Lend Lease Lincolne Scott Advanced Environmental

SUBMISSION TO THE SENATE SELECT COMMITTEE INQUIRY ON CLIMATE POLICY

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This submission to the Senate Select Committee Inquiry on Climate Policy (the Inquiry), has been jointly prepared by Lend Lease Corporation, Lincolne Scott, and Advanced Environmental (the Respondents).

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    Lend Lease
    Lincolne Scott & Advanced Environmental

1 Executive Summary

As members of the property industry, the Respondents' submission is skewed towards effective measures for reducing greenhouse gas emissions in the Australian property industry, and the non-residential building sector in particular.

We support the choice of emissions trading as an integral part of Australia's policy response to reducing carbon pollution.

However, by putting the point of obligation for carbon emissions reduction with energy utilities, and relying on a diluted price signal to the point of operation in the non-residential building sector to drive emissions reduction, **the design of the proposed Carbon Pollution Reduction Scheme will provide no impetus for carbon emissions reduction via energy efficiency improvements in the non-residential building sector.**

Given the enormous abatement potential of buildings, it will therefore not be environmentally effective. Nor will it send the appropriate investment signals for green collar jobs, research and development in the building sector. Finally, given the consensus that energy efficient buildings are the least cost abatement solution, the CPRS will not "reduce carbon pollution at the lowest economic cost".

Going further, in the absence of an effective sector specific solution for non-residential buildings, we believe **the CPRS might lead to perverse outcomes in the non-residential building sector**, given it will spell the end of 'green power' and energy savings schemes.

Recognising these failings and the failure of existing measures aimed at carbon emissions reduction in the building sector, for the past 18 months the Respondents have been developing and refining a simple, equitable and efficient solution that would unlock the potential greenhouse gas savings that can be achieved by significantly increasing the energy efficiency of non-residential buildings.

That solution is the Efficient Building Scheme.

This submission summarises the case for an Efficient Building Scheme.

By moving the point of obligation to the point of ownership, opportunity and operation, the Efficient Building Scheme would drive deep, fast, low-cost greenhouse gas emissions cuts in non-residential buildings, by stimulating energy efficiency improvements in all offices, public buildings, hospitals, hotels, schools and campuses, shopping centres, stores and industrial buildings.

The Efficient Building Scheme is a simple, low cost carbon accounting mechanism that could reduce greenhouse gas emissions across the non-residential buildings sector using existing technology and knowledge. Against the reduction targets set under the CPRS, we believe a **50% reduction** in greenhouse gas emissions across the non-residential building sector is a realistic target **by 2020**.

By reducing demand, this solution would also reduce the cost to the economy of energy infrastructure maintenance and upgrades, as well as uniquely delivering a raft of **social** and **economic co-benefits**, including a stimulus for jobs, economic growth and innovation, and health and productivity benefits.

We estimate **46,000 new high skilled permanent jobs for Australians could be created**.

The Efficient Building Scheme works by providing an incentive to maximise energy efficiency improvements in buildings when they come up for re-lease or earlier, balanced by penalties for inaction.

By setting a trajectory for emissions reduction via energy efficiency improvements across the sector, it will *put in place long-term incentives for investment in clean energy and low-emission technology.*

It also addresses issues of additionality and double-counting.

Unlike the design of the proposed CPRS which promotes the importation of cheap international offsets, the Efficient Building Scheme would create offsets **in Australia** - and the jobs that go with them.

As the world struggles to meaningfully respond to climate change, the Efficient Building Scheme would not only contribute to a global solution to climate change, but it would position Australia as a global leader.

The Efficient Building Scheme would stimulate *immediate* action on climate change.

According to acclaimed climate change scientist, Dr Joseph Romm: "… whatever technology we've got now – that's what we are stuck with to avoid catastrophic warming."

In November 2007, IPCC head Rajendra Pachauri, said: "If there's no action before 2012, that's too late. What we do in the next two to three years will determine our future. This is the defining moment."

It's now April 2009. An Efficient Building Scheme which incentivises and thereby stimulates investment in existing technology to drive immediate energy efficiency improvements in buildings is the solution Australia needs.

