

Environmental Matters: Management Approach



This document describes how the SA Power Networks Group manages material environmental matters, including how we identify and assess risks and opportunities, respond to incidents or issues, and evaluate progress on our actions.

Our material environmental matters are:

1. Environmental aspect (risk) management
2. Climate change and greenhouse gas emissions
3. Waste management, responsible consumption and contributing to a circular economy
4. Nature and biodiversity

SA Power Networks Sustainability Reporting Suite

This document should be read in conjunction with our:

- Sustainability Report;
- Sustainability Data and Disclosure Databook; and
- Social, Network and Governance Matters Management Approach Statements.

Our reporting follows the guidance of the Taskforce for Climate-related Financial Disclosure (TCFD) framework, the Global Reporting Initiative (GRI) Standards and general industry standards. Supporting information that forms part of our sustainability disclosures is available on our website.

Disclaimer

The information contained in this report is relevant and accurate to 31 December 2023. This report and the information contained in this report is for general information only and should not be taken, read or relied upon as anything other than general information.

1. Environmental aspect (risk) management

1.1 Overview

This section outlines how the SA Power Networks Group approaches environmental aspect (risk) management across our operations and activities.

Environmental management is a core consideration of the SA Power Networks Group. We recognise that our activities may have an impact on the environment, whether in the field or office, and we strive to minimise this where possible. To fulfil our commitment to contributing to positive environmental outcomes, we strive to promote an attitude of care and responsibility and a sense of stewardship for the environment by employees through environmental education and training.

1.2 Management approach

1.2.1 Policy, systems and procedures

Compliance with environmental legislation and regulation is viewed as a minimum requirement and we aim to go beyond compliance with environmental sustainability principles integrated into our systems, processes and our Sustainability Policy outlines our key commitments and actions to mitigate and manage environmental risks.

We have in place a comprehensive Environmental Management System (EMS) aligned to the ISO14001 Standard for managing environmental impacts and risks. The scope of the EMS applies to all SA Power Networks Group activities related to the design, construction, operation and maintenance of electricity distribution assets, properties and external construction and maintenance projects undertaken by or on behalf of the business. We also endeavor to pursue a strategy that not only encompasses all of our activities, but also that of our suppliers, customers and stakeholders.

Specific environmental risks appear on our Corporate Risk Register and are managed via our Risk Management Framework, EMS, standards, strategies, programs, asset management plans and procedures.

1.2.2 Operations

Environmental aspect identification and risk management

Our Environment Branch monitors industry-specific, national and global environmental management and sustainability legislation, trends and topics to provide up-to-date practical advice and assistance to the business. The Environment Branch works closely with our Projects Teams, Network Planning, Equipment, Standards and Assets engineers, Customer Relations Team and staff working in the field.

A key element of our EMS is an environmental aspect (risk) and impact register. All material environmental aspects (risks) have established procedures and work instructions, which are regularly reviewed for currency. In addition to mandatory Environmental Awareness training, tailored training is provided for significant risks and key business units.

The range of issues and concerns that members of the community, field staff and project managers need support with can include:

- Air quality including both local and global impacts and noise/vibration
- Water quality and preventing contamination of controlled waters
- Biosecurity, land use, aesthetics and community considerations
- Aboriginal and European cultural heritage
- Existing soil and water contamination and remediation issues
- Natural resources and their depletion, responsible supply chain and the circular economy

- Protection and enhancement of ecosystems, biodiversity, native vegetation and protected animals and that of the wider community

Guidance from our Environment Branch and the EMS ensures staff and contractors involved in the planning, designing, constructing, decommissioning, and maintenance of substation, distribution line, customer asset and telecommunications assets, have a clear understanding of the requirements to be followed for reducing any potential environmental impacts. These are documented in an Environmental Management Plan or Project Risk Assessment, depending on the scope and scale of the work. Specifically:

- identification of possible environmental risks associated with works;
- appropriate enquiries, assessment, approvals and management measures are undertaken with the Environment Branch, landowners, the community and regulatory bodies.

Unlike many other risks, environmental risks can be inherent in projects of any size or complexity. Whilst there is a focus on larger/major projects, environmental risks are considered and addressed for all activities. Project and asset inspections and audits ensure compliance with Site/Project Environmental Management Plans and EPA licence conditions. Some significant risks and how we manage them are summarised below:

Managing Oil Filled Assets

Oil is an essential component in the electricity system as it is used in equipment such as high voltage transformers and other electrical items like insulators. SA Power Networks owns and operates tens of thousands of oil-filled assets, including large transformers in over 400 substations across South Australia. All of our assets are regularly inspected against safety, asset condition and environmental criteria.

Substation environmental inspections are designed to help prioritise the scheduling of oil containment works such as bunding around transformers or the installation of an oil-water separation system. The Environment Branch works closely with Network Management Department to assist in risk rating and prioritising their oil containment program starting with the highest risk sites. All 'high-risk' substations have some form of oil containment. We conduct dozens of inspections and assessments per year and monitor and assess the risk status of each of the organisation's substation sites and large distribution asset classes.

Some of our substations are more than several decades old and were often built on sites that were isolated at the time. Residential and commercial development has seen rapid growth around many of these substations, often right up to the boundary fence. In these situations, the risk profile may have changed, particularly if the substation now borders a wetland or conservation area.

The Environment Branch rates this risk, according to criteria set by our oil containment management plan, current legislation and the Environment Protection Authority (EPA). We carefully consider factors such as proximity to natural or artificial watercourses, the depth of the ground water and neighbouring properties with horticultural crops or other sensitive land uses. If a site is identified as medium to high risk, the site is included in the oil containment program and for the installation of oil containment on site.

The audit process also checks for any polychlorinated biphenyl (PCB) contamination from old transformers and circuit breakers. PCB was a widely used additive in transformer oil during the mid-20th Century for its insulating and fire-retardant properties, before it was found to be carcinogenic and subsequently banned worldwide. SA Power Networks is committed to a program of reducing or removing PCB contamination in its assets, and to meet the ANZECC PCB Management Plan.

Environmental Incident Response

Sometimes incidents (eg oil spills, transformer failures) occur that have the potential to cause environmental harm. The vast majority of leaks, spills or incidents that occur are minor, but if the spill or incident is determined to meet the materiality threshold described in the *Environment Protection Act (1993)*, we will notify the Environment Protection Authority (EPA). The table below summarises the spills and notifiable incidents of the last three years.

