

2013

CARBON DISCLOSURE PROJECT (CDP10)

Mirvac Group Response



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INTRODUCTION

0.1 INTRODUCTION

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 more than 40 years experience in the real estate industry with a reputation for delivering quality products and services across all of its businesses.

Mirvac's Investment Division has a total portfolio value of \$6.4 billion with assets covering the office, retail and industrial sectors. Mirvac's integrated approach provides a competitive advantage through specialised in-house asset management responsible for all leasing and property management. In addition, Mirvac's in-house design, development and construction expertise allows the Investment Division to improve and expand existing assets and develop new opportunities.

In May 2012 Mirvac divested its hotel management business which was responsible for the management of 46 hotels across Australia and New Zealand.

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 masterplanned residential communities. Mirvac has a strong track record for developing quality residential and investment grade 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

Fri 01 Jul 2011 - Sat 30 Jun 2012

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 refers matters of approval to the Executive Leadership Team (ELT) which reports to the Board to ensure the strategic management and effective implementation of sustainability principles and initiatives across the business.

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	Incentivized performance indicator
Energy managers	Monetary reward	Mirvac incentivises the achievement of 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. The KPIs are cascaded from the Managing Director down the organisation to employees and progress against these KPIs are reviewed bi-annually to determine each energy manager'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 areas 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.
Other: Development Division	Monetary reward	The Development Division is responsible for completion of the MirvacPlus Residential Scorecard, an internal initiative to document and implement climate change adaptation and mitigation and building energy efficiency.
Other: Investment Division	Monetary reward	For the Investment Division setting and achieving a National Built Environment Rating System ("NABERS") target is an initiative outlined within the Group Sustainability Strategic Plan for climate change adaptation and mitigation, carbon emissions reduction and building energy efficiency.
Environment/Sustainability managers	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. The KPIs are cascaded from the Managing Director down the organisation to employees and are reviewed bi-annually to determine each Sustainability manager's role in addressing these targets and initiatives.
Facility managers	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. The KPIs are cascaded from the Managing Director down the organisation to employees and are reviewed bi-annually to determine each facility manager's role in addressing these targets and initiatives.

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

Scope of risk management process. Our risk management procedures with regard to climate change risks and opportunities are integrated into risk management processes across the Mirvac Group. To ensure consistent and effective risk management practices 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. Risk identification, determination and assessment at the Group level are undertaken by key functional units (e.g. Finance, Legal, Sustainability, Health, Safety and Environment) and all key business units. As the property development, construction and property investment businesses face differing risks, we have established a risk register for each business outlining the key risks, the controls to mitigate those risks and the person(s) responsible for implementing and reviewing those controls. Where appropriate, the registers include potential regulatory risks and the physical impacts of climate change

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.

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.

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.

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.

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

Process by which the strategy is influenced by climate change. The climate change risk assessment is one of several initiatives that were adopted in response to Mirvac's strategic driver of sustainability excellence. The business case for climate change risk assessment and a climate related strategy included: best practice risk management for existing assets and acquisitions; minimising costs whilst protecting asset values; and anticipating changes to due diligence requirements. 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, such as the National Greenhouse and Energy Reporting (NGER) Act. The data collection and reporting processes to meet these requirements have been implemented across the business to establish an emissions baseline. At an asset management and development level, climate change related issues are considered at the forefront of the project management and the delivery level. In 2012, Mirvac conducted a carbon footprinting analysis which quantified baseline carbon emissions intensity across the Group and published the results in the 2012 CRS report. These results assisted with the establishment of a Mirvac Group carbon emissions intensity reduction target. The Group established a 4 Star National Built Environment Rating System (NABERS) target for the Mirvac Office Portfolio by December 2012, and exceeded this target by achieving a 4.3 NABERS target by end of June 2012. This achievement enhances the value of the portfolio and demonstrates Mirvac's commitment to reduce 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 as solar panels or solar hot water systems.

Climate change aspects that have influenced the strategy. In 2012, Mirvac completed a climate risk assessment of assets across the Investment and Development divisions. In assessing Mirvac's adaptive capacity, the report considered potential physical impacts of climate change, together with the Australian regulatory and business operating context. The physical impacts considered include temperature rise, extreme weather events, precipitation changes and increases in sea level. Under this assessment, existing property investments were examined against key climate risks, with some variance in adaptive capacity to specific risks dependent upon: the age, structure and size of the asset; existing design elements (energy efficiency); and any planned future capital upgrades. Mirvac continues to pursue efforts to improve energy consumption and GHG performance as well as responding 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 and industrial assets.

