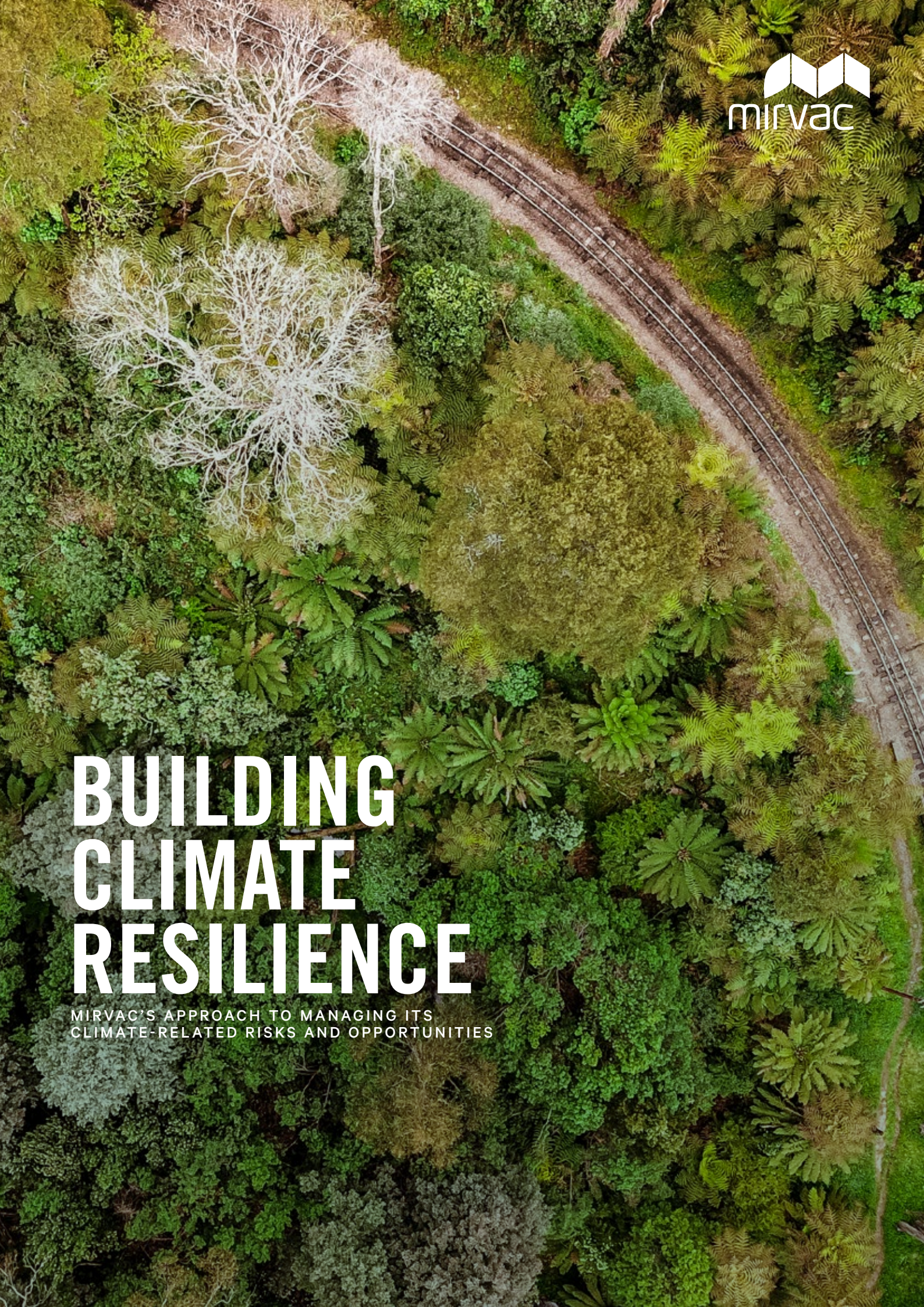

# BUILDING CLIMATE RESILIENCE

MIRVAC'S APPROACH TO MANAGING ITS CLIMATE-RELATED RISKS AND OPPORTUNITIES

# INTRODUCTION

**In 2014, Mirvac announced an industry-leading target to be net positive carbon by 2030, and in 2019, set out a plan on how it will achieve this. With an ongoing focus on energy efficiency and renewable energy procurement, Mirvac intends to reduce emissions within its operational control to zero, supported by a strategy to purchase high-quality offsets for residual emissions.**

In line with the recommendations set out by the Task Force on Climate-related Financial Disclosures, this report details out the ways in which Mirvac is continuing to reduce its impact, and the actions we have taken and continue to take to achieve net positive carbon by 2030. In addition, it outlines the physical and transition risks and opportunities we face, how we manage these risks across the business, and the metrics we use to assess our impact.

