

### Module: Introduction

### Page: Introduction

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#### 0.1

##### **Introduction**

Please give a general description and introduction to your organization

##### **Stockland**

We have a long and proud history of creating places that meet the needs of our customers and communities. Ervin Graf founded Stockland in 1952 with the vision to "not merely achieve growth and profits but to make a worthwhile contribution to the development of our cities and great country."

Pursuing that vision has seen us grow to become one of Australia's leading diversified property groups - developing and managing a large portfolio of residential community, retirement living, retail, office and industrial assets.

This survey discloses Stockland's greenhouse gas emissions performance for the 2012 financial year, ending 30 June 2012. Stockland publishes assured data and commentary as part of its *Annual Review*, *Sustainability Reporting* and under the Australian Government's *National Greenhouse and Energy Reporting Act*.

Stockland own, manage and develop property and operate across most parts of the property value chain. However, we engage others to carry out building works, deliver services such as security and cleaning, and provide audit and consultancy services.

Stockland's Annual Review can be found at [www.stockland.com.au/reports/2012](http://www.stockland.com.au/reports/2012) Our Sustainability Reporting and previous Carbon Disclosure Project submissions can be found at [www.stocklandsustainability.com.au](http://www.stocklandsustainability.com.au)

##### **Stockland at 30 June 2012:**

###### *Commercial Property*

###### Retail:

- One of the largest retail property owners, managers and developers in Australia
- 42 retail centres
- Valued at approximately \$5 billion

Office:

- 21 properties
- Valued at \$1.9 billion

Industrial:

- 13 properties
- Valued at \$0.8 billion

*Residential*

- A leading residential developer in Australia
- Focused on delivering a range of masterplanned and mixed-use communities in growth areas across the country
- 87,900 lots and 70 projects with a total end value of approximately \$23 billion

*Retirement Living*

- A top three retirement living operator within Australia
- 7,984 established units across five states
- Portfolio includes a development pipeline of over 3,800 units

*Stockland UK and apartments*

- In 2009 we announced an orderly withdrawal from the UK market and that we will trade-out of our existing apartments projects

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0.2

### **Reporting Year**

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day(DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

**Enter Periods that will be disclosed**

Fri 01 Jul 2011 - Sat 30 Jun 2012

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**0.3**

**Country list configuration**

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response

**Select country**

Australia

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**0.4**

**Currency selection**

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

AUD (\$)

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**0.6**

**Modules**

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors, companies in the oil and gas industry and companies in the information technology and telecommunications sectors should complete supplementary questions in addition to the main questionnaire.

If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email [respond@cdproject.net](mailto:respond@cdproject.net).

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see <https://www.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx>.

## Module: Management [Investor]

### Page: 1. Governance

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#### 1.1

**Where is the highest level of direct responsibility for climate change within your company?**

Individual/Sub-set of the Board or other committee appointed by the Board

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#### 1.1a

**Please identify the position of the individual or name of the committee with this responsibility**

Sustainability Board Committee Stockland recognises that a sustainable future for its business depends upon the sustainability of the communities, economy and society in which it operates.

The purpose of the Committee is to assist the Board to oversee Stockland's commitment to operate its business ethically, responsibly and sustainably. The Committee considers Stockland's social, environmental and ethical impact of Stockland's business activities; major corporate responsibility and sustainability initiatives and changes in policy; and stakeholder communications about Stockland's corporate and sustainability policies and performance.

The Committee met four times during FY12. The Committee members for FY12 were Mr D Boyle (Chair) - Non-Executive Director, Mr B Neil - Non-Executive Director, Mr M Quinn - Executive Director, Ms C Schwartz - Non-Executive Director.

From 1 July 2012, the Board has determined that all Directors shall be the members of the Committee. This change recognises that sustainability is now an indivisible part of Stockland's business operations, making it important that all Directors are well informed about and engaged in relevant policies and decisions.

A monthly Sustainable Communities report is submitted to the Executive Committee and to the Board. This report includes monthly tracking of Stockland's carbon performance against its targets.

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#### 1.2

**Do you provide incentives for the management of climate change issues, including the attainment of targets?**

Yes

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
Chief Executive Officer (CEO)	Monetary reward	CEO incentivised performance indicator is linked to Stockland's greenhouse gas emission targets.
Other: Environment/sustainability managers	Monetary reward	Environment and sustainability manager incentivised performance indicators are linked greenhouse gas emissions targets and climate change mitigation and adaptation actions.
Facility managers	Monetary reward	Facility managers incentivised performance indicators are link to the greenhouse gas emissions targets for assets and greenhouse gas emissions project level reporting.
All employees	Monetary reward	All employees have incentivised performance indicators linked to sustainability performance as part of their balanced performance scorecards.

#### Further Information

Details on the Sustainability Board Committee can be found in our Annual Report page 14.

#### Page: 2. Strategy

2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company wide risk management processes

2.1a

Please provide further details

Stockland adopts a rigorous approach to understanding and proactively managing the risks it faces in its business. We recognise that taking business decisions which entail calculated risks, and managing those within sensible tolerances, is fundamental to delivering long-term value to our securityholders and meeting our commitments to our employees, tenants, customers, contractors, business partners consultants and the communities in which we do business understanding and proactively managing the risks it faces in its business.

Stockland recognises that making business decisions which entail calculated risks and managing these risks within sensible tolerances is fundamental to creating long-term value for securityholders and meeting commitments to Stockland's employees, tenants, customers, business partners, consultants and the communities in which it does business. As an investor of capital, Stockland conducts risk assessments at critical decision points during the investment process to monitor risks to meeting target returns.

A copy of Stockland's Risk Management Policy Statement is available on the Corporate Governance section of the Stockland website ([www.stockland.com.au](http://www.stockland.com.au)).

#### RISK MANAGEMENT RESPONSIBILITIES:

Stockland has a culture where ownership and accountability for managing risk is an integral part of job responsibilities and supported by training and development programs. The Board is responsible for satisfying itself that management has in place a sound system for the management and internal control of material business risks. The Board reviews at least annually a comprehensive report on the effectiveness of Stockland's management of its material business risks.

Material risks to forecast and budget are incorporated into these reports and highlight issues that may either require immediate attention or have the potential to cause material negative impacts. The Board is assisted in its oversight function by the Risk Committee, the Audit Committee, Sustainability Committee and the Financial Services Compliance Committee.

Stockland's Risk Management Framework is integrated with our day-to-day business processes and functional responsibilities and is supported by a dedicated Operational Risk, Strategic Risk, Group Internal Audit and Group Compliance functions.

Our risk management approach is guided by the Australian/New Zealand Risk Management Standard (AS/NZS ISO 31000:2009) and other applicable international standards.

The Group uses sensitivity analysis, scenario planning and stress testing to identify and quantify material business and financial risks to the delivery of projects and business plans. These analysis processes include the assessment of stakeholder and environmental risk, including climate change risks such as sea level rise and bushfire risk.

The ongoing monitoring of risks by Executive management is achieved through regular reports and briefings from the Business Units and the Group Risk functions. Stockland's Group Risk functions are responsible for the design and implementation of the risk management framework and for adapting it to changes in the business and the external environment in which Stockland operates.

