











Climate and our environment



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We are serious about protecting and enhancing the natural, built and human environment.

Climate and our environment – progress and priorities

LAST YEAR WE SAID WE WOULD Past	THIS PAST YEAR WE HAVE Present	RESULTS	IN THE COMING YEAR OUR PRIORITIES ARE Future
<p>Climate change and energy Make progressive capital expenditures across our office portfolio towards our greenhouse gas emissions and energy efficiency targets:</p> <ul style="list-style-type: none"> reducing our greenhouse gas emissions and energy use across our Commercial Property portfolio by 20 per cent from FY09 to FY14, attaining a 4.5 Star average NABERS Office Energy rating for our Office portfolio by FY14. 	<p>Achieved a NABERS Office Energy weighted average across the portfolio of 3.9 – an increase of 0.3 from the previous year. Assessed two retail centres – Wetherill Park and Forster using the NABERS Retail Energy tool:</p> <ul style="list-style-type: none"> Stockland Wetherill Park: 3.5 Stars Stockland Forster: 6 Stars – the first 6 Star NABERS Retail Energy rating. 	<p>ONGOING </p>	<p>Significantly reduce greenhouse gas emissions and energy use, particularly across our retail portfolio, towards our five year targets:</p> <ul style="list-style-type: none"> reducing our greenhouse gas emissions and energy use across our Commercial Property portfolio by 20 per cent from FY09 to FY14, attaining a 4.5 Star average NABERS Office Energy rating for our Office portfolio by FY14. <p>This is to be largely achieved through rolling out sub-metering, LED lighting and mechanical upgrades of existing retail assets.</p>
<p>Continue to test the NABERS Retail tool.</p>	<p>Identified shortcomings in the recently developed NABERS retail tool. Stockland continues to work with the New South Wales government and other industry peers to improve the rigour of this tool.</p>	<p>ONGOING </p>	<p>Following refinement of the retail NABERS tool, Stockland will commence a national roll-out of assessment of all retail centres – scheduled for finalisation in 2013.</p>
<p>Consider broader application of LED lighting. Commence building tuning on several assets.</p>	<p>Commenced installation of LED lights, achieving significant energy reductions at Stockland Nowra. Assessment indicates that the same quick payback and energy efficiency are not certain across the portfolio.</p>	<p>ACHIEVED OUTCOME </p>	<p>Roll out LED lights in retail centres where the payback is viable to do so.</p>
<p>Expand the capability of our Climate Change Action Plan (CCAP) tool to track the eco-efficiency performance of assets against our target FY14 target.</p>	<p>The CCAP tool has been amended to provide the business with monthly reporting on an asset-by-asset basis. This tool provides clear reporting metrics and images to assist in informing senior management of performance.</p>	<p>ACHIEVED OUTCOME </p>	<p>Further expand the application of the CCAP tool to assist asset managers in understanding the monthly energy and water performance of each retail and office asset.</p>
<p>Continue to contribute to the discussions and development of market-based mechanisms that encourage low carbon, sustainable property.</p>	<p>Established a position statement on carbon and climate change.</p>	<p>ACHIEVED OUTCOME </p>	<p>Analyse the results of our energy efficiency training for retail tenants.</p>
<p>Provide energy efficiency training to our retail tenants.</p>	<p>Commenced the roll out of energy efficiency training for retail tenants – in conjunction with New South Wales government and an external training provider.</p>	<p>ACHIEVED OUTCOME </p>	<p>Work on a program to ensure and assist in the implementation of requirements set out in the clauses.</p>
<p>Expand and strengthen our green lease clauses in standard leasing contracts across our Commercial Property portfolio.</p>	<p>Amended all standard leases templates to include green lease clauses across all asset classes.</p>	<p>ACHIEVED OUTCOME </p>	<p>Develop a Distributed Energy Strategy addressing the supply and generation of low carbon and renewable energy for our operational and development sites where this is commercially viable.</p>
<p>Develop a Distributed Energy Strategy addressing the supply and generation of low carbon and renewable energy for our operational and development sites.</p>	<p>Developed pilot programs to trial new energy supply and management technologies. Developed partnerships with a number of energy providers to pilot alternative energy solutions.</p>	<p>ACHIEVED OUTCOME </p>	<p>Continue to pilot alternative energy solutions in our projects.</p>
	<p>Developed asset marginal abatement cost curves work to assess the most cost-effective methods by which we can reduce emissions across our retail and office assets.</p>	<p>ONGOING </p>	<p>Engage and train our Development Managers in the use of tools to improve decision-making on eco-efficiency projects, including investment in cost-effective low carbon and renewable energy technology.</p>
		<p>ACHIEVED OUTCOME </p>	<p>Benchmark our existing projects using the CCAP PRECINCT Design tool and establish targets on new pilot projects. Continue to pilot our high-performance low carbon homes initiative. Pilot sustainable living behaviour change initiatives. Develop a Residential case study in response to Energy Efficiency Opportunities legislation.</p>

CLIMATE AND OUR ENVIRONMENT – PROGRESS AND PRIORITIES (CONTINUED)

LAST YEAR WE SAID WE WOULD

Past

Continue to review our energy and carbon metrics in response to feedback from our business, analysts and other stakeholders, reflecting current and emerging regulatory reporting requirements and improving our capacity to better monitor and manage our assets.

Develop climate change management action plans for relevant projects in our Residential and Retirement Living businesses.

Water

Make progressive capital expenditures across our office portfolio towards our water efficiency targets of:

- reducing our water intensity across our Commercial Property portfolio by 10 per cent by FY14,
- attain a 4.0 Star average NABERS Office Water rating for our Office portfolio by FY14.

Focus on operational efficiencies and maintain minimum standards as set out in Commercial Property's sustainability policy.

Develop best practice case studies to help our Project and Development Managers to continue to improve their capabilities.

Test the feasibility of, and aim to trial, a significantly innovative Water Sensitive Urban Design initiative on at least one project. We will research and set metrics which will then be trialled on a number of projects.

Waste

Improve office waste recycling through engagement with our Facility Managers.

Increase our recycling rate target to 30 per cent in our retail assets. The target for recycling at our office assets is 70 per cent.

Maintain reporting standards established in FY09 and implement further waste auditing in line with the NABERS Waste protocol.

Biodiversity

Review our biodiversity approach and build best practice case studies of biodiversity management to improve the capability of our Development Managers.

THIS PAST YEAR WE HAVE

Present

Piloted provision of solar PV systems at no cost to new land purchasers on three projects. Twenty-five systems were taken up by customers during the pilot.

Updated our residential sustainability policy to include requirements for 7 Star housing to be considered for inclusion in our display villages.

Partnered with builders to build high-performance low carbon homes that have the capacity to produce more energy than they consume, in both Queensland and Victoria.

Piloted the CCAP PRECINCT Sustainability design tool and prepared case study to inform project teams of the initiative.

Completed an organisation-wide climate adaptation strategy.

Completed a climate change adaptation case study assessment of an asset, with actions being considered for adoption.

Reduced water use across our office portfolio by 11 per cent and our retail portfolio by 10 per cent.

Our Office NABERS Water rating has dropped by 0.2 to 3.4 Stars.

Moved towards an outsourced water sub-metering provider with the majority of our sites, and all of these sites have a 10 per cent water reduction target.

Developed Water Sensitive Urban Design guidance and case studies.

Achieved a small improvement in diversion of office waste from landfill of 67 per cent (up from 66 per cent), and retail waste from landfill of 28 per cent (up from 26 per cent), however we fell short of our targets.

Prepared a best practice case study of our response to biodiversity management at Brightwater.

Commenced a pilot partnership with national provider to develop and deliver biodiversity restoration and community education program.

RESULTS

FY12 PRIORITY 

ACHIEVED OUTCOME 

ACHIEVED OUTCOME 

ONGOING 

ONGOING 

ACHIEVED OUTCOME 

ONGOING 

ONGOING 

IN THE COMING YEAR OUR PRIORITIES ARE

Future

Building on our group adaptation strategy, undertake specific analysis and prepare adaptation plans for those assets likely to be most at risk to impact from weather and a changing climate.

Continue to reduce water use across our Commercial Property portfolio towards our five year targets:

- reducing our water intensity across our Commercial Property portfolio by 10 per cent by FY14,
 - attaining a 4.0 Star average NABERS Office Water rating for our Office portfolio by FY14.
- Continue to roll out NABERS Water ratings for our retail assets.

Improve our water usage through capital expenditure on water efficient devices and through closer monitoring and regular internal reporting on water usage

Pilot innovative water management practices and develop water usage and quality targets for residential developments.

Develop asset specific targets for poor performing buildings.

Undertake a study to assess biodiversity impacts of previous restoration activities.
Continue to build case studies of best practice biodiversity initiatives from across the business.

Deepen our understanding of the impacts of greenfield development, with the goal of further minimising negative effects and optimising benefits for both the environment and society.

In 2011

Stockland has a proactive approach to climate change, developing policies and implementing action plans over a number of years

—

The business is also working with the CSIRO to investigate low carbon, renewable energy and distributed energy technologies in retail centres and residential communities

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We are serious about protecting and enhancing the natural, built and human environment. The success of our business depends on the sustainability of the environments, communities and economies in which we operate.

We are committed to better understanding our environmental impacts, and identifying and mitigating the potential risks associated with climate change. Improved understanding of our environmental risks and impacts informs and benefits all areas of our business, from project design to investment decision making.

