



Friday, 18 April, 2008

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Dear Professor Garnaut,

The Built Environment and an Emissions Trading System

Thank you for the opportunity to make a submission on the implications of climate change for the built environment.

As the major organisation representing property owners and managers, with members who control over \$320 billion worth of assets, the Property Council is well positioned to identify the needs of the sector and opportunities for abatement.

The Built Environment and Emissions

The built environment, including the residential, commercial, industrial, and government property sectors, is a reasonably significant source of greenhouse gas emissions.

Research by the Centre for International Economics (CIE) has shown that the built environment and its occupants contribute approximately 23% of Australia's emissions¹ (or 133 Mt CO_{2-e}), largely through energy use.

These emissions are expected to grow to 278 Mt by 2050, reflecting underlying population growth, expansion in economic activity and expected energy use trends while taking into account improvements in building design.

This is despite energy use per square metre in buildings dropping by over half since the early eighties – from almost 1,400 MJ per square metre per annum then to approximately 600 MJ per annum at present.

The increasing emissions from the built environment are a direct result of 17 years of strong economic growth, predominately coming from the services sector.

Nevertheless, the CIE research, commissioned by the Property Council and some of its industry partners, argued that the property sector has a specific role in achieving science-based deep greenhouse gas reduction targets, through increased investment in energy efficiency.

In all, the property sector could reduce its share of emissions by 30-35 per cent within two decades while still accommodating growth in the total supply of building stock.

¹ *Capitalising on the property sector's potential to lessen the costs of a broad based greenhouse gas emissions cut*, Centre for International Economics, September, 2007

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This could be achieved using modern technology and better management to reduce the energy use within residential and commercial buildings.

Barriers to Lower Emission Opportunities in Buildings

An **optimal** reduction in greenhouse gases is not going to occur merely because prices rise.

To achieve the mooted 35% reductions in greenhouse gas emissions, the property sector will need to refurbish existing building stock to improve their energy efficiency.

This will come at a significant cost.

If these savings are to be achieved, additional incentives will be needed to encourage upfront investment by businesses and households by compensating for gradual payback periods and overcoming impediments to change.

Because it is the tenants of existing buildings, rather than the owners, who ultimately save the most money from energy efficiency initiatives.

Property owners generally pay the capital costs to upgrade plant and equipment to make it more efficient, but the operational savings that equipment delivers goes to reduce outgoings paid by tenants.

These split incentives act as a significant potential barrier to investment energy efficiency opportunities.

There are several other barriers:

- Information gaps – There is a need to overcome a low level of awareness and understanding about the benefits and opportunities of energy efficiency.
- Information asymmetries (adverse selection) – Investment in energy efficiency carries a risk. Deciphering which investments are “good” and which are “bad” requires information beyond the usual scope of a firm’s expertise. So when the costs of making poor choices are sufficiently high, they may lead a firm to make no choice at all.
- Unpriced externalities – Some transactions impose costs and benefits onto third parties that are not reflected in a good’s price. The low cost of energy doesn’t reflect its carbon emissions, which reduces the benefits of investment in energy efficiency.
- Public good – While energy efficiency may ultimately provide a community benefit, the community does not pay for it.
- Cultural – The opposite problem of incomplete information is having too much information. Given the complexity and knowledge required to appropriately undertake an investment in energy efficiency, individuals and firms are often unable to choose the best option.
- Organisational – Poor management can undermine work to improve energy efficiency. Entrenched habits – particularly in larger firms and government agencies – can present formidable barriers to change even among relatively sophisticated companies.

- Regulatory problems – some rules may in fact encourage building owners and tenants to be inefficient. Other regulations favour a particular approach, which stifles innovation.

A focus on energy efficiency would reduce the cost, and theoretically increase the volume, of greenhouse gases abated in particular years (even if not over the longer term).

Incentives are needed to spur behavioural change, encourage adoption of new management techniques and technologies, and allow businesses to offset the required upfront, direct capital expenditures.

