

# Carbon Disclosure Project CDP 2010 Information Request

## 0.1

### Introduction

Please give a general description and introduction to your organization.

25<sup>th</sup> June 2010

Carbon Disclosure Project CDP08 – Lend Lease Group 2010 submission

This is Lend Lease's fourth response to the Carbon Disclosure Project. This year we are both a 'Respondent' and a 'Signatory Investor' to the information request. Lend Lease's 2010 Carbon Disclosure Project Submission is consistent with the 2009 submission and includes improvements in several areas as outlined below:

- Lend Lease's management response to climate change in 2010 has strengthened to include additional measures such as: a revised Environment Policy; improved Lend Lease Pipeline Sustainability Risk Considerations; Country Risk Due Diligence Process; increased advocacy on climate change policy to address reduction of greenhouse gas emissions in the built environment; and the rollout of the environmental data management reporting tool, Insight Environment.
- Lend Lease's reported global consumption of energy and generation of Greenhouse Gas Emissions (Scope 1 and 2) to the Carbon Disclosure Project has increased by approximately 400%. The primary reason for this increase is that in 2008 Lend Lease reported its emissions under the Equity Control Boundary, where Lend Lease is now reporting under an Operational Control Boundary. As a result, Lend Lease now reports a greater proportion of assets under operational control, all offices occupied by Lend Lease and also all construction projects. Implementation of Lend Leases environmental data reporting tool, Insight Environment, has significantly improved data collection and quality. These changes are articulated in our 2010 response.
- This year is the first time that Lend Lease is able to generate the energy and emissions intensity of Projects (energy per hours worked), Offices (energy per m2) and Assets (energy per m2). This is a significant milestone for Lend Lease as it provides the first opportunity to begin benchmarking Lend Lease's performance, interpreting future operational efficiency trends and setting internal targets.
- The quality of Lend Lease's core energy consumption and carbon emissions data (Scope 1 and 2) has significantly improved. Data from the Australian operations has an approximate 5% error margin, while the remaining global operations have an approximate 22% error. Australian legislation has driven the collection of quality energy data from construction projects whereas other regions do not have the same legislative imperative and the Global Sustainability Group is reviewing how to improve data quality in other regions.

As outlined in Lend Lease's 2010 submission, Lend Lease has taken a leadership position to engage with policy makers and relevant industry and reporting organisations to advocate for more consistent common carbon metrics across regions and sectors to facilitate more streamlined reporting, transparency and benchmarking of performance.

Through the implementation of our management reporting tool, Insight Environment, a significant milestone has been achieved, giving Lend Lease its first opportunity to analyse the emissions intensity and commence the work to establish future performance benchmarks for our operations.

While this financial year continues to be a dynamic and highly variable period for Lend Lease operations globally, we have robust systems in place to prepare our business for climate change impacts and remain committed to proactively implementing strategies that address our impacts and reduce our greenhouse gas emissions globally.

Yours sincerely,



Steve McCann  
Group CEO and Managing Director  
Lend Lease

Encl. Carbon Disclosure Project CDP08 – Lend Lease Group 2010 submission

### 0.2

#### Reporting Year

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

Enter Periods that will be disclosed
Thu 01 Jan 2009 - Thu 31 Dec 2009

### 0.3

Are you participating in the Walmart Sustainability Assessment?

No

### 0.4

#### Modules

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

If you are in these sectors, the corresponding sector modules will be marked as default options to your information request.

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 [www.cdproject.net/cdp-questionnaire](http://www.cdproject.net/cdp-questionnaire).

Not Applicable

### 0.5

#### 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
Argentina
Austria
Bahrain
China
Czech Republic
France
Georgia
Greece
Italy
Japan
Malaysia
Malta
Mexico
Netherlands
Oman
Peru
Poland
Portugal
Romania
Russia
Singapore
Slovakia

Select country
Spain
Taiwan
Thailand
Turkey
United Arab Emirates
Ukraine
United Kingdom
United States of America

### Attachments

<https://www.cdproject.net/Sites/2010/28/10628/Investor CDP 2010/Shared Documents/Attachments/InvestorCDP2010/Introduction/Cover letter Carbon Disclosure project.pdf>

## Module: Governance

Page: Governance

### 1.1

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

Board committee or other executive body

#### 1.1a

**Please specify who is responsible.**

Board/Executive Board

### 1.2

**What is the mechanism by which the board committee or other executive body reviews the company's progress and status regarding climate change?**

Details of Lend Lease Groups governance structure including the Sustainability Committee Charter and Risk & Compliance Committee Charter, refer to the 'Direction' section of the Lend Lease website:  
<http://www.lendlease.com.au/sustainability/directionDetail.html?search=ventures#/direction-detail>

Frequency – Sustainability Committee meet and report on a Quarterly basis. Additional CEO updates are provided by the Global Head of Sustainability (between Board Committee Meetings) on a regular basis, approximately every 4-6 weeks.

Internal Reporting – Board & Sustainability Reporting performed quarterly, Risk & Compliance Committee Reporting performed quarterly, CEO Updates performed every 4-6 weeks, Lend Lease controls risk assessment reporting performed annually, Lend Lease Annual Report and Sustainability Website reporting performed annually.

Mechanisms – Traffic light reporting is used to monitor progress. Where necessary, RED traffic lights are also added to Lend Lease's internal risk register to elevate priority actions to resolve outstanding issues.

Climate Change management hierarchy – Below the Board and Sustainability Committee, responsibility for addressing Climate Change in business systems and processes are managed as follows:

- Lend Lease Global Head of Sustainability supported by the Sustainability Group in Corporation
- Regional CEOs and business CEOs
- Regional Heads of Sustainability (Asia, Australia, Europe including UK and Americas)
- Sustainability Executives and Environmental Managers within each Lend Lease business
- Lend Lease employees in all Lend Lease offices, projects and assets

**1.3a**

**Please explain how overall responsibility for climate change is managed within your company.**

Not Applicable – Refer to 1.2

**1.4**

**Do you provide incentives for the management of climate change issues, including the attainment of greenhouse gas (GHG) targets?**

Yes

**1.5**

**Please complete the table.**

Who is entitled to benefit from those incentives?	The type of incentives
Corporate executive team	Monetary reward
Management group	Monetary reward
Business unit managers	Monetary reward
Environment/sustainability managers	Monetary reward

**Further Information**

Lend Lease has set 23 Sustainability Aspirations, including commitments to implement an internationally recognised environmental management system, implementation of initiatives on all Lend Lease projects and assets to achieve zero net carbon, water and waste, achieve legal compliance, performance reporting and operational efficiency targets.

Please refer to the following link for details on Lend Lease Sustainability Aspirations  
<http://www.lendlease.com/sustainability/index.html#/our-23-aspirations>.

## **Module: Risks and Opportunities**

### **Page: Risks & Opportunities Identification Process**

#### **2.1**

**Describe your company's process for identifying significant risks and/or opportunities from climate change and assessing the degree to which they could affect your business, including the financial implications.**

Climate Change Risk Assessment with New Geographies — Lend Lease performs a Country Risk Due Diligence process for any new geography that the organisation is considering to start a new business in. The Country Risk Due Diligence Process includes a requirement to assess Climate Change risks and also environmental legislation risks.

Climate Change Risk Assessment within New Investments — the Lend Lease process for assessing proposals for investment is called the Investment Pipeline. All investment proposals must be subjected to a range of environmental and social sustainability considerations (and associated financial or reputation implications), which include Climate Change related risks such as:

- At-risk weather geographies
- Sea level rise
- Extreme weather events
- Flood-prone land - Demographic shifts
- Adaptation of buildings or assets

Climate Change Risk Assessment within New Bids/Projects — Lend Lease construction and project management business, Bovis Lend Lease, uses a 'Go/No-Go' decision-making process to assess the risk to potential projects. This process includes the identification and assessment of potential environmental and social risks and opportunities. The assessment process informs the decision as to whether the project is approved.

Climate Change Risk within Lend Lease Corporate Risk Register — Lend Lease maintains a Corporate Risk Register which lists all corporate risks of Business operations. The Corporate Risk Matrix enables consistent interpretation of the different levels of environmental risk across the following five categories:

- Critical Environmental Risk: Catastrophic or irreversible environmental harm
- Major Environmental Risk: Major environmental hazard with long-term recovery likely
- Medium Environmental Risk: Measurable or serious environmental harm with medium-term recovery
- Small Environmental Risk: Short-term, localised and minor impact on the environment, limited to site
- Minor Environmental Risk: Transient environmental effects limited to site

Climate Change Risk within the Lend Lease Environment, Health & Safety Management System - Lend Lease operates an integrated Environment, Health and Safety (EHS) Management System. As part of this system, legal registers are maintained to ensure all risk assessments and management plans are based on up-to-date legislative and regulatory requirements. Prior to conducting any project operations or activities, Lend Lease employees complete an Environment, Health and Safety Risk Assessment. Environmental performance reports are provided to Lend Lease Executive and Non-Executive Directors quarterly and overall compliance is disclosed within the Lend Lease Annual Report. As and when required, Lend Lease commissions independent environmental auditors.

Auditing of Environmental Risk Management – Climate change risks included in site Environmental Management Plans may include flood management, extreme weather measures, protection of human health due to increased temperatures, improving energy efficiency measures and reporting in accordance with energy efficiency legislation. Environmental Management Plans are reviewed and audited by several key persons across the Business as indicated below:

- Site Environment Manager: responsible for implementation of site Environmental, Health and Safety Plan including collection of environmental reporting metrics.
- Operations/ Regional Environment Manager: responsible for periodic visits to sites or assets to verify implementation of the Environmental, Health & Safety Plan and performance of site environmental managers.
- Lend Lease Corporation Internal Audit: perform periodic auditing of selected Lend Lease operations to verify compliance with Corporate Reporting Requirements.
- External auditors: appointed where Lend Lease operates environmental management systems certified under the requirements of ISO 14001.

Carbon Risk Modelling – Lend Lease undertakes advanced internal proprietary modelling of Scope 1, 2 and 3 emissions associated with business operations. The outputs of this analysis facilitate a deeper understanding of the indirect impacts of climate change on the Lend Lease supply chain, customers, clients, and partners. This information also used to position Lend Lease for existing energy and emissions performance reporting such as the NGER Act 2007 and EEO

Act (Australia) and existing and future energy and emissions performance under the CRC Scheme 2010 (United Kingdom).

### Further Information

For additional detail please see the following websites -  
<http://www.lendlease.com/sustainability/chart.html?swf=Charts2010Carbon>  
<http://www.lendlease.com/sustainability/chart.html?swf=carbonFootprint>  
<http://www.lendlease.com/sustainability/index.html#/environment-detail>

## Page: Regulatory Risks

### 3.1

**Do current and/or anticipated regulatory requirements related to climate change present significant risks to your company?**

Yes

### 3.2A

**What are the current and/or anticipated significant regulatory risks related to climate change and their associated countries/regions and timescales?**

Risk	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 3.2B

### 3.2B

**What are the current and/or anticipated significant regulatory risks related to climate change and their associated countries/regions and timescales?**

The recent increase in regulatory requirements related to climate change, particularly energy and emissions, now presents the most risk to Lend Lease businesses in the regions outlined below:

#### Europe

- EU Emissions Trading Scheme: Mandatory registration and reporting of facilities with energy and emissions above the specified threshold.
- Building Energy Performance Certificates (UK): Mandatory registration and reporting of commercial buildings with energy and emissions above the specified threshold.
- Carbon Reduction Commitment Scheme (UK): This scheme as proposed mandates permit trading for large energy consumers including both Scope 1 emissions from metered gas use, and Scope 2 emissions from purchased electricity.
- Zero Carbon Homes and Non-Domestic Buildings (UK): This regulation now mandates energy performance benchmarks of residential buildings.

