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Energy Efficiency Inquiry
Productivity Commission
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Productivity Commission Inquiry into Energy Efficiency

Introduction

The Building Products Innovation Council is a relatively new organisation formed to represent the interests of the Australian manufacturers of building materials in areas related to regulation through national codes and standards. The Council, referred to as BPIC, creates a common point for the materials suppliers to input into the development and application of a variety of initiatives related to building and construction.

BPIC has membership covering the majority of building materials through the respective sub-sector peak national associations. A list of members is indicated on our website www.bpic.asn.au.

The building and construction sector in Australia accounts for over 5% of the GDP (2002 base) and represents employment of more than 700,000 including many regional locations. The materials manufacturers are an integral element of this significant economic activity and are a major source of innovative solutions in building design. Combined the economic activity in goods and services in this sector are substantial.

Links to BCA

BPIC believes that it is important that the Commission recognize the links between this inquiry and the current research into building regulation. They are closely aligned in certain respects and together move to highlight the need for national consistency. The Building Code of Australia (BCA) is the guide to minimum performance requirements in construction of buildings in Australia, and includes (for certain classes of buildings) guidelines on the minimum energy efficiency levels that should be achieved. There are, of course a number of state or territory based energy efficiency schemes which are different from those in the national BCA.

General

BPIC notes that the terms of reference for this inquiry cover a very large and diverse range of issues. However, BPIC is only able to provide views on those matters relating to materials used in the built environment. Members of BPIC may choose to make further submissions on the energy efficiency in manufacturing materials.

The most direct link in this inquiry for BPIC is the varying outcomes that will be achieved in terms of building solutions when applying different material specifications as they are analysed under the existing and emerging energy rating schemes. One of the outcomes that BPIC would like to see the Commission assist in is the coordination of the various energy efficiency schemes around Australia. A substantial proportion of the built environment is in fact constructed by smaller builders who are not necessarily in a position to resource themselves to ensure they are building or advising in accord with the most recent energy efficient provisions in whatever state they are in. A nationally consistent approach would, in our view, have the added benefit of reducing the amendments which occur frequently under existing arrangements on a state by state basis. BPIC is of the view that this concept could be transferred into the area of sustainable construction as well, which to some extent encompasses the energy debate.

There are many opportunities for energy efficient outcomes however it would be fair to say that these are often accompanied by barriers of a financial nature as they can, relative to current practice, represent a significant up-front cost impact. Given that the new housing stock consists of a significant number of first home buyers this is not a desirable fallout from adoption of the very latest, and hence often most expensive, technology. In terms of the commercial building market, adopting of energy efficient practices or technologies may occur earlier if for no other reason than for the relative (to housing) operating to construction costs.

BPIC also notes that some of the areas of inquiry in this review are similar or at least overlap with some of the activity in the current Productivity Commission review of Building Regulations. For example, the thoughts and discussions about maintenance requirements for buildings and performance characteristics drift towards compulsory energy efficiency disclosure. Given this inquiry is looking closely at the need or drive for regulation it is important that the two inquiries are in some way linked, or at the very least are complementary.

BPIC is keenly aware of the importance and for that matter the momentum that energy efficiency and sustainability criteria have achieved in the public arena. Much of the debate centres around the subjective nature of the assessment of improvements and the individual perspective. BPIC firmly believes that the assessment of sustainable building practices and the assessment and regulation of energy efficiency must be on a scientifically sound, nationally consistent basis.

Issues with speed to market for innovative products

BPIC would like the Commission to take into account that in any assessment of the ability to improve energy efficiency outcomes, materials suppliers can and often will have particular solutions for the building and construction industry. However they cannot be implemented until either the Australian standards or BCA is amended to allow the use of the material in the appropriate context (i.e. so that the new solution complies with the BCA and the insurance issues are covered). Such amendment processes take considerable time and at the State and national level require a regulatory impact statement to be prepared to ensure that the benefits of any new or amended regulation are significantly greater than the cost. Immediately this involves a significant delay from design to market, an area that is identified by most as the competitive advantage available to Australian manufacturers.

