







INTRODUCTION



Since launching our sustainability strategy, <u>This Changes</u> <u>Everything</u>, in 2014, Mirvac has continued to evolve our approach to reducing emissions and building climate resilience.

We have set significant targets and standards, and mobilised our organisation to move swiftly to develop and manage increasingly climate positive assets. This last year has been a significant milestone for us in several ways.

In 2021, Mirvac's ambitious plan to become net positive in carbon was met nine years ahead of schedule, making us the first Australian property company to reach a net positive carbon emissions target. We are proud of this achievement, particularly in the context of an evolving climate crisis that continues to become more immediate and concerning.

Having made good progress, this report details the ways in which Mirvac has been addressing climate related risks and opportunities, in line with the requirements set out by the <u>Taskforce for Climate-related Financial Disclosures</u>. It represents the delivery of an important phase of work, and sets out our plans for the next phase ahead.

NEW CLIMATE SCIENCE CONFIRMS THE HARSH REALITIES OF GLOBAL WARMING.

Over the last 12 months, the United Nations' Intergovernmental Panel on Climate Change (IPCC) has published its <u>sixth assessment reports (AR6)</u>, which will form the cornerstone of climate science for the years ahead. The reports conclude that it is "unequivocal" that humans have warmed the planet, causing "widespread and rapid" changes to Earth's oceans, ice and land surface. They also warn that the present state of many parts of the climate system is "unprecedented over many centuries to many thousands of years".

"We're already experiencing climate change, including more frequent and more extreme weather events," states IPCC author Prof Ed Hawkins of the University of Reading. "The consequences will continue to get worse for every bit of warming, and for many of these consequences, there's no going back."

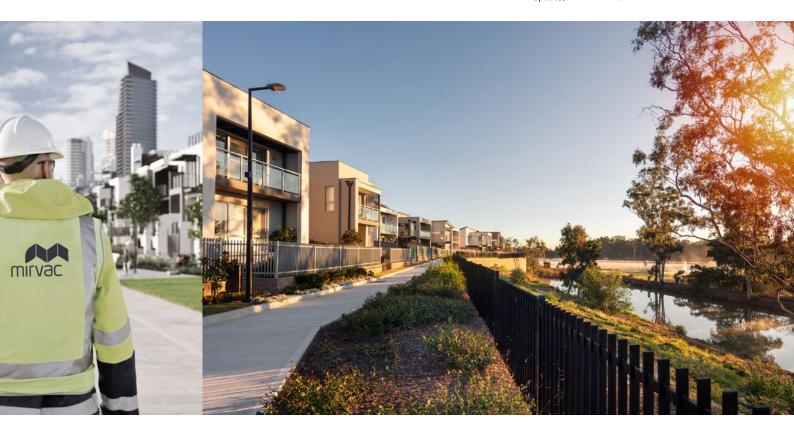
According to the AR6 reports, global surface temperatures have already increased by 1.07 degrees Celsius, and the impacts have been evident across Australia and globally. Over the last year, Australia has experienced record heatwaves, unprecedented thunderstorms, torrential rain and devastating floods – and CSIRO projections suggest such extreme weather events will only worsen in future.

"We're already experiencing climate change, including more frequent and more extreme weather events,"

IPCC author Prof Ed Hawkins of the University of Reading.







A NET ZERO APPROACH IS PROVEN TO WORK, BUT NEW FACTORS NEED TO BE CONSIDERED.

Despite the alarming findings of the AR6 reports, the news isn't all bad. The reports also show, scientifically and robustly, that nearterm emission cuts are effective in stabilising or even reducing surface temperatures.

Following the COP26 summit, held in Glasgow in December 2021, Australia joined over 100 nations in committing to a number of climate initiatives, including reaching net zero carbon emissions by 2050, which has been subsequently updated by the incoming government to a 43 per cent cut to emissions by 2030. While these are steps in the right direction, the AR6 reports suggest that more needs to be done.

When modelling potential future scenarios, the AR6 reports have added greater depth to projections in the form of Shared Socioeconomic Pathways (SSPs).

Built by an international team of climate scientists, economists and energy systems modellers, the SSPs examine how global society, demographics and economics might change over the next century. They outline five pathways that the world could take - the main differences being their assumptions on global population growth, access to education, urbanisation, economic growth, resources availability, technology developments and drivers of demand, such as lifestyle changes.

By offering a broader view of a 'business as usual' world without future climate policy, the SSPs have also been instrumental in how we have reviewed Mirvac's approach to scenario planning, and considered the interdependencies that could impact our business.



FOLLOWING THE COP26 SUMMIT

Australia joined over 100 nations in committing to a number of climate initiatives, including reaching net zero carbon emissions by 2050.

BUILDING CLIMATE RESILIENCE WITHIN ORGANISATIONS HAS NEVER BEEN MORE CRITICAL.

As a member of the <u>Investor Group on Climate</u> Change (IGCC) and the Climate Leaders Coalition, Mirvac has an immediate awareness of intensifying stakeholder expectations around building climate resilience into business planning.

From employees, to customers, communities and securityholders, we are seeing increased interest in climate responsibility. Securityholders are increasingly scrutinising whether the companies they invest in have the capacity to transition to net zero emissions by 2050 - and many listed companies, particularly those in carbon-intensive sectors, are being asked to prepare detailed climate transition plans.

We are pleased to release this report, the fourth of its kind, providing a clear and transparent update on the progress that has been achieved by Mirvac to date, and our plans moving forward.

GOVERNANCE

BOARD OVERSIGHT

When it comes to setting the strategic direction for how Mirvac manages operational, strategic, and emerging risks – including those relating to climate change – responsibility lies with Mirvac's Board of Directors. This is done with the support of Mirvac's Audit Risk and Compliance Committee (ARCC), which makes recommendations to the Board based on their quarterly reviews of risk management reports. The Board is also responsible for approving the Mirvac Group Risk Management Framework including risk appetite.

Climate-related risks and opportunities are one of Mirvac's key risks and are addressed via Mirvac's sustainability strategy, *This Changes Everything*, which continues to focus on climate change resilience and the decarbonisation of our new assets and portfolio, as well as vulnerable people who will potentially be more impacted by a changing climate. The Board oversees the implementation of this sustainability strategy by the Executive Leadership Team (ELT) and is responsible for approving sustainability targets and monitoring progress against those targets.