Over the past 12 months we have focused on:

- Mitigating and adapting to perceived climate change risk,
- Minimising carbon emissions,
- Improving energy and water efficiency,
- Improving diversion of waste from landfill, and
- Managing our use of, and impact on, natural resources.

Climate change and energy

Climate change

The risks associated with climate change affect the way in which our organisation, governments, communities and other key stakeholders view the built environment. Stockland has a proactive approach to climate change, developing policies and implementing action plans over a number of years. We have made a commitment to better understanding these risks and the opportunities for mitigation and adaptation.

The Intergovernmental Panel on Climate Change's Fourth Assessment report predicts that likely impacts on property will include more hot days, more frequent heavy precipitation and increased incidence of extreme high sea level. If realised, these impacts would place greater demands on the built environment.

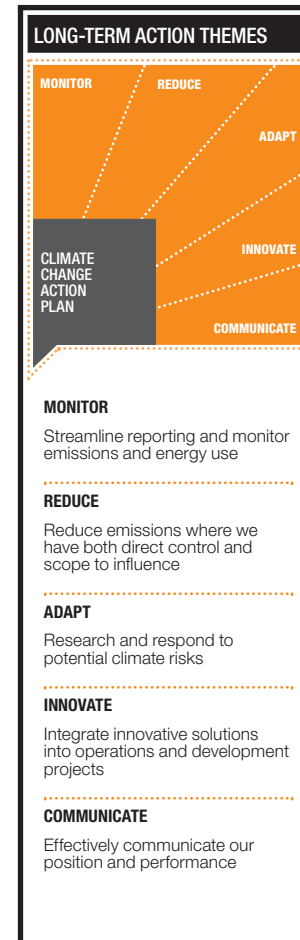
In 2009, we developed a clear and dedicated strategy to guide our climate change actions – Climate Change Action Plan. Over the past 12 months we have continued to priorities these action areas and have significantly expanded our knowledge on climate change and implemented the appropriate business responses.

Our strategic approach – Climate Change Action Plan

Our Climate Change Action Plan covers five themes – improve how we **monitor** our emissions, continue to **reduce** our greenhouse gas emissions, **adapt** to a changing environment, **innovate** through low-carbon and renewable technology and **communicate** our position and performance.

Our actions and achievements in FY11 are detailed against these five action themes.

CLIMATE CHANGE ACTION PLAN



CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY****Monitor: streamline reporting and monitor emissions and energy targets**

Reflecting our commitment to embed carbon and energy reporting as a standard business practice, we have completed phase one (Residential and Retirement Living) of the transfer of responsibility for greenhouse gas data collection from our Sustainability teams to our Group and Business Unit finance teams. We will begin phase two (Commercial Property) in FY12 and when complete all greenhouse gas data collection will sit with our finance teams.

Over the last 12 months we have significantly improved our collection of contractor data in our Residential and Retirement Living businesses (as required under the National Greenhouse and Energy Reporting System). As a result our scope 1 emissions have increased due to the inclusion of contractor fuel consumption, particularly diesel. We will develop a case study in FY12 to try and identify opportunities to reduce our direct emissions and influence our contractors' emissions.

We have continued to improve how we set and monitor energy efficiency and emissions targets for our businesses through our carbon abatement cost curve work. Please refer to our Stockland Nowra case study.

Reduce: reduce emissions where we have both direct control and scope to influence

We continue to seek opportunities to cut our emissions, however this will become progressively harder as the easier, low-cost initiatives are completed. Over the coming year Stockland expects to achieve significant cuts by rolling out sub-metering and undertaking mechanical equipment upgrades in shopping centres.

Our Commercial Property GHG emissions intensity results for FY12 were pleasing as our office portfolio continued to minimise their emission intensity by 7 per cent. Our retail portfolio also had a modest reduction in emissions intensity of 2 per cent.

Energy efficiency is the most cost-effective way for our organisation to reduce emissions – please refer to the energy efficiency section for more details.

Adapt: research and respond to potential climate risks

Earlier this year Stockland made a significant investment in expanding its understanding of climate risks and developed an organisation-wide climate adaptation strategy. The strategy helps us determine the type of action, timing and specific assessments needed for our organisation to prepare for changes in the climate. This work builds on previous bushfire, sea level rise and flooding assessments undertaken by parts of the organisation.

Our climate adaptation strategy examines primary climate effects such as temperature, precipitation and sea level rise, as well as secondary climate effects such as bushfires, flooding and drought, cyclones, wind and relative humidity in regions/corridors where Stockland has a presence.

Our strategy focuses on:

- An understanding of future climate system changes to set a context for our organisation and business units,
- Prioritising the exposure of our assets to climate effects,
- Minimising increased operation and maintenance costs,
- Enabling informed decisions to be made on future investments,
- Reducing liabilities and insurance premiums by ensuring assets are appropriately climate prepared,
- Increasing occupant and customer comfort levels within buildings,
- Avoiding early retirement of assets within our portfolio, and
- Complementing our CR&S commitments and mitigation efforts in reducing carbon emissions.

In FY12 our Commercial Property business will complete an assessment of each retail asset's climate risk parameters and suggested modifications to assist in climate resilience. This supports previous work in our North Queensland sites that reviewed roof structures and reinforcements. This work proved its worth when Cyclone Yasi went through the area and the Stockland Cairns centre provided safe and secure refuge for the community (please refer to the Queensland flood case study).

Our Residential and Retirement Living businesses will respond to the strategy through the refresh of their minimum sustainability standards and design guidelines.

Innovate: integrate innovative solutions into operations and development projects

In the last 12 months we have made significant progress toward embedding innovative solutions into our operations and development projects. Three project examples are included throughout the report: Shellharbour, Nowra and Amberton.

The business is also working with the CSIRO to investigate the viability of low carbon, renewable energy and distributed energy technologies in retail centres and residential communities.

Communicate: effectively communicate our position and performance

We engage with all levels of government and our peers to share our learnings and partner in research projects. We also engage with ESG (environment, social and governance) analysts and participate in the development of a global common carbon metric for property. This engagement ensures that our response to climate change remains relevant and provides sector leadership.

One area of significant stakeholder attention and public debate in the last 12 months has been the Federal Government's proposal to introduce a carbon price. In April 2011, we publicly released our Climate Change Position Paper highlighting our in-principle support for a price on carbon.

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY****Supporting a low-carbon future**

We have taken a proactive approach to change, developing policies and implementing action plans over a number of years. We have scrutinised the organisation's opportunities to reduce our carbon emissions and are well into the implementation phase.

Our approach has seen us achieve significant greenhouse gas emission reductions across our Commercial Property portfolio and has seen Stockland achieve significant greenhouse gas emissions intensity reductions across its Commercial Property portfolio over the last six years. Continuing to cut emissions will become progressively more difficult as the easier, low-cost initiatives are completed. However, we recognise that we have a role to play in developing sustainable communities for the future and our Climate Change Action Plan reflects our position.

Over the coming year we expect to achieve significant cuts through rolling out sub-metering and undertaking mechanical equipment upgrades in shopping centres. The business is also working with the CSIRO to investigate the application of low carbon and renewable energy technologies in retail centres and residential communities.

We recognise that placing a price on carbon is important to encourage a shift to lower carbon and renewable energy alternatives, and needs to be achieved in a manner that is timely, and globally in step, sustaining overall national economic stability.

On 10 July the Prime Minister released details of the proposed carbon price scheme. If legislated, the price of carbon emissions will be set initially at \$23/tonne and will commence 1 July 2012, transitioning to an emissions trading scheme in 2015. We are modelling the detailed impacts on our business – in particular the complexities of cost impacts on construction.

The direct impact of a carbon price on Stockland is anticipated to be relatively small compared to other large Australian organisations as our per site emissions fall well below the required threshold. Under the proposed scheme Stockland won't be required to purchase credits. Our reported emissions are mostly indirect emissions (Scope 2 emissions) associated with energy consumption in our office buildings and shopping centres.

We can expect our energy costs to go up. We expect the carbon price to add a maximum of \$4m p.a. in electricity and gas costs from FY13, and our emissions at around 150,000 tonnes per annum. We expect to be able to recover approximately half of these costs from our tenants. At the same time, increased energy costs will make Stockland's energy efficient office and retail spaces more attractive to tenants and new energy efficient houses more attractive to customers who are keen to keep their costs down. With an average NABERS Energy rating of 3.9 stars our office spaces are typically much more efficient than the average, and with BASIX and 5 Star (soon to be 6 Star) housing requirements introduced over the past seven years, new housing is significantly more energy efficient than older housing

stock. We have a great opportunity to share these benefits of a better way to live with our customers.

Our modelling of the cost impact of carbon price on construction costs indicates a modest increase in the cost of construction:

- Additional cost of a new house and land package circa \$2,500, 0.6% of average project home cost
- Additional cost per retirement living home circa \$1,800, 0.6% of average home cost
- Modelling of retail pipeline indicates average increase of 0.4% in retail development costs

In addition, we support the important role of complementary mechanisms, in particularly programs in the property sector that will:

- Accelerate energy efficiency, such as a national white certificate scheme building on absorbing the NSW Energy Savings Scheme (in which we already participate); and
- Encourage the trialling and take up of low carbon and renewable technologies.

Creating a sustainable community hub

During FY11, work commenced on a major redevelopment of our shopping centre at Shellharbour, 21 kilometres south of Wollongong on the NSW south coast. The project will see Stockland Shellharbour nearly double in size with the addition of 125 new specialty stores and two majors, Myer and Woolworths.