Short term strategy changes influenced by climate change. In response to recent effects of changes in climate Mirvac identified climate risk as a key priority issues for the organisation's long-term sustainability. To address this challenge Mirvac commissioned a climate risk analysis as a first stage in addressing climate risk and resilience. The key objective of this analysis was to identify and assess the climate risks facing Mirvac to determine the organisation overall vulnerability. This will enable climate change risks to be factored into everyday decision-making.

Long term strategy changes. Mirvac's ongoing response to climate change balances both mitigation and adaptation efforts to achieve an integrated approach. Mitigation includes: continued focus on reducing energy and carbon intensity of applicable Mirvac-operated assets; encouraging the uptake of low carbon design and technology where feasible; monitoring the performance of existing assets and continuing to seek opportunities to curb emissions; maintaining transparent disclosure of greenhouse gas emissions profile and performance; Providing staff training to manage assets more efficiently. Adaptation includes: considering key climate impacts in the acquisition of new sites or assets, and in the design or upgrade of new and existing buildings; considering climate impacts within the site planning and construction management process; response readiness - assisting users of Mirvac owned or managed buildings, including tenants during extreme weather events; continuing to meet statutory disclosure obligations and regulatory design requirements; engagement in public and industry dialogue in formulating responses to climate change.

Strategic advantage. The benefits gained from proactively adapting to a changing climate will reduce Mirvac's operating costs. These cost savings will be associated with managing liability, complying with regulatory planning reforms, reduced insurance premiums and strategic asset management. In addition embedding adaptation will also provide Mirvac with a competitive advantage in the property market and meet growing expectations set by Mirvac's tenants and investors to reduce their vulnerability to climate risks. 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. 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.

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.

2.3 DO YOU ENGAGE IN ACTIVITIES THAT COULD EITHER DIRECTLY OR INDIRECTLY INFLUENCE POLICY ON CLIMATE CHANGE THROUGH ANY OF THE FOLLOWING? (TICK ALL THAT APPLY)

- ✓ Trade associations
- ✓ Funding research organizations

2.3B ARE YOU ON THE BOARD OF ANY TRADE ASSOCIATIONS OR PROVIDE FUNDING BEYOND MEMBERSHIP?

Yes

2.3C PLEASE ENTER THE DETAILS OF THOSE TRADE ASSOCIATIONS THAT ARE LIKELY TO TAKE A POSITION ON CLIMATE CHANGE LEGISLATION

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to influence the position?
Property Council of Australia	Consistent	The Property Council of Australia position on climate change is to focus on eco-efficient - less in, more out - assets and use effective strategic planning of our cities. The Property Council of Australia engages with 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.	Mirvac works directly with this organisation to lobby the state and federal Government on new or changes to existing legislation relating to climate change mitigation and/or adaptation
Green Building Council of Australia	Consistent	The GBCA is continuing to engage with all levels of government and advocate its 'green building agenda', which outlines the five priorities which it believes will place Australia on a clear, long-term pathway to sustainability. These five green building priorities are: Provide visionary government; Leadership; Retrofit and improve existing buildings; Green education and healthcare facilities; Move beyond buildings to communities and cities; and Embed green skills across all industry training The GBCA believes these priorities, if effectively addressed, will help transition Australia's green building practices from 'voluntary to vital'.	Mirvac works directly with this organisation to lobby the state and federal Government on new or changes to existing legislation relating to climate change mitigation and/or adaptation

2.3D DO YOU PUBLICALLY DISCLOSE A LIST OF ALL THE RESEARCH ORGANIZATIONS THAT YOU FUND?

Yes

2.3E DO YOU FUND ANY RESEARCH ORGANIZATIONS TO PRODUCE PUBLIC WORK ON CLIMATE CHANGE?

No

2.3H WHAT PROCESSES DO YOU HAVE IN PLACE TO ENSURE THAT ALL OF YOUR DIRECT AND INDIRECT ACTIVITIES THAT INFLUENCE POLICY ARE CONSISTENT WITH YOUR OVERALL CLIMATE CHANGE STRATEGY?

Mirvac continually communicates the Group Sustainability Strategy to ensure alignment in all engagement activities.

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

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
	Scope 1+2	21.1%	29.3%	metric tonnes CO ₂ e per square meter	2009	0.00135	2012	Target was to achieve a 4 Star NABERS Energy rating average across the Office portfolio by Dec 2012. At the end of June 2012 the target had been exceeded and a rating of 4.3 stars achieved.

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

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
	Decrease	8	Decrease	4	The reduction in scope 3 emissions relates to the scope 3 component of electricity usage (ie grid loses). The absolute reduction is impacted by the increase in NABERS rated properties since the base year. To maintain consistency the base year scope 3 electricity factor has also been used for FY12. This factor is outside Mirvac's control.

