CARBON DISCLOSURE PROJECT 2012 (CDP10)

Mirvac Group Response

mirvac

CONTENTS

INTRODUCTION

0.1 INTRODUCTION

Please give a general description and introduction to your organization.

Mirvac is a leading integrated real estate group listed on the Australian Securities Exchange with activities across the investment and development spectrums. Established in 1972, Mirvac has 40 years experience in the real estate industry with a reputation for delivering quality products and services across all of its businesses. Investment The Investment Division has a total portfolio value of $5.9 billion, with investments in 68 assets covering the office, retail, industrial and hotel sectors. The Group's integrated approach provides a competitive advantage via a specialised in-house asset management team responsible for all leasing and property management. Mirvac's in-house design, development and construction expertise allows the Investment Division to improve and expand existing assets and develop new opportunities. Mirvac Investment Management facilitates capital interaction between the two core divisions and undertakes management of external funds. The hotel management business is responsible for the management of 46 hotels across Australia and New Zealand. Development Mirvac's Development Division operates in New South Wales, Queensland, Victoria and Western Australia across the residential and commercial sectors. Residential development activities include large scale apartments and residential communities. Mirvac has a strong track record for developing quality residential and investment grade properties, new commercial developments and refurbishments of existing assets. Mirvac's integrated approach provides cost efficiencies through centralised design, in-house construction and sales and marketing. This expertise delivers quality control and price competitive outcomes.

0.2 REPORTING YEAR

Thu 01 Jul 2010 - Thu 30 Jun 2011

0.3 COUNTRY LIST CONFIGURATION

Australia

0.4 CURRENCY SELECTION

AUD ($)

GOVERNANCE

1.1 WHERE IS THE HIGHEST LEVEL OF DIRECT RESPONSIBILITY FOR CLIMATE CHANGE WITHIN YOUR COMPANY?

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

1.1A PLEASE IDENTIFY THE POSITION OF THE INDIVIDUAL OR NAME OF THE COMMITTEE WITH THIS RESPONSIBILITY

i. Name of the committee
Health Safety Environment and Sustainability Management Committee (HSE&S).

ii. Description of its position in the corporate structure.
The HSE&S Management Committee reports to the Board and other Board committees to ensure the strategic management and effective implementation of sustainability principles and initiatives across the business. The HSE&S Management Committee was established in March 2011. Prior to this HSE&S was managed by a Board Committee.

The accountabilities and responsibilities of the Management Committee include:

- Compliance with the Group's standards and practices and legal compliance with health safety and environment legislation;
- Monitoring the performance of the Group relative to industry benchmark standards and compliance with the Group's Health Safety Environment Policy and the Corporate Responsibility and Sustainability Policy;
- Overview of lost time injury and other statistical measures, rehabilitation status, incident reporting, energy use and intensity, audit outcomes and other performance indicators across the Group;
- Performance against set objectives and targets and review on an annual basis;
- The HSE Management System, its regular review and application to activities undertaken by the Group;
- The effectiveness of corrective action to eliminate or minimise HSE&S risks;
- The development and integration of industry-leading HSE&S initiatives to minimise risk to employees, service providers, visitors and customers, and minimise impacts on the environment arising from the Group's activities;
- The development and integration of appropriate initiatives to establish and maintain the Group's position as a leader in corporate social responsibility and sustainability;
- Management initiatives related to emerging sustainability strategic issues, including applicable legal and regulatory requirements, trends and technologies; and
- Overview and endorsement of the Group's annual Corporate Responsibility and Sustainability Report, strategic plans and other reports prepared for regulatory bodies, such as the reporting of energy efficiency opportunities.

1.2 DO YOU PROVIDE INCENTIVES FOR THE MANAGEMENT OF CLIMATE CHANGE ISSUES, INCLUDING THE ATTAINMENT OF TARGETS?

Yes

1.2A PLEASE COMPLETE THE TABLE

Who is entitled to benefit from these incentives?	The type of incentives	Incentivised performance indicator
All employees	Monetary reward	Mirvac incentivises the achievement of all targets and initiatives outlined within the Group Sustainability Strategic Plan through a Key Performance Indicator ("KPI") Program. Initiatives outlined within the Plan cover climate change adaptation and mitigation, carbon emissions reduction and building energy efficiency through a National Built Environment Rating System ("NABERS") target and completion of the MirvacPlus Residential Scorecard. The KPIs are cascaded from the Managing Director down the organisation to employees and are reviewed bi-annually to determine each individual staff member's role in addressing these targets and initiatives.
Business unit managers	Monetary reward	For business unit managers, Mirvac incentivises both individual and company performance through a broader KPI assessment within a Balanced Scorecard, addressing targets and initiatives from the following parts of the business: Finance, Strategy, Corporate Responsibility, Customer/Stakeholder and People. The results of the Balanced scorecard assessment informs Mirvac's remuneration review including base salary and bonus provision for eligible staff.

STRATEGY

2.1 PLEASE SELECT THE OPTION THAT BEST DESCRIBES YOUR RISK MANAGEMENT PROCEDURES WITH REGARD TO CLIMATE CHANGE RISKS AND OPPORTUNITIES

Integrated into multi-disciplinary company wide risk management processes

2.1A PLEASE PROVIDE FURTHER DETAILS (SEE GUIDANCE)

i. Scope of risk management process
The Group operates in property development and construction, property investment, and hotel management. Each of these businesses face differing risks. Mirvac has established a detailed risk register for each business which outlines the key risks, the controls in place to mitigate those risks and the person(s) responsible for implementing and reviewing those controls. These registers are reviewed quarterly and updated on a periodic basis by the Executive Management of each business unit and cover all business risks associated with the regulatory and physical impacts of climate change. Business units routinely report to the Group's Executive Leadership Team on the effectiveness of the management of their risks. The Managing Director and the Executive Leadership Team assess the Group's material business risks and report to the Board on the effectiveness of mitigation strategies and controls employed. To ensure consistent and effective risk management practices are utilised throughout the Group, an enterprise risk management framework approach has been adopted. The application of this framework is overseen by the Group Risk function and is based on ISO 31000:2009 Risk Management-Principles and Guidelines.

ii. Assessment of risks and opportunities at a company level
Risk and opportunity identification, determination and assessment at a company level are undertaken primarily by Finance, Legal, Sustainability, Health, Safety and Environment ("HSE") and Investor Relations groups. The identified risks are reported at a Board level, overseen by Mirvac's Audit & Risk Team and documented within the Group's risk register.

iii. Assessment of risks and opportunities at an asset level
Risk and opportunity assessment at an asset level is undertaken within each business unit, as required in the acquisition, development or redevelopment of sites. Climate change risks and opportunities are assessed in terms of physical impact on individual facilities, as well as the potential risk to life and livelihood from climate change including extreme weather events.

iv. Frequency of monitoring
Reporting is undertaken monthly, where the associated Board committees report to the Board on the current and emerging risks and opportunities facing the business. Risk assessment, mitigation and management are also undertaken on an as-required basis, throughout the property acquisition and management processes. The Group's Risk Management Policy and underlying strategies are reviewed annually by the Board of Directors to ensure its continued application and relevance. Management review of the implementation and effectiveness of this Policy is also undertaken by the Executive Leadership Team.

v. Criteria for materiality
Mirvac's process and criteria for determining materiality is to identify and prioritise issues that are likely to be of high interest to, or have a significant impact on, Mirvac and its stakeholders. These are communicated at the Board level and through the relevant business unit committees to ensure that stakeholder concerns, peer issues, societal expectations, policy-related aspects and direct financial impacts are all taken into account in all critical business/ project decisions.

vi. Communication of results
The risk registers are reviewed and updated on a periodic basis by the executive management of each business unit. The results are reported internally to the Board and the Board Audit Risk and Compliance Committee, the HSE&S Management Committee, as well as to the relevant Business Units.