They are also jointly responsible for building risk management capabilities throughout the business through training in risk assessment and management. The responsibilities of the Group Risk functions may be summarised as follows:

1. Strategic Risk – provides advice to management and the Board on strategic risks. This includes leading Group-wide strategic risk reviews and conducting independent risk assessments on capital investments;
2. Operational Risk – has a focus on the active management of all classes of operational risk and includes the development, implementation and monitoring of Operational Health & Safety ("OH&S"), environment, business continuity and public and physical asset safety management systems and processes and general

insurances and workers compensation. This includes providing oversight and assurance through the establishment of common practices, standards and accreditations across the

business and the systematic identification of risks and the integration of operational risk systems, frameworks and reporting;

3. Internal Audit – regularly assesses the effectiveness and efficiency of the Risk Management Framework. This includes supporting and advising the business on implementing appropriate risk management processes and controls, and undertaking projects to provide independent assessment of internal controls, including financial controls; and;

4. Group Compliance – monitors compliance to certain relevant laws and regulations and implements programs to assist the business in managing legislative requirements.

The Group Risk functions report to Executive management and independently report to the relevant Risk Committee, Audit Committee and Financial Services Compliance Committee. The Board reviews at least annually a comprehensive report on the effectiveness of Stockland's management of its material business risks. The Board is assisted in its oversight of climate change risk by the Risk Committee and Sustainability Committee.

In response to climate risk and opportunities our Sustainability Board Committee approved our Climate Change Action Plan, which complements our Sustainability Strategy. The vision for our Action Plan is to mitigate and adapt to the risk of climate change. The plan focuses on five long-term action themes: monitor, reduce, adapt, innovate and communicate. Our response to the five action themes are discussed throughout the submission.

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## 2.2

### **Is climate change integrated into your business strategy?**

Yes

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## 2.2a

### **Please describe the process and outcomes**

Stockland recognises that it has a significant role in the development of sustainable communities of the future, embodying leading design principles and affordable housing options, building for climate resilience and limiting our impact on natural resources. For us, sustainability is about ensuring we leave the communities where we operate, and the environment that they enjoy, in great shape for future generations.

By integrating sustainability and risk management into the way we do business we can create beneficial social and environmental impact and long-term value for our stakeholders. Stockland's Sustainability Strategy informs how we achieve this. Stockland's Board oversees Stockland's Sustainability Strategy. As part of this strategy Stockland has identified climate change as a material matter for our business. The Board is updated on the progress of this strategy and our greenhouse gas emissions performance monthly.

In order to address this issue appropriately, Stockland developed a Climate Change Action Plan to complement the Sustainability strategy and address the risks and

opportunities associated with climate change. Stockland's Board and Executive Committee have been engaged during the development and progress of the Climate Change Action Plan.

2.2b

Please explain why not

2.3

**Do you engage in activities that could either directly or indirectly influence policy on climate change through any of the following? (tick all that apply)**

- Direct engagement
- Trade associations
- Funding research organizations

2.3a

**On what issues have you been engaging directly?**

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
Energy efficiency	Support with minor exceptions	Office of Environment and Heritage runs the National Australian Built Environment Rating System (NABERS) on behalf of Federal, State and Territory governments - Stockland engages with NABERS directly assisting with testing and technical issues.	Introduce more rigorous testing and governance for tools that are both voluntary and called up in legislation.
Adaptation resiliency	Support	Support NCCARF (National Climate Change Adaptation Research Facility) and the research community in a national interdisciplinary effort to generate the information needed by decision-makers in government and in vulnerable sectors and communities to manage the risks	Support Australian Sustainable Built Environment Council's proposal for an Adaptation Policy Framework to improve the resilience of the built environment in the face of climate change. This Framework aims to: <ul style="list-style-type: none"> <li>• protect the wellbeing of communities through targeted policy initiatives and better urban and building design;</li> <li>• ensure appropriate</li> </ul>

Focus of legislation	Corporate Position	Details of engagement	Proposed solution
		of climate change impacts.	institutional arrangements to facilitate adaptation; • realise economic benefits from early adaptation through effective strategic planning and risk minimisation; • advance sustainability through better resource and risk management strategies; and • increase community education and awareness about climate change risks and adaptation.

### 2.3b

**Are you on the Board of any trade associations or provide funding beyond membership?**

Yes

### 2.3c

**Please enter the details of those trade associations that are likely to take a position on climate change legislation**

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to influence the position?
Property Council of Australia	Consistent	"The property sector is intrinsically linked to efforts to adapt to the impacts of climate change. It is the places created by our built environment, and the people they house that much of our adaptation effort will be focused on." The Property Council also focuses "on eco-efficient - less in, more out - assets and use effective strategic planning of our cities."	Stockland supports the Property Council's position on climate change, their focus on eco-efficiency and the need to establish an Adaptation Policy Framework. We provide case studies to provide evidence for their submissions.

### 2.3d

**Do you publically disclose a list of all the research organizations that you fund?**

Yes

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2.3e

**Do you fund any research organizations to produce public work on climate change?**

Yes

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2.3f

**Please describe the work and how it aligns with your own strategy on climate change**

Green Star – Communities sponsor - Green Star Communities is an independent, national, voluntary rating tool which aims to drive more sustainable, productive and liveable communities. Stockland has supported the development of the tool includes credits such climate change adaptation and resilience, greenhouse gas emissions and ecological impact. This aligns with our strategy to reduce, adapt, report, innovate and communicate our Climate Change Action.

Investor Group on Climate Change - Assessing Climate Change Risks and Opportunities for Investors: Property and Construction Sector. Their guide provides information to help investors assess and integrate climate risk and opportunity in the property and construction sector into investment analysis. Stockland is member for the IGCC. This aligns with our strategy to innovate and communicate our Climate Change Action.

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2.3g

**Please provide details of the other engagement activities that you undertake**

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2.3h

**What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

The risks associated with our changing climate affect the way our organisation, governments, communities and other key stakeholders view the built environment. We have made a commitment to ensure we understand these risks and the opportunities for mitigation and adaptation. Our approach in these areas is proactive – developing policies and implementing action plans over a number of years.

In 2009 we developed a Climate Change Action Plan to guide and integrate efforts across our business units through focusing our efforts in five areas: 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 goal is to mitigate, adapt and innovate in response to the risks of a changing climate.

This year we have continued to prioritise these action areas, building our knowledge on climate change and implementing appropriate business responses. These areas are tracked through monthly monitoring of greenhouse gas targets, bi-annual monitoring and reporting on our sustainability policies, and annual sustainability reporting (externally assured).

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2.3i

Please explain why you do not engage with policy makers

**Page: 3. Targets and Initiatives**

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3.1

**Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?**

Intensity target

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3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
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3.1b

**Please provide details of your intensity target**

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
CPR	Scope 1+2	44%	20%	Other: kgCO2-e per square meter	2009	74.6	2014	Stockland is committed to reducing its retail portfolio's emissions intensity by 20 per cent by FY14, based on FY09 figures
CPO	Scope 1+2	22%	20%	Other: kgCO2-e per square meter	2009	103.8	2014	Stockland is committed to reducing its office portfolio's emissions intensity by 20 per cent by FY14, based on FY09 figures

**3.1c**

**Please also indicate what change in absolute emissions this intensity target reflects**

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
CPR	Decrease	20	Decrease	20	On a like-for-like basis this would represent a 20% absolute reduction. Scope 3 decrease represents the reduction in transmission losses as a result of the absolute reduction on electricity use.
CPO	Decrease	20	Decrease	20	On a like-for-like basis this would represent a 20% absolute reduction. Scope 3 decrease represents the reduction in transmission losses as a result of the absolute reduction on electricity use.

**3.1d**

**Please provide details on your progress against this target made in the reporting year**

ID	% complete (time)	% complete (emissions)	Comment
CPR	80%	86%	We maintained a strong focus on the challenging area of improving the efficiency of retail centre air-conditioning. Implementing these measures at operational retail sites has been complex and taken more time than we anticipated, however we remain committed to these projects and believe they will deliver the significant energy reductions necessary to achieve our targets.
CPO	80%	100%	We have met and exceeded our targets - Our aim will be to maintain our outperformance.

