

# CARBON DISCLOSURE PROJECT 2010 (CDP8)

REPOSE TO THE CARBON  
DISCLOSURE PROJECT 2010  
(CDP8) QUESTIONNAIRE



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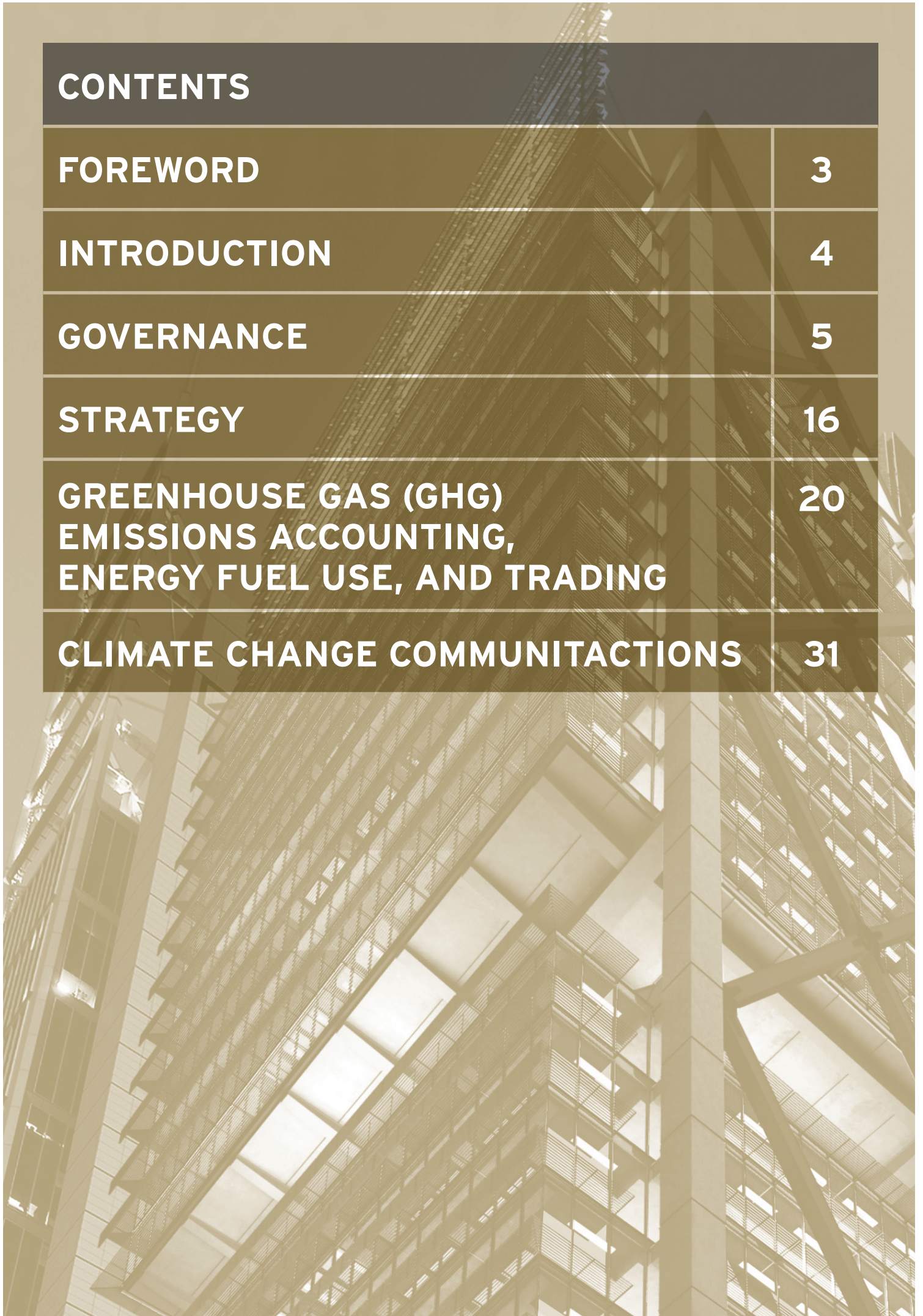
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# FOREWORD

I am delighted to present Mirvac's fifth 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.

Having developed a holistic understanding of our carbon footprint it is disappointing that this CDP response yet again coincides with continued uncertainty around Australian climate change regulation resulting in a lack of clear direction for business. Despite this uncertainty, 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.



Nicholas Collishaw Managing Director

# 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

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

Tue 01 Jul 2008 - Tue 30 Jun 2009

## 0.3 ARE YOU PARTICIPATING IN THE WALMART SUSTAINABILITY ASSESSMENT?

No

## 0.4 MODULES

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

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

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see [www.cdproject.net/cdp-questionnaire](http://www.cdproject.net/cdp-questionnaire).

## 0.5 COUNTRY LIST CONFIGURATION

**Please select the countries for which you will be supplying data.**

Australia

# GOVERNANCE

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

Board committee or other executive body

## 1.1A PLEASE SPECIFY WHO IS RESPONSIBLE.

Sub-set of the Board

## 1.2 WHAT IS THE MECHANISM BY WHICH THE BOARD COMMITTEE OR OTHER EXECUTIVE BODY REVIEWS THE COMPANY'S PROGRESS AND STATUS REGARDING CLIMATE CHANGE?

Formal responsibility for climate change exists at the Board level, as well as with the Managing Director and Senior Management. Mirvac has placed significant focus on formalising the management of sustainability across the Group, as evidenced by the publication of a Charter of the Committee's remit.

The Board Health Safety Environment and Sustainability ("HSE&S") Committee The Mirvac Corporate Responsibility and Sustainability Policy is held monthly and chaired by a Board member, Non-Executive Director Penny Morris, Committee members include Non-Executive Director John Mulcahy and senior executives representing Mirvac's various business units.

The Committee gives increased high level visibility and responsibility to sustainability issues within Mirvac, including climate change, by facilitating improved decision making and greater integration within Mirvac's core business units.

The Mirvac Corporate Responsibility and Sustainability Policy is publicly available, signed by the Managing Director and designed to maintain Mirvac's positioning as a leader in corporate responsibility and sustainability

Mirvac implements various systems and processes to ensure that the interests of stakeholders are protected at all times. Mirvac's governance structure includes an Executive Committee and Executive Leadership Team, as well as various Board Committees (including the Board HSE&S Committee) and the Mirvac Board of Directors.

Depending on the nature of the topic, issues are addressed by Mirvac's sustainability managers, within business units. Group strategy or key issues within a business unit are elevated the Executive Leadership Team and Executive Committee for determination and endorsed by the Board HSE&S Committee. The Board HSE&S Committee meets monthly to monitor Mirvac's HSE and Sustainability activities, including compliance with all relevant legislation

The Board HSE&S Committee oversees decisions made by the Executive Committee and Executive Leadership Team, and filters relevant climate change information to the Mirvac Board of Directors.

The Managing Director has publicly tasked all divisions and personnel across Mirvac with the implementation of its written Corporate Responsibility and Sustainability Policy .

## 1.4 DO YOU PROVIDE INCENTIVES FOR THE MANAGEMENT OF CLIMATE CHANGE ISSUES, INCLUDING THE ATTAINMENT OF GREENHOUSE GAS (GHG) TARGETS?

Yes

## 1.5 PLEASE COMPLETE THE TABLE.

### Who is entitled to benefit from those incentives?

All employees

### The type of incentives

Monetary reward

### Further Information

Mirvac does provide comprehensive management incentives for climate change and GHG issues. From 1 July 2009, all salaried employees (which includes 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 key performance indicators, 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 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.

# RISKS AND OPPORTUNITIES

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## 2.1 DESCRIBE YOUR COMPANY'S PROCESS FOR IDENTIFYING SIGNIFICANT RISKS AND/OR OPPORTUNITIES FROM CLIMATE CHANGE AND ASSESSING THE DEGREE TO WHICH THEY COULD AFFECT YOUR BUSINESS, INCLUDING THE FINANCIAL IMPLICATIONS.