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

ID	% complete (time)	% complete (emissions)	Comment
	100%	100%	Mirvac committed to an average Portfolio NABERS Energy rating of 4 Stars by Dec 12. At the end of June 2012 the target had been exceeded and a rating of 4.3 stars achieved.

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. Through innovation and energy efficiency initiatives, Mirvac ensures GHG emissions can be avoided by tenants and residents across our real estate related activities.
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.
Reducing the emissions of our properties directly reduces the scope 3 emissions of tenants. For example, at 275 Kent St operational efficiency initiatives have reduced base building energy consumption by 1,481,793 kWh. This reduction in energy consumption equates to almost \$253,868 of energy cost savings for the building's tenant and a reduction of the tenant's scope 3 emissions by 1,332 Tonnes of CO₂-e.
- 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 2011. Energy consumption data is collected primarily from purchased energy as per NABERS requirements. Occupancy data is also collected for each asset (m² of NLA or GLA) so that energy and emissions intensity can be measured. The NABERS rating provides a normalised rating of a building's energy performance and absolute scope 1 and 2 emissions data using the latest Emissions Factors and Global Warming Potentials from the National Greenhouse Accounts (NGA). Comparing NABERS ratings enables a direct comparison of normalised performance for two 12 month periods and the absolute scope 1+2 emissions for these periods. 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 IMPLEMENTATION PHASES)

Yes

3.3A PLEASE IDENTIFY THE TOTAL NUMBER OF PROJECTS AT EACH STAGE OF DEVELOPMENT, AND FOR THOSE IN THE IMPLEMENTATION STAGES, THE ESTIMATED CO₂E SAVINGS

Stage of development	Number of projects	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	466	
To be implemented*	77	2956138
Implementation commenced*	17	5217083
Implemented*	197	11892913
Not to be implemented	231	

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 ₂ e savings (metric tonnes CO ₂ e)	Annual monetary savings (unit currency - as specified in Q0.4)	Investment required (unit currency - as specified in Q0.4)	Payback period
Energy efficiency: Building services	(i) Nature of the activity Energy efficiency upgrades including HVAC, Controls and Lighting (ii) Scope type Scope 2 (iii) Voluntary or mandatory Voluntary (iv) Expected lifetime 5 to 15 years	4921	886906	1789424	1-3 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. Building Energy Efficiency Disclosure Act and the Energy Efficiency Opportunities Act and the National Greenhouse and Energy Reporting Act.
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.
Internal incentives/ recognition programs	Mirvac has a sustainability champions award open to facility managers who present innovative sustainability initiatives. A wider Mirvac Stars program provides an opportunity for employees to recognise the work of their colleagues and reward performance. The Mirvac Stars program has been utilised to recognise achievements in environmental performance.
Other	Government co funding. Mirvac has successfully 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. Mirvac has also generated Energy Saving Certificates under the NSW Government Energy Saving Scheme and has reviewed the opportunity to generate certificates in Victoria following the expansion of the Victorian Energy Efficiency Target.

COMMUNICATION

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

Publication	Page/Section reference	Attach the document
In voluntary communications (complete)	Environmental Impact: Climate Change, Energy sections	https://www.cdproject.net/sites/2013/95/12095/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation1/mirvac2012_sustainabilityreport.pdf
In other regulatory filings (complete)	Row A250 Mirvac Limited	https://www.cdproject.net/sites/2013/95/12095/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation2/Greenhouse and energy information 2011-12.xlsx
In voluntary communications (complete)	31-34 Property	https://www.cdproject.net/sites/2013/95/12095/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation3/TCI_ComingReadyorNot_ClimateRiskstoInfrastructure_October2012.pdf
In other regulatory filings (complete)	5	https://www.cdproject.net/sites/2013/95/12095/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/Investor-4.1-PublishedInformation4/Mirvac EEO Public Report_FY11-12_V2 (2).doc

CLIMATE CHANGE RISKS

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

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

5.1A PLEASE DESCRIBE YOUR RISKS DRIVEN BY CHANGES IN REGULATION

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
5.1a1	Carbon taxes	The changing political landscape regarding the Australian carbon tax in Australia is likely to impact our business in the near future. Energy costs represent about 15% of total property operating expenses.	Increased operational cost	Current	Direct	Virtually certain	Low
5.1a2	Emission reporting obligations	Increased reporting obligations, both from the regulatory authorities and the public increase the costs to the business as a result of having to put systems and processes in place to manage our voluntary and mandatory reporting requirements. This includes the extra costs of resources, both human and financial, necessary to satisfy any increased reporting requirements as well as the assurance processes to certify our energy and GHG 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
5.1a3	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