### 3.1e

Please explain (i) why not; and (ii) forecast how your emissions will change over the next five years

### 3.2

**Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?**

Yes

### 3.2a

**Please provide details (see guidance)**

Stockland continues to undertake a range of environmental initiatives and uses several environmental rating tools to monitor, reduce and benchmark the energy efficiency performance and GHG reductions within our assets and communities. These initiatives and rating tools allow our tenants, residents and customers to minimise greenhouse gas emissions.

An example of how emissions are avoided for our Retirement Living residents is as follows:

Affinity Village Club House - Western Australia

- i. Emissions are avoided by developing a 5 Star Green Star rated – Public Building Design PILOT rating representing ‘Australian Excellence’ in environmentally sustainable design. The first retirement living village to achieve a Green Star rating in Australia.
- ii. The building has achieved a 50 per cent reduction in emissions when compared with a standard building of similar size. Energy efficiency measures, including

extra insulation in walls and ceilings, high-performance glazing to help the building retain heat in winter and stay cool in summer, and individual metering and motion sensors, ensure the club house uses only the energy it really needs - reducing the building's operating costs.

iii. Under the Green Star tool the project achieved 12 out of the 22 points available in the Green Star 'Energy' category, with 10 points awarded for greenhouse gas emissions reduction strategies, and two points awarded for peak energy demand reduction.

iv. There currently isn't a program that will recognise energy savings for this project. The operating cost benefit resulting from the club house's energy efficiency performance is expected to be more than \$40,000 a year, based on current prices. Reducing fees for residents of the village.

More examples are detailed on our sustainability website [www.stocklandsustainability.com.au](http://www.stocklandsustainability.com.au)

### 3.3

**Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and implementation phases)**

Yes

#### 3.3a

**Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings**

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	229	46000
To be implemented*	57	2500
Implementation commenced*	58	2500
Implemented*	33	2000
Not to be implemented	29	2000

#### 3.3b

**For those initiatives implemented in the reporting year, please provide details in the table below**

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
Energy efficiency: Building services	Sustainability HVAC includes building tuning, economy cycles, thermal roof paint, CO2 monitoring, Switchboard Work, Power Factor, LEDs, Escalator optimisation, waste management, furniture, alternate energy investigation - program to reach CPO and CPR targets	2500	6000000	18000000	1-3 years

### 3.3c

#### What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Marginal abatement cost curve	At an organisational level, we use carbon abatement cost curves to identify specific abatement opportunities and the costs to implement these measures. The curves enable us to quickly model the costs of reducing emissions across our entire asset portfolio, as well as at the individual asset level. The estimates are based on Stockland carbon abatement data, ensuring a high level of confidence in the results returned. MACC are also used within our development masterplanning process to identify key infrastructure and programs to reduce emissions.
Compliance with regulatory requirements/standards	Compliance with state and federal regulation on energy efficiency is contributing to investment in more efficient design and better management of our projects. We aim to stretch beyond these increasing compliance requirements.
Other	Minimum development and operations standards: Embedding minimum standards for energy efficiency is driving investment in emissions reduction activities across our organisation. Our Commercial Property business has development and operational minimum green rating performance standards, and our Residential and Retirement Living businesses have minimum energy efficiency requirements for all projects, including maximising the solar orientation of sites, providing energy efficient lighting in public spaces, and connecting dwellings to reticulated natural gas or LPG where available. Our Retirement Living business committed to delivering all new villages with a 5 per cent improvement on building code energy efficiency performance requirements.
Other	Demand for green buildings - rating benchmarks: Using the NABERS Energy rating tool to benchmark our building performance, we are improving energy efficiency through capital investment in high-efficiency chillers, building management

Method	Comment
	systems, lighting controls and variable speed drivers.

3.3d

If you do not have any emissions reduction initiatives, please explain why not

## Page: 4. Communication

4.1

Have you published information about your company's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Page/Section reference	Attach the document
In voluntary communications (complete)	Annual Review online: <a href="http://www.stockland.com.au/reports/2012/index.htm">http://www.stockland.com.au/reports/2012/index.htm</a>	
In voluntary communications (complete)	Sustainability Reporting online: <a href="http://www.stockland.com.au/sustainability/2012/climate-and-our-environment.htm">http://www.stockland.com.au/sustainability/2012/climate-and-our-environment.htm</a>	
In voluntary communications (complete)	Climate Change Position Paper online: <a href="http://www.stockland.com.au/assets/about-stockland/climate-position-final.pdf">http://www.stockland.com.au/assets/about-stockland/climate-position-final.pdf</a>	
In voluntary communications (complete)	NABERS and Green Star ratings of assets online: <a href="http://www.stockland.com.au/sustainability/2012/nabers-ratings.htm">http://www.stockland.com.au/sustainability/2012/nabers-ratings.htm</a>	
In other regulatory filings (complete)	Energy Efficiency Opportunities Act Submission online: <a href="http://www.stockland.com.au/assets/about-stockland/Stockland_EEO_Public_Report_(signed).pdf">http://www.stockland.com.au/assets/about-stockland/Stockland_EEO_Public_Report_(signed).pdf</a>	

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**Further Information**

Stockland discloses the following on their sustainability website:

- Sustainability reporting (& past report 2006 - 2012) all including climate change and greenhouse gas emission information;
- Climate change position paper;
- Carbon Disclosure Project responses (2006 -2012);
- Energy Efficiency Opportunities Act reports (2008 - 2012); and
- Environmental asset ratings, including NABERS and Green Star (2007 - 2012).

Stockland also reports on climate change and emissions within our Annual Review 2012 and our NABERS ratings in our Property Portfolio, update every six months.

**Module: Risks and Opportunities [Investor]****Page: 5. Climate Change Risks**

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**5.1**

**Have you identified any climate change risks (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply**

Risks driven by changes in regulation

Risks driven by changes in physical climate parameters

Risks driven by changes in other climate-related developments

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**5.1a**

**Please describe your risks driven by changes in regulation**

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
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ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
REG 1	Emission reporting obligations	National Greenhouse and Energy Reporting Act (NGERA): The NGERA is a national system for reporting greenhouse gas emissions and energy consumption and production by corporations. We seek legal and technical advice on our accounting for emissions.	Increased operational cost	Current	Direct	Virtually certain	Low
REG 2	Product efficiency regulations and standards	Commercial Building Disclosure: The Commercial Building Disclosure (CBD) Program requires energy efficiency information to be provided in most cases when commercial office space of 2000 square metres or more is offered for sale or lease.	Increased operational cost	Current	Direct	Virtually certain	Low
REG 3	General environmental regulations, including planning	Planning Approvals and Climate Change Assessments: Climate change assessments, particularly in relation to floodplain risk management, are increasingly expected as part of the planning approval process for property development in Australia.	Reduction/disruption in production capacity	Current	Direct	Likely	Low-medium
REG 4	Product efficiency regulations and standards	Building Code of Australia - Amendments: The Building Code of Australia has established minimum requirements for energy efficiency in new buildings and is looking into climate adaptation inclusions. Specific requirements vary from state to state.	Increased capital cost	Current	Direct	More likely than not	Low
REG 5	Carbon taxes	Carbon Price: The Australian Government is implementing the first stage of a national carbon pricing mechanism on 1 July 2012 – as set out in the Clean Energy Act 2011. The scheme will commence with a fixed carbon price, transitioning to a cap and trade mechanism in 2015. Stockland will not be directly liable to purchase credits under the scheme, however Stockland will be impacted principally through increased energy costs.	Increased operational cost	Current	Direct	About as likely as not	Low
REG 6	Product efficiency regulations and standards	The Energy Efficiency Opportunities (EEO) Act aims to improve the identification and evaluation of energy efficiency opportunities by large energy using businesses and encourages implementation of cost-effective opportunities.	Increased operational cost	Current	Direct	Virtually certain	Low

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5.1b

**Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk and (iii) the costs associated with these actions**

**REG 1 - NGER Act**

- i) Significant penalties apply for non-compliance with the NGERA with maximum civil penalties of \$220,000 and daily penalty provisions for continuing offences. CEOs of corporations can also be held personally liable.
- ii) To manage the risk of inaccurate data, we have subsequently transferred the collection of our greenhouse gas data from our sustainability teams to our group and business unit finance teams. Greenhouse gas is now collected through our accounts system and audited to the same level of rigour as our financial data.
- iii) The costs associated with meeting the compliance requirements include external advice: including legal determination of operational control and the establishment of emissions inventories for our Residential and Retirement Living businesses, which were previously outside the boundary of our voluntary emissions reporting. We also incurred costs in the development of more effective and integrated data management systems to reach the level of accuracy required by the legislation.