Few could have foreseen the global disruption COVID-19 would trigger when reports of a highly contagious virus first started to emerge at the end of 2019. And while the pandemic has undoubtedly had devastating consequences on human life, livelihoods and global economies, it also brought into sharp focus the fragility of our planet, our financial structures, and our ever-interconnected supply chains. The realisation that the future impacts[1] of climate change will mirror - or be worse than - those of the pandemic has also provided the opportunity to see with more clarity the need for urgent action.

The investment community has certainly heeded this, demonstrated by a rapid increase in interest on environmental, social and governance (ESG) issues, as well as an increased flow of capital to ESG funds. A report by Harvard Business School published earlier this year estimates that a third of all professionally managed funds are now subject to ESG criteria, with investors pouring more than $70 billion into ESG equity funds between April and June of 2020 alone.

A number of governments around the world, meanwhile, have accelerated their action on climate change. China, one of the world's biggest polluters, has committed to seeing emissions peak by 2030, with a target to be carbon neutral by 2060, sending a clear signal that decarbonisation is firmly on their agenda. The United Kingdom has announced plans to be net zero by 2050, along with increasing its target to reduce emissions to 78 per cent by 2035[2]. Similarly, the European Union has increased its 2030 emissions reduction target to 55 per cent, up from 40 per cent, and the United States has committed to achieve carbon neutrality by 2050. In Australia, several states have made emissions reductions targets, including Victoria and South Australia, which have pledged to halve carbon emissions by 2030, the ACT, which will reduce emissions by 65 to 75 per cent, and NSW, which is targeting a 35 per cent reduction by 2030.

Progress like this is promising, particularly given that 2020 was the equal-hottest year on record, even with a cooling La Niña event. We've also witnessed extreme weather-related events - such as this year's heavy rainstorms and flooding along the east coast of Australia, the deadly winter storms in the United States, and the severe storms and flooding in Europe - continue to increase in intensity and frequency. It's also been estimated that insurance companies in Australia have paid out $7 billion in claims for natural perils over the past three years.

It's clear that the next decade is critical. To avoid an acceleration of catastrophic consequences like the above, emissions need to roughly halve from 2010 levels if we are to have a chance of limiting warming to 1.5 degrees, and the transition to a low-carbon economy will require a coordinated, cross-sectorial and global approach.

Given this context, the investment community is seeking greater transparency about how climate risks and potential cost impacts are understood and mitigated, and Mirvac is pleased to provide our third update of this kind.

**Target: Net positive carbon by 2030**
**Key progress: 80% reduction in carbon footprint**

1. In addition to widespread economic turmoil (which philanthropist and business leader, Bill Gates, states "will likely be as bad as having a COVID-sized pandemic every ten years"), the expected impacts of climate change include loss of life, disruptions to global supply chains, worsening inequality, political instability, the loss of millions of species of plants and animals, and the displacement of millions of people, to name a few.
2. Compared to 1990 levels.

# GOVERNANCE

## BOARD OVERSIGHT

Our Board of Directors is responsible for setting Mirvac's strategic direction in relation to the management of climate change risks and opportunities, and oversees the implementation of the Group's sustainability strategy by the Executive Leadership Team (ELT). They are equipped with the skills and experience to oversee the impacts of climate change to our business, and are responsible for approving Mirvac's sustainability targets and for monitoring the achievement of these, which remain focused on climate change resilience and the decarbonisation of our portfolio.

Our Board also bears overall responsibility for approving Mirvac's risk management framework and, with the support of the Audit Risk and Compliance Committee (ARCC), is responsible for assessing key operational, strategic and emerging risks and mitigation strategies, including those related to climate change. The ARCC meets quarterly to review risk management reports and makes recommendations to the Board regarding Mirvac's risk profile and risk appetite.

We are committed to the ongoing development and maintenance of climate capability across our Board and senior management, and in June this year, we invited a prominent CEO from the insurance industry to present to our directors on the growth in responsible investment activity, especially in relation to climate change. In addition to this, each year we arrange for a delegation of directors, executives, and managers to participate in the University of Cambridge sustainability leadership programs[1]. A Mirvac director is a member of the faculty of this educational program.