Finally, complementary measures to drive energy efficiency improvements in buildings are too important to the success of robust and effective Climate Policy to be delegated to a taskforce of the Council Of Australian Governments.

The responses in this document are based on international experience in the non-residential building sector, including in the Euopean Union, the United Kingdom and the United States of America..

2. Response to Terms of Reference

1. The choice of emissions trading as the central policy to reduce Australia's carbon pollution, taking into account the need to reduce carbon pollution at the lowest economic cost.

Energy efficient buildings are the lowest economic cost abatement solution, according to McKinsey, Vattenfall, the IPCC[1] and others.

Yet emissions trading as considered within the CPRS deals only with Scope 1 emitters, the majority of which are stationary generators, and relies on sending a diluted price signal to Scope 2 emitters, that is the consumers of the generated electricity.

In other words, emissions trading as proposed by the CPRS, focuses on the point of obligation versus the point of operation. As a central policy measure, this fails to directly address large segments of the Australian economy and hence large areas of potential carbon pollution reduction as well as more effective price points.

To be environmentally and economically effective a complementary measure is needed which directly addresses carbon emissions reduction at the point of operation in non-residential buildings.

The non-residential buildings sector covers offices, public buildings, hospitals, hotels, schools and campuses, shopping centres, stores and industrial buildings.

Failure to stimulate demand side abatement in the non-residential building sector through the current limitations of the CPRS design will also impose a significant obligation to upgrade our energy networks in order to keep up with rising demand. This will be a great cost to the economy.

By contrast, reduced loads on energy infrastructure owing to reduction of demand and increased on-site generation translates into reduced cost to the economy for upgrades and maintenance of energy infrastructure along with reduced transmission losses.

The New South Wales Independent Pricing And Regulatory Tribunal recently reported that demand management measures implemented by energy utility Energy Australia in the three years to 2006/07 avoided or deferred network costs averaged at 6.5 times the demand management spending over the period[2].

The fact that reducing demand in the first place is **the most effective way** to reduce power generation related emissions is well established both from an environmental and economic perspective.

Without demand reduction, the oldest power stations will almost certainly need to be operated beyond their commissioned life as has recently been demonstrated in NZ and the UK, where they have both had to restart previously retired dirty facilities to meet demand and avoid blackouts. This is clearly a bad environmental outcome.

[1] Intergovernmental Panel on Climate Change (IPCC) "Working Group III contribution to the IPCC Fourth Assessment Report" (2007)
[2] New South Wales Independent Pricing And Regulatory Tribunal Information Paper No. 3 2008

2. **The choice of emissions trading as the central policy to reduce Australia's carbon pollution, taking into account the need to put in place long-term incentives for investment in clean energy and low-emission technology.**

   By relying on a diluted price signal via energy utilities, emissions trading will not create long-term incentives for investment in clean energy and low-emission technology.

   Emissions trading will spell the end of 'green power' as a form of clean energy.

   In addition the diluted price signal via energy utilities will not create create long-term incentives for investment in clean energy and low-emission technology in the non-residential building sector because:

   1. Energy costs are generally such a small percentage of costs in the sector;
   2. Big users of energy, including non-residential building owners, negotiate cheaper energy prices; and
   3. Non-residential building owners, developers and builders who decide and pay for the elements that use electricity do not pay the electricity bills (*see below*) – those who occupy the building do.

   The market failures in the non-residential building sector to energy efficiency are well-documented. In summary, the non-residential building sector is characterized by split incentives or principal agent. That is, in almost every non-residential development the entity responsible for developing the building is not the owner, let alone the tenant who benefits from reduced energy bills. So there is no financial incentive for a developer to invest in energy efficiency and little incentive for an owner.

3. **The choice of emissions trading as the central policy to reduce Australia 's carbon pollution, taking into account the need to contribute to a global solution to climate change.**

   Emissions trading designed solely around Scope 1 emitters alone will not ensure Australia is positioned to make a substantial contribution to a global solution to climate change.

