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9 April 2009

Australian Institute of Architects

The Secretary
Senate Select Committee on Climate Policy
Po Box 6100
Parliament House
Canberra ACT 2600

Dear Sir/ Madam

Inquiry on climate policy

The Australian Institute of Architects (the Institute) is an independent, national, member based organisation with approximately 10,000 members. The Institute actively works to improve the quality of our built environment by promoting quality, responsible and sustainable design.

The Institute, is pleased to make this submission, based on the work commissioned by the Australian Sustainable Built Environment Council's (ASBEC) Climate Change Task Group which I chair.

I am happy to provide any further information if required.

Yours sincerely

David Parken
Chief Executive Officer

The Royal Australian Institute of Architects
trading as Australian Institute of Architect
ABN 72 000 023 012

Australian Institute of Architects

Climate Policy – the building sector's GHG emissions abatement potential

Submission to
Senate Select Committee
on Climate Policy

April 2009

SUBMISSION BY

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PURPOSE

- This submission is made by the Australian Institute of Architects (the Institute) to the Senate Select Committee on Climate Policy

- This submission is based on the findings of the Australian Sustainable Built Environment Council's report *The Second Plank – Building a Low Carbon Economy with Energy Efficient Buildings.*

- At the time of this submission the Executive of the Institute is: Howard Tanner (National President), Melinda Dodson (President-Elect), Alec Tzannes (Immediate Past President), Shelley Penn and Rod Mollett.

- The Chief Executive Officer is David Parken.

INFORMATION

Who is making this submission?

- The Institute of Architects is an independent, national, member based organisation with approximately 10,000 members across Australia and overseas. The Institute exists to: advance the interests of members, their professional standards and contemporary practice; and expand and advocate the value of architects and architecture to the sustainable growth of our community, economy and culture. The Institute actively works to maintain and improve the quality of our built environment by promoting better, responsible and environmental design.

Executive Summary

- The operation of residential and commercial buildings account for 23% of greenhouse gas emissions (GHG) in Australia,

- Within the building sector, significant savings in GHG emissions can be achieved through the employment of energy efficiency measures using today's existing technology. These GHG savings are economic, involving little or no net economic cost,

- The Australian Government's proposed Carbon Pollution Reduction Scheme (CPRS) alone, will not result in the building sector reaching its full GHG abatement potential,

- A number of additional policy measures have been developed through ASBEC's Climate Change Task Group which are key to motivating the long term structural change and significant investment required to achieve greater energy efficiency in the building sector,

- Our preference is for an abatement system in which the CPRS is complemented by a range of policy measures and incentive schemes that will result in Australia achieving even greater GHG emissions reduction,

- Economic analysis suggests that in fully realising the building sector's abatement potential, savings will flow to the wider economy, in the order of $38 billion annually by 2050, through a reduction in the economy adjustment costs foreshadowed in the CPRS scheme. In addition, the cost of carbon permits in the Carbon Pollution Reduction Scheme could be reduced by 14%.

Introduction

The Institute is a member of the Australian Sustainable Built Environment Council (ASBEC), a peak body of key national organisations committed to a sustainable built environment in Australia. Through its Climate Change Task Group (CCTG), ASBEC commissioned economic analysis from the Centre for International Economics to assist the CCTG in its effort to stimulate discussion about the complementary role that energy efficiency can play supporting the CPRS. The Centre for International Economics' analysis resulted in a report titled *'The Second Plank – Building a Low Carbon Economy with Energy Efficient Buildings' (The Second Plank)* which forms the basis of this submission.

The Building Sectors' contribution to GHG emissions abatement

The building sector comprises two elements: residential buildings – housing the population; and commercial buildings – covering a range of activities including; retail trade, accommodation, business services, government and government agencies, recreation, cultural services and industry.

The building sector's contribution to GHG is mainly driven by its end use of, or demand for, energy mainly through consumption of electricity and gas. Energy consumption by the building sector amounts to 19 per cent, and taking into account both the amount of energy used in the building sector and different fuel types, the *Second Plank* report found that 23 per cent of Australia's greenhouse gas emissions are attributable to the building sector. That is, energy use from activities within buildings is the source of demand which, when met, produces nearly a quarter of national greenhouse gas emissions.

Of course, the electricity consumed within a building is only a part of the energy used to support that demand. A large amount of electricity and greenhouse gas emissions is also involved in the distribution, transmission and generation.