This year, Mirvac has taken the further step to establish a Health, Safety, Environment & Sustainability (HSE&S) Board Committee, as a positive step in bringing additional attention and support for these critical areas, and to oversee relevant strategies, systems, policies, and practices.

## THE ROLE OF MANAGEMENT

Our ELT also plays a crucial role in delivering on our sustainability strategy, *This Changes Everything*, working with the Board to ensure that material sustainability risks are identified and mitigating action plans are in place. Each member of the ELT has specific responsibilities relating to Mirvac's sustainability performance, including objectives related to climate-related risks and opportunities. The ELT is responsible for the implementation of the Mirvac Risk Management Policy & Framework once it has been approved by the Board.

The ELT is supported by the HSE&S Management Committee Management Committee, which comprises senior managers from across the business and is chaired by Mirvac's Head of Culture & Capability. The Committee meets every month to review Mirvac's progress on HSE&S matters, including climate change, reporting back to the ELT, HSE&S Board Committee and Board on a quarterly basis with updates and recommendations.

In addition to this, the HSE&S Management Committee assesses the sustainability performance of each business unit through a sustainability scorecard. This propels each business unit to take actions to reduce their environmental impacts, have a positive social impact, and demonstrate their progress in delivering Mirvac's sustainability strategy.

Finally, as one of Mirvac's key strategic objectives, sustainability forms part of each employee's short-term incentive calculation. This provides powerful motivation for all employees to deliver on the Group's sustainability key targets, of which climate change is one. Our threshold performance target is an 80 per cent achievement of stated goals for each year. In FY21, our performance was 94 per cent.

1. With the exception of 2020 and 2021, due to COVID travel restrictions.

# STRATEGY

Our climate strategy is anchored by our ambitious goal to be net positive carbon by 2030, which we set as part of our *This Changes Everything* sustainability strategy, knowing that it was the right thing to do. And we've made excellent progress since setting our target, reducing our carbon footprint by 80 per cent as at 1 January 2021[1], with 100 per cent of our retail portfolio and 90 per cent of our office portfolio now operating on 100 per cent fully-firmed renewable electricity.

But as well as being the right thing to do, targeting net positive carbon makes good business sense. We know that as the volatility of our climate increases, we are more exposed to the disruptions that weather-related events can cause. For us, this includes construction delays, damage to property, losses in productivity, impacts to our supply chain, and interruptions caused by power supply failures. In addition, we expect to see continued volatility in energy pricing and insurance costs in the short to mid-term, particularly as extreme weather events continue to increase in both frequency and intensity. As an urban asset creator and curator, we're also well-placed to begin considering how a trend towards agglomeration in cities may impact interest in and valuations of our assets.

Our net positive carbon plan, released in 2019, sets out our climate mitigation strategy. This plan – focused on the premise that we **eliminate more carbon than we emit** - is anchored by four overarching principles:

### 1. Continuing to maximise energy efficiency at our assets

Maximising energy efficiency is central to our plan to be net positive carbon by 2030, driven by our view that the cheapest and most sustainable ton 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[2], 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 (and in turn, deliver energy savings to our tenants).

Along with the obvious environmental benefits, these measures also deliver commercial value, and there's no better example of this than EY Centre, 200 George Street in Sydney, where our head office is located. EY Centre was designed as a 5 star NABERS Energy building, and during its first two years of operation, our in-house property asset management and technical services teams worked to improve the building to 5.5 stars. The improvement of half a star alone delivered a valuation uplift of $4 million, along with operational cost savings of $200,000 per year. Similarly, at 380 St Kilda Road in Melbourne we improved the energy rating from a 3.5 star NABERS to a 5.5 star NABERS (as well as improving the water rating from a 3.5 stars to 5 stars), which together, resulted in operational savings of over $450,000 per year.

Overall, our portfolio currently boasts five 6 Star Green Star Performance rated buildings, along with four 6 star, eight 5.5 star and six 5 star NABERS Energy rated buildings, reflecting Mirvac's extraordinary focus on energy efficiency and operational performance.

In addition to this, Mirvac conducts life-cycle assessments at its existing assets to identify sources of embodied carbon and water associated with design and materials selection. This means we're better placed to mitigate the impacts of these materials and make informed decisions on our materials selection, preferencing materials with recycled and recyclable content, as well as lower embodied carbon and water.

