Essential Energy

Task Force on Climate-related Financial Disclosure 2021-22

essential energy
empowering

Stand Alone Power System during construction - Bulahdelah NSW

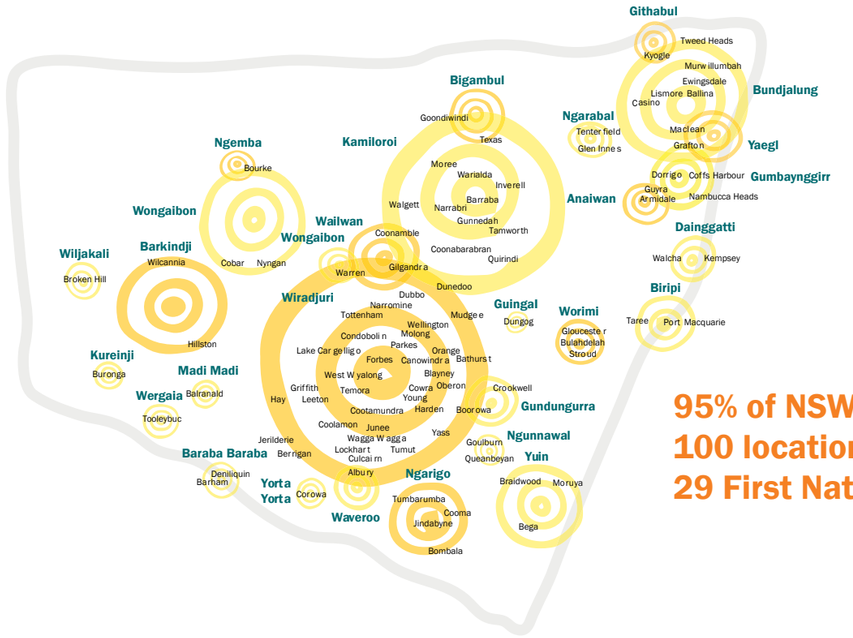
Contents

Acknowledgement of Country

The lands on which we work and live are Country for 29 First Nations – from Wilyakali Country on the plains of Far Western NSW, to Ngarigo Country in the high Snowy Mountains, and Bundjalung Country on the subtropical North Coast, and more First Nations across the diverse landscape that is regional, rural and remote NSW and parts of southern Queensland.

Indigenous Essential Energy logo, created by Michael Lambeth, employee and Gulibal Man from the Bundjalung Nation – "working together from area to area, protecting the land and each other"

We acknowledge the Traditional Custodians of the lands on which our company is located and where we conduct our business, and we acknowledge all Aboriginal and Torres Strait Islander peoples across Australia. We pay our respects to ancestors and Elders, past, present and emerging. We are committed to honouring Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to the land, waters and seas, and their rich contribution to society.



95% of NSW, 100 locations, 29 First Nations

As Aboriginal Country borders fluctuate and more knowledge is being found every day, this map is subject to change. Spellings of Aboriginal countries and locations of depots and offices within Aboriginal countries have been made from desktop research conducted on each site (town and city) and correlation with AIATSIS map of Indigenous Australia by David R Horton (creator), © Aboriginal Studies Press, AIATSIS, and Auslig/Sinclair, Knight, Merz, 1996. This is an estamate only based on desktop research and the AIATSIS map.

Message from the Chair and Chief Executive Officer

In Australia and globally, there is an increasing frequency and severity of climate change impacts, including warmer temperatures, and more extreme weather events, such as heatwaves, bushfires, floods and severe storms. Consequently, climate change is creating operational and financial risks for businesses, governments and society. The economy is also shifting rapidly as a result of decarbonisation and the drive towards a net zero economy. It is important that businesses, governments and the financial sector are prepared for these changes, including identifying and managing the risks and leveraging the opportunities.

Over recent years, we have seen the increasing effects of climate change and weather events on Essential Energy's customers, communities, network and operations. These events continue to have a significant impact on our operations, requiring increased mobilisation of field crews to undertake network repairs, impacting our planned maintenance schedules. Managing and mitigating the risks arising from these events, through a network that is resilient to climate change, is critical to continuing to maintain safe, reliable and affordable power and water supplies for our customers.