With the goal of evolving Stockland Shellharbour to be the region's leading shopping destination and community hub, we have actively engaged with the local community and suppliers with a strong focus on three areas:

- Improving environmental outcomes,
- Partnering to deliver local employment, and
- Supporting our local community.

Improving environmental outcomes

Our Shellharbour redevelopment is a good example of how seeking better environmental outcomes can also make good financial sense. The development has been designed to achieve a 4 Star Green Star (GBCA) rating, which is the target for all Stockland developments as outlined in the Commercial Property Sustainability Policy. It combines elements of good practice sustainable design in the areas of air-conditioning, lighting, tenant design guidelines, enhanced commissioning and best practice water design and management. Our financial model has shown that in the office environment these elements are cost-effective additions that have been shown to deliver operational outcomes (refer to our Trinita case study).

Taking this development to another level, Shellharbour also includes tri-generation and 7,000 square metres of solar panels. To ensure that the environmental outcomes meet our financial hurdles significant work was done to model the returns and costs. Energy price escalations were included in the modelling and a potential cost of carbon was factored in. Early investigations showed that solar and tri-generation would provide solid environmental outcomes for a far smaller cost than initially considered.

Once Stockland has delivered on more Green Star retail developments we will be able to apply the same analysis that we applied to our office assets and determine the premium required to deliver good environmental outcomes.

These initiatives will benefit customers and tenants by creating a better working and shopping environment and result in lower outgoings for retailers.

Partnering to deliver local employment

We have been working closely with our builder partner, Brookfield Multiplex, to ensure that local employment and using local suppliers is a key focus for the project.

By July 2011, 213 people from the local Illawarra area had been employed on the project through 39 local companies.

In addition to this, the Salvation Army Employment Plus Connectivity Centre is now operating on the site and working with Brookfield Multiplex. The program has already placed nine unemployed people with companies working on the project. Formal construction training of the first group of 18 trainees has been completed.

"The training received through the initiative was invaluable and motivating." Nathan Merret, Brookfield Multiplex's first employee from the program.

We have been working closely with our builder partner, Brookfield Multiplex, to ensure that local employment and using local suppliers is a key focus for the project



Local employment, Shellharbour

Supporting our local community

Like all Stockland assets Shellharbour has strong connections with the local community, which have strengthened throughout this development.

During construction, 13 high school students who were studying construction attended the site to gain some first-hand experience of the processes on a building site. The students were interested in site management and Occupational Health and Safety, including inductions, accident procedures, rain and dewatering. They also learnt about the project program, penalties/bonuses, employment opportunities, recycling and sustainability.

We have also maintained our strong support for local community organisations including:

- *i98 FM Camp Quality Convoy* – raising money for Camp Quality to assist local sick children,
- *The KidzWish Foundation* – a non-profit organisation benefiting sick, disabled and disadvantaged children in the Illawarra region,
- *Stockland Rock School Breakfasts on Wave FM* – activities designed to be fun for the children, while boosting confidence and providing an opportunity to perform in front of peers.

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

Energy efficiency

Energy efficiency remains the most cost-effective way for our organisation to reduce greenhouse gas emissions. Over the past year we have continued to improve how we set and monitor energy efficiency targets across our businesses. We have undertaken a number of energy efficiency projects and have continued to apply minimum standards for energy efficiency in our operations and developments.

Commercial Property energy efficiency

In FY09 our Commercial Property business committed to a 20 per cent energy intensity reduction by FY14 and a NABERS Office Energy portfolio average rating of 4.5 Stars by FY14.

Our office portfolio has continued to deliver energy efficiency within existing and new buildings through capital investment in high-efficiency chillers, building management systems, lighting controls and variable speed drives. We extended our commitment to sub-metering, with new sub-metering to an additional four office buildings and energy upgrades to 10 existing office sub-metering sites.

We have made a modest improvement in our energy performance in our retail portfolio, achieving a turnaround in FY11 as compared to our poor energy results in FY10. Over the past year we have been working hard to find the balance between upgrading existing assets whilst achieving energy savings. We remain committed to our FY14 target and have focused on the following initiatives to improve our results:

- Delivered 21 new retail sub-metering sites which have committed to achieve a 10 per cent intensity reduction across the portfolio which will start to be realised in FY12,

- Completed a retail air-conditioning efficiency study to provide solutions for deep energy cuts, and we will complete several of these projects in FY12,
- Focused on the energy intensity of our developments, as historically our enhanced operational standards, extended retailer trade and central servicing solutions have been driving energy intensity increases,
- Joined the Retail NABERS Technical Advisory Group to work through some detailed issues on the NABERS Retail tool prior to implementing this across the portfolio,
- We will use over \$1 million awarded to us in co-funding from the Federal Government's Green Building Fund to implement energy efficiency initiatives such as building tuning, sub-metering, lighting upgrades and solar installation on three projects.

Retirement Living energy efficiency

The acquisition of Aevum has almost doubled the size of our Retirement Living portfolio. While an assessment of energy infrastructure and usage was undertaken in FY10, the release and implementation of this work was delayed to ensure the new villages were considered in the process. This was particularly relevant as Stockland has operational control for all of the villages acquired from Aevum.

A review of the legislative obligations arising from the acquisition identified a need to capture and report energy and greenhouse gas data under the National Greenhouse and Energy Reporting Act. A considerable amount of work has been done to ensure data is captured for all new villages for compliance with FY11 reporting. A new data collection system has also been built for FY12 that will ensure energy and GHG usage is captured via invoicing through the accounts payable process.

The review also identified the need to undertake Energy Opportunity Assessments under the Energy Efficiency Opportunities Act. Energy assessments have been completed for four villages: Cardinal Freeman, Lourdes, Salford Park and Gillin Park.

We will use the results of these assessments to identify energy efficiency and saving initiatives for these four villages but will also identify initiatives that can be rolled out to other villages.

Residential energy efficiency

As a residential community is established, greenhouse gas emissions are generated via the use of different energy sources. Our control over these energy sources varies considerably through each stage. We have direct control over the amount of electricity used to operate sales suites or water pumps in lakes. We do however recognise that the biggest impact we can have is through our influence rather than our direct control.

Over the past 12 months, we have focused on how we can influence greenhouse gas reduction on our sites and begin to help our customers to understand the impacts of energy on their ongoing costs.

We have established a number of pilot and demonstration projects across the country that will help us to better understand how we can best combine technical and capacity building solutions:

- Pilot project in partnership with energy providers to offer 1.5kW solar photovoltaic (PV) to customers at no cost,
- Demonstration project in partnership with our builders showcasing high performance homes capable of producing more energy than they will use,

- Partnership with Ergon Energy at our North Shore (Queensland) community to develop a range of energy efficiency initiatives including: a Green Living guide, electric vehicle use on-site, and trials for smart meters, household battery packs,
- Updated our requirements to ensure 7 Star display homes are considered for inclusion in all new display villages and all sales centres include solar PV,
- Piloted the CCAP PRECINCT Sustainability design tool (see our Amberton case study).

Over the next 12 months we will undertake the following initiatives:

- Prepare a case study of the direct and indirect energy efficiency opportunities on our projects in response to the Energy Efficiency Opportunities Act,
- Develop a distributed energy strategy for the business and pilot distributed energy initiatives,
- Benchmark energy use on our projects and pilot energy targets on new projects, and
- Continue to apply alternative energy supply technologies on our projects.

AVERAGE NABERS OFFICE ENERGY RATING	STARS
2011	3.9
2010	3.6
2009	3.6
2008	3.4
2007	2.9
2006	2.9

In 2011

Our office portfolio has continued to deliver energy efficiency within existing and new buildings through capital investment in high-efficiency chillers, building management systems, lighting controls and variable speed drives

Over the past 12 months, we have focused on how we can influence greenhouse gas reduction on our sites and begin to help our customers to understand the impacts of energy on their ongoing costs



CASE STUDY

Stockland Nowra – energy trade-offs

The project was completed in April 2011 and has demonstrated excellent results, with a substantial increase in lighting level and a 35 per cent reduction in energy use compared to the prior corresponding period

Stockland Nowra presented us with a challenge – how to balance the need to upgrade shopping facilities with our desire to achieve energy savings. The centre had been experiencing higher energy usage in FY10 as a result of Kmart moving to round-the-clock trading at the centre. In addition, the building was due for additional air-conditioning and upgraded lighting, all of which pointed to expected increases in energy use.

The first challenge was the lighting. The level of lighting in the centre needed to be lifted from the existing poor level (approximately 180 lux) to our new design standard (320 lux), while reducing the overall energy usage. A feasibility study was conducted to compare different lighting options and found that we could achieve an excellent financial return by undertaking an LED upgrade. The project consists of:

- A ceiling redesign,
- Lighting controls,
- New lighting level standards, and
- LEDs (light-emitting diodes).

The different energy trade-offs of improving amenity whilst reducing energy are shown in the graph below. We view this as a blended financial return which met Commercial Property's financial requirements for the project to proceed.



Stockland Nowra

Achieving energy savings
creating better indoor environments.

The project was completed in April 2011 and has demonstrated excellent results with a substantial increase in lighting level and a 35 per cent reduction in energy use compared to the prior corresponding period.

Following the success of this project we have committed to extending our LED program in FY12 and are currently completing detailed feasibilities for different assets. Interestingly, we have found that different sites require different solutions. Our detailed analysis will help us identify the best way to improve energy usage taking into account the specific circumstances at each site.



