

Environmental Management Approach

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ESG MANAGEMENT APPROACHES

Stockland publishes three management approaches covering the environmental, social and governance matters listed below.

Environmental Management Approach	Social Management Approach	Governance Management Approach
Climate, carbon and energy	People and culture	Governance and risk management
Water management and quality	Health, safety and wellbeing	Stakeholder engagement
Biodiversity	Customer engagement	
Waste and materials	Community investment and development	
Asset ratings and certification	Supply chain engagement	
	Human rights	

STOCKLAND ESG REPORTING SUITE

Our ESG Management Approaches document should be read in conjunction with the FY21 ESG Review and ESG Data Pack. Together, these documents comprise our annual ESG reporting suite, which is third-party assured and adheres to the International Integrated Reporting Framework principles of materiality, stakeholder responsiveness, reliability and completeness, the GRI Standards (Core)¹, and the Real Estate SASB Standards².

ESG Management Approaches - how we respond to, manage and evaluate our material ESG matters.

ESG Review - our annual ESG performance report on our material ESG matters including achievements, targets, progress, future priorities and case studies.

ESG Data Pack - comprehensive ESG data sets supporting our ESG Review, progress against year end targets, GRI and SASB references.

¹ The GRI Standards are global standards for sustainability reporting published by the Global Reporting Initiative (<https://www.globalreporting.org/standards/>).

² The Real Estate SASB (Sustainability Accounting Standards Board) Standards are industry-specific standards to assist companies in disclosing financially material, useful sustainability information to investors (https://www.sasb.org/wp-content/uploads/2018/11/Real_Estate_Standard_2018.pdf).

1. Climate, carbon and energy

1.1. OVERVIEW

This document sets out our approach to identifying, assessing and managing risks to and opportunities for our business resulting from climate change. Climate change presents risks and opportunities for our business and we are committed to identifying, assessing, and managing these to support the resilience of our business and assets as well as our communities.

We also recognise our capacity to enhance the energy efficiency of our assets and have taken a proactive approach to developing efficiency strategies that have generated value for our business while reducing our carbon emissions.

To complement our Group sustainability strategy, in 2006 we developed a Climate Change Action Plan to guide and integrate efforts across our business units. Our Climate Change Action Plan is regularly reviewed and refreshed to maintain our leadership in this space. The Climate Change Action Plan informs our approach in five key areas:

- monitoring emissions and energy use and streamlining reporting
- reducing emissions through both direct control and influence
- adapting to potential climate risks through research, assessment and response
- integrating innovative solutions into operations and development projects with suppliers (covered in detail in the Supply Chain Engagement chapter of our **Social Management Approach**)
- effectively communicating our position and performance using transparent and extensive reporting

Climate resilience

Climate resilience refers to the ability to anticipate, prepare for and respond to hazardous events, trends or disturbances related to climate. Improving climate resilience involves assessing how climate change will create new, or alter current, climate-related risks and taking steps to better adapt to the environment created by these risks.¹

- **Transition Risks** - risks or opportunities associated with the transition to a low-carbon economy. We acknowledge that Australia and nearly 200 other nations have agreed to the objective of limiting global warming to below two degrees (by signing the Paris Agreement).² While changes associated with the transition to a low-carbon economy present risks across most industries, they also create substantial opportunities for organisations focused on climate change mitigation and adaptation solutions. Our [ESG Review] provides more information on how we manage the risk created and also leverage any opportunities presented through energy efficiency and renewable energy.
- **Physical Risks** - risks or opportunities associated with physical impacts from changes to climatic conditions, including extreme events. We are already experiencing the physical impacts of climate change in the form of gradual changes to climate conditions and an increased frequency and severity of extreme weather events, including bushfires. Extreme weather and other climate-related events have the potential to damage our assets, disrupt operations and impact the health and wellbeing of our customers and communities. For the benefit of our stakeholders, and society more broadly, we are committed to creating climate-resilient assets including being built using technologies sympathetic to the environment surrounding them, allowing them to operate with minimal disruption, as well as building strong communities that are equipped to adapt to climate change risks and opportunities.

At Stockland we recognise there are also climate-related social risks and opportunities. We have developed a community resilience assessment methodology to help us better understand these risks and opportunities. Community and climate resilience assessments are completed in tandem at our assets and communities.

Carbon and energy

Ongoing fluctuations in the cost of energy, particularly electricity, pose a challenge for the property industry and for all Australians. We can reduce our exposure to price variability by making energy efficiency improvements, which can help reduce operational costs at our assets. Integrating energy efficiency considerations into the design and construction of our assets can also help to reduce the energy requirements (and electricity costs) of our tenants and residents.

¹ Climate Resilience Portal, Centre for Climate and Energy Solutions, <https://www.c2es.org/content/climate-resilience-overview/>.

² The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below two degrees above pre-industrial levels and to pursue efforts to limit the temperature increase even further to one point five degrees (<https://bigpicture.unfccc.int/#content-the-paris-agreement>).

The increasing cost of power also means that renewable energy options such as solar have become cost-effective choices for our energy supply. The declining cost of solar infrastructure works in tandem with the increasing cost of conventional energy to make solar installations a sound business investment. We look to design, technology innovation and access to alternative energy supplies and product offerings to help both Stockland and our customers realise a cost-efficient, zero carbon future.

We are a signatory to the World Green Building Council's Net Zero Building Commitment, and have committed to a Net Zero Carbon future for all our asset classes by 2028.

At Stockland we recognise our responsibility and capacity to both mitigate risks and take advantage of opportunities resulting from climate change.

1.2. MANAGEMENT APPROACH

1.2.1 Identifying and assessing climate-related risks and opportunities

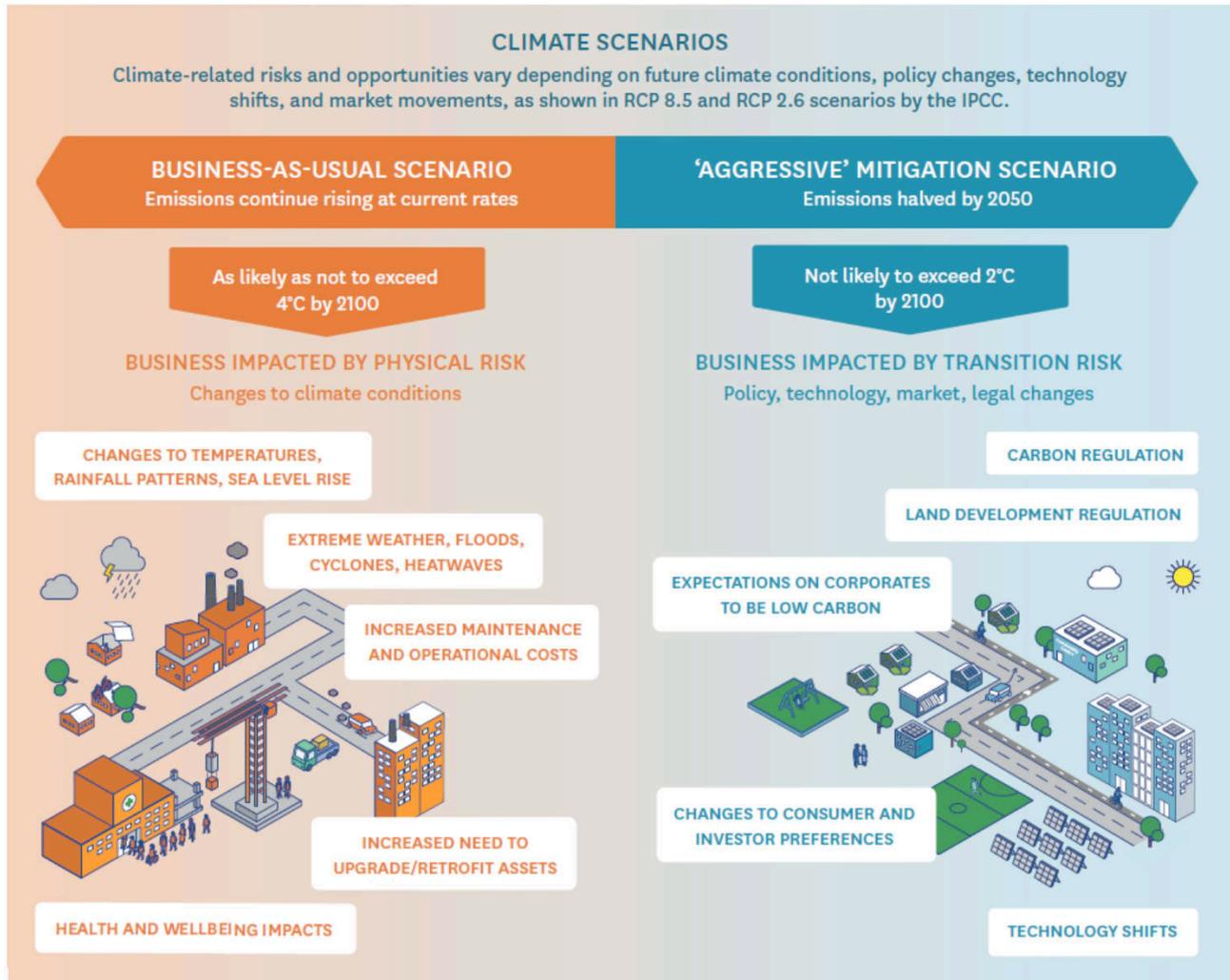
Our response to the Task Force on Climate-related Financial Disclosures (TCFD) recommendations in our **Annual Report** provides details on how our governance and risk management frameworks address climate change.