Year	Number of minor spills	Number of EPA notifiable incidents
2021	62	5
2022	75	5
2023	97	7

SA Power Networks has a robust process in place to respond rapidly to and manage environmental incidents. Our 24/7 Network Operations Centre (NOC) is alerted when an incident occurs that has caused, or has the potential to cause, harm or damage to the environment. The NOC will dispatch our emergency response contractor to contain any spills with a focus on protecting water catchment areas. Also, our field staff and project managers are trained to respond to and manage other environmental incidents should they occur.

Biosecurity

Biosecurity is a series of measures to protect against the entry and spread of pests and diseases. The spread of weeds and diseases can impact agriculture, human health and the environment. Biosecurity is a shared responsibility, meaning that both landowners and SA Power Networks Group personnel and contractors have a role to play.

To inspect and maintain our network our staff and contractors must access our infrastructure, sometimes requiring access through farm and other properties. So that we minimise the risk of our activities introducing or spreading pest plants or disease, our personnel undertake a range of biosecurity measures.

Aboriginal and European cultural heritage

The SA Power Networks Group recognises the value of cultural and natural heritage. Aboriginal heritage may include archaeological sites, campsites, middens, artefact manufacturing sites, burial sites, stone tool, grindstone and ochre quarries, ceremonial, hunting hides, fish traps mythological sites, paintings, engravings, scar trees and native trees. European heritage includes vegetation heritage areas on farm properties, individual trees, buildings, bridges, walls and even old tram poles.

Some activities (particularly those that involve intrusive works) undertaken in the field by our crews and our contractors run the risk of causing damage to Aboriginal or European heritage. Good planning minimises the risk of harm, including undertaking appropriate risk assessment, site selection, site investigation and design. Depending on the site and level of risk, we will undertake desktop research, engage archaeologists and anthropologists, and work with local Aboriginal Traditional Owner groups for site inspection and monitoring of works. We also have in place comprehensive procedures and work instructions in the event that an artefact or site of significance is discovered.

1.3 Evaluation and improvement

The SA Power Networks Group's Environment Branch is responsible for coordinating the implementation of the Environmental Management Plan, monitoring and reporting environmental performance of the SA Power Networks Group, providing legislative compliance requirements and other advice, as well as providing environmental training and conducting asset audits/risk assessments to determine environmental risk in conjunction with applicable business units and departments.

The Sustainability Coordination Team, comprising senior and operational managers including the Environment Manager, oversees the implementation and progress of the Environmental Management Plan, and monitors emerging legislation and issues. In addition to this, matters of significance are reported via the Executive Leadership Team to the Board's Sustainability Committee and Risk Management and Compliance Committees.

We measure and continually improve our environmental performance and environmental management system. A range of metrics and KPIs monitored by the Environment Branch in relation to organisational and

operational performance are detailed in our *Sustainability Data and Disclosure Book*, and include:

- Waste, recycling, and resource recovery
- Carbon footprint (GHG emissions) and energy consumption
- Air emissions
- Water consumption
- Incidents
- EPA licence non-compliances and legislative breaches

We also engage on environmental issues – formally for specific projects or initiatives and informally in an ongoing way – with landowners, customers, businesses, and Traditional Owner groups. We respond openly and constructively to the reasonable expectations of the community on environmental matters and have a positive working relationship with regulators such as the EPA and Department of Environment and Water.

2. Climate change and greenhouse gas emissions

2.1 Overview

This section outlines how the SA Power Networks Group approaches climate change and greenhouse gas (GHG) emissions in relation to our own operations and facilities, and the role we play in decarbonising South Australia.

The SA Power Networks Group's over-arching approach to climate change is three-fold, comprising:

1. **Our role as a network operator:** we are actively leveraging our unique circumstances to help South Australia transition to a distributed and decarbonised energy system and create a future where energy is clean, reliable and affordable; and
2. **Playing our part by achieving net-zero:** we will achieve Scope 1 and Scope 2 GHG emissions across our operations by 2035 and net zero Scope 3 GHG emissions by 2050. Our GHG emission reduction targets are aligned to the guidance of the Science-based Targets initiative (SBTi), meaning that they are in line with the level of decarbonisation and emission reduction required to keep global temperature increase to 1.5 °C above pre-industrial levels.
3. **Building the resilience of our grid, our people and our communities:** we will continue to improve the reliability and resilience of our network, our business, and our customers to respond and adapt to climate-related impacts through collaboration, innovation and engagement.

These aims are embedded in our overarching Strategic Direction, with the programs, projects and other initiatives to achieve them detailed and operationalised via relevant sub-strategies and departmental plans. Action on climate change is embedded in our overarching business vision explicitly articulated in our Network and Sustainability Strategies, and Sustainability Policy.

Our [Climate Change Position Statement](#) outlines our organisation's position, role, objectives, and initiatives with respect to climate change and the transition to a low carbon economy. We are endeavouring to better communicate our role and approach to risk management, governance, mitigation and adaptation. We publish an annual Sustainability Report, which tracks our progress on a range of initiatives and commitments including progress on aligning our activities and reporting against the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) Framework.

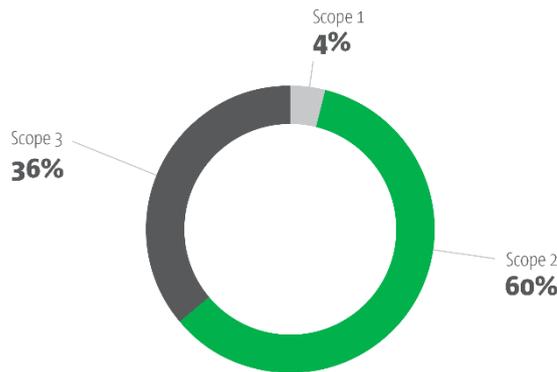
3.2 Management approach

3.2.1 Carbon footprint

Our goal is to achieve credible and ambitious GHG emissions reductions across our operations, activities and value chain, hence our *Climate Change Transition Roadmap* (due for completion in 2024) will describe our emissions sources, our near-term and long-term targets, and how we will get there. In 2023 we compiled our first Scope 3 GHG Emissions Inventory, completing our picture of our carbon footprint (see figure 1 below).