Lower Emission Opportunities in Buildings

The benefits of using energy efficiency to achieve greenhouse gas emissions reductions flow beyond the property sector. Investment in energy efficiency:

- would reduce the costs of change for the property sector and the wider economy, when paired with a broad based greenhouse gas target and a supporting policy environment;
- could reduce the costs of greenhouse gas abatement (cost per tonne of abatement) for all sectors by nearly 14 per cent by 2050;
- would minimise loss to the overall level of economic activity in the economy, leading to a GDP of nearly 2 per cent higher (roughly equivalent to \$38 billion per annum) by 2050 as a result of additional energy efficiency investments in the property sector;
- would minimise adverse impacts on employment, with a reduction in job growth in the longer term of around 0.1 to 0.4 per cent between 2030 and 2050, compared with 0.2 to 0.6 per cent in the deep cuts scenario;
- could save 203 mega tonnes of carbon over the first decade – equivalent to removing 6.4 million cars from our roads; and
- could also lead to a greater uptake in the use of renewable energy sources.

However, while the IPCC and McKinsey reports tend to focus on the total cost-benefit of energy efficiency, it is the individual returns on investment that are more significant drivers.

So when policy makers assume that new technologies come at a 'low or negative' cost, they often misunderstand the split incentives and real market issues described earlier.

Split incentives will only be overcome if the financial benefit of an energy efficiency initiative is increased to deliver a more attractive internal rate of return profile to an owner, because otherwise most of the benefits will go to the tenant.

It is very important for policy makers to recognise that property owners generally make investments in large packages rather than in a piecemeal fashion, which affects the profile, pace, and cost of abatement.

Returns need to be sufficient to justify the upfront expenditure.

As the vast majority of emissions occur within existing stock, rather than new buildings, the most appropriate policy solutions should be focussed on helping those who seek to secure reductions in existing buildings.

A carefully constructed policy framework that targets incentives at energy efficiency initiatives and reduces red tape will deliver significant greenhouse gas abatement opportunities.

In short, there is a strong case for policy measures that *complement* an emissions trading framework and support a more virtuous or optimal set of economy-wide outcomes.

The Property Council believes that a 'colour-coded' policy would work best to reduce energy use within the built environment. This would entail:

- **White** certificates – a retail energy efficiency trading scheme where energy generators reward customers with a tradeable certificate for implementing energy efficient practices and technologies.
- **Green** depreciation – accelerated depreciation for buildings that have been retrofitted to a predetermined level of sustainability.
- Cutting **red** tape – there are several schemes and regulations for energy efficiency and sustainability that affect the property sector. Many of these contradict each other and add to compliance costs and timeframes. Governments should collaborate to rationalise these regulations.

These measures could be matched with other policy options, such as:

- A **nationwide building tune-up program** – the Green Building Initiative – which establishes voluntary performance targets across all eco efficiency categories and provides incentives and a retro-greening toolkit to help property owners improve their existing assets.
- Development incentives for more energy efficiency buildings, such as faster approvals, increased floorspace ratios, or planning concessions;
- Land tax or rates rebates for retrofitted buildings;
- An education program to promote energy efficiency; and
- Targeted grants or loans for the purchase of sustainable plant and equipment.

Government initiatives to improve energy efficiency uptake need to focus on providing appropriate incentives for organisations and individuals to act.

They also need to be marketed effectively.

The ability to earn and sell credits as a reward for energy efficiency initiatives, either as part of an emissions trading scheme or in a complementary system, and the availability of other incentives will enable property owners to offset some of the significant costs of retrofitting (retro-greening) buildings to higher environmental standards.

This would help significantly to reduce the property sector's greenhouse gas emissions.

The Property Council's discussion paper on accelerated green depreciation, prepared by the Centre for International Economics, is attached.

Skills

The trades workforce is ageing – the average age of an Australian plumber is 42.

The shortage in skilled tradespeople and professionals is pushing construction costs well above inflation. In 2007, the cost of construction rose by 6% compared to a 3% increase in the CPI.