Transparency is vital to maintaining the trust of stakeholders and enables them to better understand the implications of climate-related risks and opportunities on our business as we continue the journey to become an energy company for the future. We are proud to release Essential Energy's first Task Force on Climate-related Financial Disclosures (TCFD) statement. This is a significant milestone for our business and builds on our commitment to managing the impacts of climate change and continuing to adapt to the rapidly changing energy industry over the coming years.

Doug Halley
Chair

John Cleland
Chief Executive Officer

Introduction

Essential Energy is committed to supporting the transition to a net zero economy and managing the impacts of climate change. In a time of rapid change, we are positioned to support the transition to renewable energy and evolve to become a network for the future to help empower customers and communities to share and use energy for a better tomorrow.

Essential Energy is a State Owned Corporation (SOC) and owns, operates and maintains one of Australia's largest electricity distribution networks, spanning 95 per cent of NSW and parts of southern Queensland. Our customers range from residential houses, aged care, hospitals, schools and businesses, all of which depend on Essential Energy to provide safe, reliable and affordable electricity to power their lives. We play an active role in ensuring customers have the electricity they need to grow and operate today and in a future that is rapidly decarbonising.

Renewable energy sources have been a long-standing part of the way electricity is generated and used in Essential Energy's footprint, including small-scale rooftop solar installations, and large-scale renewable generation such as wind and solar farms. Growth in renewable connections has been dramatic over the past decade and supporting the increasing demand for renewable energy sources to connect to the network is key to our efforts to facilitate the net zero transition. We are playing an integral part in decarbonising the NSW grid through renewable connections and we are committed to the transition in line with the Paris Agreement.[1]

We believe that the net zero economy will fundamentally change energy sector business models, and we have a key role to play in enabling communities across NSW to transition to and benefit from a net zero economy. A key pillar in the journey to net zero will be electrification and we are working tirelessly to ensure the network is ready to facilitate this transition and that customers are supported as they face this change. We continue to evolve our business strategy, governance, and risk management processes to account for climate-related impacts to our business and customers.

Significantly, in recent times we have added a fifth business objective to 'reduce the environmental impact of Essential Energy where it is efficient to do so'. We have also been focusing on the integration of renewable energy resources with our electricity network, developing Stand Alone Power Systems (SAPS) and growing environmental management processes. The Corporate Strategy contains key sustainability themes – increasing network resilience and reliability, renewable energy uptake and facilitating electric vehicle (EV) adoption. A Sustainability Strategy has been developed, which leverages those themes and builds upon a strong foundation of existing sustainability-related activities.

Climate change and its associated transition path to net zero presents Essential Energy with a unique portfolio of risks and opportunities. The risks presented to the business largely orientate around the ownership and operation of an electrical distribution network that spans a vast geographic area and will experience climate-related risks. This said, having modelled the network, we are also confident that with the appropriate regulatory and government support and proactive planning, many of these risks can be mitigated.

The opportunities are equally large and may in fact out-weigh the risks. Essential Energy's network area will host some of the largest rooftop solar levels in Australia, has some of the largest distances to be travelled by EVs and contains three out of the five Renewable Energy Zones (REZs), as outlined in the NSW Government's Electricity Infrastructure Roadmap.

Essential Energy plug-in hybrid electric vehicle (PHEV) fleet car at one of our offices.

[1] The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2 degrees, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

The transition to renewable energy brings significant benefits, including giving everyone cleaner and greener energy, and presents exciting opportunities for the community and our business. However, it also brings challenges, including affecting how Essential Energy invests in and operates the electricity network.

The network was built to transport power in one direction, from a few major generators (such as large coal- and gas-fired plants, and large solar and wind farms) to homes and businesses. With the growing adoption of renewable energy, Essential Energy needs to adapt the network to manage more two-way energy flows, to and from customers, without compromising reliability and safety. We are working to improve the integration of renewable energy into the network, and collaborating with industry, government and research partners to optimise network configuration and performance.

Essential Energy plug-in hybrid electric vehicle (PHEV) Fleet Vehicle

We are engaging with EV charging providers to improve charging infrastructure connections and manage network constraints to accommodate EV charging demands. Battery technology is also being trialled in the network to enhance reliability and performance, and we are expanding our capability and service offerings in relation to SAPS, including trialling hydrogen SAPS.