In addition, the report does not include data on the greenhouse gases emitted during the material production and building construction phases, nor does it take into account the embodied energy within the building's materials. The Institute acknowledges that further work is needed in these areas and that there would be benefit from research and development in the environmental rating of materials. For example establishing a national metric database that records the 'embodied energy', 'embodied carbon' and 'embodied water' to allow comparison between materials.

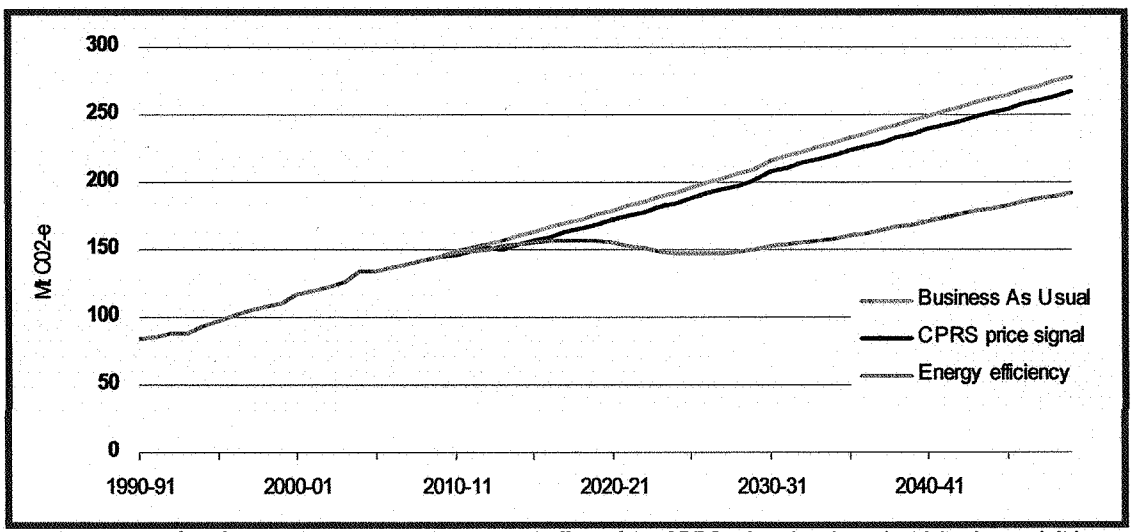
Key findings

Within the building sector, significant savings in GHG emissions can be achieved through the employment of energy efficiency measures using today's existing technology. These GHG savings are economic, involving little or no net economic cost.

Of significance, the ASBEC report calculates that:

- Without complementary measures the building sector is expected to reduce emissions by around 8Mt a year from the price signal received from the CPRS (that is, increased electricity prices),and
- With complementary measures and encouragement to achieve the full energy efficiency potential of the building sector, GHG savings of around 60Mt per annum are achievable in the longer term (by 2030), illustrated by the following graph,
- building sector investment in energy efficiency could have the effect of reducing the sector's GHG emissions by between 30-35 per cent by 2050,

GHG emissions by the building sector (source: The Second Plank report September 2008)



Note: The series 'CPRS price signal' plots only expected effect of the CPRS price signal on electricity demand. It has not attempted to account for other influences on the price of electricity (such as other policy measures), nor the supply side response to the CPRS. This series reports the impact t on GHG emissions that results from an increase in electricity prices.

Data source: CIE (2007) and ASBEC CCTG estimates

However a number of institutional barriers and market failure have prevented the building sector from realising this potential. A core problem is the gap in time between the cost of making the substantial investment required to bring about efficiencies, and the time when the energy efficiency savings provide a return. *The Second Plank* discusses these barriers and impediments to the building sector reaching its abatement potential.

While it is acknowledged that Australian and State Governments are attempting to address barriers to the adoption of energy efficiency measures, it is clear that additional policy effort is still required.

The Second Plank report identifies 21 additional policy approaches to stimulate energy efficiency in the building sector and greenhouse gas abatement. These policies, which are discussed in more detail in the attached report, consist of a mix of incentives, regulation and government financial assistance for energy efficient investment.

Of these 21 policies, five are highlighted in the report as key to motivating the long term structural change and significant investment required to achieve greater energy efficiency in the building sector.