The first step in managing climate resilience is to identify key climate-related risks and opportunities. For over a decade, we have identified risks and opportunities related to both the physical impacts of climate change and a global transition to lower-carbon energy sources. Our response to these risks and opportunities has been guided by our Climate Change Action Plan (commenced in 2006) and our detailed Climate Adaptation Strategy (commenced in 2011).

Climate-related risks will persist for the foreseeable future and the nature of these risks depends on complex factors such as policy change, technology development and market forces. To accommodate this uncertainty, we incorporate scenario analysis into our climate risk assessment process to understand how climate-related risks and opportunities may evolve and impact the business over time. Scenario analysis is a well-established method for enhancing resilience to a range of future conditions and is a key recommendation of the TCFD.

We use the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP) scenarios to explore both physical and transition risk. The nature of climate-related risk changes according to varied assumptions about future policy, technology and climate changes incorporated into each IPCC RCP scenario.

In the business-as-usual scenario where emissions continue rising at current rates (known as RCP 8.5), business is exposed to increasing levels of physical risk from changing climatic conditions. In the "aggressive" mitigation scenario where global emissions are halved by 2050 (known as RCP 2.6), business would experience less risk from changing climatic conditions, yet would be exposed to transition risks related to such policy change.



Physical Risks

We acknowledge that physical risks associated with climate change can result in negative financial impacts, such as through increased maintenance costs or decreased revenues from disrupted operations. In recognition of these potential impacts, we are committed to creating climate-resilient assets and communities with a greater ability to endure severe weather impacts and operate with minimal disruption.

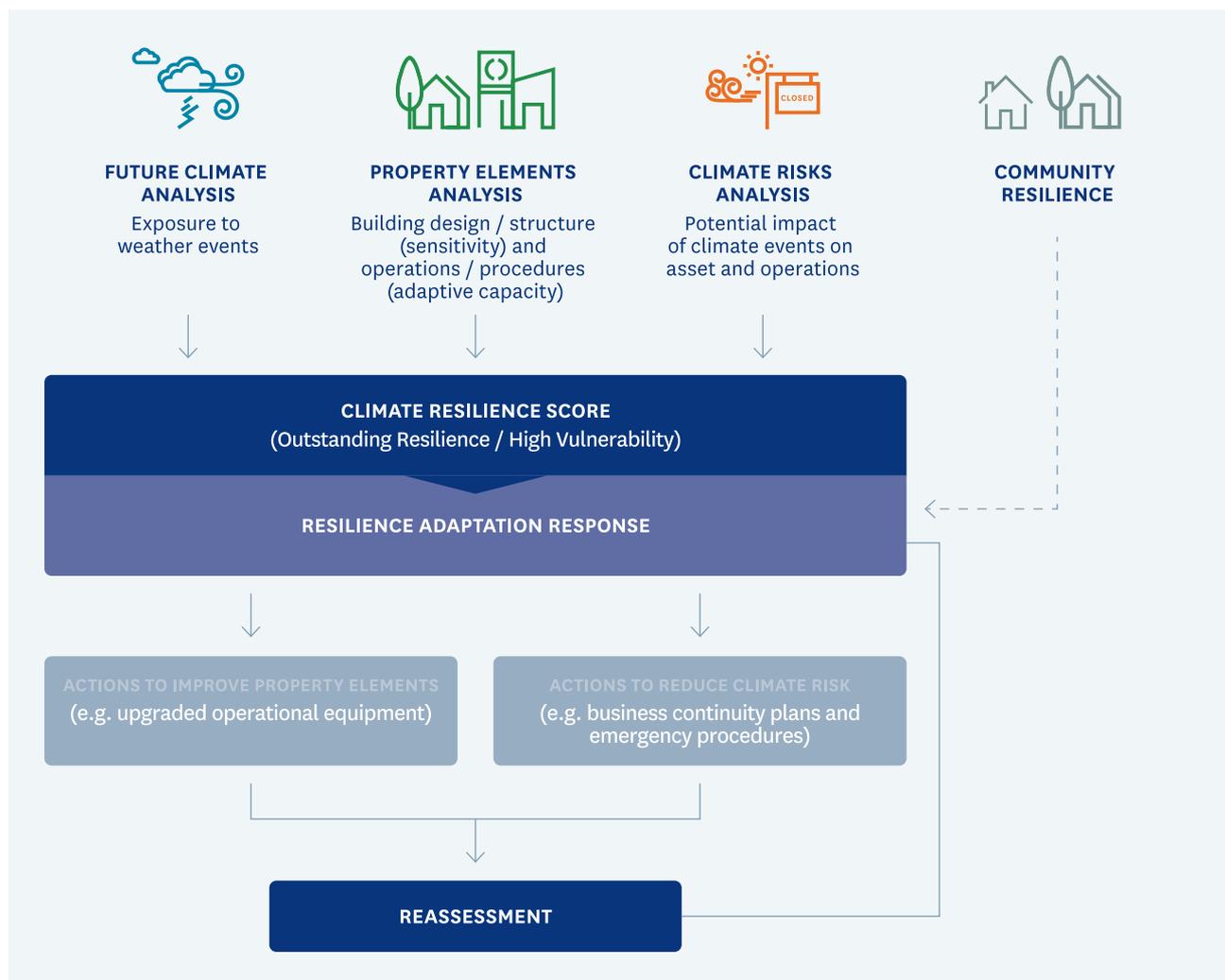
In 2012 we developed a climate resilience assessment methodology that sets out the criteria to assess the resilience of individual properties and their communities across all types of properties within Stockland's portfolio. This methodology was reviewed and updated in 2020. We conduct a national mapping exercise based on the projected changes to climate variables in order to identify the level of exposure for all assets in our portfolio (including those under development) and we prioritise assets for further assessment based on their level of exposure. Our climate resilience assessment methodology focuses on the vulnerability of an asset to climate change, particularly its ability to endure severe weather impacts and operate without disruption. As outlined in the following illustration, the methodology defines key resilience criteria, with a particular focus on location and design, structure, operation and maintenance, utilities and services and stakeholders. These attributes are assessed for their exposure to:

- future climate effects - the degree of exposure a building has to weather events based on its geographic location, such as North Queensland where there is a high exposure to cyclones
- property elements - the physical and operational attributes of a building that make it vulnerable or resilient to those climate effects, such as condition of box gutters expected to cope with high volumes of stormwater
- climate risks - the potential impacts of weather-related events on a building based on its location and attributes, such as loss of trade due to local flooding, bushfires or air conditioning failure on hot days

The assessments of each component are combined to provide an overall climate resilience score on a scale from 1 to 25, from outstanding resilience to high vulnerability. We then develop resilience action plans that integrate resilience-building initiatives into asset management plans, with a view to improving the resilience of the assets over time by minimising negative impacts and creating opportunities, including less maintenance, reduced insurance premiums, reduced insurance claims and greater revenues from increasing consumer preferences for climate-resilient products.

Group Resilience Assessment Tool

In 2019, we centralised our existing climate resilience assessments into a Group Resilience Assessment Tool to help us understand physical climate risk at a portfolio level. This tool provides results that can be benchmarked across Stockland's assets and portfolios in a centralised system. It now stores over 10 years of climate resilience data which will be used for future analytics across our portfolio to support decision-making and investment. We have completed climate resilience assessments at all of our assets in high-risk regions. More information on our climate resilience assessment scores is contained in our [ESG Data Pack](#).