This is Essential Energy's first TCFD statement and is part of our commitment to providing meaningful transparency on our approach to managing climate risks and opportunities. The TCFD framework was developed to assist companies with climate-related financial disclosures. TCFD is a voluntary framework for climate-related disclosure that provides consistency to better inform investment, credit and insurance underwriting decisions. The TCFD was created by the Financial Stability Board (FSB) in recognition that climate change presents a significant risk to the global financial sector. The TCFD is made up of 11 Recommended Disclosures divided into four pillars, namely, Governance, Strategy, Risk Management, and Metrics and Targets. This statement has been prepared in accordance with the recommendations.

Point Advisory performed a limited assurance engagement over selected performance data and disclosures presented in the TCFD statement for the year ended 30 June 2022.

We note that the International Financial Reporting Standards (IFRS) Foundation Trustees announced the creation of a new standard-setting board – the International Sustainability Standards Board (ISSB) in November 2021, and in March 2022 the ISSB published two exposure drafts for sustainability and climate reporting. The final standards are expected to be issued by the end of 2022. We welcome the ISSB standards and are working towards a standardised single reporting framework.


Wind farm - Crookwell NSW

About Essential Energy

Essential Energy Powerline Workers


Essential Water facility - Broken Hill NSW

Essential Energy is a State Owned Corporation (SOC) established under the *Energy Services Corporations Act 1995* (NSW) and the *State Owned Corporations Act 1989* (NSW) to provide services critical to the economy and infrastructure for NSW. Essential Energy builds, operates and maintains the electricity network across 95 per cent of NSW and parts of southern Queensland. With more than 880,000 customers – including homes, hospitals, schools, businesses, and community services and 183,612 km of powerlines, traversing 737,000 km^2 of landmass, Essential Energy is an economic enabler for regional, rural and remote communities.

In Far West NSW, Essential Energy (trading as Essential Water) delivers secure water supply to 10,500 customers in Broken Hill, Menindee, Silverton and Sunset Strip, as well as to rural customers. Reliable sewerage services are provided to 9,600 customers in Broken Hill.

Governance

Current status

The Essential Energy Board Charter articulates strategic oversight of climate-related risks and opportunities. Climate and sustainability are regular agenda items for the Board and the Board Safety, Human Resources and Environment Committee (SHRE Committee). The Board is responsible for the strategic oversight of our sustainability ambition and agenda. This includes responsibility for approving the Sustainability Strategy and providing direction and oversight to the Executive Leadership Team (Management). Management is accountable for sustainability performance including the implementation of the core Sustainability Strategy pillar 'responding to climate change'.

The SHRE Committee is responsible for reviewing performance against the Sustainability Strategy on a quarterly basis. The Board's Audit Committee oversees and reviews TCFD disclosures.

Climate change and its impact is addressed by the Board and Management as part of business-as-usual processes. For example, changes to regulation, policy or market-related activity regarding climate are considered by the Board and Management, including considering impacts on our business.

Management considers climate risks and opportunities in developing the Corporate Strategy and is accountable for the implementation of the Corporate Strategy. Each quarter, the Board and Management monitor the outcomes of the Corporate Strategy through defined key performance indicators and milestones, and external environmental monitoring.

Management also considers climate risks and opportunities when making network decisions. Management is responsible for aligning sustainability with the overall Corporate Strategy and executing new opportunities for sustainability-led business growth. Management reviews sustainability performance on a quarterly basis.

The Sustainability Steering Committee is a subcommittee of Management and is chaired by the Executive General Manager Corporate Affairs. This committee meets quarterly and is responsible for addressing key risks and issues regarding the implementation of the Sustainability Strategy, including the pillar 'responding to climate change'.

The Sustainability and Climate Working Group meets monthly and includes representatives from across the organisation. It is chaired by the Sustainabilty Manager and is responsible for the delivery of the Sustainability Strategy and climate-related initiatives.

