

Facing

Newsletter of Beacon Pathway

October 2005



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- Sustainable Building 05 Conference
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Sustainable Building 05 Conference

Tokyo, 27-29 September 2005

A large contingent of New Zealanders attended this significant conference, including many people closely associated with Beacon: Chris Kane, Rachel Hargreaves (BRANZ Ltd), Sunil Vather (Building Research), Mike O'Connell (ECAN), Karen Bayne, Barbara Nebel (Scion), Nick Collins (Beacon) and John Storey (Victoria University of Wellington).

Background

The Sustainable Building conference series began in 1999, under the auspices primarily of the World Council for Building Research and the International Initiative for a Sustainable Built Environment. At the last conference, SB02 (Oslo, 2002), there was a call to ensure wider international engagement at the next conference, especially with developing countries whose needs differ from, and are likely to be more pressing than, those of mature Euro-practitioners.

Tokyo was chosen for the 2005 conference because it was the first city in the world to reach a population of 10 million and is breaking away from the 'scrap and build cycle' in seeking sustainable urban development. SB05 was the first world Sustainable Building conference to be held in Asia where sustainable development is a pressing issue. Asia is home to about 60% of the world's populations and has many high density 'mega cities'.

The 1700 conference delegates were primarily from academic and research organisations, although there were a small number of industry representatives.

SB05

The theme for this year's conference was Action for Sustainability, with the Japanese Wa (harmony, communication, mutual understanding) as the underlying message. The conference opened with an address from the Japanese Crown Princess who provided a clear simple message to delegates in impeccable English: Homo Sapiens have succeeded in conquering the world and in doing so have drastically altered the planet – it is Homo Sapiens responsibility to ensure we have a future and this can be achieved through Sustainable Development: "The construction of buildings that use energy and natural resources wisely are essential for the preservation of our environment," she said.

"If we are the dominant species in terms of numbers and we have taken upon ourselves the leadership role, then we have a duty to all existing life forms to maintain the harmony and balance of the earth's eco-system."

Key speakers Ernst Ulrich von Weizsäcker (author of Factor 4, German Bundestag) and Ryoichi Yamamoto (leading Japanese architect, University of Tokyo) suggested that solutions to Sustainable Development challenges lay with developing technologies and eco-design / eco-efficiency. Jaime Lerner (President, International Union of Architects, Brazil) provided a practitioner's perspective which was compelling and entertaining, encouraging delegates to act, and act quickly.

Other sessions

Break out sessions over the three days covered

- Energy use and climate
- Building assessment tools
- Resource use / technology including structural systems, sustainable management of housing stock, management of technology, future technology
- Urban – sustainable regeneration, environmental systems, healthy buildings, healthy cities
- Partnerships and holistic approach
- Procurement and industrial ecology
- Policy and ethics
- Case studies

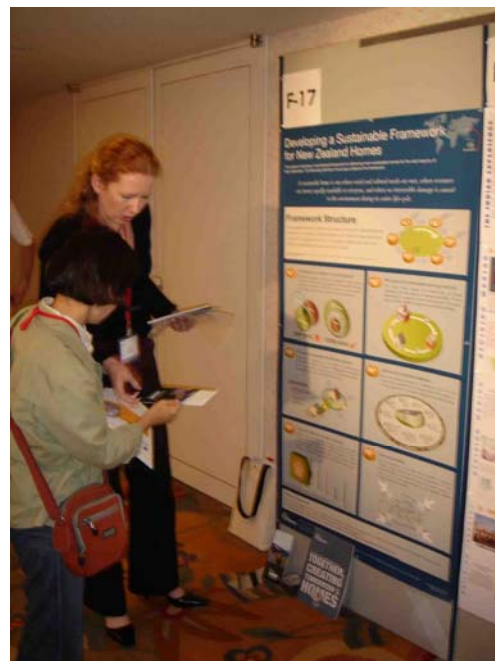
Breakout sessions were complemented by an enormous number of poster sessions on the same themes. Unusually, some of the posters were in fact better presented than the oral papers.

Rachel Hargreaves, (BRANZ Ltd) and Karen Bayne (Scion) presented posters based on two of Beacon's Programme Confirmation Phase projects. Rachel's work summarised the Sustainability Framework paper. Karen's work (in association with Chris Kane and Robin Allison) focused on the collaboration process during the NOW Home project.

Both posters / presentations generated a high degree of interest.