Transition Risks

Carbon emissions regulation and climate-related land development regulation are examples of transition risks that may impact our business through the pricing of energy required to develop and operate our assets. We use scenario analysis to explore how transition risks may evolve over time, leveraging publicly available scenarios published by the IPCC and the Deep Decarbonisation Pathways Project. Each scenario includes transition risks and opportunities that fall into four categories:

- **policy and legal** issues that lead to financial impacts via taxes or subsidies, through mandating capital improvements that require additional investment, with or without an adequate rate of return, or through increased liability risk

- **technology** issues that lead to financial impacts through changes to how we procure and use energy in development, operations and transport
- **market** considerations that lead to financial impacts through changes to consumer preferences and prices of goods and services
- **reputational** issues that lead to financial impacts by affecting stakeholder willingness to transact or partner with us

Each of these scenarios offers a unique vision of how policies, technologies and economic outcomes will evolve through 2050 as the world pursues the objective of limiting global warming to well below two degrees.

1.2.2 Key categories of climate-related risks and opportunities

The table below describes key categories of climate-related risks and opportunities that we have identified for our business.

Climate-related risks	Positive financial impact potential	Negative impact on Stockland
Acute physical risks including heatwaves, cyclones, floods and bushfires.	Resilient assets that can withstand acute physical risks, promote business continuity, attract tenants/customers and receive insurance benefits.	Increased expenditure on repairs, loss of business continuity and potentially higher insurance premiums.
Chronic physical risks including increases to mean temperatures, long-term changes to rainfall patterns and sea levels.	Designing and constructing "future-proof" assets and communities that accommodate future climate changes and thus prevent the need for expensive retrofits. Integrating climate risk into the due diligence process for acquisitions to minimise the risk of acquiring land or assets that may become impaired in the future.	Expenditure required to upgrade facilities to cope with changed climatic conditions (e.g. early upgrades of air conditioning units to manage rising temperatures). Lost revenue associated with the inability to develop on land that we own because of flooding or sea level increase concerns.
Policy-related transition risks including carbon pricing, incentives for low/zero carbon energy production, land development regulations and changes to building standards.	On-site generation and sale of low/zero carbon energy, from proactively upgrading assets to enhance efficiency and minimise or avoid cost increases. Proactively assessing the resilience of land that we own and acquire to maximise development opportunities into the future.	Increased development and operational costs associated with enhanced building standards, which may reduce target returns. Lost revenue associated with regulation that limits the development capacity of land that we own.
Legal transition risks including liability surrounding climate risk disclosure and changes to insurability of assets.	Efficiency and resilience initiatives that reduce our insurance costs. Enhanced climate risk disclosure that minimises likelihood of fines and judgements against us.	Inadequate disclosure of climate-related risks. Higher insurance costs or inability to insure our assets.
Technology-related transition risks including decarbonisation of Australia's National Electricity Market, electrification, advances in battery storage and energy efficiency.	Opportunity to leverage technological advances to reduce costs through energy efficiency and renewable energy, and to more readily meet climate-related regulatory requirements.	Increased investment required in low-carbon technology. If technological disruption leads to energy pricing variability, difficulty in planning capital expenditure and/or a need to upgrade our assets in a short time frame.
Market-related transition risks including investors and lending institutions favouring low-carbon investments and consumers demanding low-carbon products.	Our continued leadership in climate risk management, in the form of enhanced revenues from customers who prefer low-carbon products. Enhanced capacity to attract investment from investors favouring companies with strong climate risk management.	Reduced attractiveness of our assets and our business from an investment perspective if we fail to manage climate risk appropriately. Reduced access to debt and equity capital to undertake business activities.
Reputational transition risks including failing to attract funding, employees and project approvals because of a perceived lack of action on climate change.	Continued leadership in energy efficiency, renewable energy and climate resilience; for example, increased revenues if we can remain a preferred development partner for governments interested in low-carbon solutions.	Reputation risk due to a perception that we are not contributing to the low-carbon transition as much as our peers and competitors. Reduced revenues if customers prefer competitor products, or increased hiring costs as prospective employees prefer to work for peers.

Climate-related risks
Positive financial impact potential
Negative impact on Stockland

Decreased costs associated with lower employee turnover because employees have conviction that their work is contributing to the low-carbon transition.

1.2.3 Managing climate-related risks and opportunities

Physical risk management

Given the potential for climate-related physical risks to damage assets and bring about potential losses, we have included these risks and the potential financial implications in our enterprise risk framework. We implement initiatives that improve the resilience of our assets and thereby reduce the risk of business disruption to our customers and residents. Improving resilience also mitigates potential future costs associated with maintenance, upgrade and emergency response initiatives. This contributes to our competitive position as a leading creator of places that meet the needs of our customers .

Managing physical risks identified during resilience assessments

Physical risks and opportunities identified within our climate and community resilience assessments are prioritised for action based on:

- impact on communities and the environment in which the asset is operating
- overall potential impact on asset performance
- financial impact to the business in managing the risk or opportunity

Across our portfolio, physical risks and opportunities are prioritised for action based on:

- geographical areas of highest risk
- lessons learned and perceived likelihood of significant loss
- impact on local communities and environment (relative to where we operate)
- design attributes of the asset that affect climate resilience
- climate change scenarios for the medium and long term
- overall impact on business-wide emissions reductions
- overall risk to portfolio value and revenue

Recommendations for minimising the impacts of physical risks may include the implementation of operational responses, maintenance regimes, emergency response plans and community development programs that focus on improving the health and wellbeing of our communities. Key recommendations identified during the risk management process are included in a resilience action plan that is integrated with annual sustainability and asset/business planning processes.

While we acknowledge that managing climate change risk can involve additional costs, it is also an opportunity to develop resilient, future-proof assets. Our approach to physical risk and investment in the resilience of our assets has been acknowledged by our insurers through a reduction in our premiums at certain locations. Despite the potential for additional initial costs being incurred, in the longer term we believe that creating resilient assets in a low-carbon world will generate long-term total returns sufficient to offset these initial costs.

Asset design and ongoing operations

Our project teams consider climate-related risks and opportunities in the design of our assets by including principles-based criteria in our design guidelines and minimum standards. We integrate the outcomes of our climate scenario analysis into the designs of our assets in development so that they reflect how physical risks may impact stormwater drainage, roofing, and air conditioning systems, as well as how they can take advantage of low/zero carbon energy solutions.

We develop emergency management plans for all our assets and update them as required. In addition to using a traditional risk matrix for climate vulnerability, we also use an opportunities matrix to identify the value of discretionary climate resilience initiatives such as shade sails in our car parks and cool roof covenants in our Queensland Residential projects such as North Shore and Aura. These initiatives are prioritised based on their ability to reduce the asset's vulnerability to physical risk.

Our approach to climate resilience in our development projects includes a mandatory requirement to pursue the climate resilience credits when targeting a Green Star rating for the development.¹

1.2.4 Carbon and energy

Energy efficiency

Our Group-wide focus on energy efficiency manifests differently across our Commercial Property and Communities business units. The approach also varies depending on the different stages in a project's life cycle. Each business unit has its own specific sustainability policy anchored by the Group strategy. These outline strategic initiatives, performance standards and specific requirements relating to energy efficiency and climate change mitigation to be considered in the design, construction and operation of projects and assets.

To effectively manage our energy efficiency performance, we employ evidence-based decision-making tools and certification. We use the CCAP Precinct data management system (explained in greater detail below) to assess and prioritise the energy initiatives that deliver the greatest-emission reduction outcomes for the lowest cost in our Communities business. Within Commercial Property, we review projects at a project level against our financial health.

We concentrate our energy and emissions reduction efforts where we can specify the built form and set reduction targets and performance standards. These efforts apply largely in our Commercial Property business and increasingly to our Retirement Living portfolio.

Design

We use the Green Building Council of Australia (GBCA) Green Star rating tools to support the design and delivery of energy-efficiency initiatives across our portfolio and to set a platform for optimal performance.

All new Retail Town Centre, Workplace and Retirement Living developments are required to achieve a minimum 4 Star Green Star certified rating, with a strong focus on energy efficiency. Retail Town Centre and Workplace redevelopments or extensions greater than 8,000 square metres are also required to achieve a minimum 4 Star Green Star rating, with a review of opportunities to stretch these ratings to 5 Stars. We target energy credits for greenhouse gas emissions, energy sub-metering and car park ventilation and management credits for commissioning and building tuning. By committing to these minimum standards, we prioritise measures for design specifications that enhance operational efficiency.

For our new Workplace developments, we enter into a National Australian Built Environment Rating Scheme (NABERS) Commitment Agreement (minimum 5 Star) that sets a clear target for achieving a NABERS outcome. Early commitment in the schematic design stage allows the project design team to follow a protocol for modelling energy performance in operation and having it independently reviewed and optimised. Once only available for office developments, there are now protocols available to enter into Commitment Agreements for shopping centres, which will provide greater certainty on outcomes for our Retail Town Centre developments.

