

**SUBMISSION TO THE SENATE ECONOMICS – LEGISLATION
COMMITTEE INQUIRY INTO
THE SAFE CLIMATE (ENERGY EFFICIENT NON-RESIDENTIAL
BUILDINGS SCHEME) BILL 2009**

prepared by:

Lend Lease Corporation

WSP Lincolne Scott

Advanced Environmental

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Contents

- 1. Executive Summary**
- 2. Introduction**
- 3. In support of the Energy Efficient Non-Residential Buildings Scheme**
- 4. Response to criticisms of the Energy Efficient Non-Residential Buildings Scheme & alternative policy approaches**
- 5. The Respondents**
 - Lend Lease
 - WSP Lincolne Scott & Advanced Environmental

1. Executive Summary

We support the Safe Climate (Energy Efficient Non-Residential Buildings Scheme) Bill 2009, and the Scheme it proposes to drive emissions reductions via energy efficiency improvements in all non-residential buildings in Australia.

WSP Lincolne Scott and Lend Lease – respectively Australia’s leading green building designer and builder/owner - have spent the past 3 years reviewing and working through existing and proposed policy frameworks and solutions in the European Union, Asia and Australia to unlock the environment, economic and social benefits that exists in buildings. From this we developed the Efficient Building Scheme.

On the basis of this work, we believe the Energy Efficient Non-Residential Buildings Scheme is a simple, fair, affordable, and accurate process that will drive deep, fast, cost-effective emissions reductions in the non-residential building sector, create jobs and boost Australia’s international competitiveness.

We believe it will maximize the benefits to the broad Australian economy, including job creation, avoided energy infrastructure investment, and better health and productivity outcomes. It will also maximize the benefits to the real estate and construction industry by providing investment certainty, stimulating innovation, driving domestic and international business opportunities for Australian companies, and increasing asset values, yields and returns on investment. Importantly, these benefits will exceed the costs of the Energy Efficient Non-Residential Building Scheme proposed in the Bill.

We know from numerous local and international studies that improving the energy efficiency of buildings is the least cost abatement opportunity, and deep, affordable emissions reductions are achievable immediately using today’s skills and technology. However, the reality is that inherent market and policy failures currently inhibit the investment that is needed.

We also know that industry best practice has not been enough, nor will it be enough to reduce greenhouse gas emissions to a level that Australia is committed to achieving and also that existing measures are not working. The Carbon Pollution Reduction Scheme will not drive energy efficiency improvements in the non-residential building sector.

A solution is needed that will overcome these failures and stimulate substantial energy efficiency improvements quickly and cost-effectively across the industry, to the benefit of the broad economy and the industry. We believe the Energy Efficient Non-Residential Building Scheme proposed in the Bill provides that solution.

We accept that, as a matter of equity and in the interests of both the workability and affordability of the Scheme, as well as to ensure abatement beyond 'business as usual', there is a role for both incentives as well as penalties for inaction on inefficient buildings.

Our work in consultation with a wide international network and with reference to a growing list of research on energy efficiency in buildings, has made it clear that in order to most effectively reduce carbon emissions in the real estate and construction sector, we need to enable:

1. Market benchmarking and decision-making through robust labelling;
2. Accurate carbon reporting; and
3. The direct monetisation of carbon.

The Bill outlines a scheme that would deliver on each of these three fundamentals and, by so doing, provide a simple, cost-effective way to not only drive deep, fast emissions cuts in our buildings, but also to unlock the job creation, innovation, productivity and health benefits from our buildings, and provide a prosperous, low carbon future for us all.

Importantly, it does so in a way which is:

- Simple;
- Fair and equitable;
- Accurate;
- Affordable and cost-effective; and
- Complementary to other carbon abatement measures and objectives.

This submission details how and why the Energy Efficient Non-Residential Building Scheme is a simple and appropriate way to drive emissions reductions in the non-residential building sector, but also how it will benefit both the broad Australian economy and the real estate and construction industry in particular. It also rebuts some of the criticisms leveled at the scheme by vested interests, particularly the opposition to any form of penalty.

Critics of the scheme, and of penalties in particular, often argue for voluntary 'incentive only' white certificate schemes, as well as for tax concessions via accelerated depreciation. This submission also details how and why such schemes will not work, on the basis of a wealth of international research and evidence by leading green building organisations.



We support the Energy Efficient Non-Residential Buildings Scheme as proposed in the Bill and commend it to the Committee members.

2. Introduction

On 17 September 2009 the Senate referred the Safe Climate (Energy Efficient Non-Residential Buildings Scheme) Bill 2009 for inquiry and report.

The Bill introduces a building energy efficiency trading scheme. The scheme will set an emissions intensity baseline, which will decline over time, for each type of commercial building. Property owners that emit above the baseline will be required to buy emissions intensity certificates from those that emit below the baseline. In this way, the Bill offers an incentive for the commercial building sector to improve the energy efficiency of their buildings.

For much of the past 3 years, Lend Lease, WSP Lincolne Scott and Advanced Environmental have been working to identify a simple, cost-effective and appropriate way to unlock the full abatement potential of non-residential buildings.

This work was undertaken on the premise that:

- buildings are responsible for 40 percent of global energy use and more than a third of global greenhouse gas emissions;
- energy efficient buildings are the least cost abatement solution, yet inherent market and policy failures inhibit the investment that is needed;
- a mechanism to place a direct and tradable value on scope 2 emissions is inevitable if a country is to achieve substantial reductions to its national greenhouse inventory;
- the Carbon Pollution Reduction Scheme will not drive energy efficiency improvements in existing non-residential buildings (offices, hotels, shopping centres, hospitals etc);
- industry best practice has not been enough, nor will it be enough to reduce greenhouse gas emissions to a level that will avoid catastrophic change;
- existing measures are not working in the non-residential building sector; and
- the non-residential building sector should be held as accountable for its carbon footprint as any other sector, particularly given the recognition that it offers least cost abatement opportunities.