### 2. Building all-electric buildings

Following the launch of *This Changes Everything* in 2014, Mirvac implemented a set of minimum design standards to ensure that future developments and refurbishments make a positive contribution to the strategy, including the Group's net positive carbon target. The design standards include a number of climate adaptation elements, one of which is the requirement for all new developments to be 100 per cent electric – that is, there is to be no gas provision or usage for base building services. At 80 Ann Street in Brisbane, for example, which is expected to complete in FY22, we amended the design of the heat pump 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 for 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 deactivated the co-generation system at 101 Miller Street in Sydney in June last year, which has now been switched to an emergency standby role, and we expect the remaining co- and tri-generation systems in Sydney (at 10-20 Bond Street, 275 Kent Street and 8 Chifley) to be fully deactivated by June 2025. We are currently reviewing options for the tri-generation system at David Malcolm Justice Centre in Perth.

1. Off an FY18 baseline.
2. Passive design is the name given to any design technique that requires no active (energy using) intervention and reduces the need for auxiliary heating or cooling. Techniques include thermal mass, natural ventilation and lighting, orientation and effective external shading ESD Design Guide – Office and Public Buildings, Department of the Environment and Water Resources, Edition 3, May 2007.


South Eveleigh, Sydney NSW

**3. Supplying these buildings with 100 per cent renewable energy**

Over the past two years, we've negotiated energy supply agreements at our investment assets where we have operational control, reducing our emissions by 60 per cent in 2020 and a further 20 per cent in 2021[1]. There are numerous business advantages in transitioning to renewable energy, or in our case, renewable electricity, which we've achieved through a series of renewable Energy Supply Agreements. As well as the obvious environmental benefits these provide, we've been able to achieve more competitive and secure energy prices, while delivering immediate and major reductions in carbon emissions.

We also continue to make solid progress with onsite renewables. In 2016, we launched Mirvac Energy, a company which can explore other options to support our sustainability goals. So far, our approach has been to invest in solar photovoltaics (PV) systems at our assets. We harvest the energy that's generated by the solar PVs and then sell it back to the base building, providing an alternative energy source for our properties and a new revenue stream for our business. In the past six years, we've installed almost four megawatts of solar, with plans to roll out more at our assets which have larger roof space availability.

Further signalling our commitment to the transition to renewable energy, in December 2019 we became the first Australian property group to join RE100, a global corporate clean energy initiative that brings together influential businesses committed to 100 per cent renewable power.

**4. Investing in a small amount of high-quality offsets, prioritising those where we can affect both social and environmental benefits.**

Until it's cost-effective to move to 100 per cent renewable sources – and to replace current refrigerants with those of lower or no global warming potential – we will continue to support high-quality carbon offsets for residual scope 1 emissions.

While offsets can provide important environmental, social and economic benefits for reducing emissions, they do not address the systemic causes of GHG emissions.

We are pleased to be tracking ahead of our targets set out in the carbon plan and will take time in FY22 to consider our next steps given this good progress.

## CLIMATE-RELATED RISKS AND OPPORTUNITIES

Mirvac has identified a number of physical and transition risks that we expect to face as a result of climate change. In considering these risks, we have applied the Representative Concentration Pathways (RCPs) which were adopted by the International Panel on Climate Change in 2014.

Our *transition risks* are informed by scenario RCP2.6, which is effectively a best-case scenario in which we manage to significantly reduce our global emissions and keep warming to between 1.5 and 2 degrees Celsius by the end of the century. This scenario is likely to represent the higher cost of transition as energy systems and product suppliers make rapid change.

To inform the *physical risks* to our business activities, we have adopted scenario RCP8.5. This scenario reflects our current trajectory and is the situation we face if no action is taken; that is, a 'business-as usual' or 'worse-case' scenario.

As current emission trajectories are in line with a RCP8.5 scenario, and given the inertia within the climate system and the lack of urgent large-scale emissions reduction in many nations, we feel it is prudent to utilise a worst-case scenario to guide our planning and asset audit activities. We will continue to focus on the rapid reduction of our operational emissions, while monitoring emissions trajectory and global emissions reduction activity to inform our strategy.