While Mirvac's Board and senior management are already equipped with the skills and experience to effectively oversee climate change impacts on our business, we are also committed to continually developing their climate capacity. In early 2022, the Board participated in an immersive four-day education tour, focusing on how people will live, work and play in the longer-term future. The program included sessions on environmental, social and governance issues as well as the role of digital technology and innovation in these areas. In addition, Mirvac arranges for a delegation of directors, executives and managers to take part in the University of Cambridge sustainability leadership programs on an annual basis 1 - and a Mirvac director is a member of the program's faculty.

In 2021, Mirvac established a Health, Safety, Environment & Sustainability (HSE&S) Board Committee, bringing extra attention and support to these critical areas. The role of the HSE&S Board Committee is to oversee relevant strategies, systems, policies and practices, including those relating to climate change. Since it was established, the HSE&S Board Committee has held several meetings on Mirvac project sites, enabling its members to experience how sustainability issues are managed first-hand.



THE ROLE OF MANAGEMENT

Once approved by the Board, the ELT plays a crucial role in delivering both Mirvac's sustainability strategy and risk management framework. Identifying material sustainability risks, including those related to climate, forms part of their responsibility, as well as developing plans to mitigate or manage these risks. Individual ELT members also have specific responsibilities relating to Mirvac's sustainability performance, including objectives relating to climate-related risks, opportunities and responsibilities.

Supporting the ELT is the HSE&S Management Committee, which is made up of senior managers from across the business, and chaired by Mirvac's Head of Culture & Capability. This committee meets quarterly to discuss progress on HSE&S matters, including climate issues, reporting back after each meeting to the ELT, HSE&S Board Committee, and Board with updates and recommendations.

This committee is also responsible for assessing how each business unit is tracking against their sustainability targets. Targets are negotiated and agreed each year and are designed to assign accountability across the organisation for our highest priority ESG goals.

Progress is measured via this ESG scorecard, which enable business units to demonstrate how they are delivering the sustainability strategy, including climate resilience, in a clear and measurable way.

In addition to the HSE&S Committee, the ELT meets quarterly to discuss Mirvac's key risks - which include climate-related risks. Mirvac's Group General Manager Risk & Internal Audit leads this process.

Mirvac's management approach makes sustainability, including delivering on climate-related targets, a key part of each employee's responsibilities. By integrating sustainability into employees' short-term incentive calculations, Mirvac recognises and rewards every person in the business for playing their part. Our target is to achieve at least 80 per cent of specified goals each year, and in FY22 we exceeded this to achieve a 96 per cent performance.





STRATEGY

Mirvac has embedded sustainability, including climate resilience, into our overall business strategy.

In 2014, we set an ambitious target to be net positive in scope 1 and 2 carbon emissions by 2030 – and in 2021, we achieved this nine years ahead of schedule. Our strategy for achieving this target was anchored by four overarching principles, which are outlined below, together with our material achievements over the last 12 months.

CONTINUING TO MAXIMISE ENERGY EFFICIENCY ACROSS OUR ASSETS.

Mirvac continues to focus on energy efficiency as a priority, reducing emissions and minimising our impact. Our view is that the cheapest kWh is the one we don't use, and the most sustainable tonne of carbon is the one we don't emit. And, as an integrated business, we're in a unique position to design, build and operate highly energy-efficient buildings across our commercial portfolio. We've found many ways to reduce a building's energy demand and consumption, including energy efficient technology, passive design, high performance façades and better insulation.

Our in-house team of sustainability experts also works to continuously improve building performance, monitoring energy use extensively through sub metering, analytics and a diagnostic platform. This helps our sustainability engineers and facility managers to scrutinise energy performance and identify and rectify any system anomalies.

Importantly, this work delivers significant commercial value for Mirvac without high unplanned expenditure. Benefits include energy cost savings to our tenants, a portfolio that's growing in value and is increasingly attractive to customers, and a continuously improving ability to learn from our portfolio and incorporate lessons learned into our pipeline. You can find a case study illustrating this value on pages 7 and 8.

Overall, our portfolio boasts eighteen assets that are 5 star NABERS energy or above, four 6 star Green Star Performance rated buildings and seven assets with a 6 Star Green Star Design & As Built rating.



Our Portfolio

boasts 18 assets that are 5 Star NABERS energy or above





Heritage Lanes at 80 Ann Street, Brisbane

2. BUILDING ALL-ELECTRIC BUILDINGS.

Mirvac is proud to have implemented a set of minimum design standards for our Integrated Investment Portfolio. Since FY22, we have required all new developments to be 100 per cent electric – that is, no gas use for base building services.

At our recently completed Heritage Lanes project at 80 Ann Street in Brisbane for example, we amended the design of the domestic hot water system from gas to electric, enabling the base building services to be 100 per cent electric. Similarly, at our upcoming development at 55 Pitt Street in Sydney, we've specified electric hot water and heating which ensures the base building is 100 per cent electric.

And while removing fossil fuels from our existing portfolio presents a greater challenge (as we need to work within physical limitations and the constraints of plant and equipment), we continue to make steady progress. We have deactivated the cogeneration systems at 699 Bourke Street, East Village Retail Centre, and 101 Miller Street and in 2022, we expect to deactivate the cogeneration and trigeneration systems at 10-20 Bond Street, 275 Kent Street, and 8 Chifley Square.

Exceeding our own design standards is an ongoing pursuit. One example is our commercial asset at 55 Pitt Street, where we are aiming to attract tenants committed to 100% renewable energy.





3. SUPPLYING THESE BUILDINGS WITH 100 PER CENT RENEWABLE ENERGY.

100 per cent of energy supplied to our assets under management is now renewable electricity, achieved through onsite solar and Renewable Energy Supply Agreements. At the vast majority of our assets, we buy electricity from renewable generators owned by our energy retailers - this means that we can identify the renewable generators that supply our power.

4. INVESTING IN A SMALL AMOUNT OF HIGH-QUALITY NATURE-BASED OFFSETS, PRIORITISING THOSE WHERE WE CAN AFFECT BOTH **ENVIRONMENTAL AND SOCIAL** BENEFITS.

As a final step, and only after the substantive work to eliminate emissions, we also invest in offsets. In FY22, having done in-depth due diligence, Mirvac purchased 7,225 offsets to mitigate the carbon liability from Mirvac's scope 1 emissions.

These were purchased through Greenfleet, an Australian not-for-profit organisation that has over 23 years of experience in establishing and maintaining native biodiverse forests. The offsets are located at the Noosa Hinterland project in Queensland, a site that has an Indigenous Land Use Agreement in place between the Kabi Kabi Peoples Aboriginal Corporation and Greenfleet. Through this offset purchase, we are not only regenerating biodiverse native forest and critical wildlife habitat, but support Indigenous reconnection with Country. The overall project will restore 1,100 hectares of native forest, delivering carbon sequestration and significant cultural and social benefits for the Kabi Kabi First Nations people, who are the Traditional Owners.