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All climate risks and opportunities are assessed at a Board and Director level.

Mirvac's Sustainability Department has the primary responsibility for identifying risks and opportunities from climate change, on the delegated authority of the Mirvac Executive Leadership Team and Board HSE&S Committee, which meets on a monthly basis. This includes monitoring of all current and proposed legislation, market trends, customer behaviour and investor sentiment.

Depending on the nature of the risk or opportunity, Mirvac's sustainability department raise issues with relevant business units, via the Executive Committee, Executive Leadership Team, Board HES&S Committee or the Mirvac Board of Directors. These committees or groups review the risks and opportunities directly, including financial implications, or delegate to specific teams to examine the issue in detail.

# REGULATORY RISKS

## 3.1 DO CURRENT AND/OR ANTICIPATED REGULATORY REQUIREMENTS RELATED TO CLIMATE CHANGE PRESENT SIGNIFICANT RISKS TO YOUR COMPANY?

Yes

## 3.2B WHAT ARE THE CURRENT AND/OR ANTICIPATED SIGNIFICANT REGULATORY RISKS RELATED TO CLIMATE CHANGE AND THEIR ASSOCIATED COUNTRIES/REGIONS AND TIMESCALES?

The Building Energy Efficiency Disclosure Bill poses potential significant risk to the property sector; however these risks are being robustly mitigated by Mirvac management.

The proposed Mandatory Disclosure Bill requires an Owner selling or leasing more than 2,000 square metres of Class 5 Commercial Property (as per the Building Code of Australia) to provide a Building Energy Efficiency Certificate ("BEEC") at the point of sale or lease. A BEEC comprises of a NABERS energy rating, tenancy lighting register and energy efficiency guidance.

Penalties up to \$110,000 per day are proposed for failure to comply with the scheme .

The scheme is proposed to take effect after 1 July 2010 and will impact sale of leases of Mirvac's commercial buildings, or mixed use buildings with over 2,000 square metres of commercial space.

There remains considerable uncertainty around this scheme, given that the Bill has not received Royal Assent, and its supporting regulation is not yet publicly available. The timetable for the Bill and subsequent Act is 2010.

## 3.3 DESCRIBE THE WAYS IN WHICH THE IDENTIFIED RISKS AFFECT OR COULD AFFECT YOUR BUSINESS AND YOUR VALUE CHAIN.

Depending on the final structure of the Act and regulations, the Building Energy Efficiency Disclosure Bill could pose a significant risk to Mirvac, due to the limited timeframe to achieve compliance with the legislation when introduced.

To mitigate this potential risk, Mirvac is undertaking the following steps:

- Engaging with the Department of Climate Change and Energy Efficiency ("DCCEE"), the Department responsible for the scheme, directly and via the Property Council of Australia ("PCA") on the scheme design, its transition period and exemptions and penalties for non-compliance. To date, DCCEE has been receptive to feedback from Mirvac and other PCA members and has made adjustments to the draft scheme accordingly. Mirvac remains hopeful that any remaining shortcomings are resolved well in advance of the proposed legislation start date.
- By preparing NABERS Energy ratings, tenancy lighting registers and energy efficiency guidance for all buildings with greater than 2,000 square metres of commercial space. Mirvac has taken a conservative approach and plans to hold a valid BEEC for all relevant buildings, regardless of plans to sell or lease the building. This way, the BEEC becomes standard to Mirvac's operating systems, and does not become a barrier to executing a sale or lease. Similarly, by holding a valid BEEC at all times, Mirvac is well positioned to keep track of the energy performance of its assets to facilitate improved energy management.
- Updating Mirvac's due diligence processes to ensure that any assets purchased before the scheme commencement have all the relevant documentation required to complete a BEEC. After the scheme commences, collection of this type of information will become a regular business process.
- Educating relevant staff about the forthcoming legislation, its implications for Mirvac, and how to assist in capitalising on the changing regulatory landscape.

## 3.4 ARE THERE FINANCIAL IMPLICATIONS ASSOCIATED WITH THE IDENTIFIED RISKS?

Yes

## 3.5 PLEASE DESCRIBE THEM.

There are some costs associated with compliance with the various legislative schemes, but they are not assessed as significant relative to overall operating costs. In some cases, such as EEO, Mirvac shares the cost of completing assessments with building tenants, and recoups costs through implementing the energy efficiency opportunities identified.

Mirvac is currently examining a range of options by which the BCA Code requirements can be met without compromising design or increasing costs. Due to its scale, and depth of experience, Mirvac is often able to adjust to changing planning requirements at a rapid pace, for example Mirvac has recently completed stage 10 of its Waverley Park residential development in Victoria, which includes 123 houses built to achieve the proposed new BCA requirements (minimum 6 star homes). By implementing the increased standards in advance of official changes to the BCA, Mirvac is able to gain valuable design knowledge, which is applied across future development projects.

Mirvac continues to improve its energy and emissions data collection and reporting systems to ensure information is readily available as required.

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**3.6 DESCRIBE ANY ACTIONS THE COMPANY HAS TAKEN OR PLANS TO TAKE TO MANAGE OR ADAPT TO THE RISKS THAT HAVE BEEN IDENTIFIED, INCLUDING THE COST OF THOSE ACTIONS.**

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Regulatory programmes and funds such as EEO, NGRS and the Green Building Fund have some financial costs of compliance, but also provide benefits from more effective operations and an income stream.

Delivery of beyond compliance green buildings does generally require additional capital investment than a business as usual approach.

Since the commencement of EEO, Mirvac has identified and implemented 16,866GJ of energy savings projects, with related savings of approximately \$843,300 per annum (assuming the cost of energy per GJ is around \$50). These savings are divided between tenants and Mirvac.

Under the Green Building Fund, Mirvac has been granted \$2,420,520 on a dollar for dollar basis for six buildings, for energy efficiency upgrade projects across Australia. The outcome of this grant funding is improved financial return for building upgrade projects, and reduced operating costs. In a number of instances, Mirvac has acknowledged a direct linkage between improved building performance and attraction or retention of tenants. This is particularly the case with Government tenants.

Mirvac is currently examining a range of options by which the BCA Code requirements can be met without compromising design or increasing costs. By implementing the increased standards in advance of official changes to the BCA, Mirvac is able to gain valuable design knowledge, which is applied across future development projects.

The New South Wales Energy Savings Scheme ("NSW ESS") allows companies such as Mirvac to sell energy savings credits to parties liable under the scheme. This scheme improves the financial return on building upgrade projects and given that credit payments are made early in a project's life cycle, this improves Mirvac's cash flow, rather than awaiting payback via reductions in outgoings.



# PHYSICAL RISKS

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## 4.1 DO CURRENT AND/OR ANTICIPATED PHYSICAL IMPACTS OF CLIMATE CHANGE PRESENT SIGNIFICANT RISKS TO YOUR COMPANY?

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Yes

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## 4.2B WHAT ARE THE CURRENT AND/OR ANTICIPATED SIGNIFICANT PHYSICAL RISKS, AND THEIR ASSOCIATED COUNTRIES/REGIONS AND TIMESCALES?

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Physical impacts of climate change do present some risk to the company. Mirvac has extensive fixed property assets, including landbanks held for future development, and as such recognises the potential for physical risk exposure from climate change. These risks include:

- increased risk of damage from flooding caused by greater storm events and changes to flood zones;
- increased risk of coastal inundation by rising sea levels;
- increased likelihood of blackouts in electricity demand-constrained areas;
- increased energy consumption and costs due to higher temperatures;
- increased risk of damage due to more intense tropical cyclones and storms; and
- increased bushfire risk.

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## 4.3 DESCRIBE THE WAYS IN WHICH THE IDENTIFIED RISKS AFFECT OR COULD AFFECT YOUR BUSINESS AND YOUR VALUE CHAIN.

