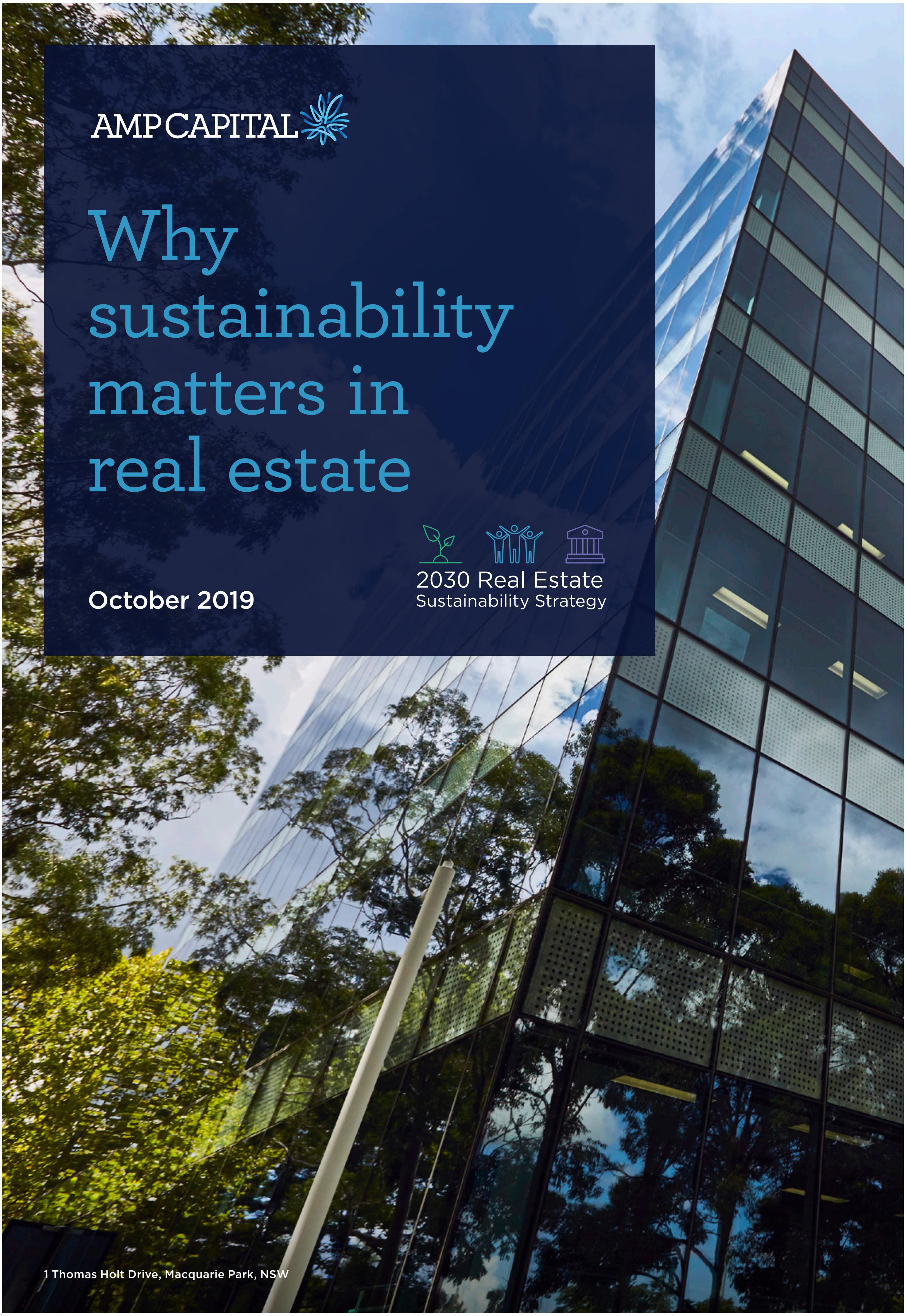
AMP CAPITAL

Why sustainability matters in real estate

2030 Real Estate
Sustainability Strategy

October 2019



1 Thomas Holt Drive, Macquarie Park, NSW

A message from Chris

As Australia's largest employer of 1.4 million people, and Australia's biggest industry, representing 13 per cent of Australian gross domestic product (GDP), the real estate industry has a tremendous opportunity to lead the way on addressing key environmental, social and governance (ESG) issues and support a sustainable future. With access to the necessary technology and insights, along with the knowledge of what's cost effective and known pathways to clean energy, we are in a unique position versus other asset classes to act now.

This is not something we can do alone. We need to leverage the growing expectations of our investors, customers, staff and the community to drive the change required at all levels of real estate – be it at the level of base building services, within the retail, office and industrial areas that our customers occupy or through consistent investment in sustainability initiatives and improvements – with the aim to deliver highly sustainable assets together with our clients, customers and partners.

In this paper, we explore the material ESG issues we are facing globally, the key drivers for action, and the important role that the real estate industry, asset owners, customers, partners and the community have to play in driving change that delivers positive outcomes, while ensuring the assets we manage continue to perform a long way into the future. We also explore the financial benefits or 'green alpha' that environmentally sustainable buildings can offer investors for the long term, which is an important consideration in an increasingly challenging 'lower-for-longer' returns environment.

AMP Capital is committed to achieving long-term sustainable outcomes across the real estate assets we manage, throughout our supply chain and in the communities in which we operate. This means our buildings use less and give more back, they stand the test of time and are resilient to change. It's about caring for the land we use and protecting and restoring our natural surrounds. It's about building social capital in the communities where we operate and curating vibrant and inclusive places where our customers love to be – places that profit, because they're places for life. It's about working together to improve every day for future generations.

We look forward to working with you to address the many ESG risks and opportunities ahead of us, while ensuring we continue to deliver strong, sustainable assets and investment performance for the benefit of our customers, clients and the community a long way into the future.

