

CARBON DISCLOSURE PROJECT 2011 (CDP9)

REPOSE TO THE CARBON
DISCLOSURE PROJECT 2011
(CDP9) QUESTIONNAIRE



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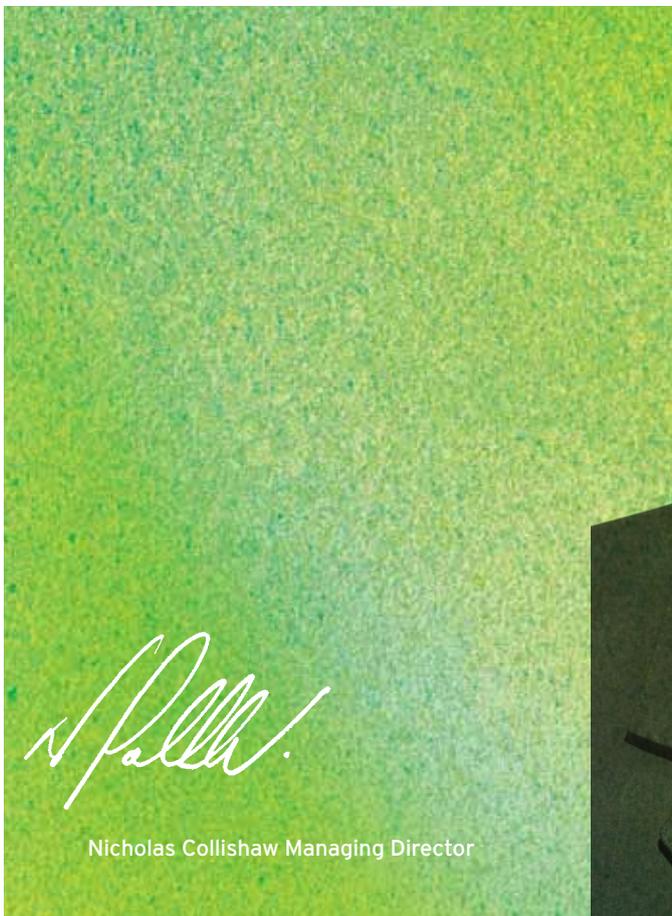
FOREWORD

I am delighted to present Mirvac's sixth response to the Carbon Disclosure Project (CDP) request. Mirvac's ongoing participation in the CDP has assisted us to refine data capture and measurement systems and improve analysis of energy and greenhouse gas emission information.

Mirvac continues to pursue a program to improve the energy efficiency and greenhouse gas performance of our real estate assets. Unconditionally our core focus remains on the efficient operation of a large number of assets across an expanding real estate portfolio covering the commercial, retail, industrial and hotel sectors. In the development arena we continue to undertake research to drive change in delivery techniques, material use and consumer acceptance of best practice sustainable development.

This means establishing a program of specific energy and emissions targets and related efficiencies for each asset. The approach allows for a more detailed and action-based review to improve the performance of each asset over time, thus reducing overall emissions. Our commitment to this approach continues to be rewarded by numerous independent awards and excellence ratings.

I remain confident that as our program continues to unfold Mirvac becomes increasingly well positioned to respond to the potential risks and opportunities presented by an emerging consciousness in global efforts to limit adverse climate change.



INTRODUCTION

0.1 INTRODUCTION

PLEASE GIVE A GENERAL DESCRIPTION AND INTRODUCTION TO YOUR ORGANIZATION

THE MIRVAC GROUP

Established in 1972, Mirvac has more than 38 years of experience in the real estate industry and has a reputation for delivering quality products and services across all of its business operations.

Investment

Mirvac Property Trust ("MPT"), part of the stapled entity of Mirvac Group, has a diverse portfolio of assets across the commercial, retail and industrial sectors, leased to quality tenants including leading Australian and international companies.

Mirvac's integrated business approach includes use of a specialised in-house asset management team (i.e. Mirvac Asset Management), which is responsible for all leasing and property management across the entire portfolio.

Retail

Mirvac's retail team manage retail assets across Australia, including Orion Springfield Town Centre, Broadway Shopping Centre and Rhodes Shopping Centre.

Investment Management

Mirvac's investment management team supports the Group's core activities of investment and development.