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Mirvac relies on guidance from relevant planning authorities, the Australian Building Codes (ABC) Board, legal expertise and industry networks regarding the management of physical climate change risks for our existing assets, and land banks.

To date, changes or amendments in planning regulations and building codes have focused on new buildings or refurbishments, rather than existing assets.

As such, Mirvac acknowledges that planning authorities and the ABC have not demonstrated a sufficiently detailed assessment of physical climate change risks, or implemented specific activities and initiatives to address physical risks to existing assets.

In lieu of such assessments, Mirvac plans to undertake a review of physical climate change impacts, to identify at-risk locations and implement mitigation and adaptation strategies.

For its development activities, Mirvac has a long history of building strong relationships with government authorities to identify best practices solutions. For example at Bridgewater North in Western Australia, Mirvac developed an Australian first Climate Change Vulnerability and Adaptation Assessment, which assessed the level of exposure of the site to the effect of climate change by examining several sea level rise scenarios for 2100 (Current Planning Policy (0.38m rise) and Inter-Governmental Panel on Climate Change (IPCC) low (0.2m) and high (0.82m rise) range).

Mirvac's approach has established a new benchmark in dealing with climate change and identifying implementation responses. Through this assessment, Mirvac gained valuable knowledge and experience, which will be applied to future development projects to ensure the achievement of a proper balance between development and environment at the same time creating safe long-term communities.

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## 4.4 ARE THERE FINANCIAL IMPLICATIONS ASSOCIATED WITH THE IDENTIFIED RISKS?

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Yes

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## 4.5 PLEASE DESCRIBE THEM.

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Mirvac considers that the financial implications of various physical impacts of climate change have the potential to negatively impact some assets.

There will also be some impact within the legal and planning system as regulations and planning laws are adjusted to take account of impacts such as flooding, sea level rise and increased storm damage.

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**4.6 DESCRIBE ANY ACTIONS THE COMPANY HAS TAKEN OR PLANS TO TAKE TO MANAGE OR ADAPT TO THE RISKS THAT HAVE BEEN IDENTIFIED, INCLUDING THE COST OF THOSE ACTIONS.**

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Mirvac relies on guidance from relevant planning authorities, and the Australian Building Codes (ABC) Board regarding the management of physical climate change risks for our existing assets, and land banks.

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Mirvac's approach has established a new benchmark in dealing with climate change and identifying implementation responses. Through this assessment, Mirvac gained valuable knowledge and experience, which will be applied to future development projects to ensure the achievement of a proper balance between development and environment at the same time creating safe long-term communities.

## OTHER RISKS

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### 5.1 DOES CLIMATE CHANGE PRESENT OTHER SIGNIFICANT RISKS - CURRENT AND/OR ANTICIPATED - FOR YOUR COMPANY?

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Yes

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### 5.2B WHAT ARE THE CURRENT AND/OR ANTICIPATED OTHER SIGNIFICANT RISKS, AND THEIR ASSOCIATED COUNTRIES/REGIONS AND TIMESCALES?

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Mirvac is exposed to a range of other anticipated risks as a result of increased climate change, including the potential for:

- increased cost of building materials, particularly those with high carbon intensities such as steel or glass, - increased risk of development delays, redesigns or rejection of development applications on the basis of climate change risks;
- increased risk of climate change-related litigation including negligence (i.e. insufficient protection from climate change impacts), nuisance (i.e. unintended impacts from mitigation/adaptation measures) or misrepresentation (i.e. inaccurate representations of climate change readiness);
- consumer retail spending patterns and changes in product preferences;
- warmer days and the impact on operational energy costs and greenhouse gas emissions;
- changes in building standards and climate change legislation;
- changes to insurance premiums impacted by increased storm or other events;
- accelerated depreciation or obsolescence of inefficient buildings;
- changing consumer behaviour resulting from rising fuel prices, and in particular the value homeowners place on energy saving features in residential developments;
- rising costs of public transport and infrastructure requirements in developments located in the outskirts of cities;
- changing preferences in terms of dwelling types and density; and
- more stringent energy efficiency and green building mandates.

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### 5.3 DESCRIBE THE WAYS IN WHICH THE IDENTIFIED RISKS AFFECT OR COULD AFFECT YOUR BUSINESS AND YOUR VALUE CHAIN.

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At present, Mirvac does not consider the current quantifiable impacts posed by these anticipated risks as significant. Mirvac continues to monitor and manage current and anticipated risks, including those that relate to climate change, and disclose our response to such risk to investors and other stakeholders as relevant.

Mirvac policy is to position the company for optimum performance in a changing climate and a carbon constrained economy.

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### 5.4 ARE THERE FINANCIAL IMPLICATIONS ASSOCIATED WITH THE IDENTIFIED RISKS?

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No

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### 5.6 DESCRIBE ANY ACTIONS THE COMPANY HAS TAKEN OR PLANS TO TAKE TO MANAGE OR ADAPT TO THE OTHER RISKS THAT HAVE BEEN IDENTIFIED, INCLUDING THE COSTS OF THOSE ACTIONS.

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At present, Mirvac does not consider the current quantifiable impacts posed by these anticipated risks as significant. Mirvac continues to monitor and manage current and anticipated risks, including those that relate to climate change, and disclose our response to such risk to investors and other stakeholders as relevant.

Mirvac policy is to position the company for optimum performance in a changing climate and a carbon constrained economy

# REGULATORY OPPORTUNITIES

## 6.1 DO CURRENT AND/OR ANTICIPATED REGULATORY REQUIREMENTS RELATED TO CLIMATE CHANGE PRESENT SIGNIFICANT OPPORTUNITIES FOR YOUR COMPANY?

Yes

## 6.2 WHAT ARE THE CURRENT AND/OR ANTICIPATED SIGNIFICANT REGULATORY OPPORTUNITIES AND THEIR ASSOCIATED COUNTRIES/REGIONS AND TIMESCALES?

Climate change-related regulations present a number of opportunities for Mirvac. For example, it has a track record of rolling out greener buildings and practises that are beyond compliance. Examples of these include;

- The upgrade of 101 Miller Street, North Sydney, NSW, a “flagship” premium grade office building. The transformation included a state of the art tri-generation system, dramatically reducing greenhouse gas emissions and delivering a 5 star rating under the National Australian Built Environment Rating System (“NABERS”), while providing a more secure and low cost source of energy for tenants.
- A further three properties achieved official NABERS ratings with one of these, the Sebel Citigate Albert Park, VIC, awarded 3.5 stars for energy and 4.5 stars for water under the NABERS Hotel Energy and Hotel Water ratings. At the time (February 2009) the Hotel was only the second hotel property in Australia to receive this - The Mirvac designed Bond University Mirvac School of Sustainable Development building, QLD, a 6 star Green Star (Education Pilot) rated building received the prestigious international Award for Sustainability from the Royal Institution of Chartered Surveyors (“RICS”) in 2009.
- Mirvac’s 9.2 star energy rated, zero carbon home is an Australian first by a commercial developer. Designed as a concept home, Harmony 9 serves as a sales centre and educational display for Waverley Park and received the 2009 Monash City Council World Environment Day Sustainable New Building Award. Harmony 9 has also recently won the Premier of Victoria’s Sustainability in the Built Environment Award.
- Recently completed, the Sirius building at 23 Furzer Street, Canberra is designed to achieve a 4.5 star NABERS Energy rating. Comprising 46,000 square metres of floor space, the Sirius building has many sustainability features including an environmentally responsive facade, re-use of grey water and the latest generation energy efficient building services.
- Incorporating an array of sustainability features including high efficiency air conditioning, systematic wall, ceiling and floor insulation and energy efficient lighting, The Royal Newcastle exceeds NSW Building Sustainability Index compliance standards. The centrepiece of the proposed initiatives is a large-scale gas-fired cogeneration plant being developed as the largest residential application of the technology in Australia.
- As part of the recently acquired Mirvac Real Estate Investment Trust portfolio, 340 Adelaide Street, Brisbane, QLD is undergoing a \$1.6 million energy efficiency upgrade. The upgrade aims to increase the base building NABERS energy rating from an estimated 1.5 stars to 4.5 stars. The upgrade project involves major replacements of the air conditioning, lighting and heating water plant along with the installation of a comprehensive building automation and energy metering

## 6.3 DESCRIBE THE WAYS IN WHICH THE IDENTIFIED OPPORTUNITIES AFFECT OR COULD AFFECT YOUR BUSINESS AND YOUR VALUE CHAIN.