Figure 1

Process

- Apply demand management (switched zoning) to existing lights
- Levelise amenity by modelling increasing illumination using the existing lights
- Increase lamp efficiency



CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

Our energy and greenhouse gas emissions metrics

Our boundary and methodology

All figures relate to our Australian operations.

Scope 1 emissions comprise direct emissions. That is, emissions from fuels that are combusted on-site (including natural gas and diesel) as well as refrigerant leakage. Scope 1 also includes emissions reported by contractors where we have operational control (typically

residential communities projects) as required by the National Greenhouse and Energy Reporting Act (2007) (NGERA). Contractors are required to supply their energy consumption data as part of monthly reporting and we then use this supplied data for our greenhouse gas emissions reporting. Our emissions boundary also includes a decommissioned coal seam mine that produces an estimated 12.4 tCO₂-e per annum.

Scope 2 emissions comprise indirect emissions from the consumption of electricity only.

We report our Scope 1 and 2 emissions according to our operational control boundary under the NGERA. We voluntarily report select **Scope 3** emissions in accordance with the GHG Protocol Corporate Standard.

We report greenhouse gas emissions comprising base-building electricity (Scope 2) and gas consumption (Scope 1) for our office, retail, industrial, residential and retirement living assets for which we have operational control. Tenant usage is not included, except where we are the tenant. For those assets that have missing invoices estimates are provided.

In FY11, we improved the data collection for our Retirement Living and Residential businesses. This has enabled us to shift from reporting estimates based on sampling to reporting actual performance data across all Retirement Living and Residential sites within our operational control.

This has led to an increase in our greenhouse gas emissions profile. An increase in civil works activity on our Residential projects has also contributed to this increase.

Prior to FY09 we reported emissions where we had financial control (essentially where we purchased energy including electricity,

gas and fuel). Following the introduction of the NGERA we now report emissions where we have operational control. This means extending our reporting boundary to include emissions associated with contractors working on our residential communities and some retirement living sites. Our operation control boundary is confirmed each year by Group Legal with advice from Gadens Lawyers.

Intensities: The greenhouse gas emissions and electricity consumption of our office and retail businesses are divided by the floor area of those assets. We use the same operational control boundary for our total figures, excluding our tenancies.

Our greenhouse gas emissions

TOTAL GREENHOUSE GAS EMISSIONS (kgCO₂-e)

	FY11	FY10	FY09	FY08	FY07	FY06
Scope 1 + Scope 2	155,742,244	146,273,971	145,326,882*	132,439,692	139,385,591	139,279,841
Scope 1	27,459,144	14,904,868	3,016,281	3,201,338	3,323,881	3,500,090
Scope 2	128,283,100	131,369,103	120,000,601	129,238,354	136,061,710	135,779,751

Notes: Residential and Retirement Living data was not reported for FY06–09 individual scopes.

* In FY09 scope 1 and 2 emissions for Residential and Retirement Living were estimated and included in our total greenhouse gas emission.

TOTAL SCOPE 1 EMISSIONS (kgCO₂-e)

	FY11	FY10	FY09	FY08	FY07	FY06
Office gas	1,827,474	1,574,047	1,759,961	1,937,412	2,489,555	2,549,324
Industrial gas	7,540	36,037	20,597	Not recorded	Not recorded	Not recorded
Retail gas	52,558	29,216	40,455	262,380	262,932	517,766
Vehicle fleet	166,538	178,083	287,548	1,001,546	571,395	433,000
Refrigerants	1,094,926	1,108,671	907,720	Not recorded	Not recorded	Not recorded
Residential gas (including coal seam mine)	157,816	50,778	Not recorded	Not recorded	Not recorded	Not recorded
Residential contractors	22,357,767	11,669,158	Not recorded	Not recorded	Not recorded	Not recorded
Retirement Living gas	332,065	2,930	Not recorded	Not recorded	Not recorded	Not recorded
Retirement Living contractors	1,462,460	255,948	Not recorded	Not recorded	Not recorded	Not recorded
Total	27,459,144	14,904,868	3,016,281	3,201,338	3,323,881	3,500,090

Notes: Residential and Retirement Living data was not reported for FY06–FY09 individual scopes.

GREENHOUSE GAS EMISSIONS	kgCO ₂ -e
FY11	155,742,244
FY10	146,273,971
FY09	145,326,882*
FY08	132,439,692
FY07	139,385,591
FY06	139,279,841

Residential and Retirement Living data was not reported for FY06–FY09 individual scopes.

* In FY09 scope 1 and 2 emissions for Residential and Retirement Living were estimated and included in our total greenhouse gas emission.

TOTAL EMISSIONS (NGERA BOUNDARY) FY11 (kgCO ₂ -e)
155,742,244

SCOPE 1 GREENHOUSE GAS EMISSIONS	kgCO ₂ -e
FY11	27,459,144
FY10	14,904,868
FY09	3,016,281
FY08	3,201,338
FY07	3,323,881
FY06	3,500,090

Residential and Retirement Living data was not reported for FY06–FY09 individual scopes.

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

TOTAL SCOPE 2 EMISSIONS (kgCO₂-e)

	FY11	FY10	FY09	FY08	FY07	FY06
Corporate tenancies	1,818,240	1,511,979	1,558,899	Not reported	Not reported	Not reported
Office	53,052,082	56,761,064	62,487,006	66,238,591	69,544,494	68,134,207
Industrial	3,088,275	3,261,711	99,391	2,878,686	5,223,895	5,030,872
Retail	61,702,581	63,205,479	55,855,304	60,121,076	61,293,321	62,312,820
Residential	2,668,804	4,435,837	Not reported	Not reported	Not reported	Not reported
Residential contractors	252,821	96,149	Not reported	Not reported	Not reported	Not reported
Retirement Living	5,689,929	2,096,884	Not reported	Not reported	Not reported	Not reported
Retirement Living contractors	10,368	-	Not reported	Not reported	Not reported	Not reported
Total	128,283,100	131,369,103	120,000,601	129,238,354	136,061,710	135,779,751

Note: Residential and Retirement Living data was not reported for FY06–FY09 individual scopes.

SCOPE 2 GREENHOUSE GAS EMISSIONS	kgCO ₂ -e
FY11	128,283,100
FY10	131,369,103
FY09	120,000,601
FY08	129,238,354
FY07	136,061,710
FY06	135,779,751

Residential and Retirement Living data was not reported for FY06–FY09 individual scopes.

TOTAL SCOPE 3 (kgCO₂-e)

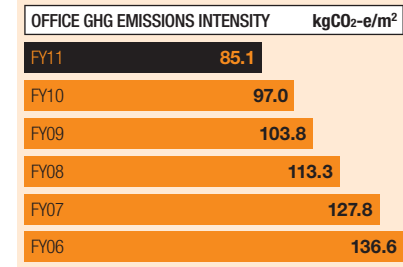
	FY11	FY10	FY09	FY08	FY07	FY06
Total transmission and production losses from purchased electricity and gas and fuel fleet	21,275,232	23,159,819	19,718,223	21,248,048	22,702,571	23,090,218
Car hire	79,475	65,048	42,105	79,460	66,572	65,048
Air travel	1,859,621	1,241,197	1,070,393	1,078,377	1,099,714	1,241,197
Total	23,214,328	24,466,064	20,830,721	22,405,885	23,868,857	24,396,463

SCOPE 3 GREENHOUSE GAS EMISSIONS	kgCO ₂ -e
FY11	23,214,328
FY10	24,466,064
FY09	20,830,721
FY08	22,405,885
FY07	23,868,857
FY06	24,396,463

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

GREENHOUSE GAS EMISSIONS INTENSITY (kgCO₂-e)

	FY11	FY10	FY09	FY08	FY07	FY06
Office	85.1	97.0	103.8	113.3	127.8	136.6
Floor area (NLA) of buildings in intensity metric (m ²)	642,279	600,788	508,342	527,511	570,091	524,618
% floor area in intensity metric	100%	100%	76%			
Retail	73.0	76.0	74.6	77.2	82.2	88.6
Floor area (GLA) of buildings in intensity metric (m ²)	852,108	831,821	735,733	784,846	748,437	709,490
% floor area in intensity metric	100%	99%	97%			

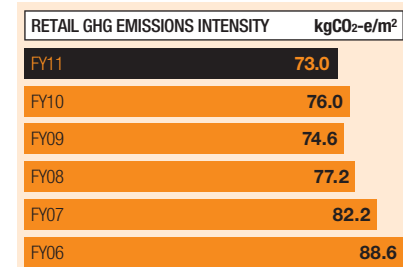


OFFICE GHG EMISSIONS INTENSITY FY06-11 % **38**▼

Greenhouse gas emissions for office assets divided by the leased floor area of these assets.

GHG INTENSITY % REDUCTION

	FY06-11	FY09-11	FY10-11	FY09-10	FY08-09	FY07-08	FY06-07
Office	38%	18%	12%	7%	8%	11%	6%
Retail	18%	2%	4%	-2%	3%	6%	7%



RETAIL GHG EMISSIONS INTENSITY FY06-11 % **18**▼

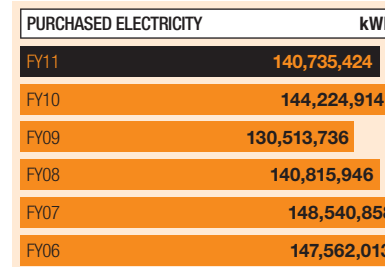
Greenhouse gas emissions for retail assets divided by the leased floor area of these assets.