5.1a1 Carbon Taxes

i. The emissions trading scheme will increase energy costs by approximately 10%.

ii. Increased energy costs will be managed by maximising the energy efficiency of the properties Mirvac designs, builds and operates through the investment in energy efficient technologies and strong operational focus. For example, the 275 Kent St property in Sydney reduced energy consumption by 1,481,793 kWh through a focus on operational efficiency. The reduction in consumption represented an energy cost saving of \$253,868 and an emissions reduction of 1,332 tonnes CO₂-e. In addition to reducing energy consumption, water usage was reduced by nearly 5 million litres.

For Mirvac owned and managed assets, the Group maintains and implements a strong focus on operational efficiency and prudent use of capital expenditure. For example, the Mirvac Asset Management Sustainability Team and Engineering and Operations Managers conduct regular night audits of the properties to identify opportunities to reduce energy base loads and minimise out of hours consumption.

iii. Mirvac has invested in a Sustainability Team who provide expert guidance in energy auditing, training and management of sustainability programmes. The team assess and identify opportunities for energy efficiency across Mirvac managed assets and support the implementation of those approved opportunities. The cost of this expertise is approximately \$1.1 million per annum. In addition, Mirvac has invested in enabling technologies such as data management and sub metering systems. A key enabling technology is the InfoDynamics reporting platform that provides daily emails of energy and water demand to the building Engineering and Operations Managers (example profile below). These reports have been utilised in the identification of performance anomalies and efficiency enhancements.

5.1a2 Emission reporting obligations

i. Mirvac Asset Management has invested in an in-house Sustainability Team to manage reporting costs and retain IP and corporate knowledge.

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 Asset Management 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 and called upon for assistance. Data collection and reporting is ongoing to ensure efficient monitoring and reporting processes. An example of our risk management methodology 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. Mirvac has calculated the financial benefit of developing an in-house capability as \$900,906 compared to the projected consultant costs for the same services. In addition to these costs savings the team has secured over \$5.8 million of government funding and supported the achievement of \$2.9 million dollars of ongoing energy & water cost savings across the office portfolio.

5.1a3 Product labelling regulations and standards

i. Mirvac is compliant with the Building Energy Efficiency Disclosure Act 2010 and has participated in reporting to NGER and EEO since program inception. 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 possible financial implication is the potential for reduced demand for office space due to tenant demand for high energy rating office space. Mandatory Disclosure may result in demand for poorer rating office space to be reduced. IPD research data shows that prime office buildings with higher NABERS Energy ratings outperform those with poor ratings.

ii. Through participation in industry associations the Mirvac Sustainability Team strives to keep up to date by monitoring and applying any changes in 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. Mirvac also ensures all applicable office assets are subject to a NABERS energy rating target.

iii. The cost of undertaking mandatory disclosure reporting and energy efficiency implementation is in excess of \$500,000 per annum, consisting of the costs of the MAM and Corporate Sustainability Team, licensing of SYSTAR database and external verification.

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
5.1c1	Change in temperature extremes	Changes in temperature extremes would result in increased energy consumption as heating, cooling and ventilation requirements 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

5.1c1 Change in temperature extremes

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

- Increased electricity consumption and associated energy fees
- Increased peak demand and associated energy infrastructure fees
- Increased run hours to maintain comfort conditions resulting in reduced equipment lifetimes
- Increased maintenance and consumable costs.
- The financial implications of changes in temperatures are difficult to accurately quantify, however the following theoretical example demonstrates the potential operational financial impacts:

An extreme temperature event results in an additional chiller stage operating for 5 hours for 1 day. This chiller stage is not traditionally required to provide comfort conditions however an extreme event will require the supply of additional cooling. Assuming the chiller stage represents a 200KW electrical load and the building is operating at unity power factor:

- Consumption cost = 200KW x 5 hours x 23 Cents/KWh = \$230
- Peak demand cost = 200KVA x \$10per KVA x 12 months rolling demand charge = \$24,000
- Maintenance cost = Assume some minor additional consumables = \$500
- Total cost = \$24,730

Reduced lifecycle impacts have not been forecast for this operational model

ii. This risk is managed by formulating and implementing strategies to reduce energy consumption and peak demand 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 innovative HVAC strategies such as the Shaw method of air conditioning. As a specific example, 275 Kent Street office building in Sydney has undergone a number of operational efficiency initiatives which have resulted in significant energy reductions. Since purchasing the asset in 2010, the onsite Engineering and Operations team have carried out initiatives such as modifying the lighting controls within the toilets to align with business hours and tenant operations, which have been implemented without the need for any capital expenditure.