These five policies include:

- a national white certificate scheme,
- green depreciation,
- public funding of energy efficiency retrofits
- enhancement of Minimum Energy Performance Standards (MEPS), and
- modernising the building code with higher standards.

In light of the global economic situation and forecasts of continuing economic uncertainty over the next year, the Institute believes green depreciation should be introduced as a matter of priority.

Green depreciation involves the provision of accelerated depreciation allowances for capital expenditure on refurbishments that 'green' existing commercial buildings, ie, expenditure on energy efficient fittings, fixtures and capital works that raise the overall energy performance of the building to a specific standard. Green depreciation would play a key role in overcoming the timing gap problems, allowing investors to defer tax payments in exchange for bringing forward energy efficiency and green house gas reductions.

During Australia's recession in the early 1990's, accelerated depreciation was successfully used as a tool to stimulate economic activity. Introducing accelerated green depreciation would logically build upon past history by serving a dual purpose, not only would it stimulate economic activity, generating employment etc, but it would also reduce building sector greenhouse gas emissions.

National White Certificate scheme
In essence, a white certificate scheme enables energy efficiency to be a tradable asset which would provide an incentive for the building sector to invest in additional energy efficiency. Several states are in the process of implementing variations of a white certificate scheme, however a national scheme that applies to the residential and commercial elements of the building sector could minimise differences and enable a broad market on a larger, more efficient scale.

Public funding of energy efficiency retrofits
Public funding of energy efficiency retrofits will require a range of financial assistance mechanisms eg, grants, subsidies and rebates for improvements undertaken by households and the commercial sector which have a proven ability to reduce energy consumption.

Public funding of retrofits reduces the investment cost for energy consumers therein closing the 'payback' gap and providing additional incentive to undertake investment in energy efficiency.

Increase Minimum Energy Performance Standards
An increase in minimum standards for energy efficiency of appliances through MEPS would accelerate energy efficiency gains. Appliance standards are one of the most cost-effective and widespread instruments for increasing building energy efficiency and are necessary to gradually remove the least energy efficient products from the market.

Building Code Modernisation
Building Codes are an important driver for improved energy efficiency in new buildings. The Building Code of Australia needs to be updated and tightened with higher standards for energy efficiency achieved through design, selection of building materials and installation of efficient heating, cooling and lighting systems.

Benefits
The Second Plank report clearly demonstrates that there would be substantial benefits to the whole economy from investing in the energy efficiency potential of the building sector.

The analysis shows that with less demand for emissions as a result of investing in the energy efficiency potential of the building sector, the price for emissions permits would be lowered by around 14%.

It is also estimated that in fully realising the building sector's potential, the saving to the economy, annually, will be around $38 billion by 2050 – that is, it reduces the economy adjustment costs foreshadowed in the CPRS Green Paper.

Australian Government's proposed Carbon Pollution Reduction Scheme
The Institute welcomes the climate change abatement objectives sought through the introduction of the Australian Government's proposed Carbon Pollution Reduction Scheme (CPRS). In particular the Institute is supportive of the cost of carbon pollution being factored into the market.

We welcome the introduction of a cap on Australia's Greenhouse Gas Emissions (GHG) using an emissions trading scheme as the mechanism to achieve that cap and support the Government's efforts to reduce Australia's GHG emissions by sixty per cent below 2000 levels by 2050.

The Government's White Paper outlines a commitment to an unconditional 5% reduction in carbon pollution levels by 2020 and a reduction of carbon pollution by up to 15 per cent below 2000 levels where global agreement on reductions comparable to Australia's can be reached.

The Institute believes the Government can afford to introduce a more ambitious target in light of the ASBEC research showing the significant contribution the building sector can make to carbon pollution reduction if the right policy measures/incentives are in place.

Household Assistance Measures
We are mindful of the Government's desire to 'cushion' the impact on low and fixed income households from expected higher costs of living arising from the CPRS. However, we believe incentives to change household behaviour and encourage their investment in energy efficient measures are more effective, longer lasting mechanisms to achieve the dual goal of reducing greenhouse gas emission and lessening the impact of higher cost of living. For example, ongoing subsidised electricity costs for low and fixed income households will not encourage

more energy efficient behaviour, however expenditure on ceiling insulation will provide the same household with permanent energy savings and improved quality of life.