The Energy Efficiency Opportunity Act has significantly increased the level of focus on energy performance across Mirvac’s portfolio particularly at the Executive level. EEO has assisted in identifying numerous opportunities including many ‘quick wins’, and substantially improved decision making on energy and climate change issues.

Similarly, compliance under the National Greenhouse Energy Reporting Scheme (NGERS) provides detailed performance data on energy and greenhouse gas emissions across Mirvac, ensuring the focus remains where the Group can have the most meaningful impact.

In general, regulatory requirements from climate change has a positive impact on the Mirvac business.

## 6.4 ARE THERE FINANCIAL IMPLICATIONS ASSOCIATED WITH THE IDENTIFIED OPPORTUNITIES?

Yes

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## 6.5 PLEASE DESCRIBE THEM.

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Mirvac has invested capital in these opportunities; regulatory programmes and funds such as EEO, NGERs and the Green Building Fund have some financial costs of compliance, but also provide benefits from more effective operations. Delivery of beyond compliance green buildings does generally require additional capital investment than a business as usual approach.

Since the commencement of EEO, Mirvac has identified and implemented 16,866GJ of energy savings projects, with related savings of approximately \$843,300 per annum (assuming the cost of energy per GJ is around \$50). These savings are divided between tenants and Mirvac.

Under the Green Building Fund, Mirvac has been granted \$2,420,520 on a dollar for dollar basis for six buildings, for energy efficiency upgrade projects across Australia. The outcome of this grant funding is improved financial return for building upgrade projects, and reduced operating costs. In a number of instances, Mirvac has acknowledged a direct linkage between improved building performance and attraction or retention of tenants. This is particularly the case with Government tenants.

The New South Wales Energy Savings Scheme ("NSW ESS") allows companies such as Mirvac to sell energy savings credits to parties liable under the scheme. This scheme improves the financial return on building upgrade projects and given that credit payments are made early in a project's life cycle, this improves Mirvac's cash flow, rather than awaiting payback via reductions in outgoings.

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## 6.6 DESCRIBE ANY ACTIONS THE COMPANY HAS TAKEN OR PLANS TO TAKE TO EXPLOIT THE OPPORTUNITIES THAT HAVE BEEN IDENTIFIED, INCLUDING THE INVESTMENT NEEDED TO TAKE THOSE ACTIONS.

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In the EEO programme, Mirvac has identified and implemented 16,866GJ of energy savings projects, with related savings of approximately \$843,300 per annum (assuming the cost of energy per GJ is around \$50). These savings are divided between tenants and Mirvac.

Under the Green Building Fund, Mirvac has been granted \$2,420,520 on a dollar for dollar basis for six buildings, for energy efficiency upgrade projects across Australia. The outcome of this grant funding is improved financial return for building upgrade projects, and reduced operating costs. In a number of instances, Mirvac has acknowledged a direct linkage between improved building performance and attraction or retention of tenants. This is particularly the case with Government tenants.

The New South Wales Energy Savings Scheme ("NSW ESS") allows companies such as Mirvac to sell energy savings credits to parties liable under the scheme. This scheme improves the financial return on building upgrade projects and given that credit payments are made early in a project's life cycle, this improves Mirvac's cash flow, rather than awaiting payback via reductions in outgoings.

# PHYSICAL OPPORTUNITIES

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## 7.1 DO CURRENT AND/OR ANTICIPATED PHYSICAL IMPACTS OF CLIMATE CHANGE PRESENT SIGNIFICANT OPPORTUNITIES FOR YOUR COMPANY?

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Yes

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## 7.2B WHAT ARE THE CURRENT AND/OR ANTICIPATED SIGNIFICANT PHYSICAL OPPORTUNITIES AND THEIR ASSOCIATED COUNTRIES/REGIONS AND TIMESCALES?

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Mirvac considers that there are opportunities arising from the changing impacts of climate change.

Mirvac continues to examine business opportunities as they arise, including those linked to physical changes resulting from climate change.

As a national developer of real estate assets, one possible area of business opportunity for Mirvac is changing demands for property, as certain geographical areas and specific properties become affected by the physical impacts of climate change.

Mirvac gained valuable knowledge from evaluating several sea level scenarios for 2100 (MRA and IPCC low and high range) at its Bridgewater North, a high quality residential development located on 30 hectares at Mandurah, Western Australia. As a result Mirvac is better positioned to identify at-risk locations and implement mitigation and adaptation strategies. The study also enabled Mirvac to build stronger relationships with government agencies by providing feedback regarding best practice approaches in the assessment of the vulnerability of sites to climate change.

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## 7.3 DESCRIBE THE WAYS IN WHICH THE IDENTIFIED OPPORTUNITIES AFFECT OR COULD AFFECT YOUR BUSINESS AND YOUR VALUE CHAIN.

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As a national developer of real estate assets, one possible area of business opportunity for Mirvac is changing demands for property, as certain geographical areas and specific properties become affected by the physical impacts of climate change.

Conversely, the deleterious physical impacts of climate change have the potential to negatively impact some assets. There will also be some impact within the legal and planning system as regulations and planning laws are adjusted to take account of impacts such as flooding, sea level rise and increased storm damage

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## 7.4 ARE THERE FINANCIAL IMPLICATIONS ASSOCIATED WITH THE IDENTIFIED OPPORTUNITIES?

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Yes

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## 7.5 PLEASE DESCRIBE THEM.

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Mirvac is assessing these implications as part of its regular strategic assessment of risks and opportunities. As a national developer of real estate assets, one possible area of business opportunity for Mirvac is changing demands for property, as certain geographical areas and specific properties become affected by the physical impacts of climate change

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## 7.6 DESCRIBE ANY ACTIONS THE COMPANY HAS TAKEN OR PLANS TO TAKE TO EXPLOIT THE OPPORTUNITIES THAT HAVE BEEN IDENTIFIED, INCLUDING THE INVESTMENT NEEDED TO TAKE THOSE ACTIONS.

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Mirvac gained valuable knowledge from evaluating several sea level scenarios for 2100 (MRA and IPCC low and high range) at its Bridgewater North, a high quality residential development located on 30 hectares at Mandurah, Western Australia. As a result Mirvac is better positioned to identify at-risk locations and implement mitigation and adaptation strategies. The study also enabled Mirvac to build stronger relationships with government agencies by providing feedback regarding best practice approaches in the assessment of the vulnerability of sites to climate change. Mirvac looks forward to continuing the contribution to the development of policy and other programs focussed on creating a more sustainable built environment.

## OTHER OPPORTUNITIES

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8.1 DOES CLIMATE CHANGE PRESENT OTHER SIGNIFICANT OPPORTUNITIES -  
CURRENT AND/OR ANTICIPATED - FOR YOUR COMPANY?

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No

# STRATEGY

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## 9.1 PLEASE DESCRIBE HOW YOUR OVERALL GROUP BUSINESS STRATEGY LINKS WITH ACTIONS TAKEN ON RISKS AND OPPORTUNITIES (IDENTIFIED IN QUESTIONS 3 TO 8), INCLUDING ANY EMISSIONS REDUCTION TARGETS OR ACHIEVEMENTS, PUBLIC POLICY ENGAGEMENT AND EXTERNAL COMMUNICATIONS.

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Sustainability and climate change issues are embedded in the business at the Board, director and management level and enshrined in;

- The Board Health Safety Environment and Sustainability (“HSE&S”) Committee.
- The Mirvac Corporate Responsibility and Sustainability Policy.