"Being reconnected with Country makes you strong. You can reconnect with Country and be a part of the environment. It's like medicine. It makes you feel stronger."

Kerry Jones, Kabi Kabi

Kabi Kabi are the Traditional Owners of the Sunshine Coast region in QLD, on which the Yurol Ringtail forests stand - Noosa Restoration project.

NOW WE HAVE ACHIEVED NET POSITIVE CARBON, WHAT IS NEXT?

This report marks the start of a new cycle, as we look to our next big targets: achieving net positive water and zero waste to landfill by 2030, as well as a focus on prioritising scope 3 emissions reduction.

Having done the work to accelerate substantial emissions reductions in scope 1 and 2, offsetting only a small remaining amount, we're now using this experience to assist with prioritising and reducing our scope 3 emissions in partnership with suppliers and customers

The new IPCC AR6 reports released this year have influenced our approach, and given way to updated scenario modelling focused on the interdependencies surrounding climate change. We are acutely aware of the contextual forces that demand rapid decarbonisation and require Mirvac's response to be deeply considered. By carefully examining the 'uncertainties' that lie ahead, we are continuing to build strategic resilience within our business to adapt and respond to a range of possible climate scenarios.

WHY OFFSETS CAN BE A WIN-WIN.

We see significant co-benefits of high quality nature-based offsets aligned with our commitment to both reconciliation and helping to create a strong sense of belonging.

Offsets still represent a very small proportion of Mirvac's emissions reduction activities (approximately 7-8 per cent), and all are verified through recognised carbon offset mechanisms.



Greenfleet's Noosa Restoration & Reconciliation Project Photo Credit: Noosa Landcare

CASE STUDY

Using less energy saves cost and increases asset valuations. It helps us to future proof our portfolio and ensure its ongoing attractiveness to our customers. We conducted an analysis of the value of energy and water efficiency in our office assets.





OUR SCOPE - BASE YEAR TO FY19

We used FY13 or the first, full year the asset came under operational control as our base year. We then took a conservative approach to determine the time period for calculations. That is, we only calculated electricity, gas and water outputs up to FY19, rather than including later data, to avoid results being skewed favourably by COVID-19 restrictions. During this period, we have increased the amenities available at our assets and managed a growing portfolio.

OUR COMPETITIVE ADVANTAGE

Our in house capability allows us to apply a continuous learning cycle to each new asset, ensuring that the benefits we gain from any one asset are extended across the portfolio. This is an area where knowledge, action and experience intersect. Our team understands the assets over time through night audits, daily reviews of electricity, water and gas data, and systematic metering.

This gives us the ability to quickly diagnose issues such as water leaks, rectify any issues quickly, and time capital expenditure with ongoing works. Our ability to implement these learnings into all our future projects sets us apart.

Maintained a low

Average spend on maintenance capex at less than

of asset value 2

THE VALUE OF EFFICIENCY

We found that these efforts saved us \$2.4 million annually and increased the portfolio valuation by \$43 million over the period, while maintaining a low average spend on maintenance capital expenditure of less than 0.5 per cent of asset value.

OFFICE EFFICIENCY

EFFICIENCY IMPROVEMENTS	BASE YEAR	FY19	EFFICIENCY IMPROVEMENT
Electricity (kWh)	37,363,000	28,578,000	8,785,000
Gas (GJ)	55,000	49,000	6,000
Water (KI)	362,000	288,000	74,000

ASSET EXAMPLE - EFFICIENCY IMPROVEMENTS AT 10-20 BOND STREET, SYDNEY

EFFICIENCY IMPROVEMENTS	BASE YEAR	FY19	EFFICIENCY IMPROVEMENT
Electricity (kWh)	3,406,000	2,033,000	1,373,000
Gas (GJ)	4,000	2,000	2,000
Water (KI)	40,000	22,000	18,000

This delivered an annual cost saving of \$400,000 and a valuation uplift of \$8 million.

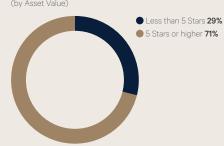
NABERS RATINGS¹

During this period, we have improved our NABERS Energy ratings of 5 Stars (or above) from 31% of our total asset value in FY13 to 71% in FY19.

FY13 NABERS ENERGY RATINGS

Less than 5 Stars 69% ● 5 Stars or higher **31%**

FY19 NABERS ENERGY RATINGS



- 1. NABERs ratings, as reported in the Property Compendium for the corresponding year. Valuation is at Mirvac ownership level. Assets held for development, and assets with a future development strategy, have been excluded
- 2. See our methodology on page 8 for how we calculated annual savings, valuation uplift and average spend on maintenance capital expenditure





OUR METHODOLOGY

- Emissions and water data have achieved limited assurance since FY14 and FY15, respectively. Efficiency figures have not been adjusted for ownership to maintain consistency with the NGERs framework. Assets which have undergone significant upgrades, where no like for like efficiency comparison could be reached, are excluded from the calculation.
- Savings are calculated as the FY19 average utility rate multiplied by the change in usage of electricity, water, or gas from the base year. The FY19 electricity, gas and water rates applied to calculate saving were invoiced figures for individual assets where available, or a blended average for the location, where they were not.
- Valuation uplift is calculated as the savings result divided by the asset capitalisation rate as reported at 30 June, 2019.
- Maintenance capital expenditure is calculated by dividing the maintenance capital expenditure in a given financial year, by the total value of Office assets, excluding Investment Property Under Construction, based on Mirvac's ownership. The average between FY13 and FY19 was assessed.

ASSET EXAMPLE: EFFICIENCY IMPROVEMENTS AT 367 COLLINS STREET, MELBOURNE

EFFICIENCY IMPROVEMENTS	BASE YEAR	FY19	EFFICIENCY IMPROVEMENT
Electricity (kWh)	3,617,000	2,597,000	1,020,000
Gas (GJ)	9,000	5,000	4,000
Water (KI)	20,000	19,000	1,000

It's not just at new assets we've applied this process and realised value for Mirvac. 367 Collins Street was purchased by Mirvac in FY14. At the time it had a NABERS energy rating of 3.0 stars. We've achieved significant reductions in electricity, gas and water use since acquisition which has resulted in ongoing, annual savings of \$258k. This equates to \$4.8M of valuation uplift.

In FY19 (pre-COVID-19), 367 Collins Street achieved a NABERS energy rating of 4.0 stars as a result of our sustainability team's efforts, including reducing electricity use in the base building by over 1 million kWh a year.