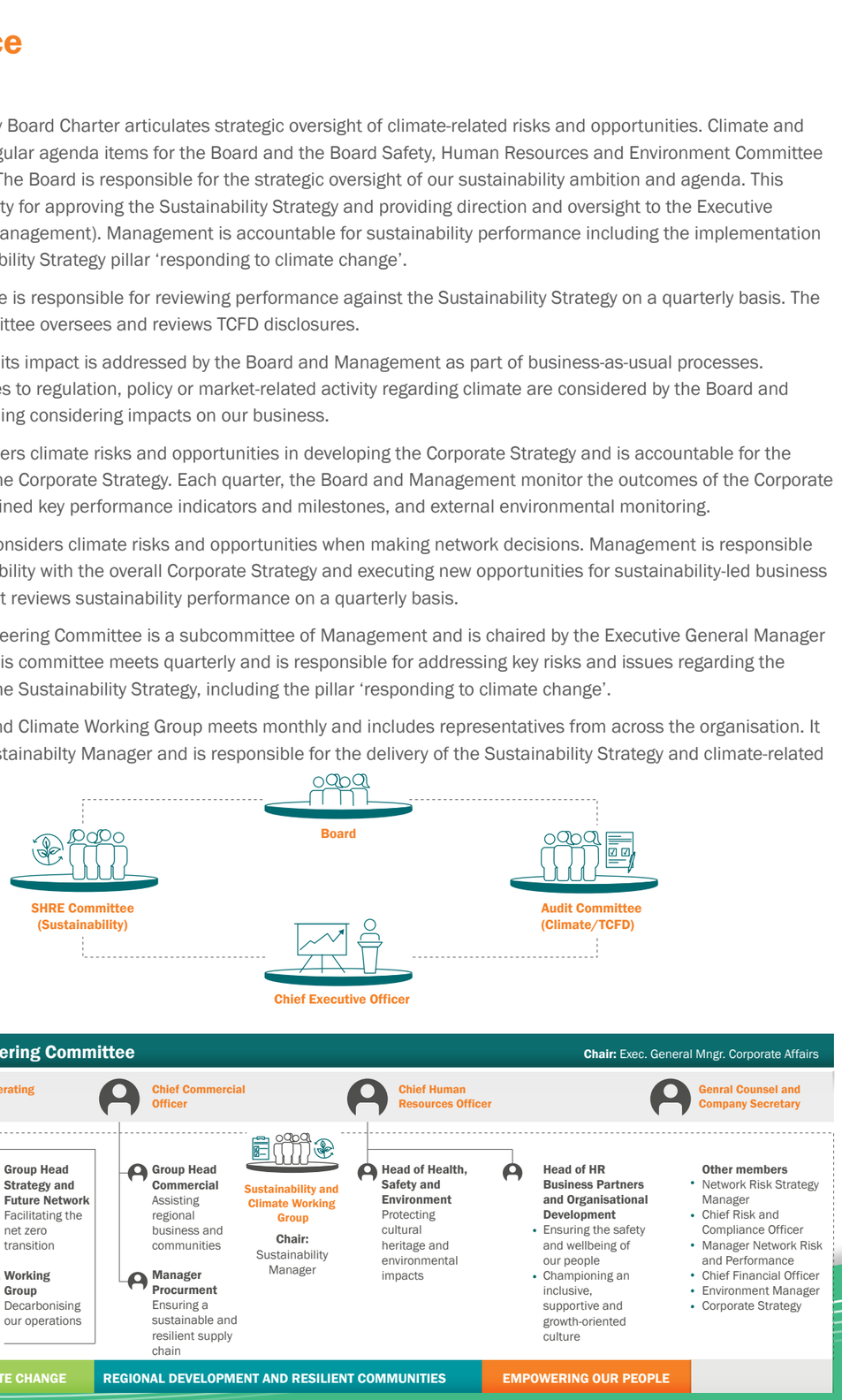


Figure 1 Essential Energy's Sustainability and Climate Governance Structure

Essential Energy Asset Inspector

Future priorities and timeframes

Climate risks and opportunities will continue to be embedded within our governance structures at both the Board and Management levels. This is an area of emerging industry practice and members of the Board and Management will continue to undertake climate information and training sessions, to increase understanding of the implications of climate change and governance best practices as they evolve. As disclosure standards are progressively harmonised and adopted across the industry, we will continue to move towards best practices for measurement and disclosure of climate-related information.

The Sustainability Steering Committee will formalise the process for how climate-related issues are raised and escalated to the Board and Management. This includes documenting the Board's approach to considering climate-related matters and tracking progress and performance.

With the Essential Energy Sustainability Strategy approved in early 2022, future priorities are for the Board and relevant Board and Management committees to continue to provide strategic oversight, monitor performance of the strategy and drive implementation throughout the business.