We recognised that a simple, fair, affordable solution was needed that would address these facts and stimulate substantial energy efficiency improvements quickly and cost-effectively across the industry, maximising the benefit of abatement not only to the broad Australian economy, but also to the real estate and construction industry, today and into the future.

To this end, we sought a solution that would have universal applicability for all non-residential buildings and would unlock the significant abatement opportunities at the design, construction/ refurbishment and operation phases of both new *and* existing buildings.

We sought a solution that would be low cost – both to governments and the public purse, and to industry participants.

Our work in consultation with a wide international network and with reference to a growing list of research on energy efficiency in buildings, has made it clear that in order to most effectively reduce carbon emissions in the real estate and construction sector, we need to enable:

1. Market benchmarking and decision-making through robust labelling: Policymakers need benchmarking for setting building codes and for development planning. Shareholders need it for investment decisions. Organisations need it for leasing and purchasing decisions.
2. Accurate carbon reporting – whether this is for voluntary reporting indices such as Global Reporting Initiative, Dow Jones Sustainability Index, or the Carbon Disclosure Project, or for national inventory reporting under the Kyoto Protocol and its successor.
3. The direct monetisation of carbon.

We identified the Efficient Building Scheme which will deliver on each of these three fundamentals, and by so doing, provide a simple, cost-effective way to not only drive deep, fast emissions cuts in our buildings, but also to unlock the job creation, innovation, productivity and health benefits from our buildings, and provide a prosperous, low carbon future for us all.

The Energy Efficient Non-Residential Buildings Scheme appears to be very similar to the Efficient Building Scheme.

This submission to the Senate Economics Committee Inquiry into the Safe Climate (Energy Efficient Non-Residential Buildings Scheme) Bill 2009 (the Bill), has been jointly prepared by Lend Lease Corporation, WSP Lincolne Scott, and Advanced Environmental.

3. In support of the Energy Efficient Non-Residential Buildings Scheme

As stated above, the Energy Efficient Non-Residential Buildings Scheme appears to be similar to the Efficient Building Scheme developed for the global property industry and government policymakers by Lend Lease, WSP Lincoln Scott and Advanced Environmental.

We provide the following summary arguments in support of the Efficient Building Scheme.

3.1 Greenhouse gas emissions and the building sector

The building sector is a significant emitter of greenhouse gas emissions. Buildings are responsible for more than 40% of global energy use and one third of global greenhouse gas emissions – and up to 80% of greenhouse gas emissions in our cities and towns. According to the US Department of Energy, commercial buildings alone are responsible for 79% of all carbon emissions in New York City.

The building sector provides more potential for quick, deep and cost effective greenhouse gas mitigation than any other industry, according to a range of authorities including the IPCC, McKinsey and Vattenfall. Buildings can provide deep and rapid cuts in greenhouse gas emissions through design, technology systems and generation using *existing* skills and technology. Based on the McKinsey cost curves, energy efficiency in buildings represents an estimated *cost negative* abatement of US\$45 billion to the United States economy, and \$5.2 billion to the Australian economy.

3.2 The current state of play

The market won't determine where least cost abatement occurs, because of the basic nature of the industry, commonly referred to as split incentives or principal agent. That is, in almost every commercial development the entity responsible for developing the building is not the owner, let alone the tenant. So there is no financial incentive for a developer to invest in energy efficiency and little incentive for an owner. Consequently uptake of energy efficiency and greenhouse gas emissions reduction initiatives has been poor.

Energy efficiency will not be driven by energy price increases under Emissions Trading Schemes. The perception that non-residential building owners will be affected by energy price signals that will flow from Emissions Trading Schemes and will therefore take action to introduce energy efficiency initiatives is wrong for three reasons: energy costs are generally such a small percentage of costs; big business negotiates cheaper energy prices; and owners, developers and builders do not pay the electricity bills – those who occupy the building do.

White certificate schemes haven't succeeded. There is no evidence that existing measures, specifically 'Energy Efficiency Trading Certificate' schemes and 'Tradable White Certificate' schemes, have unlocked the significant energy efficiency opportunities known to be in buildings (new and existing), particularly in the commercial property sector.

The Fourth IPCC Assessment Report indicates that “CDM, as designed and implemented today, creates low CO₂ (greenhouse gas) mitigation effectiveness and furthermore is not cost effective for the building sector”. Indeed, while the project-based methodology of CDM might be well suited to a forestry initiative, on the basis of economies of scale it is very problematic for a building project.

Tradable White Certificate schemes are generally based on Deemed Abatement Factors associated with replacing one element of equipment with another. This is clearly unscientific, and it is reliant on pre-approved equipment, which effectively limits the scope of any energy efficiency improvements and does nothing to unlock innovation.

A second, less common, approach is based on whole building assessment. This approach means the cost of proving up the project often outweighs the benefits generated by the certificates in all but the very largest facilities, making it only applicable to an estimated 5% of typical city buildings.

Consequently, to date these schemes have enjoyed very low participation by the non-residential sector - often less than 1%. The recently published United Nations Report showed that of more than 4500 Clean Development Mechanism (CDM) projects, only 14 were targeting energy efficiency improvements in buildings.