#### Australia

- National Greenhouse and Energy Reporting Act 2007: Mandatory emissions and energy reporting and public disclosure for all organisations that exceed the 0.5PJ threshold for FY 2009 within 5% data accuracy margins and operational control boundaries.
- Energy Efficiency Opportunities Act 2006: Mandatory public reporting of all energy efficiency opportunities and responding actions by corporations that exceed the 125ktCO<sub>2</sub>e threshold for FY 2009.
- Mandatory Disclosure of Commercial Building Energy Efficiency: Mandatory public disclosure of commercial building energy efficiency for newly constructed, refurbished or leased buildings over 2,000m<sup>2</sup>.
- Renewable Energy Targets: Mandatory renewable energy targets designed to decrease reliance on fossil fuels and increase investment in the renewable energy technology sector.
- Emissions Trading Scheme: The Australian government has pledged to revisit its proposed cap-and-trade emissions trading scheme in 2012 after the current commitment period of the Kyoto Protocol has ended and the actions of other major economies becomes clearer.

#### Americas

- United States Kerry Lieberman Climate Change Bill 2010 (in progress): The Senate bill would set up an emission trading program for utilities starting in 2013. Factories and other “industrial sources” would join the cap-and-trade program in 2016. This would require the mandatory collection and disclosure of energy and emissions by organisations with facilities above the specified threshold
- US EPA Greenhouse Gas Emissions Mandatory Reporting Rule: This would require the mandatory collection and disclosure of energy and emissions by organisations with facilities above the specified threshold

#### Asia

- Potential emerging emissions trading schemes exist in both Japan and China. This would require the mandatory collection, disclosure and potential trade or purchase of carbon credits via a cap-and-trade market mechanism
- Singapore: The emergence of BCA Greenmark green building rating scheme would establish benchmark performance rating criteria across Singapore and potentially neighbouring regions in Asia.

#### Global

- Common Carbon Metrics: Due to the increasing emergence of energy and emissions related reporting for both mandatory and voluntary purposes, there exists a lack of consistency in carbon related metrics that prevents comparisons being made between the performances of international organisations. The lack of common carbon metrics also increases complexity for organisations responding to multiple carbon reporting criteria and boundaries globally.

### 3.3

**Describe the ways in which the identified risks affect or could affect your business and your value chain.**

#### Europe

- EU Emissions Trading Scheme: Lend Lease assets triggering thresholds being required to participate under the ETS. Lend Lease had to initially register two UK hospital assets triggering the threshold and were thus required to register and participate in the ETS. Lend Lease implemented further operational energy efficiency strategies to reduce energy consumption to below the threshold levels.
- Building Energy Performance Certificates (UK): Lend Lease assets are affected by energy audit, data collection and reporting costs associated with the intermittent assessment, verification, and disclosure of asset energy consumption.
- Carbon Reduction Commitment Scheme (UK): Lend Lease has invested substantial internal resources and ICT databases that are required to collect, collate, input, manage and report on energy and emissions under the scheme. Lend Lease has also engaged external consultants, audit and legal advice to support reporting under this legislation.
- Zero Carbon Homes and Non-Domestic Buildings (UK): Lend Lease incorporates the requirements of this legislation into all stages of design and construction. There are cost implications for achieving these benchmarks which impact the asset sale price and market interest.

#### Australia

- National Greenhouse and Energy Reporting Act 2007: Lend Lease is required to perform detailed emissions and energy reporting for all its Australian operations within 5% data accuracy margins. Lend Lease has invested substantial internal resources and ICT databases that are required to collect, collate, input, manage and report on energy and emissions under the Act.
- Energy Efficiency Opportunities Act 2006: Lend Lease is currently performing an Energy Efficiency Opportunities Assessment and Reporting schedule which is to be delivered and reported under the four year cycle in accordance with the act.
- Mandatory Disclosure of Commercial Building Energy Efficiency: Compliance and quality of data costs will be incurred by Lend Lease Investment Management as a result of the intermittent assessment, verification, and disclosure of asset energy consumption.
- Renewable Energy Targets: Influence Lend Lease’s direct investment in renewable energy technologies.
- Emissions Trading Scheme: An emissions trading scheme in Australia poses both risks to Lend Lease’s operations in the region due to the added financial burden placed on carbon emissions intensive operations (including construction related products and materials), resulting in higher operating costs for its assets, offices and construction projects.

#### Americas

- United States Kerry Lieberman Climate Change Bill 2010 (in progress): The property sector will be directly affected through any energy intensive assets triggering emissions thresholds, potentially requiring mandatory collection, reporting and (potential) cap-and-trade of carbon credits.
- US EPA Greenhouse Gas Emissions Mandatory Reporting Rule: While this rule does not currently impact Lend Lease operations it is likely that this will change as emissions reporting thresholds are lowered and the Rule is expanded to capture other emitting sectors and buildings such as hospitals, universities and larger public buildings.

#### Asia

- Lend Lease operations in Asia has a watching brief for potential emerging emissions trading schemes in both Japan and China which have reported emissions trading scheme preparations in place. Lend Lease would be directly affected by energy and emissions collection, reporting and potential participation under any scheme.
- Singapore: The emergence of BCA Greenmark green building rating scheme in Singapore has the potential to negatively impact the perceived value and attraction of new tenants or investors to any dated or low performing building stock in Singapore owned by Lend Lease.

#### Global

- Common Carbon Metrics: Lend Lease Corporation is increasingly assigned responsibility for the emissions from assets in which it has operational control, despite having limited or no financial control or equity share in the assets. As described above, operational control has little correlation to real financial risk, or the ability to make capital investment in improvements to an asset. In addition to the complexities arising from attempting to assign operational control to a single party for a real estate asset, it is wrong to conclude that operational control equates to the ability to implement significant energy efficiency improvements in an asset, or to reduce financial risk through adapting the buildings to the impacts of climate change.

### 3.4

#### Are there financial implications associated with the identified risks?

Yes

### 3.5

#### Please describe them.

Mandatory reporting of energy consumption, production and emissions under legislation in Australia, the United Kingdom and the United States has direct financial implications for Lend Lease as outlined below:

- Financial costs with Sustainability Executives, Environmental Managers and Lend Lease support employee time to collect energy/ emissions data from all Lend Lease operations including contractors. Lend Lease currently has approximately 20 people globally that perform this for some 25% of their time. This is equivalent to approximately 5 full time employee salaries at \$150K per employee which equals \$750K AUD.
- Financial costs associated with recruitment of resources to collect, manage and report on energy and emissions data – refer above costs
- Financial costs with the ICT (computer software) required to build, implement, operate and maintain a reliable data management system that allows the collation of energy and emissions data for reporting. Lend Lease has currently spent in excess of \$2M AUD on an internal environmental management reporting tool.
- Financial costs associated with management time to interpret the legislation impacts, develop and maintain relevant training and human resources support information to establish new policies, procedures and governance of energy and emissions data management system.
- Financial costs passed on to Lend Lease from suppliers and contractors for the administrative time/ costs associated with separate reporting of energy (fuel, electricity, etc) and emissions to Lend Lease. - Financial costs to Lend Lease associated with internal and external auditing of energy and emissions data that is signed off by the CEO under the legislation reporting requirements. This is currently estimated to be \$250,000 AUD annually.
- Financial costs for internal and external legal advice and contract amendments to support Lend Lease's compliance under the legislation. Lend Lease estimate this would be approximately \$250K AUD annually.
- Financial risks associated with penalties, fines and prosecutions for any non-compliance under the relevant legislation which can range from inadequate data accuracy (>5% error) to unknowingly non-reporting of a site, asset or contractor. Lend Lease has not been fined but is aware of the financial penalties.

In addition to the above, there are direct financial risks to Lend Lease associated with the climate change legislation in terms of:

- Changes to local environment planning guidelines: Planning guidelines in all the geographies that Lend Lease operates globally are being amended to reflect climate change risks and adaptation. Changes such as flood level

areas due to sea level rise, minimum flood design requirements, engineering standards for coastal developments and so forth all have direct financial impacts on the value of any Lend Lease Investments and the cost of design, construction and maintenance of Lend Lease developments and assets.

- Changes to building standards: Similar to the above, changes to building standards in line with climate adaptation risks all have financial impacts on the design, construction and operational costs of assets. As the standards become more stringent or prescriptive, additional engineering may be required, more costly building maintenance systems or products or technologies may be required.

### 3.6

**Describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.**

Lend Lease has strengthened its global Environmental Management System, environment risk governance systems and resources to identify, manage and meet regulatory compliance requirements associated with climate change related legislation. Some examples include:

- Invested in significant ICT (computer software) data management system that allows the collation of energy and emissions data for reporting.
- Dedicated significant management time to interpret legislation, develop and maintain relevant training and human resources support information to establish new policies, procedures and governance of energy and emissions data management system.
- Developed more robust environmental risk consideration requirements into Lend Lease decision making processes for New Country Risk Due Diligence, Investment Pipeline and Project Conversion proposals.
- Committed to ongoing internal and external auditing of energy and emissions data that is signed off by the CEO under relevant legislative reporting requirements.
- Continued to measure and report of asset-level performance
- Modelled Scope 3 carbon emissions
- Advocated for globally consistent regulation and participation in regulatory stakeholder and consultation groups.
- Conducted periodic global regulatory risk reviews
- Developed engagement and communication strategies with industry stakeholders including competitors
- Provided ongoing training and allocation of resources: Allocating employee time and resources to collect energy/emissions data from all Lend Lease operations including contractors and recruiting additional employees where required.
- Sought to review technical papers, obtain subscriptions, consultant advice and conduct research
- Expanded formal and informal networking and knowledge sharing

### Further Information

For more detail with regards to Common Carbon Metrics - <http://www.lendlease.com/sustainability/index.html#/advocacy-detail>

## Page: Physical Risks

### 4.1

**Do current and/or anticipated physical impacts of climate change present significant risks to your company?**

Yes

### 4.2A

**What are the current and/or anticipated significant physical risks, and their associated countries/regions and timescales?**

Risk	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 4.2B

#### 4.2B

#### What are the current and/or anticipated significant physical risks, and their associated countries/regions and timescales?