Scion researcher, Karen Bayne, with her poster



Rachel Hargreaves (BRANZ) and her poster

Lessons and opportunities for Beacon

Although Action for Sustainability was the conference theme, papers overwhelmingly presented models and theory (Lerner's practitioner's perspective notwithstanding). In one breakout session, a frustrated South African delegate kept asking the question – "Where are the practitioners and the examples of actual projects?"

This suggests there is a significant opportunity for Beacon (and other organisations) to present practical examples at the next Sustainable Building Conference (Melbourne, 2008). Action-based Beacon projects such as the NOW Homes in conjunction with the Retrofit, Neighbourhoods, Industry and Consumer projects would be well suited for presentation. Researchers may want to consider tailoring a programme to deliver key results for that conference. Additionally, there is a significant opportunity to hold a New Zealand-based regional conference, as a precursor to the Melbourne one, in 2007 (similar to the regional conferences run in 2004).

Beacon establishes a Research Guidance Committee

Beacon's newly established Research Guidance Committee will operate independent of Beacon's Board. In collaboration with General Manager Nick Collins, the Committee will make recommendations to the Board about research activity.

The Committee will provide six monthly reviews of the overall strategic direction of Beacon's research and ensure all research streams reflect the needs of the market and users.

The five Committee members are:

Chairman, Dr Wayne Sharman, Industry Development Manager, Building Research

Wayne, a polymer chemist, joined BRANZ (Ltd) in 1974 to research aspects of building materials performance. Wayne has held a number of senior positions, serving finally as General Manager Science & Engineering Services from 1997-2004. In that position he was responsible for BRANZ Ltd's research, testing and product certification (appraisal) programmes: and for the strategic development of the BRANZ research programme from 1991.

Following the definitive separation of Building Research and BRANZ Ltd (October 2004,) Wayne took up the position of Industry Development Manager with Building Research. He is responsible for monitoring building industry trends and developments in New Zealand and internationally. He is also responsible for determining the NZ construction industry's research, education and information needs, and advises Building Research and the Building Research Board on where the Building Research Levy should be invested to best meet those needs. Wayne is a trustee of the New Zealand Ecolabelling Trust (Environmental Choice), and a board member of the Building Industry Federation and the NZ Green Building Council.

John Mackay, Urban Development & Design Manager, Strategy & Development, Waitakere City Council

(CV not available at time of printing)

Bob Batenburg, Marketing Manager, Winstone Wallboards Ltd

Bob is Marketing Manager for Winstone Wallboards Ltd, a role which he has held for the past 4 years. The role encompasses maximising the company's profitability and sustainability through marketing, and leading the marketing, customer service, technical advisory and training functions for the New Zealand business.

Bob has held a variety of marketing and development roles within Winstone Wallboards Ltd from 1994 to 1997 and since rejoining the company in 2000. Bob has a degree in Chemical and Materials Engineering with honours at the University of Auckland. He began work with New Zealand Steel in 1986, culminating in the role of Metallurgist for all hot rolled products and contributed to the successful commissioning of the Hot Mill (Part of Stage 2 of the expansion project). Bob travelled overseas and worked in Holland for the Royal Dutch Nedlloyd Group as a Development Manager responsible for the identification, evaluation and implementation of new growth projects. On return to New Zealand Bob worked again for BHP New Zealand Steel in the role of Business Development Analyst responsible for increasing steel sales in New Zealand by identifying and managing industry development opportunities.

Frances Maplesden, Project leader, Market Intelligence, Scion

The science leader of the Trade and Economic Development group at Scion, Fran has a 26-year research career and has written over 90 publications in the following areas: foresight studies, trade and market analysis, trade barrier impacts, industry and sector studies, socio-economic impacts and consumer research relating to the wood products industry. During her career in wood products market research she has completed a range of assignments concerning the economics and marketing of wood products in the Asia-Pacific region and Europe. She has carried out several evaluations of new product technologies and markets in the United Kingdom, USA, Canada, Australia, Vanuatu, Italy, Spain, the Russian Far East, France, Belgium, the Republic of Korea and China.

Chris Ford, Marketing Manager, New Zealand Steel

(CV not available at time of printing)

Beacon Research Update: reports on newly completed research

Exploring retrofit options for Beacon

Beacon should focus retrofitting initiatives on middle to high income households and should offer packages covering more than simply energy efficiency. These are recommendations made in Rachel Hargreave's report for Beacon, "**Exploring a Commercially Viable Model for Retrofit**". The report reviewed the current work of Community Trusts in New Zealand and concluded that they covered the low income market niche with government assistance.