Within our built form product we have implemented minimum standards to help drive increases in energy and water efficiency. We use the Kinesis CCAP Precinct tool to support new project bids. CCAP Precinct is a leading industry recognised masterplan modelling tool that benchmarks projects against regional averages and helps us to establish built form targets against minimum building code requirements. The tool can be applied to masterplanned communities as well as smaller scale built form developments, such as retirement villages and apartments. Modelled outputs include estimated energy consumption and carbon emissions, water consumption, transport and associated cost estimates.

In our Residential communities, where our customers generally select their own builders, we use masterplanning expertise to ensure residents can take advantage of passive design benefits such as orientation. We share best practices across projects in our internal knowledge base, Better Places Hub. We also seek to influence design choices through display homes and community hubs that feature sustainable design elements and tools to make homes more efficient. Since 2012 we have also used covenant requirements, such as our cool roof covenant, which applies to homes across selected projects in Queensland. We have found that the benefits of cool roofs, including improved thermal performance, reduced heating and cooling costs and reduced urban heat island effect, come at no additional cost to build. In Victoria, we have partnered with

¹ All new Retail Town Centre and office developments must achieve a Green Star rating as per our policy. Retail Town Centre extensions or redevelopment projects must achieve a Green Star rating where a project is larger than 8,000 m².

the Victorian Government to build two Zero Net Carbon Homes in our residential communities to showcase the benefits of low carbon living.

Development

Civil works on Residential development projects constitute a major source of our emissions. Civil works contractors fall inside our operational control boundary, as defined by the National Greenhouse and Energy Reporting Act 2007 (NGER Act). Our civil contractors use heavy equipment to move large volumes of spoil across sites to achieve development and landscape levels. We work with our contractors to develop a bulk earthworks strategy for our sites with the aim of minimising vehicle movements on and off-site, which reduces emissions. As part of developing the bulk earthworks strategy, we also look across projects within a region and seek to understand where we have excess spoil and whether spoil can be diverted to another site to minimise the amount of soil that needs to be brought onto a project. This approach saves money, reduces our need for fill from distant sources, reduces the amount of earthworks required and reduces the carbon emissions associated with the development.

Development activity in our Commercial Property business is not within our operational control boundary, as ultimate control of our Commercial Property developments lies with our principal contractors. As such, emissions from these developments are not captured in our annual reporting; however, we work with our contractors to identify and implement energy efficiency improvements. We continue to investigate methodologies to enable effective, meaningful and accurate intensity calculations in our Communities developments, as varied approaches across projects compromise consistent measurement.

Our design guidelines for our Retirement Living developments encourage reductions in energy use and emissions by maximising solar orientation, installing energy-efficient appliances, light fittings, hot water systems, LED and sensor-activated lighting systems and considering onsite renewable power generation (solar power). Our developments target Green Star ratings that have minimum energy performance criteria.

Operations

In Commercial Property, we undertake NABERS Energy ratings to benchmark the performance of our assets against industry standards and to measure the effectiveness of the initiatives we have implemented. In Workplace and Business Parks, we complete NABERS ratings annually on all eligible assets within the portfolio. In Retail Town Centres, we complete NABERS ratings across eligible assets within the portfolio annually, with coverage increasing over the past six years.

We invest in energy sub-metering systems to monitor energy consumption in our Workplace, Business Parks and Retail Town Centre assets. Energy sub-metering is a key tool for us to manage consumption and is critical to our ability to achieve our targets. Using consultant partners, we monitor and analyse sub-metering data to provide useful information and insights to our operations management teams on where we need to target any efforts to reduce energy consumption. Energy reduction targets are included in our 2030 Sustainability Strategy and embedded in the KPIs of relevant personnel.

Our approach to achieving carbon and energy objectives in our Residential communities is primarily by influencing design and associated infrastructure, however we also work with local councils, state governments and industry partners to deliver programs and initiatives within our communities on the benefits of energy efficient practices and behaviours among residents.

We have a greater level of control over energy outcomes in medium density, completed homes and apartment products. In these instances, we embed initiatives into the homes that align with our carbon and energy targets and model the performance of the homes over time.

In our Retirement Living portfolio, we have operational control of our clubhouses and common areas. We have completed several night audits at select villages as well as monitoring energy and water usage at selected clubhouse and common areas. The insights from these reviews are helping us to target sustainability projects within our portfolio, including energy efficiency upgrades.

Alternative energy

Our approach to alternative energy is focused predominantly on solar photovoltaics (PV) in our Commercial Property portfolio, though we have explored the use of wind and tri-generation at certain assets. We have been at the forefront of solar PV investment in the Australian property industry, having set up the then largest solar PV rooftop installation at Stockland Shellharbour in 2015 and commencing an industry-leading rollout of over 18MW of solar PV capacity across our retail and logistics assets. We actively assess the most appropriate locations to roll out solar across the portfolio and focus on alternative energy initiatives that meet our return on investment hurdle.

We have solar PV installations on a large proportion of our retirement living homes. We continue to review different network ownership and management models to understand how solar PV can be adopted in our Residential communities on a large scale. We also focus on building embedded energy networks across our Retail Town Centres and Retirement Living communities. This enables larger installations to meet both base building and tenancy energy requirements, and allows us to reduce the cost of electricity for our tenants and gain visibility of asset-wide energy consumption data. We then identify further emission-reduction opportunities and work collaboratively with our tenants to further reduce their energy costs in the future.

Similarly, for our Residential communities, we look to raise awareness of the benefits of solar power through education and industry partnerships. This encourages the uptake of solar power as a means to help reduce ongoing electricity bills and dependence on grid-supplied power. In some instances, when we have needed to establish an onsite sales and information centre prior to services and infrastructure being available, we have piloted off-grid installations using solar and battery storage solutions as an alternative to fossil fuel powered generators for electricity.

1.3. REVIEW AND EVALUATION

We set targets and commitments to guide our approach to climate change.

We review and report on our progress against our climate change commitments and targets in our **ESG Review** and **ESG Data Pack**. These documents include:

- a status update and progress against our short, medium and long-term targets
- detailed commentary on the priority actions that contributed to the achievement of key targets
- the identification of future priorities
- highlights of initiatives implemented over the reporting period
- case studies that explore key achievements, usually at particular locations

Climate resilience

Across our Commercial Property business, we review climate-resilience action plans to track progress on the implementation of initiatives following the initial assessment. Reassessment of the assets reviewed to date will be conducted over time to measure the improvements in resilience against the actions that were recommended at the time of the original assessment.

In our Communities business, we track and evaluate the implementation of recommendations in our asset-specific sustainability plans. This provides us with the ability to measure the success of the initiatives and articulate the value of undertaking the climate and community resilience assessments. Assets are prioritised for reassessment based on their status as high-risk assets and based on whether they have been subject to resilience investments previously.

Carbon and energy

To evaluate the effectiveness of the management approach, we have a number of tools and checkpoints in place that allow ongoing, progressive energy performance tracking and review. Setting targets for performance and using rating tools in design and operation facilitates comparisons with benchmarks that can be tracked over time. With the assistance of sub-metering, monitoring, data capture and management systems, we can readily check our progress against targets and identify areas of divergence that may require focused attention.

We review the effectiveness of our approach to operational energy efficiency by preparing an energy efficiency evaluation for our Retail Town Centre assets. This considers the key financial metrics relating to energy efficiency and alternative energy investments, including the centre's capital expenditure investment, gross actual savings, gross return on investment (savings/capex) and net return on investment (savings/capex). This evaluation allows us to compare the actual project outcomes to those initially proposed and to use these findings to inform future investment decisions.

In addition to our annual sustainability reporting, we prepare regular reports of our progress for the Stockland Leadership Team and for our Board as a means of constantly reviewing our performance and providing opportunities for timely adjustments to the management approach if required. We also report our greenhouse gas emissions, energy production and energy consumption to the Australian Government annually, consistent with the requirements of the National Greenhouse and Energy Reporting Act 2007.

We engage with industry bodies such as the GBCA, the Property Council of Australia and other external stakeholders, to stay informed of current trends, material issues and industry benchmarks. We also regularly assess our performance against that of our peers.

We submit survey responses to the major sustainability assessors like DJSI and GRESB to ensure that we see where we sit in relation to our global peers.

2. Water management and quality

2.1. OVERVIEW

This section sets out our approach to managing water in the development and operation of our assets.

Water plays an important role in making our communities and assets attractive, healthy and efficient places in which our customers want to live, work, shop and play. Water is also critical for broader environmental health and social wellbeing.