This can have the effect of stifling innovation as the investment and return can be quite distant cousins under the current approval procedures. Any methodology to improve the speed with which innovative solutions and materials can get to market and still meet the base requirements of the BCA would be welcome. Coupled with this there needs to be a recognition that the unique characteristics of the Australian market often require design and construction solutions that are quite different from those in other parts of the world. Given the size of the Australian market the decision to invest in research and design is based on different financial drivers from the larger overseas markets. This is not to say that the materials suppliers are domestically focused, but more that the ability to significantly increase research and development expenditure (which lead to energy efficient materials and systems) based on the estimated total demand must be driven by local market opportunities in the first instance. This could be encouraged by increased incentives for developments in specific areas, for example lightweight insulation materials or other energy efficiency initiatives.

As mentioned above there are a number of different approaches to energy efficiency in Australia and the eastern states are certainly leading the way. Unfortunately they are each leading their own way and we have a need to understand and implement different energy solutions for the same building requirement, varying based on the state in which it is constructed. Again this is also reflected in the sustainability benchmarks.

Specific Issues Raised in the Discussion Paper

Energy Efficiency Gap (actually technology versus most efficient technology available) – BPIC notes this concept but also would wonder whether in fact it can be measured, as opposed to assessed in a broader sense, as it must by its nature be a dynamic, not static, assessment. This issue also has important implications in terms of the need to maintain housing affordability, often a significant impediment to early adoption of new technologies. Further, there are constraints on the timely introduction of new solutions into the market due to the need for certification in many instances. It is also possible that (in some specific instances) the sum costs in the existing technologies may require a longer marketing cycle to ensure future viable research and development. BPIC is aware that there are export opportunities but that these are often difficult to pursue with valuable protected technologies and culturally driven offshore distribution systems.

BPIC would welcome the Commission's focus on those energy efficiency improvements that appear to be privately worthwhile but are not being taken up because of barriers and impediments facing individual producers or consumers. We would also ask the Commission to take note of the possible different consumer perspectives dependent upon whether the question is addressed from existing stock or new establishments.

What is the scope for cost effective energy efficiency improvements in households?

It is significant under the right environment and perhaps with tax incentives to make up front cost more attractive (e.g. stamp duty holiday). The opportunities can be further enhanced through improvements in the corporate taxation system as this could lead to faster introduction of affordable energy efficient solutions, and is noted by the Commission in its discussion paper.

To what extent do market failures create barriers or impediments to energy efficiency improvements?

In many instances the consumer does not have the information to properly assess the benefits of energy efficiency across the life of the building. If government intervention is based on scientifically sound advice then it can assist in the choice, however this would need to be accompanied by fiscal incentives where the cost is significantly different. BPIC members strongly support soundly based full life cycle assessment as an appropriate tool to assist in consumers in sustainability matters and a similarly rigid yet justifiable national approach should apply in the area of energy efficiency. The other consideration is whether the government consideration or intervention should be on the cost of the fuel or the cost of the materials/building, or even a mix of both.

To what extent do behavioural norms create barriers and impediments to cost effective energy efficiency improvements?

It is closely linked to information asymmetries and market information. It is difficult to vary a design if it costs more, also the issue of maintenance cost of an alternative solution and even possibly a conflict between property protection aspects and energy efficiency aspects. Not too sure here if it is difficult to measure as cost effective relates to the individual and this must be assessed as an opportunity cost if the efficient approach is more expensive, and this would vary significantly across any group or region. Another important aspect to behavioural norms is that they may in many instances, for example small business decisions, be driven by time poor managers. In one sense this could be likened to use of the deemed to satisfy solutions in the Building Code of Australia compared to investing time in development of an alternative performance solution.

What are the costs and benefits of national coordination?