2.2 IS CLIMATE CHANGE INTEGRATED INTO YOUR BUSINESS STRATEGY?

Yes

2.2A PLEASE DESCRIBE THE PROCESS AND OUTCOMES

i. Process by which the strategy is influenced by climate change
The Corporate Responsibility and Sustainability strategy forms a key part of Mirvac's overall business strategy. In 2011 Mirvac committed to undertaking a strategic climate change risk review of the business which commenced within this reporting period. The results will be used to inform the strategic approach to the acquisition of potential sites, as well as adaptation and mitigation strategies for existing sites. It is important that Mirvac remain accountable to its stakeholders on these objectives, reporting transparently on Mirvac's progress towards achieving our sustainability aspirations and commitments. Mirvac communicates its strategy, including climate change mitigation initiatives, through publications such as the annual Corporate Responsibility and Sustainability (CR&S) report, and the Carbon Disclosure Project report. Internally, Mirvac's Group Sustainability team work with all business units and executive committees to implement and further develop the strategy, allowing for ongoing review and refinement. Mirvac's business strategy has been influenced by the changing regulatory environment regarding climate change policy. In Australia, Mirvac is required to disclose emissions under certain legislative

reporting requirements, including the National Greenhouse and Energy Reporting (NGER) Act and the Energy Efficiency Opportunities (EEO) Act. The data collection and reporting processes to meet these requirements have been standardised across the business to establish an emissions baseline, linking in with annual CR&S reporting. The emissions baseline will inform subsequent climate change objectives and strategy. At an asset management and development level, climate change related issues are considered at the forefront of the project management and the delivery level. Mirvac has commenced a carbon footprinting analysis which will quantify baseline carbon emissions intensity across the Group. The results will be published in the 2012 CRS report. These results will assist with the establishment of a Mirvac Group carbon emissions intensity reduction target. The Group is also tracking progress against the 4 Star National Built Environment Rating System (NABERS) target for the Mirvac Office Portfolio by December 2012, and working to establish a NABERS target for the future. This will further enhance the robustness of the portfolio and demonstrate Mirvac's commitment to reducing its carbon footprint. Across the development business, all new developments must complete the MirvacPlus Residential Scorecard, which sets minimum criteria for energy efficiency. The Scorecard is an internal management system embedded across the Development Division that comprises a set of objectives that drive outcomes rather than specified targets. Energy efficiency initiatives that may be addressed include energy efficient building fabric, energy efficient appliances, passive solar design and the availability of renewable technology such a solar panels or solar hot water systems.

ii. Climate change aspects that have influenced the strategy

Climate change aspects are addressed within the Mirvac strategy for Sustainability excellence and to be an industry leader Mirvac must respond to current and emerging issues facing the industry, one of which is climate change. Linking strategy to climate change risks and opportunities identified by the Mirvac risk management framework are important for long-term success. Mirvac continues to pursue efforts to improve energy consumption and GHG performance as well as and respond to climate change risks and opportunities. Mirvac is focussed on where it can deliver the most impact: the efficient operation of Mirvac owned and managed office, retail, industrial and hotel assets.

iii. Short term strategy changes

Sustainability excellence is a core focus of the Mirvac Group Strategy, as one of five strategic drivers within the Strategy. Sustainability excellence has been defined within the short term strategy as sustainability being an integral deliverable of the Mirvac brand, with an accompanying fit for purpose approach for each project. With the recent effects of a changing climate including floods, storms, bushfires and cyclones leaving trails of destruction across all regions of Australia, the vulnerability of settlements and infrastructure within the climatic system is now the pre-eminent sustainability issue. In response, Mirvac is conducting a climate change risk review and has identified climate risk as a key priority issue. In the short term, Mirvac has commissioned the climate risk review as a first stage in addressing climate risk and resilience. The key objective of this review is to identify and assess the climate risks facing Mirvac and to determine the organisation's overall vulnerability. The second stage of the project, in FY12 will see Mirvac undertake detailed adaptation action planning to ensure due diligence processes are embedded into internal processes. This will enable climate change risks to be factored into everyday decision-making.

iv. Long term strategy changes

Climate change consideration is one component of the Mirvac Group Strategic Plan, through the Strategic Driver Sustainability excellence. This is one of five strategic drivers for Mirvac's long term business strategy. In the long term, part of Mirvac's Group strategy is to be recognised as a leader in sustainability by managing environmental, social and economic risks and responsibilities for the benefit of stakeholders and the broader community.

v. Strategic advantage

Extensive stakeholder engagement identified that Mirvac's strategic focus needed to align with current and emerging drivers facing the industry, including climate change. The strategy was reviewed around that feedback to ensure the Mirvac business model was robust and proactively addressed these issues. This approach underpins the Group mandate to be recognised as a leader in sustainability and to gain strategic advantage in this area by delivering sustainable products within the portfolio.

vi. Substantial business decisions

Mirvac's business decisions are influenced and informed by current and emerging issues within the property industry, one of which is climate change. One of the outcomes expected from Mirvac's climate change risk review will be a key consideration of climate change at the point of purchase, through the Approval to Purchase process.

2.3 DO YOU ENGAGE WITH POLICY MAKERS TO ENCOURAGE FURTHER ACTION ON MITIGATION AND/OR ADAPTATION?

Yes

2.3A PLEASE EXPLAIN (I) THE ENGAGEMENT PROCESS AND (II) ACTIONS YOU ARE ADVOCATING

i. Method of Engagement

Mirvac does not directly engage with policy makers but participates in industry associations and NGO forums to influence policy change. Mirvac is a member of the Investor Group on Climate Change (IGCC), a committee member of The Property Council of Australia (PCA), a member of the Green Building Council of Australia (GBCA) and a member of the Shopping Centre Council of Australia at both Federal and State levels. Mirvac works directly with these organisations to lobby the state and federal Government on new or changes to existing legislation relating to climate change mitigation and/or adaptation.

ii. Topics of engagement

The IGCC engages with policy makers on topics such as carbon pricing and climate change mitigation. Similarly, the PCA and GBCA engage with both State and Federal Governments on behalf of the Real Estate Sector on issues such as the sector's impact on global emissions and the effectiveness of initiatives such as the Building Code of Australia which set minimum standards in terms of energy efficiency and adaptation to the physical impacts of climate change.

iii. Nature of engagement

Specific examples of Mirvac's contribution have been through the following two industry Groups: PCA Mirvac has contributed to submissions made by the PCA with regard to changes to existing legislation or proposed new legislation. The PCA also engages with other industry associations, including the GBCA as well as local government authorities such as City of Sydney. Mirvac has participated in the PCA's Carbon Price Working group to consider the impact of a carbon price mechanism on the property industry and possible management strategies. GBCA Mirvac has contributed to the development of the Green Star Communities assessment tool and is an active member of the technical working group – a proportion of the tool is dedicated to climate change adaptation and mitigation strategies within new developments and increased energy efficiency of buildings within the community precinct.

iv. Actions advocated

Mirvac has advocated for the following initiatives through the following two organisations:

PCA

- Clean energy bill – putting a price on carbon
- Green building investment – tax breaks for green buildings
- Commercial building disclosure – mandatory disclosure of energy efficiency of existing buildings
- Support for the NSW Solar Bonus Scheme
- Revision to NABERs tool – specifically NABERs retail tool
- Contribution to the GBCA's Green Star Technical Assurance Committee
- City of Sydney Green Infrastructure Master Plan
- Energy efficiency opportunities review

GBCA:

- Greenhouse Gas Emissions reduction
- Peak Electricity Demand reduction
- Green Buildings
- Climate Change Adaptation and Resilience
- Climate Adaptation
- Community Resilience

TARGETS AND INITIATIVES

3.1 DID YOU HAVE AN EMISSIONS REDUCTION TARGET THAT WAS ACTIVE (ONGOING OR REACHED COMPLETION) IN THE REPORTING YEAR?

Intensity target

3.1B PLEASE PROVIDE DETAILS OF YOUR INTENSITY TARGET

Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
Scope 1+2	18.1%	16%	metric tonnes CO_2e per square meter	2009		2012	Target is to achieve a 4 Star NABERS Energy rating average across the Office portfolio by Dec 2012

3.1C PLEASE ALSO INDICATE WHAT CHANGE IN ABSOLUTE EMISSIONS THIS INTENSITY TARGET REFLECTS

Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comments
Decrease	16			The % change in absolute CO_2 emissions is for the asset group within the scope of teh emissions intensity target i.e. the buildings within the NABERS portfolio average set

3.1D PLEASE PROVIDE DETAILS ON YOUR PROGRESS AGAINST THIS TARGET MADE IN THE REPORTING YEAR

% complete (time)	% complete (emissions)	Comment
50	43	Emission reduction will accelerate as efficiency projects are completed.