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 team's costs including oncosts and allowances are approximately \$1.1 million pa.

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	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

i. Potential financial implications of not suitably addressing climate change cannot be easily quantified. A negative impact on market and client sentiment and associated potential impact on share price is possible if there is a mismanagement of reputational risk.

ii. To manage reputational risk, Mirvac has committed to report its achievements in compliance as well as voluntary reporting frameworks. This includes NGERs as well as Dow Jones Sustainability Index, Global Real Estate Sustainability Benchmark and Carbon Disclosure Project. Investor surveys to gauge reputational risk are also conducted by research organisations to determine ESG (Environmental, Social, Governance) rankings, such as the rankings published by Macquarie and Bloomberg. In addition to public reporting Mirvac is committed to conducting stakeholder engagement to manage reputational risk. Mirvac has implemented a sustainability performance management and reporting program across the Mirvac Property Trust with a flagship action to reduce GHG emissions, through a portfolio average 4 star NABERS Energy target by December 2012 across applicable office buildings. These commitments and actions reduce reputational risk.

iii. The costs of managing reputational risk can be quantified through the appointment of external consultants to assist stakeholder engagement and the costs of in house sustainability staff in executing our compliance and reporting obligations. Estimated to be \$500,000 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? TICK ALL THAT APPLY

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

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
6.1a1	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	Medium
6.1a2	Product efficiency regulations and standards	The various government legislation and regulations governing Energy Efficiency and accounting for national greenhouse gases: EEO, NGERs, and BEED create opportunities for mitigating climate change by continually requiring a monitoring of our GHG emissions and encouraging the identification of energy efficiency opportunities	Reduced operational costs	Current	Direct	Virtually certain	Medium
6.1a3	Other regulatory drivers	Government Co-Funding. The federal government Green Building Fund provides government co-funding 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 retail centres	Reduced capital costs	Current	Direct	Very likely	Medium-high

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

6.1a1 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. IPD research data shows that prime office buildings with higher NABERS Energy ratings outperform those with poor ratings.

ii. For new developments, Mirvac has specific objectives and guidelines to ensure energy efficiency. For new office developments Mirvac utilises the Green Star Design and As Built tools to deliver environmental outcomes. For the existing MPT portfolio, energy rating targets are in place to drive specific assets to undertake energy efficiency initiatives. The NABERS portfolio average targets create opportunities to drive investment in energy efficiency upgrades across Mirvac managed assets. For example the implementation of new LED lighting in commercial assets is driven by NABERS performance, energy, greenhouse and cost savings, environmental governance and technology lifecycles.

iii. With respect to new developments it is difficult to quantify the total costs for implementing environmentally sustainable development elements and the cross flow benefits for leasing and operating costs. MPT invested \$8 million in energy efficiency projects up to June 2012 to achieve and exceed Mirvac's 4 Star portfolio average NABERS Energy rating. This investment in efficiency initiatives returned a \$2.6 million per annum ongoing saving in energy costs.

6.1a2 Product efficiency regulations and standards

i. The financial implications of regulatory opportunities come in terms of reducing energy consumption and greenhouse gas emissions. A number of government programs (such as the EEO Act, Green Building Fund, NGERs Act) have promoted the identification and implementation of energy efficiency initiatives which have supported the implementation of the Mirvac NABERS portfolio targets. Carrying out energy efficient initiatives and upgrading buildings to create lower operating cost assets will attract more demand from tenants.

ii. Energy efficiency initiatives have been identified through the EEO program and NABERS improvement process. The impact of the initiatives is monitored through annual NABERS ratings, monthly energy performance monitoring, daily profile analysis, and project specific monitoring and verification. The opportunities identified are evaluated in terms of energy and greenhouse savings, NABERS impact, financial returns and property value enhancements.

A \$500,000 efficiency upgrade at 339 Coronation Drive in Brisbane achieved a 2 Star increase in the property's NABERS Energy rating delivering a 39.5% reduction in energy intensity and 974 Tonnes CO2. The efficiency project delivered annual energy cost savings of \$176,000 providing a simple return on investment in less than 3 years. In addition to the energy cost savings the project assisted the re-leasing of vacant space to take the property from 67% to 98% leased.

iii. The costs of achieving opportunities identified through regulations and industry standards come in the form of MAM sustainability personnel (approximately \$1.1 million) as well as the costs of the upgrading of the assets which vary from project to project.