The bulk of the SA Power Networks Group's Scope 3 GHG emissions result from our "Purchased goods and services", and "Fuel/energy related activities". Key materials under "Purchased goods and services" include corporate services/goods, electrical equipment/hardware, power cables, and contractor services such as asset inspection, maintenance and construction. "Fuel/energy related activities" relates to the production process of the of the electricity and fuels we consume.

Figure 1: 2022 (baseline year) Total Emissions by Scope (tCO2-e)



Strategies to reduce our carbon footprint are either established or under development and will be described in the *Climate Change Transition Roadmap*. Over the second half of 2023 we undertook analysis of our future growth and operations to forecast our emissions over the coming decades and establish Scope 1, 2 and 3 GHG emissions reduction targets. To ensure these targets are aligned to what the latest science tells us is necessary to meet the goals of the Paris Agreement¹ we sought expert support to ensure they are aligned to the guidance of the Science Based Targets Initiative.

The SA Power Networks Group's Science-based GHG Emissions Reduction Targets

	Type of emissions and key sources	Near-term targets	Long-term targets	How we will get there
How we will get to net zero	Scope 1 Direct emissions <ul style="list-style-type: none"> Diesel, petrol and natural gas from vehicles, equipment and small scale generation SF6 from network equipment 	Reduce Scope 1 and 2 emissions by 50% by 2030 from a base year of 2022	Net zero Scope 1 and 2 emissions by 2035	Enabling the rapid transition to renewables in South Australia
	Scope 2 Indirect emissions <ul style="list-style-type: none"> Electricity consumed at offices, depots and facilities Distribution line losses and electricity consumed by public lighting 			Transition our passenger and light commercial vehicles to EV Phase out SF6 Replacement of public lighting with LEDs
	Scope 3 Indirect (value chain) emissions <ul style="list-style-type: none"> Emissions associated with purchased goods and services, fuel and energy related activities, and business/employee travel 	Reduce absolute Scope 3 emissions from fuel and energy related activities by 25% by 2030 from a 2022 base year + 70% of our suppliers emissions covering purchased goods and services will have science-based targets by 2028	Net zero Scope 3 emissions by 2050	Working closely with our supply chain partners to optimise product offerings and encourage them to set their own science-based net zero targets

2.2.2 Identification of climate-related issues

Assessment and management of climate-related physical and transition risks is ongoing as part of our business processes as well as specifically through our Risk Management Framework, consistent with the process for all risks at SA Power Networks. The SA Power Networks Group employs an Enterprise Risk Management Framework in alignment with ISO 31000:2009. Climate change risk features in the list of top 10 enterprise risks in our Corporate Risk Register and Risk Appetite Statement.

¹ The Paris Agreement is a legally binding international treaty on climate change which aims to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C.

Broadly, climate change related risks and opportunities manifest as:

- **Physical risks** from changing climate patterns, both acute and chronic, including changes in the severity and frequency of extreme weather events;
- **Transition risks** from the adjustment to a low-emissions economy, including changes policy, in technology, and market and consumer behaviour; and
- **Liability risks** including legal and regulatory action. These may arise from failure to adequately consider, disclose or respond to climate-related risks, or meet emerging standards and societal expectations.

The SA Power Networks Group has long recognised the physical hazards and risks a changing climate will have (and are already having) on maintaining a reliable energy supply and the condition of our electricity distribution assets. We are also proactively tackling the transitional risk/opportunity posed by the rapid uptake of renewables.

Our most material climate-related risks and opportunities within our overall risk management approach are outlined in the table below:

Climate-related Risks and Opportunity Categories

Climate-related risk / opportunity	Potential positive impact	Potential negative impact
Physical risks: severe storms, heatwaves, bushfires and rainfall/flooding	Investment in resilient assets that can withstand acute physical risks, promote business continuity and receive insurance benefits.	Increased power outages (reliability), expenditure on repairs, and loss of business continuity. Negative impact on worker safety and health. Customer/community damage and/or fatalities. Increased customer complaints/claims, reputational damage and higher insurance premiums.
Transition risks + opportunity – market and technology: increasing uptake of distributed or consumer energy resources (CER) such as residential, business and large-scale solar, wind, battery storage and electric vehicles (EVs).	Reduced electricity costs and greater choice/control of energy services for consumers. Reduced greenhouse gas emissions across the SA economy. Opportunity to collaborate on innovation and leverage technological advances to reduce costs, explore new business opportunities, and maintain social licence to operate. Enhanced capacity to attract investment from investors favouring companies with strong climate action and more readily meet climate-related regulatory requirements.	Increased power outages and/or system instability. Expenditure to adapt and upgrade grid assets and technology. Potentially increased customer complaints/claims, reputational damage and higher insurance premiums. 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.
Liability risks – regulatory and legal: carbon pricing, mandatory reduction targets, liability around climate risk disclosure and insurability of assets.	Efficiency and resilience initiatives that reduce our operational and insurance costs. Enhanced climate risk disclosure that minimises likelihood of fines and judgements against us.	Higher operational/capital and insurance costs or inability to insure our assets. Legal or regulatory action/fines due to inadequate or inaccurate disclosure of climate-related risks or insufficient action to address climate-related issues.

Transition risks – reputation: such as failing to attract the skills/talent, funding and customers/clients we need because of a perceived lack of action on climate change.

Continued leadership in the energy transition and climate resilience; for example, increased revenues and scope for development/new business if we gain customer/regulator support for our Reset proposal.

Reputation risk due to a perception that we are not contributing to the low-carbon transition in line with customer and government expectations. Reduced revenues if customers do not support our proposed activities/initiative and our Reset proposal is rejected. Increased hiring costs and project delays as prospective employees prefer to work for other organisations.

2.2.3 Climate change and the grid resilience challenge

South Australia has a network that is significantly radial in nature and 80% of it is above ground. In regional areas long single radial lines supply towns and surrounds and a fault upstream will affect all those downstream. Electrical equipment is vulnerable to climate-related issues – it works less efficiently in heat, it can be damaged by fire or lightning, and it is vulnerable to the impact of tree/limb falls and other impacts.

We are already experiencing the impacts of climate change on the grid, including more frequent and severe storms, heat events and bushfires. The [AEMC reports](#) that 95.6% of blackouts are caused by sudden poles and wires breakdowns in the grid – typically caused by weather events such as storms and bushfires.