While ALL geographical areas in which Lend Lease operates are indirectly affected by the risks outlined above, the following provides a brief outline of those more directly affected:

- Increased Extreme Weather Events: Lend Lease operates in over 30 countries including those located in tropical regions and/ or coastal regions such as parts of northern Queensland (Australia), south-east Asia (Singapore, Malaysia), and Latin America. These are affected by extreme weather events including, flash flooding, inundation, landslides and associated demographic shifts and insurance risks.
- Changes in Precipitation: Corresponding to high temperature areas, access to adequate water supply directly affects Lend Lease operations in all 40 geographies in which Lend Lease operates. Inability to access 'water rights' in some geographies such as some States of the United States has prevented Lend Lease from pursuing projects or investments. In addition, inability to access reliable water utility services in other 'developing' countries also poses challenges to project feasibility.
- Exposure to Low Temperatures: Lend Lease operates in countries located significantly north and south of the equator such as Canada, northern parts of the United States and Europe. Extreme cold temperatures, severe snow and wind storms directly affect the integrity of building structures, the timely and delivery of construction programs including availability of construction products and materials. Similar, extremely cold weather affects the future design and operations of buildings and their ability to provide energy efficient thermal comfort to tenants and owners.
- Coastal Erosion: Lend Lease operates in over 40 countries including those located in coastal regions of Australia, south-east Asia (Indonesia, Thailand, Malaysia), Latin America, and the west coast of the United States. All these coastal areas are affected by increased extreme weather events, rising sea levels, flooding and inundation, and associated demographic shifts and insurance risks.
- Flooding of Low Lying Areas: Flood prone or low lying land exists in the majority of geographies in which Lend Lease operates. These areas are often located near the coast, but not always. They also commonly exist in urban areas that may comprise land that was historically reclaimed from swamps and river deltas to flood plains and harbour foreshores. All these areas are now being impacted by rising sea levels which need to be considered prior to any development, construction or investment activity.
- Exposure to High Temperatures: Lend Lease operates in areas which currently experience extremely warm to hot weather conditions ranging from the United Arab Emirates, to northern Australia, Asia and parts of the United States. Rising average temperatures in these areas are affecting the feasibility and assessment of existing and future Lend Lease operations in these regions.

All of the above present immediate risks to Lend Lease operations and investments in assets and development projects. The boundaries of locations typically identified as 'high risk' due to climate change impacts are expanding. This is being attributed to a number of factors including, but not limited to:

- Greater access to existing data (such as sea-level rise mapping)
- Better compilation of new climate data (such as demographic shifts)
- Improved interpretation and analysis of climate change data and risks
- Increased public communication and education of climate change risks
- Increased market costing of climate change risks (i.e. Insurance premiums)
- More conservative mapping and planning of climate change risks, i.e. broadening risk map boundaries and sensitivities.

#### 4.3

#### Describe the ways in which the identified risks affect or could affect your business and your value chain.

- Severe weather events: resulting in property damage, delay or impact costs associated with transport and delivery of construction products and materials, delay site construction activities and programming, increase site construction costs due to increased mitigation measures such as large scale treatment of construction water run-off may result in indirect affects to local economies such as decreased local business or decreased tourism trade which will undermine any community developments, costs for climate change adaptation of existing and future infrastructure and assets need to be budgeted and planned for.
- Rising sea levels, coastal flooding, and erosion: may increase development costs associated with additional site flood mitigation measures in either landscaping, storm water engineering or building design, may prevent development approval or undermine existing asset values due to changed sea-level rise mapping, will result in demographic shifts which in turn determine feasibility of development locations, may increase cost of insurance to existing or future asset owners or occupiers which would detriment property sales, occupancy rates and assets under management.

- Transportation impacts including cost and other disruption: as mentioned above this would affect cost and programming for construction sites and asset maintenance, it would also impact transport infrastructure related to Lend Lease assets (such as shopping centres) or Lend Lease developments such as large scale residential communities.
- Heating, cooling, and ventilation: Utility costs will increase for not only tenants within assets under management (ranging from retail centres to retirement villages) but also for Lend Leases own offices, construction sites and/or where Lend Lease are responsible for base building or common space costs, further costs and programming will be required for retrofitting facilities and assets with new plant and equipment to address increased peak heating and cooling demands
- Availability and cost of water: Similar to above, operational water utility costs for all tenants and occupants in Lend Lease managed assets and facilities will increase, water utility costs for Lend Lease will increase in occupied offices, construction sites and/or where Lend Lease are responsible for base building or common area costs. Secondly, availability to adequate water to service any developments will be key to determining the feasibility of any proposed projects.
- Contract labour: availability and costs of contract labour will become highly variable as key trades and building professionals become mobilised to respond to more frequent disaster relief events, this in turn will delay site construction activities and associated costs.
- Construction materials: availability and cost of construction materials will also become more variable as carbon related taxes affect product and materials costs, also extreme weather events may delay transport and delivery of materials affecting site programming and costs, also availability of various construction materials will change as climate change risks, increased regulations and carbon taxes affect the cost feasibility of some materials more than others.
- Health and safety: increased extreme weather events and air temperatures will direct affect the health and safety of all Lend Lease employees, particularly those working outdoors on Lend Lease development and construction sites, increased training and occupational health and safety resources will be required for each project and asset to prevent and manage risks to human health associated with extreme weather and increased temperatures. In addition, increased planning and mitigation measures need to implemented for all Lend Lease assets under management.
- Changing socio-economic demographics: climate change can result in changes in location-specific employment in tourism, agriculture, fisheries, forestry, mining, and some industrial sectors. In addition, occupancy patterns including density and migration can occur as a result of other impacts (e.g.: weather, fire danger, water availability). These demographics need to be considered in climate change adaptation planning for Lend Lease assets under management, owned assets and developments within the Lend Lease investment pipeline.

#### 4.4

#### **Are there financial implications associated with the identified risks?**

Yes

#### 4.5

#### **Please describe them.**

Refer to 4.3.

#### 4.6

#### **Describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.**

- Severe weather events: Lend Lease includes climate changes risk as a sustainability risk filter for all Investment Proposal Papers. The risk must be assessed as part of detailed environmental due diligence and where risks cannot be adequately mitigated or avoided the Investment Proposal will not be approved. Several proposed investment projects have been declined since these investment filters were introduced and mandated. Lend Lease also includes climate change risk as mandatory due diligence for all new geographies. The process for approval or decline is similar. Where Lend Lease currently owns assets within areas of known for severe weather events, appropriate risk mitigation and management measures are implemented. Such mitigation measures may range from upgrading building facades and heating/ cooling ventilation systems to reengineering structures or site grounds. In addition, Lend Lease will ensure appropriate insurance policies are in place and continually revised the risk presented by the asset and whether it should be divested.
- Rising sea levels, coastal flooding, and erosion: Please refer to response above.
- Utility and Transportation impacts: Future security of utilities including transport to all Lend Lease developments and assets is a key consideration in all project planning, design, construction and operation. Developments continue to ensure integrated utilities and access to transport to minimise the potential for disruption and ability for the development to adjust to shifting population behaviours due to climate change. Design considerations of all utilities need to account for rising sea levels, precipitation and temperature extremes to not only the physical infrastructure, but also to the comfort and accessibility by the community.

- Heating, cooling, and ventilation: Existing systems are being upgraded and new systems being designed to provide more appropriate thermal comfort to building/ asset users and occupants. This means designing and operating systems that do not over-cool or over heat buildings or public spaces, allowing marginally greater temperature fluctuations within these spaces and implementing plant and equipment that is also energy and water efficient therefore reducing vulnerability to water or power shortages.
- Availability and cost of water: Similar to severe weather events, accessibility to water is a mandatory sustainability consideration for new geographies and all investments proposed. Lend Lease has declined the opportunity to invest in some projects that were located in areas where water rights were restricted to the community preventing the ability to integrate rainwater and storm water collection into the development. This is not only relevant to the operation of the building or asset, but also the critical functioning of the community. Lend Lease designs and construct buildings that meet green building rating standards.
- Construction materials: Lend Lease is beginning to interrogate the physical risks of climate on its global supply chain, particularly the sourcing, selection and transportation of construction materials. Anticipated increases to energy costs and directly to carbon intensive products such as concrete, aluminium and steel is influencing business operations as Lend Lease seeks to broaden its construction materials into alternative products such as structural timber products. Lend Lease is also aware of the potential for severe weather events to potential increase delivery risks associated with long-distance transport of products and materials. As a result, greater emphasis is being placed on local sourcing of products and materials to reduce supply change risks.
- Health and safety: management of health and safety risks continues as a top priority at Lend Lease, with environmental conditions for workers on construction sites, in offices and within assets such as retail centres being addressed to ensure employee comfort and safety. This includes emergency procedures for extreme weather events or environmental disasters and also extends to governing health and safety of employees on business travel.
- Changing socio-economic demographics: this is a key consideration in management of existing Lend Lease assets and investment in future assets. Identifying and understanding not only where communities will shift to, but also how they will behave as climate change occurs and impacts geographies differently is critical. Lend Lease considers this in all cases, from designing outdoor spaces within a retail centre located in a tropical climate to urban regeneration project located on a coastal area.

**Page: Other risks**

**5.1**

**Does climate change present other significant risks - current and/or anticipated - for your company?**

Yes

**5.2A**

**What are the current and/or anticipated other significant risks, and their associated countries/regions and timescales?**

Risk	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 5.2B

**5.2B**

**What are the current and/or anticipated other significant risks, and their associated countries/regions and timescales?**

With the building sector responsible for more than 40% of the world’s energy use and one third of global greenhouse gas emissions, Lend Lease’s operations globally are exposed to both direct and indirect risks associated with climate change.

In addition to regulatory and physical risks identified, general risks also described in detail in Lend Lease’s 2008 CDP 6 response which are ongoing, include:

- Reputational risks: Lend Lease operates globally and is listed on the ASX.
- Costs and availability of insurance in at-risk geographies: We operate in sub-tropical areas including South East Asia, Northern Australia and South America.
- Fuel and associated transportation costs: All global operations are exposed.
- Strategic business changes necessitated by new information: i.e. investment management decisions in all regions are based on periodic risk analysis, including climate change.
- Changes in consumer behaviour including settlement and purchasing patterns in regions where Lend Lease develop urban regeneration projects and master plan communities (US, UK, Australia)

- Employee attraction and retention is affected throughout Lend Lease's operations globally.

### 5.3

**Describe the ways in which the identified risks affect or could affect your business and your value chain.**

- Reputational risks: Due to carbon reporting and climate change risk vulnerability disclosure by Lend Lease in accordance with voluntary and mandatory reporting obligations, Lend Lease reputation may be exposed or negatively impacted depending on investor and rating agencies view of such disclosure.
- Costs and availability of insurance in at-risk geographies: Buildings and communities Lend Lease invest in, design, build and or create all require some degree of insurance. The costs and availability of insuring these assets can be significantly affected by the predicted exposure of these assets to climate change. Insurance premiums have increased in areas where extreme weather events have directly occurred, such as within a region affected by a cyclone, but also in countries that have been affected by several environmental extreme weather events, for examples fires and floods sending up overall insurance premiums. In addition, some insurance companies will no longer insure places that are affected by new sea level rise planning documentation or that are in an area likely to receive increased extreme weather events, such as coastal resorts in tropical areas.
- Fuel and associated transportation costs: Fuel and transportation costs will increase as products, materials and services all attract direct and indirect taxes and/or premiums for carbon. Similarly, products that are seen as energy or carbon intensive are likely to gradually become less available in the market when compared to low carbon alternatives.
- Strategic business changes necessitated by new information: Direct investments by Lend Lease would likely lean towards high performance building assets that have been designed to operate with climate change risks as opposed to those that will require significant investment for upgrading. Similarly, legislation changes can easily affect planning approvals of certain popular development areas, such as low lying coastal areas.
- Changes in consumer behaviour including settlement and purchasing patterns: property values in low lying coastal areas are increasingly seen as liabilities; hence selection of future development sites and how they are planned to cope with climate change impacts is critical.
- Employee attraction and retention: Lend Lease's brand and reputation will be affected by how Lend Lease discloses and reports on its response to climate change. Brand and reputation in turn affect Lend Lease's ability to attract and retain employees.