1. Energy supply agreements work on a calendar basis and it takes two years for emissions reductions to take effect.

## TRANSITION RISKS

Transition risks are associated with changes in the external economic and regulatory environment and can include the costs associated with the transition to low emissions electricity, insurances for weather-related events, impacts on reputation, and changes in government policy and regulation. By identifying transition risks early, Mirvac is better able to develop strategies and put in place controls that are integrated into our risk management system, in order to avoid the worst consequences of these changes:

| Risk | Timeline | Mitigation/opportunity |
|---|---|---|
| **POLICY** | | |
| Climate policy actions typically fall into two categories - those that attempt to constrain actions that contribute to the adverse effects of climate change or those that seek to promote adaptation to climate change. Policy change around climate could potentially lead to an increase in operating costs through higher compliance costs, although it will depend on the nature and timing of the change. Carbon pricing policies may increase costs for organisations with significant carbon emissions, while other natural resources legislation (such as water and biodiversity) may become more stringent as scarcity increases. | Medium to long term | Our target to be net positive carbon by 2030 is our primary climate change mitigation strategy and puts us ahead of the commitments made by the Australian Government in relation to the Paris Agreement (who has committed to a 26-28 per cent reduction by 2030 from 2005 levels). In January this year, for example, our carbon footprint reduced by 80 per cent following the signing of new electricity agreements. Taking proactive steps to reduce our emissions means we will significantly reduce the risk or magnitude of consequences from potential legislation or other policy requirements.<br><br>Mirvac also has a Responsible Investment policy which outlines our approach to managing our climate risks and opportunities. |
| **LEGAL** | | |
| The failure to mitigate the impact of climate change and/or adapt to climate change, or insufficient disclosure on material financial risk could see increased litigation against companies and government for damages caused by climate change impacts. | Medium to long term | Our revenue is increasingly drawn from low-carbon, high-performance assets, and within our Residential business, we continue to explore how we can lower emissions through better design, the inclusion of energy-efficient appliances and access to renewable energy and battery storage. As such, litigation is likely to be a lower risk for us than other more energy and resource intensive companies. |
| **TECHNOLOGY** | | |
| The timing of technology development and deployment remains a key uncertainty in assessing technology risk.<br><br>As well as the cost and the unproven nature of integrating new technologies into existing assets, rapid changes in technology can also be challenging to integrate into development timeframes. | Medium to long term | As part of our net positive roadmap, we've considered technology improvements such as smart metering, battery storage and renewable energy. Within our office portfolio, we are also focused on creating smart buildings to improve environmental performance and ease of operation, as we've done at our multi award-winning headquarters at EY Centre, 200 George Street in Sydney NSW and at 477 Collins Street in Melbourne VIC. We see technology, innovation and integration as key to delivering lower long-term costs, and increased occupant comfort and productivity. |
| **MARKET** | | |
| Investors and markets are increasingly redirecting capital away from products and services that contribute to climate change, impacting stock and asset values. For example, Goldman Sachs has said that it will no longer fund new investments in Arctic oil or coal for power stations. Similarly, BlackRock, which manages over US$8 trillion dollars of funds, has defined climate change as the biggest threat to markets.<br><br>The International Monetary Fund has also identified climate change as a major global issue, downgrading global economic forecasts on this basis. In addition to capital market risks, there is also a risk that the supply and demand for products and services may vary in response to shifting consumer demands and changes in technology. | Short to long term | We are committed to transparency on ESG performance to ensure our securityholders can make informed choices.<br><br>With a young, high-performance office portfolio, Mirvac is well-placed to capture the shift to low-carbon products. We target a 5.5 star NABERS Energy rating, 5 star Green Star Design and As Built and 4 star NABERS Water rating for all new office assets. Our office design guidelines also ensure that upgrades consider energy and water efficiency and climate resilience. We also look to future-proof our office, retail and industrial assets through improved energy and water performance (design and operational), and our investment in renewable energy (on and off-site) reduces the uncertainty and instability of electricity price shocks.<br><br>Within our residential business, we build above minimum standards and have partnered with government bodies, such as the Clean Energy Finance Corporation and the Australian Renewable Energy Agency, to provide greater access to renewable energy. In addition to this, we continue to explore lower carbon materials, such as recycled content in steel and low carbon concrete, within our construction business, another area where the future cost of carbon will be realised. |
| **REPUTATION** | | |
| An organisation's action or inaction in transitioning to a lower carbon economy poses a potential source of reputational risk, as customers and communities continue to expect more from big businesses. A key reputational risk for Mirvac would be failing to achieve net positive carbon, while a second risk is that the assets or products we build and then sell don't perform well into the future. Reputational risk has a wider-ranging impact to our business: attracting high-quality capital partners may become more difficult, governments and communities may resist working with us, and it will be harder to attract and retain top talent. | Short to long term | Demonstrating our commitment to a low carbon world and taking leadership in reducing our emissions addresses concerns from our stakeholders on Mirvac's ability to effectively manage both its impact as well as its climate-related risks. We value the opportunity we have to engage with our key stakeholders to understand their expectations and incorporate those within our plans. We regard this understanding, the transparent setting of targets, and reporting on promises delivered, as being central to maintaining a trusted reputation. Our strong sustainability credentials and reputation also continue to help us attract investors who consider ESG in their decision-making. |

## PHYSICAL RISKS

Mirvac currently has approximately $25 billion of assets under management, along with a $12.3 billion committed and future commercial development pipeline and $15.7 billion in residential development. This means there are a number of physical risks that climate change presents to our activities – both in relation to the developments under construction and the operation of the assets we own.