The availability of water in Australia is influenced by our variable climate, which can fluctuate between periods of water scarcity (often resulting in water restrictions during drought conditions) and severe flooding. Under climate change, the severity, frequency and duration of drought conditions are projected to increase, influenced by rising temperatures and changing rainfall patterns.¹ Accordingly, we maintain a strong focus on water management and quality in the development and operation of our assets, including improving the quality of rainwater run-off leaving our project sites and downstream impacts on receiving water bodies, access to alternate water infrastructure and practical innovation to support more efficient water use.

Our focus on water management acknowledges the financial costs associated with water consumption and the impacts of excessive consumption of water reserves, particularly in times of water stress. Effective water management delivers significant benefits to the natural environment, to broader society and to our business by enabling performance and cost efficiencies.

2.2. MANAGEMENT APPROACH

2.2.1 Objectives

Overarching objectives for our management approach to water efficiency quality are to:

- focus on water efficiency and sustainable sourcing
- deliver projects that minimise water use and positively contribute to local water catchments

These objectives are integrated into our Sustainability Policy. Our water management approach varies across our business units because of the different opportunities that exist for us to influence different aspects during the development and subsequent operation of assets within each asset class.

The table below summarises our water management approach for each business unit.

Individual project teams consider and plan water management initiatives through the development of an environment plan or water strategy (for development projects), through the asset or capital expenditure planning process (for operating assets), or as part of an asset certification process (e.g. Green Star).

2.2.2 Design and development

We use the Green Building Council of Australia (GBCA) Green Star rating tools to support the design and delivery of water initiatives and to set a platform for optimal performance. All new Retail Town Centre, Workplace and Retirement Living developments, and Retail Town Centre and Workplace redevelopments in excess of 8,000 square metres, are required to achieve a minimum 4 star Green Star rating with a review of opportunities to reach 5 stars. Green Star sets minimum standards for water management and certification assists our assets in meeting our water management targets.

¹ CSIRO & BoM (State of the Climate 2018. <http://www.bom.gov.au/state-of-the-climate/State-of-the-Climate-2018.pdf>).

At our Communities built form projects we set a target of improving water efficiency by a minimum of 5 per cent when compared to the National Construction Code (NCC) and state-based regulatory requirements. We collect data for each home we build to assess our performance against our targets, with the intent of conducting a target review every three years.

Incorporation of water efficiency into the design of our Residential developments varies according to the opportunities presented by regulatory schemes administered by state and local authorities. All of our Residential community projects in New South Wales are BASIX compliant, and water tanks are typically provided at homes to supply a combination of irrigation and toilets. In some projects in Queensland, we have mandated water tanks through a covenant placed on lots. In Victoria, many of our developments (including Cloverton and Highlands) are provisioned with reticulated recycled water to supply irrigation requirements at a minimum. In Western Australia, most of our water used on-site during construction activity is supplied via groundwater bores and managed through a water extraction licence. Efficient landscaping approaches, such as the use of native drought-tolerant plant species, are typically employed to reduce irrigation demand.

Australian regulatory processes require permission from government authorities to extract water from water bodies. These authorities determine the level of significance based on each development application. Developments are unlikely to gain approval if a water source is deemed to be significantly affected. Equally, regulatory processes do not allow water discharge into significant areas of biodiversity unless it is demonstrated that there will be no significant impact (and thus we do not report on bulk discharge separately). This is determined, monitored and enforced by the regulatory authority. As a minimum requirement for environmental approval on all projects, we reduce the pollutant load of any stormwater run-off before discharging water to receiving water bodies, and comply with applicable regulations regarding water discharge into waterways and significant biodiversity areas.

Water Sensitive Urban Design (WSUD) is also considered in all our developments. WSUD achieves sustainable management of water in urban areas through integration with the urban design, and considers all of the elements of the urban water cycle

Business Unit	Focus	Why?	How?
Commercial Property (Retail Town Centres, Workplace and Logistics)	Manage water consumption and enable operational efficiency across our Commercial Property assets.	Promotes more efficient operations, delivering cost savings to the business. Maintains the ongoing viability of our assets given the cyclical nature of water stress.	We use Green Star – Performance and NABERS to benchmark water consumption and performance across our Retail Town Centre, Workplace and, where relevant, Logistics assets.
	Inclusion of water efficiency objectives into developments.	Reduces waste water and improves availability of water supply.	Our focus for Workplace and Retail Town Centres has been primarily leak identification and consumption management. We integrate water-efficient design in our developments and major amenity upgrades using specified products and minimum standards to achieve Green Star ratings
Communities (Residential and Retirement Living)	Construct and deliver high quality potable and non-potable water supply, while minimising water use in construction and operation through design, management and enabling operational efficiency.	Stakeholders such as local authorities and the general public expect water use and quality to be managed appropriately during development. Effectively integrating these aspects into the design and development of our communities facilitates project approvals and contributes to the protection and preservation of ecological values.	We monitor water use during both the construction and delivery of our projects. We have established water efficiency targets for our built form product using the CCAP Precinct tool. Modelling is used to test options for reducing consumption through ongoing monitoring, data collection and target review.
	Contribute positively to the health of nearby catchments by designing and managing stormwater run-off and maintaining the quality of water that is released to the environment.	Initiatives focused on water supply to our communities contribute to their resilience in times of water stress.	We seek to mitigate the impact of our developments on natural ecosystems and water supplies through water sensitive urban design (WSUD). We require WSUD on all new masterplanned communities developments.
		Promotes more efficient retirement living operations, delivering cost savings to the business.	At all new Retirement Living community developments and approved Residential communities, we use Green Star to benchmark and test options for reducing consumption in the completed project.
		Reduces the footprint of potable water supply and reduces costs to residents.	We promote and facilitate efficient water use practices and investigate the viability of the provision of lower cost recycled/alternative water supply options where feasible through economies of scale.

including potable water, wastewater, rainwater, stormwater and groundwater. We have a mandatory requirement to meet minimum standards for WSUD across all our projects regardless of local requirements. Residential projects are required to demonstrate what targets will be achieved and what actions will be taken as part of their specific environmental plan.

During construction, water is captured and reused on-site where possible. However, this is managed by the civil works contractor, which means we do not control the amount of water reused. While our contractors preferentially use recycled water, this can be "topped up" with mains or carted water, and metrics on these levels are not available. Therefore, we do not report the amount of water recycled within Residential and Retirement Living communities during construction.

2.2.3 Operations

In Commercial Property operations we undertake Green Star Performance ratings and NABERS Water ratings on our Retail Town Centre, Workplace and Business Parks portfolio to benchmark the performance of our assets against industry standards and to measure the effectiveness of the initiatives and actions we implement.

We continue to install water sub-metering systems to monitor water consumption in our Retail Town Centre and Workplace assets. These systems have improved clarity on where water is being consumed and assisted our asset management teams to rectify wastage more efficiently.

In our Residential communities portfolio we seek to promote water-efficient landscaping to enhance water efficiency in the day-to-day lives of our communities. Water-efficient landscaping can include the use of rain sensors that can be controlled remotely to operate a drip irrigation system, as well as specifying drought-resistant species for roadsides and parks, or artificial turf in lieu of lawns. Other water-efficient landscaping initiatives include drought-resistant species in residents' sales covenants, low or no-irrigation landscaping and water tanks or basins to service irrigation needs.

We generally transfer operational control (i.e. maintenance of public spaces) to local councils following project completion or as stages of our projects are completed. We sometimes collect water for reuse in watering and maintaining parks and public spaces, however, we do not record the total volume captured before handing over control to public authorities.

In our Retirement Living portfolio, upgrades to operational village clubhouses and common areas include water saving measures such as water-efficient tap fittings, showers, toilets and utilising rainwater tanks for water collection and irrigation where possible. When renovating independent living units for resale, these are refitted with water-efficient appliances and fittings to improve their saleability and to reduce water demand for the new resident. Our Retirement Living design guidelines encourage reductions in water use and improved water efficiency. Our standard design requires water-efficient appliances and fittings, rainwater harvesting where possible, and drought-tolerant landscaping and efficient irrigation.

2.3. REVIEW AND EVALUATION

Our use of rating tools (e.g. Green Star, NABERS) enables us to evaluate our developments and operations against a benchmark for best practice, with our performance against this benchmark reviewed at re-certification (e.g. annually for NABERS).

On a day-to-day basis, our sub-metering, monitoring and data capture and management systems enable us to identify areas of divergence that may require attention outside of the annual reporting cycle. We provide internal reporting of our progress to the Stockland Leadership Team and to our Board as a means of continuously reviewing our performance and enabling adjustments to our management approach as required. These adjustments are then incorporated in appropriate documentation that is reviewed annually.