**REG 2 - Commercial Building Disclosure**

- i) Under the Building Energy Efficiency Disclosure Act 2010, from 1 November 2010 mandatory obligations were introduced and applied to many commercial buildings. Most sellers or lessors of offices space of 2,000 square meters or more were required to obtain and disclose an up-to-date energy efficiency rating. Civil penalties of up to \$110,000 for the first day and \$11,000 for each subsequent day may be imposed by a Court for each breach of a disclosure obligation.
- ii) Before the legislation was introduced, Stockland was well-placed to comply with the legislation due to rating commitments already introduced in our Commercial Property business. Stockland now has a procedure in place to ensure marketing and ratings are kept up-to-date to ensure compliance with the legislation.
- iii) Costs associated with compliance with the Building Energy Efficiency Disclosure Act include ensuring that our NABERS ratings are up-to-date and addressing the unintended consequences of legislation (the inclusion of non-office asset types). The obligation to rate non-office assets has since been removed from the legislation.

**REG 3 - Planning Approvals and Climate Change Assessment**

- i) The potential financial impact of planning approval legislation changes due to climate change assessments is reflected in the holding costs associated with the development delay. The specific figure can vary for different projects and their size.
- ii) Stockland provides leading practices in managing climate change risk. Projects are now required to meet minimum development requirements that include climate change assessments. These standards are supported by a Group wide climate change adaptation strategy that maps the location and potential impacts of climate change and the associated adaptation options.
- iii) The costs associated with undertaking climate change assessments are now integrated into business practices as documented in our sustainability policies. Each Stockland business is currently prioritising areas of adaptation action and factoring climate change risk into future acquisition decisions.

**REG 4 - Building Code of Australia Amendments - Energy Efficiency**

- i) The potential financial implications of amendments to the Building Code of Australia are varied. The changes require increased energy efficiency performance and climate resilience of our Commercial Property assets and housing within our communities.
- ii) Stockland's Commercial Property Sustainability Policy identifies minimum energy efficiency requirements that meet and exceed these changes in legislation. Our

Residential business is working with partner builders on display houses to showcase high performance, energy efficient housing that exceed the changes required by the BCA. Our business is also performing climate adaptation assessments across our portfolio.  
 iii) A study conducted by the Residential Development Council estimated the impact of increased energy efficiency requirements on the housing industry at between \$300 - \$4000 per dwelling.

**REG 5 - Carbon Price**

- i) The primary impact of a carbon pricing scheme on Stockland will be through the price of energy. We have modelled and assessed the impact and have found it to be initially low, approximately \$2 million. Wider effects of a carbon price will include cost impacts on construction and building materials.
- ii) Our focus on energy efficiency over the last several years has significantly reduced the impact of a carbon price on our operational costs. We are working with suppliers to educate and assist them in understanding their emissions and how to reduce their emissions profile.
- iii) A price on carbon will also lead to increased energy costs for residents and tenants. Government has put in place compensation programs that will offset some costs for some stakeholders.

**REG 6 - Energy Efficiency Opportunities Act**

- i) Non-compliance with the Energy Efficiency Opportunities Act can lead to civil penalties of \$110,000 per offence.
- ii) Stockland has managed compliance with the legislation through a combination of internal expertise and external advice to assist us in identifying opportunities.
- iii) We incur costs for both dedicated internal resources and external advice in order to manage our ongoing compliance with the legislation.

**5.1c**

**Please describe your risks that are driven by change in physical climate parameters**

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
PHY 1	Sea level rise	National and international studies indicate that Australian sea levels will rise up to 0.3 - 0.4m by 2050, and 0.8 - 1.0m by 2100 (on 1990 levels) threatening coastal housing and infrastructure, and creating local damage at high costs. Increasing sea levels will lead to questions exploring coastal protection versus land-use relocation. With land-use relocation comes the movement of populations and infrastructure. The initial impact on the property sector from sea level rises will most likely be from increased extreme weather events leading to storm surge rather than gradual rises in average sea levels. However, rising sea levels will exacerbate the impact of	Increased capital cost	Current	Direct	Likely	Low-medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		storm surges and coastal flooding as well as leading to increased rates of erosion and subsidence.					
PHY 2	Change in mean (average) temperature	More frequent warmer/hotter days and fewer cold days will result in reduced energy demand for heating, increased demand for cooling and declining air quality in cities. Implications for the property sector will be increased demands on ventilation and air conditioning equipment and higher operating costs due to increased plant wear and tear and increased energy consumption. Change in mean average temperature will also impact the health and wellbeing of our residents.	Increased operational cost	>10 years	Direct	Likely	Low
PHY 3	Change in temperature extremes	Studies indicated that heat waves in Australia are virtually certain to increase in frequency and intensity. This will result in a reduction in quality of life for those people residing in warm areas without access to well designed housing and/or cooling technologies. Implications for the property sector will be increased demand for cooling and for climate responsive buildings, particularly housing and potentially an increased demand for energy. Heat waves can also lead to bushfires destroying large numbers of homes and causing fatalities.	Increased operational cost	>10 years	Direct	Likely	Low-medium
PHY 4	Tropical cyclones (hurricanes and typhoons)	Intense tropical cyclone activity increases will result in disruption by flood and high winds. Frequency and impacts of cyclonic activity may result in population migrations and loss of property. Weather related events contribute to a large portion of insurance claims. Increased frequency and impact of extreme weather may lead to increasing insurance premiums and the possibility of not being able to insure property in vulnerable locations. The unpredictability and extreme nature of these events may lead to the disruption of our operations during and immediately following an event.	Reduction/disruption in production capacity	Current	Direct	Likely	Low-medium
PHY 5	Change in precipitation extremes and droughts	Australia is the driest inhabited continent on earth, heavily exposed to extreme heat and drought as well as large-scale flooding. These events are influenced by many factors and their occurrence is difficult to estimate precisely, however, the trend is towards larger, more	Increased capital cost	Current	Direct	Likely	Low

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		intense events. Droughts will see the cost of water utilities increase as water security becomes a more serious issue for Australia. Large scale flooding will impact the operation of our business and a disruption to services.					
PHY 6	Induced changes in natural resources	With increased demand on energy and water services in response to changing climate conditions and other needs, security of energy and potable water supply is a growing risk. It is important that Stockland prepares for these possibilities (as well as increased utility costs) through exploring alternative solutions such as decentralised low carbon energy and water supply.	Increased operational cost	Current	Direct	Likely	Low-medium

#### 5.1d

Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions

##### **PHY 1 - Sea Level Rise**

- i) Sea level rise is becoming more prominent in local government planning legislation. Non-compliance will result in planning approval delays. The cost of these delays can vary with project size and location.
- ii) Stockland has embedded minimum standards to address climate change risk across the organisation, including assessments of sea level rise. Stockland also has also developed a Climate Change Adaptation Strategy that maps projected climate change and identifies the adaptation actions required.
- iii) Climate change assessments are embedded in Stockland business requirements.