6.1a3. Government cofunding

i. Mirvac secured over \$5.8 million of government funding and the financial implications for not receiving government cofunding could be seen as an equivalent loss of capital. Government green building co funding allows Mirvac to reduce capital costs to pursue energy efficiency opportunities.

ii. The methods to secure government cofunding require Mirvac to monitor new funding opportunities and successfully compete for government co-funding of projects through the Federal Government's Green Building Fund.

iii. The costs of securing government co-funding are associated with the employment of the Mirvac Asset Management Sustainability Team of which applying for funding opportunities is only part of their roles. The costs associated with the MAM Sustainability Team are approximately \$1.1 million.

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	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 AND (III) THE COSTS ASSOCIATED WITH THESE ACTIONS

Change in extreme temperatures

i. Buildings that are able to remain energy 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.

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

Design features enable our tenants and residential customers to reduce their energy consumption and avoid GHG emissions which will enable them to mitigate the cost associated with temperature extremes.

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. Specific projects undertaken during FY12 include lighting upgrades, control systems enhancements, chiller replacements and fuel switching. The Group target portfolio average of 4 star NABERS rating of across office asset is a voluntary initiative to improve the environmental performance of our assets. This target also offers opportunities to increase demand for buildings with reduced operational costs in the event of extreme temperatures.

iii. With respect to new developments and major refurbishments it is difficult to quantify the cost of environmentally sustainable specific design elements as these design features are integrated into our processes. The cost of upgrades to existing buildings is also highly asset specific and may impact a range of areas including tenant attraction and retention in addition to energy cost reduction. The following project examples demonstrate the costs associated with two large upgrade projects:

- 34 Sydney Ave, engineering procurement construction project including mechanical and lighting upgrades \$1.8 million
- 380 St Kilda - Mechanical plant upgrade \$800,000.

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
	Reputation	Reputational risk with regards to responding to climate change issues is becoming increasingly important to the company, government, business partners, investors and customers.	Increased stock price (market valuation)	1-5 years	Direct	Likely	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

i. Potential financial implications of not suitably addressing climate change cannot be easily quantified. A negative impact on market and client sentiment and associated potential impact on share price is possible if there is a mismanagement of reputational risk.

ii. To manage reputational risk, Mirvac has committed to report its performance through compliance and voluntary reporting frameworks. This includes EEO, NGERs, Dow Jones Sustainability Index, Global Real Estate Sustainability Benchmark and CDP. Investor surveys to gauge reputational risk are also conducted by research organisations to determine ESG (Environmental, Social, Governance) rankings, such as the rankings published by Macquarie and Bloomberg. In addition to public reporting Mirvac is committed to conducting stakeholder engagement to manage reputational risk. Mirvac has implemented a sustainability performance management and reporting program across the Mirvac Property Trust with a flagship action to reduce GHG emissions, through a portfolio average 4 star NABERS Energy target by December 2012 across applicable office buildings. These commitments and actions reduce the Group's reputational risk.

iii. The costs of managing reputational risk can be quantified through the appointment of external consultants to assist with stakeholder engagement and the costs of in house sustainability staff in executing our compliance and reporting obligations. Estimated to be \$500,000 per year across the group.

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 ₂ e)	Scope 2 Base year emissions (metric tonnes CO ₂ e)
Tue 30 Jun 2009 - Wed 30 Jun 2010	12382	199548

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

Please select the published methodologies that you use

Australia - National Greenhouse and Energy Reporting Act

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

Gas	Reference
CO ₂	IPCC Second Assessment Report (SAR - 100 year)
HFCs	IPCC Second Assessment Report (SAR - 100 year)

EMISSIONS DATA - (1 JUL 2011 - 30 JUN 2012)

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

Operational control

8.2 PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 1 EMISSIONS FIGURES IN METRIC TONNES CO₂E

9987

8.3 PLEASE PROVIDE YOUR GROSS GLOBAL SCOPE 2 EMISSIONS FIGURES IN METRIC TONNES CO₂E

145228

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.
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.

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

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
More than 5% but less than or equal to 10%	Data Gaps Assumptions Extrapolation Metering/ Measurement Constraints	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'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 26 Mirvac managed assets where natural gas is connected, representing approximately 59% of total gas use (total monitored natural gas via smart meters is 24,816GJ versus total natural gas consumption across Mirvac of 42,092 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.	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 45 of 48 Mirvac managed assets where Mirvac is responsible for electricity usage. This represents approximately 99% of Mirvac's total electricity consumption (total monitored electricity via smart meters is 282,181GJ versus total Mirvac electricity consumption of 284,729GJ). Data from the remaining assets without smart meters, including all construction sites and externally managed assets are captured manually by property managers, via meter readings and invoices. Emissions data from these sources are liable to human error, which creates a degree of data uncertainty.