We engage with industry bodies such as the Green Building Council of Australia, the Property Council of Australia and other external stakeholders to stay informed of current trends, material issues and industry benchmarks.

3. Biodiversity

3.1. OVERVIEW

This section sets out our approach to managing and conserving biodiversity where we operate.

We recognise the important role biodiversity plays in sustaining healthy ecosystems and supporting human health and wellbeing. We also understand the intrinsic value of biodiversity and the global significance of Australia's unique flora and fauna. We also know that our customers value access to nature, so integrating developable land with conservation and the enjoyment of biodiversity is critical to the overall success of our masterplanned communities.

We develop new land for housing, including infrastructure and social amenities, to create sustainable, thriving communities. Development brings challenges and opportunities that we manage as we deliver our projects. In particular, developments on greenfield sites can impact the local bushland habitat, ecological communities and protected or significant species. As part of our strategy to deliver shared value, we seek to make an aggregated net positive contribution to biodiversity by minimising our impact on ecological communities and protected or significant species, and designing communities to promote nature reserves and parklands.

Preserving and restoring biodiversity on or around our sites enhances the liveability and vitality of our communities over the long term. Our Liveability Index survey results tell us that our Residential customers value green space and a connection to nature. Therefore, making a positive contribution to biodiversity improves customer satisfaction and assists us to create sustainable, thriving communities.

In Australia, sites of international and national importance are generally conserved within our reserve systems. Where this is not the case, biodiversity is heavily regulated by Australia's three tiers of government, further underscoring the importance placed on biodiversity by the general public. Actions focused on minimising biodiversity thus mitigate compliance risks and facilitate productive conversations with government authorities about how our developments can maintain or enhance biodiversity.

3.2. MANAGEMENT APPROACH

3.2.1 Objectives

Overarching objectives for our management approach to biodiversity are to:

- minimise our impact on ecological communities and protected or significant species
- design communities to promote nature reserves and parkland
- restore habitats and recreate biodiversity and ecosystems

3.2.2 Understanding biodiversity value and impact

Our developments can maintain or enhance biodiversity value through conservation, investment, secure ownership and ongoing management, especially when compared with the existing state of many pre-development sites. The habitats of these sites are often degraded, facing continued impacts from threatening processes. They are also usually in private ownership with no certainty over conservation outcomes. When we develop the site, in many cases we will retain the majority of biodiversity. However, where land is cleared, we will retain the remaining biodiversity in conservation zones in perpetuity, or secure biodiversity offsets off-site for the purposes of conservation and management to provide certainty for ecological communities and species.

We use a biodiversity calculator to assess the change in biodiversity value of our projects based on an initial pre-development value at a site. We developed the biodiversity calculator in FY15 to quantify the environmental impacts of our projects and measure whether we are delivering a positive contribution to biodiversity. The biodiversity calculator assesses pre-and post-development conditions to understand how development activities, rehabilitation achievements and conservation plans positively or negatively impact on biodiversity values. The calculator uses information on land areas, vegetation types and other attributes available in development planning documents.

The calculator's assessment of biodiversity value considers state and Commonwealth-listed threatened species, size and condition of the assets, likely impact and agreed offsets. In developing the calculator, we built on established methods used by the Green Building Council of Australia to measure changes in ecological value.

3.2.3 Biodiversity management approaches

We will generally apply the mitigation hierarchy through our assessment and consideration of design and management options. The mitigation hierarchy includes 1) avoiding impacts, 2) minimising impacts, 3) restoring cleared or degraded areas and finally 4) offsetting impacts to our projects where we identify significant biodiversity. We will implement a range of programs to mitigate negative impacts and to deliver a positive overall contribution to biodiversity. These may include rehabilitation programs, on- and off-site conservation, the provision of research funding and the reversal of impacts associated with historical uses such as grazing. The company has a commitment not to operate in World Heritage areas and International Union for Conservation of Nature (IUCN) Category I-IV protected areas.

Factors that influence biodiversity impacts and management options vary across our development sites, and include:

- **nature of the biodiversity affected** – including the type of habitat, community or species, the size and quality of the habitat and the viability of bushland, waterway and open-space corridors adjacent to our site.
- **planning and design** – urban design considerations such as access routes, the location of town centres, public open space, public transport options (both proposed and existing) and the required lot size to enhance the viability and liveability of the development. These decisions can impact the location of infrastructure and housing and therefore biodiversity conservation on a project site.
- **ongoing management** – ownership opportunities and responsibilities beyond the development phase of the project. It is important that if decisions are made to protect long-term biodiversity in urban areas, appropriate ownership models are agreed, such as public ownership by a local council or state governments, private ownership options such as Biobanking, planning instrument protection such as environmental protection zones, and best practice management considerations such as weed removal, appropriate fire regimes, fencing and feral animal control.

Minimum performance standards are included in our Sustainability Policy and guidelines, which helps our communities and assets move beyond minimum standards that may vary according to local regulations.

We use a range of mechanisms to protect land containing biodiversity including:

- the creation of parks and dedicated conservation reserves
- the preparation of Biodiversity Management Plans
- covenants on titles where areas of significant ecological value are located on allotments
- conservation zoning and transfer of land to councils and/or public authorities
- private ownership and management agreements including conservation covenants, Biodiversity Stewardship Agreements (NSW) or Bush Forever Sites (WA)

Threatened species with their habitats affected by our activities are considered part of the environmental approval process on each development. In many cases, we are able to conserve local biodiversity and place most or all of the significant species found on our sites into protected areas. These are integrated into the protected area estates managed by local or state-level agencies, which are then available to the community and managed for conservation in perpetuity.

We engage construction contractors on the basis that they deliver on biodiversity objectives, including any actions stipulated in project approval conditions. We manage contractors through regular site meetings and reporting to facilitate compliance with biodiversity conditions.

3.2.4 Biodiversity management plans

Biodiversity management actions, including any actions stipulated as part of a development approval from any level of government, are integrated into development plans for each site.

Projects with significant biodiversity are required to prepare a Biodiversity Management Plan (BMP), which identifies areas of biodiversity to be conserved or offsets to be provided. It also provides details relating to the rehabilitation or revegetation and protection of biodiversity and the provision of funding to enable appropriate management of protected areas over the long term. The timing of the BMP development relates to the conservation objectives specific to that site, noting that this can occur at any stage throughout the development life cycle.

We partner with environmental and community groups to deliver on activities committed to in BMPs, such as tree planting, weeding and education programs.

3.3. REVIEW AND EVALUATION

Our goal is to better understand biodiversity in the locations where we operate and to implement protection, management and enhancement initiatives as appropriate. We set targets to guide our actions at three-year intervals.

We review and evaluate our performance against our biodiversity targets in our **ESG Review** and **ESG Data Pack**. These documents include:

- a status update and progress against our short, medium and long-term targets
- detailed commentary on priority actions that contributed to the achievement of key targets
- the identification of future priorities
- highlights of the initiatives we implemented over the reporting period
- case studies that explore key achievements, usually at particular locations

We collect data and other reporting content associated with biodiversity from project teams through an annual data collection process. The information collected generally relates to progress against biodiversity management objectives, with the exact themes varying depending on the project's stage in the development life cycle. For example, at the masterplan completion stage, projects report on expected impacts and management planning. During construction, reporting focuses on the delivery of management actions.

4. Waste and materials

4.1. OVERVIEW

This document sets out our approach to waste management and materials use across our business.

We acknowledge that the development and operation of buildings account for large quantities of waste and material usage, which we can manage to minimise negative impacts.

Waste treatment and disposal can have a major impact on the surrounding environment. Examples include the nutrient pollution of groundwater and waterways, air quality issues from incineration and greenhouse gas emissions from landfills. We take these impacts seriously and are committed to managing our waste efficiently. We seek to reduce, reuse and recycle our waste whenever feasible, minimising our contribution to landfill.

We equally acknowledge that the use of virgin materials can have significant impacts on the environment and human health. By specifying the use of ecological and health-preferable materials and recycled materials in our developments, we are able to deliver tangible environmental, social and business benefits to communities.

4.2. MANAGEMENT APPROACH

4.2.1 Objectives

Overarching objectives for our management approach to waste and materials are to:

- reduce, reuse and recycle waste in our developments and operations, minimising our contribution to landfill
- use ecologically-preferable materials

The materials and equipment we use within our assets have a significant bearing on the capital cost of our projects and on the operating cost and efficiency of the assets we own and manage. We therefore endeavour to control aspects of the material supply chain by specifying the minimum sustainability requirements wherever possible.