Strategy

The impact of climate change on our business

Essential Energy has a large geographical network area covering regional, rural and remote communities, and we are seeing changing community expectations in relation to climate change. More broadly, we are also seeing shifting investor, insurance, customer and society expectations. Awareness and understanding of climate change has increased across the business, in part due to an increased frequency and severity of bushfires, floods and drought in our network area, and globally. These events impact the physical assets and infrastructure we operate, as well as the communities we serve.

The influence of climate change and the resulting changes in customer expectations manifests in two types of impacts on Essential Energy. The first impact concerns the physical environment we operate in, which impacts assets we own and the way our network is managed. The second impact affects the broader market and economy that we operate in, which affects the value the network generates, our role in the overall industry, and the services customers are offered in the future.

Our physical assets and infrastructure, as well as our people and communities, are increasingly exposed to the impacts of climate change. Ensuring the network is resilient is critical to maintaining safe, reliable and affordable power and water supplies.

The physical effects of climate change on the business can be separated into five broad categories:

- Financial impacts of asset damage and replacement
- Degradation of network operating conditions including the impact on employees and contractors
- Reduced life span for assets affected by critical or stressful events exacerbated by climate change
- Increased unpredictability of asset and operational performance over time
- Disruptions to customer services from outages caused by climate events.

These effects are addressed through business-as-usual asset management processes and these processes will be adapted on an ongoing basis to incorporate additional information from long-term analysis of physical risks associated with climate change.

In addition to the physical impacts of climate change, there are risks and opportunities that present from the broad market response to climate change. Significant impacts include the rapid growth of renewable energy infrastructure (large-scale and small-scale) across the network, rapid closures of coal-fired generation, electrification and the uptake of electric vehicles. There are also evolving advancements in technology, economic activity and responses to government policy, which we continue to monitor. These create both risks and opportunities for Essential Energy and our business model.

Network damaged by bushfires - South Coast NSW 2019

Essential Energy Zone Substation flooded - Northern Rivers 2022

Key climate risks and opportunities

Historically severe weather events have and will continue to pose ongoing business and operational risks for Essential Energy. The last twelve months have been no exception, with a substantial impact of extreme weather events including flooding in northern NSW.

We manage the risks arising from these events to mitigate both direct physical risks to the network, and indirect impacts to the safety and reliability of services to the community. It is recognised that the risks associated with these events are likely to increase in frequency and severity due to climate change. This will require an increased understanding of the effects of climate change on how we operate and maintain the electricity network to manage these risks, and respond to critical events such as bushfires and floods to minimise their impacts when they occur.

In partnership with industry experts, we are building our capability to understand the likely longer-term impacts of climate change over multiple climate scenarios, with an initial focus on physical risks to the network. Longer-term physical risk scenario modelling is addressing horizons to 2050, 2070 and 2090, to ensure worst-case scenarios (scenarios where Paris Agreement alignment does not occur) are considered and the life of assets are fully examined.

This approach recognises that there are a range of possible scenarios and pathways through which society will address climate change risks, and that best practices for the understanding and management of both physical and transition risks and opportunities are likely to change and evolve over time.

Our Corporate Strategy and Sustainability Strategy recognise key opportunities arising from climate change including new markets in the low carbon economy, and opportunities to improve the resilience of the electricity network to climate related events. Increased electricity consumption and load growth due to electrification provides opportunities for us to support the energy sector's transition to renewable energy. New technologies and changing customer expectations for network resilience also create opportunities for us to apply technology to implement new solutions such as fire-retardant poles, SAPS and microgrids.

Essential Energy acknowledges the NSW Government's plan to address climate change, including the Net Zero Plan Stage 1: 2020-2030. There are three key areas that impact and provide opportunity for Essential Energy: the Electricity Infrastructure Roadmap, the electrification of transport, the NSW Electric Vehicle Strategy and the NSW Hydrogen Strategy. The Electricity Infrastructure Roadmap sets out a plan to deliver the state's first five REZs. Three of the five of the REZs are directly within our network area.

Corporate Strategy

Our Corporate Strategy supports the energy sector's transition to distributed and renewable sources of electricity generation and facilitating two-way energy flow. The strategy is designed to increase resilience to climate change. It includes trials of SAPS, fire-retardant poles and microgrids. The objective of these activities is to ensure that our network and business become more resilient to changes in climate and can take advantage of opportunities in the move to a low carbon economy.