The policy set in January 2009 will be reviewed every 2 years and updated as required to maintain Mirvac’s positioning as a leader in corporate responsibility and sustainability

Therefore these issues will increase in importance as the business grows and develops.

Examples of progress include;

- Mirvac Property Trust is undertaking a substantial program of building upgrades and asset repositioning based on climate change risks and opportunities, as well as a raft of other market drivers including energy efficiency and greenhouse gas reporting legislation.
- Mirvac commitments include achieving 5 star Green Star and 5 star NABERS Energy ratings on newly constructed office buildings, and pursuing an average 3 star NABERS Energy rating across selected office assets within the portfolio.
- Mirvac is currently examining a range of options in response to upcoming changes to energy ratings for residential developments under the Building Code of Australia to determine how these Code requirements can be met without compromising design or increasing costs. Due to Mirvac’s scale, and depth of experience, Mirvac is often able to adjust to changing planning requirements faster than other developers. Mirvac has recently completed stage ten of its Waverley Park residential development in Victoria, which includes 123 houses built to achieve the new BCA requirements (minimum 6 star homes). By implementing the increased standards in advance of official changes to the BCA, Mirvac is able to gain valuable design knowledge, which is applied across future development projects.



# TARGETS

## 9.2 DO YOU HAVE A CURRENT EMISSIONS REDUCTION TARGET?

No, but we are developing one

## 9.4 PLEASE GIVE DETAILS OF THE TARGET(S) YOU ARE DEVELOPING AND WHEN YOU EXPECT TO ANNOUNCE IT/THEM. (IF YOU ARE IN THE PROCESS OF DEVELOPING A TARGET)

Mirvac has in place a range of emissions reductions targets for some assets and portfolios, and within formal policy.

Mirvac is currently moving towards establishing specific energy and emissions targets and related efficiencies for each asset and activity across the organisation. This means that each asset and activity has a target set based on its specific parameters, such as current performance, technical limitations, and market demand, which allows for a more detailed and actionable approach to emission reductions. The establishment of targets from the ground up, rather than top down, ensures that individual staff have responsibility for meeting the targets, and can conceptualise and operationalise the changes required.

Mirvac has a range of emissions reduction targets within the Group by asset, by portfolio and by policy but does not have an absolute GHG intensity reduction target to, say 2015 or 2020.

By project, for example;

- The upgrade of 101 Miller Street, North Sydney, NSW, a “flagship” premium grade office building. The transformation included a state of the art tri-generation system, dramatically reducing greenhouse gas emissions and delivering a 5 star rating under the National Australian Built Environment Rating System (“NABERS”).
- A further three properties achieved official NABERS ratings
- The Mirvac designed Bond University Mirvac School of Sustainable Development building, QLD, a 6 star Green Star (Education Pilot) rated building
- Mirvac’s 9.2 star energy rated, zero carbon home is an Australian first by a commercial developer.
- Recently completed, the Sirius building at 23 Furzer Street, Canberra is designed to achieve a 4.5 star NABERS Energy rating.
- 340 Adelaide Street, Brisbane, QLD is undergoing a \$1.6 million energy efficiency upgrade. The upgrade aims to increase the base building NABERS energy rating from an estimated 1.5 stars to 4.5 stars.
- Rhodes Waterside received a 4 Star Green Star rating (Office Design V2)

By formal Group policy;

- Achieving 5 star Green Star and 5 star NABERS Energy ratings on newly constructed office buildings, and pursuit of an average 3 star NABERS Energy rating across selected office assets within its portfolio.
- Pursue opportunities to improve resource efficiency and minimise GHG emissions
- To position Mirvac for optimum performance in a changing climate and a carbon constrained economy
- Preparing NABERS Energy ratings, tenancy lighting registers and energy efficiency guidance for all buildings with greater than 2,000 square metres of commercial space.

### Further Information

Mirvac’s total emissions are intimately linked with the make-up of its investment portfolio and current development activities. As a real estate company, these activities change substantially over time as assets are bought and sold, and as development projects commence and complete. A single Group wide GHG emissions reduction target is not practicable at present. Although Mirvac aims to reduce emissions in all activities, including new developments, it is inevitable that some increases will occur due to the nature of its business undertakings and growth strategy. However this may or may not result in an increase in ‘absolute’ emissions (i.e. global emissions) depending on where Mirvac chooses to focus its growth strategy. Mirvac is currently moving towards establishing specific energy and emissions targets and related efficiencies for each asset and activity across the organisation. This means that each asset and activity has a target set based on its specific parameters, such as current performance, technical limitations, and market demand, which allows for a more detailed and actionable approach to emission reductions. The establishment of targets from the ground up, rather than top down, ensures that individual staff have responsibility for meeting the targets, and can conceptualise and operationalise the changes required. Over the next five years, Mirvac plans to reposition its investment portfolio. This may result in a rise in Mirvac’s total emissions. However, depending on how these business growth plans proceed, this may or may not result in an increase in national or global emissions on an absolute scale. For example, were Mirvac to purchase existing buildings, as was the case with the recent acquisition of Mirvac Real Estate Investment Trust’s \$1 billion diversified portfolio, this resulted in existing emissions being added to Mirvac, rather than additional emissions being generated. Given Mirvac’s strengths in managing buildings effectively, the aim is to improve the performance of these assets over time, thus reducing overall emissions.

# STRATEGY - EMISSION REDUCTION ACTIVITIES

## 9.7 PLEASE USE THE TABLE BELOW TO DESCRIBE YOUR COMPANY'S ACTIONS TO REDUCE ITS GHG EMISSIONS.

Actions - please describe	Annual energy saving	Annual energy savings MJ (MegaJoule)	Annual emission reduction in metric tonnes CO2-e	Reduction - achieved or anticipated	Monetary savings AUD (\$)	Monetary savings	Timescale of actions & associated investments
110 George St, Parramatta, NSW, 2150 (Mirvac PFA Limited)	Achieved	2575000	765	Achieved	128750	Achieved	< 2 Years
3 Rider Blvd, Rhodes, NSW 2138 (Mirvac REIT Management Limited)	Anticipated	1005000	298	Anticipated	50250	Anticipated	< 4 Years
10A Julius Ave, North Ryde, NSW, 2113 (Mirvac REIT Management Limited)	Achieved	343000	102	Achieved	17150	Achieved	< 2 Years
340 Adelaide St, Brisbane, QLD, 4000 (Mirvac REIT Management Limited)	Achieved	3761000	974	Achieved	188050	Achieved	< 2 Years
Cherrybrook Shopping Centre (41-47 Shepherds Dr, Cherrybrook, NSW, 2126 (Mirvac REIT Management Limited)	Achieved	315000	94	Achieved	15750	Achieved	< 2 Years
38 Sydney Ave, Forest, ACT, 2603 (Mirvac Funds Limited)	Anticipated	1401000	856	Anticipated	70050	Anticipated	< 2 Years
40 Miller St, North Sydney, NSW, 2060 (Mirvac Funds Limited)	Achieved	295000	88	Achieved	14750	Achieved	< 2 Years
60 Marcus Clarke St, City, ACT, 2601 (Mirvac Funds Limited)	Anticipated	1158000	344	Achieved	57900	Achieved	< 2 Years
1 Castlereagh St, Sydney, NSW, 2000 (Mirvac Funds Limited)	Achieved	919000	273	Achieved	45950	Achieved	< 2 Years
Bay Centre, 65 Pirrama Rd, Pyrmont, NSW, 2009 (Mirvac Funds Limited)	Achieved	742000	221	Achieved	37100	Achieved	
Stanhope Village, Stanhope Gardens, NSW, (Mirvac Funds Limited)	Achieved	266000	79	Achieved	13300	Achieved	
12 Julius Avenue, North Ryde, NSW (Mirvac REIT Management Limited)	Achieved	805000	239000	Achieved	40250	Achieved	
706 Mowbray Rd, Lane Cove, NSW, (Mirvac PFA Limited)	Anticipated	343000	102000	Anticipated	17150	Achieved	
Sydney Marriot Hotel, Sydney, NSW (Mirvac Funds Management Limited)	Achieved	738000	219000	Achieved	36900	Achieved	
390 St Kilda Rd	Achieved	2200	819000	Achieved	110000	Achieved	

## 9.9 PLEASE PROVIDE ANY OTHER INFORMATION YOU CONSIDER NECESSARY TO DESCRIBE YOUR EMISSION REDUCTION ACTIVITIES.

Mirvac commitments include achieving 5 star Green Star and 5 star NABERS Energy ratings on newly constructed office buildings, and pursuit of an average 3 star NABERS Energy rating across selected office assets within its portfolio. Targets are derived on an asset by asset basis.

