

PROPOSED AMENDMENTS TO THE BUILDING CODE AND COMPLIANCE DOCUMENTS: ENERGY EFFICIENCY OF BUILDINGS

SUBMISSION FROM BEACON PATHWAY LIMITED

Nick Collins
General Manager
Beacon Pathway Limited
PO Box 11338, Auckland, Business Phone: 021- 464- 252
nickc@beaconpathway.co.nz

I am happy to be contacted about our submission.

About Beacon

Beacon is a residential building industry research consortium aiming 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 and 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 NZ homes to a high standard of sustainability by 2012 and;
2. 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 NZ, by carrying out research, managing resultant Intellectual Property ("IP"), 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 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 recognises that the Building Code is key to achieving the sustainable development of the built environment and that the Code determines the capability for innovative concepts to be introduced. Beacon recognises that substantial changes to the code are required if Beacon's objectives are to be achieved.

Submission

Beacon strongly supports proposals to increase the standards for thermal performance in dwellings, lighting energy efficiency in commercial buildings and the preparation of an Acceptable Solution for solar hot water unit installations. Beacon seeks that such proposals are adopted and implemented promptly ahead of wider changes to the Building Code. Beacon also seeks that further proposals around increasing the efficiency of hot water systems are developed as a priority for the Department as these would give very good energy efficiency outcomes.

Beacon has number of specific comments regarding the detail of the proposals as follows:

Thermal Performance of Residential Buildings

1. The new standards should apply to significant housing renovation

Much of New Zealand's existing housing stock is inadequately insulated. Beacon research indicates that approximately 40% of existing New Zealand homes are insulated to *current* Building Code standards. As is required in the UK, the Department should introduce a requirement that when substantial housing renovations are undertaken (for example where 50% or more of the floor area is modified), then the new Building Code standards will apply to the *whole* building. In most cases the cost benefit equation for such action would show significant benefits to the home owner, as the majority of houses undertaking a high level of renovation are likely to be older, as well as to the country in terms of reduced greenhouse gas emissions, energy savings and reduced health costs.

2. Higher standards are needed

While we support the proposals we believe that they don't go far enough. We would like to see the subsequent proposals which arise out of the whole review of the Building Code better recognise the contribution that poor thermal performance of buildings makes towards global climate change and poor community health.

3. Impact on Greenhouse Gas Emissions

We are glad to see that the Department has quantified the Greenhouse Gas emission benefits from the proposals, and this should be an integral part of the thinking on any future changes to the Building Code.

4. Impact on Public Health

We believe that significant health benefits will accrue from increased thermal performance of buildings. At the very least this equates to a dollar for dollar equivalent with energy efficiency. For future evaluation of proposals around thermal performance of dwellings we believe these benefits should be quantified – and considered as part of the Cost Benefit Equation. If these benefits were included in the cost-benefit analysis we believe that the Department would recognise that higher standards are required.

5. Impact of Future Energy Prices

As always the cost benefit methodology considers only today's energy prices. The Ministry of Economic Development has projections for energy prices into the future. We believe that these should be considered as part of the analysis. At the very least, the expected energy prices *at the time of implementation of the proposals* should be included, but preferably likely energy prices, for example, for five years away, should be considered.

6. Staging of Introduction of the Changes

We believe that the notice period for introduction of the changes is too long, particularly in Climate Zones 1 and 2. Given that the Department does not propose to publish the changes until June 2007 this means that the industry has effectively another 10 months to gear up in Zone 3 (where your discussion paper acknowledges that the proposals are now fairly standard practice), another 18 months in Zone 2 (where similarly higher levels of insulation and double glazing are commonly implemented) and 21 months in Zone 1. While it is appropriate to allow the industry reasonable time to gear up for the changes, 30,000 homes could be built in this time. There is no cheaper time to create a thermally efficient building than at the time of construction – the long lead in time will mean the addition of a significant number of dwellings to the housing stock which will require retrofitting in the future.

In the case of Auckland, where a significant proportion of those homes will be built, consideration of impacts on energy supply also exists. Auckland currently has issues of security of energy supply, and moving forward the introduction of improved thermal efficiency requirements will play a part in alleviating this demand.

Energy consumption of commercial lighting

1. While Beacon supports these provisions, we understand from the industry that they are common practice – rather than “best practice” in new commercial buildings. Therefore they are unlikely to achieve significant improvements in energy efficiency and the proposals should be extended to include what is in actuality best practice. This might include measures such as occupancy sensors and circuits which allow lighting to be controlled on an individual room by room basis as well as per floor.
2. In order to achieve genuine energy efficiency from the proposals, they should be retrospectively applied to existing commercial buildings as part of the annual Building Warrant of Fitness. Currently it is only a limited range of matters where compliance with the current Building Code is required for a commercial building warrant of fitness, meaning that older buildings are often very energy inefficient.

Acceptable solution for Solar Hot Water

We have one minor technical comment on the standard solution for solar hot water systems: The requirement to heat the water to 70 degrees for an hour a day seems excessive. In the body of the document it refers to 60, not 70 degrees and we wonder whether this is an error. At present many systems require manual boosting, giving the householder control over their system. We feel that it would be a shame to effectively outlaw this practice, considering that householders have responsibility for ensuring their health in many other areas (there is for

example nothing to stop them from turning their hot water cylinder off while on holiday) and that there are no reported cases of legionnaire's disease caused by domestic hot water systems. Automatic heating once a day would likely result in inefficiencies as this would most likely be done by timer, which is unlikely to be reset as household habits change over time or from day to day. We would support a requirement for systems to be able to be heated to 60 degrees for an hour a day, be this manually or by timer.

Thank you for the opportunity to comment on the proposed changes.