Chris Nunn
Head of Sustainability, Real Estate, AMP Capital

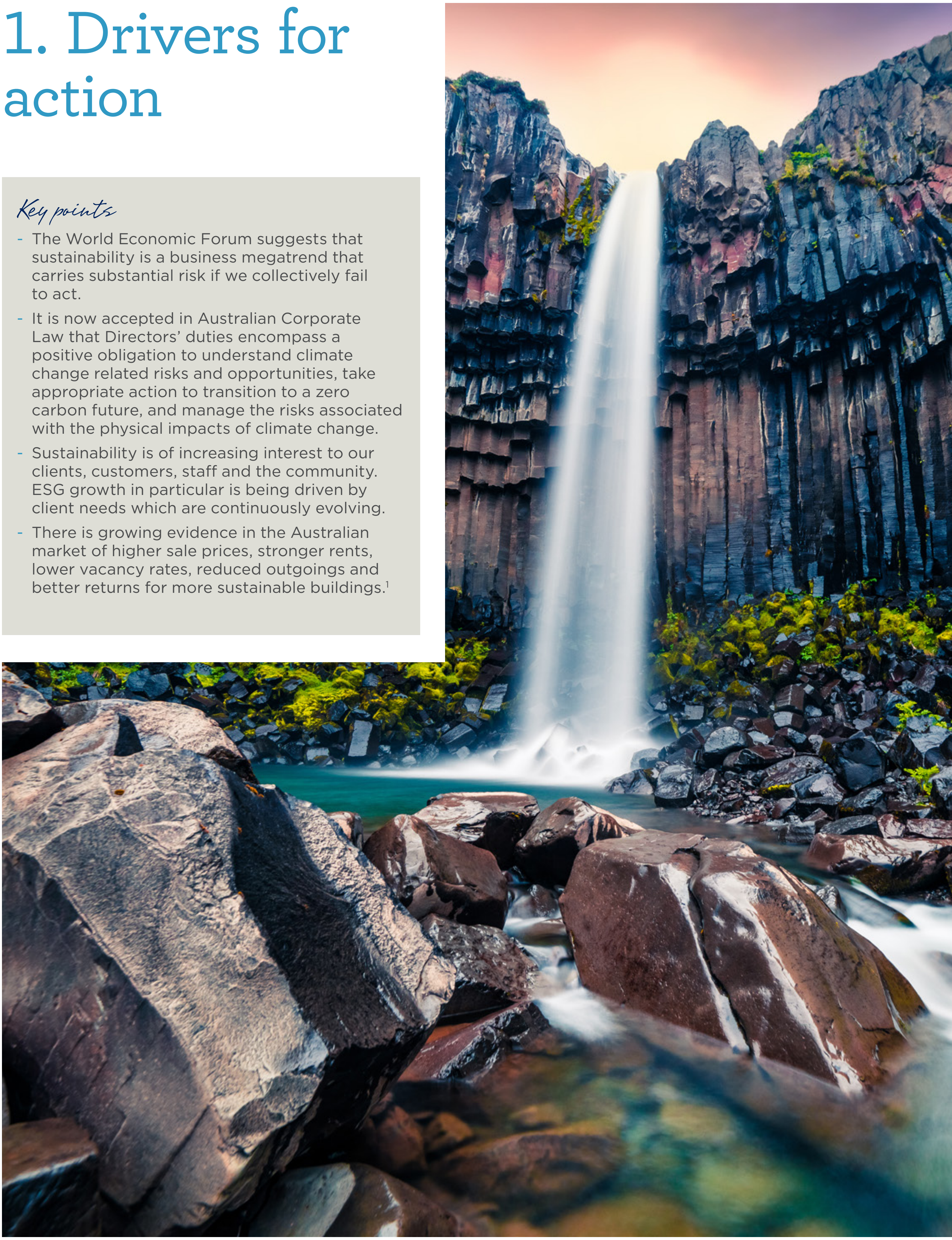
*Property Council of Australia

Contents

1. Drivers for action

Key points

- The World Economic Forum suggests that sustainability is a business megatrend that carries substantial risk if we collectively fail to act.
- It is now accepted in Australian Corporate Law that Directors' duties encompass a positive obligation to understand climate change related risks and opportunities, take appropriate action to transition to a zero carbon future, and manage the risks associated with the physical impacts of climate change.
- Sustainability is of increasing interest to our clients, customers, staff and the community. ESG growth in particular is being driven by client needs which are continuously evolving.
- There is growing evidence in the Australian market of higher sale prices, stronger rents, lower vacancy rates, reduced outgoings and better returns for more sustainable buildings.[1]



1. Australian Property Institute (2011), "Building Better Returns" https://www.api.org.au/news/building-better-returns-research-report

As part of our research, we have considered the needs and motivations of our key stakeholders in relation to sustainability. ESG growth is being driven by:

Stakeholder group	ESG drivers for each stakeholder group
Investors: Institutional and retail investors and their ESG analyst teams and underlying members.	Investors expect us to mitigate investment and reputational risk and take evidence-based ESG actions that support strong, long-term risk-adjusted returns. They want regular disclosures about our ESG performance which are transparent, comparable, benchmarked, assured and aligned to global standards.
Customers: Tenants, prospective tenants, agents, tenant staff members and end building users.	Customers, the users of our buildings – tenants, their employees, and visitors – expect operational excellence. That means buildings that support their business success. It means buildings that reduce exposure to ESG costs (e.g. energy and waste outgoings); minimise exposure to ESG risk (e.g. safe and comfortable, resilient environments, addressing social issues); support people's health, wellbeing and productivity; and align with people's corporate sustainability commitments.
Staff: Real estate leadership teams, fund managers, asset and property managers, operations and facility management teams.	Staff want to work for a company that they can be proud of, that is trustworthy, has integrity, is progressive and committed to doing the right thing. They increasingly understand that becoming sustainable is part of everyone's role description. We include ESG performance in the real estate business unit's scorecard, so it's part of their remuneration considerations. Staff want to understand exactly how they can contribute to meeting our company ESG performance targets. They want to be able to keep track of how we are performing and know that we're keeping pace with or outperforming our competitors, because it's a source of pride when we do well on ESG matters, and it's one of the reasons they'll choose to work with us.
Supply chain partners: Operations supply chain (e.g. cleaners, security, maintenance contractors) and development and capital works supply chains (e.g. architects, engineers, consultants, building contractors, sub-contractors and materials suppliers.)	Supply chain partners want a clear understanding of corporate sustainability commitments as part of discharging their contractual obligations and delivering their service in a way that balances achieving AMP Capital's real estate business and sustainability objectives. Suppliers and contractors want clear, consistent communication about our sustainability expectations: what do they have to do to deliver? Sustainability is one of the ways suppliers can they go above and beyond their contractual obligations to become a preferred partner. Great suppliers will want to showcase the sustainability work they're doing with us to enhance their own reputation (e.g. by winning awards and publishing case studies on their websites) and ultimately to win more work.

Sustainability as risk mitigation

There is increasing recognition from substantial global bodies, like the World Economic Forum, that sustainability is a business megatrend, one that carries substantial risk if we collectively fail to act.

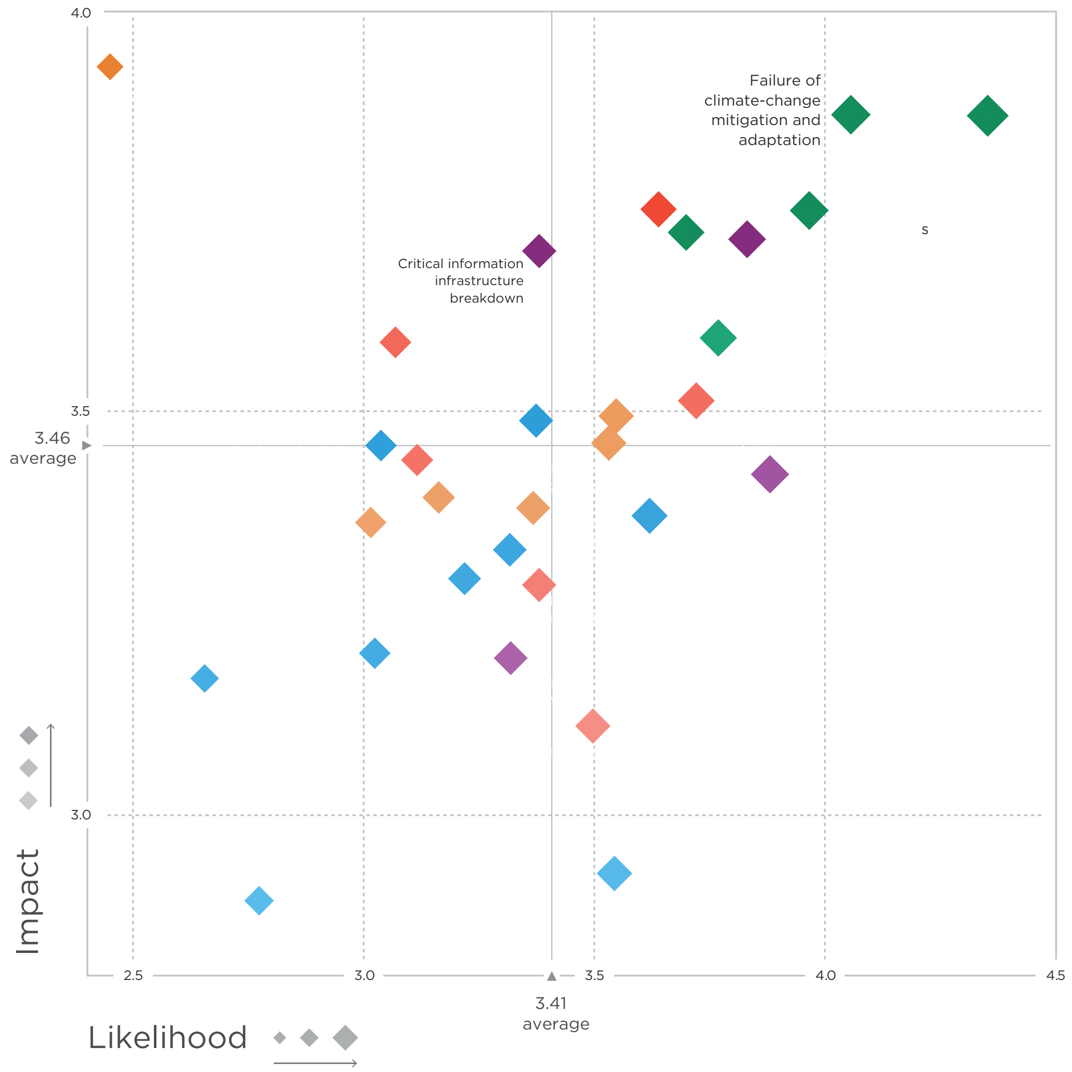
The World Economic Forum's Global Risks Landscape Report[2] (2018) lists the top 10 global risks (of any kind) by likelihood and impact.