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

Our energy consumption

PURCHASED ELECTRICITY – kWh

	FY11	FY10	FY09	FY08	FY07	FY06
Corporate tenancies	1,924,901	1,622,297	1,655,224	Not reported	Not reported	Not reported
Office	60,025,840	63,370,687	68,639,145	73,337,524	77,526,965	75,460,030
Industrial	3,442,690	3,622,030	108,900	2,715,742	4,928,202	5,030,872
Retail	66,771,363	69,030,062	60,110,466	64,762,680	66,085,690	67,071,111
Residential	2,764,084	4,724,216	Not reported	Not reported	Not reported	Not reported
Residential contractors	249,272	89,785	Not reported	Not reported	Not reported	Not reported
Retirement Living	5,548,781	1,725,830	Not reported	Not reported	Not reported	Not reported
Retirement Living contractors	8,493	7	Not reported	Not reported	Not reported	Not reported
Total	140,735,424	144,224,914	130,513,736	140,815,946	148,540,858	147,562,013

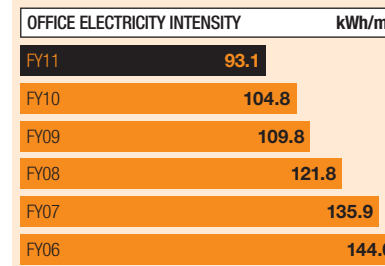


Base building electricity for office, industrial and retail assets and corporate tenancies.

Residential and Retirement Living data was not reported for FY06–09 purchased electricity.

ELECTRICITY INTENSITY (kWh/M²)

	FY11	FY10	FY09	FY08	FY07	FY06
Office	93.1	104.8	109.8	121.8	135.9	144.0
Floor area (NLA) of buildings in intensity metric (m ²)	646,279	600,788	508,342	527,511	570,091	524,618
% of portfolio covered in intensity metric	100%	100%	76%			
Retail	78.9	83.0	80.1	82.8	88.3	94.5
Floor area (GLA) of buildings in intensity metric (m ²)	852,108	831,821	735,733	784,846	748,437	709,490
% of portfolio covered in intensity metric	100%	99%	97%			

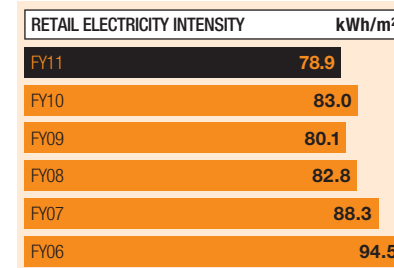


Floor area (NLA) of buildings in intensity metric (m²).

CLIMATE AND OUR ENVIRONMENT **CLIMATE CHANGE AND ENERGY**

ELECTRICITY INTENSITY % REDUCTION

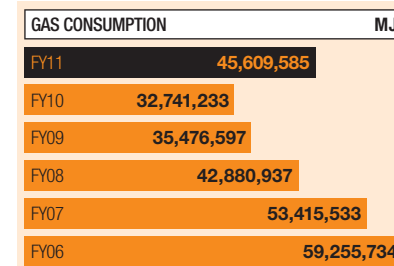
	FY06-11	FY10-11	FY09-10	FY08-09	FY07-08	FY06-07
Office	35%	11%	5%	10%	10%	6%
Retail	17%	5%	-4%	3%	6%	7%



GAS CONSUMPTION – TOTAL AUSTRALIAN MJ

	FY11	FY10	FY09	FY08	FY07	FY06
Office	35,602,367	30,665,244	34,287,190	38,766,323	48,300,919	49,278,237
Industrial	146,890	702,056	401,271	Not reported	Not reported	Not reported
Retail	1,023,893	569,172	788,136	5,114,614	5,114,614	9,977,497
Residential	2,832,885	747,679	Not reported	Not reported	Not reported	Not reported
Residential contractors	1,189	0	Not reported	Not reported	Not reported	Not reported
Retirement Living	6,002,361	57,082	Not reported	Not reported	Not reported	Not reported
Total	45,609,585	32,741,233	35,476,597	42,880,937	53,415,533	59,255,734

Floor Area (GLA) of buildings in intensity metric (m²).



FUEL CONSUMPTION – BY TYPE

	FY11 Total	Residential Contractors	Retirement Living Contractors	Fleet
Diesel (L)	8,406,045	7,865,518	519,456	21,111
Bio-diesel (L)	301,821	301,821	-	-
Petrol (L)	293,004	226,595	21,118	45,291
Ethanol (L)	8,688	5,190	590	2,908
LPG (L)	178	178	-	-
Oil (L)	73,421	70,203	3,218	-
Grease (kg)	20,168	20,168	-	-

Residential and Retirement Living data was not reported for FY06-09 consumed gas.

Notes: This is the first year we have provided a breakdown of fuel consumption in litres.

In 2011

We firmly believe that when good biodiversity conservation outcomes can be achieved it improves the resilience of our local landscapes, as well as our relationships with local communities and regulatory authorities, enhances our approval prospects and improves the overall amenity of our communities

Our natural environment

Biodiversity

We know that most developments have some impact on biodiversity, typically through the removal of native vegetation. Our aim is to actively manage and reduce our impacts to preserve and enhance areas of biodiversity value on the sites we develop.

In cases where we are developing a greenfield site, or a site with ecological value, we produce an Environmental Impact Assessment. These assessments improve our knowledge of the plants, animals and ecosystems that are part of, or adjacent to, our sites and help us identify impacts and opportunities.

The biodiversity value of the land we develop varies from project to project. In our Residential business we develop greenfield sites and take care to conserve and, where possible, positively enhance the ecological value of those sites. In our Commercial Property business, however, our projects are typically located on sites that are already heavily degraded or have little ecological value.

Commercial Property

We have committed to using the Green Star environmental rating tool on new developments and major redevelopments. Under the Land Use and Ecology category, for example, we look to protect topsoil from degradation during construction and maintain topsoil volume on site wherever possible. And where land is contaminated, we undertake remediation works and landscaping to enhance the ecological value of the site.

When purchasing a new site, we undertake a thorough environmental assessment of the site and the surrounding sites including proximity to areas of ecological significance, threatened and endangered

THREATENED OR ENDANGERED SPECIES OR COMMUNITIES IMPACTED BY PROJECTS

	Percentage of projects that impact threatened or endangered species (%)	Total area of land that impacts species habitat or makes up community (hectares)	Total area of land that has been cleared (hectares)*	Total area of land that has been regenerated, revegetated, restored or rehabilitated (hectares)*	Projects with a biodiversity plan approved by relevant approval authority (%)	Total projects that partnered with or involved community and non-government organisations in natural resource management
Residential Communities FY11	41	2,030	181	167	26	13
Residential Communities FY10	40	852	170	55	30	11
Residential Communities FY09	33	1,077	N/A	N/A	33	7

Boundary: All projects are assessed by either local, and/or state and/or federal approval authorities. Our residential communities' biodiversity results are representative of all of our residential projects as at 30 June 2011. Projects may be in planning or preapproval, design or delivery. This means decisions on the amount of significant species to be conserved may not yet have been made on all projects represented in our results.

* We only began collecting data for these metrics in FY10.

species, climate change risk and soil contamination. As well, historical uses of the site are examined to ensure that minimal risks are present from a land use perspective. These assessments are undertaken as part of our Commercial Property Sustainability Guidelines Asset Acquisitions. A recent example of this occurred with the purchases of Centro Hervey Bay in Queensland and the Point Cook Town Centre in Victoria. Through due diligence we examined granular information such as how chemicals are disposed of on site from dry-cleaners and car cleaning operators.

Residential and Retirement Living

We believe biodiversity conservation is most effective when large parcels of good quality, intact ecological communities and threatened species habitat are placed into public ownership for ongoing management. Given the many competing interests of new greenfields developments such as design requirements, increased density, housing located close to schools, shops and public transport facilities, optimal conservation outcomes can become compromised. The best conservation outcomes can sometimes be found by looking beyond project site boundaries, for catchment-based landscape planning solutions.

For example:

- Private or community ownership,
- Restoration activities,
- Education,
- Conservation of migration and foraging corridors, and
- Landscape for amenity integration.

Independent Environmental Impact Assessments are conducted for all of our projects to help our project teams, the local regulatory authorities and the local community, understand any biodiversity we have on our site. Our Residential Sustainability policy ensures that we look for the best conservation opportunities as part of our urban design approach. We firmly believe that when good biodiversity conservation outcomes can be achieved it improves the resilience of our local landscapes, as well as our relationships with local communities and regulatory authorities, enhances our approval prospects and improves the overall amenity of our communities.

Our work over the last two years has helped us build a better picture of our impacts on a site-by-site basis and nationally. We document case studies to help educate development teams around opportunities to deliver better biodiversity outcomes. We have also commenced a pilot partnership with national vegetation management provider Greening Australia,

to provide restoration activities and community education on our Glenmore Ridge (New South Wales) project. The pilot will build a model for community engagement that can be taken to other projects across the country. We will continue this work over the next 12 months with new case studies and education on our national biodiversity footprint. We will also review the impact of previous restoration works on our North Lakes project in Queensland to understand how our restoration works have affected local biodiversity on that project.

As of end FY11, none of our Retirement Living projects contained significant species habitat as defined by state and federal legislation.