Stand Alone Power System - Bulahdelah NSW

Sustainability Strategy

This year, we made meaningful progress toward bringing a holistic approach to sustainability across the business. Our Sustainability Strategy informs the approach to: addressing stakeholder expectations; creating positive environmental, social and economic value; and embedding sustainability into core business. It builds on the Corporate Strategy to highlight the sustainability priorities of Essential Energy and our stakeholders.

Ensuring our customers have accessible, reliable and resilient energy supplies is central to the Sustainability Strategy. This outcome is underpinned by three strategic pillars covering the breadth of our value chain: responding to climate change, empowering our people, and enabling regional development and resilient communities.

Figure 2 Essential Energy's Sustainability Strategy Framework

With the Australian energy market undergoing a rapid transformation, the Sustainability Strategy aims to help Essential Energy better serve its customers and communities and support the net zero transition. The first steps in developing a coordinated strategy were to complete a strategic review of our current initiatives; conduct a market scan and peer analysis; and invite an independent materiality assessment to identify and prioritise our sustainability issues.

The Board approved the Sustainability Strategy in early 2022, which guides the direction and priorities over the coming years in relation to sustainability and climate change.

Climate change is a key component of the strategy. The three commitment areas within the 'responding to climate change' pillar are:

- Building climate resilience and partnership to minimise disruptions during crisis — by futureproofing assets, providing customers with alternative energy solutions, and responding to and recovering from climate events
- Facilitating the net zero transition — by supporting electrification, including electric vehicle penetration, and scaling and optimising of network connections
- Decarbonising operations — by electrifying fleet, leveraging renewables and actively managing line losses in how we build, operate and maintain the network.

Asset management response

We maintain a register of risks affecting the electricity network, including those relating to the weather (such as from storms and bushfires). Examples of these risks are vegetation encroachments, the failure of network assets, and an inability to respond to significant network outages due to limited physical access to the network.

Given the frequency and severity of recent storms, floods and bushfires, we are continuing to forecast future weather events. There has been internal modelling to consider the long-term climate forecast in existing strategies and decisions, such as for vegetation management. Building on this work, additional scenario modelling is informing asset management strategies, particularly for climate-related hazards such as bushfires, storms, flooding and sea-level rise. An Asset Management Objective is defined within the Strategic Asset Management Plan to deal explicitly with climate-related and weather-related risks. The business response to this objective will be set out in the Network Resilience Plan, which will capture a range of network and non-network initiatives aimed at improving network resilience, including in partnership with broader community-level plans.

Scenario modelling

We recognise that physical climate modelling is a unique and specialist field. To develop our modelling approach, we have partnered with other organisations with a view to developing common approaches and assumptions to the understanding of climate scenarios in a way that is consistent with emerging industry practice. We have engaged external specialists to conduct scenario modelling to quantify the financial and non-financial impacts of climate events on our network assets.

This modelling is based on inputs including emissions scenarios created by the Intergovernmental Panel on Climate Change (IPCC). Representative Concentration Pathways (RCP) [2] 4.5 and 8.5 scenarios for the time horizons of 2050, 2070 and 2090 are being modelled. These scenarios have been selected to understand the potential long-term physical risks associated with higher temperatures that may result from a lower or slower level of emissions reduction than outlined in the Paris Agreement. The results of this modelling will inform strategies, resilience and mitigation options for various asset types and locations across the network's geographic area.

The Energy Charter

Essential Energy is a signatory to the Energy Charter, a national Chief Executive Officer led collaboration of energy industry participants that supports a customer-centric future. The purpose of the Energy Charter is to deliver a more affordable, reliable and sustainable energy system for all Australians, in line with community's expectations.

Future priorities and timeframes

We will continue to undertake more detailed analyses of the effects of climate change on our business, and will also continue to explore and disclose how climate-related opportunities are leveraged. This includes disclosing progress toward Corporate Strategy outcomes such as facilitating EV adoption across our network.

Having developed our Sustainability Strategy this year, we will continue to implement initiatives identified in the strategy to mitigate the risks of climate change.

Climate risks and opportunities will be collated in a central location to enhance visibility and support risk mitigation and strategic planning. We will collate data and analyse the operational and financial impacts of past climate-related incidents on the business, to inform future business decisions.

