

Scope 3 Emissions

Mirvac's net positive carbon target relates to emissions under Mirvac's control, which are defined as scope 1 and scope 2 emissions (see our plan to reach this goal [here](#)).

Scope 3 emissions, or value chain emissions, arise from other businesses or people, either upstream or downstream of Mirvac's activities. Some of these can be influenced directly by Mirvac; for instance, installing high-efficiency LED lighting within customer tenancy space during construction, or by investigating solar power and battery solutions within our residential communities.

Conversely, Mirvac has a very low influence over a number of scope 3 emissions, such as how a tenant chooses to operate within a building they've leased through Mirvac. In developing our strategic response to scope 3 emissions, we have considered both the magnitude of the emissions and the degree of influence we have in order to prioritise areas for focus.

Despite the challenges around consistent, accurate, and transparent reporting methods, we are committed to taking action on scope 3 emissions and, as with all our sustainability efforts, we focus on materiality, and where we can have the most impact. We are also committed to sharing information about those actions and their potential benefits, while remaining transparent that we may not be able to assure these outcomes.

Mirvac implements and manages initiatives that result in reduced scope 3 emissions and we're committed to continuing to do so. However, we cannot, with confidence, accurately quantify total scope 3 emissions, and setting a quantitative target, whether absolute or as a percentage, is equally challenging. For example, Mirvac is committed to continuously improving LED lighting in its industrial portfolio, but while we know these lights have the potential to reduce emissions and operating costs by up to 75 per cent, we cannot provide assurance they have done so because we are not privy to our tenant's energy bills (and unable to track the reduction in energy consumption). Likewise, we are conscious of the influence we can have through our materials procurement spend (at approximately \$1 billion each year), and we continue to seek lower carbon concrete at our construction sites; however, it is not currently possible to quantify the volume of carbon emissions we save in doing so.

Ultimately, our approach is to consider where our greatest impact meets our greatest areas of influence, and apply efforts to deliver or incentivise better scope 3 emissions outcomes.

The types of scope 3 emissions that arise either upstream or downstream under each of the Group's business units include:

Head office/corporate

- Upstream: suppliers to the corporate offices

Residential

- Upstream: suppliers to construction processes
- Downstream: emissions arising from residential customers living in their homes as well as emissions from common areas in residential projects

Office & Industrial/Retail (asset creation)

- Upstream: suppliers to construction processes
- Downstream: scope 1 and scope 2 emissions arising from Mirvac managed properties (see below)

Office & Industrial/Retail (asset management)

- Upstream: construction emissions (see above)
- Downstream: emissions arising from tenants, visitors, shoppers using and visiting buildings

The following table sets out the material scope 3 emissions that arise upstream or downstream under the Group's business activities.

| Business activity | Relative magnitude (low, med, high) | Response |
|---|-------------------------------------|--|
| Development/construction – upstream | | |
| Purchased goods and materials | High | Mirvac's plan for materials and waste will set out objectives to manage the use of materials and reduce embodied emissions. |
| Subcontractor emissions – purchased services | | |
| Office related emissions – design teams, services consultants | Low | Mirvac increasingly seeks to work with organisations that have aligned emissions goals, that is, organisations that are certified as net zero carbon. |
| Manufacturing emissions | Medium | Mirvac increasingly seeks to work with organisations that have aligned emissions goals, that is, organisations that are certified as net zero carbon. Mirvac is also increasingly looking to adopt principles of Design for Manufacture and Assembly at its construction projects, which has a benefit of lower overall emissions through building component manufacture (less materials and waste) and assembly (less labour and reduced trips to worksite). |
| Waste | Low | Included in disclosures. |
| Fuel and energy related | | |
| Liquid petroleum gas (LPG) | Low | Improving efficiency of vehicles and construction equipment, and transitioning from fossil fuels, reduces associated scope 1 and scope 3 emissions. |
| Petrol | Low | Improving efficiency of vehicles and construction equipment, and transitioning from fossil fuels, reduces associated scope 1 and scope 3 emissions. |
| Diesel | Low | Improving efficiency of vehicles and construction equipment, and transitioning from fossil fuels, reduces associated scope 3 emissions. |