Greenfield development

Greenfield development refers to sites that have not previously been developed. Typically greenfield sites are former rural sites, located close to the urban growth boundary. The strategy for our residential communities business is to develop greenfield sites, as this is where our expertise lies. We are mindful however that some stakeholders have concerns with the relative impact of developing greenfield sites over infill sites. It is our goal to minimise environmental effects and optimise social benefits.

Amberton – greenfield development

We also know that greenfield sites can provide people with affordable housing solutions. Our challenge is to ensure that we develop close to education, employment and public transport, as well as other social and civic infrastructure. Increasingly we recognise that we have the opportunity to influence and help deliver these elements early in the life of a new community.

We are committed to measuring our impact in developing greenfield sites, and have commenced trialling use of the Kinesis CCAP Precinct tool. We are also a gold sponsor of the Green Building Council's Green Star Communities tool, intended to inform the planning, design and delivery of more sustainable communities, including those developed on greenfield sites.

The outcome is a greenfield development that will outperform its contemporaries in all five elements and by more than 30 per cent in terms of embodied CO₂e, energy and water consumption



We are committed to innovative and eco-efficient greenfield development at our newest residential community in Western Australia, with the aim of creating homes that will be more affordable for residents to live in. Amberton, located on Perth's northern beaches, is a masterplanned community that will ultimately include more than 2,000 houses, schools, shops and parks, in a coastal setting.

What makes this project different is our use of a specialised sustainability planning and design tool to measure the performance of different sustainability initiatives to determine which ones will deliver the return on investment in terms of cost savings to home owners (up to \$800 per annum for some homes).

The Kinesis CCAP Precinct tool uses current price data from service providers such as Synergy and Water Corporation to quantify the sustainability of a precinct using the available data, location and design parameters and comprehensive mathematical calculations across five inter related elements:

- Land use and transport,
- Embodied CO₂e,
- Energy consumption,
- Water usage,
- Financial analysis and affordability.

A comparison example that represented business as usual energy, water and transport features in a new residential development was also developed. These two sets of results were then compared to the Perth metropolitan average.



Amberton site, Western Australia

Using specialised tools

measuring the environmental performance of our residential projects.

With this approach we have been able to select the sustainability initiatives that will be most effective for Amberton's climatic conditions, surrounding transportation infrastructure, power sources, water consumption behaviours, built-form composition and spatial design elements. For example, the CCAP Precinct tool has shown water efficient appliances such as front load washing machines at Amberton will deliver almost twice the water savings for a lower cost than small to medium-sized rainwater tanks.

The outcome is a greenfield development that will outperform its contemporaries in all five elements and by more than 30 per cent in terms of embodied CO₂e, energy and water consumption. We are now looking to apply the Kinesis CCAP Precinct tool to other projects nationally. And Amberton's future homeowners will enjoy the benefits of reduced energy and water use through reduced household operating costs.

CASE STUDY

Trinita – a green premium

Trinita is a 28,000 square metre office campus located in Macquarie Park, Sydney. The project integrates three high quality buildings into a shared environment of landscaped outdoor public space.

The entire campus is in the process of achieving Green Star certification, with buildings 1 and 2 having been awarded 5 Star Green Star ratings under the Green Star – Office As Built v2 in 2009. Building 3 is also targeting a 5 Star Green Star Office As Built rating.

“The campus encourages and enables outstanding corporate responsibility, sustainability and strong business performance through leading environmental initiatives.” Stephen Bull, General Manager for Development and Design, Commercial Property.

The Green Star premium

In 2007, we signed up to the Green Business Partnership. The Trinita development was in a unique position where the contract had been priced without Green Star initiatives and then was enhanced with Green Star initiatives. In doing so we were able to provide an accurate breakdown of the Green Star cost premium compared to an equivalent office project.

To raise the Trinita buildings up to Green Star standards, the project team worked with the contractor to identify which extra features would be needed and the additional costs they would incur. These sustainability features increased costs by 2.2 per cent, with the bulk of the green premium being spent on further commissioning, metering and more efficient electric lighting.

For a minimal increase in costs, the project team was able to deliver an entire 5 Star Green Star business campus – demonstrating that 5 Star Green Star buildings can be delivered without exceeding traditional commercial premiums.

This exceeds the initial intention of achieving 4 Star Green Star ratings for the entire campus. 4 Star benchmarks were chosen to allow for a significant buffer. However, as the project has achieved almost every Green Star point it targeted, 5 Star ratings have been the result.

Michael Yiend, Development Manager Stockland, explains: “It is amazing what can be achieved when Stockland works with our project teams, builders and customers. We are very proud of Trinita’s outcomes.”

NABERS 5 Star

The performance benefits of Trinita’s sustainability features are obvious: Building 1 has achieved a 5 Star NABERS Energy and Water rating, and while buildings 2 and 3 have not yet been operational for the full year required to achieve ratings, we are anticipating an equally impressive result.

The 5 Star result represents a 50 per cent reduction in energy use over a standard 2.5 Star NABERS Energy-rated building and a 60 per cent reduction in water use over a standard 2.5 Star NABERS Water rated building.

This translates into a saving of more than \$10 per square metre per annum in reduced energy costs and over \$1.50 per square metre each year in reduced water costs. This will translate into savings on energy and water costs for Trinita’s tenants.

Green Star tenants

Research has shown that there are real advantages for businesses operating in Green Star buildings – and these benefits extend well beyond the carbon footprint. Tenants are increasingly demanding sustainable buildings to future proof their businesses against escalating energy and water prices, to attract and retain top talent and to demonstrate that corporate social responsibility starts at home.

Trinita has a range of features which benefit both tenants and the environment. All buildings within the campus feature floor flexibility enabling tenants to split and isolate half floors down to 700 square metres. The campus also features easy public transport access, bicycle and changeroom facility, together with an emphasis on excellent Indoor Environment Quality.

With such a sustainability showcase on offer, we were able to lease Trinita earlier than industry practice – which meant the campus reached 100 per cent occupancy sooner. The fact that other buildings around the Trinita campus still lay vacant speaks volumes about the shift to sustainability.

In a vote of confidence in the building, Baulderstone, the main contractor on the project, has moved in as the major tenant. “We are very pleased to be a major tenant in North Ryde’s first 5 Star Green Star office building, as it represents Baulderstone’s commitment to creating what matters in a sustainable way,” says Baulderstone’s NSW General Manager, David Lougher.

CSR is another tenant that chose Trinita due to its sustainability features. The company recently achieved a 5 Star Green Star certification for its own fitout within Trinita under the Office Interiors v1.1 rating tool.



Trinita building

“We are proud of our achievements at Trinita,” Stockland’s Stephen Bull says. “Achieving the Green Star rating is a testament to our ongoing relationship with tenants and corporate commitment to the environment.”

Other ESD initiatives featured in the project:

- High performance full height double glazing,
- Energy efficient T5 lighting,
- Motion sensors for out of hours lighting control,
- Lighting in 100 metres squared zones with switches clearly labelled and accessible by building occupants.
- Energy and water sub-metering to monitor consumption and check for leaks,

- 80 per cent of construction waste either re-used or recycled.
- High levels of natural daylight and access to external views,
- Low Volatile Organic Compound paints and carpets,
- Tenant exhaust risers to remove pollutants from printing and photocopy areas.
- On-site rainwater collection for landscape irrigation,
- Water efficient cooling towers.
- On-site storage for tenant office waste and recycling.

CLIMATE AND OUR ENVIRONMENT **OUR NATURAL ENVIRONMENT**

Water

Effectively managing our water use is a priority for our business. We aim to actively reduce our water consumption and improve our water efficiency.

Each of our business units has minimum performance standards for water management and conservation. These range from applying water sensitive urban design principles and water efficient landscaping, to installing water-efficiency fixtures and fittings for our built dwellings, and minimising irrigation using potable water.

Commercial Property water consumption

Our office portfolio has continued to deliver improvements in water efficiency through a strong focus on management and upgrade of water metering systems as required. This year we achieved a NABERS Office Water portfolio average rating of 3.4 Stars and an 11 per cent reduction in the water intensity of our office portfolio. In FY09 we committed to a 10 per cent reduction in water intensity by FY14 and a NABERS Office Water portfolio average rating of 4.0 Stars by FY14. Although we have already exceeded the water intensity target for FY14 in our office portfolio, this target was set for the whole Commercial Property portfolio, which has achieved a 5 per cent reduction. Until Commercial Property exceeds the overall target, we will not reset this.

AVERAGE NABERS OFFICE WATER RATING	STARS
FY10	3.4
FY09	3.6
FY08	3.6
FY07	3.0
FY06	2.2
FY05	1.2

We worked very hard on the operational management of water in our Retail centres this year and turned our disappointing water results from FY10 around. Overall we saw a 10 per cent change. For the majority of our sites, we are moving to an outsourced water sub-metering provider, and all of these sites have a 10 per cent water reduction target. In FY12 we will work to improve our water usage both through capital expenditure on water efficient devices and through closer monitoring and regular internal reporting on water usage. Stockland has joined the Retail NABERS Technical Advisory Group to work through some detailed issues on the NABERS Retail tool prior to implementing this across the Stockland portfolio.