The team manages both listed and unlisted funds on behalf of wholesale and retail investors.

Hotels & Resorts

Mirvac Hotels & Resorts is renowned for an uncompromising level of service and attention to detail and holds approximately 5,600 rooms under management across 47 properties in Australia and New Zealand, making it one of the largest Australian-owned hotel groups.

Development

Mirvac is a leading brand in the Australian development and construction industry and has a proven track record for delivering innovative and quality products that exceed customers' expectations and lead the market.

For over 38 years, Mirvac has produced some of Australia's most renowned residential projects including Magenta Shores on the Central Coast, NSW; Walsh Bay in Sydney, NSW; Ephraim Island on the Gold Coast, QLD; Yarra's Edge, VIC; and The Peninsula at Burswood in Perth, WA. Meticulous planning, knowledge, and stringent internal control of design and construction means customers receive the quality they expect and deserve.

Mirvac Design

Mirvac Design specialises in architecture, urban design, interior design, landscape architecture and graphic design.

0.2 REPORTING YEAR

ENTER PERIODS THAT WILL BE DISCLOSED

Wed 01Jul 2009 - Thu 30 Jun 2010

0.3 SELECT COUNTRY

Australia

0.4 CURRENCY SELECTION

AUD (\$)

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

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

i. Name of the committee

Board Health Safety Environment +Sustainability Committee (HSE&S).

ii. Description of its position in the corporate structure.

The HSE&S Committee is chaired by a Non-Executive Director and Committee members include the Company Secretary, the Chief Operating Officer, the Chief Executive Officer National Development, the Group General Manager Human Resources, the Group Manager Health Safety Environment & Sustainability, and senior management representatives from Mirvac Asset Management, Mirvac Investment Management, Mirvac Development, Mirvac Construction, Hotels & Resorts, and representatives from other operations within the Group as determined by the Committee

The Board HSE&S committee reports monthly, directly to the Mirvac Group Board, with the committee chaired by a member of the Mirvac Group Board.

The accountabilities and responsibilities of the Committee include:

- Ensuring compliance with the Group's standards and practices, and legal compliance with health, safety and environmental legislation;
- Reviewing the performance of the Group relative to industry benchmark standards and ensuring compliance with the Group's Health Safety Environment Policy and the Corporate Responsibility and Sustainability Policy;
- Reporting lost time to injury and other statistical measures, rehabilitation status, incident reporting, energy use and intensity, audit outcomes and other performance indicators across the Group;
- Reviewing performance against set objectives and targets;
- Managing the HSE&S Management System and its currency to activities undertaken by the Group;
- Implementing initiatives recommended by the HSE Managers Committee and the Sustainability Managers Committee;
- Supporting the effectiveness of corrective action to eliminate or minimise HSE&S risk;
- Ensuring the development and integration of industry leading HSE&S initiatives to minimise risk to employees, service providers (contractors and suppliers) and their employees, visitors, customers and the environment arising from the Group's activities;
- Supporting the development and integration of appropriate initiatives to maintain the Group's position as a leader in corporate responsibility and sustainability;
- Integrating management's response to relevant emerging sustainability related strategic issues, including applicable legal and regulatory requirements, emerging issues, trends and technologies; and
- Facilitating review and recommendation for adoption the Group's annual Sustainability Report 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 provides comprehensive management incentives for climate change and greenhouse gas (GHG) issues linked with sustainability KPIs. From 1 July 2009, all salaried employees (which include executives, senior, middle and front-line managers and a large proportion of staff) hold key performance indicators ("KPI") across five critical areas: Finance, Strategy, Corporate Responsibility, Customer/Stakeholder and People. The Corporate Responsibility category covers climate change, and features a series of cascading KPIs, which filter down the organisation based on Mirvac's targets in these areas and each individual's role in addressing these targets. Performance against this KPI category is rolled up with performance across the other four KPI categories as part of Mirvac's bi-annual employee performance review process. The results of this review process inform Mirvac's remuneration review including base salary, and for relevant staff, short and long-term incentives.
Facility Managers	Monetary Reward	Mirvac facility managers can be financially rewarded up to \$5,000 for communicating new sustainable initiatives for properties under their management. To qualify for the "Sustainability Champions Award" facility managers must comply with voluntary and compulsory reporting requirements. The winning facility manager must demonstrate their commitment to sustainability beyond what is expected in their initiatives.