From the BPIC perspective a nationally coordinated approach is essential to ensure the most efficient operation of the materials suppliers. Obviously the ability to develop and manufacture products to suit nationally agreed standards brings manufacturing effectiveness. Further, this can often spill over in to other benefits, possible along the lines of positive externalities, such as a nationally qualified workforce in respect of installation and maintenance of systems.

What degree of national uniformity is desirable?

A nationally coordinated approach would be the best outcome as the science must be the same in each jurisdiction. This does not mean that there cannot be special provisions such as the natural ventilation aspects to be incorporated in more temperate regions.

What should be the NFEE role?

BPIC does not have a specific view on the role of the National Framework for Energy Efficiency but we do ask that the Commission consider the need to ensure that the operations of the NFEE do not complicate, duplicate or overtake that of the ABCB in the role of energy efficiency in buildings.

International Comparisons?

In terms of the Building Code of Australia and energy efficiency the ABCB has previously conducted a study, including some comparative analysis, on the various international energy efficiency systems. BPIC is confident that the ABCB will provide further input to the Commission on this aspect.

What impediments are there to cost reflective pricing for distribution and transmission?

While not a core BPIC issue we would have thought that such an approach completely at odds with other economic and social outcomes such as regional development, and also a driver for concentration on margin rather than efficiency by the providers. What commercial drivers are there in Australia to fix up transmission loss if the customer pays for it and we have enough generating capacity?

What is the rationale for Government involvement in Education and Awareness raising?

A nationally focused and consistent approach would give the greatest chance of consistent messaging to the consumer.

Is there market failure in education and awareness?

BPIC would not go so far as to say there is market failure but there certainly is market confusion. Even as we prepare this draft submission there are amendments to existing energy efficiency measures taking place, and many of these are of a regulatory nature. In our view it is more likely a mix of market saturation and a lack of coordination that may

lead to a less than anticipated public response.

What is the rationale for Government involvement in labelling?

In terms of building materials there is a proliferation of performance labelling available. If the Government also becomes involved the problem is that the measurement and testing is supported by third party certification at present and this would mean duplication unnecessarily. Voluntary labelling schemes are fine so long as attested to by internationally recognized body such as NATA or ISO. Mandatory are also appropriate in some circumstances (life safety issues) however this does increase the cost of products to consumers unless handled carefully. It would be helpful here to also address the issues of compliance by imported products, the time taken to get label accreditation, etc. BPIC comments apply to the building materials, not to the appliance labelling referred to in the Commissions report.

What are the benefits and costs of minimum energy efficiency standards?

Accepting that the social good requires at least a conscious effort to reduce greenhouse gas emission for the benefit of future generations then a minimum performance standard must be set. However, the confusion and inefficiency evolving is that each state is trying to outdo the other and the minimum is in fact raising the bar somewhat, leading to an inconsistent approach between the BCA and state requirements. This leads to confusion and in some cases inefficiency in materials specification and supply.

How should the level of minimum be set?

The minimum level should probably be set with references to available and affordable technology. It is extremely important to remember that it must be done at a pace that the industry and public can accommodate in financial terms.

What are the administration and compliance costs of minimum energy efficiency standards?

Substantial if we look at the resource put into the development and training. In responding to this suggestion it is necessary at one end of the scale to assume that all participants must be across the detail and specifications set for particular solutions. The intimate involvement of Government (federal, state and local), industry association and practitioners would off course demand resources but no one expects it would not cost. There is also the usual problem that some products/buildings will not be constructed to plan, or amended after completion which must have a comparative cost as to enforce continued compliance would no doubt be cost prohibitive.

What new technologies and equipment offer the greatest potential improvements in energy efficiency?

Each material has its own special characteristics that are continually evolving. To assess greatest potential is difficult, as for example improvements in transmission loss is an area that would require initial investment, as theoretically no matter how good the consumption end operates and the generating end performs, if we loose up to 7% in transmission other efficiency initiatives at the generating and use ends of the spectrum may fade in comparison.

What impediments are there to the invention and commercialization of energy efficient technologies and equipment?