### 5.4

**Are there financial implications associated with the identified risks?**

Yes

### 5.5

**Please describe them.**

- Reputational risks: Investor and rating agencies guidance can impact share price and investment in Lend Lease.
- Costs and availability of insurance in at-risk geographies: The costs and availability of insuring Lend Lease construction projects and owned assets are increasingly affected by the predicted exposure to climate change. Insurance premiums have increased in areas where extreme weather events have directly occurred, such as within a region affected by a cyclone, but also in countries that have been affected by several environmental extreme weather events, for examples fires and floods sending up overall insurance premiums.
- Fuel and associated transportation costs: Fuel and transportation costs will increase as products, materials and services all attract direct and indirect taxes and/or premiums for carbon. Similarly, products that are seen as energy or carbon intensive are likely to gradually become less available in the market when compared to low carbon alternatives.
- Strategic business changes necessitated by new information: Increased ongoing due diligence of Lend Lease operations with regards to climate change risk increases demand on internal funding and resources.
- Changes in consumer behaviour including settlement and purchasing patterns: Sale of properties on Lend Lease developments can slow due to community perception of climate change risks.
- Employee attraction and retention: Lend Lease must invest in continually strengthening internal resources to manage and respond to climate change risks. Similarly Lend Lease must also invest in continual disclosure of our sustainability performance in response to climate change to all stakeholders including future and existing employees.

## 5.6

**Describe any actions the company has taken or plans to take to manage or adapt to the other risks that have been identified, including the costs of those actions.**

- Reputational risks: Lend Lease undertakes extensive internal and external communication of its environmental performance and risk management practices, such as the Lend Lease Sustainability Website.
- Costs and availability of insurance in at-risk geographies: Lend Lease includes insurance risk in all investment and bid decision making, working with existing and future insurers throughout an investment or project.
- Fuel and associated transportation costs: Lend Lease is including sustainability risk considerations in our global supply chain risk management strategy and working with our suppliers.
- Strategic business changes necessitated by new information: Lend Lease performs periodic reviews of all our investments to identify potential risks such as climate change.
- Changes in consumer behaviour including settlement and purchasing patterns: Lend Lease includes climate change risks in all investment decision making and bid proposals.
- Employee attraction and retention: Lend Lease performs internal training and up skilling of operations employees and sustainability/environmental managers across the organisation. Lend Lease also discloses its performance on the Lend Lease sustainability website.

## Page: Regulatory Opportunities

### 6.1

**Do current and/or anticipated regulatory requirements related to climate change present significant opportunities for your company?**

Yes

### 6.2A

**What are the current and/or anticipated significant regulatory opportunities and their associated countries/regions and timescales?**

Opportunities	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 6.2B

### 6.2B

**What are the current and/or anticipated significant regulatory opportunities and their associated countries/regions and timescales?**

Please refer to Lend Lease response for Question 3. The Lend Lease global environmental management system is expanding to go beyond governance of environmental compliance risks and extend into capitalising on the environmental data collected by Lend Lease (under climate change related legislation) for internal operational efficiency, research and development, strategy/ innovation/ new business, and brand/ reputation. A brief discussion of these opportunities arising from obligations under climate change related legislation is as follows:

- Operational Efficiency: energy and emissions data collected from across Lend Lease in accordance with legislation is now being analysed by Lend Lease to identify opportunities for operational efficiency at no additional cost to the business. While raw data on total energy and emissions is required under legislation, Lend Lease is using this data to develop energy and emissions intensity data for Lend Lease projects, offices and assets. From here Lend Lease can begin to benchmark average project/ office/ asset energy and emissions intensity and set reduction targets against benchmarks. In addition, Lend Lease is using this data collection, management and reporting requirement as an opportunity to streamline current environmental reporting and achieve efficiencies for internal environmental data management and reporting.
- Research & Development: the significant volume of energy and emissions data that Lend Lease is required to collect under legislation has created some R&D opportunities. Lend Lease have had to develop a unique internal data management and reporting system called Insight Environment (at a cost of \$2M AUD) and change management style training programs that can be replicated across Lend Lease for other business functions beyond environment. Lend Lease is also beginning to use new energy and emissions intensity from operations to seek new R&D opportunities related to Lend Lease projects, offices and assets – where they be systems, products and materials, technology or process related.
- Strategy/innovation: Increasing legislation on green building standards in Australia, Europe (including UK), Asia (particularly Singapore & China) and the United States is currently supporting Lend Leases continual growth,

expansion and leadership in this field. Lend Lease is responding building developing prototype zero net carbon, water and waste buildings, expanding the Lend Lease Green Refurbishment business, launching a Lend Lease Solar Business in Australia and directly investing in renewable technologies via Lend Lease Ventures business in United Kingdom (Windlab), the United States (Daintree Network) and Australia (Biopower).

- Brand/ Reputation: Lend Lease is using environmental data collected across operations (to meet regulatory compliance) to improve the transparency and quality of reporting on environmental performance globally. This improvement in reporting not only benefits Lend Lease operations and management in understanding performance/ risks, but also contributes to ratings agencies and investor indices understanding of Lend Leases efforts – from CDP and Dow Jones Sustainability Index to the Lend Lease Annual Report, Lend Lease Sustainability website and the Global Reporting Initiative. The time and resources required to compile extensive external reporting is at an overhead cost to Lend Lease.
- New Business Opportunity - As detailed in previous Lend Lease CDP submissions, a number of ongoing regulatory opportunities exist for Lend Lease and partners and clients as a result of regulatory responses to climate change, including Incentives for building efficiency and changes to building codes and standards. These drivers will in future result in increased demand for green building services in Australia, America, Europe and Asia. Lend Lease is recognised as a global leader in the delivery of green building services. Regulatory opportunities exist in key geographies that Lend Lease operates including Australia, the United Kingdom and Europe with emerging legislation in other operational geographies including Asia and the Americas.

### 6.3

**Describe the ways in which the identified opportunities affect or could affect your business and your value chain.**

Please refer to 6.2B.

### 6.4

**Are there financial implications associated with the identified opportunities?**

Yes

### 6.5

**Please describe them.**

- Operational Efficiency: Lend Lease is using operational data to develop energy and emissions intensity for Lend Lease projects, offices and assets. Lend Lease are beginning to benchmark average project/ office/ asset energy and emissions intensity and set reduction targets against benchmarks that will achieve operational efficiency and reduce energy, water and waste costs to the business. Streamlining energy and emissions reporting systems will also reduce administrative costs to the business.
- Research & Development: Lend Lease has accessed some Australian Government R&D tax support in its work to build a global energy and emissions management reporting tool that is supported by a sustainability change management transformation process.
- Strategy/innovation: Lend Lease is developing prototype zero net carbon, water and waste buildings, expanding the Lend Lease Green Refurbishment business, launching a Lend Lease Solar Business in Australia and directly investing in renewable technologies via Lend Lease Ventures business in United Kingdom (Windlab), the United States (Daintree Network) and Australia (Biopower).
- Brand/ Reputation: Lend Lease is using environmental data collected across operations (to meet regulatory compliance) to improve the transparency and quality of reporting on environmental performance globally. This improvement in reporting not only benefits Lend Lease operations and management in understanding performance/ risks, but also contributes to ratings agencies and investor indices understanding of Lend Leases efforts – from CDP and Dow Jones Sustainability Index to the Lend Lease Annual Report, Lend Lease Sustainability website and the Global Reporting Initiative. The time and resources required to compile extensive external reporting is at an overhead cost to Lend Lease.
- New Business Opportunity - As detailed in previous Lend Lease CDP submissions, a number of ongoing regulatory opportunities exist for Lend Lease and partners and clients as a result of regulatory responses to climate change, including Incentives for building efficiency and changes to building codes and standards. These drivers will in future result in increased demand for green building services in Australia, America, Europe and Asia. Lend Lease is recognised as a global leader in the delivery of green building services. Regulatory opportunities exist in key geographies that Lend Lease operates including Australia, the United Kingdom and Europe with emerging legislation in other operational geographies including Asia and the Americas.

## 6.6

**Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.**

Due to the regulatory compliance obligations impacting Lend Lease, the organisation is also building its capacity to commercialise some of these regulatory risks for its own businesses and for Lend Lease Clients. Some examples of this are outlined below:

- **Efficient Building Scheme:** Lend Lease identifies that existing CPRS legislation and energy efficiency legislation lacks the ability to drive deep reductions in greenhouse gas emissions associated with buildings. Lend Lease advocates a building cap and trade scheme aimed at incentivising the greening of new and existing building stock through a penalty and reward scheme based on carbon credits and building energy and carbon intensity standards. Lend Lease sees this as a significant positive step towards reducing Lend Lease's contribution to human induced climate change while also generating construction activity and employment. For more detail <http://www.lendlease.com/sustainability/index.html#/advocacy-detail>
- **Investment in clean technology:** Renewable Energy Targets in the United Kingdom, Australia and the Americas presents opportunities for Lend Lease Ventures business to invest in renewable energy technologies including wave and tidal power, wind and solar. Refer to [http://www.lendlease.com.au/llweb/llc/main.nsf/all/ob\\_llv](http://www.lendlease.com.au/llweb/llc/main.nsf/all/ob_llv)
- **Investment in high performance buildings:** Lend Lease Investment Management business is increasing its focus on direct investment into high performance, green building rated assets. These premium assets attract tenants such as government agencies and blue chip companies that are seeking to occupy green buildings.
- **Green Building Services:** Lend Lease Group business, Bovis Lend Lease, is a leader in green building services in Australia, United States, United Kingdom, Europe and Asia ranging from design to construction and project management. In addition, Bovis is growing its services in green refurbishments, specialising in upgrading aged and low performing building stock.
- **Green Utilities Services –** Lend Lease is growing its infrastructure expertise in the water and waste areas, all of which are driven through increasing regulations and climate change legislation.
- **Operational Efficiency:** energy and emissions data collected from across Lend Lease in accordance with legislation is being analysed to identify opportunities for operational efficiency at no additional cost to the business. While raw data on total energy and emissions is required under legislation, Lend Lease is using this data to develop energy and emissions intensity data for Lend Lease projects, offices and assets. From here Lend Lease can benchmark average project/ office/ asset energy and emissions intensity and set reduction targets against the benchmarks. In addition, Lend Lease is using this data collection, management and reporting requirement as an opportunity to streamline current environmental reporting and achieve efficiencies for environmental data management and reporting.
- **Research & Development:** the significant volume of energy and emissions data that Lend Lease is required to collect under legislation has created some R&D opportunities. Lend Lease has developed a unique internal data management and reporting system called Insight Environment (at a cost of \$2M AUD). In addition, Lend Lease change management training programs have been developed that can be replicated across other business functions beyond environment. Lend Lease has also used some of the new insights into new energy and emissions intensity data from operations to seek new R&D opportunities related to systems, products and materials, technology or processes.
- **Brand/ Reputation:** Lend Lease is using environmental data collected across operations (to meet regulatory compliance) to improve the transparency and quality of reporting on environmental performance globally. This improvement in reporting benefits Lend Lease operations and management in understanding performance and operational risks. It also contributes to ratings agency and investor indices understanding of Lend Leases commitment to continual improvement the Carbon Disclosure Project and Dow Jones Sustainability Index to the Lend Lease Annual Report. Lend Lease's investment in the Sustainability website 'every Action Adds Up' is also an effective communication tool.