3.2 DOES THE USE OF YOUR GOODS AND/OR SERVICES DIRECTLY ENABLE GHG EMISSIONS TO BE AVOIDED BY A THIRD PARTY?

Yes

3.2A PLEASE PROVIDE DETAILS

i. Estimation of avoided emissions

Through innovation and energy efficiency initiatives, Mirvac ensures GHG emissions can be avoided by tenants, residents and customers across Mirvac's real estate related activities. For existing assets, Mirvac identifies energy efficiency opportunities through both operational and capital expenditure processes to achieve emissions reductions targets. Opportunities are considered in terms of energy and greenhouse savings, NABERS impact, financial returns and property value enhancements. Energy savings add value to an asset by lowering the cost of occupancy to tenants and owners. Specific projects undertaken during FY11 include lighting upgrades, control systems enhancements and chiller replacements. The upgrade of 340 Adelaide Street, Brisbane included the installation of high efficiency chillers, a new building management and control system, hot water heat pumps and lighting enhancements. The upgrade delivered a 3 star improvement in NABERS Energy rating (increasing from 1.5 to 4.5 stars), reduced greenhouse emissions by 1,500 tonnes pa and will save $106,000 in carbon costs over the first three years of the scheme.

ii. Methodology

Energy consumption data is managed by Mirvac's Group Sustainability Team using a database that calculates energy usage and tracks performance. The conversion of energy usage into GHG equivalents is done using the relevant Emissions Factors and Global Warming Potentials as per the National Greenhouse Accounts Factors July 2010. Energy consumption data is collected primarily from purchased energy as per NGERS requirements. Occupancy data is also collected for each asset (m2 of NLA or GLA) so that energy and emissions intensity can be measured. Energy consumption, GHG intensity and NABERS performance are the measures that Mirvac uses to monitor its performance.

iii. Credit origination

At present, Mirvac is not considering credit origination. Energy efficiency schemes are being considered for the potential to generate tradable certificates and reduce capital costs.

3.3 DID YOU HAVE EMISSIONS REDUCTION INITIATIVES THAT WERE ACTIVE WITHIN THE REPORTING YEAR (THIS CAN INCLUDE THOSE IN THE PLANNING AND/OR IMPLEMENTATION PHASES)

Yes

3.3A PLEASE IDENTIFY THE TOTAL NUMBER OF PROJECTS AT EACH STAGE OF DEVELOPMENT, AND FOR THOSE IN THE IMPLEMENTATION STAGES, ESTIMATED CO_2E SAVINGS

Stage of development	Number of projects	Total estimated annual CO_2e savings (only for rows marked *)
Under investigation	574	1,535,2416
To be implemented*	126	5,088,525
Implementation commenced*	26	1,103,571
Implemented*	103	5,113,986
Not to be implemented	43	642,663

3.3B FOR THOSE INITIATIVES IMPLEMENTED IN THE REPORTING YEAR, PLEASE PROVIDE DETAILS IN THE TABLE BELOW

Activity type	Description of activity	Estimated annual CO_2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
Energy efficiency: building services	Kawana Shopping Cetnre. Heating Ventilating and Air conditioning (HVAC) and Building Management System (BMS) upgrade. Install new Chiller plant, pumps, Air Handling Units, cooling towers and implement the Shaw Method of Air Conditioning. This initiative has been supportedby AusIndustry's Green Building Fund Program. Scope 1 + 2 emissions. Voluntary Activity. Activity has been implemented. Lifetime of the initiative is 10 years plus.	1,095,365	199,157	3,760,000	>3 years
Energy efficiency: building services	650 Chapel Street. Heating Ventilating and Air conditioning (HVAC) and Building Management System (BMS) upgrade, sub metering and lighting upgrade. Install new Chiller plant, pumps, Air Handling Units, cooling towers and solar domestic hot water with a new Building Management System and enhanced sub metering. This initiative has been supported by AusIndustry's Green Building Fund Program. Scope 1 and 2 emissions. Voluntary Activity. Activity has been implemented. Lifetime of the initiative is 5-10 years with a review at 5 years.	440,728	62,884	1,351,650	>3 years
Energy efficiency: building services	1 Southbank Boulevard. Energy efficiency upgrade including Building Management System (BMS) upgrade, sub metering, lighting upgrades, CO sensor for the car park, and Variable Speed Drives for AHU and Cooling Tower fans. This initiative has been supported by AusIndustry's Green Building Fund Program. Scope 1 and 2 emissions. Voluntary Activity. Activity has been implemented. Lifetime of the initiative is 5-10 years with a review at 5 years.	251,059	37,151	359,300	>3 years
Energy efficiency: building services	4 Riverside Quay. Energy efficiency upgrade including Building Management System (BMS) upgrade, sub metering, lighting upgrades and Variable Speed Drives. This initiative has been supported by AusIndustry's Green Building Fund Program. Scope 1 and 2 emissions. Voluntary Activity. Activity has been implemented. Lifetime of the initiative is 5-10 years with a review at 5 years.	895,001	113,791	341,532	>3 years

Activity type	Description of activity	Estimated annual CO_2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
Energy efficiency: building services	6 Riverside Quay. Energy efficiency upgrade including Building Management System (BMS) upgrade, sub metering, lighting upgrades and Variable Speed Drives for AHU and Cooling Tower fans. This initiative has been supported by AusIndustry's Green Building Fund Program. Scope 1 and 2 emissions. Voluntary Activity. Activity has been implemented. Lifetime of the initiative is 5-10 years with a review at 5 years	251,416	39,168	354,242	>3 years

3.3C WHAT METHODS DO YOU USE TO DRIVE INVESTMENT IN EMISSIONS REDUCTION ACTIVITIES?

Method	Comment
Compliance with regulatory requirements/standards	Mirvac complies with Federal government regulations e.g. EEO, NGERs and Mandatory Disclosure.
Financial optimization calculations	Mirvac uses the Energy Efficiency Opportunities program requirements, various capital upgrade programmes and NABERS portfolio target to identify emissions reductions activities and assess their project viability and return on investment.
Other	Mirvac has competed for government co-funding of projects through the Federal Government's Green Building Fund which aims to reduce the carbon footprint of Australia's built environment by reducing energy consumed in the operation of existing commercial office buildings, hotels and shopping centres.

COMMUNICATION

4.1 HAVE YOU PUBLISHED INFORMATION ABOUT YOUR COMPANY'S RESPONSE TO CLIMATE CHANGE AND GHG EMISSIONS PERFORMANCE FOR THIS REPORTING YEAR IN OTHER PLACES THAN IN YOUR CDP RESPONSE? IF SO, PLEASE ATTACH THE PUBLICATION(S)

Publication	Page/Section Reference	Identify the attachment
In voluntary communications (complete)	45-59 Environmental Impact	Corporate Responsibility and Sustainability Report 2011
In other regulatory filings (complete)	15	National Greenhouse and Energy Reporting Greenhouse and Energy Information 2010-11

CLIMATE CHANGE RISK

5.1 HAVE YOU IDENTIFIED ANY CLIMATE CHANGE RISKS (CURRENT OR FUTURE) THAT HAVE POTENTIAL TO GENERATE A SUBSTANTIVE CHANGE IN YOUR BUSINESS OPERATIONS, REVENUE OR EXPENDITURE?