If the property sector is to deliver significant abatement of greenhouse gases, it will need skilled people and the appropriate technologies.

But there is currently not enough investment in efforts to identify gaps in the workforce needed to design, build, and manage more environmentally efficient buildings, taking into account the need to rebuild large portions of Australia's existing stock of space.

A Skills Forecasting Council modelled on the Canadian Construction Sector Council would be an important initiative to quantify the 'green' skills gap and shape appropriate public policy measures.

Developing skills and certification systems would allow a faster transition to a lower-emission economy.

Research and Development

Research and development (R&D) is essential if energy efficiency is to improve significantly in appliances and buildings.

But R&D is expensive – to get a six-star Green Star rating costs in excess of 11% more than a four-star building.

We need R&D that commercialises the technology needed to secure radical improvements in the energy efficiency of the built environment.

The goal should be zero carbon buildings and, as an interim step, low carbon (hybrid) buildings.

Governments should consider providing greater concessions and financial support to stimulate investment in R&D.

More directly, government should follow the model established for producing more energy efficient cars. A half billion dollar fund has been established and a group led by an eminent Australian has been appointed.

The cooperative research centre approach could be utilised for this purpose.

Emissions Trading

Principles

The Property Council provides the following responses to the five main principles guiding the design of an emissions trading scheme:

Principle 1: Scarcity aligned with the emissions target

Agreed. A cap and trade system has to have limits if the permits are to retain value.

Principle 2: Tradability

Any scheme should either be economy-wide or allow (and encourage) the development of secondary markets, such as a retail trading scheme for energy efficiency.

Emissions trading schemes that do not allow stakeholders in all sectors to benefit from undertaking efficiency or abatement projects are economically inefficient and will reward upstream emitters for the work of their customers.

Principle 3: Credibility

Agreed. The rules of any emissions trading scheme should be constant and not change without significant notice.

The proposed five year notification period should be sufficient.

Principle 4: Simplicity

Agreed. Rules for the emissions trading scheme should be simple.

However, merely targeting high-end emitters will result in some companies getting windfall gains for the work of their customers, without passing back any savings.

Principle 5: Integration with other markets

Agreed. Permits should be interchangeable with other markets, which will encourage market efficiencies and further abatement opportunities.

Recognition should be given to secondary markets as acceptable offsets for upstream emitters.

Coverage

For any emissions trading system to produce optimal outcomes, it needs to be economy-wide, whether as a single market, or as an umbrella system with secondary frameworks (markets) feeding into it.

This will allow all businesses to use the most efficient options available to them to reduce their greenhouse gas emissions.

The potential for energy efficiency in the property sector to achieve some of the lowest cost abatement opportunities is significant, yet previously mentioned barriers could result in these savings never being captured.

Inclusion in a secondary or supporting market – a retail energy efficiency certificate scheme – would help owners to recoup the costs of energy efficiency while benefiting their tenants with lower operational costs.

Generators and energy retailers should be encouraged to develop energy efficiency markets (white certificates), which could be recognised as offsets for the Australian Emissions Trading Scheme.

By associating them with an energy provider's own cap, white certificates could be recognised under an AETS without double counting occurring.

If the Review is recommending unlimited use of domestic offsets, it should consider white certificates.

Transaction Costs

Concerns about high transaction costs should not deter the Garnaut Review from including the property sector in some form of emissions trading.

All transactions are going to carry costs and while the built environment is not a major emission source, it is a major area of demand, which is no less intense than the manufacturing sector or the services sector in general.

Transaction costs for including the property sector shouldn't be problematic for an economy-wide emissions trading scheme.

Governance and Allocation

The Property Council supports the creation of the Independent Carbon Bank (ICB), proposed in the discussion paper on the emissions trading scheme.

The ICB should auction the permits, but revenue should not only be deployed to assist companies who are involved in emissions trading but any organisations that have been adversely affected by price rises, particularly if secondary markets are not established.

The experience with electricity generators in the EU being awarded free permits, but passing down the higher cost of energy will occur in Australia if permits are allocated freely.