367 Collins Street



savings





RISKS & OPPORTUNITIES

Based on our disclosed climate-related strategic planning, we have identified a number of physical and transition risks that we may face as a result of climate change. When considering these risks, we have applied the Representative Concentration Pathways (RCPs) that were adopted by the IPCC in reporting prior to the release of AR6.

Our transition risks are informed by RCP2.6 - effectively the 'best case scenario' where global warming can be kept below 2 degrees Celsius by the end of the century, compared to pre-industrial temperatures. When determining our physical risks, we have adopted RCP8.5, the 'worst case scenario' with global warming expected to exceed 4 degrees Celsius by the end of the century. In combination, this means that we are preparing our business responsibly for a range of potential eventualities.

Our short, medium and long-term timelines align with our business planning and capital allocation plans (short-term: 1-2 years; medium-term: 5 years; long-term: 10+ years).

TRANSITION RISKS

Transition risks relate to the potential impacts on Mirvac as the business adapts to climate change – such as the expense of adopting new technology or insurances to cover severe weather events, and impacts associated with changes in government policy and regulations, including a future price on carbon. Mirvac aims to identify transition risks early, and in doing so, is better positioned to develop strategies to respond by integrating necessary controls into our risk management system. The transition risks identified through our early strategic work are set out below, along with progress made in response.

RISK	TIMELINE	MITGATION/OPPORTUNITY		
POLICY				
There are typically two types of climate policy actions: those that address the adverse effects of climate change, and those that seek to promote adaptation to climate change. Potential policy changes may include the introduction of carbon pricing policies, or greater stringency around natural resource legislation. For Mirvac, policy changes such as these could lead to an increase in operating costs, although this depends on the nature and timing of the change.	Medium to long-term	In 2021, Mirvac achieved our target to be net positive (scope 1 and carbon nine years ahead of our 2030 target. This puts us well ahe of the commitments made by the Australian Government in relation to the Paris Agreement. Reducing our emissions also helps reduce the risk that Mirvac will be heavily impacted by potential legislation or policy requirements. In addition, Mirvac has a Responsible Investment Policy that guides our approach to managing climate risks and opportunities – and in the last 12 months, we have started to consider carbon pricing as part of our scenario planning to assign evaluating potential business impacts.		
LEGAL				
impact of climate change, or do not adequately disclose the climate risks they face, they could face increased risk of litigation for any climate related damages. Impact of climate change, or do not adequately long-term performance assets. Within to explore new ways to low efficient appliances or according to efficient appliances or according to the efficiency plant at likely to be a lower risk for		Mirvac's revenue is increasingly drawn from low-carbon, high- performance assets. Within our residential business, we continue to explore new ways to lower emissions, such as through energy efficient appliances or access to renewable energy generation and high efficiency plant and equipment. As a result, litigation is likely to be a lower risk for us compared to other, more energy and resource-intensive companies.		
TECHNOLOGY				
When assessing technology risk, the timing of technology development and deployment remains a key uncertainty. For Mirvac, the cost and unproven nature of integrating new technology into assets could present a challenge, particularly within development timeframes.	Medium to long-term	Mirvac is already using a range of technologies including smart metering, battery storage and renewable energy. Thanks to recent changes in rating tools, electrification technology (such as heat pumps and thermal energy storage) is becoming far more viable. Through smart technology, Mirvac's capability to gather and utilise data is becoming stronger.		
		We are attentive to lower carbon materials and will be looking to consider them more in cost planning and development as low carbon emission technology evolves in materials we use.		





RISK TIMELINE MITGATION/OPPORTUNITY

MARKET

The importance of ESG continues to be amplified, with investors and markets increasingly redirecting capital away from services that contribute to climate change. According to the IGCC, investors are expecting greater competency on climate issues from company Boards, and placing more focus on scope 3 liability. Global investment manager BlackRock, which has over US\$10 trillion¹ under management, has defined climate change as the biggest threat to markets – and the International Monetary Fund has also identified it as a major issue. Consumer demands are changing rapidly, posing a risk to supply and demand for certain products and services. Technology and ratings tools are also continuing to evolve, which could impact the way in which property assets are assessed and valued.

Short to long-term

Mirvac is committed to transparency on ESG performance, and aims to future-proof residential, commercial and industrial assets through improved energy and water performance (design and operational). Our office portfolio is young and high-performing, and for all new assets we target a minimum 5.5 star NABERS Energy rating, 5 star Green Star Buildings rating, and a 4.5 star NABERS Water rating. The evolution of these ratings tools has been significant for Mirvac in removing the barriers to electrification. We work closely with industry bodies to track how ratings tools are evolving to ensure our readiness to meet new expectations.

Mirvac continues to invest in renewable energy, on and off-site, reducing vulnerability to electricity price shocks. We have also achieved early alignment with our customers on the purchase of renewables, as more and more adopt 100 per cent renewable energy targets.

REPUTATION

With market expectations around climate resilience continuing to rise, it's critical for businesses such as Mirvac to take action, and to be visible in delivering on promises. For Mirvac, failing to achieve sustainability targets could certainly pose a risk to our reputation, as could a failure to ensure our assets are high-performing and future-proofed. Not only could these reputational risks affect Mirvac's ability to attract high quality capital partners and customers, they could make it harder for us to form and maintain partnerships with governments and communities, and attract and retain quality talent.

Short to long-term

Mirvac has taken a proactive, market-leading stance on sustainability since 2014, and we continue to demonstrate our commitment to reducing emissions and building climate resilience. Through transparent reporting and clear communication, we ensure our stakeholders' concerns are addressed, and their expectations are incorporated into our plans.

In 2021, Mirvac achieved our 2030 target of net positive carbon (scope 1 and 2) nine years ahead of schedule, enabling us to bring forward our plans to address scope 3 boundaries and targets next financial year. We have transparently set ambitious targets, backed them up with clear plans, and mobilised our organisation to accelerate and meet those plans.

Where we have embedded networks, we on-sell 100 per cent renewables to our customers in the Retail, Office and Build to Rent portfolios. This has enabled our customers to reduce CO2 emissions by 50,000 tonnes per annum. In March 2022, we also released Planet Positive Water, a roadmap that outlines how we will achieve net positive water well ahead of our 2030 target.

Moving forward, Mirvac will continue to be transparent in all our

Building Climate Resilience 2022



PHYSICAL RISKS

With approximately \$26 billion of assets under management, a \$12.4 billion commercial development pipeline, and \$17.3 billion in residential development, Mirvac may face a number of potential physical risks associated with climate change. These could affect both the construction and operation of our assets – for example, the impact of weather events on construction timelines, and the costs of keeping buildings comfortable for occupants in extreme heat. Applying RCP8.5, these risks have been outlined below, together with corresponding opportunities and mitigation strategies.