Finally, Tradable White Certificate schemes rely on an opt-in or voluntary approach, meaning they have no traction beyond what could have been done anyway.

Government grants cannot drive sector-wide emissions reductions. While some governments have tried to drive energy efficiency improvements in the building sector through the allocation of grants or fiscal incentives, this approach is costly for the public purse, and its success is limited to the individual projects that receive funding.

3.3 What is needed to drive emissions reductions in the non-residential building sector

Our work in consultation with a wide international network and with reference to a growing list of research on energy efficiency in buildings, has made it clear that in order to most effectively reduce carbon emissions in the real estate and construction sector, we need to enable:

- 1) Market benchmarking and decision-making through robust labelling: Policymakers need benchmarking for setting building codes and for development planning. Shareholders need it for investment decisions. Organisations need it for leasing and purchasing decisions.
- 2) Accurate carbon reporting – whether this is for voluntary reporting indices such as Global Reporting Initiative, Dow Jones Sustainability Index, or the Carbon Disclosure Project, or for national inventory reporting under the Kyoto Protocol and its successor.
- 3) The direct monetisation of carbon.

3.4 A simple, cost-effective, complementary solution

The Efficient Building Scheme is identical to an emissions trading scheme except that it recognises energy efficiency improvements in non-residential buildings, rather than emissions avoided. It is a simple, low-cost, complementary sectoral solution that treats one tonne of greenhouse gas emissions (tCO₂^e) that is not emitted because energy is not used in the same way that a conventional Emissions Trading Scheme treats one tonne of tCO₂^e that is not emitted due to a change in energy generation.

It provides a competitive return on investments in emissions reduction initiatives, which would drive significant greenhouse gas abatement through energy efficiency improvements.

For industry players who improve the energy efficiency of their buildings there would be a financial return. But, unlike other policy measures, an Efficient Building Scheme— like an Emissions Trading Scheme - would provide a ‘carrot’ and a ‘stick’, balancing permit allocation with an obligation to acquit permits. This would stimulate the *whole* sector to upgrade.

In addition to driving deep, fast, low-cost greenhouse gas emissions cuts, an Efficient Building Scheme would also deliver a raft of other social and economic benefits. See below.

The Scheme could operate as a ‘stand alone’ scheme, or it could be easily and effectively stapled to an Emissions Trading Scheme without compromising it or requiring it to be re-designed.

Importantly, an Efficient Building Scheme would be complementary to many other carbon abatement measures and objectives, thereby providing far more value than a scheme that is disconnected or might have future incompatibilities when operating within a post-Kyoto international trading scheme for emissions.

Specifically, the Scheme would be:

- Complementary to any existing or future cap-and-trade ETS with no issues or incompatibilities such as double accounting or additonality;
- Complementary to local government sustainability plans and visions where greenhouse gas abatements can be set citywide for non-residential buildings;
- Complementary to aims of state government policies such as EES and VEET that seek to defer infrastructure investment that is required to meet the increasing energy demands from buildings within our urban centres;
- Complementary to the Federal Government’s aspirations for least impact on the economy by being a truly results driven scheme that will reward innovation and any solution to drive the lowest cost abatement including management and behavior;
- Complementary to other emerging building carbon auditing and abatement regulations, such as mandatory disclosure and NGERs; and

- Complementary to other industry-led policy platforms such as accelerated green asset appreciation that is currently promoted broadly but lacks a technical solution, which could be provided through the adoption of this scheme.

3.5 How an Efficient Building Scheme would work

An Efficient Building Scheme is based on a single set of accurate, readily accessible data on each building:

- energy consumption (electricity and gas bills, including any on-site energy generation);
- building type (office, hotel, retail, school, etc); and
- location (climatic zone and/or economic centre).
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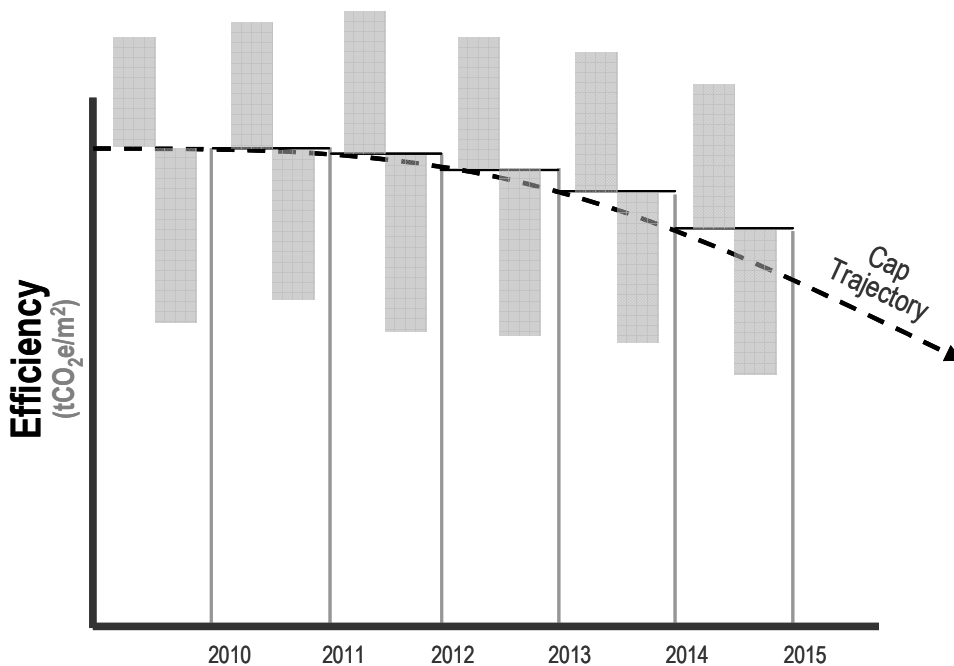
From this data, the following straight-forward calculations can be made:

- energy intensity (kWh/m²/annum); and from this -
- carbon intensity (tCO₂e/m²/annum using official greenhouse gas emission coefficients for fuel sources).