| Business activity | Relative magnitude (low, med, high) | Response |
|--|-------------------------------------|--|
| Development/construction – downstream | | |
| Operational emissions of sold properties (especially residential) | | |
| Electricity | High | Increasingly, Mirvac's residential developments allow for solar PV to be included on the premises, either as a standard or an option. There are several other strategies Mirvac is trialling (or has trialled), including the House with No Bills research project in Melbourne, the Affordability Experiment in Perth and SOLSHARE solar PV sharing at Tullamore. |
| Gas | Low | Mirvac is reviewing opportunities to reduce the natural gas connections in housing and apartments. |
| Water | Low | Water efficiency fittings are included in Mirvac residential properties. |
| Waste | Low | Mirvac has very low influence over residential users' waste management practices. |
| Transport | Medium | Mirvac residential sites are chosen with transport options as a major consideration. Homes and car parks at apartment projects are increasingly fitted with electric vehicle infrastructure. |
| Investment properties (managed properties) – upstream | | |
| Water/wastewater | Low | Not currently measured. Water efficiency projects reduce consumption and related scope 3 emissions. |
| Waste | Medium | Included in emissions disclosures. Mirvac has a zero waste to landfill by 2030 target. |
| Electricity transmission/distribution losses | Low | Included in emissions disclosures. |
| Service providers | Low | Mirvac increasingly seeks to work with organisations that have aligned emissions goals, that is, organisations that are certified as net zero carbon. |
| Maintenance materials | Low | Mirvac's strategy for materials and waste will set out objectives to manage the use of materials and manage for reduced embodied emissions. |
| Investment properties – downstream | | |
| Tenant electricity | High | <p>Mirvac's tenants use electricity in a wide variety of ways, as is allowed under the relevant Building User Guide and Tenancy Fit Out obligations.</p> <p>It is a requirement in Australia that tenant electricity is separately metered and procured by them (Power of Choice legislation). Mirvac does not disclose tenant electricity use information as the information is incomplete and only available for embedded networks managed by Mirvac.</p> <p>Some of Mirvac's tenants have adopted net zero carbon or 100% renewable electricity targets of their own, and Mirvac encourages this response from tenants. All tenants contribute to the national renewable energy target of 20% by 2020.</p> <p>Mirvac continues to seek ways to influence how tenants understand and manage electricity consumption, and supports proposed legislation to have office tenants conduct regular NABERS benchmarking, which can be provided using the NABERS Co Assess tool concurrent with annual base building ratings.</p> <p>A program of continuous improvement of fit-out guides and green lease requirements help to influence tenancy energy.</p> |
| Tenancy lighting | Medium | <p>Mirvac can control the efficiency of some lighting used in the tenant space and has a continuous improvement program for lighting technology upgrades.</p> <p>All new buildings are 100% LED.</p> |
| Tenant waste | Medium | In most cases, Mirvac becomes the custodian of tenant waste as part of services provided to the tenancies. Mirvac has a 100% diversion from landfill target and discloses performance against this target. |
| Tenancy fitout materials | Medium | Embodied carbon in tenancy fitout materials is high and is guided by Mirvac's tenant fitout guidelines and materials/waste strategy. Mirvac encourages the use of Green Star Interiors to guide the fitout of more sustainable spaces. |
| Tenant employees – transport | High | Mirvac has very low influence over the mode of transport or the distance of commute for tenant employees. Mirvac does control the location of properties it invests in and good connections to public transport are inherent in the value of a property. Mirvac has facilitated the transition to electric vehicles by providing electric vehicle charging facilities at all retail centers and several office buildings. In addition, Mirvac has installed end-of-trip facilities in the majority of its office assets to enable tenants to opt for more carbon-friendly commuting options. |

| Business activity | Relative magnitude (low, med, high) | Response |
|---|-------------------------------------|---|
| Corporate upstream: | | |
| Upstream leased – base building electricity | Low | Mirvac's head office is in a high-performance building with scope 1 and 2 emissions reported under managed property. Regional offices are smaller and related scope 3 emissions are not material. |
| Upstream leased – base building gas | | |
| Upstream leased – base building diesel/refrigerants | | |
| Business travel – vehicles | Low | Included in emissions disclosures. |
| Business travel – flights | Medium | Included in emissions disclosures. |
| Purchased goods – stationery, couriers, catering, IT services | Low | Mirvac increasingly seeks to work with organisations that have aligned emissions goals, that is, organisations that are certified as net zero carbon. |
| Purchased services – waste | Low | Head office waste is managed by Mirvac as part of base building management and is captured by Mirvac's 100% diversion from landfill commitment. Regional offices are smaller and related scope 3 emissions are not material. |
| Employee commute | Low | Mirvac corporate offices are in close proximity to public transport providing a variety of low carbon options. All Mirvac state offices have access to end-of-trip facilities that enable employees to take low carbon commuting options. |

The following table sets out Mirvac's high impact, high influence activity areas, and provides balanced estimates of potential reductions.

| Business activity area | Potential emissions savings | Mirvac action | Estimated emissions reduction |
|--|--|--|--|
|  Tenant electricity |  Mirvac's embedded networks supply tenant electricity. |  Mirvac purchases 100% renewable energy for the majority of our sites in NSW, ACT and Vic, and a component of this supply is used for embedded networks supplying tenants. |  30,000 tonnes tonnes of CO ₂ per annum. |
|  Electricity use in sold properties |  Through our House with No Bills research project we found that 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. |  We have since committed to equivalent or higher standards at future developments, including The Fabric at Altona North in Melbourne and Illuma Estate in Perth, representing a total of 50 lots. |  Up to 12 tonnes of CO ₂ per four-person home, per annum. |
|  Tenancy lighting |  All new industrial buildings are 100% LED. |  Converting from metal halide to LED lighting results in lower energy bills and a significant reduction in maintenance costs. |  Up to 30 tonnes of CO ₂ for every 50 lights installed. |

“We remain attentive to developments in this area and we’re committed to playing an advocacy role through industry groups, as well as climate advocacy bodies, to participate in, and influence, the development of robust reporting practices”

SARAH CLARKE,
 Group General Manager, Sustainability