by comparison with international benchmarks
- The foundation data to adequately predict the resilience of our homes and neighbourhoods in face of global challenges of the 21st century – fossil fuel depletion, changing population dynamics and climate change.

4.4 Approach to achieving integration

Government wants to see larger teams working on larger environmental systems. This is a marked change from the current competitive model which fiercely defends its own IP. Furthermore, to succeed, participants will require complicated skill sets, (not normally seen in our research organisations as their core capability) eg. people management, process management, facilitation skills.

Recognising the challenges of Collaborative Ventures

The Environmental Research Roadmap is proposing a fundamentally different way of delivering programmes and perhaps the Beacon example can provide some insight to likely future challenges. Within Beacon, diversity brings richness which would be unusual to find in a single organisation, but diversity brings challenges.

While Beacon's shareholders share a common goal – to transform the residential built environment - they have different expectations of how the programme outcomes will deliver for their organisations. The individual shareholders come from a variety of work 'cultures' and are used to doing things in their own way. Considering we all share a common language, the context of the language may be interpreted differently.

The Roadmap proposes considerable change. Change by its very nature threatens, particularly the incumbents.

Management of change needs to be a component of the roadmap, along with the skills to manage diversity.

Delivering the benefits - How do we ensure uptake of learning?

Sustainability is a complex picture - to succeed we must be able to present complex data issues in a simple, easy to understand manner, in language which is easily understood, and which is personalised for the needs to specific audiences.

This is an area which the roadmap needs to consider, for we may solve the challenge of developing the integrated, collaborative ventures which delivers the predictive and decision systems, but unless they are solutions focused on meeting customer needs then the value of the investment may not be realised.