Please also refer to 6.2B.

## Page: Physical Opportunities

### 7.1

**Do current and/or anticipated physical impacts of climate change present significant opportunities for your company?**

Yes

### 7.2A

**What are the current and/or anticipated significant physical opportunities and their associated countries/regions and timescales?**

Opportunities	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 7.2B

### 7.2B

**What are the current and/or anticipated significant physical opportunities and their associated countries/regions and timescales?**

There can be an increase in the demand for services from the construction and real estate sector to respond to the physical risks of climate change. Examples of these include:

- Building upgrades to increase weather resistance: this may range from façade design and construction to insulation, building management systems and energy efficient heating and cooling systems. This is particularly relevant in areas where Lend Lease operates, including South East Asia, Northern Australia, South America and parts of the United States.
- Disaster recovery management: There is an increased need for the provision of disaster (natural and man-made) recovery management services, ranging from bushfire, to flood and cyclone impacted communities and cities.
- Remediation and reconstruction services: There is an increased need for post disaster recovery management to rebuild communities stricken by disaster.

### 7.3

**Describe the ways in which the identified opportunities affect or could affect your business and your value chain.**

Please refer to 7.2B and 7.6.

### 7.4

**Are there financial implications associated with the identified opportunities?**

Yes

### 7.5

**Please describe them.**

Please refer to 7.2B and 7.6.

### 7.6

**Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.**

Lend Lease has responded to the demand for services from the construction and real estate sector to respond to the physical risks of climate change. Examples of these include:

- Performing building upgrades to increase weather resistance: this may range from façade design and construction to insulation, building management systems and energy efficient heating and cooling systems.
- Providing disaster (natural and man-made) recovery management services, ranging from bushfire, to flood and cyclone impacted communities and cities.
- Providing remediation and reconstruction services following on from disaster recovery management to rebuild communities stricken by disaster such as after the Asia Tsunami, bushfires in Victoria and hurricanes in Queensland.

**Page: Other Opportunities**

**8.1**

**Does climate change present other significant opportunities - current and/or anticipated - for your company?**

Yes

**8.2A**

**What are the current and/or anticipated other significant opportunities and their associated countries/regions and timescales?**

Opportunities	Region/Country	Timescale in Years	Comment
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Not Applicable – Refer to 8.2B

**8.2B**

**What are the current and/or anticipated other significant opportunities and their associated countries/regions and timescales?**

Please refer to 5.2B.

In addition, key opportunities not relating to regulation, or physical impacts of climate change, are defined as those resulting from client demand, consumer behaviour, brand, and differentiation opportunities.

2010-2015 Carbon Strategy – In 2009 Lend Lease refined a detailed global assessment of carbon markets, with a view to identifying and quantifying potential business opportunities. This assessment included:

- Global segmentation of carbon markets by country, permit type, and origin
- Forecast carbon permit demand to 2015, inclusive of impacts of the global economic crisis
- Earnings projections for 2010-2015 for service offerings such as:
  - o Carbon Trading
  - o Climate change consulting services
  - o Voluntary credit origination
  - o Origination project investment
  - o Clean Development Mechanism project delivery under the Kyoto Protocol

Lend Lease continues to interrogate business opportunities in the green building services, carbon development, renewable energies and strategic climate change adaptation services to external Clients and on internal projects.

**8.3**

**Describe the ways in which the identified opportunities affect or could affect your business and your value chain.**

As outlined in Lend Lease’s previous CDP responses, the following general opportunities were also identified:

- Green Building and Green Office Tenancies: Government and other large organisations are requiring minimum green building ratings for any future tenancies they occupy. This drives refurbishment of existing, low performing building stock and creates further design and refurbishment opportunities for Lend Lease.
- Carbon Credit origination through building energy efficiency: Lend Lease owns a substantial stock of building assets that could potentially be used to generate carbon credits either directly through renewable energy generation such as photovoltaic panels on roofs and facades, to implementing energy efficiency measures in accordance with voluntary or mandatory carbon credit schemes.
- Distributed Power Generation – Lend Lease owns and develops large scale urban regeneration projects and also large scale Greenfield communities. Both of these developments have potential opportunities for Lend Lease to build, own and operate integrated renewable energy distribution facilities to support the development and surround precincts.
- Delivery of Infrastructure: Demand for improved water and waste delivery/ distribution infrastructure is creating business opportunities for the Lend Lease infrastructure business. New projects include construction of pipelines for desalination plants or construction of energy from waste treatment facilities in precinct developments.
- Supply Chain Optimisation: Lend Lease identifies significant opportunities to optimise its supply chain in terms of environment, social and ethical sustainability, including climate change risk impacts to the products, materials, services Lend Lease procure. This is creating opportunity for alternative, low carbon, low embodied energy products, materials and innovation in building design.

- Employee Attraction and Retention: Lend Leases response to climate change and the sustainability performance is an influencing factor for retaining and attracting employees. Lend Lease attracts employees that want to work for an organisation that delivers and acts sustainably.

#### 8.4

#### **Are there financial implications associated with the identified opportunities?**

Yes

#### 8.5

#### **Please describe them.**

As outlined in Lend Lease's previous CDP responses, the following general opportunities were also identified:

- Green Building and Green Office Tenancies: Lend Lease invests in green rated office tenancies for all Lend Lease operations. Lend Lease invests in the training and accreditation of green building professionals across Lend Lease businesses globally. Lend Lease has invested in growing business services such as green refurbishment.
- Carbon Credit origination through building energy efficiency: Lend Lease has invested in research and strategy reviews to identify new Lend Lease services and investments in the carbon credit origination market for Lend Lease owned assets and for Lend Lease clients.
- Distributed Power Generation: Lend Lease continues to invest in projects and businesses that provide the opportunity for the design, development and operation of renewable energy distributed power generation.
- Delivery of Infrastructure: Lend Lease has invested in growing its services to the delivery of infrastructure projects such as water and waste. Lend Lease has also directly invested in sustainable energy, water and waste infrastructure solutions via the Lend Lease Ventures business.
- Supply Chain Optimisation: Lend Lease is currently investing in interrogating opportunities for strategic supply chain management and optimisation across Lend Lease operations globally.
- Employee Attraction and Retention: Lend Lease invests in employee sustainability initiatives with suppliers and the community through various initiatives such as community sustainability grants and awards recognising sustainability achievements.

#### 8.6

#### **Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.**

Some examples of how this is being delivered include:

- Lend Lease Solar Business: due to the Australian government solar rebates, Lend Lease has expanded the it's services to include retail has expanded to deliver photovoltaic panel installations to the broader community. For details refer to: <http://www.lendleasesolar.com.au/>
- Renewable technology Investment: Lend Lease Ventures has continued to directly investment in renewable energy technologies including Windlab systems – a wind power company.

## Module: Strategy

### Page: Strategy

#### 9.1

**Please describe how your overall group business strategy links with actions taken on risks and opportunities (identified in questions 3 to 8), including any emissions reduction targets or achievements, public policy engagement and external communications.**

#### Strategy

- Lend Lease performs Country Risk Due Diligence for any new geography that the organisation is considering to start a new business in.
- All investment proposals are subjected to risk assessments across a range of environmental risks including climate change impacts, exposure to environmental legislation, potential emissions or energy intensive operations.
- New Offices: All Lend Lease offices must be within a building that has achieved an appropriate Green Building Rating.
- New Business: Lend Lease has expanded its operations to align with achieving its zero net carbon, water and waste aspirations, and green rated office targets including Lend Lease Solar, Green Refurbishment, Sustainable Communities and Green Utilities

#### Public Policy Engagement.

In the past year Lend Lease has participated in and contributed to the work of the following organisations:

- World Green Building Council (Lend Lease is a founding member of green building councils in the USA, UK, UAE, Argentina and Australia and has assisted with establishment of green building councils in Spain, Romania, Netherlands, Poland, Italy, China, Malaysia, New Zealand and South Africa )
- United Nations Environment Programme (UNEP) Sustainable Building & Climate Initiative (SBCI), Finance Initiative Property Working Group & Principles for Responsible Investment
- The World Economic Forum Global Agenda Council on the Future of Sustainable Construction
- The World Business Council for Sustainable Development
- The Prince of Wales Business and Environment Program
- The Global Reporting Initiative Real Estate and Construction Sector Supplement (of which Lend Lease is a founding member)
- Singapore Building & Construction Authority's International Panel of Experts (IPE) on Sustainability of the Built Environment
- The Australian Government's Department of Climate Change & CSIRO Climate Adaptation National Research Flagship Stakeholder Group
- The Australian Building Codes Board
- The NSW State Government Climate Change Council. For more details on Lend Lease memberships and advocacy, please refer to: <http://www.lendlease.com/sustainability/index.html#/advocacy-detail>

In the past year, Lend Lease has made many the following submissions to government consultations, enquiries and requests for information:

- Feb 2009: joint submission to the Australian Federal Department of the Environment, Water, Heritage and the Arts in response to the Concept Report (2nd Consultation Draft) on the Mandatory Disclosure of Commercial Building Energy Efficiency.
- Feb 2009: submission to New South Wales Independent Pricing and Regulation Tribunal's (IPART) review of NSW Climate Change Mitigation Measures: Other Industries – Issues Paper. –
- Mar 2009: submission to the United Kingdom's Department for Communities and Local Government in response to the Definition of Zero Carbon Homes and Non-Domestic Buildings: Consultation.
- Mar 2009: joint submission to the Australian Federal Department of Climate Change in response to the National Greenhouse and Energy Reporting Amendment Bill 2009.
- Apr 2009: Lend Lease's Global Head of Sustainability Maria Atkinson appeared before the Australian Federal Parliament's 'Senate Select Committee on Climate Policy'. Evidence provided included a solution that would unlock the potential greenhouse gas savings that can be achieved by increasing the energy efficiency of non-residential buildings – The Efficient Building Scheme.
- Apr 2009: submission to the Australian Federal Treasury Secretary's review in response to Australia's Future Tax System: The Henry Review.
- Jun 2009: submission to the United Kingdom's Department of Energy & Climate Change in response to the Consultation on the Draft Order to implement the Carbon Reduction Commitment (CRC).
- Nov 2009: submission to the Australian Federal Parliament's Senate Economics Committee Inquiry into the Safe Climate (Energy Efficient Non-Residential Buildings Scheme) Bill 2009