   The fundamental design of the CPRS allows Australian business to purchase abatement overseas instead of having to buy a domestic carbon permit[3]

   While this reduces the cost of abatement for Australian businesses and fosters technology transfer in developing countries, it does not stimulate domestic abatement and therefore Australia's own contribution to a global solution to climate change.

   Indeed, the Government's Fact Sheet on Scheme Coverage[4], published in December 2008 states clearly:

   > The Government will consider the scope for domestic offsets in 2013 when it makes final decisions on coverage of agriculture.

   This approach will commit Australia to continuing to source overseas credits indefinitely because it will divert investment away from domestic projects to abate our demand for energy or technically improve the efficiency of our local infrastructure.

[3] *Economic implications of climate change for Australia*, Natalie Horvat, The Commonwealth Finance Ministers Meeting 2008 (St Lucia)
[4] http://www.climatechange.gov.au/whitepaper/factsheets/pubs/012-scheme-coverage.pdf

With no cap on the amount of offshore Kyoto Protocol Credits that covered entities can purchase, Australia will be funding 23% of Kyoto projects globally.

By contrast, energy efficiency improvements in the non-residential building sector clearly generate domestic carbon emissions reductions, or domestic offsets.

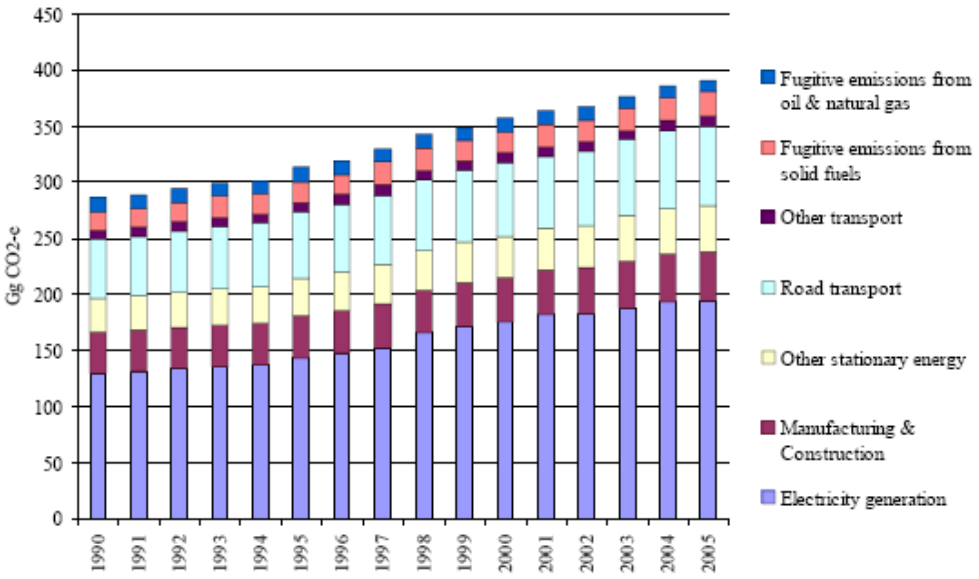
If Australia is to make a meaningful contribution to a global solution to climate change by reducing domestic carbon emissions, a complementary measure or expansion of the proposed CPRS, is needed which will stimulate carbon emissions reduction at the point of operation in non-residential buildings.

4. **Environmental effectiveness of the Government's Carbon Pollution Reduction Scheme, in particular with regard to the adequacy or otherwise of the Government's 2020 and 2050 greenhouse gas emission reduction targets in avoiding dangerous climate change.**

The building sector is a significant emitter of greenhouse gas emissions. If upstream emissions from heat and electricity are included, emissions from buildings total 40% of global greenhouse gas emissions[5] and up to 80% of total greenhouse gas emissions in our cities and towns[6].

Further, the building sector is the fastest growing source of carbon emissions.

Figure 5. Emissions from the Energy sector by subsector, 1990–2005



Given the CPRS ignores the building sector, with its enormous potential for fast, deep, low-cost carbon emissions reduction, the CPRS will not be environmentally effective.