STRATEGY

2. STRATEGY

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

Integrated into multi-disciplinary companywide risk management processes

2.1A i. Scope of risk management process

The Group operates in three main areas namely property development and construction, hotel management and property investment and each of these businesses face differing risks. The Group has established a detailed risk register for each business which outlines the key risks, the controls that are in place to mitigate those risks and the person(s) responsible for implementing and reviewing those controls. Similarly, opportunities are identified, assessed and managed through this framework. These registers are reviewed monthly 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.

The 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, and enterprise risk management framework approach has been adopted, the application of which 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 identification and 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 is 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, the Board Audit and Risk Committee and to the Board HSE&S committee, as well as to the relevant Business Units.

2.2 IS CLIMATE CHANGE INTEGRATED INTO YOUR BUSINESS STRATEGY?

Yes

2.2A 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 the 2010 CR&S report, Mirvac committed to 188 sustainability objectives, of which climate change was addressed as one of the drivers. It is important to us that we remain accountable to our stakeholders on these objectives, reporting transparently on our progress towards achieving our sustainability aspirations and commitments.

Mirvac is committed to communicating our strategy and commitment to climate change both internally and externally within publications including our annual Corporate Responsibility and Sustainability (CR&S) report, as well as completing the annual Carbon Disclosure Project reporting. Internally, the Group Sustainability team work across all the business units and the executive committees to develop and communicate the strategy, and allowing for ongoing development and refinement to the strategy.

Mirvac's business strategy has also 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 Act (EEO). The data collection and reporting processes developed to meet these requirements have been standardised across the business to establish an emissions baseline, linking in with annual CR&S reporting and 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. For the first time Mirvac has established a National Australian Built Environment Rating System (NABERS) target for FY11 as well as a longer term NABERS target, further enhancing the robustness of our portfolio and demonstrating our commitment to reducing our carbon footprint.

ii. Climate change aspects that have influenced the strategy

Climate change aspects are addressed within the broader Mirvac strategy for sustainability excellence. Mirvac believes that to be an industry leader, we must respond to the current and emerging drivers facing our industry, of which climate change is one of those impacts. We equally understand the importance of linking our strategy to climate change risks and opportunities that have been identified by our risk management framework to be well positioned for success.

Mirvac continues to pursue efforts to improve the energy consumption and GHG performance of our business 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.

Mirvac's flagship action to reduce GHG emissions from property assets is a commitment to achieve an average 4 star NABERS Energy rating on applicable office buildings in the sustainability performance management and reporting program across the MPT. A 3 star rating represents current market best practice.

iii. Short term strategy changes

"Sustainability excellence" has been set as a core deliverable for the business and has been defined within our short term strategy as sustainability integrated within the Mirvac brand with an accompanying fit for purpose approach for each project.

Mirvac has established 188 sustainability business objectives, of which climate change is a driver, to embed sustainability within core business operations. These objectives have been set within FY10 and are due for completion by 30 June 2011.

Several climate change objectives have been set with the aim of initiating short term change including:

- Undertake an organisational climate change risk mapping exercise;
- Undertake a physical impact of climate change asset risk mapping exercise;
- Improve business processes for the identification of and response to climate change risks and opportunities.

iv. Long term strategy changes

Sustainability, within which climate change is a component, is now one of five strategic drivers for Mirvac's long term business strategy. In 2010, Mirvac's strategic plan for beyond 2014 was developed to focus on leadership and to encompass sustainability excellence. As part of our Health, Safety & Environment and Sustainability Excellence Policy, our vision is to be recognised as a market leader in sustainability by managing environmental, social and economic risks and responsibilities for the benefit of stakeholders and the broader community.

v. Strategic advantage

Through extensive stakeholder engagement, Mirvac identified that our strategic focus needed to align with the current and emerging drivers facing the industry, which includes climate change. The strategy was reset around this feedback to ensure that Mirvac's business model was robust and proactively addressed the issues related to sustainability and climate change, to ensure we satisfy our mandate to be recognised as a leader in sustainability and gain strategic advantage in this area.

vi. Substantial business decisions

Mirvac's business decisions are influenced and informed by the current and emerging issues that impact our industry, of which climate change is one of those issues.