Seven of the top 10 global risks are sustainability risks/impacts:

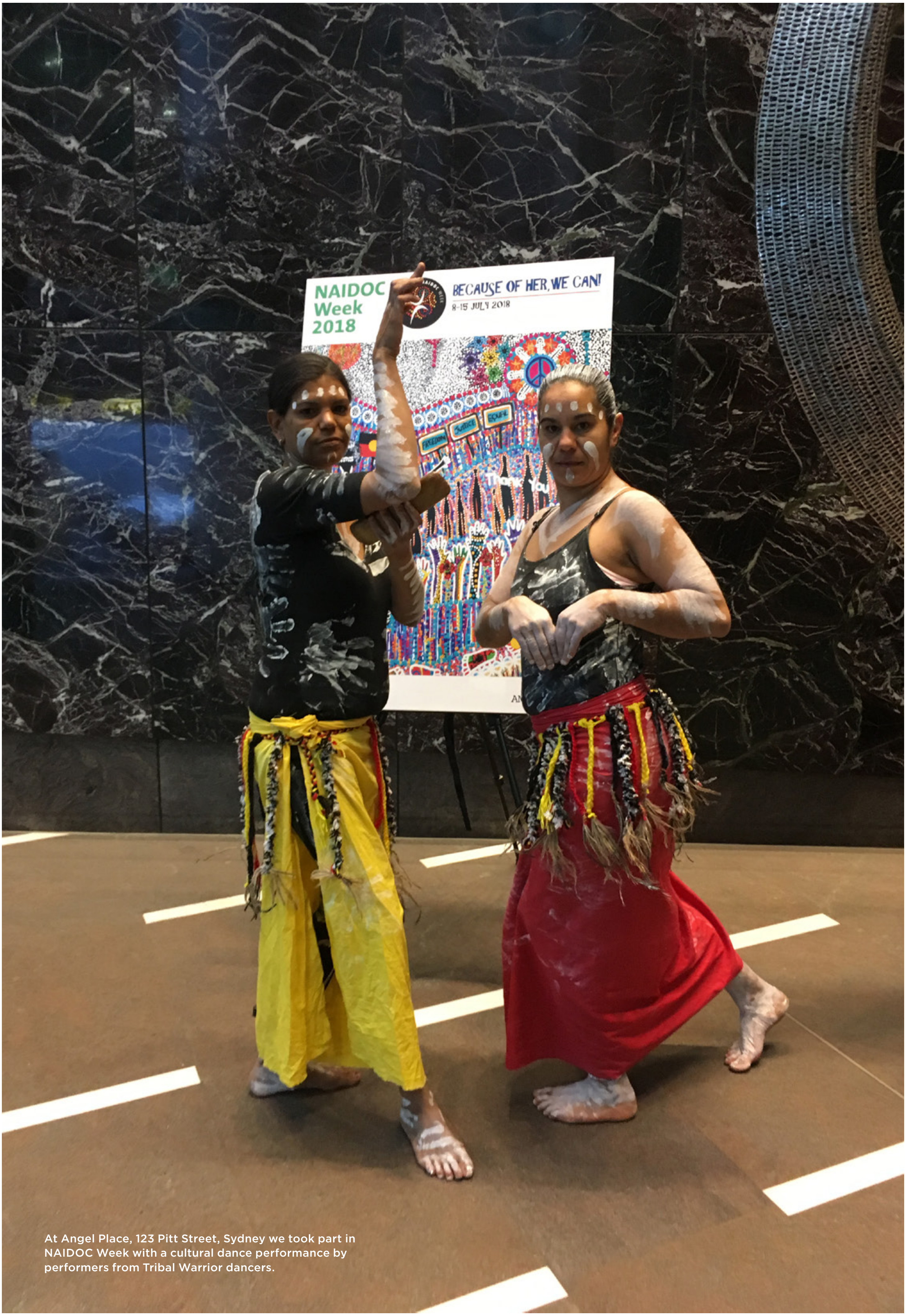
1. **Extreme weather events.**
2. **Failure of climate change mitigation and adaption.**
3. **Major natural disasters.**
4. Massive incident of data fraud/theft.
5. Large scale cyberattacks.
6. **Man-made environmental damage and disasters.**
7. **Large-scale involuntary migration (due to climate change.)**
8. **Major biodiversity loss and ecosystem collapse.**
9. **Water crises.**
10. Asset bubbles in a major economy.

Within the Australian real estate sector, there is substantial potential exposure to extreme weather events, particularly heatwaves, but also high wind speeds associated with increasingly frequent and severe storms. Other climate-related risks include heavy rainfall and potentially hail experienced during storms, river and stormwater-system related flooding, and in some cases storm surge in combination with high tides and ongoing sea level rise.

The global risk landscape 2019



2. https://www.weforum.org/reports/the-global-risks-report-2019



At Angel Place, 123 Pitt Street, Sydney we took part in NAIDOC Week with a cultural dance performance by performers from Tribal Warrior dancers.

Climate change and Directors' duties

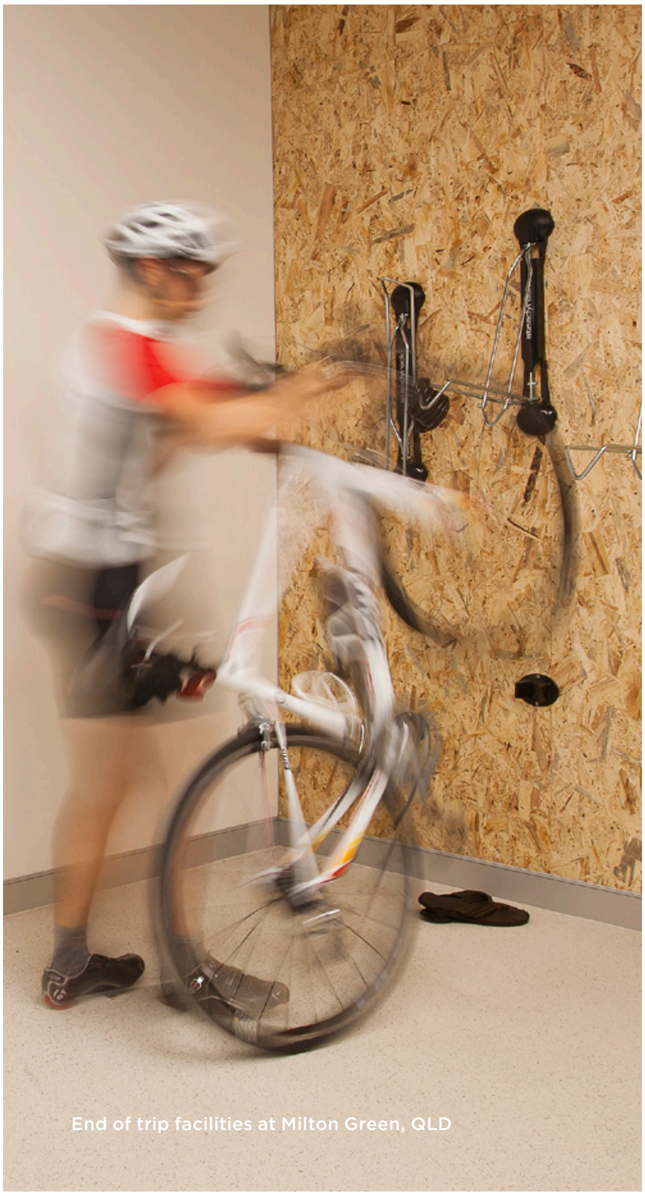
A legal opinion from Noel Hutley SC, dated 7 October 2016 and initiated by Sarah Barker at Minter Ellison, found that many climate change risks are "foreseeable at the present time" and that Australian company directors "who fail to consider 'climate change risks' now could be found liable for breaching their duty of care and diligence in the future".[3a]