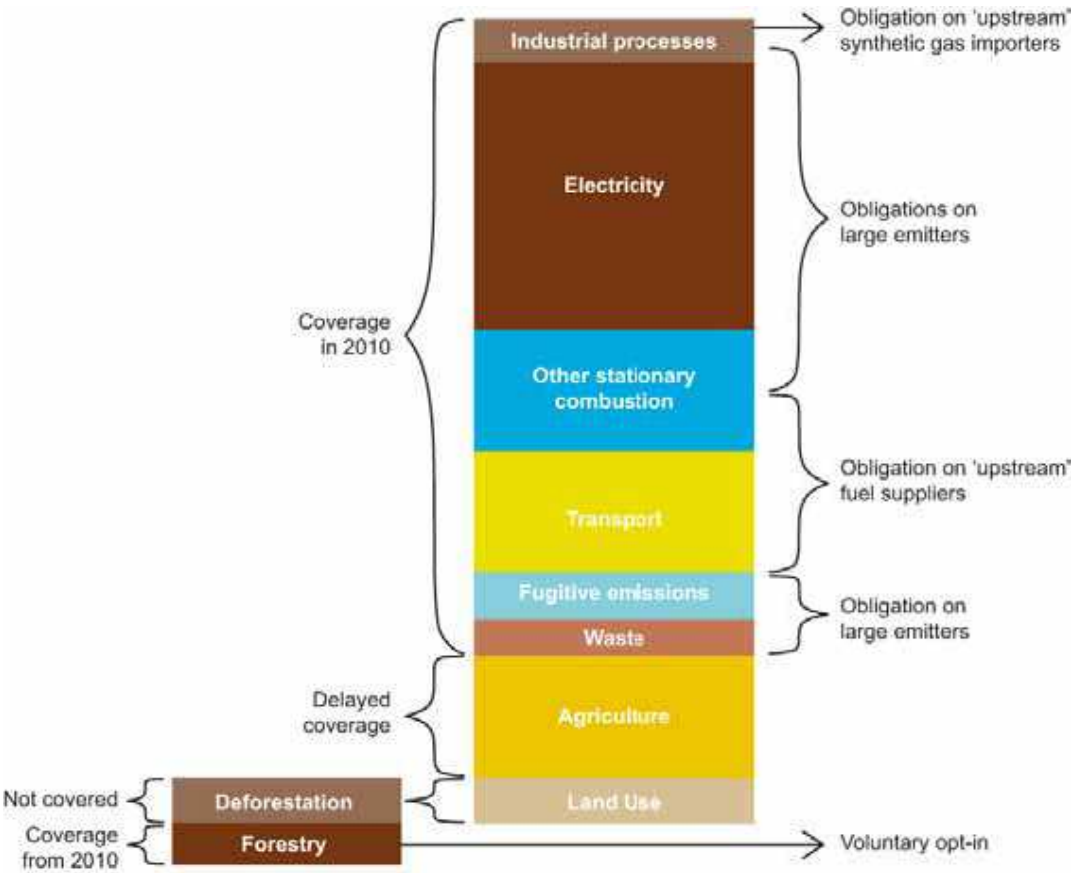
Under the CPRS, more than 45% of coverage is electricity.

Given that more than 50% of electricity usage is for buildings, 25% of the CPRS is related to building demand – and yet this won't be affected by the CPRS, except by way of an ineffective diluted price signal.

[5] Stern Review on the Economics of Climate Change – Annex 7e (2006)

[6] President Bill Clinton, Cities & Climate Change http://www.c40cities.org

The following figure from the Government's Green Paper [7]shows the proportion of emissions by sector, and the CPRS sectoral coverage.



The scheme as currently proposed will not reduce Australia's greenhouse gas emissions in line with targets. Rather, it will simply encourage importation of offshore credits to 'make-good' against our reduction targets. (see response to #3 above)

By effectively and appropriately stimulating carbon emissions reduction in the non-residential building sector we believe it is realistic to achieve a 50% reduction in carbon emissions in our cities before 2020.