With reference to this data, the EBS administrator(s) would set a specific carbon intensity trajectory for each building class in each climatic and/or commercial region, for a minimum 10-15 year period, and ideally longer. The trajectory describes the carbon intensity benchmark that is used to establish carbon credits or penalties applicable to each asset that is reportable under the EBS. The benchmark is able to be normalised for annual deviations in weather and carbon intensity to ensure greater investment certainty.

Bespoke trajectories would not only provide investment certainty for building owners, but also for local/city authorities – allowing them to establish greenhouse gas reduction targets according to local abatement strategies and/or the capacity of energy infrastructure, and with the knowledge of the value of any deferred infrastructure investment available through reducing demand more rapidly.

An Efficient Building Scheme in which efficiency is capped-and-traded, works like this:



STEP 1: Each year a building owner calculates the total greenhouse gas emissions for each building – including both onsite fuel consumption and emissions from purchased electricity – using fuel (electricity and gas) bills and official greenhouse gas coefficients.

STEP 2: The total emissions are divided by net lettable area (NLA) to derive efficiency (or ‘emissions intensity’) figures in tonnes of greenhouse gas per square metre (tCO₂e/m²), so that large inefficient buildings aren’t inadvertently rewarded.

STEP 3: An independent broker verifies the efficiency figures and compares them to the appropriate trajectory and the building’s avoided emissions or excess emissions are calculated.

STEP 4: Permits are allocated or acquitted respectively.

3.6 Why an Efficient Building Scheme will be the most effective policy instrument

An Efficient Building Scheme will succeed where other measures have failed because of four radical but necessary shifts in approach:

1. It moves the point of obligation to the building owner, so that obligation is aligned with ownership, opportunity and operation, and it can also apply to buildings without a capital investment;
2. It creates a low cost of transaction, allowing for universal application and annual auditing for robustness;
3. It provides reliable benchmarks/ trajectories into the future, providing investment certainty, allowing for assets and liabilities to inform valuations, and providing an ability to balance against deferred infrastructure investment; and

4. It balances abatement credits with an obligation for inaction, which ensures an equitable approach, provides all the fiscal instruments of a cap and trade Emissions Trading Scheme, and allows for a 'stand alone' operation.

As a result, an Efficient Building Scheme is uniquely placed to drive through the split incentives and unlock the significant abatement opportunities at the design, construction (of a new building) or refurbishment (of an existing building), and operation phases of a building, enabling developers and owners to make a competitive financial return on their investments in efficiency and greenhouse gas emissions reduction initiatives.

By dictating the quantity of abatement to be achieved through an aggressive trajectory, but not how it is achieved, an Efficient Building Scheme will also unlock innovation in the building sector.

Finally, an Efficient Building Scheme addresses the failures of other complementary schemes by ensuring no problems of additionality, double counting or perverse incentives. It avoids double counting by operating on the basis of a parallel yet fungible scheme with a complementary register that could be stapled onto an Emissions Trading Scheme.

3.7 The benefits and costs of an Efficient Building Scheme

BENEFITS

Benefits for the broad Australian economy

In addition to driving deep, fast, low-cost greenhouse gas emissions cuts, an Efficient Building Scheme would:

- **Secure and create jobs.** Studies consistently point to investment in energy efficient buildings securing existing jobs in the building sector and driving significant new skills, jobs and innovation growth.
- **Defer or reduce energy infrastructure costs.** For every AUD\$1 spent on demand management, studies have shown the need for investment in energy infrastructure is deferred or reduced by AUD\$6.50 (We note that in November 2009 it was reported that a new round of capital investment in electricity networks is set to push up energy prices, which would in turn threaten Australian jobs, international competitiveness and investment.);
- **Deliver health and productivity benefits.** Studies consistently show productivity increases of around **10%** and decreased sick days of around **40%** in buildings which have been measured at producing less greenhouse gas emissions.

While the World Business Council for Sustainable Development Energy Efficiency in Buildings project is negotiating to undertake comprehensive modeling of the Scheme, we have conservatively calculated the following benefits for Australia:

- 7.7% reduction in national greenhouse gas emissions by 2020;
- 46,000 new high skilled, permanent jobs created in the building sector – on top of securing existing jobs in the sector (According to a recent Australian report, ‘retrogreening’ Australia’s existing office stock “would create direct employment for more than 10,000 people engaged in construction each year, which means generating almost 27,000 new jobs across the broader economy”.);
- opportunity for growth of Australian businesses through high value services for export, and development of innovative technologies, practices and products for domestic and offshore application;
- all non-residential buildings weatherised against climate change;
- productivity gains of around 10% from building occupants (\$8b p.a.);
- improved health outcomes for building occupants, resulting in decreased sick days of around 40%, and reduced healthcare costs (\$1.5b p.a.);
- reduced cost to the economy for upgrades and maintenance of energy infrastructure (\$200m p.a.);
- reduced generator compliance costs (\$1.3b p.a.); and
- reduced international inflow of acquittals – creating local green collar jobs and delivering an immediate net benefit to GNP growth.