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

5.1A PLEASE DESCRIBE YOUR RISKS DRIVEN BY CHANGES IN REGULATION

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Carbon taxes	The changing political landscape regarding an impending carbon pricing scheme in Australia will affect Mirvac in the near future. Energy costs represent less than 5% of total operational spend. A price on carbon would increase costs to the business.	Increased operational cost	Current	Direct	Virtually certain	Medium
Carbon taxes	The changing political landscape regarding an impending carbon pricing scheme in Australia will affect Mirvac in the near future. For new-build projects, we estimate the cost increase to be 1-1.5%.	Increased capital cost	Current	Direct	Virtually certain	Medium
Emission reporting obligations	Meeting increased mandatory and voluntary reporting will increase costs with the need to put systems and processes in place. This includes the need for extra human and capital resources to satisfy increased reporting requirements, assurance costs to verify data and education of the supply chain. There is also the risk of financial penalties for failure to comply with reporting obligations.	Increased operational cost	Current	Direct	Virtually certain	Medium
Product labeling regulations and standards	The Mandatory Disclosure of Building Energy Efficiency legislation in the commercial office sector has the potential to reduce demand for perceived or actual poor performing office space.	Reduced demand for goods/ services	Current	Direct	Virtually certain	Medium

5.1B PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE RISK BEFORE TAKING ACTION; (II) THE METHODS YOU ARE USING TO MANAGE THIS RISK; AND (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Carbon Taxes

i. On 10 July 2011, the Federal Government released its 'Clean Energy Future Plan'. A key element of this plan is the introduction of a carbon price starting at $23 per tonne on 1 July 2012. Carbon intensive industries such as manufacturing are liable under the Clean Energy Act 2011 and must pay the carbon price. The impact to Mirvac is that carbon intensive industries, such as energy retailers and material manufacturers are likely to pass through 100% of the increased cost. The financial implication of a carbon pricing scheme is estimated at approximately $2.08 per square metre for office/industrial and $3.96 per square metre for retail, through the increase of total energy costs (depending on the charging mechanism of the particular utility provider). For new developments Industry estimates an increase of $3444 for the average three bedroom house (200 square metre), which represents an approximate increase of 1-1.5%.

ii. Carbon tax risk is managed by maximising the energy efficiency of the portfolio designed, built and operated by Mirvac. For Mirvac owned and managed assets, energy efficient upgrades and processes are being continually implemented such as lighting upgrades with LED technology and control systems to reduce lighting loads and operating hours. For example, the upgrade to 340 Adelaide Street, Brisbane, included the installation of high efficiency chillers, a new Building Management and Control System, hot water heat pumps and lighting enhancements. The upgrade delivered a 3 star improvement in NABERS Energy rating (increasing from 1.5 to 4.5 stars), reduced greenhouse emissions by 1,500 tonnes and will save $106,000 in carbon costs over the first three years of the scheme. Similarly, the MirvacPlus Residential Scorecard sets minimum criteria for energy efficiency, applied to new development projects. In 2009 Mirvac completed construction of a 9.2 star zero carbon concept home at the Waverly Park development in Victoria. Throughout the reporting period, Mirvac has utilised the concept home as the sales and marketing suite for the Waverly Park development, showcasing a range of

sustainable initiatives used to achieve carbon neutrality. These include: a 3.6kW solar panel system, solar hot water system, double glazing, shading, reverse brick veneer wall construction, energy efficient light fittings, natural lighting and passive ventilation, superior insulation and internal thermal mass. Through modelling, it is estimated that the Harmony 9 zero carbon house could save up to $1200 per year in energy bills, and achieve a potential CO_2 reduction of 12 tonnes per year.

iii. Mirvac has a dedicated team of sustainability professionals across Investment, Development and Mirvac Group, who provide expert guidance in the auditing of property, training and management of sustainability programmes, and implementing design initiatives within the development of new projects. The team assess and identify opportunities for energy efficiency across Mirvac managed assets and new development sites and manage the implementation of those opportunities approved by management. The associated cost of these actions are in excess of $1,000,000 per annum, which includes both implementation and operational costs. In addition, Mirvac has invested in enabling technologies such as data management and sub metering systems.

Emission reporting obligations

i. Non compliance with emissions reporting legislation carries significant penalties; the NGERs Act carries maximum penalties of $220,000 and daily penalties for continuing offences. CEOs can also be liable. Non-compliance with EEO legislation can incur fines of $110,000 per offence.

ii. Mirvac has managed this risk by employing an in-house Sustainability Team to undertake a range of functions such as energy auditing, performance monitoring and reporting, allowing Mirvac to develop internal expertise which can be utilised by the business. Data collection and reporting is ongoing to ensure efficient monitoring and reporting processes. An example of risk management is the checking procedures in place to ensure data accuracy - energy invoices are checked against smart meter data to identify anomalies and ensure accuracy.

iii. The provision of an in-house capability has resulted in significant yearly cost savings versus that of using outsourced expertise.

Product labelling regulations and standards

i. Mirvac is complaint with the Building Energy Efficiency Disclosure (BEED) Act, the National Greenhouse and Energy Reporting (NGER) Act and the Energy Efficiencies Opportunity (EEO) Act. One of the main financial implications arising from the mandatory disclosure requirements for office properties results from non-compliance with the BEED Act 2010. Penalties imposed by a Court may be up to $110,000 for the first day and $10,000 for each subsequent day for a body corporate. Alternatively, the Secretary of the Department of Climate Change and Energy Efficiency may issue infringement notices in relation to contraventions. Another financial implication is the potential for reduced demand due to tenant requirements for high energy rated office space. Mandatory Disclosure may result in demand for poorer rating office space being reduced. Quantifying this amount is difficult due to the number of variable and dynamic factors involved.

ii. Through participation in industry associations and its in-house sustainability team, Mirvac keeps updated about changes to legislative requirements, industry regulations and standards. Mirvac manages risk via a stringent rating programme to ensure sites are NABERS rated if they are subject to mandatory disclosure legislation, as well as ensuring all applicable office assets are subject to a NABERS energy rating target.

iii. The cost of undertaking mandatory disclosure reporting and energy efficiency is in excess of $1,000,000 per annum, which includes implementation and operational costs.

5.1C PLEASE DESCRIBE YOUR RISKS THAT ARE DRIVEN BY CHANGE IN PHYSICAL CLIMATE PARAMETERS

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Change in temperature extremes	Changes in temperature extremes would result in increased energy consumption as heating, cooling and ventilation require-ments change	Increased operational cost	Unknown	Direct	Unknown	Low-medium

5.1D PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE RISK BEFORE TAKING ACTION; (II) THE METHODS YOU ARE USING TO MANAGE THIS RISK; AND (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Changes in temperature extremes

i. Increased extreme temperature events are likely to result in higher energy consumption and hence higher property costs, primarily through increased heating or cooling. Requiring HVAC systems to operate at higher loads will have significant financial implications, including:

- Increased electricity consumption and associated energy fees
- Increased run hours to maintain comfort conditions resulting in reduced equipment lifetimes
- Increased maintenance and consumable costs. Increased energy consumption could result in Mirvac assets achieving a low NABERS rating therefore affecting demand and market valuation. Other risks associated with changes in temperature extremes are:
- An increase in summer cooling loads on buildings could result in higher water and energy demand/costs.
- An increase in soil dryness could lead to a higher number of air pollution and ground based ozone incidents.
- An increase in mean temperatures could lead to a change in invasive species distributions.