By 2035, current forecasts indicate that average temperatures across Australia will be at least one degree higher than historical averages. Consequently, South Australia is expected to experience more frequent and more severe weather events, requiring a greater focus on network resilience and storm response. In addition, the number of days of high bushfire risk is anticipated to increase significantly, consistent with the trends in bushfire risk we have seen over the period from mid last century to 2020.

Action to address climate change has (so far) primarily focused on decarbonising the energy sector through replacing fossil fuel generation with renewable energy sources. The rapid uptake of renewables has a host of benefits but also poses a challenge to grid operators.

Physical risks – Severe weather events and bushfires

For South Australia, we have identified the key future weather factors of concern that will particularly challenge our network’s resilience in the future. Without investing in resilience, these weather factors could lead to more frequent and longer power outages.

Key weather factors of concern for South Australia

STORMS INCREASE IN SEVERITY OF WINDS AND LIGHTNING STRIKES		HEAT NUMBER OF HOT DAYS IS INCREASING		BUSHFIRE LONGER, RISKIER FIRE SEASONS		RAINFALL & FLOOD LOWER TOTAL RAINFALL PROJECTED, BUT EXTREME RAINFALL TO INCREASE	
<p>More intense and damaging storms including microbursts and severe convective winds. Australia's infrastructure has been built for the 20th century and is unprepared for more intense storms, leading to potential:</p> <ul style="list-style-type: none"> Increased risk of prolonged power outages (due to asset damage and delayed access for repairs) Increased costs related to infrastructure repair and hardening 		<p>Number of very hot days (>40°C) to increase from 2 to 6 days/year in Adelaide between now and 2050, leading to potential:</p> <ul style="list-style-type: none"> Increases in peak electricity demand Increased risk of network fire starts Increased health impacts of power outages, including from coincident storm or bushfire events 		<p>Longer fire seasons, with 40% more 'very high' Fire Danger days between now and 2050, leading to potential:</p> <ul style="list-style-type: none"> Increased risk of network fire starts Increased risk of prolonged power outages (due to Public Safety Power Shutoffs, bushfire damage and delayed access for repairs) 		<p>By 2030 total annual rainfall across SA projected to decline by 4.4 - 9%, but the amount of rain falling in extreme rainfall events will increase between now and 2050, leading to potential:</p> <ul style="list-style-type: none"> Increased risk of asset flooding and damage Increased risk of prolonged power outages and delayed access for repairs 	

Note: excludes impacts of wind and lightning, as the impacts of these are less certain and less likely to impact SA.

1 Data from Climate Change Australia (CSIRO) Summary of weather for SA – forecasts are for mid-century (2050).

2 Data from SA Climate Ready Initiative – uses a baseline period of 1981 to 2010.

3 Examples of common climate risks and their impacts (NSW/ACT/TAS/NT Electricity Distributors Network Resilience: Collaboration Paper 2022).

Transition risk/opportunity – Increasing uptake of distributed or consumer energy resources (CER) and maintaining system stability

South Australia is leading the world in the transition to renewable energy. In total, in 2023, 72% of South Australia's electricity needs were met by renewable energy and the State is on track to be 100% net renewable energy before the end of the decade. This profound transition is placing unprecedented pressures on the network and the broader energy system to adapt. Although the increased uptake of CER (solar, wind, EVs, etc.) presents significant challenges in relation to system stability, our key role at the centre of this distributed energy network and as an enabler of South Australia's transition to a low-carbon economy has been prioritised as a core business opportunity.

More information about how we are managing the integration of CER and maintaining system stability can be found in our Network Matters Management Approach Statement.

2.2.4 Management of climate-related issues

When evaluating the best approach to address climate related issues, we consider the ability of our network to:

- Prevent the risk from materialising (Resistance)
- Mitigate the damage or loss from an event (Resilience and Reliability)
- Provide continued service in the event of a disruption (Redundancy)
- Enable fast and effective response and recovery in the event of a disruption (Response and Recovery)

Key activities to manage climate-related issues are outlined below.

Weather and bushfire modelling to tailor our planning and investment

To better understand, plan for and manage the impact climate-related risks have on our assets, people and operations we collaborate with the CSIRO, the Energy Networks Association Australia and the Bureau of Meteorology (BoM). This analysis is used to provide evidence supporting the need to integrate climate considerations into the network planning spend when engaging with the Regulator. Specific risks including those posed by bushfire and extreme weather events are considered in network planning and operational capacities during our strategy and risk management processes.

During 2019–2021 SA Power Networks participated in the Electricity Sector Climate Information (ESCI) project which was initiated in response to the independent review into the future security of the National Electricity Market: Blueprint for the future. The project delivered high resolution (5–12 km) climate projection data across the National Electricity Market (NEM) at sub-daily intervals to the year 2100. This data means that climate risk – including risk related to future weather – can now be consistently integrated into sector planning and risk modelling using a standard process and guidance.

Our bushfire risk management process

The SA Power Networks Group invests millions every year to reduce the risk of bushfire and loss of power supply in communities. We undertake a range of bushfire risk preparation, mitigation and adaptation activities. Our Bushfire Risk Management Committee, which includes representatives from our Network Management, Field Services, Governance, and Regulation functions. The Committee oversees all the business response to bushfire risk with a focus on what we can do to reduce the risks of a fire start.

We actively monitor bushfire research and partner with organisations such as the Bureau of Meteorology, the Energy Networks Association and the Commonwealth Scientific and Research Organisation (CSIRO) to

undertake sophisticated modelling to enable more targeted preventative activities. We work closely with other government and first responder agencies such as the State Emergency Service (SES), Metropolitan and Country Fire Services (MFS/CFS), and the Bureau of Meteorology (BoM) to plan, prepare and respond to major public safety incidents and the bushfire season, and are a member of the State Bushfire Coordination Committee.