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

Yes

2.3A Mirvac does not directly engage with policy makers first hand but uses the influence of councils and NGOs to encourage policy change.

Mirvac is a member of the Investor Group on Climate Change, 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.

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 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.

TARGETS AND INITIATIVES

3. TARGETS AND INITIATIVES

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

NO

3.1 E PLEASE EXPLAIN (I) WHY NOT AND (II) FORECAST HOW YOUR EMISSIONS WILL CHANGE OVER THE NEXT FIVE YEARS.

- (i) Last year, Mirvac was actively working to develop a sound baseline of energy consumption and NABERS performance ratings. Now completed, an emissions reduction target has been set for FY11 in relation to an average NABERS rating for the portfolio.
- (ii) Mirvac's overall emissions profile is largely dependent on the size of its investment property portfolio, the occupancy rates of those investment properties and the number and type of Hotels under management. In general Mirvac's overall emissions will increase or decrease based on the size of its portfolio and properties under management. Over the next five years, the MPT portfolio is set to increase in value from \$5.4billion to \$9billion which will result in an increase in the net lettable area (NLA) and gross lettable area (GLA) under management. Mirvac is working to decrease its emissions intensity across its Office portfolio by 16% by December 2012 (the approximate equivalent of 1 NABERS Star Rating). While it is difficult to forecast the composition of the property portfolio by December 2014 it is likely another 0.5 Star Energy improvement would be targeted, equivalent to a further 8% emissions intensity reduction.

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

YES

3.2 A i. Estimation of avoided emissions

Through innovation, Mirvac ensures GHG emissions can be avoided by third party tenants and customers across our real estate related activities. Mirvac development of residential homes is governed by the Mirvac Residential Sustainability Scorecard system that comprises a range of objectives such as:

- Ensure all developments incorporate principles of passive solar design;
- Adopt a minimum of Water Efficiency Labelling and Standards (WELS) 4 star for all taps and basin spouts installed; and
- Install dedicated facilities for recycling bins at all residential apartment developments

These design features enable our tenants and residential customers to reduce their energy consumption and avoid GHG emissions.

For example, Waverly Park in Victoria is a 6+ Star housing development surpassing the Victorian Government's 5 Star energy benchmark for new homes. Features of this development include the use of:

- 6 Star building fabric saving households 1.8 tonnes in CO2 emissions annually;
- Gas boosted solar hot water systems which save households 2 tonnes in CO2 emissions compared to 4 Star gas storage hot water systems; and
- Low energy light fittings which save households 0.63 tonnes in CO2 emissions annually.

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 costs, expected savings, and the expected value added to the property. Energy savings add value to an asset by lowering the cost of occupancy to tenants and owners. Specific projects undertaken during FY10 include the replacement of inefficient equipment, the installation of variable speed drives and the installation of solar hot water systems.

ii. Methodology

Energy consumption data is managed by Group Sustainability 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 (NGA) Factors June 2009.

Energy consumption data is collected primarily from purchased energy as per NGERs requirements. Occupancy data is also collected for each asset (m2 of Net Lettable Area or Gross Lettable Area - Retail) so that energy and emissions intensity can be measured. Energy and GHG Intensity is the measure that Mirvac uses to measure its energy and GHG performance.

iii. Credit origination

At this present time Mirvac is not considering credit origination.

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

The following table describes a selection of emissions reduction initiatives implemented in FY10.