##### **PHY 2 - Change in mean (average) temperature**

- i) The potential financial implications of a change in mean temperature are predominately the rise in cost of the rise in energy demand.
- ii) Stockland has implemented minimum energy efficiency standards that will decrease the impact of the demand on the network and the associated costs.
- iii) Energy efficiency initiatives and standards are embedded in our operations.

##### **PHY 3 - Change in temperature extremes**

- i) Changes in temperature extremes will lead to an increase in the demand for heating and cooling leading to an increase in the demand for energy. We can also expect an increase in the demand for climate responsive buildings, particularly housing. The financial implications of bushfires can vary considerably.
- ii) Stockland has minimum requirements in its sustainability policies to address changes in temperature extremes, including requirements for bushfire assessment

and management and the more efficient design of buildings and lots to lower the demand for energy.  
 iii) Minimum requirements for bushfire assessment and efficient design are integrated into our operations.

**PHY 4 - Tropical cyclones**

- i) The potential key financial implications of tropical cyclones includes damage to, or loss of property and increasing insurance premiums of assets - for both assets owned and managed by us, and also our residents.
- ii) Stockland has already done significant work in this area to reduce the risk to its assets in North Queensland. Mapping and identification of adaptation actions in relation to cyclones are included in our Climate Adaptation Strategy.
- iii) Costs to improve the structural and weather resilience of property has been factored into recent capital works programs.

**PHY 5 - Change in precipitation extremes and droughts**

- i) The potential financial implications of flooding on our organisation is through the inability to access and utilise our assets. The financial implication of droughts will be through the increased cost of water.
- ii) Stockland's climate change adaptation strategy has mapped and identified the adaptation actions associated with flooding and an increase in intense precipitation. We are also implementing Water Sensitive Urban Design in our residential community projects.
- iii) Undertaking flooding assessment is part of our acquisition and operation procedures and sustainability policies. Our residential communities sustainability policy includes water sensitive urban design - and this approach to water management is now integrated into civil works and landscape design.

**PHY 6 - Induced changes in natural resources**

- i) The potential financial implications are increased demand on water and energy and the security of those utilities.
- ii) Stockland is exploring renewable energy sources and has implemented a number of renewable innovations on various projects, including solar, tri-generation and wind. Stockland manages and reduces its water consumption via its commitment to targets and water sensitive urban design.
- iii) Renewable energy project costs vary depending on the location and capacity of the technology. Water reductions are included in sustainability policies for each of our businesses.

**5.1e**

**Please describe your risks that are driven by changes in other climate-related developments**

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OTH 1	Uncertainty in market signals	Stockland anticipates the cost of energy to continue to increase in the coming years. Stockland also anticipates that the cost of carbon intensive building materials will increase under a carbon price. Stockland recognises that cost increases may vary, as a consequence of compensation to emissions intensive trade exposed industries.	Increased operational cost	Current	Direct	Likely	Low

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OTH 2	Reputation	Reputational risk grows, as awareness of the impacts of climate change grows. Stakeholders are increasingly looking to understand what organisations are doing to manage climate change risks. This is particularly important as business partners and investment advisors place increasing value on intangible dimensions such as risk management, brand, reputation and employee engagement.	Reduced stock price (market valuation)	Current	Direct	Likely	Medium
OTH 3	Changing consumer behaviour	In some facets of Stockland's business, customers are increasingly engaged on sustainability, with growing expectations around the performance of assets. Some tenant groups, including government, have stated that their intention to only occupy buildings that meet minimum sustainability (energy efficiency) requirements.	Reduced demand for goods/services	Current	Direct	Likely	Low

5.1f

**Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions**

**OTH 1 - Uncertainty in market signals**

- i) Potential financial implications include increased cost of energy and possible increases in the cost of construction and materials.
- ii) Stockland's sustainability policies set out requirements and targets for energy efficiency. This translates into minimum requirements for each asset and project. Stockland aims to use less carbon intensive materials where practical, however the cost impact of a carbon price on building materials is unclear.
- iii) Actions to reduce carbon emissions are embedded in our operations. Impacts of a carbon price on our value chain (our customers and suppliers - especially building materials) is not yet clear.

**OTH 2 - Reputation**

- i) The financial implications associated with reputational damage have not been quantified.
- ii) Stockland manages reputation risk in its approach to risk management and sustainability, with actions overseen by dedicated board committees. Stockland reviews and identifies material risk and then engages with stakeholders to better manage and reduce these risks and thereby strengthen the organisation's reputation.
- iii) Our approach to risk management and stakeholder engagement is embedded in our operations.

**OTH 3 - Changing consumer behaviour**

- i) The potential financial risk relates to the reduced demand for our product, increasing vacancy and lower rental returns.
- ii) Stockland has committed to achieving an office portfolio average rating of NABERS Energy 4.5 Stars. This will allow the majority of our portfolio to meet the high standards that some tenants demand.
- iii) \$22 million has been allocated to sustainability in Commercial Property to help achieve the 4.5 star (and our energy efficiency) target.

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5.1g

Please explain why you do not consider your company to be exposed to risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

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5.1h

Please explain why you do not consider your company to be exposed to risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

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5.1i

Please explain why you do not consider your company to be exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

**Page: 6. Climate Change Opportunities**

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6.1

**Have you identified any climate change opportunities (current or future) that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply**

- Opportunities driven by changes in regulation
- Opportunities driven by changes in physical climate parameters
- Opportunities driven by changes in other climate-related developments

6.1a

**Please describe your opportunities that are driven by changes in regulation**

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
OPP 1	Emission reporting obligations	National Greenhouse and Energy Reporting Act (NGERA): As a result of thorough carbon data management, Stockland was prepared for the introduction of National Greenhouse and Energy Reporting Act (NGERA). Stockland is now implementing more streamline and accurate GHG emission reporting systems across the organisation. The introduction of NGERA has also helped Stockland better understand emissions associated with site preparation, including emissions from the operations of civil contractors, across its residential communities portfolio.	Reduced operational costs	1-5 years	Direct	Virtually certain	Low
OPP 2	Product labeling regulations and standards	Commercial Building Disclosure: Stockland is committed to minimising the environmental impact of its assets and raising the environmental performance of its commercial property portfolio. This has resulted in the business obtaining NABERS Energy and Water ratings for a majority of its office assets. This has enabled Stockland to be well prepared for the introduction of mandatory disclosure of commercial building energy efficiency. The NABERS Water ratings obtained by the business also place Stockland in a good position if the Australian government was to introduce regulation on water efficiency disclosure and performance (in the same way the regulation has been introduce on energy efficiency	Other: Competitive advantage	Current	Direct	Virtually certain	Low

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		disclosure and performance).					
OPP 3	Product efficiency regulations and standards	Energy Efficiency Opportunities Act: Stockland's continued identification of specific energy efficiency opportunities through the Energy Efficiency Opportunities (EEO) Act has generated a substantial list of abatement actions for the business. Stockland has used this information to create its own carbon abatement cost curve. The cost curve will inform Stockland's decision-making on undertaking energy efficiency projects, establishing targets and developing communications around Stockland's carbon abatement potential and performance.	Reduced operational costs	Current	Direct	Likely	Low
OPP 4	General environmental regulations, including planning	Planning approvals and climate change assessments: In response to the increase in planning approval requirements and climate change assessments, Stockland is working closely with federal, state and local governments to share knowledge on climate change risk, carbon and energy reporting, and successful energy efficiency practices, to inform and help shape pragmatic and effective policy and regulation.	Wider social benefits	Current	Direct	Likely	Low

## 6.1b

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

### OPP 1 - National Greenhouse and Energy Reporting Act

- i) Stockland realised the financial opportunity to embed the collection of carbon data as part of the accounts payable system. The associated cost was the instalment and integration of software tools.
- ii) Stockland is managing the opportunity through our sustainability managers analysing our data to identify further opportunities to reduce emissions and operational costs.
- iii) Over and above the cost of reporting, there are no additional costs associated with this opportunity.