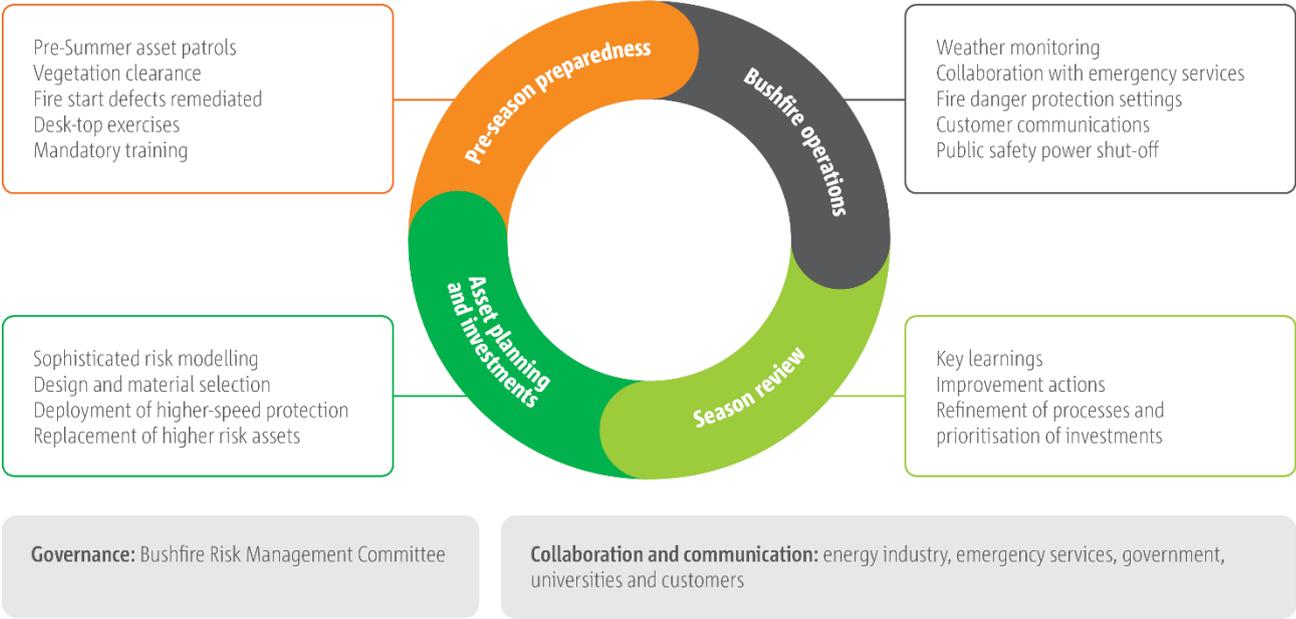
When it comes to having an electricity network that’s primarily above ground, careful consideration is essential to minimise risks of the equipment starting fires. Extensive bushfire seasonal preparation is completed ahead of the season, including:

- rectifying any identified bushfire and supply risk defects and ensuring key network projects are completed prior to summer
- trimming vegetation around powerlines
- training operational personnel/emergency management exercises
- ensuring emergency spare parts are in stock
- preparing our call centre and social media messaging
- writing to Life Support customers and Government representatives.

SA Power Networks is the only utility in Australia to (voluntarily) be externally audited for vegetation compliance against the *Electricity (Principles of Vegetation Clearance) Regulations 2021*. Trimming trees and branches near powerlines and repairing or upgrading equipment reduces the risk of bushfire and maintain a reliable power supply to customers and communities. Information about how we manage vegetation near powerlines is available on our [website](#).

When the bushfire season does start, asset inspectors continually assess the asset and look at whether there needs to be greater attention brought to certain areas. This includes the use of drones, helicopters and ground patrols.

Bushfire risk management cycle



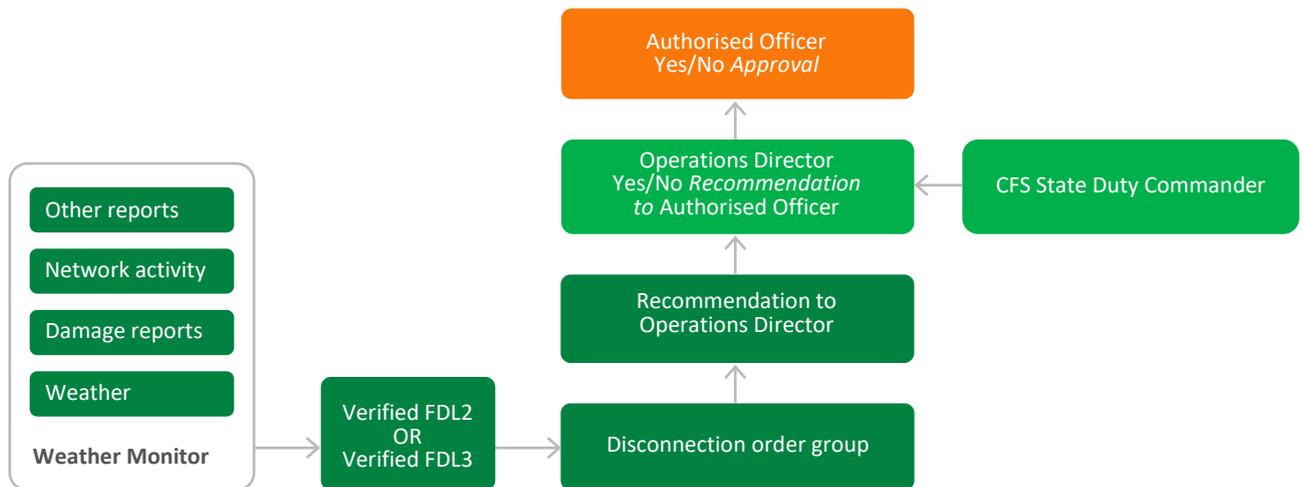
Emergency disconnections during bushfire season

During periods when high bushfire and/or extreme weather conditions are expected, we use a range of tools and methods such as daily monitoring of weather, twice-weekly briefings with meteorologists, and specific response levels (Fire Danger Level, Emergency Response Level and Minimum State Demand) to

manage and mitigate potential risks.

In severe cases, when conditions are deteriorating and are not forecast to improve, emergency disconnections may be required to keep communities safe. This response follows a Disconnection Procedure Flowchart.

Disconnection procedure flowchart



Communication during emergency conditions

We engage in proactive communication with customers when forecasts indicate significant Emergency Response Level or Fire Danger Level conditions. This includes reaching out to Life Support Customers, MPs, nursing homes and other major customers, to inform them of preparations for extreme weather events.