Activity Type	Description of activity	Annual monetary Savings (unit currency)	Investment required (unit currency)
Energy Efficiency: Building Services	Heating Ventilating and Air conditioning (HVAC) and Building Management System (BMS) upgrade. Replace inefficient chillers and associated central plant with more efficient plant and equipment all controlled and monitored by a newly installed BMS. 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.	\$95,240	\$907,013
Energy Efficiency: Building Services	Lighting Upgrade Replacement, cleaning and retrofitting of existing luminaires. 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.	\$45,087	\$91,016
Energy Efficiency: Building Services	Plant/Equipment upgrade. Carbon Monoxide (CO) Sensors The car park ventilation fans are installed with Variable Speed Drives (VSDs) and they are running at a fixed speed based on a time schedule from the BMS. It is recommended to install CO sensors in the car park based on guidelines provided by Australian Standard AS1668.2: The use of ventilation and airconditioning in buildings - Ventilation design for indoor air contaminant control. VSD speed on car park ventilation fans would be controlled by CO levels in the car park based on guidelines of AS1668.2. 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.	\$19,500	\$40,000
Energy Efficiency: Building Services	Plant/Equipment upgrade. Upgrade Building Management System as the existing BMS was old and difficult to use. 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.	\$18,000	\$203,000
Energy Efficiency: Building Services	CO sensors and VSDs for large car park ventilation system & install new energy efficient lighting. Install CO sensors and VSDs on car park exhaust fans & new energy efficient lighting. Project has received funding. 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	\$17,046	\$52,639
Energy Efficiency: Building Services	Plant/Equipment upgrade. VSDs Cooling Tower Fans Install VSDs on the cooling tower fans (2x15kW) they will be controlled by condenser water temperature sensor. 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.	\$16,980	\$20,000
Energy Efficiency: Building Services	Time Schedule Review Review all time schedules to ensure that plant is not operated longer then necessary. 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	\$16,200	\$1
Energy Efficiency: Building Services	Plant/Equipment upgrade. VSD's on Air Handling Units (AHUs) Replace inlet guide vanes that are out of date and energy consuming 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.	\$15,000	\$60,000
Energy Efficiency: Building Services	Plant/Equipment upgrade. VSDs on Air Handling Units The AHUs serving the interior zones on each floor are installed with guide vane controls to maintain static pressure and airflow to the VAV boxes. A typical supply fan is 9kW for AHUs serving interior zones. It is recommended to install VSD on supply air fans with VSD speed controlled by static pressure sensor in supply air duct. 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.	\$12,600	\$110,000
Behavioural Change	Charge tenants for after hours AC. This should reduce after hours AC energy consumption. 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.	\$3,021	\$5,000
Behavioural Change	Restrict Pool operating hours & install Pool Covers Reduce lighting requirement for pool area & reduce pool heating costs with covers. 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.	\$2,700	\$12,000

Q3.3B WHAT METHODS DO YOU USE TO DRIVE INVESTMENT IN EMISSIONS REDUCTION ACTIVITIES?

Method	Comment
Compliance with regulatory requirements/standards	Mirvac complies with Federal government regulation e.g. EEO and NGERs reporting annually
Financial optimization calculations	Mirvac uses the Energy Efficiency Opportunities program requirements and various capital upgrade programmes 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
Other: Government Co-Funding	Mirvac competes 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. 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?

Publication	Page/Section Reference	Identify the attachment
Voluntary communications (complete)	Pp 48-61. Environment	Corporate Responsibility and Sustainability Report 2010
In other regulatory filings (complete)	Pp 12	National Greenhouse and Energy Reporting, Greenhouse and Energy Information, 2009-10, Australian Government, Department of Climate Change and Energy Efficiency

CLIMATE CHANGE RISKS

5. CLIMATE CHANGE RISKS

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 regulation

Risks driven by changes in physical climate parameters

5.1A DESCRIBE RISKS DRIVEN BY CHANGES IN REGULATION. SEE BOX 6 IN GUIDELINES

Risk Driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Carbon Taxes	The changing political landscape regarding an impending carbon tax in Australia is likely to affect our business in the near future. Energy costs represent about 15% of total property operating expenses. A price on carbon would increase costs to the business.	Increased operational cost	1-5 years	Direct	Very Likely	Medium
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. There is also the risk of financial penalties if we do not comply with our reporting obligations.	Increased operational cost	1-5 years	Direct	Virtually Certain	Low
Product labelling regulations and standards	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	1-5 years	Direct	Virtually Certain	Low-med

5.1B 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. CLEARLY IDENTIFY WHICH RISKS YOU ARE REFERRING TO.