- An increase in the number of extreme heat days could lead to a higher demand on power infrastructure resulting in black and brown outs during peak spikes.
- An increase in the number of extreme heat days could lead to heat stress and UV exposure of key stakeholders and reduced capacity of staff.
- An increase in the number of extreme heat days could lead to reduced thermal comfort within buildings.
- An increase in the number of extreme heat days could lead to higher exposure of external building façade, materials and systems.
- An increase in the number of extreme heat days could lead to an increase in customer patronage placing pressure on capacity of amenities and services. The financial implications of changes in temperatures are currently not quantified but are estimated to be low to medium in terms of direct costs.

ii. This risk is managed by formulating and implementing strategies to reduce the demand for electricity in the properties we operate and the greenhouse intensity of the fuel sources we use. For example, Mirvac has implemented HVAC improvement projects across a range of assets including installation of high efficiency chillers, cooling tower replacement and installation of variable speed drives for motors and fans. As a specific example, the Kawana shopping centre has recently received a major mechanical systems upgrade including:

- Upgraded Building Management and Control System
- New Chiller plant
- New Air Handling Units
- New Cooling Towers
- Implementation of the Shaw Method of Air Conditioning.

Within new development projects, the "Approval to Purchase" process is being reviewed following the climate change risk review, to address climate change related risks within the site selection and site evaluation process – including quantification of the costs to adapt the site or design related initiatives to increase the resilience of the asset towards climate related risks.

iii. This process forms part of the wider responsibilities of the Mirvac Asset Management Sustainability Team and are integrated with the team's focus on operating energy consumption and greenhouse emissions. The associated cost of these actions are in excess of $1,000,000 per annum, which includes both implementation and operational costs.

5.1E PLEASE DESCRIBE YOUR RISKS THAT ARE DRIVEN BY CHANGES IN OTHER CLIMATE RELATED DEVELOPMENTS

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Reputation	Reputational risk with regards to responding to climate change issues is becoming increasingly important to the company, business partners, investors and customers.	Reduced stock price (market valuation)	Current	Direct	Likely	Low-medium

5.1F PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE RISK BEFORE TAKING ACTION; (II) THE METHODS YOU ARE USING TO MANAGE THIS RISK; (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Reputation

i. Potential financial implications of not suitably addressing climate change cannot be easily quantified. A negative impact on share price could be a possibility if this risk is not well managed. The magnitude of the impact will depend on investor needs and understanding of Mirvac's approach to climate change.

ii. Mirvac is committed to regularly and transparently report performance. This is done through a variety of regulatory mechanisms such as NGERs and EEO, and within the voluntary reporting frameworks such as the annual Corporate Responsibility and Sustainability Report, of the Carbon Disclosure Project, the Dow Jones Sustainability Index, and the Global Real Estate Survey Benchmark. Rankings by investor groups such as Macquarie and Bloomberg also demonstrate Mirvac's Environmental, Social and Governance performance. Mirvac also engages with stakeholder groups on a regular basis to understand issues of concern. Mirvac has implemented a sustainability performance management and reporting program across the Mirvac Property Trust with a flagship action to reduce GHG emissions, through an average 4 star NABERS Energy target by December 2012 on applicable office buildings. These commitments and actions are aimed at reducing Mirvac's reputational risk in this area.

iii. The costs of managing reputational risk can be quantified through the appointment of external consultants to manage stakeholder engagement and the costs of in house sustainability staff in satisfying Mirvac's compliance and reporting obligations. Estimated to be in excess of $1,000, 000 per year across the group.

CLIMATE CHANGE OPPORTUNITIES

6.1 HAVE YOU IDENTIFIED ANY CLIMATE CHANGE OPPORTUNITIES (CURRENT OR FUTURE) THAT HAVE THE POTENTIAL TO GENERATE A SUBSTANTIVE CHANGE IN YOUR BUSINESS OPERATIONS, REVENUE OR EXPENDITURE?

✓ Opportunities driven by changes in regulation

✓ Opportunities driven by changes in physical climate parameters

✓ Opportunities driven by changes in other climate-related developments

6.1A PLEASE DESCRIBE YOUR OPPORTUNITIES THAT ARE DRIVEN BY CHANGES IN REGULATION

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Fuel/energy taxes and regulations	Risk drivers that increase the cost of energy provide the opportunity for energy efficient properties to attract price premiums over competitors	Premium price opportunities	Current	Indirect (Client)	Virtually certain	Low-medium
Product efficiency regulations and standards	The various government legislation and regulations governing Energy Efficiency and accounting for national greenhouse gases: EEO Act, NGERS, and BEED create opportunities for mitigating climate change by continually monitoring GHG emissions and encouraging the identification of energy efficiency opportunities.	Reduced operational costs	Current	Direct	Likely	Low

6.1B PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE OPPORTUNITY; (II) THE METHODS YOU ARE USING TO MANAGE THIS OPPORTUNITY; (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Fuel/energy taxes and regulations

i. There is increasing evidence both in Australia and overseas that highly energy efficient office space can attract a price premium compared with less efficient space. The IPD green property index shows that over 2 years assets with a NABERS rating outperformed non-rated assets due to stability and capital values.

ii. For new developments, Mirvac has specific objectives and guidelines for residential and existing assets to ensure energy efficiency. For residential properties, Mirvac uses the Residential Sustainability Scorecard system that encourages sustainable initiatives to drive down energy consumption. For existing assets in the Mirvac Property Trust portfolio, energy rating targets are in place to drive specific assets to undertake energy efficiency initiatives. Government legislation such as EEO creates opportunities to drive investment into energy efficiency upgrades on Mirvac managed assets. For example, lighting and control system upgrades in commercial assets are driven by energy regulation as well as energy, greenhouse and cost savings.

iii. With respect to new developments it is difficult to quantify the total costs for implementing changes in legislation or regulations and the associated benefits for leasing and operating costs, as this is absorbed within the overall development and design feasibility as an integrated element and is often not a standalone element. MPT is scheduled to spend approx $9 million in energy efficiency projects by December 2012 to increase Mirvac's portfolio average NABERS Energy rating.

Product efficiency regulations and standards

i. The financial implications of regulatory opportunities come from reducing energy consumption and greenhouse gas emissions through the implementation of initiatives identified. Carrying out energy efficient initiatives and upgrading buildings creates lower operating cost assets will attract more demand from tenants. This increase in tenancy demand will lower vacancy rates and lead to stronger rental growth.

ii. Energy efficiency initiatives are identified through the EEO program and NABERS improvement process. The impact of initiatives is monitored through annual NABERS ratings, monthly energy performance monitoring, site analysis and annual NGERS reporting. The opportunities identified are evaluated in terms of energy and greenhouse savings, NABERS impact, financial returns and property value enhancements. One significant energy efficiency opportunity implemented at Riverside Quay buildings included the installation of a new Building Management and Control System, power metering systems, LED common area lighting and variable speed drives. The upgrade has resulted in a clear reduction in energy intensity and demonstrates opportunities for energy and cost savings to Mirvac driven by regulation.

iii. The costs of achieving opportunities identified through regulations and industry standards come in the form of the sustainability personnel as well as the costs of the upgrading of the assets. The cost of the Sustainability Team is estimated to be in excess of $1,000,000.