Social media is a critical platform to spread messages during events, and we also utilise an automated system that sends out SMS messages to customers as soon as we know a part of the network is off, including those parts that customers inform us of. In major events, we deliver targeted, bespoke messaging to localised groups of customers regarding restoration times.

During bushfires, communications are more regular. We do as much as we can to make sure that we are preparing and informing the community about our preparations and advise them on what they need to do when there is a bushfire.

Governance

Given the potential and actual impact of climate-related risks and opportunities, commensurate oversight and governance is embedded into the SA Power Networks Group’s structures and systems. The Board’s role in defining the SA Power Networks Group’s approach to climate-related risks and opportunities is key to the integration of climate change into organisational governance, strategy and risk management.

SA Power Networks Group’s management implements our governance structure and Risk Management Framework, which includes climate-related risks, and our Risk Appetite Statement, which outlines our ESG risks and opportunities. Key management roles accountable for climate-related risks are included in our Environment, Sustainability, Risk, Operations, Customer and Strategy, and People and Culture departments and functions. High-risk climate-related risks such as bushfire risk management are governed via the Bushfire Risk Management Committee and report through to the Board Risk Management and Compliance Committee.

The Board Sustainability Committee meets four times during the year, to receive progress updates on the SA Power Networks Group’s Sustainability Strategy and reporting, and monitor performance against a range of ESG metrics and targets. Papers endorsed by the Committee in 2023 included items addressing our Inclusion and Diversity Strategy, development of our *Climate Change Transition Roadmap*, completion of our Scope 3 GHG Emissions Inventory, activities in the Responsible Supply Chain space, and lodgement of

our first Reconciliation Action Plan.

A representative from the Environment Branch and other senior and operational managers whose roles intersect with climate-related matters are members of the Sustainability Coordination Team, which is led by the Sustainability Manager. Updates on climate-related matters, including management of risks, progress on GHG emissions reduction, and changes in legislation/regulation are reported via the Executive Leadership Team to the Board's Sustainability Committee and Risk Management and/or Compliance Committees at least quarterly.

To further build capability within our workforce and among key stakeholders, we provide environmental training and climate change impact communications throughout the business.

2.3 Evaluation and improvement

To enable investors and other interested parties to assess our approach and performance, we are working towards aligning our activities and reporting against the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). A TCFD Index is available in our Sustainability Data and Disclosure Databook, which can be accessed via our website.

Risks are reported regularly to the Executive Leadership Team and to the Board on a six-monthly basis. A range of metrics and KPIs monitored by the Environment Branch in relation to organisational and operational performance are detailed in our annual Sustainability Report and Sustainability Data and Disclosure Databook.

As the SA Power Networks Group is required to report annually under the *National Greenhouse and Energy Reporting (NGER) Act 2007*, we have developed foundational climate-related metrics such as the NGER emissions inventory (covering Scope 1 and 2 greenhouse gas (GHG) emissions) and monitor our carbon footprint.

We have pledged to achieve net zero scope 1 and scope 2 GHG emissions across our operations by 2035 and net zero Scope 3 GHG emissions by 2050. Progress on achieving these targets, along with other monitored measures related to the intensity of our energy delivery and reliability, and our alignment with the guidance of the TCFD Framework (subsequently the ISSB/AASB Sustainability Standards) will continue to be reported annually via the Sustainability Reporting Suite.

Apart from our enterprise carbon footprint, other key climate-related metrics that we monitor include dollar spend on research and development partnerships and the amount of CER enabled to date/per year. We have engaged with our stakeholders (including the AER) in the identification of climate-related risks within the distribution network and have endeavoured to support funding submissions with empirical evidence of these impacts. Additionally, climate-related risks and opportunities have been identified and communicated publicly through the annual Distribution Annual Planning Report.

We recognise that a key opportunity exists to engage more effectively with the community and communicate about the significant role we play in enabling decarbonisation and improving resilience. Customer and community support of SA Power Networks' purpose as an enabler may positively influence government and regulator decisions related to the importance of investing to support the future of the network as it decarbonises and harden the grid against severe weather impacts exacerbated by the changing climate.

3. Waste management, responsible consumption and contributing to a circular economy

3.1 Overview

This section outlines how the SA Power Networks Group approaches waste management, recycling, resource recovery and our contribution to the circular economy, including responsible consumption.

The SA Power Networks Group undertakes a large range of activities that can generate waste materials that require disposal at a landfill facility, processing at the Alternative Fuels Facility or management at a recycling facility. There are numerous waste streams throughout the SA Power Networks Group’s operations, including office waste, hazardous waste, oils, scrap metals, plastics, packaging and street lighting consumables, as well as solid wastes from depots, workshops, stores and corporate headquarters. A substantial percentage of these waste streams are recovered, re-used or recycled.

We are considered a leader in terms of waste and recycling performance within South Australia (our overall landfill diversion rate averages 85%), and we are looking ahead to improve on this performance by further reducing waste to landfill, reducing packaging and using greener products and materials across the business.

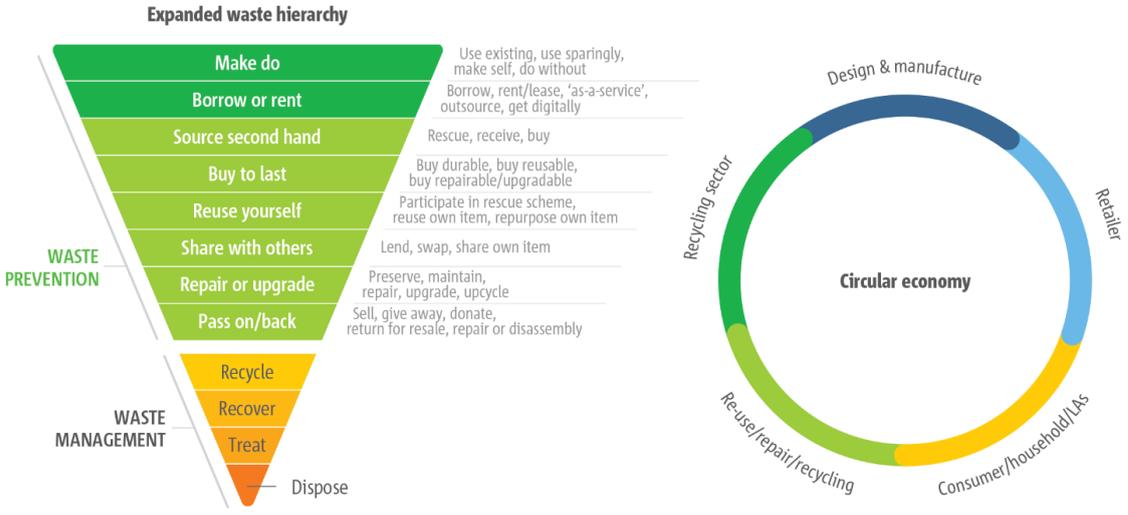
We are also exploring opportunities to contribute to a more circular economy in South Australia. A circular economy is an alternative to a traditional linear economy (make – use – dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