### OPP 2 - Commercial Building Disclosure Act

- i) Stockland's commitment to leading sustainability practices meant the organisation was in a good position when the Commercial Building Disclosure Act was

introduced - with the majority of the office portfolio already meeting the new legislation requirements.

ii) Stockland is managing this opportunity by investing the reduced operational cost into the better performance for our assets.

iii) The costs have been avoided.

**OPP 3 - Energy Efficiency Opportunities Act**

i) The financial implications of the Energy Efficiency Opportunities Act includes the identification and realisation of reduced operation costs.

ii) Stockland is managing this opportunity by using energy efficiency assessments as part of our submission to the Federal Government for 'Green Building Fund' grants to help us realise these opportunities.

iii) The cost reductions associated with this opportunity vary depending on the scale and technology identified.

**OPP 4 - Planning approvals and climate change assessments**

i) The potential financial implications are the avoidance of planning approval delays and the associated holding costs.

ii) Stockland is managing this opportunity by proactively engaging with key stakeholders, including local government, on our approach to climate change assessment. Our understanding and assessments allow us to positively engage with government and our stakeholders on the issue of climate change.

iii) The cost associated with these actions are embedded in our stakeholder engagement processes - required for all assets and projects.

**6.1c**

**Please describe the opportunities that are driven by changes in physical climate parameters**

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
POP 1	Change in mean (average) temperature	Increased traffic in retail centres	Increased demand for existing products/services	Current	Direct	Likely	Low
POP 2	Induced changes in natural resources	More efficient assets - competitive advantage and market demand	Increased demand for existing products/services	1-5 years	Direct	Likely	Low-medium
POP 3	Change in temperature extremes	Market demand for more efficient design	Increased demand for existing products/services	Current	Direct	Likely	Low-medium
POP 4		Place of refuge in extreme weather events - cyclones	Wider social benefits	Current	Direct	Likely	Low-medium

**6.1d**

**Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions**

#### **POP 1 - Increased traffic in retail centres**

- i) Shifts whereby the climate becomes less comfortable may lead to people being attracted to spending more time within climate controlled or moderated buildings such as retail centres, and associated public gathering and community facilities.
- ii) Ensure that centres are designed to respond to climatic conditions, employing passive and active design principles and thereby providing a comfortable environment in which to spend time.
- iii) Good design principles addressing comfort have long been embedded in our design, development and management processes.

#### **POP 2 - More efficient assets**

- i) Eco-efficient buildings and communities lead to reduced energy, water and waste management costs. Assets that employ leading green design principles generally also have improved indoor air quality. Taking a sustainable approach to developing and managing assets is also responding to a growing interest to some within our market (with an interest in taking action in response to climate change as well as benefiting from longer-term cost benefits from reduced energy and water costs), and is increasingly an expectation of approval authorities - and in turn, this approach contributes reputational benefits. In particular state and federal governments have set minimum standards as occupiers of energy efficient buildings (as measured by NABERS) and corporate tenants are increasingly attracted to green rated buildings (both high rated NABERS and Green Star buildings).
- ii) Eco-efficient (and broader sustainability) design and management approaches are informed by the use of market supported building rating tools such as Green Star (principally used to guide building, and soon to be community-scale design) and NABERS (principally used to benchmark the eco-efficiency of existing office and retail buildings). Eco-efficient design and management practices are captured in sustainability policies for each of our business units. We have an ongoing program of striving to meet energy and greenhouse gas emissions intensity reduction targets, with performance managed by regular eco-efficiency reporting and ratings, including monthly performance communicated to our Executive Committee and Board.
- iii) Costs include design and management to higher standards, investment in training for key job families as well as increased capital investment in order to attain higher standards. Stockland is investing \$22 million over five years (FY09-14) to achieve a 20% reduction in energy and GHG intensity in our office and retail portfolios.

#### **POP 3 - More efficient design**

- i) With shifts in temperature extremes, we can expect demand for housing and communities that respond to climate and specifically temperature, as customers pursue "thermally comfortable" living, work and shopping spaces.
- ii) Ensure that shopping centres (and other commercial properties) retirement villages and residential communities are designed to respond to climatic conditions, employing passive and active design principles and thereby providing a comfortable and liveable environment. Our actions are guided by our sustainability strategies and policies developed specifically for each of our business units. In addition we are piloting the development of tools such as Green Star Custom to inform and rate the design and construction of our Retirement villages and we are significantly involved in the development of a Green Star Communities tool to inform and rate the design and performance of mixed use residential communities. Current retail development projects are registered for Green Star Retail. Increasingly we are engaging with our market on efficient design. For example, we have retail design guidelines (supported by green leases) to support our retailers in building and occupying more eco-efficient retail spaces.
- iii) Designing for climate responsiveness and adherence to design tools such as Green Star is now increasingly embedded in our development practices. There are some additional costs associated with targeting top ratings, however this is offset by reputational and brand benefits and supported by anticipated longer-term lower operational costs.

#### **POP 4 - Place of refuge in extreme weather events**

- i) In the past year our retail centres in North Queensland have played an important role in providing support and refuge to local communities during extreme weather events. Our support was aided, and in some cases managed by emergency and social services.

- ii) We are presently developing plans and guidelines to aid management in how best to respond and manage assets when we are requested to accommodate the public during an emergency such as an extreme weather events, immediately following the event and during the recovery phase.
- iii) Costs with these actions are largely borne by the wider community, with considerable support provided by emergency and social services agencies.

**6.1e**

**Please describe the opportunities that are driven by changes in other climate-related developments**

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
OCR 1	Reputation	Resilient portfolio - leadership - Government engagement	Increased demand for existing products/services	Current	Direct	Likely	Low-medium
OCR 2		Legacy of developments	Wider social benefits	>10 years	Direct	Likely	Low-medium
OCR 3	Reputation	Supporting communities in which we operate	Wider social benefits	1-5 years	Direct	Likely	Low-medium

**6.1f**

**Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions**

**OCR 1 - Resilient portfolio**

- i) Through demonstrating leadership through embedding sustainability practices (including our climate change action plan) in all that we do, we recognise that we strengthen our license to operate within the community, including our relationship with government.
- ii) Our climate change action plan encompasses monitoring emissions and reducing emissions, adapting to climate risk, innovation and communicating our performance, practices and position in responding to climate change. These practices are evident in our applications for proposed projects, and our performance is demonstrated particularly in recent projects attaining public recognition, and in some cases high Green Star (and other) ratings.
- iii) Sustainability practices are now integrated into business practices including our development practices and are documented in our sustainability strategies and policies for each of our business units.

**OCR 2 - Legacy of developments**

- i) We expect that designing for eco-efficiency and climate adaption (as well as other sustainability principles) will contribute to the resilience of our communities. We know that over the longer-term, helping to create resilient communities will in turn lead to reputational and marketplace benefits for our business.

ii) To support the community resilience, we invest in community development across our communities and assets. We continue to research climate risk and we are supporting the development of tools such as Green Star Communities (which will address both social and environmental indicators in the design and performance of mixed use residential communities).

iii) Community development practices are now integrated into our asset management and development practices, supported by a team of eight dedicated community development managers. There are costs associated with ongoing research and undertaking climate risk reviews in order to monitor and respond to climate risks.