Carbon Taxes

- i. The potential financial implication of a carbon tax is estimated to be between 15% - 30% of total energy costs (depending on the final rate of a carbon tax or the abatement cost of the Emissions Trading Scheme). This is estimated to increase total operating expenses up to 10%.
- ii. The risk of a potential carbon tax is managed by maximising the energy efficiency of the properties we design, build and operate through the investment in energy efficient technologies and upgrades. For example, the Mirvac designed, built and managed Orion Springfield is Australia's first 6 Star Green Star shopping centre. It is designed to achieve a 5,000 tonne reduction in GHG emissions through renewable energy, natural lighting, advanced climate control, diffusers in tenancies, energy conservation, low energy underground carparks and integrated energy control systems.

For Mirvac owned and managed assets, energy efficient upgrades and processes are being continually implemented as opportunities are identified. For example, the lighting upgrades identified in carparks and lobbies of commercial assets consisted of changing halogen down lights to compact fluorescents and reviewing lighting schedules so as not to leave lights constantly on but to run only when required. These changes will achieve significant energy savings as well as reducing our GHG emissions.
- iii. Mirvac has invested in a team of sustainability engineers who provide expert guidance in the auditing of property, training and management of sustainability programmes. The team assess and identify opportunities for energy efficiency across Mirvac managed assets and implement those opportunities approved by management. The cost of this is in the region of \$500,000 per annum. In addition, Mirvac plans to spend approx \$9 million on energy efficiency upgrades in the next two years across the MPT portfolio.

Emission reporting obligations

- i. Mirvac undertook a review to determine the extent to which our reporting could be outsourced and determined that the cost of energy auditing alone would be approximately \$600,000 - \$700,000 per annum, resulting in a higher cost than investing in an internal auditing team, with no ongoing benefits in terms of retained knowledge of the process following through to implementation phase. Also non compliance of emissions reporting under the NGERs Act can incur maximum penalties of \$220,000 and daily penalties for continuing offences. CEOs can also be liable. Non-compliance with the EEO can incur a fine \$110,000 per offence.
- ii. Mirvac has managed this risk by employing an in-house sustainability team to undertake a range of reporting functions such as energy auditing and monitoring therefore allowing Mirvac to develop internal expertise which can be utilised and called upon for assistance. Data collection and reporting is conducted monthly ensuring efficient monitoring and reporting processes.
- iii. Mirvac estimates that the provision of an in-house capability has resulted in a cost saving of approximately \$100,000-\$200,000 per annum based on the higher cost of outsourced expertise as estimated above.

Product labelling regulations and standards

- i. One of the main financial implications arising from the mandatory disclosure requirements for office properties results from non-compliance of the Building Energy Efficiency Disclosure Act 2010. Penalties imposed by a Court may be up to \$55,000 for the first day and \$5,500 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. An infringement notice may result in a penalty of up to \$5,500 for the first day and \$550 for each subsequent day for a body corporate.

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. Quantifying this amount is difficult due to the number of variable and dynamic factors involved.
- ii. Mirvac manages this risk via a stringent rating programme to ensure sites are NABERS rated if they are subject to mandatory disclosure legislation. Mirvac also ensures all office assets are subject to a NABERS energy rating target based on the costs involved, the technical risks and the business case for increasing an energy rating for that particular asset.
- iii. The cost of undertaking mandatory disclosure reporting and energy efficiency implementation is approximately \$500,000 per annum, consisting of the cost of staff, licensing of SYSTAR software, and internal and external auditing of data.

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

Risk Driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
Changes 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

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 which will considerably increase our operational costs. Higher energy consumption could also result in Mirvac property being rated on a lower scale, therefore affecting demand and market valuation. The financial implications of changes in temperatures are currently not quantified but are estimated to be low 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. This process is in place for many properties but all demand management programmes are reviewed regularly for their relevance and efficacy.
- iii. This process forms part of the duties of the Mirvac asset management Sustainability Team. The cost of this process is estimated to be \$70,000 -\$100,000 per annum.

5.1 I PLEASE EXPLAIN WHY YOU DO NOT CONSIDER YOUR COMPANY TO BE EXPOSED TO RISKS DRIVEN BY CHANGES IN OTHER CLIMATE-RELATED DEVELOPMENTS THAT HAVE THE POTENTIAL TO GENERATE A SUBSTANTIVE CHANGE IN YOUR BUSINESS OPERATIONS, REVENUE OR EXPENDITURE.

Mirvac does not identify or consider any other climate-related risks that may have the potential to generate substantial change to our business operations, revenue or expenditure.