3.2 Management approach

3.2.1 Systems and procedures

Our Waste Disposal and Recycling and Waste Soil Management procedures, waste management systems and processes encourage practices which eliminate and reduce the quantity of waste and ensure that our operations and activities are compliant with regulatory requirements. The waste management hierarchy below outlines the preferred approach in addressing waste across the SA Power Networks Group.

We have made a commitment to explore opportunities to contribute to a more circular economy in South Australia, which will see us keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.



Source: National Waste Report 2022

3.2.2 Operations

Responsible consumption, planning and design considerations

Good planning and design can reduce the volume of waste generated by daily operations and projects. Environmental and sustainability information, including guidance on minimising waste and maximising ecologically preferable (eg recycled content) materials, has been incorporated into our Procurement Directive, sourcing guides and Conditions of Tender, with work currently focused on improving the environmental risk assessment process and incorporating environmental criteria into key contracts.

Our project managers and site operational personnel are encouraged to:

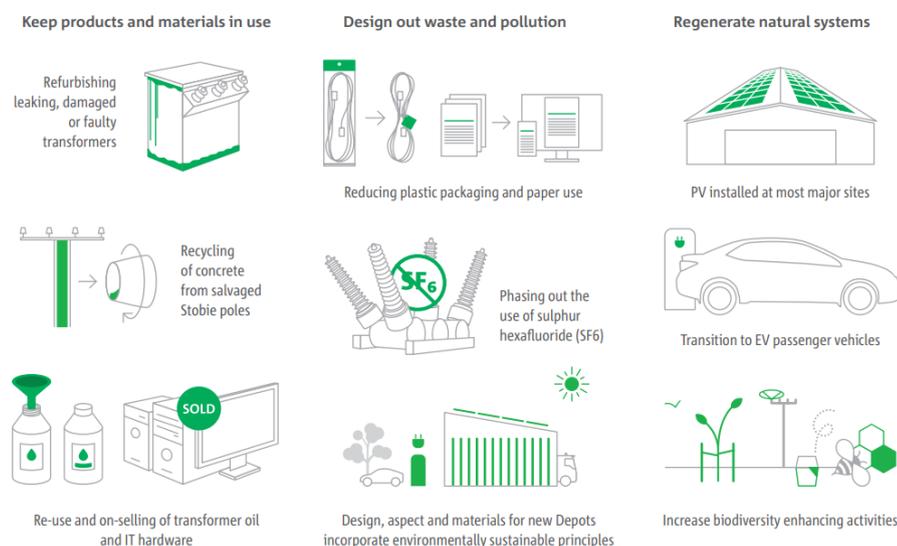
- ensure that waste minimisation and management are included in the development of new projects and business activities – for example ensuring that suitable source separation and recycling infrastructure is located on site/actively promoted;
- determine priorities to eliminate waste at the source, for example ensuring that only what is required for the project or activity is ordered and fully utilised, and requesting no or minimal packaging;
- consider purchasing materials and products that are more readily reused, recycled and more environmentally benign and develop opportunities with suppliers and manufacturers; and
- encourage suppliers to complete the product life-cycle by recovering and recycling materials;

In 2012, an improved recycling system was introduced throughout the organisation that significantly increased our recycling performance. Our staff and contractors receive training to maintain this performance, and we encourage ideas and innovation to improve our practices.

As moving to a circular economy is not only about recycling, we are exploring ways we can ‘design out’ waste streams and increase the use of products made to be repaired, refurbished and kept circulating at their highest value for as long as possible. Examples at SA Power Networks include the refurbishment of leaking, damaged or faulty transformers at our Transformer Workshop, the collection, re-use and on-selling of transformer oil at our oil reclamation plant, and the on-selling and recycling of IT equipment.

By eliminating waste and pollution, the emissions associated with the production of the materials that go to waste are likewise eliminated. And by keeping products and materials in use, embodied energy in products and materials is retained instead of producing new materials and products, which generates even more greenhouse gases. Circular production and consumption is underpinned by renewable energy and regenerative practices – we generate a significant portion of our power needs via solar panels, and are a key driver of the energy transition in SA.

SA Power Networks Group - circular economy elements



Sustainability in property building and maintenance

The SA Power Networks Group operates over 40 properties across the state. The property portfolio is a key enabler, providing the industrial, depot, training and office facilities that the business requires to safely and reliably maintain the distribution network. One of the objectives of the Property Strategy is optimising property utilization, integrating environmentally sustainable building design principles to reduce our carbon footprint, and adopting socially responsible supply chain practices. Key examples include:

Energy efficiency, electric vehicle (EV) charging and solar generation	<ul style="list-style-type: none">• East to West building orientation and larger eave overhang• Office, Depot and Warehouse LED lighting replacements (internal and external) + Photo Electric Cells, timers, motion sensors and remote arming• Inverter Heat Pumps and Solar pre-heat Hot Water Systems• BMS controlled Air-conditioning• Energy Efficient Appliance Selection (Fridges, TVs etc)• EV Charging Infrastructure Rolled out to all Depots• PV solar panels installed on all applicable rooftops.
Water sensitive design	<ul style="list-style-type: none">• Rain Gardens in car parks;• Planted retention basins for stormwater biological pre-treatment;• Stormwater harvesting for toilet flushing, vehicle washing & irrigation (>100,000L);• Low water, drought tolerant plant species selection
Waste management and circular economy	<ul style="list-style-type: none">• Provision of recycling and recovery systems and management of waste and recycling service provision• Alternative hardstand pavement trials (incorporates locally recycled hard plastics, less concrete, faster and more efficient installation)

3.3 Evaluation and improvement

We work closely with our waste management and recycling contracting companies and circular economy experts to continuously improve our systems and trial innovative approaches. We engage a consultancy to periodically audit contract performance and prepare an annual waste mass balance report.