Development projects under construction will potentially experience a higher incidence of construction delays as a result of extreme weather events, such as storms, heavy rain, flooding and bushfires, the frequency and intensity of which is projected to increase. Higher temperatures will lead to an increase in heat fatigue and heat-related delays on our construction sites, while maintaining comfort in our existing buildings will become more costly.

Extreme weather events may also disrupt the operation of our existing assets and, in turn, lead to higher insurance premiums, with physical risks potentially becoming uninsurable in the future. Applying scenario RCP8.5, we have detailed these physical risks below.

| Risk | Timeline | Potential mitigation/opportunity |
|---|---|---|
| **EXTREME TEMPERATURES** | | |
| More hot days and warm spells are projected (with very high confidence), across locations in which Mirvac operates: Sydney, Melbourne, Perth, Brisbane and Canberra. This includes a substantial increase in days over 35°C and the duration of warm spells. More frequent hotter days will increase demand for air conditioning and ventilation. This will lead to higher operating costs (energy consumption and maintenance costs). Higher minimum temperatures, particularly in summer months, will mean the use of fresh air for cooling overnight will not work as well. We could also see higher energy costs at our retail centres due to increased foot traffic, as people increasingly seek relief on hot days.<br><br>An increase in the occurrence of days with temperatures over 35°C will also see a higher chance of heat-related fatigue on construction sites. | 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 the building thermal envelope, whenever capital expenditure is justified. Mirvac has also installed window films in several assets to improve glazing performance and enhance tenant amenity. Additionally, there is an opportunity for us to work with our tenants to establish optimal conditions during extreme temperature events.<br><br>In our construction business, Mirvac is looking to increase its utilisation of prefabricated construction methods to minimise exposure to external environmental impacts. For example, a pilot at our Tullamore development in Melbourne, VIC demonstrated that utilising techniques of prefabrication leads to reduced workers on site, which in turn results in less risk of heat-related fatigue. Mirvac currently has existing policies relating to heat-risk in place and will continually review and improve policies relating to weather. |
| **EXTREME RAINFALL** | | |
| Heavy rainfall intensity is projected to increase (despite mean annual decline in some locations). | 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. In our construction business, the Group mitigates the impact of heavy rainfall by implementing flood defence measures, such as pumping equipment and backup generators, and ensuring effective stormwater management. Ensuring 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 are also mitigation strategies we employ. |

# STRATEGY continued

| Risk | Timeline | Potential mitigation/opportunity |
|---|---|---|
| **ACCESS TO WATER** | | |
| The time spent in drought is projected to increase and there is likely to be increasing variability in rainfall pattern. Perth and Melbourne, two locations that we operate in, are likely to have reduced rainfall in the period to 2030, particularly in winter and spring, making the challenge of net positive water more difficult.<br><br>Inadequate water to service developments will impact project feasibilities. Water prices and costs will increase, and there will be increased water restrictions for operational use and landscape watering in droughts. Higher electricity costs are also expected due to insufficient water for power stations. | 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.<br><br>Within our development business, Mirvac will focus on designing and building water efficient buildings and utilising drought tolerant plants for landscaping. A greater utilisation of rainwater and stormwater at a precinct level is also expected to help Mirvac minimise its external environmental impacts.<br><br>Planet Positive Water, to be released this year, will also step out in detail the actions Mirvac will take to reach net positive water by 2030. |
| **RISING SEA LEVELS** | | |
| The projected range of sea-level rise by 2030 is around 0.07 to 0.19 metres above the 1986–2005 level. This could lead to restrictions on development approvals for projects on land one metre or less above sea level; increased costs and delays to construction; flooding and damage to property; increased costs from need to invest in flood prevention; business interruption to customers; and, reduced land value. | Medium to long term | Within our investment portfolio, mitigation strategies include reviewing the location of critical building infrastructure and investing in flood prevention infrastructure. In the planning and design of new developments, we currently consider sea levels and projected increases in floodplains and stormwater as specified by the relevant authorities or experts. |
| **BUSHFIRES** | | |
| The Australian bushfires over 2019/2020 demonstrate the devastating financial and social impact harsher fire conditions can bring. The key risks are loss of life, loss of ecosystems and biodiversity, loss of animal species and damage to property. Insurance premiums in bushfire-prone areas are likely to increase over time. | Short 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.<br><br>The potential mitigation strategies in our construction business include employing best practice bushfire building codes and 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). |