CLIMATE CHANGE OPPORTUNITIES

6. 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

6.1A DESCRIBE OPPORTUNITIES THAT ARE DRIVEN BY CHANGES IN REGULATION

Risk 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	1-5 years	Indirect (client)	Very likely	Low-med

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.

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. Quantifying the premium is difficult considering many other issues are involved.
- ii. For new developments, Mirvac has specific objectives and guidelines to ensure energy efficiency. For residential properties, Mirvac uses the Residential Sustainability Scorecard system that encourages sustainable initiatives to drive down energy consumption. For the existing MPT portfolio, average energy rating targets are in place to drive specific assets to undertake energy efficiency initiatives.
Government legislation such as the EEO creates opportunities to drive investment into energy efficiency upgrades on Mirvac managed assets. For example, the lighting upgrades in carparks and lobbies of commercial assets are driven by energy regulation as well as energy and cost savings.
- iii. With respect to new developments it is difficult to quantify the total costs for implementing environmentally sustainable development elements. MPT is scheduled to spend approx \$9 million in energy efficiency projects by December 2012 in the effort to increase the average energy rating of its portfolio.

6.1C DESCRIBE THE OPPORTUNITIES 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	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.	Customer opportunities	1-5 years	Indirect (client)	Unknown	Low-med

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

Change in extreme temperatures

- i. More energy efficient buildings that are able to remain efficient in extreme conditions are likely to be more attractive to customers. Quantifying the premium 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. Through innovation, Mirvac ensures GHG emissions can be avoided by third party tenants and customers across our real estate related activities. Mirvac development of residential homes is governed by the Mirvac Residential Sustainability Scorecard system that comprises a range of objectives such as:
 - Ensure all developments incorporate principles of passive solar design;
 - Adopt a minimum of Water Efficiency Labelling and Standards (WELS) 4 star for all taps and basin spouts installed; and
 - Install dedicated facilities for recycling bins at all residential apartment developments

These design features enable our tenants and residential customers to reduce their energy consumption avoid GHG emissions which will enable them to withstand any changes in temperature extremes without excessive cost to the tenant or customer.

For example, Waverly Park in Victoria is a 6+ Star housing development surpassing the Victorian Government's 5 Star energy benchmark for new homes. Features of this development include the use of:

- 6 Star building fabric saving households 1.8 tonnes in CO2 emissions annually;
- Gas boosted solar hot water systems which save households 2 tonnes in CO2 emissions compared to 4 Star gas storage hot water systems; and
- Low energy light fittings which save households 0.63 tonnes in CO2 emissions annually.

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 costs, expected savings, and the expected value added to the property. Energy savings add value to an asset by lowering the cost of occupancy to tenants and owners. Specific projects undertaken during FY10 include the replacement of inefficient equipment, the installation of variable speed drives and the installation of solar hot water systems.

- iii. With respect to new developments it is difficult to quantify the over and above costs for implementing environmentally sustainable design elements.

6.1 I PLEASE EXPLAIN WHY YOU DO NOT CONSIDER YOUR COMPANY TO BE EXPOSED TO OPPORTUNITIES DRIVEN BY CHANGES IN OTHER CLIMATE-RELATED DEVELOPMENTS THAT HAVE THE POTENTIAL TO GENERATE A SUBSTANTIVE CHANGE IN YOUR BUSINESS OPERATIONS, REVENUE OR EXPENDITURE.

Mirvac does not identify or consider other climate-related development to have potential to generate substantial change to our business operations, revenue or expenditure.

EMISSIONS METHODOLOGY

7. 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 CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
30/06/2010	12,450	234,257

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

Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
12,450	234,257

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: Natural gas (small user) - Australia	0.0513	Metric Tonnes CO2/GJ	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2009
Other: Wood combustion - stationary energy	0.0207	Other: Tonnes CO2/KL	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2009
Other: Petrol combustion - stationary energy	2.2948	Other: Tonnes CO2/KL	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2009
Other: Diesel combustion - stationary energy	2.6827	Other: Tonnes CO2/KL	The Australian Government Department of Climate Change have specified emission factors for Australia in the National Greenhouse Accounts (NGA) Factors June 2009