Following the publication of this opinion, on 8 March 2017, ASIC's Kate O'Rourke told a Senate committee that climate change risks were "foreseeable" and directors who fail to consider them might be liable for breaches of s180 of the Corporations Act, which relates to directors duties of care and diligence.[3b] This confirms that ASIC's view is that acting "with care and diligence" means directors should inform themselves and act on climate change risks.

As a result, it is now accepted in Australian Corporate Law that directors' duties encompass a positive obligation to understand climate change related risks and opportunities, take appropriate action to transition to a zero carbon future, and manage the risks associated with the physical impacts of climate change.

These positive obligations to understand and disclose climate change implications have been reinforced by the G20 through the Task Force on Climate-related Financial Disclosures (TCFD), and there is an increasing expectation from our investors that we are working toward TCFD compliant financial reporting. This will require Australian real estate companies to have quantified the potential investment implications of the transition to zero carbon. This may include costs related to: ongoing energy efficiency improvements, installing on-site solar generation, procuring 100 per cent renewable electricity and buying carbon offset credits to compensate for any unavoidable residual emissions e.g. from diesel generators or refrigerants.

This will also require our industry to develop methods to predict and disclose estimated costs associated with increases to insurance premiums from increased climate related risks, and changes to valuation outlooks associated with the physical impacts of climate change.



End of trip facilities at Milton Green, QLD

Investor sentiment

According to the 2019 PERE ESG Investor Survey[4], there is strong evidence that globally, sustainable investing is on the rise, with 70 per cent of institutional real estate investors having an explicit ESG policy in place, and nearly all respondents reporting that ESG principles have some role in shaping their investment decision-making.

The survey also found that 35 per cent of investors already expect ESG action from their investment managers, with a further 13 per cent saying they will require ESG initiatives in the next three to five years.

We are already seeing a growing interest in our sustainability performance from our clients, with many appointing in-house ESG experts, who want real estate managers like AMP Capital to participate in industry ESG benchmarks, such as GRESB and PRI, along with bespoke ESG surveys asking specific questions about the fund(s) they are invested in.

3a. https://www.futurebusinesscouncil.com/wp-content/uploads/2016/10/Fiduciary-Duties-and-Climate-Change-Legal-Opinion-7.10.16.pdf or https://www.futurebusinesscouncil.com/fiduciary-duties-and-climate-change/

3b. http://classic.austlii.edu.au/au/legis/cth/consol_act/ca2001172/s180.html

4. https://d16yj43vx3i1f6.cloudfront.net/uploads/2019/07/PERE_ESG.pdf

Some of the key issues our investors are interested in are:

Governance	Social	Environment
- ESG in investment decision-making and transactions, ESG due diligence. - ESG team headcount and seniority. - Participating in ESG benchmarks (GRESB, PRI, Green Star etc.) - ESG credentials of new developments. - Third-party data verification.	- Stakeholder engagement. - Health and wellbeing. - Supply chain issues, like modern slavery and materials safety. - Equity and diversity. - Social impact assessment. - Aboriginal reconciliation.	- Climate change mitigation targets and initiatives. - Resilience to the physical impacts of climate change. - Energy, waste and water efficiency programs. - Renewable energy installations.

Investors' ESG analysts increasingly expect full sustainability performance disclosure, and evidence of high performance relative to peers in third-party sustainability benchmarks. These benchmarks include: GRESB (Global Real Estate Sustainability Benchmark); UN PRI (United Nations Principles for Responsible Investment); CDP (Carbon Disclosure Project); TCFD (Task Force on Climate Related Financial Disclosures); ANREV (Asian association for investors in Non-listed Real Estate Vehicles).

They are also increasingly interested in our participation in global initiatives such as the WGBC (World Green Building Council) Net Zero Carbon Buildings Commitment; RE100 (Renewable Energy 100); Science Based Targets (SBT); and demonstrated alignment with the UN Sustainable Development Goals (SDGs) and Global Reporting Initiative (GRI).

An increasing power of choice is also creating competitive pressure on pension funds to demonstrate their ESG credentials to their members, by selecting responsible and sustainable fund and asset managers. The Responsible Investment Association Australia (RIAA) found that:[5]

- 92 per cent of Australians expect their superannuation or other investments to be invested responsibly and ethically.
- Four out of five Australians would consider switching their super or other investments to another provider if their current fund engaged in activities inconsistent with their values.
- 69 per cent of Australians would rather invest in a responsible super fund that considers ESG issues and maximises financial returns, rather than a fund that only considers maximising financial returns.
- 87 per cent of Australians have important issues they avoid investing their money into, and 82 per cent of Australians consider social issues when investing.

Sustainability targets and ESG screens

Many of our institutional clients have set themselves ambitious sustainability targets and cascade those expectations through to us as their fund and asset manager. More clients are becoming members of bodies such as the RIAA or the Global Impact Investor Network.

Most investors are applying some kind of negative ESG screen and divesting from sectors or activities with known significant environmental or social harm. Further, many are now applying positive ESG screens, earmarking some or all of their funds to invest only in highly sustainable investments. In real estate this might mean only investing in funds with a zero carbon by 2030 target, or portfolios that exceed area weighted average NABERS Energy targets.

Many investors have explicitly committed to support the objectives of the Paris Agreement and the transition to a low-carbon economy through their investment activity. They are also aligning to global sustainable investment frameworks such as Australian Sustainable Finance Initiative (ASFI), voluntary commitments such as UN Asset Owner Alliance through with investors commit to net zero carbon investment portfolios by 2050, Climate Action 100, or Renewable Energy 100, Energy Productivity 100, and participating in Green Bonds, Climate Bonds and other sustainable finance instruments.

To date, most investors have been asking generally what we're doing about climate resilience, but haven't yet got to the point of avoiding portfolios with assets deemed high risk. However, it's likely we will start to see substantially more investor scrutiny on portfolio-wide and asset-specific exposure to the physical risks of climate change.

Increasingly, investors are also looking to see alignment to the UN Sustainable Development Goals and concepts such as the 'circular economy' and the 'Just Transition' framework.

5. RIAA, 2017, 'From Values to Riches: charting consumer attitudes and demand for responsible investing in Australia' https://responsibleinvestment.org/wp-content/uploads/2017/11/From-values-to-riches-Charting-consumer-attitudes-and-demand-for-responsible-investing-in-Australia-2017.pdf

Customer sentiment

There is evidence from our tenant satisfaction surveys that sustainability is increasingly of interest to our customers.

Office: Office customer sentiment is measured using an annual third-party survey which included findings that:[6]

- 90 per cent of office tenant representatives support eliminating single-use plastic from the building.
- 78 per cent of customers consider NABERS Energy ratings important when selecting an office.
- Most customer organisations have their own corporate sustainability commitments (58 per cent), which our buildings help them to achieve.