The report also investigated the Melbourne-based Easy Being Green retrofit programme, which offers a number of retrofit packages including energy (lighting, insulation, draughtproofing), solar hot water, and water (options for greywater re-use, rainwater tanks and water-saving tapware). (see: <http://www.easybeinggreen.com/>)

The report concludes that current retrofit schemes are almost entirely energy focused, and that Beacon needs to move the focus to other sustainability features, as the Easy Being Green scheme does. Using current housing data, nearly 130,000 houses would need to be retrofitted per year for Beacon to reach its goal of improving the sustainability of more than 90% of New Zealand's homes.

Given the New Zealand DIY culture, there may be both interest in upgrades and resistance to paying for a 'one stop shop' approach. Market analysis needs to be undertaken to determine what packages could be offered (in alignment with DIY culture) and what people would be willing to pay for.

Quality workmanship was identified as an area of concern as installing retrofit products is not a low skilled operation. Any commercial venture would need to secure product supply and suitably qualified installers for a 'minimum fuss' approach as, with a large number of target households, there is the risk that demand would outstrip supply. In addition, the report suggests a 'green mortgage' assistance package would give homeowners an incentive to choose a retrofit option.

Hargreaves, R. 2005. Exploring a Commercially Viable Model for Retrofit.

Creating adaptive and resilient neighbourhoods

"Built environments are designed, constructed and managed to generate neighbourhoods that are adaptive and resilient places that allow people to create rich and satisfying lives while respecting the limitations of the natural environment."

This is the vision of "**Neighbourhood Sustainability Framework**", prepared for Beacon by Kay Saville-Smith, Katja Lietz, Denise Bijoux and Megan Howell. To achieve these neighbourhoods, they have developed a draft Neighbourhood Sustainability Framework. The framework consists of three tools.

1. Neighbourhood Sustainability Goal & Outcome Specification (N-SOS)

This sets out the:

- *goal* for neighbourhood built environments
- *scale* in which the NSF is intended to operate
- *critical outcome domains* that are instrumental in achieving sustainable neighbourhoods through the built environment, and
- *elements of the built environment* in which built environment actions and applications will be undertaken.

2. Neighbourhood Sustainability Assessment & Monitoring Tool (N-SAMT)

This allows practitioners and planners to assess and monitor the extent to which neighbourhoods exhibit the characteristics of sustainable neighbourhoods.

3. Neighbourhood Sustainability Action Planning Tool – N-SAPT

This identifies practical actions for neighbourhood adaptation.

In addition the report reviews international visions and practices, critical dynamics of neighbourhoods identified in social research, and sustainability indicators. The research confirms the significant influencing role of neighbourhoods in ensuring the sustainable performance of homes.

Saville-Smith, K., Lietz, K., Bijoux, D. and Howell, M. 2005. Draft Neighbourhood Sustainability Framework.

Building more NOW Homes

The NOW Home protocols are a resource document which aims to assist Beacon Pathway and its future collaborative partners to design these future NOW Homes. Prepared for Beacon by Scion, “Now Home Protocols : a toolkit documenting the Beacon approach to sustainable residential design” provides an in-house tool for Beacon Pathway team members to use as they engage and work with partner organisations. With sufficient end-user feedback, it may be possible to create a revised set of protocols that are made available for wider use.

The NOW Home protocols consist of:

- A generic NOW Home design process
- A design process flowchart
- A list of architects (designers) with experience in sustainable design
- A set of sustainable design considerations and features
- Information about the NOW Home monitoring programme
- A list of technical tools for sustainable design
- A directory of specialist relevant to sustainable design
- A filtering framework to assist with product selection
- Case study documents relating to the first Beacon NOW Home built in New Lynn, Waitakere City

Bayne, K., Jaques, R., Lane, A. and Lietz, K. 2005. NOW Home Protocols: A Toolkit Documenting the Beacon Approach to Sustainable Residential Design.

Assessing technologies for improving new home sustainability

Earlier indications from Beacon’s research have been that there is a mix of both existing technologies, which are not being widely implemented, and new technologies, which are yet to be developed and implemented, that can be used to further improve the sustainability of the residential built environment. A recent report, prepared for Beacon by Scion, screens over 175 technologies to identify the technologies which would have the most impact on reaching Beacon’s goal.

A panel of experts assessed each technology for the level of impact relative to the level of effort required. Eleven high priority technologies were assessed against Beacon’s nine fundamental objectives of a sustainable home to assist future development and prioritisation for the technology related research stream.

Walford, B., Bayne, K., Stoecklein, A., Jaques, R. and Salinas, J. 2005. Evaluation of Technologies with Potential for Improving the Sustainability of New Homes in New Zealand: Initial Assessment.