The Institute supports Professor Garnaut's recommendation in his final Climate Change report, that the government establish a system of green credits whereby households could use the grant of $1000 per person in the household to purchase a product in a list of approved items or have a third party audit to identify energy efficiency opportunities in their households – providing a wider range of options for those households to use their green credits.

In addition, as Professor Garnaut discusses in his report this type of assistance also needs to be supplemented by Government action in regard to increasing the energy efficiency of its public housing stock and improving access to public transport.

Climate Change Action Fund
In the Government's CPRS White Paper discussion of the Climate Change Action Fund, the Institute is supportive of the goals relating to (i) addressing information gaps for businesses and community organisations and (ii) Investment in energy efficiency and low emissions technology.

(i) *Addressing information gaps for businesses and community organisations*
The ASBEC *Second Plank* report discusses the barriers and market failures which reduce incentive to invest in energy efficiency. One of the barriers identified in the report relates to an information gap, that is, "both consumers and producers have low levels of awareness and understanding about energy efficiency. The availability and accessibility of information regarding the cost effective opportunities to improve energy efficiency is often cited as a major (if not the major) obstacle to investment. Simply put, consumers and firms are unaware of the options before them".

The Institute therefore supports the outlined activity in the White Paper to overcome the information gap and would like to see these efforts extended beyond businesses and community organisations to also address the information gaps of consumers/households.

(ii) *Investment in energy efficiency and low emissions technologies*
The Institute is also supportive of the small business and community organisation capital allowance schemes to provide small businesses and community organisations with assistance to invest in energy efficiency equipment.

National Consistency
While acknowledging that the CPRS is the Government's proposed primary means of achieving a low carbon economy, the Institute does not believe that its introduction will make many existing climate change mitigation measures redundant. Indeed the Council of Australian Government intention to develop a National Strategy for Energy Efficiency in 2009 is aimed at accelerating energy efficiency efforts across all governments as well as assist households and business to prepare for the introduction of the CPRS.

We support COAG's position that jurisdictions review their existing measures to ensure they support the CPRS in a coherent and streamlined way. Our preference is for an abatement system in which the CPRS is complemented by a range of policy measures and incentive schemes that will result in Australia achieving even greater GHG emissions reduction. The Australian Government's recently announced $3.9billion assistance package for house insulation is an example of one such scheme, where it is predicted to reduce greenhouse gas emissions (cumulatively) by around 49.4Mt by 2020.

The Institute applauds initiatives by the State and Territory Governments to address the greenhouse gas issue over the past few years. These have been useful in both responding to climate change issues as well as testing the efficacy of a variety of incentive and assistance schemes. Nevertheless we strongly support a national approach to achieving the goal of a low carbon economy.

A national approach is necessary because it recognises Australia's international obligations for emissions reduction under the Kyoto Protocol, and a national approach minimises differences across States and Territories with associated flow on savings and allows for a more efficient system.

Conclusion

The Institute is pleased to provide this submission to highlight the significant contribution the building sector can make to Australia's greenhouse gas challenge, with the right policy settings in place.

We believe that Australia's solution to greenhouse gas emission reduction must consist of a series of measures, complementary to an emissions trading scheme, and that greater environmental outcomes can be achieved when the emissions trading scheme is not solely relied upon.

Indeed, as stated earlier, within the building sector, significant savings in GHG emissions can be achieved through the employment of energy efficiency measures using today's existing technology. These GHG savings are economic, involving little or no net economic cost and if the potential abatement in the building sector is realised through complementary policy measures, the cost of carbon permits in the CPRS could be reduced by 14%. In undertaking this action, the whole economy can benefit through a reduction in the cost of permits under the CPRS and through a lowering of the adjustment costs across the economy.

The Institute calls for the introduction of the five policies highlighted earlier in the report:

- a national white certificate scheme,
- green depreciation,
- public funding of energy efficiency retrofits
- enhancement of Minimum Energy Performance Standards (MEPS), and
- modernising the building code with higher standards.

The Institute also strongly supports the principle of national consistency as a fundamental foundation for which the whole carbon pollution reduction strategy should be built.

To demonstrate our commitment to sustainability the Institute has over the last 14 years developed an Environmental Design Guide (EDG). EDG provides over 250 refereed papers providing the industry with a toolkit to achieve energy efficiency outcomes based on known knowledge.

The Institute's Members are prepared to play their role in designing buildings incorporating this knowledge, to maximise the sustainability of our built environment.