Although Mirvac aims to reduce emissions in all activities, including new developments, it is inevitable that some increases will occur due to the nature of its business undertakings and growth strategy. However, as previously highlighted this may or may not result in an increase in 'absolute' emissions (i.e. global emissions) depending on where Mirvac chooses to focus its growth strategy.

Mirvac's total emissions are intimately linked with the make-up of its investment portfolio and current development activities. As a real estate company, these activities change substantially over time as assets are bought and sold, and as development projects commence and complete.

Alternatively, Mirvac is currently moving towards establishing specific energy and emissions targets and related efficiencies for each asset and activity across the organisation. This means that each asset and activity has a target set based on its specific parameters, such as current performance, technical limitations, and market demand, which allows for a more detailed and actionable approach to emission reductions. The establishment of targets from the ground up, rather than top down, ensures that individual staff have responsibility for meeting the targets, and can conceptualise and operationalise the changes required.

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**9.10 DO YOU ENGAGE WITH POLICY MAKERS ON POSSIBLE RESPONSES TO CLIMATE CHANGE INCLUDING TAXATION, REGULATION AND CARBON TRADING?**

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Yes

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**9.11 PLEASE DESCRIBE.**

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Mirvac regularly engages with a wide range of policy makers on all aspects of climate change and sustainability. It takes an active role in advocating for a more sustainable property sector and also has Committee and Board membership of key green building and industry associations, and participation in various public forums.

**Mirvac engages these main bodies on sustainability issues:**

Property Council of Australia

Green Building Council of Australia

Australian Property Institute

Facilities Management Association of Australia

Property Management Institute

Shopping Centre Council of Australia

Royal Institute of Chartered Surveyors

City Switch

London Benchmarking Group

# GHG EMISSIONS ACCOUNTING, ENERGY AND FUEL USE, AND TRADING

Emissions Boundary - (1 Jul 2008 - 30 Jun 2009)

**10.1 PLEASE INDICATE THE CATEGORY THAT DESCRIBES THE COMPANY, ENTITIES, OR GROUP FOR WHICH SCOPE 1 AND SCOPE 2 GHG EMISSIONS ARE REPORTED.**

Companies over which operational control is exercised

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

Yes

**10.3 PLEASE COMPLETE THE FOLLOWING TABLE.**

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

**Further Information**

Mirvac has a limited number of activities in overseas locations. Mirvac Hotels Pty Limited manages three hotels in New Zealand and Mirvac holds a 14% stake in a US-based Industrial Trust. In addition Mirvac holds 100 per cent of a property asset in Chicago. The emissions from these activities are not included in this report.

# METHODOLOGY - (1 JUL 2008 - 30 JUN 2009)

## 11.1A PLEASE GIVE THE NAME OF THE STANDARD, PROTOCOL OR METHODOLOGY YOU HAVE USED TO COLLECT ACTIVITY DATA AND CALCULATE SCOPE 1 AND SCOPE 2 EMISSIONS AND/OR DESCRIBE THE PROCEDURE YOU HAVE USED (IN THE TEXT BOX IN 11.1B BELOW).

**Please select the published methodologies that you use.**

Australia - National Greenhouse and Energy Reporting Act  
 Other: Energy Efficiency Opportunities Act 2006 (EEO)

## 11.1B PLEASE DESCRIBE THE PROCEDURE THAT YOU USE.

Mirvac collects and reports emissions in accordance with Australian legislation, including the National Greenhouse and Energy Reporting Act 2007 (NGER) and the Energy Efficiency Opportunities Act 2006 (EEO) (see links below).

<http://www.comlaw.gov.au/comlaw/management.nsf/lookupindexpagesbyid/IP200613907?OpenDocument>

<http://www.comlaw.gov.au/comlaw/management.nsf/lookupindexpagesbyid/IP200733347?OpenDocument&VIEW=compilations&COUNT=25&START=1>

The spirit and intent of these Acts align with the Greenhouse Gas Protocol developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) (<http://www.ghgprotocol.org>).

## 11.2 PLEASE ALSO PROVIDE THE NAMES OF AND LINKS TO ANY CALCULATION TOOLS USED.

**Please select the calculation tools used.**

NGER Calculator: Oscar Extension

GHG Protocol - GHG emissions from transport or mobile sources 2.0 June 2009

## 11.3 PLEASE GIVE THE GLOBAL WARMING POTENTIALS YOU HAVE APPLIED AND THEIR ORIGIN.

Gas	Reference	GWP
HFC-32	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	650
HFC-125	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	2800
HFC-134a	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	1300
HFE-143a	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	3800
R-404a (blend of HFC-125, HFC-134a, and HFC-143a)	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	3260
R-407c (blend of HFC-32, HFC-125, and HFC-134a)	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	1526
R-410a (blend of HFC-32 and HFC-125)	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	1725
R-507a (blend of HFC-125 and HFC 143-a):	The Australian Government of Climate Change National Greenhouse Accounts (NGA) Factors.	3300

## 11.4 PLEASE GIVE THE EMISSION FACTORS YOU HAVE APPLIED AND THEIR ORIGIN.

Fuel/Material	Emission Factor	Unit
Natural gas	0.05	metric tonnes CO2 per GJ
Wood or wood waste	0.02	Other: Tonnes CO2/KL
Other: Petrol combustion - stationary energy	2.30	Other: Tonnes CO2/KL
Other: Diesel combustion - stationary energy	2.68	Other: Tonnes CO2/KL
Other: LPG combustion - stationary energy	1.54	Other: Tonnes CO2/KL
Other: Petrol combustion - transport fuel	2.38	Other: Tonnes CO2/KL
Other: Diesel combustion - transport fuel	2.70	Other: Tonnes CO2/KL
Other: LPG combustion - transport fuel	1.60	Other: Tonnes CO2/KL

# EMISSIONS SCOPE 1 - (1 JUL 2008 - 30 JUN 2009)

## 12.1 PLEASE GIVE YOUR TOTAL GROSS GLOBAL SCOPE 1 GHG EMISSIONS IN METRIC TONNES OF CO2-E.

17053

## 12.2 IS QUESTION 12.2 RELEVANT TO YOUR COMPANY?

No

## 12.3 PLEASE EXPLAIN WHY NOT.

Report is contained to operations located within Australia.

## 12.4 WHERE IT WILL FACILITATE A BETTER UNDERSTANDING OF YOUR BUSINESS, PLEASE ALSO BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 1 EMISSIONS BY BUSINESS DIVISION. (ONLY DATA FOR THE CURRENT REPORTING YEAR REQUESTED.)