Benefits for the real estate and construction industry

By setting a path for the future, the proposed Scheme will reduce uncertainty for property owners, managers, developers, constructors, designers and manufacturers of sustainable or green building technologies, who need to refurbish and build to the higher standards. The majority of the real estate and construction industry support uniform national regulation which sets a clear mandate for future standards which can be factored into capital allocation and decision making. The proposed Scheme does this, at the same time setting a clear framework within which the authorities responsible for ensuring compliance can operate.

At a time when the credibility of new low carbon technology markets is still being established, by regulating the whole market the proposed Scheme will also help co-ordinate a strategic shift that we believe can help avoid technology lock-in by setting the overall standard and driving the market to find cost effective solutions. The potential benefits of a regulatory framework are emphasised in the Stern Review, particularly in avoiding lock-in “in markets which are subject to lengthy capital replacement cycles, for example buildings”.

An indirect benefit from setting the future performance standard for buildings should be the elimination of inefficient technologies and construction products from the market. This has the potential to drive innovation and product improvements in terms of efficiency and reliability, where there is currently no incentive to push for existing building improvements.

By reducing uncertainty in the markets for efficient products and technologies, and by signalling an expected increase in demand for them, we know these markets will increase in scale and be promoted across the whole country. Going further, given that green building markets are increasingly global, as other countries begin to invest in low carbon and energy efficient buildings and technologies, increased domestic demand will drive Australian companies to develop and compete more effectively internationally. The construction industry understands the opportunities of the proposed Bill and can see the best ways to adapt their business to reflect this. The benefit to the trades and services sector of the development and construction industry as the largest single industrial employer, exceeds the stimulus for green and clean energy skills.

A further indirect economic benefit will be the reduction in uncertainty within the real estate and construction sector around potential future changes to Building Regulations, average building type performance and market expectations. By indicating a clear direction and timetable for changes as the proposed Bill does, the industry will be able to smooth and even reduce through efficiencies, costs incurred in interpreting and learning the new requirements and planning for implementation.

COSTS

An Efficient Building Scheme is a least-cost solution for least-cost abatement.

The total annual transaction cost to building owners is estimated at less than AUD\$500 per building. This enables universal adoption of the scheme with a likely 50-fold reduction in transaction costs compared to other Kyoto mechanisms.

The cost to the broader economy would be the maintenance of a registry of non-residential buildings, but this cost would be far outweighed by the economic and social benefits.

Further, as a recent policy brief on 'The Economics of Energy Efficiency in Buildings' notes, while the IEA predicts that \$551 billion per year in investment in power generation and transmission will be required to keep

pace with growing demand, curbing some of that demand growth through efficiency improvements will free up capital that can be used in the buildings sector¹.

¹ Trevor Houser, The Economics of Energy Efficiency in Buildings, August 2009

4. Responding to the critics

We take this opportunity to rebut criticisms of the Energy Efficient Non-Residential Building Scheme, and to respond to alternative measures proposed by the Scheme's critics.

CRITICISMS

Criticism # 1:

We should wait for other policies to be implemented, including the CPRS and mandatory disclosure, as well as the range of measures agreed to by the Council of Australian Governments under the umbrella of the National Strategy on Energy Efficiency.

This argument clearly implies that some of the aforementioned policies would see significant energy efficiency improvements in existing buildings in the non-residential building sector.

We rebut the potential impact of each of these policies below to unlock the efficiency and abatement potential that exists in our buildings.

1.1 CPRS

We know that the CPRS will have little or no impact on the sector, and there is no need to wait for its introduction.

As stated above, the perception that non-residential building owners will be affected by energy price signals that will flow from Emissions Trading Schemes (such as the CPRS) and will therefore take action to introduce energy efficiency initiatives is wrong.

If you want to drive emissions cuts in buildings you need to find a mechanism that will touch those who hold the purse strings for buildings – that is, building owners.

The CPRS will not do this because: energy costs are a small percentage of costs for non-residential building occupants, in the order of 1% of total costs; unlike householders who will bear the brunt of any energy price rises under the CPRS, non-residential building owners can negotiate cheaper prices; and building owners do not pay the electricity bills – those who occupy the building do because owners they can pass the additional price increases through to tenants.

Furthermore, it is important to note that the Energy Efficient Non-Residential Building Scheme, like the Efficient Building Scheme, has been designed so that it could operate either alongside the CPRS (or similar Emissions Trading Scheme) *without compromising it*, or as a stand-alone scheme.

The Bill provides a sector specific inclusive market mechanism that resolves issues of both double accounting and additionality that have imposed severe structural limitations on previous complementary measures, such as White Certificates, that have made them most ineffective in unlocking the abatement potential of existing buildings.

We note that while both the Property Council of Australia (PCA) and the Green Building Council of Australia (GBCA) argue for a stay of implementation of the Energy Efficient Non-Residential Building Scheme, they take different viewpoints on the impact of the CPRS.

The PCA states in its submission that:

“The CPRS should provide the principal price signal for modifying building energy use.”

However, we note that in September 2008, in their submission on the CPRS Green Paper the PCA stated:

“At its most efficient, a CPRS will achieve only 8Mt of CO₂-e abatement per year from the built environment. However, by focussing on energy efficiency in buildings, the Government could achieve as much as 60 Mt CO₂-e per annum of abatement.”²

And further:

“Complementary measures are needed to overcome the main impediment to owners who seek to improve the energy efficiency of their buildings – the lack of a reasonable return on their investment.”

This is the argument taken by the GBCA in its submission to the Inquiry, namely that: *“the abatement potential of the building sector will not be realised if Australia relies on the CPRS alone”*.

We agree.