Commercial Property water metrics

WATER CONSUMPTION (kL)

	FY11	FY10	FY09	FY08	FY07	FY06
Office and Industrial	478,646	502,191	552,248	683,964	772,048	695,217
Retail	807,636	880,490	746,485	788,304	864,647	863,491
Total	1,286,282	1,382,681	1,298,733	1,472,267	1,636,695	1,558,708

Boundary: We report according to our operational control boundary under the National Greenhouse and Energy Reporting Act (NGERA). FY06 figures exclude our industrial site at Yennora.

WATER INTENSITY REDUCTIONS (%)

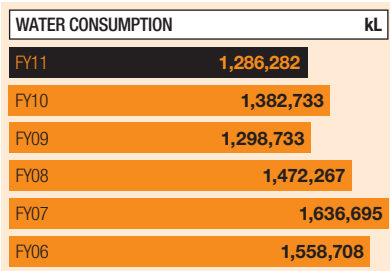
	FY06–FY11	FY10–FY11	FY09–FY10	FY08–FY09	FY07–FY08	FY06–FY07
Office	36%	11%	9%	0%	15%	6%
Retail	21%	10%	-13%	7%	14%	4%

INTENSITY (kL/m²)

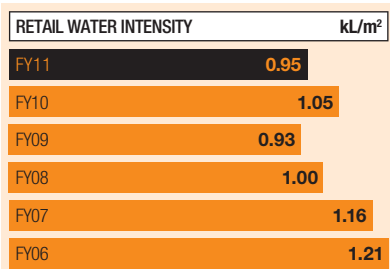
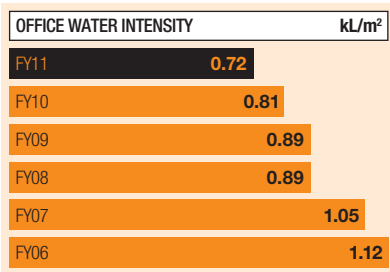
	FY11	FY10	FY09	FY08	FY07	FY06
Office	0.72	0.81	0.89	0.89	1.05	1.12
Floor area (Net Lettable Area) of buildings in intensity metric (m ²)	646,279	593,603	343,348	592,723	556,710	522,621
Percentage portfolio covered (%)	100	100	49	80	77	93
Retail	0.95	1.05	0.93	1.00	1.16	1.21
Floor area (Gross Lettable Area) of buildings in intensity metric (m ²)	856,875	841,297	775,565	790,064	748,520	714,700
Percentage portfolio covered (%)	100	100	100	100	97	92

Boundary: We report according to our operational control boundary under the National Greenhouse and Energy Reporting Act (NGERA). Intensity figures are derived from the total water consumption for each asset class over the year divided by the total floor area. Retail and office assets without a full 12 months of data include estimates for the missing months.

CLIMATE AND OUR ENVIRONMENT **OUR NATURAL ENVIRONMENT**



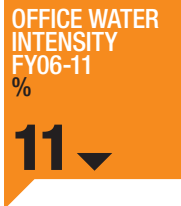
Water consumption of office, industrial and retail assets.



In 2011

In FY09 we committed to a 10 per cent reduction in water intensity by FY14 and a NABERS Office Water portfolio average rating of 4.0 Stars by FY14

Over the next 12 months we will continue to work with our contractor partners to refine our data collection processes to ensure we continue to build confidence in our reporting



Residential and Retirement Living water consumption

Water is a major influence on how we design and construct our residential and retirement communities. In particular, decisions on how we supply, use, treat and dispose of waste water all impact the natural and urban environments in which we operate. Water is used by us directly, for example in our sales suites and landscape maintenance, and indirectly through our contractors. Contractors use water for dust suppression, road construction, to establish landscaping and concreting. The amount of water we use is heavily influenced by climatic conditions. More water is used during low rainfall but very little during periods of rain. Our water use also depends on the location of the project and the types of soil on site.

We prefer to use non-potable water on our projects, but where required for drinking, not available or too costly to supply, we use potable water from reticulated local water supplies.

We have observed significant variations in our water data over the past three years which can mostly be attributed to two factors. Climatic and site conditions significantly influence the amount of water used by our contractors. More significantly though, we believe that while our data accuracy is improving each year with better systems integration and education of our employees and contractors, it is difficult to achieve 100 per cent complete and accurate data from third parties. Over the next 12 months we will continue to work with our contractor partners to refine our data collection processes to ensure we continue to build confidence in our reporting.

In FY12, we will also commence work on a Residential water strategy which will establish water benchmarks in our corridors and pilot water targets on our projects. The strategy will extend to include design of our communities and our efforts to improve the quality of water draining from our projects to local waterways.

RESIDENTIAL AND RETIREMENT LIVING WATER CONSUMPTION (kL)

	Total FY11	Potable FY11	Non-potable FY11
Residential	25,586	22,836	2,750
Retirement Living	4,156	3,956	200
Contractors – Residential	348,637	157,716	190,921
Contractors – Retirement Living	12,308	12,256	52
Total	390,687	196,764	193,923

Boundary: Residential Communities, Apartments and Retirement Living water consumption results are provided by collecting and collating water use from invoices. Where invoices are unavailable or extend across financial years, estimates are provided for relevant periods. Water consumption by contractors operating on our development sites is compiled using invoice data and estimates, supplied by contractors through monthly Health, Safety and Environment reports. Data has been reported for 98 per cent of properties this year. These figures are based on a combination of contractor estimates and invoice data.

CLIMATE AND OUR ENVIRONMENT **OUR NATURAL ENVIRONMENT****Waste and materials**

We are committed to managing our waste efficiently and aim to reduce and reuse, rather than send to landfill. We have set minimum waste recycling targets for our operating businesses. These are particularly important for our Commercial Property business where we have a high degree of influence to help reduce waste and manage the use of materials.

Waste**Commercial Property waste**

This year we have continued to engage with our tenants, retailers and customers to further improve the levels of recycling at our sites. Some of the waste initiatives implemented this year are:

- We increased our minimum recycling target for our retail assets to 30 per cent diversion from landfill, up from 20 per cent the previous year. This year we achieved 28 per cent diversion from landfill for retail. While this is up 2 per cent on last year, it falls 2 per cent below our new target.
- Specific diversion from landfill KPIs have been set for FY12 for all Commercial Property sites to ensure that our overall waste and recycling goals are being achieved each year.

- We set minimum standards for construction waste recycling for all office, retail and industrial development projects. A minimum of 60 per cent construction waste must be recycled in retail and industrial projects, and a minimum of 80 per cent in office development projects.
- All our retail projects this year are now reporting on their development waste, up from only 50 per cent in FY10.
- We encourage and support retailers undertaking a tenancy fitout in our shopping centres to recycle as much of their construction waste as possible. We have worked in partnership with the New South Wales Office of Environment and Heritage to monitor construction, fitout and packaging waste and we recently completed a study on one of our major redevelopment projects at Merrylands in Sydney.
- We increased the number of recycling facilities in our office and retail sites, and improved the take up of existing services.
- We continued to work closely with our waste management contractors to optimise our waste and recycling services to achieve better diversion from landfill figures.
- We are working towards partnering with key stakeholders and getting more of our sites to recycle organic waste in FY12.

OPERATIONAL WASTE (TONNES)

	Office FY11	Office FY10	Office FY09	Retail FY11	Retail FY10	Retail FY09
Total waste	3,644	2,781	4,038	12,907	12,058	8,546
Total waste to landfill	1,189	947	1,401	9,275	8,956	7,203
Total waste recycled	2,455	1,834	2,637	3,632	3,101	1,343
Diversion from landfill (%)	67	66	65	28	26	15
Percentage of portfolio reporting (%)	100	100	90	95*	100	81

Boundary: We are reporting against the same National Greenhouse and Energy Reporting Act (NGERA) operational control boundary that we use for energy and water. We report on all properties within this boundary, with the exception of some properties where our tenants run their own waste contracts. We also report on a small number of additional properties that fall out of our NGERA boundary, but where we manage the waste contract for service provision purposes. Data provided by waste contractors is based on estimates (bin volumes converted to tonnes rather than weighed).

* The decrease in retail centres reporting on their waste and recycling is due to the acquisition of Hervey Bay (where the previous owner was not collecting data) and another site in Queensland where the local Council collects the waste and has not supplied metrics this year.

DEVELOPMENT WASTE (TONNES)

	Office FY11	Office FY10	Office FY09	Retail FY11	Retail FY10	Retail FY09
Total waste	144.81	291	12,120	58,558	663	1,146
Waste recycled	129.95	242	10,580.9	52,322	552	994
Waste to landfill	14.86	49	1,884	6,236	111	152
Diversion from landfill (%)	90	83	87	89	83	87
Percentage of the developments included (%)	100	100	100	100	50	20

Boundary: Calculated based on total number of projects for which Stockland is the developer. Active waste is tracked through the builders, as for these sites the principal contractor has active control.

CLIMATE AND OUR ENVIRONMENT **OUR NATURAL ENVIRONMENT**

Residential waste

We continue to collect data from our residential development contractors. This year, 93 per cent of waste collected from our projects was recycled either on site or through waste recycling facilities. This is down on last year's figure of 97 per cent, most likely due to an increase in non-recyclable or hazardous waste. We continue to work with our contractors to improve the accuracy of the waste data they provide.

CONTRACTOR WASTE (TONNES)

	FY11	FY10
Total waste	334,899	112,884
Waste diverted from landfill	311,811	109,887
Waste sent to landfill	23,088	2,957

Boundary: All Residential and Retirement Living waste data was provided by contractors operating on Stockland sites during the reporting period. Data is estimated by contractors or obtained from waste receipts and invoices. Data is manually collected from monthly Health, Safety and Environment reports submitted to Stockland by our contractors.