Elizabeth Enterprise, NSW

# RISK MANAGEMENT

Our approach to risk management is aligned with ISO 31000 (previously AS/NZS 4360) and guided by ASX Corporate Governance Principles and Recommendations, regulatory standards and Mirvac's own codes and policies, such as our Code of Conduct. Our Group Risk function is responsible for developing and embedding the risk management framework, advising the business on risk management plans, and consolidating risk reporting to senior executives and the ARCC. Environmental and sustainability risks are classified as a key strategic risk and reported on quarterly to the ARCC. Each business unit is accountable for its specific risks, including risks related to climate, and is responsible for maintaining effective internal controls and monitoring processes.

We're also continuing to work on standardising our approach to integrating climate-related risk into our new business and acquisitions processes. In FY20, our ELT approved Mirvac's Responsible Investment policy, which has a requirement for ESG-related risks (particularly climate risks), and their financial implications to be factored into new business opportunities.

We continue to work with the business to refine and enhance our processes so that climate risk is considered early in our investment decisions. To support this, we engaged a consultant to undertake pilot climate risk assessments at three of our existing projects across office, industrial and residential. The data provided in these is intended to help us plan and report on notable risk areas and inform key decisions around our investments.

In addition to this, and to further decentralise climate risk within the business, we've developed a climate risk register that outlines how the key climate risks we've identified are likely to impact our business and the controls we'll adapt or implement to mitigate these risks. These risks have been assigned to relevant business units and a likely financial impact of these risks has been allocated.

We're also progressing our work to mitigate the largest impacts of climate change at an asset level. Following last year's climate review of our investment portfolio (which ultimately concluded that there were no portfolio-wide, material, physical risks to Mirvac), we undertook physical climate risk audits at a handful of assets across office, retail and build-to-rent. These physical audits allow our facilities teams to plan for future mitigation activities and, at the right time, add them into the asset's capital expenditure and strategic asset plans.

Taking a long-term asset view enables mitigation works to be planned into the capital and operational cycles and limits the need for unplanned or unbudgeted works to be performed. If generic risks are identified, they will be considered across the portfolio and added to Mirvac's Minimum Design Requirements to feedback experience into new developments. We also recognise there may be a need to adapt our operational procedures for unanticipated climate change risks (such as the smoke ingress caused by the 2019/20 bushfires).

Overall, our intention is to further integrate climate change considerations into our existing processes to strengthen climate-related risk management as a whole. This approach is complemented by our zero waste and net positive water plans, which, together, show how we work to minimise harm in our operating environment, use our influence to build partnerships, and leverage our buying power for materials and resources to signal our support for renewable, regenerative, and planet positive goods.

**Noting the impact prolonged extreme temperature conditions could have on operations performed within our industrial facilities, in FY21 we undertook an analysis to benchmark the thermal performance of a typical industrial facility within our portfolio.**

The analysis identified an opportunity to enhance the passive design within these assets, specifically through increased insulation and a reduction in the extent of translucent panelling to reduce heat ingress. We are currently investigating Green Star certification for new industrial developments, which will further embed climate resilience into the design.

# TARGETS AND METRICS

## TARGETS

In addition to our long-term goal to be net positive carbon by 2030, we have measurable short-term targets that are closely tied to our business planning and performance monitoring. These targets and metrics measure our progress between now and 2030 and cover the majority of our scope 1 and 2 emissions.

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 accelerated action on net positive carbon, some of the short-term targets we originally outlined in Planet Positive have evolved. For example, onsite and offsite solar PV installations have become less of a priority as the majority of our investment assets are now supplied with renewable electricity. 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.

### Why not science-based targets?

Our net positive carbon by 2030 target is based on climate change science, in recognition of the need for urgent and significant reductions in greenhouse gas emissions. It's ambitious in both impact and timeline. The strategy does not utilise a probability-based view of the extent and impacts of climate change, but instead recognises the contribution Mirvac can make to rapidly eliminating its operational carbon emissions. As current emission trajectories continue in line with a worse-case, RCP8.5 scenario, our strategy directly responds to community, customer and investor calls for strong action to mitigate climate change.