² PCA submission to Carbon Pollution Reduction Scheme Green Paper, <http://www.propertyoz.com.au/library/Green%20Paper%20Submission.pdf>

1.2 Mandatory disclosure

We strongly support the introduction of a nationally consistent mandatory disclosure scheme for commercial office building energy efficiency, as our submissions to the Department of Environment Water Heritage & the Arts in 2008 and 2009 have made clear.

We believe mandatory disclosure that ensures credible and meaningful information is publicly and readily available to potential purchasers and renters/lessees on the relative energy performance of buildings is an important component in a broader mix of measures to stimulate improvement in the energy efficiency of commercial (non-residential) buildings and thereby of reducing greenhouse gas emissions.

However, while we are strong supporters of mandatory disclosure, it will not of itself drive emissions reduction.

Further, while it will provide more information, it cannot and will not benchmark standards and will not fully address the impacts of environmental externalities associated with buildings, nor will it provide reporting in a manner compatible with monetising carbon.

Curiously, while we have always been strong advocates of mandatory disclosure, we note that in calling for delay in implementing the Energy Efficient Non-Residential Buildings Scheme on the basis of the introduction of mandatory disclosure, the Property Council of Australia appears to have changed its public position.

In its February 2008 submission the PCA stated:

“Every dollar and hour spent on mandatory disclosure will be a dollar and valuable time not focussed on abating greenhouse gas emissions.”

Going on to describe mandatory disclosure as “Poor Public Policy” the submission stated the PCA’s opposition was based on a range of reasons, including:

“There is no evidence that mandatory disclosure will abate a single tonne of greenhouse gas emissions.”

On these grounds, why would we need to wait before introducing a scheme that will save many tonnes of greenhouse gas emissions?

The proposed Bill will in itself unlock the least cost abatement potential - that is, more efficient existing buildings.

1.3 National Strategy on Energy Efficiency

In July 2009 the Council of Australian Governments signed the National Partnership Agreement on Energy Efficiency which will deliver a nationally-consistent and cooperative approach to energy efficiency, through a range of measures, including some aimed at improving the energy efficiency of buildings.

The COAG communiqué of April 2009 claims that the various measures, including those to “help raise the energy efficiency of the existing building stock through voluntary action in response to better information about building energy use”, form a Strategy which “sets the foundation for a transformation of Australia’s building stock.”

However, voluntary action hasn’t worked wherever it’s been tried, including in NSW where the GGAS scheme had a 1% take up from the commercial property sector over more than seven years.

Internationally voluntary schemes have failed. The most significant being the Kyoto Clean Development Mechanism (CDM) voluntary measures – these have proved ineffective in the commercial building sector: of more than 4500 Clean Development Mechanism (CDM) projects, less than 10 were buildings³.

Voluntary schemes do not stimulate energy efficiency improvements universally across the non-residential building sector, but simply reward ‘business as usual’ or what would have been done anyway among those already committed to cutting their carbon footprint.

Perhaps the most telling indicator of their failure is the fact that the UK Government has dispensed with its voluntary scheme in favour of the Carbon Reduction Commitment scheme – a penalty only scheme.

As the Property Council stated in its response to the CPRS Green Paper, “the main barrier to investment is the time it takes to secure a reasonable return on energy efficiency investments”.

While we welcome the measures agreed to by the State and Federal Governments, we point out that none of these will overcome this barrier, and therefore they will not deliver the abatement potential in non-residential buildings – either as individual policies or collectively.

We remind the Committee that 50 percent emissions reductions are achievable right now using today’s skills and technology, in both new and existing buildings.

³ The Kyoto Protocol, The Clean Development Mechanism, And The Building And Construction Sector A Report Prepared For The UNEP Sustainable Buildings And Construction Initiative

In June 2009 President Obama went further and talked about “technologies that are available right now or will soon be available”, which can “make our buildings up to 80 percent more energy efficient”.

But the initiatives that are required to achieve the quantum leap we need will not be facilitated by the measures agreed to by the COAG.

Criticism #2:

The Energy Efficient Non-Residential Building Scheme will be expensive & difficult to administer.

Contrary to what is implied, the process is both simple and inexpensive and we believe that the benefits of the Energy Efficient Non-Residential Buildings Scheme will exceed the costs.

To re-cap what is involved, the Scheme is based on a single set of accurate, readily accessible data on each building, as follows:

- energy consumption (electricity and gas bills, including any on-site energy generation);
- building type (office, hotel, retail, school, etc); and
- location (climatic zone and/or economic centre).

It is hard to see how any of this could be categorised as expensive or difficult.

From this data, the following straight-forward calculations can be made:

- energy intensity (kWh/m²/annum); and from this -
- carbon intensity (tCO₂e/m²/annum using official greenhouse gas emission coefficients for fuel sources).

The 4-step process is as follows:

- **STEP 1:** Each year a building owner calculates the total greenhouse gas emissions for each building – including both onsite fuel consumption and emissions from purchased electricity – using fuel (electricity and gas) bills and official greenhouse gas coefficients.
- **STEP 2:** The total emissions are divided by net lettable area (NLA) to derive efficiency (or ‘emissions intensity’) figures in tonnes of greenhouse gas per square metre (tCO₂e/m²), so that large inefficient buildings aren’t inadvertently rewarded.
- **STEP 3:** An independent broker verifies the efficiency figures and compares them to the appropriate trajectory and the building’s avoided emissions or excess emissions are calculated.
- **STEP 4:** Permits are allocated or acquitted respectively.

By using existing records and a simple verification process, the total annual transaction cost to building owners is estimated at less than AUD\$500 per building. We note that this is far below the cost estimated to achieve annual compliance with the currently proposed methodology for Mandatory Disclosure of Commercial Building Energy Efficiency.