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

Third party 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

Type of verification or assurance	Relevant standard	Attach the document
Limited assurance	ASAE3000	

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

Third party verification or assurance complete

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

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

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

Type of verification or assurance	Relevant standard
Limited assurance	ASAE3000

8.8 ARE CARBON DIOXIDE EMISSIONS FROM BIOLOGICALLY SEQUESTERED CARBON RELEVANT TO YOUR ORGANIZATION?

No

SCOPE 1 EMISSIONS BREAKDOWN - (1 JUL 2011 - 30 JUN 2012)

9.1 DO YOU HAVE SCOPE 1 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY?

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 emissions (metric tonnes CO ₂ e)
Hotels	5497
Retail	808
Office	2172
Development	1425
Head Office	84

SCOPE 2 EMISSIONS BREAKDOWN - (1 JUL 2011 - 30 JUN 2012)

10.1 DO YOU HAVE SCOPE 2 EMISSIONS SOURCES IN MORE THAN ONE COUNTRY?

No

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

By business division

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

Business division	Scope 2 emissions (metric tonnes CO ₂ e)
Hotels	65524
Retail	39691
Office	36674
Development	1024
Head Office	1579
Industrial	735

ENERGY

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

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

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

Energy type	MWh
Fuel	47276
Electricity	153434
Heat	0
Steam	0
Cooling	0

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

Fuels	MWh
Natural gas	38326
Diesel/Gas oil	3206
Liquefied petroleum gas (LPG)	2813
Motor gasoline	2932

11.4 PLEASE PROVIDE DETAILS OF THE ELECTRICITY, HEAT, STEAM OR COOLING AMOUNTS THAT WERE ACCOUNTED AT A LOW CARBON EMISSION FACTOR

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comments
Non-grid connected low carbon electricity not owned by company, no instruments created	4899398	During FY12 Mirvac had two operational co-generation plants located at: • 101 Miller St, North Sydney, NSW • 20 Bond St, Sydney, NSW. The co-generation plants generate electricity onsite using an engine powered by natural gas. The generated electricity is fed into the base building electrical infrastructure which offsets the use of grid electricity which is predominately generated by coal fired generators. A proportion of the waste heat from the engine is captured and used to drive an absorption chiller to produce chilled water, this chilled water production offsets some use of the base building electric chillers. The co-generation plants provide a greenhouse reduction through the lower carbon intensity of natural gas versus coal as the primary energy input and the greater efficiency of the co-generation plant through the utilisation of waste heat. Note - the electricity generated by Mirvac's co-generation plants has been treated as grid electricity for reporting purposes, no carbon reduction has been claimed for this electricity in FY12.

EMISSIONS PERFORMANCE

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

Decreased

12.1A PLEASE COMPLETE THE TABLE

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	9.99	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	7.49	Decrease	Through the sale of Mirvac owned and operated properties we have reduced our emissions profile
Change in output	0.62	Decrease	A decrease in development and construction activity in FY12 has lead to a decrease in emission.

12.2 PLEASE DESCRIBE YOUR GROSS COMBINED SCOPE 1 AND 2 EMISSIONS FOR THE REPORTING YEAR IN METRIC TONNES CO₂E PER UNIT CURRENCY TOTAL REVENUE

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.0000886	metric tonnes CO ₂ e	unit total revenue	4	Decrease	Emissions reductions have occurred through energy efficiency operations as well as divestment in assets thereby reducing the total GHG footprint

12.3 PLEASE DESCRIBE YOUR GROSS COMBINED SCOPE 1 AND 2 EMISSIONS FOR THE REPORTING YEAR IN METRIC TONNES CO₂E PER FULL TIME EQUIVALENT (FTE) EMPLOYEE

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
52.38	metric tonnes CO ₂ e	FTE employee	3	Increase	Emissions have increased in this metric as we have restructured the company with a divestment of the Hotels division which involved a departure of a number of staff.

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.00033	metric tonnes CO ₂ e	Other: EBITA. Earnings before the deduction of interest, tax and amortization expenses	23.21	Decrease	Emissions reductions have occurred through energy efficiency operations as well as divestment.