Business Division	Scope 1 Metric tonnes CO2-e
Mirvac Hotels Pty Ltd	3895
Mirvac Funds Limited	3554
Mirvac Funds Management Limited	2700
Mirvac REIT Management Limited	1814
National vehicle travel (all business units)	1377
Mirvac Queensland Pty Ltd	1098
Other: Diesel combustion - transport fuel	2.70
Other: LPG combustion - transport fuel	1.60
Mirvac PFA Limited	777
Mirvac Homes (NSW) Pty Ltd	649
Domaine Property Funds Limited	319
Mirvac Projects Pty Ltd	228
Mirvac Commercial Sub SPV Pty Ltd	155
Mirvac Retail Sub SPV Pty Ltd	136
Mirvac Victoria Pty Ltd	104
The Trustee for Mirvac Wholesale Residential Development Partnership Trust	69
Mirvac Constructions (WA) Pty Ltd	62
Mirvac Docklands Pty Ltd	50
Newington Homes Pty Ltd	29
Mirvac Pacific Pty Ltd	16
Mirvac Constructions (QLD) Pty Ltd	9
Mirvac George Street Pty Ltd	6
Mirvac Homes (WA) Pty Ltd	4
ICPS (Constructions) Pty Ltd	1
Mirvac Australian Super Pty Ltd	1

12.6 IS QUESTION 12.6 RELEVANT TO YOUR COMPANY?

No

12.7 PLEASE EXPLAIN WHY NOT.

Mirvac's systems for collecting greenhouse gas emissions-related data have been structured to report in tonnes of CO2 equivalent for our various emissions sources, and not by the original gases.

However, approximately 69% of scope 1 emissions are derived from natural gas, 24% from liquid fuels (including petrol, diesel, and LPG) and 7% from Hydrofluorocarbon refrigerants, which gives an indication of the source of greenhouse gases.

12.8 PLEASE GIVE THE TOTAL AMOUNT OF FUEL IN MWH THAT YOUR ORGANIZATION HAS CONSUMED DURING THE REPORTING YEAR.

80801

12.10 PLEASE COMPLETE THE TABLE BY BREAKING DOWN THE TOTAL FIGURE BY FUEL TYPE.

Fuels	MWh
Natural gas	63774.00
Motor gasoline	6205.00
Distillate fuel oil No 2	8849.00
Liquefied petroleum gas (LPG)	1912.00
Wood or wood waste	61.00

12.12 PLEASE ESTIMATE THE LEVEL OF UNCERTAINTY OF THE TOTAL GROSS GLOBAL SCOPE 1 FIGURE THAT YOU HAVE SUPPLIED IN ANSWER TO QUESTION 12.1 AND SPECIFY THE SOURCES OF UNCERTAINTY IN YOUR DATA GATHERING, HANDLING, AND CALCULATIONS.

Uncertainty Range	Main sources of uncertainty	Please expand on the uncertainty in your data
More than 2% but less than or equal to 5%	Metering/ Measurement Constraints	Data gathering from handling of bills/invoicing Estimated gas consumption data

**Further Information**

Electricity data are captured using computer monitored, real time smart meters for 61 out of 68 locations managed internally by Mirvac Asset Management (MAM) where MAM is responsible for electricity usage. This represents approximately 67% of Mirvac's total electricity consumption (total monitored electricity via smart meters is 198,732MWh versus total Mirvac electricity consumption of 295,477MWh). Smart meters for natural gas have been installed at 26 out of 34 MAM-managed assets where natural gas is connected, representing approximately 62% of total gas use (total monitored natural gas via smart meters is 39,426GJ versus total natural gas consumption across Mirvac of 63,744GJ. Data from the remaining assets without smart meters, including all construction sites and externally managed assets, and from other emissions sources such as on-site fuel use and refrigerants, 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. Additionally, natural gas data accuracy has proven problematic, in that our natural gas providers rely heavily on estimated consumption figures when direct measurement is not available. Mirvac is working with providers to use direct measurement as the first priority, and measurement by Mirvac as the second priority. Estimation is only used failing these first two options. Smart 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. The accuracy of other emissions sources included in this report has not been calculated. 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.

## EMISSIONS SCOPE 2 - (1 JUL 2008 - 30 JUN 2009)

### 13.1 PLEASE GIVE YOUR TOTAL GROSS GLOBAL SCOPE 2 GHG EMISSIONS IN METRIC TONNES OF CO2-E.

280697

### 13.2 IS QUESTION 13.2 RELEVANT TO YOUR COMPANY?

No

### 13.3 PLEASE EXPLAIN WHY NOT.

Report is contained to operations located within Australia

### 13.4 WHERE IT WILL FACILITATE A BETTER UNDERSTANDING OF YOUR BUSINESS, PLEASE ALSO BREAK DOWN YOUR TOTAL GROSS GLOBAL SCOPE 2 EMISSIONS BY BUSINESS DIVISION. (ONLY DATA FOR THE CURRENT REPORTING YEAR REQUESTED.)

Business division name	Metric tonnes CO2-e
Mirvac Funds Limited	72972
Mirvac Hotels Pty Ltd	58195
Mirvac REIT Management Limited	43022
Mirvac Funds Management Limited	41788
Mirvac Retail Sub SPV Pty Ltd	24065
Mirvac PFA Limited	21450
Domaine Property Funds Limited	9965
Mirvac George Street Pty Ltd	1812
Mirvac Constructions (WA) Pty Ltd	1773
Mirvac Projects Pty Ltd	1360
Mirvac Homes (WA) Pty Ltd	1076
Mirvac Victoria Pty Ltd	921
Mirvac Queensland Pty Ltd	788
Mirvac Commercial Sub SPV Pty Ltd	685
Mirvac Homes (NSW) Pty Ltd	305
Mirvac Australian Super Pty Ltd	293
The Trustee for Mirvac Wholesale Residential Development Partnership Trust	87
Mirvac Pacific Pty Ltd	53
Mirvac Docklands Pty Ltd	34
ICPS (Constructions) Pty Ltd	16
Mirvac Hone Builders (VIC) Pty Ltd	13
Newington Homes Pty Ltd	10
Mirvac Constructions (QLD) Pty Ltd	9
ICPS (Queensland) Pty Ltd	5
197 Salmon Street Pty Ltd	0



13.6 IS QUESTION 13.6 RELEVANT TO YOUR COMPANY?

Yes

13.6 HOW MUCH ELECTRICITY, HEAT, STEAM, AND COOLING IN MWH HAS YOUR ORGANIZATION PURCHASED FOR ITS OWN CONSUMPTION DURING THE REPORTING YEAR?

Please supply data for these energy types

MWh

Electricity

295477

13.8 PLEASE ESTIMATE THE LEVEL OF UNCERTAINTY OF THE TOTAL GROSS GLOBAL SCOPE 2 FIGURE THAT YOU HAVE SUPPLIED IN ANSWER TO QUESTION 13.1 AND SPECIFY THE SOURCES OF UNCERTAINTY IN YOUR DATA GATHERING, HANDLING, AND CALCULATIONS.

Uncertainty range

Main sources of uncertainty in your data

More than 2% but less than or equal to 5%

Metering/ Measurement Constraints

Further Information

Electricity data are captured using computer monitored, real time smart meters for 61 out of 68 locations managed internally by Mirvac Asset Management (MAM) where MAM is responsible for electricity usage. This represents approximately 67% of Mirvac's total electricity consumption (total monitored electricity via smart meters is 198,732MWh versus total Mirvac electricity consumption of 295,477MWh). Smart meters for natural gas have been installed at 26 out of 34 MAM-managed assets where natural gas is connected, representing approximately 62% of total gas use (total monitored natural gas via smart meters is 39,426GJ versus total natural gas consumption across Mirvac of 63,744GJ). Data from the remaining assets without smart meters, including all construction sites and externally managed assets, and from other emissions sources such as on-site fuel use and refrigerants, 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. Additionally, 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 be used failing these first two options. 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. The accuracy of other emissions sources included in this report has not been calculated. Mirvac has begun using a specialised database to hold and interrogate emissions data, which reduces error once data have been input, 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.

## EMISSIONS SCOPE 2 CONTRACTUAL

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14.1 DO YOU CONSIDER THAT THE GRID AVERAGE FACTORS USED TO REPORT SCOPE 2 EMISSIONS IN QUESTION 13 REFLECT THE CONTRACTUAL ARRANGEMENTS YOU HAVE WITH ELECTRICITY SUPPLIERS?