Criticism #3: Penalties/ equity implications

While it is not clearly stated in its submission, we are well aware that the PCA is opposed to any form of penalties being imposed on building owners as part of a mandatory scheme – their preference being a voluntary incentive-only scheme.

The EEC submission refers to penalties by talking about the “impost on companies that own buildings that cannot be made highly efficient at reasonable cost”.

In the first year(s) it is proposed that the trajectory or benchmark be set at the average for each building type in each climatic region – so 50% above the trajectory, 50% below.

From here, the trajectory will decline over time, thereby stimulating early assessments and ultimately early action by building owners to improve the energy efficiency of their stock.

The PCA refers to “penalising building owners based on theoretical performance levels” which it says is “unfair”. Let’s be clear: bespoke trajectories are set at the median energy efficiency level of the particular building type, in the specific climatic location. Each individual building is assessed against the relevant trajectory using unassailable data of actual fuel use. There is nothing ‘theoretical’ about the process – unlike white certificates schemes, which are discussed on page 23 below.

As for the PCA contention that there is no place for any penalties, as members of the property industry we accept that the non-residential building sector should be held as accountable for its carbon footprint as any other sector, particularly given the recognition that it offers least cost abatement opportunities. In fact we believe the real estate and construction industry will benefit financially through new business, new skills, new technologies and international recognition that will flow from the proposed Scheme.

We also accept that, as a matter of equity, in driving energy efficiency improvements and thereby emissions reductions in the sector, there is a role for both incentives as well as penalties for inaction on inefficient buildings.

Finally, if the bespoke trajectories are set appropriately, a Scheme which offers both incentives and penalties can be largely self-funding, if not revenue neutral.

We note that the EEC submission makes a point that:

“The level of energy efficiency improvement that is cost-effective will vary between buildings.”

While it is self-evident that different buildings have different levels of energy efficiency, it is also clear that emissions reductions via energy efficiency initiatives need to be made universally across the sector. It is not viable to rely on part of the sector alone.

The EEC submission continues by making the point that in the case of some inefficient buildings, “(t)he only way for these buildings to become highly efficient is to substantially remodel them or demolish them, which would generate significant carbon emissions. The amount of ‘embodied’ energy involved in this process could outweigh the energy saved through efficiency improvements.”

The statement of substantial remodelling or demolition is false and misleading. The Scheme seeks to stimulate the replacement of plant and systems but the preservation of structures and the majority of facades.

Regarding any ‘embodied’ energy, WSP Lincolne Scott’s work for the NSW Land & Environment Court has shown that a building improved from 2 star to 4.5 star would recover its embodied energy in seven years if the building were completely demolished.

ALTERNATIVE POLICIES

Policy #1: national white certificate scheme

We note the call by the PCA and EEC for a national voluntary ‘incentive-only’ energy efficiency or white certificate scheme.

It is important to note that, strictly speaking, the proposed Scheme is a developed, mandatory version of ‘an integrated national energy efficiency certificate scheme’ - although clearly not the voluntary ‘incentive only’ White Certificate scheme model that is widely understood in Australia and proven to be largely ineffectual in the non residential building sector in every jurisdiction that has implemented.

The EEC argues that a 'national energy efficiency scheme' would be "equitable" because it would "create incentives for undertaking improvements in energy efficiency, not reward existing levels of energy efficiency."

A number of governments around the world have recognised the size of the abatement opportunity in energy efficient buildings and have sought to address it, most commonly through Tradable White Certificate or energy efficiency trading schemes linked to an emissions trading scheme. But while these schemes might appear to be an effective way to deal with buildings, in reality they have many unsolved problems associated with double counting, environmental additionality, perverse incentives and cost of entry.

True, there has been modest success in the residential sector for demand-side energy efficiency programs, for instance where energy retailers are required under emissions trading schemes to meet electricity reduction and subsequent greenhouse gas emission targets, and can do so by implementing demand-side abatement activities, or by purchasing carbon credits from home owners who improve the efficiency of their home. This is said to be because there is an additional incentive for electricity retailers to initiate customer loyalty through these interactions, and hence position their utility product to the householder. But the effectiveness of residential White Certificate schemes depends on the rigour of measuring and verifying the efficiency gains. Research has highlighted the flaws in allowing organisations to earn carbon credits for the distribution of energy efficient products such as the provision of efficient light globes to households rather than actually delivering measurable reductions in energy use.. One White Certificate market study in Australia reported that only about half the products distributed were actually installed.

However, while White Certificate schemes for non-residential buildings have been used in Europe in parallel with the EU Emissions Trading Scheme as well as in Australia to reward investments in initiatives to cut operational energy there is little evidence that these schemes have unlocked the significant energy efficiency opportunities known to be in non-residential buildings - new and existing.

Indeed, we note the UK experience, where the Government has decided to close down the white certificate scheme in favour of the Carbon Reduction Commitment (CRC) scheme, which will impose permitting obligations or penalties on all medium and large consumers of electricity, effective April 2010.

White Certificate schemes are generally based on Deemed Abatement Factors associated with replacing one element of equipment with another. This approach is flawed for several reasons, including:

- By focussing on replacing one element of equipment with another, the scope of abatement is clearly limited.;
- The reliance on a list of pre-approved equipment is clearly unscientific. Given that the realised savings for equipment replacement are very dependent on context, ie what equipment is being replaced and how hard it works, only rough estimates are used for savings. This means there is a lack of transparency on the true environmental benefit which not only fails to guarantee the best environmental outcome - in some instances it could drive perverse outcomes; and
- The reliance on a list of pre-approved equipment does nothing to unlock innovation.