5. **An appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be.**

Such a mechanism would be a scheme that provides universal coverage and direct carbon pricing for all sectors of the economy that can achieve cost effective carbon emission reductions.

6. **Whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues.**

As in response to 3. (above), given that the fundamental design of the CPRS allows Australian business

[7] http://www.climatechange.gov.au/greenpaper/factsheets/pubs/fs3.pdf

to purchase abatement overseas instead of having to buy a domestic carbon permit[8], it will **not** send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries.

7. Any related matter.

Taking into the account the need to:

- reduce carbon pollution at the lowest economic cost,
- put in place long-term incentives for investment in clean energy and low-emission technology, and
- contribute to a global solution to climate change; as well as to
- ensure Australia's Climate Policy is environmentally effective; and
- send appropriate investment signals for green collar jobs, research and development,and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues;

we argue that a simple, but effective solution is needed to address carbon emissions reduction at the point of operation in the non-residential building sector.

We have developed that solution – it is the Efficient Building Scheme.

The Efficient Building Scheme is a simple, low cost carbon accounting mechanism that could reduce greenhouse gas emissions in our cities by 50% before 2020 using existing technology and knowledge, as well as stimulating jobs growth and innovation, and health and productivity benefits.

The Efficient Building Scheme has been developed as a complementary carbon trading scheme that works by providing an incentive to maximise energy efficiency improvements in buildings when they come up for re-lease or earlier, balanced by penalties for inaction.

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 real estate and construction sector.

For industry players committed to doing the right thing 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', through permits for inaction which would stimulate the *whole* sector to upgrade and significantly improve the performance of existing buildings.

Finally, the Efficient Building Scheme uniquely addresses the failures of other complementary schemes by ensuring no problems of additionality, double counting or perverse incentives. It avoids double

[8] *Economic implications of climate change for Australia*, Natalie Horvat, The Commonwealth Finance Ministers Meeting 2008 (St Lucia)

counting by operating on the basis of a parallel yet fungible scheme with a complementary register stapled onto an Emissions Trading Scheme.

How would an Efficient Building Scheme work?

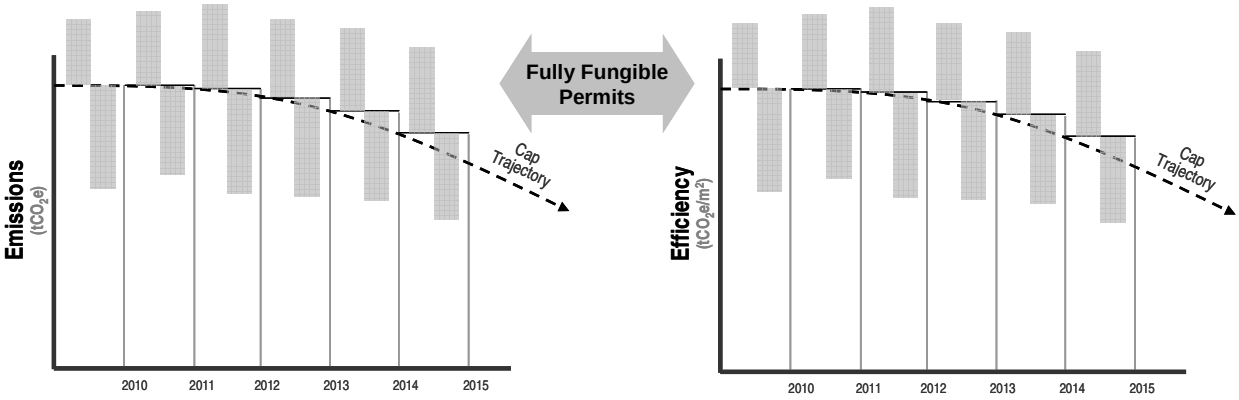
An Efficient Building Scheme could easily and effectively be stapled to an Emissions Trading Scheme without compromising it or requiring it to be re-designed.

An Efficient Building Scheme would be identical to an Emissions Trading Scheme except that it recognises energy efficiency improvements, rather than emissions avoided.