6.1C PLEASE DESCRIBE THE OPPORTUNITIES THAT ARE DRIVEN BY CHANGES IN PHYSICAL CLIMATE PARAMETERS

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Change in temperature extremes	Properties that are able to provide sustainable design solutions in extreme temperature events without incurring excessive energy costs have the potential to attract more customers	Increased demand for existing products/ services	1-5 years	Indirect (Client)	Unknown	Low-medium

6.1D PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE OPPORTUNITY; (II) THE METHODS YOU ARE USING TO MANAGE THIS OPPORTUNITY; (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Change in extreme temperatures

i. More resilient and energy efficient buildings that are able to remain efficient in extreme conditions are likely to be more attractive to customers and future proof assets for investors, operators and tenants. Quantifying the premium over the portfolio is difficult considering many other issues are involved. However, operating costs will lower with the continual upgrade of Mirvac's assets to energy efficient practices.

ii. Mirvac has specific requirements with respect to new residential developments to ensure that they will be highly energy and GHG efficient.

iii. Residential design features enable Mirvac's tenants and residential customers to reduce their energy consumption and avoid GHG emissions which will enable them to mitigate changes in temperature extremes without excessive costs. For existing assets, Mirvac identifies energy efficiency opportunities through both operational and capital expenditure processes in support of its emissions reductions targets. Opportunities are considered in terms of energy and greenhouse savings, NABERS impact, financial returns and property value enhancements. Energy savings add value to an asset by lowering the cost of occupancy to tenants and owners. Specific projects undertaken during FY11 include lighting upgrades, control systems enhancements and Chiller replacements. The Group target of reaching a portfolio average NABERS rating of 4 stars across applicable office asset is a voluntary initiative to improve the environmental performance of Mirvac's assets and supports opportunities to increase demand for buildings with reduced operational costs in the event of change in extreme temperatures.

iv. With respect to new developments it is difficult to quantify the over and above costs for implementing environmentally sustainable design elements, and the associated benefits for leasing and operating costs, as this is absorbed within the overall development and design feasibility as an integrated element and is often not a standalone element. The cost of upgrades to existing buildings can be demonstrated from some of the works recently undertaken:

- Kawana shopping centre, BMCS and HVAC upgrade $3,760,000
- 1Southbank Blvd, BMCS and HVAC and lighting upgrades $359,300
- 6 Riverside Quay, BMCS and HVAC and lighting upgrades $354,242

6.1E PLEASE DESCRIBE THE OPPORTUNITIES THAT ARE DRIVEN BY CHANGES IN OTHER CLIMATE-RELATED DEVELOPMENTS

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Reputation	Reputational risk with regards to responding to climate change issues is becoming increasingly important to the company, business partners, investors and customers.	Increased stock price (market valuation)	1-5 years	Direct	More likely than not	Low-medium

6.1F PLEASE DESCRIBE (I) THE POTENTIAL FINANCIAL IMPLICATIONS OF THE OPPORTUNITY; II) THE METHODS YOU ARE USING TO MANAGE THIS OPPORTUNITY; (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Reputation

i. Potential financial implications of not suitably addressing climate change cannot be easily quantified. A negative impact on share price could be a possibility if this risk is not well managed. The magnitude of the impact will depend on investor needs and understanding of Mirvac's approach to climate change.

ii. Mirvac is committed to regularly and transparently report performance. This is done through a variety of regulatory mechanisms such as NGERs and EEO, and within the voluntary reporting frameworks such as the annual Corporate Responsibility and Sustainability Report, of the Carbon Disclosure Project, the Dow Jones Sustainability Index, and

the Global Real Estate Survey Benchmark. Rankings by investor groups such as Macquarie and Bloomberg also demonstrate Mirvac's Environmental, Social and Governance performance. Mirvac also engages with stakeholder groups on a regular basis to understand issues of concern. Potential financial implications addressing climate change cannot be easily quantified but could lead to an increase in share price. A positive impact on share price is a possibility if there is leadership in climate change mitigation. Mirvac has implemented a sustainability performance management and reporting program across the Mirvac Property Trust with a flagship action to reduce GHG emissions, through an average 4 star NABERS Energy target by December 2012 on applicable office buildings. These commitments and actions are aimed at reducing Mirvac's reputational risk in this area.

iii. The costs of managing this risk can be quantified through the appointment of external consultants to manage stakeholder engagement and the costs of in house sustainability staff in satisfying Mirvac's compliance and reporting obligations. The cost of the Sustainability Team is estimated to be in excess of $1,000,000.

EMISSIONS METHODOLOGY

7.1 PLEASE PROVIDE YOUR BASE YEAR AND BASE YEAR EMISSIONS (SCOPES 1 AND 2)

Base year	Scope 1 Base year emissions (metric tonnes CO_2e)	Scope 2 Base year emissions (metric tonnes CO_2e)
Tue 30 Jun 2009 - Wed 30 Jun 2010	12,382	199,548

7.2 PLEASE GIVE THE NAME OF THE STANDARD, PROTOCOL OR METHODOLOGY YOU HAVE USED TO COLLECT ACTIVITY DATA AND CALCULATE SCOPE 1 AND SCOPE 2 EMISSIONS

Australia - National Greenhouse and Energy Reporting Act

7.3 PLEASE GIVE THE SOURCE FOR THE GLOBAL WARMING POTENTIALS YOU HAVE USED

Gas	Reference
HFCs	Other: National Greenhouse Accounts (NGA) Factors June 2010

7.4 PLEASE GIVE THE EMISSIONS FACTORS YOU HAVE APPLIED AND THEIR ORIGIN; ALTERNATIVELY, PLEASE ATTACH AN EXCEL SPREADSHEET WITH THIS DATA

Fuel/Material/Energy	Emission Factor	Unit	Reference
Other: Electricity - NSW	0.9	kg CO_2e per MWh	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Electricity - VIC	1.23	kg CO_2e per MWh	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Electricity - QLD	0.89	kg CO_2e per MWh	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Electricity - WA	0.82	kg CO_2e per MWh	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Electricity - TAS	0.32	kg CO_2e per MWh	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Natural gas (small user) – Australia	0.05	metric tonnes CO_2e per GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Wood combustion – stationary energy	0.02	metric tonnes CO_2e per GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Petrol combustion – stationary energy	2.3	metric tonnes CO_2e per GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: Diesel combustion – stationary energy	2.68	metric tonnes CO_2e per GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010
Other: LPG combustion – stationary energy	1.5	metric tonnes CO_2e per GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2010

EMISSIONS DATA - (1 JUL 2009 - 30 JUN 2010)

8.1 PLEASE SELECT THE BOUNDARY YOU ARE USING FOR YOUR SCOPE 1 AND 2 GREENHOUSE GAS INVENTORY

Operational control

8.2A PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 1 EMISSIONS FIGURE IN METRIC TONNES CO_2E

12,382

8.3A PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 2 EMISSIONS FIGURE IN METRIC TONNES CO_2E

199,548

8.4 ARE THERE ARE ANY SOURCES (E.G. FACILITIES, SPECIFIC GHGS, ACTIVITIES, GEOGRAPHIES, ETC.) OF SCOPE 1 AND SCOPE 2 EMISSIONS WHICH ARE NOT INCLUDED IN YOUR DISCLOSURE?

Yes

8.4A PLEASE COMPLETE THE TABLE

Source	Scope	Explain why the source is excluded
Emissions from 3 Hotels which are managed by Mirvac Hotels in New Zealand	Scope 1 and 2	Mirvac's focus has been on complying with Australian law, in particular the National Greenhouse and Energy Reporting Act. This legislation does not apply to overseas assets. In future, Mirvac will look at including overseas activities in its emissions reporting.
Emissions from industrial properties in the US	Scope 1 and 2	Mirvac's focus has been on complying with Australian law, in particular the National Greenhouse and Energy Reporting Act. This legislation does not apply to overseas assets. In future, Mirvac will look at including overseas activities in its emissions reporting.