By not demanding verification, this approach is clearly based on the “theoretical performance” referred to by the PCA.

We note that the Chair of the Energy Efficiency Council has previously argued in favour of verification, including a call for the modification of the Green Star – Office Design environmental rating tool as follows:

“That green star incorporate a performance verification protocol that ensures building performance is verified and that in the case of a failure to make good, the rating should be re-assessed and if necessary, withdrawn. An ABGR Commitment Agreement is a suitable process to ensure design performance is actually delivered.

Further, the EEC Chair wrote in 2007:

“I don’t think anybody who builds or retrofits a building should be able to get a rating on their project until at least 12 months after a building is complete. This means you are rated on your performance outcomes, not just the projected outcomes.”⁴

This is precisely what the Scheme does for carbon credits and the EEC says is all wrong.

A second, less common, approach of white certificate schemes is based on whole building assessment. This approach means the cost of proving up the project often outweighs the benefits generated by the certificates in all but the very largest facilities, making it only applicable to an estimated 5% of typical city buildings; and the split incentive barriers often neutralise the financial benefits of participation. This is due to a fundamental design limitation for Clean Development Mechanisms (CDM) and Joint Initiatives (JI) under the Kyoto Protocol.

⁴ Peter Szental, Sustainable buildings and design, 31 January 2007, http://www.agdf.org.au/informationdetails.asp?Info_ID=176

Consequently, to date these schemes have enjoyed very low participation by the non-residential sector. A recent survey by the United Nations Environment Programme Sustainable Buildings & Climate Initiative reported that of 4,500 CDM projects being assessed, only 14 were targeting energy efficiency improvements in buildings.

Indeed, the Fourth IPCC Assessment Report indicates that “CDM, as designed and implemented today, creates low CO₂ (greenhouse gas) mitigation effectiveness and furthermore is not cost effective for the building sector”. Indeed, while the project-based methodology of White Certificates might be well suited to a forestry initiative, on the basis of economies of scale it is very problematic for a building project.

In January 2008, the Centre for International Economics prepared a report (*Building energy efficiency: The role played by white certificates to combat GHG emissions*) on white certificate schemes for the Property Council, which included the following:

“Additionally, during the time lag that exists between the creation of the certificate and its conversion to a black credit, the exchange rate might change significantly. The CO₂-e that the white certificate supposedly represents might be inaccurate. The NSW GGAS overcomes these problems by requiring a thorough audit be undertaken before accrediting certificates. Requiring an audit however, imposes a sizeable cost to producing the certificate — the average cost of an audit for GGAS is \$10 500 (Hamrin et al 2007). This highlights the implicit trade off between accuracy and cost-effectiveness.”

By contrast, with a total annual transaction cost to building owners estimated at less than AUD\$500 per building, the Scheme enables universal adoption with a likely 50-fold reduction in transaction costs compared to other Kyoto mechanisms.

Policy #2: Reforming the Building Code of Australia

We fully support the ongoing reform of the Building Code of Australia.

(We note that a co-author of the Scheme, Maria Atkinson, Global Head of Sustainability for Lend Lease, is an industry representative on the Australian Building Codes Board.)

However we point out the goal of the Building Code of Australia (BCA) is to set *minimum* necessary standards for the design and construction of buildings and other structures. Unlike the Scheme outlined in the Bill, the Building Code of Australia and other forms of regulation do not stimulate innovation and best practice.

The Building Code of Australia does not apply to existing non-residential buildings – which comprise 98 percent of total building stock – except when those buildings undergo a major refurbishment. Its scope with respect to existing buildings is therefore very limited.

Policy #3: Public funding and accelerated depreciation for retrofitting

We are aware that this is a long-standing policy of the Property Council of Australia.

We note that public funding is finite and its impact limited to the individual funded project. We argue that accelerated depreciation – like white certificates – rewards industry leaders for what they would have done in any event, and is unlikely to stimulate the industry 'laggards' to action.

Further, listed property trusts pass all tax benefits to investors and the superannuation industry gets no benefit so accelerated depreciation is not a fiscal incentive for property trusts.

Policy #4: Government leadership

Government leadership is vitally important in setting the standard for the rest of the industry. We support governments committing public buildings to be refurbished to be energy efficient.

However, like public funding, its tangible impact is limited to the individual government building, and it does nothing to overcome the main barrier to the uptake of energy efficiency initiatives – namely, the lack of return on investment.

5. The Respondents

Lend Lease Corporation

Lend Lease is one of the leading fully integrated property solutions providers that creates, develops and manages real estate assets around the world. Core capabilities cover the full property value chain from development management, investment management, project management and construction, to asset and property management. Lend Lease's activities are focused in Asia Pacific, Europe and the US. Lend Lease is committed to partnering with like-minded organisations and government to deliver the best property outcomes.

WSP Lincolne Scott & Advanced Environmental

WSP Lincolne Scott is an internationally recognised green building services engineering firm, with more than 400 staff in 11 offices across Australia and the Asia Pacific. Advanced Environmental is a specialist environmental design division of WSP Lincolne Scott.

WSP Lincolne Scott is part of the WSP Group, a global business providing management and consultancy services to the built and natural environment. WSP employs more than 10,000 staff in 35 countries.

For more detailed information about the Efficient Building Scheme developed by Lend Lease Corporation, WSP Lincolne Scott and Advanced Environmental, please contact the authors of this submission or visit

<http://www.lendlease.com/sustainability/index.html/#advocacy-detail>