Materials

Commercial Property materials

Materials selection in development projects is guided by the Green Building Council's Green Star tool, which covers materials such as timber, steel, concrete and PVC. For office and retail tenancy fitouts, we have specific guidelines for materials selection, set out in our Green Office Fitout Guide and the Retail Design and Fitout Guide. In addition, our office, industrial and retail leases all now contain clauses which encourage tenants to implement fitouts which utilise materials recommended in their respective tenancy fitout guides.

Residential materials

Our residential development contractors regularly recycle and reuse materials on site.

Some examples of the use of recycled materials on our sites are:

- Earthworks are generally 100 per cent recycled and topsoil is often stockpiled for later use in parks and gardens.
- If good quality shale or sandstone is found on-site, it is often reused or recycled for retaining wall construction or road pavement subgrade improvement.
- For road construction, blended material including fine crushed recycled concrete is often used for the base course.
- For drainage construction, blended material fine crushed recycled concrete is often used for the trench backfill.
- Similarly for retaining walls, water and sewer reticulation, blended material fine crushed recycled concrete is often used for bedding and as granular backfill.

Materials selection guidelines

Working with the Building Products Innovation Council, our Commercial Property, Residential, and Retirement Living businesses, as well as Group Procurement, have sought to better understand the life cycle impacts of some of the construction materials we use, and their alternatives. The Council's research addresses a range of environmental impacts involved in the manufacturing of building products. This work, with input from our project and development management teams, will help us develop guidelines for sustainable materials selection. The project will consider the embodied energy from the creation and transport of products to their destination, as well as the relative advantages that various products have in improving the sustainability of our buildings.

Key deliverables for the project include:

- Developing a suite of key metrics for sustainable design,
- Developing a suite of metrics for environmental material credentials, and
- Communicating the impacts of this work in sustainable design using quantitative and qualitative references.

In 2011

93 per cent of waste from our Residential and Retirement Living contractors was recycled

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We sought to better understand the life cycle impacts of some of the construction materials we use, and their alternatives

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Merrylands – waste initiatives

The study shed new light on the waste cycle of our shopping centres and highlights areas where we can increase efficiency and recycling rates



The tenancy fitout of retail stores in our shopping centres can generate large quantities of packaging waste such as cardboard, plastic and polystyrene.

This year, we partnered with the New South Wales Office of Environment and Heritage, our construction contractors and retailers to conduct a study at our Merrylands Shopping Centre to gain a better understanding of waste generation in the tenancy fitout stage of a redevelopment. The study shed new light on the waste cycle of our shopping centres and highlights areas where we can increase efficiency and recycling rates.

Those opportunities include areas where we can reduce material generation, increase recycling rates and improve our data collection systems. For example, engaging with our retailers prior to fitout would minimise waste generation and reduce the cost of managing excess waste. Retailers would also benefit from staff spending less time unpacking stock and disposing of waste material.

The study will help us develop a KPI for stock out waste generation, based on gross floor area and retailer types. We will also look to improve our communication with waste contractors to better understand how data is collected and reported.

We will continue working with our stakeholders to explore further the opportunities identified by the Merrylands study, with a view to implementing them on future development projects.



Stockland Merrylands

Working with tenants

reducing and recycling waste together.

NABERS RATINGS

NABERS ratings

PROPERTY	NLA	Energy Rating 2010	Energy Rating 2009	Energy Rating 2008	Energy Rating 2007	Energy Rating 2006	Water rating 2010	Water Rating 2009	Water Rating 2008	Water Rating 2007	Water Rating 2006
NSW											
110 Walker St, North Sydney	4,532	4.0	4.5	4.0	3.5	3.5	3.0	3.5	4.0	3.5	3.0
118–120 Pacific Hwy, St Leonards	5,131	4.0	4.0	3.5	3.0	3.0	4.0	4.0	4.5	4.0	3.5
Picadilly Tower, 133 Castlereagh St, Sydney	29,876	4.5	4.5	3.5	4.0	N/A	4.0	4.0	4.0	3.0	N/A
Picadilly Court, 222 Pitt St, Sydney	9,724	3.5	4.0	4.0	4.5	4.0	3.5	3.5	3.5	4.0	3.5
135 King St, Sydney	27,056	3.0	2.0	2.0	N/A	1.5	2.5	2.5	2.5	1.5	N/A
175 Castlereagh St, Sydney	11,984	4.5	4.0	4.0	2.5	3.5	3.5	3.5	3.5	3.0	1.0
9 Castlereagh Street, Sydney	21,185	3.0	3.0	3.0	N/A	N/A	3.0	3.5	3.0	N/A	N/A
52 Martin Place, Sydney	39,071	4.5	4.0	3.0	N/A	N/A	3.0	2.5	1.5	N/A	N/A
601 Pacific Hwy, St Leonards	12,690	4.5	4.0	4.0	3.5	2.0	3.5	3.5	3.5	3.5	2.0
7 Macquarie Place, Sydney	13,641	4.0	3.5	3.0	N/A	N/A	3.5	3.0	1.0	N/A	N/A
75 George St, Parramatta	9,545	3.5	3.5	2.5	3.0	1.5	N/A	2.5	N/A	0.0	N/A
77 Pacific Hwy, North Sydney	9,337	4.0	3.5	N/A	2.5	2.0	2.5	2.5	N/A	3.5	2.5
16 Giffnock Ave, North Ryde	11,701	2.0	2.0	2.0	1.5	N/A	2.5	2.0	1.5	2.0	N/A
66 Waterloo Road, North Ryde	10,082	5.0	5.0	5.0	N/A	N/A	4.5	TBC	4.0	N/A	N/A
11–17 Khartoum Road, North Ryde	4,212	3.5	4.0	4.5	4.0	N/A	N/A	3.5	4.0	N/A	N/A
33–39 Talavera Road, North Ryde	10,931	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trinity, 39 Delhi Road, Building A	7,761	5.0					4.5				
Trinity, 39 Delhi Road, Building B	8,194	5.0					4.0				
Trinity, 39 Delhi Road, Building C		TBC					TBC				
CentreCourt Estate, North Ryde	84,194	U/R	U/R	N/A	N/A	N/A	U/R	U/R	N/A	N/A	N/A
ACT											
15 Mort Street, Cox Building, Canberra	3,701	U/R	U/R	4.0	3.0	3.0	U/R	U/R	4.5	3.5	4.0
17 Mort Street, Todd Building, Canberra	1,765	U/R	3.0	3.0	3.0	N/A	U/R	U/R	N/A	N/A	N/A
68 Northbourne Ave, Canberra	9,786	U/R	U/R	1.5	0.0	N/A	U/R	U/R	2.0	1.0	N/A
70 Northbourne Ave, Drakeford Building	3,811	U/R	U/R	3.5	3.0	3.0	U/R	U/R	N/A	2.5	0.0
72 Northbourne Ave, Trace Building, Canberra	5,196	U/R	2.5	3.0	2.5	2.5	U/R	U/R	N/A	N/A	N/A
Edmund Barton Building, Canberra (Under development)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
40 Cameron Street, Belconnen	15,506	2.0	TBC	2.5	3.5	N/A	1.5	TBC	N/A	N/A	N/A

NABERS RATINGS

PROPERTY	NLA	Energy Rating 2010	Energy Rating 2009	Energy Rating 2008	Energy Rating 2007	Energy Rating 2006	Water rating 2010	Water Rating 2009	Water Rating 2008	Water Rating 2007	Water Rating 2006
VIC											
452 Flinders St, Melbourne	38,496	4.0	3.5	3.5	2.0	2.0	3.5	3.5	3.0	3.0	3.0
541 St Kilda Rd, Melbourne	8,208	2.5	U/R	4.0	4.0	4.0	2.0	U/R	3.5	4.5	2.5
QLD											
Waterfront Place, 1 Eagle St, Brisbane	59,166	4.5	4.0	4.0	3.5	3.0	4.0	4.0	4.0	3.5	3.5
Garden Square, 643 Kessels Rd, Upper Mount Gravatt	12,681	3.5	3.0	1.0	1.0	N/A	4.0	4.0	4.0	4.0	N/A
80-88 Jephson Street, Toowong	6,397	2.0	2.0	1.5	1.5	N/A	4.5	4.5	4.5	4.5	N/A
WA											
Exchange Plaza, 2 The Esplanade, Perth	34,178	4.5	4.5	4.5	N/A	N/A	3.5	N/A	N/A	N/A	N/A
Durack Centre, 263 Adelaide Terrace, Perth	17,312	4.0	3.0	N/A	3.0	N/A	N/A	N/A	N/A	2.0	N/A
45 St Georges Terrace, Perth	9,876	N/A	3.0	N/A	3.0	N/A	N/A	N/A	N/A	2.5	N/A
267 St Georges Terrace, Perth	3,484	2.5	3.0	N/A	N/A	N/A	4.0	3.0	N/A	N/A	N/A
255 St Georges Terrace, Perth	590	3.0	1.0	N/A	N/A	N/A	4.0	1.5	N/A	N/A	N/A
2 Victoria Avenue, Perth		5.0					N/A				

N/A – Unable to be rated due to not being classified as an office building, development site or bills are controlled by the tenant

U/R – Documentation for NABERS rating not sufficient for NABERS rating

TBC – Rating to be confirmed