**OCR 3 - Supporting communities in which we operate**

i) We target social investment and community development in the communities in which we operate.

ii) Our giving and volunteering efforts provide support to our communities following extreme weather events - initially through cash donations, through in-kind support and ongoing volunteering assistance immediately following an event and then over time, supporting our communities as they "get back on their feet". For example, we are continuing to provide volunteering support to communities affected by the 2009 Victorian bushfires.

iii) We dedicate a \$250K budget annually to support our workplace giving efforts (matching employee donations). We know that a considerable portion of workplace giving is directed to communities affected by climate-related events (bushfires, cyclones, floods and other extreme events). Volunteering by our people is undertaken during company time, however we recognise that these activities support employee engagement and provide personal and team development opportunities. In addition we have made considerable one-off donations to charities such as the Red Cross immediately following extreme weather events.

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6.1g

Please explain why you do not consider your company to be exposed to opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

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6.1h

Please explain why you do not consider your company to be exposed to opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

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6.1i

Please explain why you do not consider your company to be exposed to opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

**Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]**

**Page: 7. Emissions Methodology**

**7.1**

**Please provide your base year and base year emissions (Scopes 1 and 2)**

<b>Base year</b>	<b>Scope 1 Base year emissions (metric tonnes CO2e)</b>	<b>Scope 2 Base year emissions (metric tonnes CO2e)</b>
Tue 01 Jul 2008 - Tue 30 Jun 2009	3016	120000

**7.2**

**Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions**

<b>Please select the published methodologies that you use</b>
Australia - National Greenhouse and Energy Reporting Act

**7.2a**

If you have selected "Other", please provide details below

---

7.3

Please give the source for the global warming potentials you have used

Gas	Reference
CO2	Other: National Greenhouse Accounts (NGA) Factors
CH4	Other: National Greenhouse Accounts (NGA) Factors
Other: N2O	Other: National Greenhouse Accounts (NGA) Factors
HFCs	Other: National Greenhouse Accounts (NGA) Factors

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7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data

Fuel/Material/Energy	Emission Factor	Unit	Reference
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Further Information

Greenhouse Gas Factors Attached

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Attachments

**Page: 8. Emissions Data - (1 Jul 2011 - 30 Jun 2012)**

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8.1

**Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory**

Operational control

---

8.2

**Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e**

26241

---

8.3

**Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e**

121002

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8.4

**Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions which are not included in your disclosure?**

No

8.4a

Please complete the table

Source	Scope	Explain why the source is excluded

8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 2% but less than or equal to 5%	Assumptions Metering/ Measurement Constraints	Assumptions: The data boundary ignores extremely small emissions that are part of property management, such as fire extinguishers. These small emissions account for less than 0.5%. Measuring Constraints: Our Residential and Retirement Living businesses face a number of challenges reporting on the activities of their contractors and place reliance on third party data.	Less than or equal to 2%	Extrapolation	We apply a comprehensive estimations methodology across any data that may be missing at the time of reporting.

8.6

Please indicate the verification/assurance status that applies to your Scope 1 emissions

Third party verification or assurance complete

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**8.6a**

**Please indicate the proportion of your Scope 1 emissions that are verified/assured**

More than 90% but less than or equal to 100%

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**8.6b**

**Please provide further details of the verification/assurance undertaken, and attach the relevant statements**

Type of verification or assurance	Relevant standard	Attach the document
Reasonable assurance	ASAE3000	<a href="https://www.cdproject.net/sites/2013/70/17770/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Stockland%20Annual%20Review%202012%20(3).pdf">https://www.cdproject.net/sites/2013/70/17770/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Stockland Annual Review 2012 (3).pdf</a>
High assurance	AA1000AS	

---

**8.6c**

**Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)**

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
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**8.7**

**Please indicate the verification/assurance status that applies to your Scope 2 emissions**

Third party verification or assurance complete

---

8.7a

Please indicate the proportion of your Scope 2 emissions that are verified/assured

More than 90% but less than or equal to 100%

---

8.7b

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Reasonable assurance	ASAE3000	<a href="https://www.cdproject.net/sites/2013/70/17770/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Stockland%20Annual%20Review%202012%20(3).pdf">https://www.cdproject.net/sites/2013/70/17770/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Stockland Annual Review 2012 (3).pdf</a>
High assurance	AA1000AS	

---

8.8

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

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8.8a

Please provide the emissions in metric tonnes CO2

9.1

Do you have Scope 1 emissions sources in more than one country?

No

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9.1a

Please complete the table below

Country/Region	Scope 1 metric tonnes CO2e
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9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

- By business division
  - By facility
  - By GHG type
  - By activity
- 

9.2a

Please break down your total gross global Scope 1 emissions by business division

<b>Business division</b>	<b>Scope 1 emissions (metric tonnes CO2e)</b>
Retirement Living	716
Corporate	217
Residential	21577
Commercial Property	3731

**9.2b**

**Please break down your total gross global Scope 1 emissions by facility**

<b>Facility</b>	<b>Scope 1 emissions (metric tonnes CO2e)</b>	<b>Latitude</b>	<b>Longitude</b>
Retirement Living Development - Victoria	0		
Retirement Living Development - New South Wales	0		
Retirement Living Development - Queensland	5		
Retirement Living Development - Western Australia	3		
Retirement Living Operations - New South Wales	174		
Retirement Living Operations - Queensland	8		
Retirement Living Operations - South Australia	1		
Retirement Living Operations - Victoria	497		
Brisbane Head Office	0		
Melbourne Head Office	0		
Perth Head Office	0		
Sydney Head Office	217		
Residential Development - New South Wales	3530		

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Residential Development - Queensland	7255		
Residential Development - Victoria	3407		
Residential Development - Western Australia	7385		
Commercial Property - Australian Capital Territory	240		
Commercial Property - New South Wales	2619		
Commercial Property - Queensland	317		
Commercial Property - South Australia	0		
Commercial Property - Victoria	378		
Commercial Property - Western Australia	177		
Retirement Living Operations - Western Australia	28		

### 9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)
CO2	24054
CH4	90
Other: N20	207
HFCs	1890

### 9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Natural Gas	2059
Liquified Natural Gas	1
Liquified Petroleum Gas	58
Diesel Oil	21445
Ethanol (Transport)	1
Gasoline	514
Biodiesel	51
Commercial Air Conditioning - HFC stock	1890
Coal mine waste gas (Decommissioned underground mine)	12
Petroleum based greases	18
Fuel oil	192

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9.2e

Please break down your total gross global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)
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**Page: 10. Scope 2 Emissions Breakdown - (1 Jul 2011 - 30 Jun 2012)**

---

10.1

**Do you have Scope 2 emissions sources in more than one country?**

No

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10.1a

Please complete the table below

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)
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**10.2**

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

- By business division
- By facility
- By activity

---

**10.2a**

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)
Retirement Living	9456
Corporate	1447
Residential	2406
Commercial Property	107693

---

**10.2b**

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)
Retirement Living Operations - New South Wales	3156
Retirement Living Operations - Queensland	772
Retirement Living Operations - South Australia	220
Retirement Living Operations - Victoria	5179
Brisbane Head Office	157
Melbourne Head Office	335
Perth Head Office	64
Sydney Head Office	891
Residential Development - New South Wales	483
Residential Development - Queensland	893
Residential Development - Victoria	640
Residential Development - Western Australia	390
Commercial Property - Australian Capital Territory	3124
Commercial Property - New South Wales	49721
Commercial Property - Queensland	32481
Commercial Property - South Australia	3
Commercial Property - Victoria	16219
Commercial Property - Western Australia	6144
Retirement Living Operations - Western Australia	111
Retirement Living Development - Western Australia	19

### 10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
Electricity	120243
Electricity (not from the grid)	759

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10.2d

Please break down your total gross global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)
-----------------	----------------------------------------

**Page: 11. Energy**

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11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

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11.2

Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Fuel	103858
Electricity	131135
Heat	
Steam	
Cooling	

---

11.3

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Diesel/Gas oil	85220
Biodiesels	4190
Ethane	80
Other: Fuel oil	726
Motor gasoline	2052
Liquefied petroleum gas (LPG)	268
Natural gas	11144

#### 11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comments
Non-grid connected low carbon heat, steam or cooling, generation owned by company	1315	Trigeneration plant.