Retail: Evidence of retail customer sentiment in support of sustainability initiatives from AMP Capital's Recommended Retail Practice report 2017 "From A to Gen Z: Shopping with the Future Generation"[7] found:

- 68 per cent prefer brands that give back.
- 62 per cent prefer brands that stand for something.
- 59 per cent are willing to pay more for sustainable products.

Industrial: Progressive industrial customers have approached AMP Capital's management team to carry out tenant-initiated base building sustainability measures, including:

- the installation of solar panels at their facility.
- innovative use of instruments such as third-party financed, site-specific power purchase agreements or environmental upgrade agreements to finance and install solar panels, batteries, LED lighting, a new BMS and HVAC upgrades.

Public concern about climate change and waste

Public awareness of sustainability is growing, with increasing news media coverage of the unfolding impacts of climate change, marine plastic pollution and popular TV and documentary series like Blue Planet and The War on Waste. The War on Waste TV series in 2017 and 2018 highlighted concerns with plastic, with a particular focus on packaging waste, leading to calls for bans on straws and other single-use plastic packaging items (beyond plastic bags) like plastic straws, bottled water. It also addressed food waste, coffee cups, e-waste and fast fashion as problematic waste streams.

This public sentiment is translating into increasing consumer pressure to demonstrate strong commitment and action on climate change. It's triggering calls, for example, to introduce bans on single-use plastic items and switch to compostable packaging alternatives.

Legislative drivers

One of the most noticeable and relevant regulatory drivers in the Australian ESG space has been the introduction of plastic bag bans. The progressive introduction of plastic bag bans and the introduction of container-deposit recycling schemes has been successful in raising public consciousness at a key customer touch point.

- In 1977, South Australia introduced a container deposit scheme that provides a refund for bottles and cans, which has been progressively amended over the years. The state government also banned lightweight plastic bags in 2009.
- The Northern Territory plastic bag ban began on 1 September 2011 and a container deposit scheme started in 2012.
- The ACT banned single-use plastic bags on 1 November 2011 and started a container deposit scheme in June 2018.
- Queensland banned single-use plastic shopping bags for all retailers from 1 July 2018 and introduced a container deposit scheme in November 2018.
- Western Australia banned single-use plastic shopping bags for all retailers from 1 July 2018, and has announced plans for a container deposit scheme commencing in June 2020.
- New Zealand introduced a plastic bag ban on 1 July 2019.[8]
- In Victoria, lightweight, single-use plastic shopping bags are banned from November 2019.
- NSW is the last state to introduce a plastic bag ban, but it is currently being reviewed by the minister responsible, Matt Kean.[9] A NSW bill to ban single-use bags passed the Upper House on 26 Sept 2019. NSW introduced a container deposit scheme in 2017.
- Tasmania has announced a container deposit scheme will be in place by 2022.

6. Campbell Scholtens AMP Capital Tenant Survey Portfolio Results 2018 dated 11 Sept 2018; and 2019 dated 25 Sept 2019.

7. AMP Capital Recommended Retail Practice Report (Apr 2017) "From A to Gen Z: Shopping with the Future Generation" which surveyed Gen Z shoppers, aged 18-22 years http://ampcapitalretail.com.au/research/a-to-gen-z

8. https://insideretail.co.nz/2019/07/04/plastic-bag-ban-officially-kicks-in/#daily

9. https://www.sbs.com.au/news/nsw-plastics-review-could-lead-to-bag-ban

Green alpha: stronger financial performance for more sustainable buildings

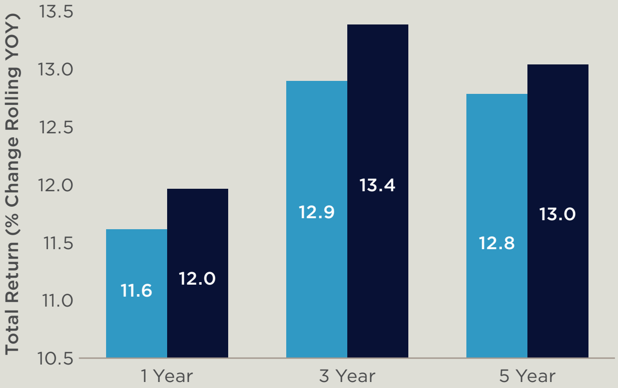
There is growing evidence in the Australian market of higher sale prices, stronger rents, lower vacancy rates, reduced outgoings and better returns for more sustainable buildings.[10] Some reasons for this include:

- Higher NABERS ratings (for office) ensure that these properties are attractive to the widest range of prospective and incumbent tenants.
- Reduced resource use reduces operating costs for tenants.
- Strong sustainability performance correlates with lower vacancy rates, longer WALE and higher rents.

Independent research shows that ESG initiatives such as energy and water efficiency, and thermal comfort improvements can drive higher income returns. Australian office buildings with four-star plus NABERS ratings achieved higher total returns.

Prime CBD office total returns: green vs the rest

Prime office average vs Prime office 4-6 Stars NABERS



Sources: MSCI, AMPC RE Research

Beyond cost savings, stronger ESG performance is insurance against future energy price spikes and tenant retention

From a real estate perspective, maximising the returns you can generate in a portfolio is primarily linked to boosting the rental income and keeping operational costs down. Reducing the outgoings of an asset by cutting energy costs is an important, and relatively simple method to boost income yields. According to market evidence and international studies into green buildings, this can make significant differences to the return an asset delivers over its life.

Sophisticated energy procurement strategies can also insulate customers from energy price shocks. These can happen with previous energy procurement methods involving three-or-five-year fixed-price contracts. As the contract came to an end, in an era of rising energy prices, customers felt the full effect of years of price rises as they were moved to the new energy contract. During 2018 and 2019 some were exposed to a doubling of their energy costs.

Since 2014, AMP Capital has used progressive procurement, buying energy on the futures market about one year in advance, in small increments, quarter by quarter, state by state, progressively filling orders to ensure our customers' energy prices broadly track and usually beat the market price. This progressive or flexible procurement through the energy market is a key way real estate asset owners can limit energy price shocks to tenants.

Asset valuations and returns are already starting to reflect a growing divergence between high-standard green buildings, and their less-green peers that can add as much as 50bps per annum to a total return. According to the MSCI Green Property Investment Digest, over the past three years, Prime CBD Office buildings with a NABERS star rating higher than four stars (the maximum is six) have delivered a total return to their investors of 13.4 per cent, versus 12.9 per cent for all other assets in this category.

Green alpha and the positive boost it provides to total returns has become a bigger part of an asset manager's toolkit in maximising returns. Greener buildings, apart from delivering superior returns, tend to offer investors lower systemic risk with a more stable income profile, lower incentives and enhanced tenant "stickiness" which can reduce the vacancy of a portfolio. The evidence shows that environmentally sustainable buildings offer financial and environment benefits to investors for the long term.

10. Australian Property Institute (2011), "Building Better Returns" https://www.api.org.au/news/building-better-returns-research-report

Australian leadership and competitive pressure on sustainability

Strong sustainability performance in Australian real estate is also driven by the strong overall performance of the Australian region in sustainability indices, such as GRESB, relative to the rest of the world. The Australian real estate sector is globally highly competitive on sustainability performance, and this leads to continuously rising expectations and performance levels among the leading institutional asset owners.

In the 2019 GRESB results, Australian real estate companies were global sector leaders in nine out of 26 categories (34 per cent). To be sustainability leaders in one third of all available asset class positions in this global benchmarking system with over 1000 property company participants, covering over 100,000 assets, is hugely disproportionate to the Australian region's size and scale. The Australian region GRESB average has outperformed other regions for the past nine years. The Australian region average (81 per cent) is about 10 per cent higher than the global average (72 per cent).

This level of global competitiveness means that domestic players are pushed to a high performance level, but also that the Australian real estate market is characterised by high levels of innovation. Being the best and staying in the lead means you have to try new things. Sustainability experts in Australia are continually pushing boundaries and keenly follow global best-practice developments, so we can quickly implement successful new sustainability ideas from other jurisdictions.