BPIC has commented on this earlier in the submission, referencing issues such as time to market, ongoing developments, size of the market to recoup investment expense, the current arduous (but perhaps necessary at this point) process for call up and amendment in the BCA or relevant Australia Standard.

How do general government R&D programs affect research and development into energy efficiency?

Individual members of BPIC are better placed to comment on this issue, however it would be fair to say in a general sense that more could be done. Is the throwing of money at the likes of the CRC and broader research such as CSIRO the most commercial approach? Industry may do more (in conjunction with these or other research bodies) if the right environment exists.

What is the rationale for financial incentives to improve energy efficiency in the energy supply market and the market for energy efficiency products?

Clearly the rationale is one that involves a mechanism to encourage efficiency measures where they would otherwise not take place or take longer to occur without having the negative externality of increasing energy prices across the board to drive the outcomes. In one sense it takes the place of national education as the producers, if they can attract the incentive, will promote much more effectively than the media as it has an ongoing market driver.

How should such cost incentives be structured?

BPIC is not committed here other than to say methods to reduce costs up front in new buildings would be an essential element to maintain affordability. Such measures could be through the tax system or even implemented at the local council level through rates, or infrastructure and approval cost incentives.

Why are levies necessary if cost-effective energy efficiency improvements already provide new private benefits?

Apart from the issue of new versus existing housing/building stock, it is possible that such a levy is applied only to those practices that are not of the ilk that is being encouraged by the R&D tax concessions or other measures. The new private benefits are somewhat intangible as while the cost difference from the more efficient approach may be initially significant and clear to the consumer the long term greenhouse emission and life cycle benefits are quite difficult to appreciate and intangible at construction decision stage. Achievement of the most significant results at the earliest possible stage will therefore require some form of kick-start. BPIC is also aware that the issue of energy efficiency initiatives at the residential end of the market would in fact not have a relatively high impact on overall energy consumption.

Would a mandatory national energy efficiency target (NEET) encourage energy efficiency or energy conservation? Does it matter?

It would initially encourage both however it may be possible to build in expectations or likelihoods into this at an early stage. And yes it does matter, because conservation does not assist to the extent necessary if we have population growth.

What is the scope for cost effective energy efficiency improvements in the industrial and commercial sectors?

The commercial sector will be subject to energy efficiency measures through the amendments to the BCA 2005. This will bring with it both the need and the demand for different materials and solutions encompassing the energy efficiency demands.

What is the scope for cost effective energy efficiency improvements in the household and consumer sector?

This sector is already subject to significant regulation, differing by degrees by state or territory and is perhaps leading the charge in terms of energy efficiency requirements. The information available to BPIC suggests that the minimum requirements may in fact increase over the coming years, demanding an even greater level of "efficiency".

What barriers and impediments prevent consumers from achieving these improvements?

Impediments could be considered those matters related to the speed with which alternate solutions for performance requirements under the BCA can be processed. This in turn holds back the release of and development of products that may in fact be quite innovative in materials technology. Coupled with this there is the complication and confusion of the emerging sustainability assessments applied through the likes of the NSW BASIX system. Cost is also a major consideration.

What is the rationale for Government intervention to address these barriers and impediments?

Should they intervene? The BCA is required, so is national consistency. This does not necessarily mean intervention, but could be considered facilitation on behalf of the community. We need national leadership and the Federal Government through the ABCB (in the case of the built environment) is the appropriate path.

What are the costs and benefits of Government policies that require agencies to lease or own energy efficient premises? What demonstration effect has this had?

Leads the way, encourages demolition and renovation that would not be economical from private sector perspective adds to the green housing stock. From an economic perspective it requires a case by case consideration. Purchasing policies are another matter and we should include some comments on the need for proper assessment through full life cycle analysis to determine the appropriate choice where a mix of energy efficiency and sustainability concerns are necessarily considered.

Kind regards

A handwritten signature in black ink, appearing to read 'Tony McDonald', written in a cursive style.

Tony McDonald
Chief Executive

18 November 2004