EMISSIONS TRADING

13.1 DO YOU PARTICIPATE IN ANY EMISSIONS TRADING SCHEMES?

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

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

No

SCOPE 3 EMISSIONS

14.1 PLEASE ACCOUNT FOR YOUR ORGANIZATION'S SCOPE 3 EMISSIONS, DISCLOSING AND EXPLAINING ANY EXCLUSIONS

Sources of Scope 3 emissions	Evaluation status	Metric tonnes CO ₂ e	Methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Relevant, not yet calculated				
Capital goods	Not evaluated				
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	24515	i) The fuels and other energy are Electricity, Natural Gas, Diesel, ULP and LPG. All factors and GWPs reference the Australian Government "National Greenhouse Accounts Factors July 2011" Table 45, Revisions to electricity scope 2 and 3 emission factor values. ii) All raw scope 3 data is derived from Scope 1 and 2 calculations as per the National Greenhouse and Energy Reporting Act as and is 3rd party audited by Net Balance iii) The methodologies, assumptions and allocation methods used to calculate these emissions are derived from the Australian Government "National Greenhouse Accounts Factors July 2011"	100%	All scope 3 emissions as per National Greenhouse Accounts factors 2011 Appendix 4
Upstream transportation and distribution	Not evaluated				
Waste generated in operations	Relevant, calculated	15243	i) The types and sources of waste streams are derived from Hotels, Retail, Commercial and Office properties and Construction Waste. The waste factors are factor of 0.2 for Construction waste with all other waste at factor 1. All factors and GWPs reference the Australian Government "National Greenhouse Accounts Factors July 2011" Table 42, Waste emission factors for total waste disposed to landfill by broad waste stream category. ii) The data quality from the Development Division is 100% based on weight and volumes of disposed waste. In the Hotels and Office sector some bin estimates take place at kerb side pickup where no commercial waste management agreements are able to be put in place. iii) The methodologies, assumptions and allocation methods used to calculate these emissions are derived from	100%	All scope 3 emissions as per National Greenhouse Accounts factors 2011 Appendix 4.

Sources of Scope 3 emissions	Evaluation status	Metric tonnes CO ₂ e	Methodology	Percentage of emissions calculated using primary data	Explanation
Business travel	Relevant, calculated	2795	All scope 3 emissions as per 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.	100%	All scope 3 emissions as per 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.
Employee commuting	Relevant, not yet calculated				
Upstream leased assets	Not relevant, explanation provided				Emissions from all assets under Mirvac operational control are included in Scope 1 and Scope 2 emission reporting.
Investments	Not relevant, explanation provided				All emissions from all Investment assets under Mirvac operational control are included in Scope 1 and Scope 2 emission reporting.
Downstream transportation and distribution	Not relevant, explanation provided				As a real estate company Mirvac does not have goods that require downstream transportation or distribution.
Processing of sold products	Not relevant, explanation provided				The sale of Mirvac products, ie. property, does not require processing that would result in Scope 3 emissions.
Use of sold products	Not evaluated				
End of life treatment of sold products	Not evaluated				
Downstream leased assets	Not relevant, explanation provided				Mirvac does not record or report the emissions of our lessees.
Franchises	Not relevant, explanation provided				Mirvac does not have any franchises

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

Third party verification or assurance complete

14.2A PLEASE INDICATE THE PROPORTION OF YOUR SCOPE 3 EMISSIONS THAT ARE VERIFIED/ASSURED

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

14.2B PLEASE PROVIDE FURTHER DETAILS OF THE VERIFICATION/ASSURANCE UNDERTAKEN, AND ATTACH THE RELEVANT STATEMENTS

Type of verification or assurance	Relevant standard
Limited assurance	ASAE3000

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

Yes

14.3A PLEASE COMPLETE THE TABLE

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Waste generated in operations	Change in output	21	Decrease	Due to the cyclical nature of construction activity waste generated in operations have decreased in this reporting year.
Business travel	Change in output	21	Increase	Due to the increase in business activity and the nationwide travel to interstate offices the there has been an increase of business travel emissions in this reporting year.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Divestment	7.2	Decrease	Due to the divestment of assets from the Mirvac portfolio in the reporting year emissions in all Scope 3 categories have fallen. Fuel and energy use has reduced as we have fewer assets
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	8.8	Decrease	Due to emissions reductions activities the emissions for the Mirvac portfolio so have Scope 3 fuel emissions been reduced.

14.4 DO YOU ENGAGE WITH ANY OF THE ELEMENTS OF YOUR VALUE CHAIN ON GHG EMISSIONS AND CLIMATE CHANGE STRATEGIES? (TICK ALL THAT APPLY)

Yes, our suppliers

14.4A IF YOU HAVE DATA ON YOUR SUPPLIERS' GHG EMISSIONS AND CLIMATE CHANGE STRATEGIES, PLEASE EXPLAIN HOW YOU MAKE USE OF THAT DATA

How you make use of the data	Please give details
We do not have any data	