## METRICS

Since This Changes Everything was introduced in 2014, Mirvac has measured emissions intensity, water intensity and emission reduction (with breakdowns for office and retail portfolios). The table below shows the sustainability outcomes we have achieved between 2013 and 2021.

| GHG Emission (tCO2-e) | FY18 | FY19 | FY20 | FY21 |
|---|---|---|---|---|
| Total scope 1 | 6,829 | 6,619 | 7,458 | 6,342 |
| Total scope 2 | | | | |
| Electricity (location based) | 73,772 | 78,041 | 70,255[1] | 64,018 |
| Electricity (market based) | | 73,110 | 44,532 | 12,660 |
| **Total scope 1 & 2 (market based)** | **80,601** | **79,728** | **51,989** | 19,002 |
| Total scope 3 | 21,525 | 22,603 | 16,016 | 10,369 |
| **Total scope 1, 2 & 3 (market based)** | **102,126** | **102,331** | **68,005** | **29,371** |

1. FY20 scope 2 location-based emissions have been restated to include part-year operation of The Foundry at South Eveleigh.

## WHAT'S COUNTED IN OUR NET POSITIVE CARBON PLAN?

Currently, our commitment to net positive carbon applies to our investment portfolio and state offices. We're counting Mirvac's scope 1 and 2 greenhouse gas (GHG) emissions from these assets, wherever we have operational control[2]. This is because we have a direct ability to impact energy and refrigerant use and their associated emissions and means that we are reporting scope 1 and 2 GHG emissions for the majority of our office and retail assets. This approach aligns with our current reporting obligations under the Australian Government's National Greenhouse and Energy Reporting (NGER) legislation.

## WHAT'S NOT COUNTED?

Scope 1 and 2 emissions associated with our vehicle fleet and our development activity where we have operational control are not included in our net positive roadmap calculations. These emissions account for around 3 per cent of our total scope 1 and scope 2 emissions.

Scope 3 emissions are also not counted towards our net positive carbon goal. We have varying degrees of influence on these emissions, and there are challenges around consistent, accurate, and transparent reporting of our impact. However, 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 better outcomes.

The table on the following page sets out our high impact, high influence activity areas, and provides balanced estimates of potential reductions.

Pegasus Park at Iluma Estate, WA

2. Operational control is defined as "the ability to introduce and implement operating policies, health and safety policies and/or environmental policies" as per the Australian Government's National Greenhouse and Energy Reporting (NGER) legislation and the United Nations Principles for Responsible Investment (UNPRI) reporting.

| 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. We on-sell a component of this to our retail tenants. | 50,000 TONNES of $CO_2$ per annum |
| Electricity use in sold properties | Mirvac's research project, the House with No Bills, found that with the inclusion of solar PV and battery technology on an already efficiently designed home, could reduce carbon emissions and deliver savings in electricity of $2,000 per year. | Mirvac has since committed to equivalent or higher standards at our developments including The Fabric at Altona North in Melbourne and Illuma Estate in Perth, representing 50 lots. | Up to 12 TONNES of $CO_2$ per four-person home, per annum |
| Solar PV | We've installed over 850kW 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 FY22. | Over 800 TONNES of $CO_2$ per annum |
| Tenancy lighting | All new buildings use 100% LED lighting. | Converting from metal halide to LED lighting results in lower energy bills and a significant reduction in maintenance costs. | Energy (& lighting related greenhouse gas emission) reductions >60% |

To see how we're thinking about and responding to scope 3 emissions in our business, read our statement on scope 3 emissions here: https://mirvacsustainability.azurewebsites.net/wp-content/uploads/2020/04/Mirvacs-Statement-on-Scope-3-Emissions.pdf

## WHAT'S NEXT?

Having made significant progress against our target to be net positive by 2030, our focus remains on strengthening our approach to climate resilience across the business and ensuring that we have a consistent method of assessing and managing climate-change risks and opportunities. Reducing our scope 3 emissions is also a key priority going forward.

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

Mirvac Group (ASX: MGR)
Level 28
200 George Street
Sydney NSW 2000

**Telephone** +61 2 9080 8000
**Facsimile** +61 2 9080 8111

**www.mirvac.com**

Mirvac Group comprises Mirvac Limited (ABN 92 003 280 699) and Mirvac Funds Limited (ABN 70 002 561 640) as responsible entity of Mirvac Property Trust (ARSN 086 780 645).