EMISSIONS DATA

8. EMISSIONS DATA

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

Operational control

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

12,450 tonnes GHG CO2e

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

234,257 tonnes GHG CO2e

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

Reporting Entity	Source	Scope	Explain why the source is excluded
Parent & Subsidiaries	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.
Other operationally controlled entities/activities/facilities	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	Uncertainty Range	Main sources of uncertainty	Please expand on the uncertainty in your data
1	More than 5% but less than or equal to 10%	Data gaps Assumptions Extrapolation Metering/measurement constraints	<p>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.</p> <p>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 G.J).</p> <p>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.</p> <p>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</p>
2	More than 5% but less than or equal to 10%	Data gaps Assumptions Extrapolation Metering/measurement constraints	<p>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).</p> <p>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.</p> <p>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</p>

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 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 VERIFICATIONS/ASSURANCE UNDERTAKEN, AND ATTACH RELEVANT STATEMENTS.

Type of verification or assurance	Relevant standard	Relevant statement attached
Limited assurance	ASAE 3000	See Ernst & Young Assurance statement

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 SCOPE 1 EMISSIONS THAT ARE VERIFIED/ASSURED

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

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

Type of verification or assurance	Relevant standard	Relevant statement attached
Limited assurance	ASAE 3000	See Ernst & Young Assurance statement

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

9. SCOPE 1 EMISSIONS BREAKDOWN

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)

Business Division	Scope 1 emissions (metric tonnes CO2e)
Hotels	3,334
Development	959
Investment	8157

SCOPE 2 EMISSIONS BREAKDOWN

10. SCOPE 2 EMISSIONS BREAKDOWN

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

Business Division	Scope 2 emissions (metric tonnes CO2e)
Hotels	52,152
Development	3,444
Investment	178,661

EMISSIONS SCOPE 2 CONTRACTUAL

11. 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. ENERGY

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

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	56716
Electricity	250604
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	52,012
Diesel	2,881
Other : Petrol	911
LPG	804
Wood	109

EMISSIONS PERFORMANCE

13. EMISSIONS PERFORMANCE

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

Decreased

13.1 A COMPLETE TABLE

Reason	Emissions value (%)	Direction of change	Comment
Emissions reduction activities	5.89%	Decrease	Through our emissions reductions activities, such as installing energy efficient building management systems and lighting as well as facilities upgrades, Mirvac has reduced emissions
Divestment	11.25%	Decrease	Mirvac has reduced the amount of assets we have operational control over thus reducing our emissions.

13.2 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	Explanation
0.0001435	Metric tonnes CO2e	Unit total revenue	15	Decreased	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 CO2E PER FULL TIME EQUIVALENT (FTE) EMPLOYEE.

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Explanation
66.08	Metric tonnes CO2e	FTE employee	8.24	Decreased	Emissions reductions have occurred through energy efficiency operations as well as divestment. At the same time there was a decrease in the number of FTE staff.

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	Explanation
0.00090	Metric tonnes CO2e	EBITA	65	Decreased	Emissions reductions have occurred through energy efficiency operations as well as divestment

EMISSIONS TRADING

14. EMISSIONS TRADING

14.1 DO YOU PARTICIPATE IN ANY EMISSION TRADING SCHEMES?

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

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

No

SCOPE 3 EMISSIONS

15. 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 CO2e	Methodology
Business Travel	1 748	All scope 3 emissions as per NGA factors 2009 Appendix 4. Mirvac is given total emissions by our travel agent FCM Travel Solutions. 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)	57 087	All scope 3 emissions as per NGA factors 2009 Appendix 4
Waste generated in operations	18 958	All scope 3 emissions as per NGA factors 2009 Appendix 4

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

Not verified or assured

15.3 HOW DO YOUR ABSOLUTE SCOPE 3 EMISSIONS FOR THE REPORTING YEAR COMPARE TO THE PREVIOUS YEAR?

Reason	Emissions value (%)	Direction of change	Comment
Divestment	-16%	Decreased	Mirvac has reduced the amount of assets we have operational control over thus reducing our emissions
Divestment	-6.0%	Decreased	Through our emissions reductions activities such as installing energy efficient building management systems and lighting as well as facilities upgrades Mirvac has reduced emissions