A range of metrics and KPIs monitored by the Environment Branch in relation to organisational waste and recycling performance are detailed in our Sustainability Data and Disclosure Databook. We have begun exploring appropriate measures to monitor our circularity progress.

4. Nature and biodiversity

4.1 Overview

This section outlines how the SA Power Networks Group approaches our potential impact on nature and biodiversity.

We recognise the interconnectedness of climate change and accelerated loss of biodiversity. We accept that the rich biodiversity of our State is under threat, and we have a role to play in preserving and enhancing the plants, animals and ecosystems we work around and within.

The scale and scope of our day-to-day operations and activities do not have a significant (acute) negative impact on natural habitats and ecosystems, however we recognise the chronic impacts that all large businesses can have and strive to minimise any potential damage through a range of biodiversity and natural resources related planning and operational procedures and systems.

4.2 Management approach

4.2.1 Systems and procedures

Our Environmental Management System (EMS) provides a range of biodiversity-related procedures, work instructions and training modules to direct and guide staff, including:

- Flora and Fauna Management
- Birds and Bird Nest Removal from Infrastructure
- Native Vegetation Management Procedure
- Protection of Significant Roadside Vegetation
- Working around Regulated and Significant Trees
- Access Tracks and Native Vegetation Management
- Birds of Electricity Infrastructure Guide
- Snake Removal Contacts
- Biosecurity - Pest Plant Animal Disease Management
- Weed Spread Prevention
- Phytophthora Spread Prevention

These resources provide detailed information about risks and management measures to be taken for preserving or minimising the impact on native vegetation, significant and regulated trees, and native fauna from work activities, and preventative measures required to reduce potential harm to the environment, community and economy from the entry of pest plants (weeds), pest animals (feral) and plant and animal diseases.

4.2.2 Operations

Planning

In addition to our EMS, our project, field and contractor crews are provided with planning tools and information to ensure that environmental issues are addressed prior to work commencing. Threatened species and habitats are considered part of the environmental approval process on all major projects, and in most instances we are able to shift or adjust the powerline route or project scope to avoid impact. We have a continuous improvement approach to key activities to:

- improve the consideration of ecosystem health in the planning and construction of infrastructure (eg green/ community focused substation and depot design);
- minimise the use of virgin materials, hazardous substances, and increase purchasing of materials and products that are more readily reused, recycled and more environmentally benign;
- collaborate with government and not-for profit environmental and wildlife groups to mitigate against the risk of harm to wildlife and power outages when they interact with our infrastructure;
- minimise removal of native vegetation and explore options for rehabilitating habitat (rewilding). We continue to work with Department of Environment and Water, National Parks and Wildlife Service, Trees for Life and Greening Australia to enhance biodiversity in and around our facility and project sites; and
- protect SA's biodiversity through adhering to biosecurity protocols. Preventative measures are required to reduce potential harm to the environment, community and economy from the entry of pest plants (weeds), pest animals (feral) and plant and animal diseases.

Wildlife network interactions

Our electricity distribution network stretches across South Australia, comprising thousands of kilometres of powerline and hundreds of substations, so wildlife such as birds, possums, and Grey Headed Flying Foxes (bats) will utilise our infrastructure to nest, roost or access food sources. Unfortunately, this can harm or kill the animal, damage electrical assets and interrupt supply. To mitigate against the risk of harm to wildlife

and power outages, we implement a range of measures such as:

- working closely with landowners, Fauna Rescue, Bat Rescue SA, Koala Life, Birds SA, the Department of Environment and Water and consultant ecologists to ensure that the welfare of wildlife is being appropriately managed during work activities and innovative solutions are sought for high risk issues;
- installing animal guards (which look like a frisbee) on lines to stop animals climbing on them;
- regularly inspecting substations and other infrastructure to identify and relocate/remove nests;
- installing nest rings (which look like basketball hoops) on Stobie poles to offer birds an alternative location to build their nests;
- covering certain assets and removing Rod Air Gaps and other 'problematic' equipment from powerlines to minimize the risk of electrocution of bats or birds);
- engaging specialist ecologists to undertake fauna assessments and develop management plans for projects at sensitive sites; and
- maintaining a robust Environmental Management System including procedures for managing wildlife.

Native vegetation and regulated trees

We have always strived to preserve or minimise the impact on native vegetation, significant and regulated trees, and native fauna from our work activities, but our shift towards a more sustainability focused mindset has resulted in rethinking our approach with respect to biodiversity and how we can work towards a net-positive impact.

We are very supportive of building climate resilience in the urban environment and work closely with government, Greening Adelaide and arborists to encourage appropriate tree planting and other urban greening initiatives. We host a number of vegetation management focussed committees, including the Arborist Reference Group, the Local Government Association Working Group, and the Appropriate Species Advisory Committee, as we believe that complex problems such vegetation and infrastructure are solved by groups of diverse people with a common goal.

4.3 Evaluation and improvement

The Environment Branch is responsible for the implementation of the Environmental Management Plan and monitors emerging legislation and issues, including biodiversity matters. A representative from the Environment Branch and other senior and operational managers whose roles intersect with biodiversity and nature-related matters are member of the Sustainability Coordination Team, which is coordinated by the Sustainability Manager. Updates on biodiversity and nature-related matters are reported via the Executive Leadership Team to the Board's Sustainability Committee and (where appropriate) Risk Management and Compliance Committees.

In recognition of the increasing focus on natural capital and biodiversity preservation, we have committed to the development of an *Action Plan for Nature and Biodiversity* that will align with the guidance of the Taskforce on Nature-related Financial Disclosures (TNFD). In 2023 we sought consultancy support to begin the development of the *Action Plan for Nature and Biodiversity* and a *TNFD Roadmap* to enable the SA Power Networks Group to move toward future adherence to the TNFD guidance and net positive biodiversity outcomes. An assessment of our business footprint, impacts, dependencies, risks and opportunities with respect to nature was undertaken, and proposed workstreams identified for further exploration.

Performance against our biodiversity related commitments, risks and commitments is reported via our annual Sustainability Report.