Lend Lease advocates on public policy, such as the Efficient Building Scheme. For more details please refer to: [http://www.lendlease.com/sustainability/pdf/pdf\\_efficient\\_building\\_scheme\\_2009.pdf](http://www.lendlease.com/sustainability/pdf/pdf_efficient_building_scheme_2009.pdf)

#### External Communications

- Reporting on the Lend Lease website <http://www.lendlease.com> Lend Lease Annual Report [http://www.lendlease.com.au/llweb/llc/main.nsf/all/fi\\_annualrep\\_current](http://www.lendlease.com.au/llweb/llc/main.nsf/all/fi_annualrep_current)
- Reporting on the Lend Lease sustainability website: <http://www.lendlease.com/sustainability/index.html#/every-action-adds-up>
- Reporting in accordance with the Dow Jones Sustainability Index, SIRIS & OEKOM <http://www.lendlease.com.au/sustainability/addingUpDetail.html?search=DJSI#/adding-up-detail>
- Reporting under the Australian Bureau of Statistics Environment <http://abs.gov.au/ausstats/abs@.nsf/Products/1338.1~March+2010~Main+Features~Environment?OpenDocument>

#### Further Information

Lend Lease Solar: [www.lendleasesolar.com.au/](http://www.lendleasesolar.com.au/) Green Refurbishment: [http://www.lendlease.com/LLC\\_Annualrep/2009/sustainability\\_commitment.html](http://www.lendlease.com/LLC_Annualrep/2009/sustainability_commitment.html) Sustainable Communities: <http://www.barangaroo.com/> Green Utilities: [http://www.lendlease.com/LLC\\_Annualrep/2009/sustainability\\_commitment.html](http://www.lendlease.com/LLC_Annualrep/2009/sustainability_commitment.html)

#### Page: Strategy - Targets

##### 9.2

#### Do you have a current emissions reduction target?

No, but we are developing one

##### 9.3

#### Please explain why not and forecast how your Scope 1 and Scope 2 emissions will change over the next 5 years. (If you do not have a target)

Not Applicable – Refer to 9.4

##### 9.4

#### Please give details of the target(s) you are developing and when you expect to announce it/them. (If you are in the process of developing a target)

Lend Lease has the following targets:

- Sustainability Aspirations: Lend Lease has 23 Sustainability Aspirations that have been approved by the Board and provide the underlying basis of Lend Leases sustainability strategy. As part of the Aspirations, there is specific reference to Lend Lease's Zero Net Carbon, Water and Waste Aspirations. For more details refer to: <http://www.lendlease.com/sustainability/index.html#/our-23-aspirations>
- Lend Lease Green Offices: Lend Lease has a target for all occupied offices to be green building rated. For more detail on this performance refer to: <http://www.lendlease.com/sustainability/index.html#/environment-detail>
- Green Building Training: Lend Lease has a target for green building training of all employees in design and project management roles. For more detail on performance refer to: <http://www.lendlease.com/sustainability/index.html#/environment-detail>
- Zero net carbon, water and waste commitment - refer to the Lend Lease Environment Policy [http://www.lendlease.com.au/sustainability/pdf/LendLease\\_Environment\\_policy.pdf](http://www.lendlease.com.au/sustainability/pdf/LendLease_Environment_policy.pdf)

Lend Lease businesses have identified greenhouse gas emissions reduction programs in their Sustainability Business Plans. As an organisation, Lend Lease continues to grow its operations, activities and investment in property, development, construction and asset management. As a result, the consumption of energy and corresponding emissions associated with Lend Lease operations are likely to increase and will be higher if acquisitions of new businesses occur.

Given that Lend Lease Scope 1 and 2 emissions will continue to fluctuate, Lend Lease is seeking to benchmark energy and emission intensity levels for Lend Lease Projects, Offices and Assets. This information will then be used for Lend Lease to set reduction targets for Lend Lease projects, offices and assets based on intensity levels such as tCO<sub>2</sub>/m<sup>2</sup> (for assets and offices) and tCO<sub>2</sub>/man hours worked (for development and construction projects). Noting this, Lend Lease can forecast its Scope 1 and 2 emissions based on asset data Lend Lease currently collects for existing activities. For

details on Lend Lease's Scope 1 and 2 emissions, please refer to:  
<http://www.lendlease.com/sustainability/index.html#/environment-detail>

The 2010 update of the Lend Lease sustainability website includes graphs and analysis of emissions intensity benchmarks of activities and operations based on 2009 calendar year data. For more details, refer to:  
<http://www.lendlease.com/sustainability/index.html#/environment-detail>

In addition Lend Lease is engaged in international discussions on policy and standards relating to common carbon metrics and standardised emissions intensity performance benchmarks for buildings. This advocacy work is aimed at getting globally consistent measurement and benchmarking that will improve real estate and construction sector emissions forecasting.

Please use the table below to describe your company's actions to reduce its GHG emissions.

1. Actions - please describe	2. Annual energy saving	3. Annual energy savings - number	4. Annual energy saving - units	5. Annual emission reduction in metric tonnes CO2-e	6. Reduction - achieved or anticipated	7. Investment - number	8. Investment - currency	9. Monetary savings - number	10. Monetary savings - currency	11. Monetary savings	12. Timescale of actions & associated investments (if relevant)
Insight Environment – management reporting tool	Anticipated	68387000	kWh (kilowatt-hour)	34019	Anticipated	2000000	AUD (\$)	10474063	AUD (\$)	Anticipated	Investment over 3 year period, savings ongoing and estimated to reach 10% of global annual energy costs.
Green building ratings for all Lend Lease office tenancies.	Achieved	626274	kWh (kilowatt-hour)	313	Achieved	0	No cost	125254	AUD (\$)	Achieved	Annual savings achieved by at least 20% reduction in energy bills across Lend Lease Green Offices.
Research & Development in Project Zephyr (zero carbon, water, waste) building prototype – commercial office, retail & residential	Anticipated		kWh (kilowatt-hour)		Anticipated	1500000	AUD (\$)		AUD (\$)	Anticipated	In place now with Zephyr buildings being implemented on key Lend Lease projects. Quantitative energy savings figures yet to be determined.
Carbon positive urban precinct developments in United Kingdom (Elephant & Castle) and Australia (Victoria Harbour, Barangaroo) under Clinton Climate Initiative Climate Positive. These precinct developments will achieve a minimum 50% reduction in annual energy consumed by the precinct.	Anticipated		kWh (kilowatt-hour)		Anticipated	10000000	AUD (\$)		AUD (\$)	Anticipated	Occurring now in United Kingdom (Elephant & Castle) and Australia (Victoria Harbour, Barangaroo) under Clinton Climate Initiative Climate Positive. Quantitative energy savings figures yet to be determined.

### 9.8

**Please explain why not.**

Not Applicable

### 9.9

**Please provide any other information you consider necessary to describe your emission reduction activities.**

Please refer to Questions 3-8.

Lend Lease has developed and implemented a range of business unit and geography specific strategies. For more information refer here: <http://www.lendlease.com/sustainability/index.html#/global-reach-overview>

### 9.10

**Do you engage with policy makers on possible responses to climate change including taxation, regulation and carbon trading?**

Yes

### 9.11

**Please describe.**

Please also refer to the response for Question 9.1.

In the past year Lend Lease, through its Global Head of Sustainability and other executives, has participated in and contributed to the work of the following organisations:

- World Green Building Council: Lend Lease is a founding member of green building councils in the USA, UK, UAE, Argentina and Australia and has assisted with establishment of green building councils in Spain, Romania, Netherlands, Poland, Italy, China and Malaysia, New Zealand and South Africa
- United Nations Environment Programme (UNEP) Sustainable Building & Climate Initiative (SBCI): The World Economic Forum Global Agenda Council on the Future of Sustainable Construction
- The World Business Council for Sustainable Development (Lend lease is one of six Australian members)
- The United Nations Environment Program Finance Initiative Property Working Group
- The United Nations Principles for Responsible Investment
- The Prince of Wales Business and Environment Program (10 Lend Lease executives have completed the program with another 21 scheduled to attend)
- The Global Reporting Initiative Real Estate and Construction Sector Supplement (of which Lend Lease is a founding member)
- Singapore Building & Construction Authority's International Panel of Experts (IPE) on Sustainability of the Built Environment
- The Australian Government's Department of Climate Change & CSIRO Climate Adaptation National Research Flagship Stakeholder Group
- The Australian Building Codes Board
- The NSW State Government Climate Change Council

For more details on Lend Lease memberships and advocacy, please refer to:  
<http://www.lendlease.com/sustainability/index.html#/advocacy-detail>

In the past two years, Lend Lease has made many representations to governments at all levels as well as the following submissions to government consultations, enquiries and requests for information:

- February 2009: joint submission to the Australian Federal Department of the Environment, Water, Heritage and the Arts in response to the Concept Report (2nd Consultation Draft) on the Mandatory Disclosure of Commercial Building Energy Efficiency.
- February 2009: submission to New South Wales Independent Pricing and Regulation Tribunal's (IPART) review of NSW Climate Change Mitigation Measures: Other Industries – Issues Paper.
- March 2009: submission to the United Kingdom's Department for Communities and Local Government in response to the Definition of Zero Carbon Homes and Non-Domestic Buildings: Consultation.
- March 2009: joint submission to the Australian Federal Department of Climate Change in response to the National Greenhouse and Energy Reporting Amendment Bill 2009 – Exposure Draft Comments Template.
- April 2009: Lend Lease's Global Head of Sustainability Maria Atkinson appeared before the Australian Federal Parliament's 'Senate Select Committee on Climate Policy'. Evidence provided included a simple, equitable and

efficient solution that would unlock the potential greenhouse gas savings that can be achieved by increasing the energy efficiency of non-residential buildings – The Efficient Building Scheme.

- April 2009: submission to the Australian Federal Treasury Secretary's review in response to Australia's Future Tax System: The Henry Review.
- June 2009: submission to the United Kingdom's Department of Energy & Climate Change in response to the Consultation on the Draft Order to implement the Carbon Reduction Commitment (CRC).
- November 2009: submission to the Australian Federal Parliament's Senate Economics Committee Inquiry into the Safe Climate (Energy Efficient Non-Residential Buildings Scheme) Bill 2009

Lend Lease advocates on public policy, such as the Efficient Building Scheme. For more details please refer to: [http://www.lendlease.com/sustainability/pdf/pdf\\_efficient\\_building\\_scheme\\_2009.pdf](http://www.lendlease.com/sustainability/pdf/pdf_efficient_building_scheme_2009.pdf)

More detail on Lend Leases partnerships and contributions are provided here: <http://www.lendlease.com/sustainability>

## Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: Emissions Boundary - (1 Jan 2009 - 31 Dec 2009)

### 10.1

Please indicate the category that describes the company, entities, or group for which Scope 1 and Scope 2 GHG emissions are reported.