## Page: 12. Emissions Performance

#### 12.1

How do your absolute emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Decreased

#### 12.1a

Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	5	Decrease	Retail energy efficiency initiatives focusing on sub-metering and HVAC upgrades.
Divestment	2	Decrease	Divestment of office buildings.
Acquisitions		Increase	
Mergers			
Change in output	5	Increase	Impact of our development pipeline in retail, residential and retirement living.
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

## 12.2

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
217.82	metric tonnes CO2e	unit total revenue	3	Increase	Emissions reduction and decrease in Underlying Profit for FY12.

## 12.3

Please describe your gross combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
110.54	metric tonnes CO2e	FTE employee	9	Decrease	Reduction in emissions and increase in FTE.

#### 12.4

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.0692	metric tonnes CO2e	square meter	3	Decrease	Retail portfolio greenhouse gas intensity - decrease resulting from focus on energy efficiency initiatives including sub-metering and HVAC upgrades.
0.0773	metric tonnes CO2e	square meter	7	Decrease	Office portfolio greenhouse gas intensity - decrease resulting from energy efficient management practices and NABERS ratings.

### Page: 13. Emissions Trading

#### 13.1

Do you participate in any emissions trading schemes?

No, and we do not currently anticipate doing so in the next 2 years

#### 13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
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13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

13.2

Has your company originated any project-based carbon credits or purchased any within the reporting period?

Yes

13.2a

Please complete the table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits retired	Purpose, e.g. compliance
Credit Origination	Energy efficiency: industry	Energy Savings Certificates	Other: NABERS	5665	5665	Yes	Other: Revenue

Page: 14. Scope 3 Emissions

14.1

**Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions**

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Not relevant, explanation provided		Evaluated as not material.		
Capital goods	Not relevant, explanation provided		Evaluated as not material.		
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	22246	Total transmission losses from electricity, gas and fleet fuel. Calculated using National Greenhouse Accounts Scope 3 emission factors.		
Upstream transportation and distribution	Not relevant, explanation provided		Evaluated as not material.		
Waste generated in operations	Not relevant, calculated		Evaluated as not material. Waste is tracked on our development sites and reported in our sustainability reporting against targets. See <a href="http://www.stocklandsustainability.com.au">www.stocklandsustainability.com.au</a>		
Business travel	Relevant, calculated	1480	Air travel and car hire emissions. Calculated using National Greenhouse Accounts factors for car hire fuel source and air travel emissions factors taken from DEFRA short, medium and long haul factors.		
Employee commuting	Not relevant, explanation provided		Evaluated as not material.		
Upstream leased assets	Not relevant, explanation provided		Evaluated as not material.		
Investments	Not relevant, explanation provided		Evaluated as not material.		
Downstream transportation and distribution	Not relevant, explanation provided		Evaluated as not material.		

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Processing of sold products	Not relevant, explanation provided		Evaluated as not material		
Use of sold products	Not relevant, explanation provided		Evaluated as not material. Stockland assesses the emissions profile of the communities it develops through CCAP precincts. We do not control what an occupant places in their homes or ILUs		
End of life treatment of sold products	Not relevant, explanation provided		Evaluated as not material		
Downstream leased assets	Not relevant, explanation provided		Evaluated as not material to Stockland. Stockland assists our tenants through design and energy efficiency.		
Franchises	Not relevant, explanation provided		Stockland does not have franchises		
Other (upstream)	Not evaluated				
Other (downstream)	Not evaluated				

## 14.2

**Please indicate the verification/assurance status that applies to your Scope 3 emissions**

Third party verification or assurance complete

## 14.2a

**Please indicate the proportion of your Scope 3 emissions that are verified/assured**

More than 90% but less than or equal to 100%

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**14.2b**

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Relevant standard	Attach the document
Limited assurance	ASAE3000	<a href="https://www.cdproject.net/sites/2013/70/17770/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-14.2b-C3-RelevantStatementAttached/Stockland%20Annual%20Review%202012%20(3).pdf">https://www.cdproject.net/sites/2013/70/17770/Investor CDP 2013/Shared Documents/Attachments/Investor-14.2b-C3-RelevantStatementAttached/Stockland Annual Review 2012 (3).pdf</a>

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**14.3**

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

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**14.3a**

Please complete the table

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Business travel	Other: Increase in	2	Increase	Increase in fleet fuel consumption and car hire fuel consumption. Coupled

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
	travel to sites			with increase in accuracy of tracking with the consolidation of suppliers.

#### 14.4

**Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)**

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

#### 14.4a

**Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success**

Stockland continues to undertake a range of environmental initiatives and uses several environmental rating tools to monitor, reduce and benchmark the energy efficiency performance and GHG reductions within our assets and communities. These initiatives and rating tools allow our tenants, residents and customers to minimise greenhouse gas emissions.

Retirement Living example: All new Retirement Living homes to be constructed with a 5 per cent improvement on building code energy efficiency performance requirements, making it more affordable for our retirement living village residents.

Commercial Property example: Worked with the QLD Department of Environment and Resource Management ClimateSmart Business Cluster Program to deliver energy efficiency retrofits for some of our retail tenants. The offers groups of up to 20 tenants per asset funding to implement upgrades to reduce their energy consumption.

Residential example: Partnered with Gold Coast City Council to offer in-home monitoring of electricity, gas and water with the aim of reducing resident utility bills and environmental impact by providing real time consumption information. We are also conducting research to determine how we can reduce the emission profile of our civil contractors through their consumption of fuel.

Stockland is a Bronze Participant in the CSIRO's Future Grid Forum, which is examining and evaluating whole-of-system options for Australia's future electricity system. Stockland is the only land developer participating in the forum. As a participant we are contributing the perspective of a large electricity and infrastructure end user, but also gaining valuable insight in to the likely future that our industry must anticipate and plan for.

More examples are detailed on our sustainability website [www.stocklandsustainability.com.au](http://www.stocklandsustainability.com.au)

#### 14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment
70	50%	Critical suppliers are generally Contractors who are performing a significant proportion of our business objectives, i.e. development of our retail, residential and retirements living projects. In this context, objectives include programme criticality or the delivery of other objectives, such as quality, workplace safety or compliance to environmental measures.

#### 14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
Identifying GHG sources to prioritize for reduction actions	Under the National Greenhouse and Energy Reporting Act we are required to report on the emission of our civil contractors and landscapers on our Residential and Retirement Living development sites. Fuel consumption accounts for the majority of their emissions - Stockland is actively looking into opportunities to reduce emissions in this area.

#### 14.4d

Please explain why not and any plans you have to develop an engagement strategy in the future

**Module: Sign Off**

**Page: Sign Off**

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**Please enter the name of the individual that has signed off (approved) the response and their job title**

**CDP 2013 Investor CDP 2013 Information Request**