The scenario modelling project being undertaken in 2022 will help us to calculate and disclose the business and financial impacts of climate risks and opportunities, including impacts on corporate strategy, business operations and financial planning. Learnings from this work will be incorporated into relevant risk management frameworks and procedures as appropriate. Further scenario analysis that addresses transition risks and a 2° or lower scenario will be undertaken in the future. We will continue to work collaboratively with universities, energy market bodies, research bodies and peers in the energy industry.

Our 2024-2029 Regulatory Submission considers resilience, climate risks and climate-related impacts to our network and operations. Commentary on these risks – including how they affect various areas of the business, the controls planned to be put in place, and the required funding – is included in the submission.

[2] The Representative Concentration Pathways (RCPs) describe four different 21st century pathways of greenhouse gas (GHG) emissions and atmospheric concentrations, air pollutant emissions and land use.


Overhead network - Dunoon NSW

Risk management

Current status

Severe weather events, including storms, floods and bushfires, can have significant physical impacts on the network, and on our ability to deliver safe and reliable electricity to our customers. Climate change is expected to affect or compound these existing risks. In addition, there are also transition risks related to the move to a net zero economy, such as changes in policy, legislation, technology, socioeconomic and demographic factors, markets, cost of capital and customer expectations. Our existing risk management framework includes risks that will be impacted by both physical and transition risks, including those relating to safety, reliability, damage to assets, incident response, financial performance and reporting, insurance, compliance, stakeholder engagement and delivery of strategic plans and initiatives.

Physical risks are addressed as part of business-as-usual risk management. For example, the risk that failure of an asset results in impacts to safety, reliability, financial performance, the environment, compliance, reputation and community standing. These risks are rated according to a common risk matrix identifying likelihood and potential consequences. As part of this process, climate-related risks are identified, assessed and managed through related asset management strategies, which are then addressed through investment planning and delivery processes.

Our Network Risk Management Manual supports the identification of network-related risks and opportunities, including physical risks and climate-related hazards and events. The Network Risk Management Manual allows for qualitative, semi-quantitative and quantitative methods to be used, based on the characteristics of the decision that is to be taken. This approach allows the use of semi-quantitative and quantitative methods to monetise risk to support monetised cost–benefit analysis.

Operationally, we maintain a high level of incident response capability to mitigate the physical impacts of natural hazards and disaster events such as floods, storms and bushfires.

Transition and potential liability risks are primarily addressed through our Corporate Strategy and Sustainability Strategy.

Essential Energy network damage from bushfires - Bega NSW 2019

We have used the NSW Government Climate Risk Ready tool to supplement existing risk assessments and identify risks that may benefit from longer-term quantitative assessments to identify potential impacts and mitigation options.

In response to the Commonwealth Security Legislation Amendment (Critical Infrastructure Protection) Bill 2021, we are developing a Risk Management Program for managing risks to critical infrastructure sites resulting from extreme weather events.

Future priorities and timeframes

Our existing risk registers will be expanded to embed all physical and transition climate-related risks, and allow these risks to be consistently identified within a structured hierarchy and assessed over longer-term time horizons.

We will establish a climate risk mitigation framework that is consistent with our existing risk management framework and emerging industry practice. It will include scenarios for risk modelling and identifying controls and potential treatment actions. It will include an approach to appraising and prioritising mitigation options across all physical, transitional and liability risks.

We will develop a quantitative climate-risk assessment process that will be applied alongside existing life cycle assets risk management processes, to take account of long-term climate change effects in asset management decision making. It will involve detailed quantitative modelling of longer-term physical risks, including the forecast impacts of natural hazards. This will support longer-term business planning, including a Network Resilience Plan to be developed as part of our Regulatory Proposal 2024–29.

Metrics and targets

Current status

We currently track a number of metrics associated with climate-related risks, and our Sustainability Strategy outlines additional metrics related to physical risk exposures and investments in climate adaptation.

We annually report Scope 1 and 2 Greenhouse Gas (GHG) emissions in accordance with the *National Greenhouse and Energy Reporting Act 2007* (NGER Act), which provides emissions and intensity ratios for historical periods.

Our Scope 1 emissions are from our transport fuel use and stationary fuel use, from sulphur hexafluoride (SF6) leakage in the electricity distribution network, and from Essential Water fuel combustion and emissions of methane and nitrous oxide during wastewater handling.