The Australian region GRESB average has outperformed other regions for the past nine years.

700 Bourke Street, Docklands, VIC

In the 2019 GRESB results, Australian real estate companies were global sector leaders in nine out of 26 categories (34 per cent).

2. Key sustainability challenges

Collins Place, Melbourne, VIC

Key points

- Sustainability has become a dominant global economic risk and business megatrend that will transform business, industries and society.
- Key sustainability challenges include resource efficiency, climate change, water supply, plastic waste, biodiversity and modern slavery.
- The real estate sector holds many of the solutions and is in a position to act now. Solutions include zero net carbon targets, energy efficiency targets, renewable energy targets, peak energy demand reduction, electrification of buildings, refrigerants, climate change resilience assessments, waste avoidance and recovery, water efficiency, biodiversity initiatives, health and wellbeing, social sustainability, inclusion and diversity, accessibility, electric vehicle take up, governance and innovation.

Key sustainability insights from recent megatrends papers[11] distributed by PwC, EY, KPMG, Deloitte and the World Economic Forum, show the scale and breadth of sustainability challenges globally. They also confirm that sustainability is more than a niche activity, rather it has become a dominant global economic risk and business thematic megatrend that will transform business, industries and society.

Some of the key challenges highlighted include:

- **Resource efficiency:** By 2030, the world's population is predicted to be 8.3 billion, and we will still only have the same amount of arable land and fresh water. However, we will need: 35 per cent more food; 40 per cent more fresh water; and 50 per cent more energy.
- **Climate change:** Global GHG emissions and atmospheric CO2 e-concentrations are still rising[12], and are currently tracking on a pathway consistent with a 4˚C increase in global average temperature by 2100. If we are to limit global warming to less than 2˚C as agreed in 2015 at the Paris COP21, only one-third of the world's current proven fossil fuel reserves can be burnt. The world needs to reduce emissions by 80 per cent to 95 per cent below 1990 levels by 2050, which requires a reduction of ~6.5 per cent per year. 200 million people could be displaced from their homelands and forced to migrate due to the predicted impacts of climate change (rising sea levels, flooding and droughts) during our lifetime.
- **Water supply:** By 2030, global demand for water will exceed supply by 40 per cent. Australians use an average of 340 litres per person per day. This is two times more than the UK average of 150 litres per person per day – whereas 130 litres per day is good practice, and 80 litres per day is best practice.[13]
- **Plastic waste:** Average recycling rates in Australia are in the range of 30 per cent, whereas global best practice is greater than 80 per cent.

  Cumulative plastic production since 1950 exceeds 8.3 billion tonnes (more than one tonne per person alive today). Only nine per cent of the plastic produced since 1950 has ever been recycled. Annual plastic inputs into the ocean exceed eight million tonnes (which is three per cent of global annual plastics waste).[14]

  In the 'Great Pacific Garbage Patch' there are approximately 80,000 tonnes of plastic pollution floating in the sea in a huge agglomeration that is roughly the size of the USA. At sea around Australia, the concentration of marine plastic pollution can be as high as 9,000 pieces per square kilometre. Plastics take anywhere between 100 and 10,000 years to break up, but plastic in the environment never breaks down,[15] rather it becomes micro-plastic and stays in the environment where it is a persistent pollutant. This disrupts ecosystem functioning and plastic is often mistakenly eaten by animals.[16] 90 per cent of the world's sea birds are estimated to have fragments of plastic in their stomach – in 1960, it was five per cent.[17]
- **Biodiversity:** The world has lost 60 per cent of all wildlife in less than 50 years.[18] Australia has one of the world's highest rates of animal and plant extinctions (the fifth worst country in the world[19] and the highest rate of land mammal extinctions over the last 200 years of any country[20]).

  Since 1788, 11 per cent of the 273 native mammals living on Australian land have become extinct, with 21 per cent threatened and 15 per cent vulnerable.[21] Australia is one of a few countries considered to be at highest risk of species extinctions from climate change[22] and was the first country to record an extinction caused by climate change: in 2018 the Bramble Cay melomys that lived on a coral island in the Great Barrier Reef was wiped out by rising sea levels, causing its extinction.[23]
- **Modern slavery:** There are currently approximately 40 million people (2016) in some form of modern slavery.[24] By contrast, in the history of the trans-Atlantic slave trade (1525-1866) 12.5 million Africans were shipped to America.[25]

11. PwC https://www.pwc.co.uk/issues/megatrends.html;
EY https://www.ey.com/gl/en/issues/business-environment/ey-megatrends;
KPMG https://home.kpmg.com/xx/en/home/insights/2015/03/future-state-2030.html;
Deloitte https://www2.deloitte.com/content/dam/Deloitte/za/Documents/strategy/za-Megatrends-TL_211117.pdf
World Economic Forum https://www.weforum.org/agenda/2017/08/4-mega-trends-that-could-change-the-world-by-2030

12. https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions

13. http://www.rwcc.nsw.gov.au/save-water/average-water-use/; http://www.waterwise.org.uk/data/resources/25/Water_factsheet_2012.pdf; http://www.yourhome.gov.au/water/wastewater-reuse

14. https://ourworldindata.org/plastic-pollution

15. When plastics are exposed to sunlight or water, they can break down into smaller and smaller plastic pieces, but they never completely biodegrade because at the molecular level, those chains of molecules that make up the plastic polymers cannot be broken apart by bacteria, so the plastic still exists at that molecular level. https://oceanservice.noaa.gov/podcast/june16/dd66-microplastics.html

16. https://www.theguardian.com/environment/2018/apr/16/plastic-is-literally-everywhere-the-epidemic-attacking-australias-oceans?utm_source=esp&utm_medium=Email&utm_campaign=GU+Today+AUS+v1+-+AUS+morning+mail+callout&utm_term=271495&subid=24938894&CMP=ema_632

17. http://www.livingplanetindex.org/home/index

18. https://www.weforum.org/agenda/2018/10/weve-lost-60-of-wildlife-in-less-than-50-years?fbclid=IwAR3N3GxYTcyaUBG2OuBwrZFnUiyQBkdMmEcakCqRqziekseAgXolwy9-ycA

19. http://www.abc.net.au/news/2015-08-19/fact-check-does-australia-have-one-of-the-highest-extinction/6691026

20. https://www.bbc.com/news/science-environment-31359188

21. Woinarski et al 2015, 'Ongoing unravelling of a continental fauna: Decline and extinction of Australian mammals since European settlement', PNAS April 14, 2015 112 (15) 4531-4540) https://www.pnas.org/content/112/15/4531

22. Urban, 2015, 'Accelerating extinction risk from climate change', Science, Vol 348, Issue 6234, pp571-573 https://science.sciencemag.org/content/348/6234/571

23. https://science.sciencemag.org/content/348/6234/571/tab-article-info

24. https://www.minderoo.com.au/global-estimates-of-modern-slavery/

25. https://www.theroot.com/slavery-by-the-numbers-1790874492

Solutions from the real estate sector

In the built environment, we have a range of technologically mature and cost-effective opportunities to significantly contribute to the solution of many of these global sustainability challenges. In Australia, we have a global leadership position in sustainable buildings. We are well placed to make a positive difference.

Marginal greenhouse gas abatement cost curves[26] show that both globally and in Australia, the building sector holds many of the most cost-effective climate change mitigation opportunities, and energy efficiency retrofits in commercial property is the most cost-effective way to reduce carbon emissions in Australia of all the opportunities examined.

The sectoral opportunity of commercial real estate to positively contribute to sustainability outcomes is also highlighted by the **United Nations Sustainable Development Goals (SDGs)** – a collection of 17 global goals set by the United Nations General Assembly for the year 2030 that were adopted by all UN Member States in 2015. In each country, governments are tasked with translating the goals into national legislation and implementing initiatives. Each of the top level 17 themes has a separate list of targets – totalling 169 targets in all. The 169 targets are matched, with no less than 232 performance indicators.