8.5 PLEASE ESTIMATE THE LEVEL OF UNCERTAINTY OF THE TOTAL GROSS GLOBAL SCOPE 1 AND SCOPE 2 FIGURES THAT YOU HAVE SUPPLIED AND SPECIFY THE SOURCES OF UNCERTAINTY IN YOUR DATA GATHERING, HANDLING, AND CALCULATIONS

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data
More than 5% but less than or equal to 10%	Data Gaps Assumptions Metering/ Measurement Constraints	Natural gas data accuracy has proven problematic, in that our natural gas providers rely heavily on estimated consumption figures when direct measurement is not available. Mirvac is working with providers to use direct measurement as the first priority, and measurement by Mirvac as the second priority. Estimation is only used failing these first two options. Smart meters for natural gas have been installed at 19 out of 61MAM-managed assets where natural gas is connected, representing approximately 60% of total gas use (total monitored natural gas via smart meters is 111,957 GJ versus total natural gas consumption across Mirvac of 187,242 GJ. Smart metering is not likely to be utilised at construction sites, due to the time-limited nature of construction projects, or for on-site fuel and refrigeration, meaning that manual collection and collation will continue to be required. Data on vehicle use and air miles were supplied by relevant service providers. This year, scope 1 and 2 emissions data included in this report (excluding vehicle and air travel) have been calculated to within 95% accuracy through the NGER reporting process. Mirvac has commenced use of a specialised database to hold and interrogate emissions data, which reduces error once data have been inputted, and provides a robust and secure emissions history. At present data input happens centrally from collated data sources, though Mirvac is seeking to automate this process as much as possible, particularly for sites with electronic metering
Scope 2 emissions: Uncertainty range	**Scope 2 emissions: Main sources of uncertainty**	**Scope 2 emissions: Please expand on the uncertainty in your data**

More than 5% but less than or equal to 10%	Data Gaps Assumptions Extrapolation Metering/ Measurement Constraints	Electricity data is captured using computer monitored, real time smart meters for 88 out of 110 locations managed internally by Mirvac Asset Management (MAM) where MAM is responsible for electricity usage. This represents approximately 94% of Mirvac's total electricity consumption (total monitored electricity via smart meters is 235,859 MWh versus total Mirvac electricity consumption of 250,584 MWh). Data from the remaining assets without smart meters, including all construction sites and externally managed assets are captured manually by property managers and other relevant staff, via meter readings and invoices. Emissions data from these sources are liable to human error, which creates a degree of data uncertainty. Mirvac has commenced use of a specialised database to hold and interrogate emissions data, which reduces error once data have been inputted, and provides a robust and secure emissions history. At present data input happens centrally from collated data sources, though Mirvac is seeking to automate this process as much as possible, particularly for sites with electronic metering

8.6 PLEASE INDICATE THE VERIFICATION/ASSURANCE STATUS THAT APPLIES TO YOUR SCOPE 1 EMISSIONS

Verification or assurance complete

8.6A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 1 EMISSIONS THAT ARE VERIFIED/ASSURED

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

8.6B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ASAE3000	Ernst and Young Limited Assurance attached.

8.7 PLEASE INDICATE THE VERIFICATION/ASSURANCE STATUS THAT APPLIES TO YOUR SCOPE 2 EMISSIONS

Verification or assurance complete

8.7A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 2 EMISSIONS THAT ARE VERIFIED/ASSURED

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

8.7B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ASAE3000	Ernst and Young Limited Assurance attached.

8.8 ARE CARBON DIOXIDE EMISSIONS FROM THE COMBUSTION OF BIOLOGICALLY SEQUESTERED CARBON (I.E. CARBON DIOXIDE EMISSIONS FROM BURNING BIOMASS/ BIOFUELS) RELEVANT TO YOUR COMPANY?

No

EMISSIONS DATA - (1 JUL 2010 - 30 JUN 2011)

8.1 PLEASE SELECT THE BOUNDARY YOU ARE USING FOR YOUR SCOPE 1 AND 2 GREENHOUSE GAS INVENTORY

Operational control

8.2A PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 1 EMISSIONS FIGURE IN METRIC TONNES CO_2E

13,635

8.3A PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 2 EMISSIONS FIGURE IN METRIC TONNES CO_2E

175,893

8.4 ARE THERE ARE ANY SOURCES (E.G. FACILITIES, SPECIFIC GHGS, ACTIVITIES, GEOGRAPHIES, ETC.) OF SCOPE 1 AND SCOPE 2 EMISSIONS WHICH ARE NOT INCLUDED IN YOUR DISCLOSURE?

Yes

8.4A PLEASE COMPLETE THE TABLE

Source	Scope	Explain why the source is excluded
Emissions from 3 Hotels which are managed by Mirvac Hotels in New Zealand	Scope 1 and 2	Mirvac's focus has been on complying with Australian law, in particular the National Greenhouse and Energy Reporting Act. This legislation does not apply to overseas assets. In future, Mirvac will look at including overseas activities in its emissions reporting.
Emissions from industrial properties in the US	Scope 1 and 2	Mirvac's focus has been on complying with Australian law, in particular the National Greenhouse and Energy Reporting Act. This legislation does not apply to overseas assets. In future, Mirvac will look at including overseas activities in its emissions reporting.

8.5 PLEASE ESTIMATE THE LEVEL OF UNCERTAINTY OF THE TOTAL GROSS GLOBAL SCOPE 1 AND SCOPE 2 FIGURES THAT YOU HAVE SUPPLIED AND SPECIFY THE SOURCES OF UNCERTAINTY IN YOUR DATA GATHERING, HANDLING, AND CALCULATIONS

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data
More than 5% but less than or equal to 10%	Data Gaps Assumptions Metering/ Measurement Constraints	Natural gas data accuracy has proven problematic, in that Mirvac's natural gas providers rely heavily on estimated consumption figures when direct measurement is not available. Mirvac is working with providers to use direct measurement as the first priority, and measurement by Mirvac as the second priority. Estimation is only used failing these first two options. Smart meters for natural gas have been installed at 19 out of 32 MAM-managed assets where natural gas is connected, representing approximately 46% of total gas use (total monitored natural gas via smart meters is 20,407 GJ versus total natural gas consumption across Mirvac of 44,436 GJ. Smart metering is not likely to be utilised at construction sites, due to the time-limited nature of construction projects, or for on-site fuel and refrigeration, meaning that manual collection and collation will continue to be required. Data on vehicle use and air miles were supplied by relevant service providers. This year, scope 1 and 2 emissions data included in this report (excluding vehicle and air travel) have been calculated to within 95% accuracy through the NGER reporting process. Mirvac has commenced use of a specialised database to hold and interrogate emissions data, which reduces error once data have been inputted, and provides a robust and secure emissions history. At present data input happens centrally from collated data sources, though Mirvac is seeking to automate this process as much as possible, particularly for sites with electronic metering

Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 5% but less than or equal to 10%	Data Gaps Assumptions Extrapolation Metering/ Measurement Constraints	Electricity data is captured using computer monitored, real time smart meters for 54 out of 72 locations managed internally by Mirvac Asset Management (MAM) where MAM is responsible for electricity usage. This represents approximately 85% of Mirvac's total electricity consumption (total monitored electricity via smart meters is 306,332 MWh versus total Mirvac electricity consumption of 361,083 MWh Data from the remaining assets without smart meters, including all construction sites and externally managed assets are captured manually by property managers and other relevant staff, via meter readings and invoices. Emissions data from these sources are liable to human error, which creates a degree of data uncertainty. Mirvac has commenced use of a specialised database to hold and interrogate emissions data, which reduces error once data have been inputted, and provides a robust and secure emissions history. At present data input happens centrally from collated data sources, though Mirvac is seeking to automate this process as much as possible, particularly for sites with electronic metering

8.6 PLEASE INDICATE THE VERIFICATION/ASSURANCE STATUS THAT APPLIES TO YOUR SCOPE 1 EMISSIONS

Verification or assurance complete

8.6A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 1 EMISSIONS THAT ARE VERIFIED/ASSURED

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

8.6B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ASAE3000	Ernst and Young Limited Assurance attached.

8.7 PLEASE INDICATE THE VERIFICATION/ASSURANCE STATUS THAT APPLIES TO YOUR SCOPE 2 EMISSIONS

Verification or assurance complete

8.7A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 2 EMISSIONS THAT ARE VERIFIED/ASSURED

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

8.7B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ASAE3000	Ernst and Young Limited Assurance attached.

8.8 ARE CARBON DIOXIDE EMISSIONS FROM THE COMBUSTION OF BIOLOGICALLY SEQUESTERED CARBON (I.E. CARBON DIOXIDE EMISSIONS FROM BURNING BIOMASS/ BIOFUELS) RELEVANT TO YOUR COMPANY?

No

SCOPE 1 EMISSIONS BREAKDOWN - (1 JUL 2009 - 30 JUN 2010)

9.1 DO YOU HAVE SCOPE 1 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY OR REGION (IF COVERED BY EMISSIONS REGULATION AT A REGIONAL LEVEL)?