RISK	TIMELINE	MITGATION/OPPORTUNITY		
EXTREME TEMPERATURES				
Hot days and warm spells are on the rise in the locations where Mirvac operates (Sydney, Melbourne, Perth, Brisbane and Canberra) and according to Bureau of Meteorology (BOM) projections ¹ , Australia is expected to experience continued increases in	Short to long-term	Ongoing mitigation strategies within our investment portfolio include implementing energy efficiency initiatives (such as installing energy efficient lighting, equipment and HVAC) to assist in reducing energy loads, as well as retrofitting existing assets to improve thermal performance, whenever capital expenditure is justified.		
air temperatures, more heat extremes, and fewer cold extremes. Days over 35 degrees Celsius are expected to increase substantially, as well as the duration of hot spells – leading to an increased demand for air conditioning and ventilation. In turn,		Mirvac has also installed window films in several assets to improve glazing performance and enhance tenant amenity, and we have the opportunity to work with our tenants to establish optimal conditions during extreme temperature events.		
this will affect operational costs (energy consumption and maintenance) across our commercial portfolio, particularly in the summer months.		Our construction business continues to look for ways to increase our use of prefabricated construction methods to minimise exposure to external environmental impacts. Mirvac also has policies in place relating to heat-risk, and we continue to review and improve policies		
Mirvac also recognises the health and safety risks associated with hot days, particularly the higher risk of heat-related fatigue on construction sites.		relating to weather.		
EXTREME RAINFALL				
Heavy rainfall intensity is projected to increase (despite mean annual decline in some locations). This was evident in March of 2022, with Coastal New South Wales, including Sydney, experiencing the	Short to long-term	Within our investment portfolio, our building management teams proactively check and maintain building envelopes to improve resilience to extreme rain and hailstorms and, where appropriate, implement effective stormwater management strategies.		
wettest week for the region since records began in 1900 ² . Unprecedented floods caused devastation up the east coast, causing billions of dollars of damage to communities.		In our construction business, Mirvac mitigates the impact of heavy rainfall via flood defence measures, such as pumping equipment and backup generators, and ensuring effective stormwater management.		
		If in the worst case a site is inundated, it is shut down until work can be safely recommenced.		
		Other mitigation strategies that we employ include ensuring that cranes and other construction equipment are secured, considering plant and equipment installations and locations prior to installation, and having equipment to de-water the site.		
		An increasing focus on Design for Manufacture and Assembly methods allows the construction of building elements to continue in weather controlled environments, which reduces delays in program.		
ACCESS TO WATER				
Despite of the predicted increase in rainfall, time spent in drought is also projected to increase, with increasing variability in rain patterns. The BOM forecast ¹ for Australia in the coming decades is for	Short to medium-term	To mitigate the impact of reduced access to water in our commercial business, Mirvac will focus on continuing to improve water efficiency, developing alternative water supplies and finding ways to use recycled water.		

Within our development business, we will focus on designing and

for landscaping. At a precinct level, we also anticipate that greater

utilisation of rainwater and stormwater will help minimise external

Planet Positive Water, released this year, details the actions Mirvac

will take to reach net positive water by 2030.

environmental impacts.

building water efficient buildings and utilising drought tolerant plants

could impact project feasibilities, and affect both the construction and operation of Mirvac's assets. Insufficient water for power stations could also mean increased electricity costs.

Increased water restrictions and rising water costs

a continued decrease in cool season rainfall across

many regions of southern and eastern Australia, likely

leading to more time in drought, making Mirvac's net

positive water target even more relevant.

- $1. \quad http://www.bom.gov.au/state-of-the-climate/documents/State-of-the-Climate-2020.pdf \\$
- 2. http://www.bom.gov.au/climate/current/statements/scs74.pdf







RISK	TIMELINE	MITGATION/OPPORTUNITY

RISING SEA LEVELS

By 2030¹, global, mean sea levels are projected to rise by between 0.09 to 0.1m, compared to the baseline period of 1995-2014. For sites one metre or less above sea level, this could make development approvals difficult to obtain.

Other impacts of rising sea levels include the need to invest in flood prevention, flooding and damage to property, construction delays and cost increases, reduced land value and business interruption to customers.

Within our investment portfolio, mitigation strategies include reviewing the location of critical building infrastructure and investing in flood prevention infrastructure.

We regularly review how each asset in our portfolio contributes to Mirvac's overall group objectives and consider any relevant health safety and sustainability risks and opportunities.

BUSHFIRES

The devastating financial and social impact of bushfires was clearly demonstrated by the fires that ravaged Australia in 2019-2020. In addition to the monetary costs (rebuilding damaged property and increasing insurance premiums in bushfire-prone areas), bushfires can cause loss of life for both people and animals, as well as loss of ecosystems and biodiversity.

Short to long-term

Medium to

long-term

The primary risk bushfires present within our investment portfolio is the impact of smoke on the indoor environment quality. During the 2019/20 bushfires, our building management teams across the portfolio conducted an asset-by-asset investigation of opportunities and operational procedures to reduce smoke infiltration. Our teams also undertook a review of lobby egress pathways to maximise the use of automated doors as a means of reducing smoke infiltration into building entries.

In our construction business, our mitigation strategies include: employing best practice bushfire building codes, addressing risks through design and material selection, complying with bushfire zone requirements, and actively managing fire risk related to any development (for example, building appropriate fire breaks, reducing bushfire fuel loads around construction sites, and working with Rural Fire Services).

^{1.} https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter09.pdf pg 1302

IMPACTS ON BUSINESS, STRATEGY AND FINANCIAL PLANNING

The release of the IPCC's sixth assessment reports (AR6) has been significant in informing Mirvac's evolving approach to identifying, assessing and managing the impacts of climate change. By narrowing the range of equilibrium climate sensitivity, the AR6 reports provide more confident projections about future global warming, and the urgency of required action. The reports underline that preventing further global warming will require us to globally reach net zero CO2 emissions by 2050 and to reduce remaining emissions by removing CO2 from the air.