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Yes

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14.4 HAS YOUR ORGANIZATION RETIRED ANY CERTIFICATES, E.G. RENEWABLE ENERGY CERTIFICATES, ASSOCIATED WITH ZERO OR LOW CARBON ELECTRICITY WITHIN THE REPORTING YEAR OR HAS THIS BEEN DONE ON YOUR BEHALF?

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No

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# EMISSIONS SCOPE 3

15.1 IS QUESTION 15.1 RELEVANT TO YOUR COMPANY?

Yes

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

Sources of Scope 3 emissions	Metric tonnes of CO2-e	Methodology	If you cannot provide a figure for a relevant source of Scope 3
Purchased goods & services - direct supplier emissions	42612		
Business travel	635		
Waste generated in operations	32242		

## EMISSIONS 7

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

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Yes

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### 16.2 PLEASE PROVIDE DETAILS INCLUDING THE ANTICIPATED TIMESCALE OVER WHICH THE EMISSIONS ARE AVOIDED, IN WHICH SECTOR OF THE ECONOMY THEY MIGHT HELP TO AVOID EMISSIONS AND THEIR POTENTIAL TO AVOID EMISSIONS.

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Yes, Mirvac is avoiding and reducing GHG emissions of third parties such as tenants and other occupants across its property portfolio because it is building and operating more energy efficient and greener buildings. These benefits will occur over decades as buildings are long term assets, and reduction is built by design so is an effective method of GHG reductions.

Mirvac commitments include achieving 5 star Green Star and 5 star NABERS Energy ratings on newly constructed office buildings, and pursuing an average 3 star NABERS Energy rating across selected office assets within the portfolio.

The level of focus on energy performance across Mirvac's portfolio particularly at the Executive level has assisted in identifying numerous opportunities including many 'quick wins', and substantially improved decision making on energy and climate change issues.

Since the commencement of energy efficiency legislation in July 2006 Mirvac has identified and implemented 16,866GJ of energy savings projects, which is anticipated to save \$843,300 per annum.

Under the Green Building Fund, Mirvac has been granted \$2,420,520 on a dollar for dollar basis for six buildings, towards energy efficiency upgrade projects across Australia. The outcome of this grant funding is improved financial return for building upgrade projects, and reduced operating costs.

The avoidance of emissions and associated savings related to the above activities are divided between third party tenants and Mirvac.

In addition, Mirvac's internal design capability means that sustainability including energy efficiency is a core component of the design process, which is inherited by third party tenants and other stakeholders that occupy the finished form.

Examples of where these design services enable GHG emissions to be avoided by a third party include:

- The upgrade of 101 Miller Street, North Sydney, NSW, a "flagship" premium grade office building. The transformation included a state of the art tri-generation system, dramatically reducing greenhouse gas emissions and delivering a 5 star rating under the National Australian Built Environment Rating System ("NABERS"), while providing a more secure and low cost source of energy for tenants.
- The Mirvac designed Bond University Mirvac School of Sustainable Development building, QLD, a 6 star Green Star (Education Pilot) rated building received the prestigious international Award for Sustainability from the Royal Institution of Chartered Surveyors ("RICS") in 2009.
- Mirvac commitments to the achievement of 5 star Green Star and 5 star NABERS Energy ratings on newly constructed office buildings, and pursuing an average 3 star NABERS Energy rating across selected office assets within the portfolio.

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### 17.1 IS QUESTION 17.1 RELEVANT TO YOUR COMPANY?

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No

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### 17.2 PLEASE EXPLAIN WHY NOT.

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This is zero as Mirvac does not use biomass or biofuels

# EMISSIONS 8

## 18.1A PLEASE DESCRIBE A FINANCIAL INTENSITY MEASUREMENT FOR THE REPORTING YEAR FOR YOUR GROSS COMBINED SCOPE 1 AND SCOPE 2 EMISSIONS.

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

Figure for Scope 1 and Scope 2 emissions	GHG units	Multiple of currency unit	Currency unit	Financial intensity metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
845.00	Metric tonnes CO <sub>2</sub> -e	Million	AUD (\$)	EBITDA	Mirvac has derived an emissions intensity measurement based on tCO <sub>2</sub> -e (scope 1 and 2) per million dollars of earnings before interest, tax, depreciation and amortisation (EBITDA). For this extrapolation, Mirvac calculated EBITDA as \$352.2m (2008/2009 fin. year) in accordance with Australian International Reporting Standards (AIFRS) methodology. Calculating EBITDA in accordance with operating reporting practices (which exclude non-cash items such as asset impairment) would result in a higher EBITDA, and hence a lower ratio of tCO <sub>2</sub> -e/\$m EBITDA and for this reason was not utilised. The resulting figure derived from the calculation is 845tonnes CO <sub>2</sub> -e/\$m EBITDA

## 18.1B PLEASE DESCRIBE AN ACTIVITY-RELATED INTENSITY MEASUREMENT FOR THE REPORTING YEAR FOR YOUR GROSS COMBINED SCOPE 1 AND SCOPE 2 EMISSIONS.

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

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

Figure for Scope 1 and Scope 2 emissions	GHG units	Activity-related metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
		not relevant	

## 19.1 DO THE ABSOLUTE EMISSIONS (SCOPE 1 AND SCOPE 2 COMBINED) FOR THE REPORTING YEAR VARY SIGNIFICANTLY COMPARED TO THE PREVIOUS YEAR?

No

## 20.1A PLEASE COMPLETE THE FOLLOWING TABLE INDICATING THE PERCENTAGE OF REPORTED EMISSIONS THAT HAVE BEEN VERIFIED/ASSURED AND ATTACH THE RELEVANT STATEMENT.

Scope 1 (Q12.1)	Scope 2 (Q13.1)	Scope 3 (Q15.1)
Not verified	Not verified	Not verified

## EMISSIONS 9 TRADING

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### 21.1 DO YOU PARTICIPATE IN ANY EMISSION TRADING SCHEMES?

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

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

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No

## CLIMATE CHANGE COMMUNICATIONS

22.1 HAVE YOU PUBLISHED INFORMATION ABOUT YOUR COMPANY'S RESPONSE TO CLIMATE CHANGE/GHG EMISSIONS IN OTHER PLACES THAN IN YOUR CDP RESPONSE?

Yes

22.2 IN YOUR ANNUAL REPORTS OR OTHER MAINSTREAM FILING?  
(IF SO, PLEASE ATTACH YOUR LATEST PUBLICATION(S).)

Yes

22.3 THROUGH VOLUNTARY COMMUNICATIONS SUCH AS CSR REPORTS?  
(IF SO, PLEASE ATTACH YOUR LATEST PUBLICATION(S).)

Yes

### Further Information

FY09 Annual Review [http://media.corporate-ir.net/media\\_files/irol/14/144042/mirvacreview.pdf](http://media.corporate-ir.net/media_files/irol/14/144042/mirvacreview.pdf) FY09 Energy Efficiency Opportunities Report <http://mirvac-group.assets3.blockshome.com/assets/RJjYwxGmJz1eQoz/mirvac-limited-eeo-public-report-2009-final.pdf> FY09 Sustainability Report <http://mirvac-group.assets0.blockshome.com/assets/kDk03nMoAf058dD/mirvac-group-cr-s-report-2009.pdf>

### Attachments

[https://www.cdproject.net/Sites/2010/95/12095/Investor CDP 2010/Shared Documents/Attachments/InvestorCDP2010/Communications/mirvac-limited-eeo-public-report-2009-final.pdf](https://www.cdproject.net/Sites/2010/95/12095/Investor%20CDP%202010/Shared%20Documents/Attachments/InvestorCDP2010/Communications/mirvac-limited-eeo-public-report-2009-final.pdf)

[https://www.cdproject.net/Sites/2010/95/12095/Investor CDP 2010/Shared Documents/Attachments/InvestorCDP2010/Communications/mirvac-group-cr-s-report-2009.pdf](https://www.cdproject.net/Sites/2010/95/12095/Investor%20CDP%202010/Shared%20Documents/Attachments/InvestorCDP2010/Communications/mirvac-group-cr-s-report-2009.pdf)