Given the breadth and detail of the targets, notwithstanding that the SDGs were drafted with governments in mind, they have been widely embraced by the corporate sector. This is because they represent such a wide range of themes covering social, economic and environmental development issues. These themes include poverty, hunger, health, education, gender equality, clean water, sanitation, affordable energy, decent work, inequality, urbanisation, global warming, environment, social justice and peace.

AMP Capital's real estate team has mapped its sustainability targets against the SDGs, to demonstrate how our sustainability strategy contributes toward achieving the SDGs. This mapping exercise shows that many of the actions we have committed to directly or indirectly support the achievement of the SDGs, and this is increasingly something our investors are looking to see evidence of. We found that there were 44 specific SDG targets (out of 169) that our actions contribute toward.

700 Bourke Street, Docklands, VIC

26. McKinsey & Company Marginal GHG Abatement Cost Curves https://www.mckinsey.com/business-functions/sustainability/our-insights/greenhouse-gas-abatement-cost-curves; work replicated in Australia by Climate Works https://www.climateworksaustralia.org/sites/default/files/documents/publications/climateworks_lcgp_australia_summary_mar2010.pdf

Some of the strongest correlations between the SDGs (targets in brackets) and real estate sustainability activities are:

- Improve energy efficiency (7.3) and increase renewable energy (7.2.)
- Strengthen resilience to climate-related hazards (13.1.)
- Improve resource efficiency (8.4, 12.2), reduce waste generation and improve recycling (12.5), limit food waste (12.3) and prevent marine pollution (14.1.)
- Increase water efficiency (6.4.)
- Protect natural heritage (11.4), limit biodiversity loss (14.5, 15.A, 15.2), and improve access to green space (11.7.)
- Tobacco control (3.A.)
- Protect labour rights and promote safe and secure working environments (8.8.)
- Education, training and awareness raising about sustainability (4.7, 12.8, 13.3); and developing partnerships that mobilise and share sustainability knowledge, expertise, technology and financial resources (17.16, 17.17.)
- End all forms of discrimination against all women (5.1) promote flexible work arrangements (5.4), monitor and promote gender diversity, particularly in leadership positions (5.5, 8.5.)
- Improve accessibility for people with a disability (10.2.)
- Promote sustainable transport (11.2.)
- Identify and tackle corruption and bribery (16.5) and address modern slavery (8.7.)
- Promote transparent sustainability disclosures (16.6) and reporting (12.6.)

Analysis of the sustainability targets from leading Australian real estate companies reinforces the range and type of sustainable solutions available in the commercial real estate sector. They include:

- **Zero net carbon targets:** almost universally adopted by Australian real estate companies. The leaders among the Australian real estate industry understand and acknowledge the reality of human-induced climate change and are taking strong action to de-carbonise and adapt real estate portfolios.

  Target dates and scope of coverage vary somewhat, with some moving to zero carbon as early as 2020 or 2025, and others opting for targets as late as 2040 or 2050 for existing buildings, but typically dates around 2030 have been chosen as the target timeframe by which real estate portfolios will have become carbon neutral.

  Targets also typically include gas and electricity (scope one and two) emissions, with some also including relevant less direct (scope three) emission sources such as tenant energy consumption, methane emissions from decomposing landfill, carbon emissions associated with water treatment and disposal.

  Few are currently opting to offset embodied carbon or other supply chain impacts, but this is often discussed as next frontier once relevant operational and in-control emissions are addressed.
- **Energy efficiency targets:** universal, with most in Australia using the NABERS Energy standard as a convenient performance benchmark. Portfolio area-weighted NABERS average energy rating targets are being used quite widely to set top level targets, such as five-star NABERS average without green power by 2020.
- **Renewable energy targets:** increasingly common, with many Australian real estate companies recently having completed or initiated large rooftop solar photovoltaic installations. These are particularly well suited to shopping centres with large expanses of available roof area, seven-day trading, and with peak energy demand generally occurring during the day when the sun is shining and the panels are generating.

  In addition to onsite renewable energy installations, some companies have commenced – and most are considering – various ways to cost effectively procure renewable energy through the grid, typically using power purchase agreement models.
- Peak energy demand reduction strategies: a relatively new and increasingly promising area of investigation, with many property companies considering how generators or curtailment of cooling or heating could be used to reduce total energy consumption at times of grid or asset-level peak energy consumption. This is an emerging demand-response market in Australia, which is well established in other countries, particularly the US.
- **Electrification of buildings:** increasing recognition that zero carbon buildings necessitate the long-term phase out of direct fossil fuel combustion (gas and diesel). Promises of a future transition to a hydrogen-based gas network seems too remote to counter electrification. The use of biodiesel in generators is not yet widely discussed, and may be rendered moot by the reducing cost of batteries as backup power. Batteries for backup power (versus generators), also have the co-benefit of the ability to more rapidly respond to calls feed into demand response markets, which may contribute to the business case for battery adoption in commercial buildings.
- **Refrigerants:** a relatively small emission source that punches above its weight, with very high global warming potential per kilogram. 'Drawdown,' a book of 100 climate change solutions published in 2017, by legendary sustainability guru Paul Hawken, ranked[27] refrigerant management as the number one solution to climate change. The transition to climate-friendly refrigerants is incentivised by the refrigerant phase down by 2036 associated with the Kigali Convention. This is quietly influencing new build chiller selection, and we can expect a practical phase out of Hydrofluorocarbon (HFC) based refrigerants by 2040.
- **Resilience to climate change analysis:** Australian real estate companies are all in the process of carrying out, or have already undertaken analysis, of exposure to the physical risks associated with climate change impacts, the worst of which in Australia are expected to be heatwaves and severe storms. New asset acquisitions are being screened for climate resilience, and this will start to be reflected in valuations as property companies become more sophisticated at quickly evaluating capital works and valuation implications of an asset's exposure to climate risk.
- **Waste avoidance and recovery:** commercial real estate owners and managers have a significant role in reducing the waste generated by our building users, and influencing them to adopt more sustainable consumption behaviours. Construction waste targets (including new buildings, refurbishments, as well as fitout and stripouts) and operational waste targets are universal across real estate companies.

  These typically include commitments to drive down waste generation, reduce or eliminate waste being sent to landfill, increase recycling rates, introduce or expand the collection of organic waste, collect and appropriately dispose of electronic waste, and implement procedures including user education to minimise contamination of recycling and organics waste streams.
- **Water efficiency initiatives:** similarly universal, but beyond water efficient fixtures and fittings, drivers to do more rainwater collection, grey- and black-water recycling, landscape infiltration and other sustainable drainage systems are weak relative to the strength of the economic and other incentives on energy and waste. This is anomalous given the prolonged drought conditions in Australia, which are exacerbated by the effects of climate change.