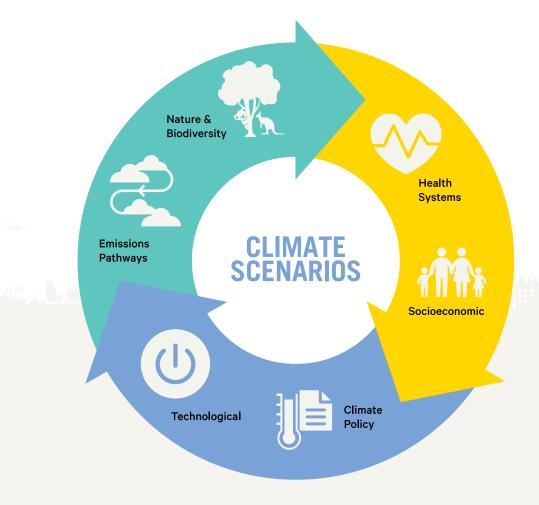
As in previous iterations, efforts for the AR6 were divided into three cohorts, with Working Group III (WG3) focused on climate change mitigation – including the impact that can be had via buildings. The WG3 emphasised the need for an integrated approach to construction, and the potential of effective mitigation strategies in the building sector to achieve United Nations Sustainable Development Goals (SDGs) and positively impact wellbeing. WG3 outcomes have been integrated into our revised climate scenarios.

The AR6 reports also integrate the latest climate models, including scenarios that combine the 'Shared Socioeconomic Pathways' (SSPs) with the Representative Concentration Pathways (RCPs). The SSPs outline five pathways that the world could take - the main differences being their assumptions on global population growth, access to education, urbanisation, economic growth, resources availability, technology developments and drivers of demand, such as lifestyle changes. According to the AR6, the SSP-RCP scenarios "span a wide range of plausible societal and climatic futures from potentially below 1.5C best-estimate warming to over 4C warming by 2100."

Over the last 12 months, Mirvac has leveraged the IPCC's new climate science in our own scenario-planning.

Mirvac has spent this year modelling a range of future climate scenarios depicting how the world could look in 2050, based on the latest climate science and considering socioeconomic, environmental, technological and political factors.

Recognising the need to address the wider range of interdependencies around climate change (beyond emissions), we have introduced six indicators that inform our scenario planning: nature and biodiversity, health systems, socioeconomic, climate policy, technological, and emissions pathways. By considering all these elements and uncertainties, we will continue to enhance strategic climate resilience in our business against a range of potential future climate outcomes.

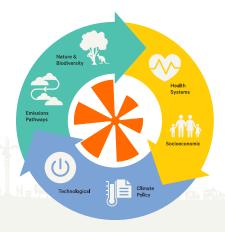


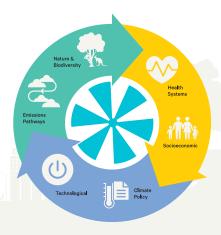




Mirvac's climate scenario development has been completed with ongoing engagement from the Executive Leadership Team. The result has been three scenarios, outlined here: 'Tense Connections,' 'Clever Transitions' and 'Collective Choices.'







TENSE CONNECTIONS (>2.5 DEGREES)

With a doubling of current emissions comes a significant increase in the frequency and severity of extreme weather events. This leads to increased nationalism, protectionism, more conflict, and less global collaboration, and results in energy and food security being prioritised over combined global efforts to prevent the most harmful impacts of a changing climate on life and biodiversity loss.

CLEVER TRANSITIONS (2.0-2.5 DEGREES)

Continued growth in population, particularly in developing regions, and global GDP, will increase carbon emissions. It will also restrict access to food and add pressure to health services, with flow on impacts to wellbeing. In response, a clear and stable policy context is put in place, which accounts for the costs of carbon, gives the market confidence, and enables investment in technologies like nature-based carbon capture solutions, as we adapt to a warmer climate.

COLLECTIVE CHOICES (1.5-2.0 DEGREES)

Clear, science-based information which is widely understood drives a global movement of both communities and individuals to choose leaders, products and outcomes that prioritise social and economic equity, human health and wellbeing, and recognise the value of nature, while achieving a low carbon outcome.

KEY UNCERTAINTIES THE SCENARIO TESTS:

- —Supply chains
- -Global markets
- —International trade & relations
- Regional economic impacts
- —Population changes

KEY UNCERTAINTIES THE SCENARIO TESTS:

- —Carbon pricing levels
- Technology readiness
- Leaps of faith in new technologies
- Policy support for transition
- Disorderly or delayed transitions

KEY UNCERTAINTIES THE SCENARIO TESTS:

- —Customer & societal preferences
- The value of wellbeing
- -Carbon pricing level
- Availability of capital
- —Localisation

Our next step will be to use these scenarios to evaluate how the industry could look in 2050, through engagement with the ELT, who will consider how Mirvac's future climate scenarios could manifest in our industry. Following this work, the likely impact on Mirvac will be assessed by identifying risks and opportunities for each climate scenario, (building on the risks and opportunities identified under the RCP scenarios), based on input from the ELT and our business unit leaders. This work will continue to enhance our strategic and financial resilience against the future impacts of climate change.

RISK MANAGEMENT

IDENTIFYING AND ASSESSING CLIMATE RELATED RISKS

Mirvac's vision is to Reimagine Urban Life – and managing climate risk is an increasingly important aspect of this. Group Risk is responsible for coordinating the risk management process which aims to ensure we have appropriate strategies in place for managing key risks and opportunities aligned to our strategic objectives, and that this is done in a consistent manner across the Group.

This includes:

- developing and embedding the Mirvac Group Risk Management Framework, which underpins our risk management governance and outlines how we oversee all organisational risks;
- advising the organisation on risk management plans; and
- consolidating risk reporting from senior management to the Executive Leadership Team (ELT) and the Audit, Risk and Compliance Committee (ARCC).

The Mirvac Board bears ultimate accountability for the nature and extent of risks and the level of tolerance Mirvac is willing to accept in the pursuit of its strategic objectives, while the role of the ARCC is to set the Group's risk appetite, review its risk profile, and approve the Risk Management Framework.

Mirvac's risk management methodology and approach is based on the Australian Standard for risk management, AU/NZS/ISO 31000:2018 (previously ASA/NZS 4360) and guided by ASX Corporate Governance Principles and Recommendations, regulatory standards, and Mirvac's own codes and policies.

Climate change and sustainability risks are classified as material strategic risks, and are reported on a quarterly basis to the ELT and the ARCC. Each business unit is accountable for its specific risks, including those related to climate, and is expected to maintain effective internal controls, monitor risks, and oversee processes.

As part of the sustainability and risk management review process, we assess any changes in our operating environment, including regulatory changes, the direction of global climate negotiations and scenarios, stakeholder feedback and industry commitments. Guided by the Mirvac Group Risk Management Framework and Policy, we consider if the likelihood or impact of climate and sustainability risks has changed, and whether we have new risks to evaluate on that basis. We then review our controls to assess whether they are effectively managing the risks and if there is a need to implement additional controls.