We have a national approach to waste management for each asset class under which waste is appropriately segregated, stored and disposed of in accordance with regulatory requirements. Waste and recycling management plans are prepared for each asset, both in operation and in construction, to successfully manage the environmental impacts associated with the production and disposal of waste. The plans outline the waste and recycling systems we employ at the asset for the disposal of waste produced during operation or while in development.

Key objectives for the waste and recycling management plans are to:

- reduce the amount of general waste produced by office tenants, retailers, contractors and customers, and encourage greater levels of recycling
- implement management systems to measure, record and monitor waste and recycling at the asset
- continuously improve on these metrics and benchmark against other assets
- provide training and education for tenants, contractors and our employees, promoting good waste-management habits

The waste management plan outlines how various waste streams should be managed including:

- communal waste areas and recycling points
- solid waste
- liquid waste
- waste water
- hazardous waste
- special waste (e.g. e-waste, clinical, pharmaceutical, drug or medicine waste)

- construction and demolition waste

In addition to general waste management, our sustainability guidelines for each business unit outline the minimum standards and requirements with regards to waste diversion. These guidelines also set minimum requirements for asset performance and natural resource consumption during the life of the asset, which further minimises wastage.

4.2.2 Development

Materials

Our sustainability guidelines and related standards guide materials selection in our development projects. We also use the Green Star Design & As Built rating tool, which covers materials selection such as timber, steel, concrete and PVC.

Materials-related credits within Green Star aim to improve the environmental impacts of building products and materials by taking into consideration issues pertaining to the lifespan, life cycle and end-use of these resources.¹ The Green Star Materials category consists of credits that facilitate and recognise the efficient use and management of building and fitout materials. Materials credits reward overall reductions to the amount of materials used, the reuse of building materials, the amount of waste materials sent to landfill and the specification of healthier materials, as well as those that contain recycled content and those that can be recycled wherever possible.

All new Retail Town Centre, Workplace and Business Parks developments, as well as redevelopments exceeding 8,000 square metres, are required to achieve a minimum 4 Star Green Star Design & As Built rating with a review of opportunities to stretch to 5 Star. As part of our commitment to deliver projects with sustainable materials practices, our development contracts incorporate our Green Star materials selection requirements. We produce sustainability plans for development projects across all our business units to set the design parameters for our engaged contractors. The sustainability plans form part of the tender documents and specify minimum material requirements to achieve the minimum Green Star rating. Contractors are required to submit their design to Green Building Council of Australia (GBCA) for a design rating assessment. We also engage directly with contractors regarding their adherence to sustainability plans throughout development. The contract specifications also include the sustainability plans and standards set in the business-specific sustainability guidelines. Upon project completion, the contractor is required to submit the project for a Green Star Design & As Built rating.

Materials selection and use across the business is governed by our Materials Schedule, which provides guidance to projects and suppliers in selecting materials in accordance with our sustainability policy. The materials schedule provides a consistent approach to materials selection and use across the business. The schedule is intended as an overview of the key requirements for projects to encourage environmentally responsible actions, and will assist projects to select materials that:

- avoid pollution
- are safe and contribute to healthy environments for humans and ecosystems
- are responsibly sourced or have a sustainable supply chain
- are produced sustainably and transparently
- are recycled or reused
- have low embodied carbon
- avoid resource depletion

We have identified high-impact and common materials and issues for inclusion in this materials schedule, however, we encourage project teams to also identify further sustainability initiatives during the materials selection process.

In addition to working with our suppliers in relation to development and construction work, we undertake comprehensive due diligence for all new real estate acquisitions, including in relation to construction materials. We have been responsive to new and anticipated legislation relating to façade cladding on our existing asset portfolio and we continue to follow the state-based registration process while keeping abreast of any legislative changes.

We encourage contractors to use and recycle materials wherever practical, however, as we are not responsible for sourcing materials, we do not capture data related to the weight, value, volume or recycled content level of materials used. Upon project completion, the contractor is required to submit this data to achieve a Green Star Design & As Built rating.

¹ Green Star Design & As Built v1.2 Submission Guidelines

Waste management

Our development projects set minimum construction and demolition management requirements in line with Green Star requirements to encourage practices that reduce the environmental impact of waste.

Minimum standards for construction waste recycling are outlined in our development contracts and aligned to core Green Star commitments. Our standards align with Green Star commitments by either targeting waste diversion as a minimum of 90 per cent of total waste generated or by setting a bespoke target of waste diversion compared to a reference building, as stipulated by the Green Building Council of Australia. Given recycling rates can vary from project to project depending on the types of materials recovered during demolition or used during construction, we set targets on a project-by-project basis depending on the predicted mass of waste being generated.

For redevelopments under 8,000 square metres where we typically do not pursue a Green Star rating, we establish a Green Plan for the project that adopts a number of sustainability design initiatives and targets for the project based on Green Star criteria. We will set a minimum construction waste landfill diversion target of 80 per cent for these small projects.

We require that contractors comply with all relevant environmental protection legislation, including contamination and waste dumping. Contractors are required to provide a strategy during the tender process to outline how they will meet the minimum requirements, and during the construction period contractors submit documentation to Stockland to validate their adherence to these standards. Our construction contracts in each of our business units require that an Environmental Management Plan (EMP) be developed by the relevant building contractor so that construction activities reflect the vision and design requirements and respond to policy and regulation appropriately. In addition, all of our contractors on projects seeking a Green Star rating with contracts over \$5 million (for Green Star Communities) or \$10 million (for Green Star Design & As Built) are required to have a valid ISO 14001 Environmental Management System accreditation prior to and throughout the duration of the project contract.

For our Commercial Property developments, we require the provision of suitable areas for tenant recycling facilities and encourage and support retailers undertaking a tenancy fitout in shopping centres to recycle as much of their construction waste as possible, as outlined in Stockland Tenancy and Delivery Guidelines. In our Retirement Living developments, we integrate recycling practices into the standard design guidelines for clubhouses and homes in all new developments.

We collect waste data from our Commercial Property and Communities development contractors to help us better understand the volumes of waste from our sites that are sent to landfill and/or recycled.

4.2.3 Operations

Materials

The most significant opportunity we have to influence the materials used in the operation of our business is in our Commercial Property business, most specifically our Retail Town Centre portfolio. We are constantly exploring opportunities to enhance the materials used in the operation of our Retail Town Centres to improve efficiency, enhance performance and minimise impacts on the environment.

We also engage with our tenants to improve the sustainability of materials used in our portfolio. For workplace and Retail Town Centre tenancy fitouts, we have specific guidelines for materials selection, set out in our Green Office Fitout Guide and the Retail Design and Fitout Guide. Our Workplace, Logistics and Retail Town Centre leases contain clauses that encourage tenants to implement fitouts in line with these guides.

Waste management

We set minimum waste recycling targets for the operation of our Commercial Property business where we have a high degree of influence to help reduce waste and manage the use of materials. We have incorporated new waste reporting criteria into our waste contracts and adopted requirements from the Better Business Partnership (BBP) Operational Waste Guidelines into our waste and recycling contract specifications, which will be a significant step towards providing more accurate data on waste recovery and disposal. This improved accuracy will allow us to better understand how waste is being managed and therefore develop appropriate strategies to increase diversions.

We work towards our business unit targets by setting specific diversion targets (a percentage diversion from landfill) for each Commercial Property asset to facilitate achievement of our overall waste and recycling goals each year. We also require

colour-coded signage on mall waste bins in our Retail Town Centres, as well as in loading dock areas. We do not set targets related to total waste generation because levels of waste are directly correlated to levels of visitation, which is not within our direct control.

We continue to explore opportunities for more effective disposal of organic waste across our Retail portfolio. For example, at Stockland Cairns (Qld), our waste is taken to SITA's Advanced Resource Recovery Technology (ARRT) facility, which sorts non-organic materials from mixed solid waste. Dry materials are manufactured into alternative fuels that replace fossil fuels in industrial furnaces, and organic waste is processed in accordance with appropriate Australian standards to produce high quality compost, which is sold to local horticultural enterprises such as sugarcane producers.

At our Retirement Living communities, residents' homes are generally serviced by local council waste services. Residents are encouraged to use the recycling options provided and we continue to explore options with the waste contractors that service our clubhouses to improve waste reporting.

4.3. REVIEW AND EVALUATION

We review and report on our progress against our waste management and materials targets in our **ESG Review** and **ESG Data Pack**.

We continue to monitor industry standards regarding waste management and material specification and to identify best practice processes and procedures across our asset classes.

We stay informed of material and waste innovations for use in the design, development and operation of our assets, and also collaborate with industry partners to identify, develop and/or trial innovative materials.