27. https://drawdowniitkgp.wordpress.com/2017/12/07/top-solutions/

- **Biodiversity initiatives:** typically focus on site-level actions in urban contexts, with many property companies setting targets to plant only native species and create relevant habitats for threatened species as part of their developments. Given the alarmingly high rate of species extinctions in Australia, and the disproportionate number of threatened and endangered species in Australia, this is an area where the real estate sector could do more.
- **Health and wellbeing:** a major focus of most real estate companies, as a natural adjunct to providing building users with an optimal indoor environment. Metric rating systems for evaluating the contribution of the building to occupant productivity and wellbeing are increasingly common, as is the deployment of Internet of Things sensors and surveys to test the effectiveness of interventions.
- **Social sustainability:** a major growth area in Australian real estate, with many of the initiatives being documented in the Property Council of Australia's 'Common Language for Social Sustainability'.[28] Many companies are conducting social impact assessments of assets, supporting social enterprises, deepening charitable partnerships to create shared value, conducting more stakeholder engagement, and getting better at monitoring and reporting the tangible outcomes achieved through social sustainability initiatives.
- **Inclusion and diversity efforts:** in Australian real estate there has been a heavy focus on gender equality, with many companies adopting the target to have greater than 40 per cent of all staff, and senior executive positions held by women. Reconciliation Action Plans to recognise and celebrate Aboriginal and Torres Strait Islander culture and promote indigenous employment are increasingly common, but there is a long way to go in this regard.
- **Accessibility:** Australian real estate players are generally good at encouraging walking, running or cycling to and from our assets, and ensuring people can find out how to get there using public transport. Best-practice change rooms, cycle racks, lockers and showering facilities are common, but more could be done to improve accessibility and functionality of buildings. In this context, it's important to note one in five Australians have some form of disability. This will likely involve increasing the numbers of adult changing facilities and catering better environments for people with visual or hearing impairments, dementia or ADHD.
- **Electric vehicles (EVs):** take up in Australia has been comparatively slow at 0.2 per cent of new vehicles sold in 2018, compared to Europe and North America (circa four per cent of new vehicles sold).[29] However, there are a series of market factors indicating an increasing need for Australian commercial building owners to plan for the installation of EV charging infrastructure. These include declining battery prices contributing to EV prices coming down in line with combustion engine vehicles, a growing range of EV models becoming available and increasing performance of new models. Further, Bloomberg predicted that in Australia EVs will reach 50 per cent of new vehicle sales and surpass internal combustion engine vehicle sales in 2034.

  Implications for peak energy demand costs, and methods to charge users, and ensure that charging bays are highly utilised for charging vehicles not merely parking electric vehicles are all short-term considerations. The rise of share vehicles and the increasing need for pick-up and drop-off bays, as well as drone landing/delivery stations are also on the radar.
- **Governance issues:** have tended to focus on the strength of sustainability teams within real estate, the sophistication of environmental and sustainability management systems, the application of ESG screening as part of transaction due diligence, strong reporting, public disclosure of performance, transparent benchmarking, and the widespread application of rating tools and third-party assurance regimes to give confidence in reported results.

  'Green lease' wording is now relatively common and will remain an important way to elicit the cooperation of building users in whole building sustainability initiatives. Supply chain governance is the hot topic in this area. The introduction of modern slavery legislation in Australia in 2018 prompted significant focus on sustainable procurement governance mechanisms, development of enhanced supplier screening and pre-qualification criteria, contract clauses that explicitly reference avoidance of modern slavery, and supplier questionnaires to provide ongoing assurance that modern slavery risks are being managed.
- **Innovation:** is occurring in a variety of areas, including increasing use of green bonds to secure favourable finance based on the strong sustainability credentials of Australian institutional real estate, the creation of new funds focused on attracting impact investors or delivering enhanced social and environmental outcomes, and experimentation and scaling up of solutions like cross-laminated timber structures.

  Further, we can also see the increasing incorporation of energy services as part of property management (through embedded networks, solar power purchase agreements, and district scale utilities), increasing deployment of Internet of Things sensors, advanced building management control systems using machine learning and artificial intelligence and a variety of other prop-tech initiatives. There are also experiments with zero carbon buildings emerging and advanced design and construction methods, like Passive House Certification.

These real estate focus areas correlate strongly with the sustainability framework adopted more broadly by AMP Capital.

28. https://files.propertycouncil.com.au/hubfs/_Communications/ACommonLanguageforSocialSustainability.pdf
29. Bloomberg New Energy Finance EV Outlook 2019 https://about.bnef.com/electric-vehicle-outlook/

3. Driving positive change

Key points

- AMP Capital is committed to creating enduring value through sustainability.
- Our comprehensive sustainability framework addresses 12 key ESG issues, with an elevated focus on delivering six key initiatives by 2030.

AMP Capital's commitment to sustainability: our Real Estate 2030 Sustainability Strategy

AMP Capital's real estate team has developed an ambitious new 10-year plan for how to realise our vision of a sustainable future. The plan is all about creating **enduring value** through sustainability. We call it our 2030 Sustainability Strategy, and it's a step change in our thinking.

Outcomes

By doing this we aim to:

- Enhance value and minimise risk for our investors.
- Deliver exceptional real estate experiences for our customers.
- Perform in line with global best practice.
- Develop our people and partners sustainability knowledge so they can be sustainability advocates.
- Foster a culture which embraces sustainability as a genuine core value.

In short - we are focused on shaping a better future.

> "As a business, we recognise that sustainability initiatives help deliver value for our investors, improve customer experiences, motivate our employees and support positive outcomes in the broader community."

Carmel Hourigan,
Global Head of Real Estate,
AMP Capital

A dog relaxes at the Bayfair Shopping Centre 'Dog Parking' area.


BAYFAIR CUSTOMER DOG PARKING
BAYFAIR CUSTOMER DOG PARK

We have developed a comprehensive sustainability framework that addresses 12 material ESG areas. Our objectives and focus areas are broken down into environment, social and governance themes:

- **Environment:** we will operate within environmental limits, with a focus on energy and climate change, waste minimisation, water efficiency, biodiversity and habitat.
- **Social sustainability:** we'll build our capability and strengthen our stakeholder engagement with a focus on health and wellbeing, culture and community, equity and diversity, transport and mobility.
- **Governance:** we'll continue to behave ethically, transparently disclose our performance, and work to continuously improve every day. This includes a distinct focus on policies and processes, supply chain governance, reporting and ratings, and identifying and capitalising on ESG-related growth opportunities.

We have an elevated focus on six headline initiatives:

1. **Climate change:** We have committed to be zero net carbon by 2030 for our scope one and two emissions. We'll continue to drive energy efficiency improvements, we'll buy 100 per cent renewable electricity, and we'll reduce and offset our direct use of fossil fuels and refrigerants. We'll also develop site-specific plans to make our assets more resilient to the physical impacts of climate change – hotter longer heatwaves, more severe storms and floods.
2. **Waste:** We'll continue to reduce and recycle the waste generated by the our building users. In addition, we'll work with our customers to support a shift away from single-use plastic and encourage adoption of compostable packaging alternatives.
3. **Biodiversity:** We'll create a biodiversity conservation reserve that is equivalent in area to our entire real estate portfolio – that's more than four-million square meters of bushland to balance the footprint of our investors' buildings.
4. **Social impact:** We'll create a new social sustainability role, focused on identifying the key social needs associated with each asset, developing asset-specific community engagement plans, and delivering and reporting on the quantifiable social outcomes that we're supporting. These include local job creation, health and wellbeing outcomes, supporting diversity, and addressing social disadvantage.
5. **Accessibility:** To improve accessibility for the one in five people that have some form of disability, we'll do things like improve physical access, provide parent rooms, quiet rooms, adult changing facilities, and develop more legible signage and digital communications. We'll also train our staff to understand and respond better to people with special needs.
6. **Supply chain:** We'll implement improved supply chain governance procedures, and work with our partners to identify and address ESG-related supply chain risks such as modern slavery and materials safety.

Objectives	Focus areas			
We operate within environmental limits, so that our real estate investments are sustainable in the long term.	Energy & Climate	Waste Minimisation	Water Efficiency	Biodiversity & Habitat
We want everyone to enjoy happy healthy lives in vibrant, inclusive communities and workplaces.	Health & Wellbeing	Culture & Community	Equity & Diversity	Transport & Mobility
We respect the rules, behave ethically, transparently disclose our performance and continually strive for best practice.	Policies & Processes	Supply Chain	Reporting & Ratings	ESG Growth

More information

We hope this paper has stimulated your thinking on the role of Australian real estate in the transition to a sustainable economy.

Please contact us for a more detailed conversation about the information in this whitepaper and how we can apply our ESG strategy to suit your needs.

Visit www.ampcapital.com for more on our insights and 2030 strategy