How Mirvac establishes strategic or enterprise-level risk

Mirvac's climate change and sustainability risks were most recently assessed during the refresh of the *This Changes Everything* sustainability strategy in 2021 and refresh of the Group Risk profile as part of a dedicated Mirvac Group Board risk workshop in February 2022.

Group Risk has a horizon risk scanning process and framework in place. This helps us to identify and prioritise emerging risks to ensure these are properly understood as they evolve, and can be fully assessed and incorporated into Mirvac's risk profile on an iterative and incremental basis – noting their ability to affect Mirvac's strategic objectives in the future.

Environmental and climate risks

Mirvac's sustainability strategy, *This Changes Everything*, has focused on six ESG drivers that are most relevant to our business strategy and stakeholders. These are: climate change, natural resources, our communities, social inclusion, our people, and being a trusted partner. These were reviewed in FY22, with refreshed focus areas, in both scope 3 emissions and building a strong sense of belonging. Climate change remains one of the key focus areas for the strategy. It has the potential to affect our assets and our operations – so we recognise that it is critical to adopt appropriate adaptation and mitigation strategies, and continue to build resilience across the portfolio.





MANAGING CLIMATE RELATED RISKS

Mirvac's sustainability strategy sets out clear targets to ensure we continue to have a positive environmental and social impact, and make better choices in all that we do. We strive to design developments and major renovations to a high standard for green building and community certifications, as well as energy and water performance ratings.

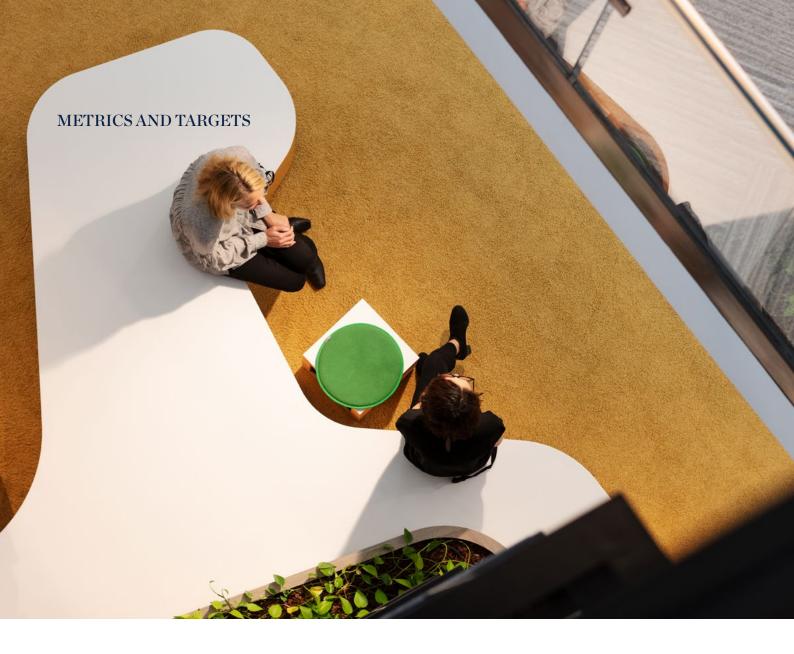
We are continuing to evolve our approach to climate risk assessment and management at portfolio and asset levels. Physical site audits across key assets continue to assist us in planning for future mitigation activities with resilience building initiatives included in the asset's capital expenditure and strategic asset plans. If generic risks are identified, they are considered across the portfolio and added to Mirvac's Minimum Design Requirements to build additional climate resilience into new developments.

The extreme changes in weather patterns due to climate change were evident this year, with severe storms and torrential rain causing extensive flooding along the east coast of Australia. The flooding caused significant damage in the property sector and had devastating impacts on communities living in the affected areas.

We continuously review our operational procedures to anticipate climate change risks, and continue to enhance both our processes and Responsible Investment Policy to ensure climate risk is considered early in our investment decisions.

The residual risk of climate change is currently classed as low, with our control environment assessed to be effective, as a result of our *This Changes Everything* strategy.





TARGETS

Our rigorous focus on the environment ensures that we continue to deliver outcomes across carbon, water and waste that are planet positive, and we have developed and implemented ambitious plans with clear timelines and targets to achieve this. We have one of Australia's greenest office portfolios, with eighteen office assets that have a 5 Star NABERS Energy rating or higher, 100% renewable energy for our operating assets, high waste diversion rates across construction and operations, and assets and communities that have energy and water-efficiency top of mind.

In 2021, having achieved our net positive (scope 1 and 2) carbon emissions target nine years early, Mirvac has been able to accelerate our progress on our existing waste target to send zero waste to landfill by 2030, and released our industry leading target to achieve net positive water by 2030. We anticipate setting a scope 3 emissions target later in 2022.

In addition to these long-term targets, we also have measurable short-term sustainability targets that are closely tied to our business planning and performance monitoring. These targets and metrics measure our progress between now and 2030 and monitor progress against our carbon, water, waste and social inclusion targets.

Each division within Mirvac creates an annual scorecard that outlines specific sustainability targets as part of their contribution to the sustainability strategy, including our climate target. The scorecards are reviewed by the Group Sustainability team, with progress reported monthly to the HSE&S committee, and quarterly to our ELT and Board.

Given our rapid progress, some of these short-term targets have had to be adjusted. The metrics used to track performance have also shifted from carbon intensity metrics to absolute emissions and energy intensity given the rapid reduction in carbon emissions.

METRICS

Since *This Changes Everything* was introduced in 2014, Mirvac has measured emissions intensity, water intensity and emission reduction. The performance table on the next page shows our progress against our ESG focus areas and recent achievements.