We engage with our development contractors to confirm their adherence to the sustainability plans, their use of specified sustainable materials, and to identify improvements to their construction waste management approach. Contractor compliance with our sustainability and materials requirements is monitored via our quality assurance processes.

During the tender phase, contractors provide a strategy outlining how they will meet the specified minimum waste management requirements. During the construction period, contractors submit documentation to us to validate their adherence to these standards. Upon the completion of Green Star projects, the contractor is required to submit the project for a Green Star Design & As Built rating. Materials attributes are also considered within Green Star Communities.

5. Asset ratings and certification

5.1. OVERVIEW

This section sets out our approach to the use of rating and certification schemes, which are important means of assuring and demonstrating the quality of our projects and assets.

Asset ratings serve as independent validation that key sustainability aspects, including social and environmental factors, have been considered in our project and asset designs, developments and operations. Rating and certification schemes also enable us to demonstrate compliance with state and national regulations, benchmark our sustainability performance against our peers and regularly track and improve our performance across our various asset classes.

Assets that are highly rated and can demonstrate optimal performance are often more attractive to customers and investors. Not only do they deliver a certain level of energy and water efficiency, and therefore cost savings over the long term, they also incorporate various design features that promote social inclusion and enhance health and wellbeing. Buildings with high environmental ratings often demonstrate higher return on investment over time.¹

5.2. MANAGEMENT APPROACH

The table below lists the key rating and certification schemes that we use and how they are applied across our portfolio. The requirements for achieving ratings and certifications are embedded in our strategy, targets, policies and toolkits to assist decision making as appropriate.

Rating/Certification Scheme	Stage of Life Cycle	Asset Class
Green Star	Design, Development, Operations	Workplace and Logistics, Retail Town Centre, Retirement Living, Residential
NABERS	Design, Development, Operations	Workplace, Retail Town Centre
NatHERS and BASIX	Design	Retirement Living, Residential
Livable Housing Australia	Design, Operations (Retirement Living, Independent Living unit fitout, LLC)	Retirement Living, Residential, Land Lease Communities

5.2.1 Green Star

Green Star relates to a suite of independent certification schemes developed and administered by the Green Building Council of Australia (GBCA), which is a not-for-profit industry association. Green Star is a national and voluntary rating system for buildings and communities designed to drive the adoption of sustainable practices in the Australian property industry.

Green Star Design & As Built assesses the sustainability outcomes from the design and construction of new buildings or major refurbishments. We require our new Workplace and Logistics, Retail Town Centre and Retirement Living developments, as well as our Retail Town Centre and Workplace and Logistics redevelopments in excess of 8,000 square metres, to achieve a minimum of 4 star Green Star Design & As Built certification with a review of opportunities to stretch to 5 stars. Our Sustainability Team works closely with project design and delivery teams to integrate targets into design briefs and contract documents.

Green Star Performance assesses the operational performance of buildings. We have used Green Star Performance to benchmark the performance of our Retail Town Centre, Workplace and Business Parks portfolio. Our Green Star Performance

¹ Green Building Council of Australia, Value of Green Star – A decade of environmental benefits, May 2013. This was verified by the 2015 Property Council/ IPD Australia Green Property Index

ratings also enable us to develop asset strategies for improving performance over time. We renew Green Star Performance ratings ahead of the expiry of the three-year performance rating period.

Green Star Communities assesses the planning, design and construction of large-scale development projects at a precinct, neighbourhood or community scale. We use Green Star Communities in our Residential portfolio to independently verify our leadership in delivering sustainable masterplanned communities.

5.2.2 NABERS

The National Australian Built Environment Rating Scheme (NABERS) is a national rating system that measures the environmental performance of Australian buildings, tenancies and homes in occupancy. It uses measured and verified operational performance information to assess the energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its impact on the environment. This performance is converted into a rating scale of 1 to 6 stars, with 6 being market-leading performance.

We undertake NABERS Energy and NABERS Water ratings annually on the base building across Retail Town Centre, Workplace and Business Parks assets, with tenancy ratings only undertaken on office tenancy space that we occupy. NABERS maintains an eligibility requirement specifying that assets under 15,000 square metres cannot be rated.

For our new Workplace and Retail Town Centre developments, we enter into a NABERS Commitment Agreement, which sets a clear target for achieving a NABERS rating outcome from the design of new buildings. Early commitment in the schematic design stage allows the project design team to follow a protocol for modelling energy performance in operation and for having this independently reviewed and optimised. A strict energy monitoring and building tuning program, once in operation, provides greater certainty for achieving the target rating sometimes several years after the project is initially designed.

5.2.3 NatHERS and BASIX

Both the Nationwide House Energy Rating Scheme (NatHERS) and Building Sustainability Index (BASIX) are rating schemes applicable to dwellings.

NatHERS is a national framework developed for regulating the classification of Australian homes for their thermal performance. A NatHERS thermal performance rating assesses the amount of mechanical heating and cooling (e.g. from air conditioning systems) that will be required to keep a home at a comfortable temperature.

Each state in Australia has minimum standards around thermal performance based on specific NatHERS ratings. NSW is different in that it uses BASIX (Building Sustainability Index) as a measure of energy use in the home; however, thermal performance forms a part of a BASIX rating. We use these regulations as well as other state-based building requirements as benchmarks for our sustainability targets and initiatives. Our current target requires our homes to be designed to exceed energy efficiency regulations by 15 per cent for our Residential portfolio and 10 per cent for apartments.

The NatHERS rating scale is from 1 to 10, with 10-star rated homes being the most thermally efficient and having minimal heating and cooling requirements. We work with builders to build homes that go beyond the 6-star minimum rating mandated by governments across Australia.

5.2.4 Livable Housing Australia

Livable Housing Australia (LHA) maintains a voluntary three-tier performance range for liveable housing design: Silver, Gold and Platinum. The LHA certification promotes good design principles focused on accessibility and can add to the long-term value of homes in our communities. The Livable Housing Design Guidelines describes 16 easy living design elements based on simple principles, such as the minimum width of corridors and more generous bathrooms. Each element details the performance expected to achieve Silver, Gold or Platinum level accreditation. LHA issues the Livable Housing Design Quality Mark to accredited building projects that are assessed at the Design & As Built stages of development.

As the largest residential property developer in Australia, with an overarching commitment to liveability, we use LHA guidelines to improve industry standards and to deliver liveable communities. We are committed to all sustainability hubs in our communities being constructed to a minimum LHA Silver level, and increasing the number of homes constructed to Silver level standards in our display villages, retirement living villages, medium density and completed homes projects.

Refer to the Human Rights chapter of our [Social Management Approach](#).

5.3. REVIEW AND EVALUATION

We set LHA commitments and targets for guiding NABERS ratings every third year to focus our investment in performance improvements across our portfolio. We report on asset ratings and other certification achievements across our portfolio in our [ESG Review](#) and [ESG Data Pack](#).

The use of rating and certification schemes, as well as commitments or targets related to the schemes, are reviewed along with the review of our performance. We are corporate members of the Green Building Council of Australia, which provides us with insight into the review and evolution of Green Star rating tools and other industry trends in asset rating and certification. We also work closely with the NABERS administration team on developments and improvements to the NABERS suite of rating tools.

6. Responsibilities

Roles and responsibilities associated with delivering our approach to environmental management are described in the table below.

Role	Responsibilities
Board Sustainability Committee	Oversight of strategic approach to environmental management, including targets and performance tracking.
Chief Financial Officer (CFO)	<p>Responsibility at a Group level for our strategic approach to environmental management, including targets and performance tracking.</p> <p>Reports directly to Managing Director and CEO.</p> <p>Chairs our internal Sustainability Steering Committee, which is composed of senior management from various organisational departments including Strategy, Investor Relations, Stakeholder Relations, Project Management, People and Culture, Legal, Risk, Operations, Development and Sustainability.</p>
Stockland Leadership Team	Supports delivery of environmental management.
National Manager – Group Sustainability supported by National Sustainability Managers and National Operations Managers (for Commercial Property and Retirement Living portfolios)	<p>Strategic identification and evaluation of environmental management initiatives across our diverse portfolio of assets.</p> <p>Guidance of asset teams in effective delivery of our sustainability policy and supporting toolkits.</p>
Development Managers and Asset Managers	Effective environmental management at the project and asset level.
Managing Director and CEO, CFO, business unit CEOs, Development Managers, Assets Managers, functional staff	Meet key performance indicators relating to strategic environmental management targets.
Group Executive and CEO Commercial Property Group Executive and CEO Communities	Ultimate accountability for the delivery of environmental management within respective portfolios.