Companies over which operational control is exercised

### 10.2

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

Yes

### 10.3

Please complete the following table.

Source	Scope	Explain why the source is excluded
Fuel use on construction sites in Asia and areas in Europe (excl UK).	Scope 1 and 2	These sources were excluded due to lack of supporting data for extrapolation. There is also no legislation requiring energy and emissions data reporting from construction sites in these geographies. Lend Lease estimates these emissions represent between 1 - 2% of Lend Lease's total Scope 1 & 2 emissions.

### Further Information

Question 10.1 additional information: Lend Lease reports its Scope 1 and Scope 2 emissions under the 'Operational Control' boundary. This boundary has been chosen in accordance with legislative requirements in Australia (National Greenhouse & Energy Reporting Act 2007, Energy Efficiency Opportunities Act 2006) and the Greenhouse Gas Protocol. Lend Lease also reports under the Operational Control Boundary to ensure consistency in energy and emissions data collection and reporting across Lend Lease operations globally, enabling global energy and emissions footprints to be calculated for internal and external reporting, including the Dow Jones Sustainability Index and on the sustainability website.

### 11.1a

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 and/or describe the procedure you have used (in the text box in 11.1b below).

Please select the published methodologies that you use.
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Australia - National Greenhouse and Energy Reporting Act

### 11.1b

Please describe the procedure that you use.

Activity data is collected on a monthly basis across Lend Lease's global operations and investments using an internally developed management reported tool called Insight Environment. Data captured by Insight Environment is then consolidated and analysed with Microsoft Analysis Services, an add-on feature to Microsoft Excel 2007.

### 11.2

Please also provide the names of and links to any calculation tools used.

Please select the calculation tools used.
Other: Microsoft Analysis Services

### 11.3

Please give the global warming potentials you have applied and their origin.

Gas	Reference	GWP
Carbon dioxide	IPCC Fourth Assessment Report (AR4 - 100 year)	1

### 11.4

Please give the emission factors you have applied and their origin.

Fuel/Material	Emission Factor	Unit	Reference
Natural gas	0.20	Other: kgCO <sub>2</sub> -e per kWh	<a href="http://www.climatechange.gov.au/climate-change/~media/publications/greenhouse-gas/national-greenhouse-factors-june-2009-pdf.ashx">http://www.climatechange.gov.au/climate-change/~media/publications/greenhouse-gas/national-greenhouse-factors-june-2009-pdf.ashx</a>
Natural gas	0.18	Other: kgCO <sub>2</sub> -e per kWh	CRC Conversion Table (Jan 2010) - <a href="http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What%20we%20do%20A%20low%20carbon%20UK%5Crc%5C1_20100122101538_e_@@_crrconversiontable.pdf&amp;filetype=4">http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What we do\A low carbon UK\crc\1_20100122101538_e_@@_crrconversiontable.pdf&amp;filetype=4</a>
Gas/Diesel oil	0.25	Other: kgCO <sub>2</sub> -e per kWh	<a href="http://www.climatechange.gov.au/climate-change/~media/publications/greenhouse-gas/national-greenhouse-factors-june-2009-pdf.ashx">http://www.climatechange.gov.au/climate-change/~media/publications/greenhouse-gas/national-greenhouse-factors-june-2009-pdf.ashx</a>
Other: Electricity	0.59	Other: kgCO <sub>2</sub> -e per kWh	Average of 95 grid average factors used from various states/countries globally. For additional detail see the attachment below.

### Further Information

Due to Lend Lease's presence in a number of countries/regions globally, the number of emissions factors applied in calculations is extremely large. Thus the emissions factors given in 11.4 are a summary of the most significant factors used, with specific regional factors detailed in the attachment.

### Attachments

[https://www.cdproject.net/Sites/2010/28/10628/Investor CDP 2010/Shared Documents/Attachments/InvestorCDP2010/Emissions-Methodology\(1Jan2009-31Dec2009\)/Conversion Rates.xlsx](https://www.cdproject.net/Sites/2010/28/10628/Investor%20CDP%202010/Shared%20Documents/Attachments/InvestorCDP2010/Emissions-Methodology(1Jan2009-31Dec2009)/Conversion%20Rates.xlsx)

Page: Emissions Scope 1 - (1 Jan 2009 - 31 Dec 2009)

#### 12.1

Please give your total gross global Scope 1 GHG emissions in metric tonnes of CO2-e.

68731

#### 12.2

Please break down your total gross global Scope 1 emissions in metric tonnes CO2-e by country/region.

Country	Scope 1 Metric tonnes CO2-e
Australia	18016
Other: Europe, Middle East and Africa	26481
Other: Americas	24234

#### 12.3

Please explain why not.

Not Applicable

#### 12.4

Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 1 emissions by business division. (Only data for the current reporting year requested.)

Business Division	Scope 1 Metric tonnes CO2-e
Project Management and Construction	35739
Investment Management	3462
Development	8172
Public-Private Partnerships	21358

#### 12.5

Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 1 emissions by facility. (Only data for the current reporting year requested.)

Facilities	Scope 1 Metric tonnes CO2-e
------------	-----------------------------

Not Applicable

**12.6**

Please break down your total gross global Scope 1 emissions by GHG type. (Only data for the current reporting year requested.)

GHG Type	Scope 1 Emissions (Metric tonnes)	Scope 1 Emissions (Metric tonnes CO2-e)
CO2	68731.00	68731

**12.7**

Please explain why not.

Not Applicable

**12.8**

Please give the total amount of fuel in MWh that your organization has consumed during the reporting year.

305397

**12.9**

Please explain why not.

Not Applicable

**12.10**

Please complete the table by breaking down the total figure by fuel type.

Fuels	MWh
Natural gas	144802.00
Other: Diesel	156890.00
Other: Petrol (gasoline)	3705.00

**12.11**

Please explain why not.

Not Applicable

**12.12**

Please estimate the level of uncertainty of the total gross global Scope 1 figure that you have supplied in answer to question 12.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.

Uncertainty Range	Main sources of uncertainty	Please expand on the uncertainty in your data
More than 40% but less than or equal to 50%	Extrapolation	The global average for Lend Lease is 41%; however it is important to note that it is less than 5% for Lend Lease Australia. For the purposes of this question, Lend Lease considers any estimated/extrapolated data to be categorised as 'uncertain'. Hence, the 41% uncertainty in Scope 1 data is primarily because Lend Lease estimates Scope 1 energy and emissions data for all construction projects outside Australia. The reason for this estimation is that there is no legislation in these regions requiring mandatory collection and reporting of Scope 1 emissions from construction. As a result Lend Lease has estimated energy and emissions in these regions based on regional expenditure and correlation with Australian Scope 1 data.

### Further Information

Other potential sources for data error include; metered areas in some assets not corresponding exactly to the area under operational control; inaccuracies in energy supplier billing information; misstatements in non-auditable information received from landlords, consultants, sub-contractors and other third parties.

Page: Emissions Scope 2 - (1 Jan 2009 - 31 Dec 2009)

#### 13.1

Please give your total gross global Scope 2 GHG emissions in metric tonnes of CO2-e.

271455

#### 13.2

Please break down your total gross global Scope 2 emissions in metric tonnes of CO2-e by country/region.

Country	Metric tonnes CO2-e
Other: Americas	39089
Other: Europe, Middle East and Africa	95875
Australia	126814
Other: Asia	8757

#### 13.3

Please explain why not.

Not Applicable

#### 13.4

Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 2 emissions by business division. (Only data for the current reporting year requested.)

Business division name	Metric tonnes CO2-e
Project Management and Construction	56450
Investment Management	113069
Development	26547
Public-Private Partnerships	72389

#### 13.5

Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 2 emissions by facility. (Only data for the current reporting year requested.)

Facility name	Metric tonnes CO2-e
Not Applicable	

Not Applicable

**13.6**

How much electricity, heat, steam, and cooling in MWh has your organization purchased for its own consumption during the reporting year?

Please supply data for these energy types.	MWh
Electricity	382181

**13.7**

Please explain why not.

Not applicable

**13.8**

Please estimate the level of uncertainty of the total gross global Scope 2 figure that you have supplied in answer to question 13.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.

Uncertainty range	Main sources of uncertainty in your data	Please expand on the uncertainty in your data.
More than 20% but less than or equal to 30%	Extrapolation	The global average for Lend Lease is 21%; however it is important to note that it is less than 5% for Lend Lease Australia. For the purposes of this question, Lend Lease considers any estimated/extrapolated data to be categorised as 'uncertain'. Hence, the 21% uncertainty in Scope 2 data is primarily because Lend Lease estimates Scope 2 energy and emissions data for all construction projects outside Australia. The reason for this estimation is that there is no legislation in these regions requiring mandatory collection and reporting of Scope 2 emissions from construction. As a result Lend Lease has estimated energy and emissions in these regions based on regional expenditure and correlation with Australian Scope 2 data.

**Further Information**

Other potential sources for data error include; metered areas in some assets not corresponding exactly to the area under operational control; inaccuracies in energy supplier billing information; misstatements in non-auditable information received from landlords, consultants, sub-contractors and other third parties.

**Emissions Scope 2 Contractual**

**14.1**

Do you consider that the grid average factors used to report Scope 2 emissions in question 13 reflect the contractual arrangements you have with electricity suppliers?

Yes

**14.2**

You may report a total contractual Scope 2 figure in response to this question. Please provide your total global contractual Scope 2 GHG emissions figure in metric tonnes CO2-e.

Not applicable

**14.3**

Explain the origin of the alternative figure including information about the emission factors used and the tariffs.

Not Applicable

#### 14.4

**Has your organization retired any certificates, e.g. Renewable Energy Certificates, associated with zero or low carbon electricity within the reporting year or has this been done on your behalf?**

No

#### Further Information

Additional information for 14.1 - As Lend Lease does not support the purchase of green power from the grid in any of its offices, assets or projects, the grid average factors used to report Scope 2 emissions in 13.1 will naturally reflect the contractual arrangements with electricity suppliers.

### Page: Emissions Scope 3

#### 15.1

**Please provide data on sources of Scope 3 emissions that are relevant to your organization.**

Sources of Scope 3 emissions	Metric tonnes of CO <sub>2</sub> -e	Methodology	If you cannot provide a figure for a relevant source of Scope 3 emissions, please describe the emissions.
Business travel	3750	Multiplication of business travel distance by relevant CO <sub>2</sub> conversion factors for various modes of transport (i.e. flights, private vehicle, taxi)	
Purchased goods & services - cradle-to-gate emissions	3518577	Financial activity data used to extrapolate quantities of various construction materials purchased in 2009, which are then multiplied by relevant embodied emissions factors	
Waste generated in operations	83695	Total waste to landfill multiplied by relevant fugitive emissions conversion factors (lifetime fugitive emissions reported).	