If permits are auctioned and all sectors of the economy are included in some form of trading, the permit price is likely to remain as low as possible.

Energy Efficiency – Carrots, Not Sticks

Greater incentive is needed to capitalise on energy efficiency mechanisms and deliver greater abatement.

Mandatory audits represent a dubious and high-cost approach to transforming market behaviour.

Our recent submission on this matter is attached.

Buildings as Carbon Sinks?

Discussion Paper 5 reported that the CSIRO estimated "the energy embodied in existing building stock in Australia is equivalent to ten years of total energy consumption for the entire nation".

This adds weight to Property Council arguments that the key to reducing emissions in the built environment is to retrofit existing stock.

In light of the CSIRO's claim, the Garnaut Review should consider whether the embodied energy savings of retaining and retrofitting an existing building would constitute a carbon sink.

Compensation

If the Garnaut Review ultimately recommends against including the property sector being included in emissions trading, the funds raised from the sale of permits should be used to compensate commercial customers as well as residential ones.

Just as households will have little control over the price set for the energy they use, so will commercial operations be similarly powerless.

If the purpose of an emissions trading scheme is to achieve abatement at least cost, it makes sense to direct financial incentives towards areas that are most likely to deliver efficient reductions.

Tax and welfare support should therefore be considered for corporations as well as for individuals.

White Certificates

Energy efficiency certificates, or white certificates, are a practical approach to achieving significant abatement in the property sector at a lower cost than alternatives currently being considered by the Garnaut Review.

White certificates provide a market mechanism to encourage greater energy efficiency and, by extension, increased greenhouse gas abatement.

Incentives such as this are needed if the current building stock of Australia is to be retrofitted to be more energy efficient.

If a white certificate trading scheme could be linked into an emissions trading system as a source of offsets, it would ensure that consumers who pursue energy efficiency can help to drive their energy providers to reduce their own emissions.

A white certificates scheme would:

- provide an economy-wide demand side abatement strategy;
- overcome costly barriers to adoption of energy efficient technology;
- harness the strength of market based strategies while minimising transaction and administration costs;
- complement the Australian Government's proposed supply side strategies; and
- deliver energy efficiency and greenhouse gas reductions at lower cost to the economy.

Properly structured, a white certificate scheme could be used by energy providers to reward consumers who help them achieve their own caps.

The Property Council is keen to engage with the Garnaut Review further to develop rules that might be applied to a white certificate trading scheme to add value to the AETS.

The Property Council's comprehensive discussion paper on white certificates, prepared by the Centre for International Economics, is attached.

Existing Examples

White certificates and energy efficiency trading schemes are operating in many places around the world, including Italy, France, and the United Kingdom, as well as a number of states in the United States.

In NSW the Greenhouse Gas Abatement Scheme (GGAS) has been operating since 2003 and, while broadly focussing on greenhouse emissions, it has involved property owners in emissions trading from the outset. Over 26 million tonnes of greenhouse gas have been abated to date.

The Victorian Government is also investigating energy efficiency trading, with the proposal to set up the VEET trading system. A discussion paper on how the scheme might be run was released recently.

While existing programs are relatively new, early indications are that they are effective.

These trading schemes should be investigated to explore how energy efficiency could be recognised within a trading system.

The Property Council can provide further significant research to support its proposals for encouraging energy efficiency and is keen to meet with the Garnaut Review Secretariat to discuss these proposals.

***Property Council of Australia
Friday, 18 April, 2008***

Attachments:

1. *Capitalising on the Building Sector's Potential to Lessen the Costs of Broad-Based GHG Emissions Cut*, Centre for International Economics, 2007.
2. *Green Depreciation – A Preliminary Analysis*, Centre for International Economics, 2007.
3. *Mandatory Disclosure of Commercial Building Energy Efficiency*, Property Council of Australia, 2008.
4. *Building Energy Efficiency – the Role Played by White Certificates to Combat GHG Emissions*, Centre for International Economics, 2007