OUR PERFORMANCI	. E		
ESG FOCUS AREA	TARGET	TRACKING	RECENT ACHIEVEMENTS
Environmental	CLIMATE CHANGE Net positive by 2030	DELIVERED FY22	 Reached target nine years early 18 assets rated 5+ stars NABERS Energy 100% renewable energy for our operating assets
	NATURAL RESOURCES Net positive water, and zero waste to landfill by 2030	ON TRACK	 Recycling 94% construction and 68% operational waste On track to halving development waste On track to buying 25% recycled content (concrete, steel)
Social	OUR COMMUNITY Net positive legacy by tripling community investment	DELIVERED FY22	 \$9.6m verified community investment in FY22; \$45m since FY18 Unlimited, paid volunteer leave (delivered FY19) Ranked #1 Best Workplace to Give Back, by GoodCompany in FY22
	\$100m social sector investment by 2030	ON TRACK	 Second Reconciliation Action Plan released Second Modern Slavery statement released \$14m in social procurement in FY22; \$42m since FY18
Governance	OUR PEOPLE Highly engaged, capable, and diverse workforce	ON TRACK	 > 80% employee engagement; 96% retention of key talent > LTIFR 1.18% > World #1 most gender equitable company, by Equileap > #1 2022 AFR Boss best places to work awards (property)
FY22	TRUSTED PARTNER Most trusted owner and developer	ON TRACK	High performing key stakeholder trust AAA rating from MSCI, Negligible risk rating from Sustainalytics Advanced rating from the United Nations Global Compact

Since This Changes Everything was introduced in 2014, Mirvac has measured emissions intensity, and emission reductions (with breakdowns for office and retail portfolios). The table below shows the greenhouse gas emissions generated in assets where Mirvac holds operational control. Further information on scope 2 location based emissions and scope 3 emissions are available in Mirvac's ESG Analyst Toolkit www.mirvac.com/sustainability/our-performance

EMISSIONS tCO ₂ e	FY13	FY20	FY21	FY22	SOURCE DATA
Scope 1					
Natural Gas	2,697	4,422	4,430	5,028	97,573GJ
Refrigerants	1,383	1,827	1,083	1,311	858kg
Diesel	2,333	1,017	701	677	250,013L
Petrol	646	112	97	87	37,700L
LPG	7	79	31	21	13,380L
Total scope 1	7,066	7,457	6,342	7,125	
Scope 2 (market-based) ¹					
Electricity		44,532	12,660	0	86,289,241kWh
Total scope 2		44,532	12,660	0	
Total scope 1 + 2		51,989	19,002	7,125	
Voluntary carbon offsets				7,225	
Net scope 1 + 2 ²		51,989	19,002	-100	
Renewable electricity %		45%	84%	100%	

- 1. We began reporting market-based electricity in FY19. Location-based scope 2 emissions and scope 3 emissions are included in Mirvac's ESG Analyst Toolkit.
- 2. This means we now offset 100 more tonnes of scope 1 and scope 2 carbon emissions than we emit, meeting our Net Positive Carbon by 2030 target. Some columns may not add due to rounding

WHAT'S COUNTED (AND NOT COUNTED)?

Mirvac's net positive carbon plan has, to date, included scope 1 and 2 greenhouse gas (GHG) emissions from our investment portfolio and state offices (where we have operational control). This is because we have a direct ability to impact energy and fuel use and their associated emissions at these assets. However, in reaching the goal, we broadened the boundaries to also include construction.

This approach aligns with our current reporting obligations under the Australian Government's National Greenhouse and Energy Reporting (NGER) legislation.

Scope 3 emissions are not included in our net positive carbon goal. We remain committed to taking action on scope 3 emissions and our approach is to consider where our greatest impact meets our greatest areas of influence, and apply efforts to deliver or incentivise lower carbon outcomes. We will focus on prioritising scope 3 emission reductions in FY23.

METRICS AND TARGETS CONTINUED

BUSINESS ACTIVITY AREA POTENTIAL EMISSIONS SAVINGS

MIRVAC ACTION

ESTIMATED EMISSIONS REDUCTION



Tenant electricity



Mirvac's embedded networks supply tenant electricity.



Mirvac purchases 100% renewable electricity for its Retail Centres, Offices and BTR assets. We on-sell this electricity to our customers where we have embedded network infrastructure.



 $\begin{array}{c} \textbf{50,}000\\ \textbf{tonnes}\\ \textbf{of CO}_{_{2}}\,\textbf{per annum} \end{array}$



Electricity use in sold properties



Mirvac's residential project The Fabric, at Altona North, is delivering ultra-efficient, all-electric homes with rooftop Solar PV as standard, resulting in a Net Zero Energy outcome.



Mirvac is committed to increasing the availability of all electric, renewably powered homes across it's residential portfolio.



 $\begin{array}{c} \text{Up to} \\ \text{12 tonnes} \\ \text{of CO}_2 \text{ per} \\ \text{four-person home,} \\ \text{per annum} \end{array}$



Solar PV



We've installed over 800kW of solar across our industrial portfolio.



Mirvac will continue to leverage the roof space at its industrial assets, and expects to install a further 600kW in FY23.



Over 800 tonnes of CO, per annum



Tenancy lighting



All new buildings use 100% LED lighting.



Converting from metal halide to LED lighting in the Industrial portfolio results in lower energy bills and a significant reduction in maintenance costs.



Energy (& lighting related greenhouse gas emission)

reductions >60%







SUMMARY AND NEXT STEPS

While we're proud of the progress Mirvac has made to date, the journey is far from over.

Our next steps include setting a scope 3 target and creating transition plans for scope 3, which will provide clarity in our approach to achieving our future target, and an opportunity to continue to lead the way in building climate resilience in our sector.

We also continue to work with our peers and industry bodies, such as the Property Council of Australia, GBCA, and NABERS, to advance the adoption of low carbon initiatives and technologies across the property sector.

REQUIREMENT	TASK	FY19-21	FY22	FY23+
GOVERNANCE				
Describe the governance around climate related risks and opportunities.	Continue to strengthen Board's oversight of climate related risks and opportunities.			
	Define and implement Management's role in assessing climate related risks and opportunities.			
STRATEGY				
Describe the actual and potential impacts of climate related risks and	Define physical and transitional risks for Mirvac.			
opportunities on the Mirvac's businesses, strategy and financial planning.	Identify and define 3 possible 2050 climate scenarios that are relevant to Mirvac.			
	Evaluate the impact of the climate scenarios on our industry and Mirvac.			\bigcirc
	Evaluate business impacts against the 3 climate scenarios.			\bigcirc
RISK MANAGEMENT				
Describe how Mirvac identifies, assesses and manages climate related risks.	Define processes for identifying, assessing and managing climate related risks.	\bigcirc		
	Evaluate, and enhance, our investment portfolio's resilience against the future impacts of climate change.	\bigcirc		
METRICS AND TARGETS				
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	Continue to disclose scope 1 & 2 emissions.			
	Achieved net positive for scope 1 and 2, nine years ahead of target.			
	Released industry leading net positive water strategy.			
	Continue to drive water efficiency opportunities to achieve net positive water by 2030.			
	Continue to make progress against zero waste by 2030 strategy.	\bigcirc		
	Define scope 3 boundaries, set a scope 3 target, and create a scope 3 transition plan.		\bigcirc	
	Disclose all scope 3 emissions within Mirvac's boundary.			\bigcirc
	Disclose key metrics to measure and manage climate related risks and opportunities.		•	

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