### Page: Emissions 7

#### 16.1

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

Yes

#### 16.2

**Please provide details including the anticipated timescale over which the emissions are avoided, in which sector of the economy they might help to avoid emissions and their potential to avoid emissions.**

Lend Lease provides products and services to the property sector that assist third parties such as Investors, Clients, Tenants, Contractors to reduce their energy and emissions via the following means:

- Green Building Projects: In 2009, Lend Lease successfully constructed a total of 104 green building certified projects obtained under BREEAM, LEED and/or GreenStar and Green Mark Schemes. At a minimum, these buildings are designed to operate more efficiently than standard buildings resulting in an estimated 20% to 60% reduction in greenhouse gas emissions from each building. For details on the green buildings completed in 2009, please refer here: <http://www.lendlease.com/sustainability/index.html#/environment-detail>
- Lend Lease Investment in high performance buildings: Lend Lease Investment Management business is increasing its focus on direct investment into high performance, green building rated assets. These premium assets benefits retail and commercial tenants that occupy these through improved indoor environment quality, improved energy and water efficiency, reduced greenhouse house gas emissions and improved metering and building control systems. By doing this, Lend Lease is also directly contributing to reducing the carbon footprint of the listed Real Estate Investment Trusts and other various property funds management vehicles that invest in high performance green buildings.

- Lend Lease Investment in clean technology: Lend Lease Ventures business invests in renewable energy technologies including wave and tidal power, wind and solar. Provision of such renewable energy solutions helps reduce the carbon intensity of energy used by consumers. In addition, Lend Lease Ventures investment in energy efficient technologies such as wireless lighting control systems (Daintree Network) allows Lend Lease to install efficient lighting systems into assets for clients, investor owned assets, Lend Lease owned assets, retail customers and the community. For more information on Lend Lease Ventures refer to [http://www.lendlease.com.au/llweb/llc/main.nsf/all/ob\\_llv](http://www.lendlease.com.au/llweb/llc/main.nsf/all/ob_llv) - Lend Lease expansion into Green Utilities Services – Lend Lease is growing its infrastructure expertise in the water and waste areas, all of which are driven through increasing regulations and climate change legislation. Lend Lease is building integrated low carbon utilities such as energy from waste treatment facilities and cogeneration plants on Lend Lease development projects which will enable not only investors, tenants, occupants and visitors within Lend Lease developments and also those within neighbouring precincts to reduce their energy demands and associated carbon footprint.
- Lend Lease advocacy for the Efficient Building Scheme: Lend Lease advocates a building cap and trade scheme aimed at incentivising the greening of new and existing building stock through a penalty and reward scheme based on carbon credits and building energy and carbon intensity standards. Lend Lease sees this as a significant positive step towards reducing Lend Lease's contribution to human induced climate change while also generating construction activity and employment. In the event the EBS is mandated as legislation, the initiative will drive deep emissions reductions from building owners, occupants, tenants and visitors by incentivising high performance green buildings.

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

### 17.1

**Please provide your total carbon dioxide emissions in metric tonnes CO2 from the combustion of biologically sequestered carbon i.e. carbon dioxide emissions from burning biomass/biofuels.**

Not Applicable

### 17.2

**Please explain why not.**

Currently Lend Lease does not combust any biomass or biofuels at Lend Lease projects, offices or assets. Lend Lease is however currently assessing various opportunities in Europe for public private partnerships that will potentially include energy from waste solutions. If this occurs, Lend Lease will report such activities in future submissions

**Page: Emissions 8**

### 18.1a

**Please describe a financial intensity measurement for the reporting year for your gross combined Scope 1 and Scope 2 emissions.**

If you do not consider a financial intensity measurement to be relevant to your company, select "Not relevant" in column 5 and explain why in column 6.

Figure for Scope 1 and Scope 2 emissions	GHG units	Multiple of currency unit	Currency unit	Financial intensity metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
					Analysis of Lend Lease data from occupied Offices, Projects and Assets highlights that financial data is not useful as an emissions normalisation factor as it does not directly influence the emissions reported by Lend Lease under an operational control boundary. IE. The timing and volume of financial spend in construction projects can significantly differ from when the majority of emissions are generated. For example, civil works generate significant emissions but result in less financial spend when compared to the fit out of the constructed building, which has a significantly lower generation of emissions and associated high financial spend. It should also be noted that typical construction projects may take 2-3 years and development projects may extend 10-15 years.

### 18.1b

Please describe an activity-related intensity measurement for the reporting year for your gross combined Scope 1 and Scope 2 emissions.

Oil and gas sector companies are also asked to report activity-related intensity metrics in answer to table O&G1.3.

If you do not consider an activity-related intensity measurement to be relevant to your company, select "Not relevant" in column 3 and explain why in column 4.

Figure for Scope 1 and Scope 2 emissions	GHG units	Activity-related metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
1.79	Kilograms CO2-e	per hour worked	Figure relates to Lend Lease Construction and Refurbishment projects only. Analysis of Lend Lease project data highlights that employee hours worked on projects is a robust normalising metric available for standardising emissions intensity across projects globally. Lend Lease collects data for employee hours worked on all projects as part of its health and safety reporting.
108.00	Kilograms CO2-e	Other: per square meter of floor space	Figure relates to Lend Lease occupied offices only. Analysis of Lend Lease Office data highlights that office floor area is a robust indicator for standardising intensity for offices that Lend Lease occupies as tenant. Lend Lease is contributing to international protocol for the normalisation correlations per office allowing for climate variation.
97.00	Kilograms CO2-e	Other: per square meter of floor space	Figure relates to Lend Lease owned or managed assets only. Analysis of Lend Lease Asset data highlights that asset floor area is a robust indicator for standard intensity. Lend Lease is contributing to international protocol for the normalisation correlations per asset allowing for climate variation.

### 19.1

**Do the absolute emissions (Scope 1 and Scope 2 combined) for the reporting year vary significantly compared to the previous year?**

Yes

### 19.2

**Please explain why they have varied and why the variation is significant.**

The reasons for variability in Lend Leases reported absolute emissions between 2008 and 2009 are explained below:

- 2009 Scope 1 and Scope 2 emissions are reported under an operational control boundary, whereas in the previous year's submission an equity share approach was taken. The decision to change the reporting boundary was made to align the emissions figures reported in Carbon Disclosure Project with the emissions reported in international reporting for the real estate and construction sector external reports.
- Over the past 3 years Lend Lease has invested over AUD \$2 million in developing an internal data capture and reporting system, which has significantly increased data collection, transparency and accuracy for the purposes of voluntary and mandatory reporting requirements.
- The variable nature of Lend Leases construction and investment activities also contribute to annual variations in reported emissions. For example Lend Lease have recently acquired several new retail assets and over 100 aged care and retirement villages in December 2009, which are expected increase Lend Lease's reported emissions by approximately 10%.

### 20.1A

**Please complete the following table indicating the percentage of reported emissions that have been verified/assured and attach the relevant statement.**

Scope 1 (Q12.1)	Scope 2 (Q13.1)	Scope 3 (Q15.1)
More than 80% but less than or equal to 100%	More than 80% but less than or equal to 100%	Not verified

### Further Information

Auditing and verification is performed internally on all Lend Lease energy and emissions data at every level of the data collection, collation and reporting process. In addition Lend Lease Corporation Internal Audit team performs an annual energy and emissions audit. While external audit and verification is currently performed on some Lend Lease businesses, Lend Lease is currently considering an external global audit/verification on energy and emissions data to complement our internal auditing program.

**21.1**

**Do you participate in any emission trading schemes?**

No, we don't participate nor do we currently anticipate participating in any emissions trading scheme within the next two years.

**21.2**

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 - number	Verified emissions - units	Details of ownership
	Mon 01 Jan 0001 - Mon 01 Jan 0001					

Not Applicable

**21.3**

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

Not Applicable

**21.4**

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

No

**Further Information**

Additional information for 21.1 - Lend Lease has now successfully transitioned all assets covered by the EU ETS out of the scheme by reducing energy consumption below the relevant obligation point. As described in past CDP responses, Lend Lease previously participated in the EU ETS via public private partnership hospitals in the UK, owned by a consortium comprising Lend Lease Corporation, Bovis Lend Lease, and third-party financiers. Operational control of these facilities was deemed to reside with Lend Lease subsidiary Vita Lend Lease. As such, transactions under the EU ETS were the responsibility of Lend Lease Corporation based on the definition of an operator as 'the person who has control over the operation of the installation.' Therefore, Lend Lease adopted responsibility for participation in the EU ETS on behalf of the hospital's occupants and consortia partners. For more information on Lend Lease's prior activities under the EU ETS, refer to past CDP responses.

## Module: Climate Change Communications

Page: Communications 1

### 22.1

**Have you published information about your company's response to climate change/GHG emissions in other places than in your CDP response?**

Yes

### 22.2

**In your Annual Reports or other mainstream filing? (If so, please attach your latest publication(s).)**

Yes

### 22.3

**Through voluntary communications such as CSR reports? (If so, please attach your latest publication(s).)**

Yes

### Further Information

Lend Lease reports on its environmental performance and response to climate change risks as part of Lend Lease external communications via:

Reporting on the Lend Lease Website <http://www.lendlease.com> Reporting on Lend Lease business websites [http://www.bovislendlease.com/llweb/bll/main.nsf/images/pdf\\_bll\\_uk\\_assurance\\_statement.pdf/\\$file/pdf\\_bll\\_uk\\_assurance\\_statement.pdf](http://www.bovislendlease.com/llweb/bll/main.nsf/images/pdf_bll_uk_assurance_statement.pdf/$file/pdf_bll_uk_assurance_statement.pdf)

Reporting on Lend Lease business websites [http://www.delfinlendlease.com.au/llweb/dll/main.nsf/all/ab\\_sust\\_ov](http://www.delfinlendlease.com.au/llweb/dll/main.nsf/all/ab_sust_ov)

Reporting in Lend Lease Annual Report [http://www.lendlease.com.au/llweb/llc/main.nsf/all/fi\\_annualrep\\_current](http://www.lendlease.com.au/llweb/llc/main.nsf/all/fi_annualrep_current)

Reporting on Lend Lease Sustainability Website: <http://www.lendlease.com/sustainability/index.html#/every-action-adds-up>

Reporting in accordance with the Carbon Disclosure Project <http://www.lendlease.com.au/sustainability/addingUpDetail.html?search=DJSI#/adding-up-detail>

Reporting in accordance with the Dow Jones Sustainability Index <http://www.lendlease.com/sustainability/index.html#/adding-up-detail>

Reporting under SIRIS and OEKOM <http://www.lendlease.com/sustainability/index.html#/adding-up-detail>

Reporting under the National Greenhouse & Energy Reporting Act 2007 <http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/nger-register.aspx> <http://www.climatechange.gov.au/government/initiatives/national-greenhouse-energy-reporting/publication-of-data.aspx>

Reporting under the Energy Efficiencies Opportunities Act 2006 [http://www.ret.gov.au/energy/efficiency/eoo/participating\\_corporations/Pages/default.aspx](http://www.ret.gov.au/energy/efficiency/eoo/participating_corporations/Pages/default.aspx)

Reporting under the Australian Bureau of Statistics Environment <http://abs.gov.au/ausstats/abs@.nsf/Products/1338.1~March+2010~Main+Features~Environment?OpenDocument>