No

9.2 PLEASE INDICATE WHICH OTHER SCOPE 1 EMISSIONS BREAKDOWNS YOU ARE ABLE TO PROVIDE (TICK ALL THAT APPLY)

By business division

9.2A PLEASE BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 1 EMISSIONS BY BUSINESS DIVISION

Business Division	Scope 1 metric tonnes CO_2e
Hotels	7,564
Retail	661
Office	3,155
Development	959

SCOPE 1 EMISSIONS BREAKDOWN - (1 JUL 2010 - 30 JUN 2011)

9.1 DO YOU HAVE SCOPE 1 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY OR REGION (IF COVERED BY EMISSIONS REGULATION AT A REGIONAL LEVEL)?

No

9.2 PLEASE INDICATE WHICH OTHER SCOPE 1 EMISSIONS BREAKDOWNS YOU ARE ABLE TO PROVIDE (TICK ALL THAT APPLY)

By business division

9.2A PLEASE BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 1 EMISSIONS BY BUSINESS DIVISION

Business Division	Scope 1 metric tonnes CO_2e
Hotels	7,787
Retail	736
Office	3,296
Development	1,816

SCOPE 2 EMISSIONS BREAKDOWN - (1 JUL 2009 - 30 JUN 2010)

10.1 DO YOU HAVE SCOPE 2 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY OR REGION (IF COVERED BY EMISSIONS REGULATION AT A REGIONAL LEVEL)?

No

10.2 PLEASE INDICATE WHICH OTHER SCOPE 2 EMISSIONS BREAKDOWNS YOU ARE ABLE TO PROVIDE (TICK ALL THAT APPLY)

By business division

10.2APLEASE BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 2 EMISSIONS BY BUSINESS DIVISION

Business division	Scope 2 metric tonnes CO_2e
Hotels	75,365
Retail	56,813
Office	60,121
Development	3,444
Industrial	1,450
Car Park	615

SCOPE 2 EMISSIONS BREAKDOWN - (1 JUL 2010 - 30 JUN 2011)

10.1 DO YOU HAVE SCOPE 2 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY OR REGION (IF COVERED BY EMISSIONS REGULATION AT A REGIONAL LEVEL)?

No

10.2 PLEASE INDICATE WHICH OTHER SCOPE 2 EMISSIONS BREAKDOWNS YOU ARE ABLE TO PROVIDE (TICK ALL THAT APPLY)

By business division

10.2APLEASE BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 2 EMISSIONS BY BUSINESS DIVISION

Business division	Scope 2 metric tonnes CO_2e
Hotels	77,439
Retail	44,693
Office	49,537
Development	1,823
Head Office	1,645
Industrial	755

EMISSIONS SCOPE 2 CONTRACTUAL

11.1 DO YOU CONSIDER THAT THE GRID AVERAGE FACTORS USED TO REPORT SCOPE 2 EMISSIONS IN QUESTION 8.3 REFLECT THE CONTRACTUAL ARRANGEMENTS YOU HAVE WITH ELECTRICITY SUPPLIERS?

Yes

11.2 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

ENERGY

12.1 WHAT PERCENTAGE OF YOUR TOTAL OPERATIONAL SPEND IN THE REPORTING YEAR WAS ON ENERGY?

More than 0% but less than or equal to 5%

12.2 PLEASE STATE HOW MUCH FUEL, ELECTRICITY, HEAT, STEAM, AND COOLING IN MWH YOUR ORGANIZATION HAS CONSUMED DURING THE REPORTING YEAR

Energy type	MWh
Fuel	62,322
Electricity	185,309
Heat	0
Steam	0
Cooling	0

12.3 PLEASE COMPLETE THE TABLE BY BREAKING DOWN THE TOTAL "FUEL" FIGURE ENTERED ABOVE BY FUEL TYPE

Fuels	MWh
Natural gas	194,203
Diesel/Gas oil	22,527
Liquefied petroleum gas (LPG)	5,375
Wood or wood waste	1,888

EMISSIONS PERFORMANCE

13.1 HOW DO YOUR ABSOLUTE EMISSIONS (SCOPE 1 AND 2 COMBINED) FOR THE REPORTING YEAR COMPARE TO THE PREVIOUS YEAR?

Decreased

13.1A PLEASE COMPLETE THE TABLE

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	5.93	Decrease	Through Mirvac's emissions reductions activities, such as installing energy efficient building management systems and lighting as well as facilities upgrades, Mirvac has reduced emissions
Divestment	4.64	Decrease	Through Mirvac's emissions reductions activities, such as installing energy efficient building management systems and lighting as well as facilities upgrades, Mirvac has reduced emissions

13.2 PLEASE DESCRIBE YOUR GROSS COMBINED SCOPE 1 AND 2 EMISSIONS FOR THE REPORTING YEAR IN METRIC TONNES CO_2E PER UNIT CURRENCY TOTAL REVENUE

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
0.0000926	metric tonnes CO_2e	unit total revenue	25	Decrease	Emissions reductions have occurred through energy efficiency operations as well as divestment in assets thereby reducing the total GHG footprint

13.3 PLEASE DESCRIBE YOUR GROSS COMBINED SCOPE 1 AND 2 EMISSIONS FOR THE REPORTING YEAR IN METRIC TONNES CO_2E PER FULL TIME EQUIVALENT (FTE) EMPLOYEE

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
51.06	metric tonnes CO_2e	FTE Employee	10		Emissions reductions have occurred through energy efficiency operations as well as divestment.

13.4 PLEASE PROVIDE AN ADDITIONAL INTENSITY (NORMALIZED) METRIC THAT IS APPROPRIATE TO YOUR BUSINESS OPERATIONS

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
0.00053	metric tonnes CO_2e	Other: EBITA. Earnings before the deduction of interest, tax and amortization expenses	31	Decrease	Emissions reductions have occurred through energy efficiency operations as well as divestment

EMISSIONS TRADING

14.1 DO YOU PARTICIPATE IN ANY EMISSION TRADING SCHEMES?

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

14.2 HAS YOUR COMPANY ORIGINATED ANY PROJECT-BASED CARBON CREDITS OR PURCHASED ANY WITHIN THE REPORTING PERIOD?

No

SCOPE 3 EMISSIONS

15.1 PLEASE PROVIDE DATA ON SOURCES OF SCOPE 3 EMISSIONS THAT ARE RELEVANT TO YOUR ORGANIZATION

Sources of Scope 3 emissions	metric tonnes CO_2e	Methodology
Business travel	2,302	All scope 3 emissions as per NGA factors 2010 Appendix 4. FCM Travel Solutions provided air travel emissions related to Mirvac's corporate travel during the reporting period. Carbon emission factors are derived from research by Flight Centre's offset partner, 'Cleaner Climate'. Research sources include DEFRA (Department for Environment Food and Rural Affairs), Oxford University and the UK Royal Commission on Environmental Pollution.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	29,415	All scope 3 emissions as per National Greenhouse Accounts factors 2010 Appendix 4
Waste generated in operations	19,319	All scope 3 emissions as per National Greenhouse Accounts factors 2010 Appendix 4

15.2 PLEASE INDICATE THE VERIFICATION/ASSURANCE STATUS THAT APPLIES TO YOUR SCOPE 3 EMISSIONS

Verification or assurance complete

15.2A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 3 EMISSIONS THAT ARE VERIFIED/ASSURED

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

15.2B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ASAE3000	Ernst and Young Limited Assurance attached.

15.3 ARE YOU ABLE TO COMPARE YOUR SCOPE 3 EMISSIONS FOR THE REPORTING YEAR WITH THOSE FOR THE PREVIOUS YEAR FOR ANY SOURCES?

Yes

15.3A PLEASE COMPLETE THE TABLE

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Other (upstream)	Divestment	2.39	Decrease	Mirvac has reduced the amount of assets we have operational control over thus reducing Mirvac's emissions
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	1.87	Decrease	Mirvac development has changed fuel use for construction activities leading to a decrease in scope 3 emissions