Simply put, it would treat one tonne of greenhouse gas emissions (tCO_2^e) that is not emitted because energy is not used in the same way that a conventional Emissions Trading Scheme treats one tonne of tCO_2^e that is not emitted due to a change in energy generation.

The main benefit of such a scheme is that by being stapled to an Emissions Trading Scheme, an Efficient Building Scheme will put the same value on greenhouse gas emissions avoided through energy efficiency gains as it does on greenhouse gas emissions not emitted due to a change in energy generation. By so doing it will provide a competitive return on investments in emissions reduction initiatives, which will drive significant greenhouse gas abatement through energy efficiency improvements.

An Efficient Building Scheme (EBS) in which efficiency is 'capped-and-traded' using price-linked permits, would work 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 bills and official greenhouse gas coefficients. An owner or developer who builds or refurbishes a building can also be rewarded for energy efficient design through deemed savings for major energy efficiency in the building at the point of construction or refurbishment.

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 (tCO_2^e/m^2), so that large inefficient buildings aren't inadvertently rewarded.

STEP 3: The emissions intensity figures are compared to a predetermined cap (or 'trajectory' or 'threshold') set in advance by the governing body and the building's avoided emissions or excess emissions are calculated.

STEP 4: Permits are allocated or acquitted respectively.

What would be the costs and benefits of the Efficient Building Scheme?

The methodology presented provides a total annual transaction cost to building owners estimated at less that 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.

In the Australian context these have been estimated as follows:

- 46,000 new high skilled, permanent jobs in the building sector;
- opportunity for growth of Australian businesses through high value services for export, and development of innovative technologies, practices and products;
- 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.);
- Reduced international inflow of acquittals – creating local green collar jobs and delivering an immediate net benefit to GNP growth.

3. The Respondents

Lend Lease Corporation

Lend Lease is an international retail and community property group, integrated with investment management and construction management businesses. Headquartered in Australia, Lend Lease has 10,000 employees and operates in three core markets – UK/CEMEA, USA and Asia Pacific – and more than 40 countries.

Lend Lease is the only Australian property company to have first hand experience trading under the EU Emissions Trading Scheme, with managed assets covered by the scheme since 2004. Lend Lease is also listed on the GSJBW Climate Leaders Index and in 2008 achieved the highest score in the sector for climate change strategy in the Dow Jones World Sustainability Index. Lend Lease is the only Australian company to be listed on all three of the Dow Jones Sustainability Index, Goldman Sachs JB Were Climate Leaders Index, and Innovest Global 100 of the world's most sustainable companies.

Lend Lease is involved in the development of global standards for greenhouse gas accounting through the UNEP Sustainable Building and Construction Initiative, UNEP-FI Property Working Group, the World Business Council for Sustainable Development, and the Global Reporting Initiative. Lend Lease has participated in consultations with governments worldwide on matters of climate change policy for the built environment.

Lend Lease is proud to be a founding member of the Australian, USA, Mexico and UK Green Building Councils, and is committed to supporting Green Building Councils in all its countries of operation, and to having all its tenancies certified.

Lincolne Scott & Advanced Environmental

Lincolne Scott is an internationally recognised green building services engineering firm, with more than 450 staff in 12 offices across Australia and the Asia Pacific.

Advanced Environmental is a specialist environmental design division of Lincolne Scott.

Lincolne Scott and Advanced Environmental were the engineers behind the environmental features of Australia's first 6 Star Green Star office building design, for Melbourne's CH2, and Australia's first 5 Star Green Star building, Lend Lease's global headquarters 30 The Bond in Sydney. They were also the engineers on Melbourne's Southern Cross Station development, which was awarded the prestigious 2007 Lubetkin Prize by the Royal Institute of British Architects.

Lincolne Scott has also been recognised for its broader environmental leadership. In July 2006 Lincolne Scott became the first Australian business to take its entire Asia Pacific operations climate neutral. In November 2006, in yet another first, it offered staff the option to offset their own personal greenhouse gas emissions through salary sacrificing.

Lincolne Scott is a WSP Group company.