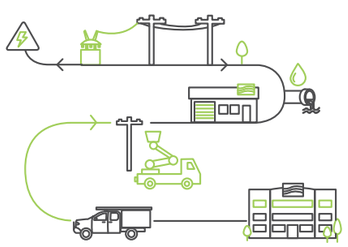
The majority of our emissions profile is related to indirect Scope 2 emissions. In 2021, 94 per cent of Scope 1 and 2 emissions were attributable to line loss emissions.

Line losses are the quantity of energy that is lost during transmission and distribution of electricity across the grid as energy passes through network components such as transformers, overhead lines and other equipment before it reaches end users. Essential Energy is a regional network with 183,612km of powerlines, and line losses on our network are primarily driven by the need to distribute energy significant distances over regional, rural and remote NSW.

These line losses result in indirect greenhouse gas emissions due to the prevalence of fossil-fuel generation in NSW. The decarbonisation of the NSW generation mix will reduce line loss emissions in the coming years as more coal-fired generation shuts down and more locally generated renewables are connected to the grid. We will continue to drive renewable connections, helping to facilitate the net zero transition and in turn, reduce the line loss emissions. Over the past five years, line loss emissions have reduced by 14 per cent.

Our other Scope 2 emissions sources are from electricity consumption for Essential Energy and Essential Water facilities.

Scope 1 | Direct



- Fleet fuel use
- Sulphur Hexafluoride (SF6) leaks from electric equipment
- Emission from wastewater handling

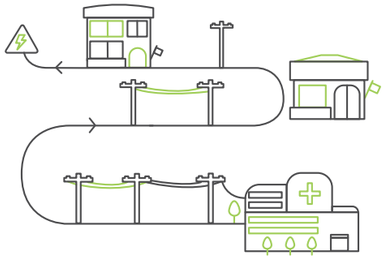
Scope 2 | Indirect

(upstream)

- Electricity consumption for company facilities
- Line losses

Scope 3 | Indirect

(upstream) and downstream



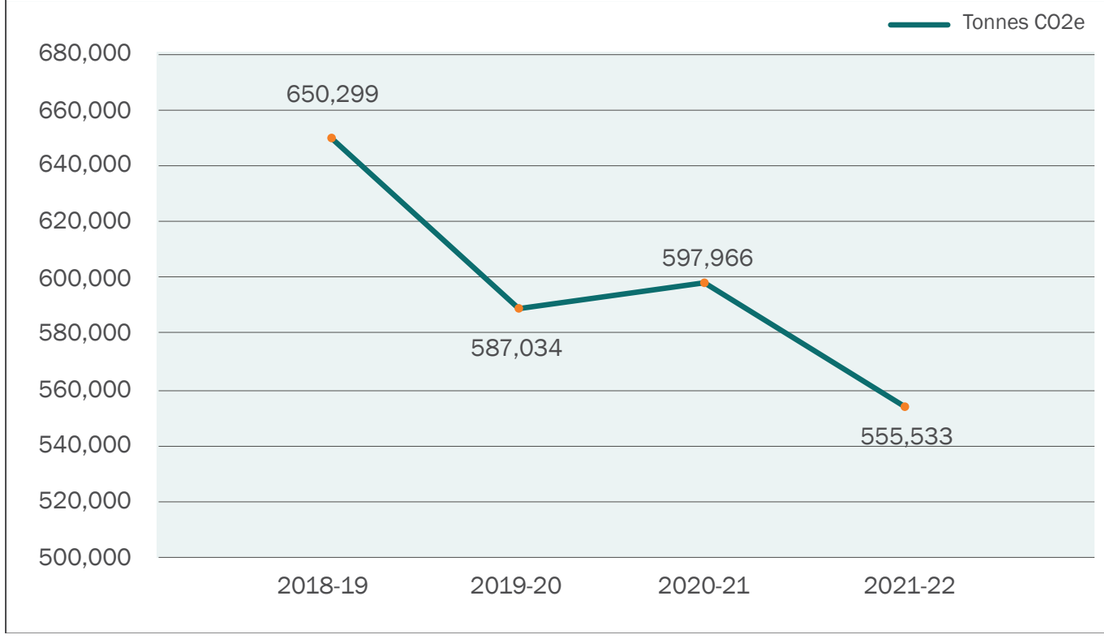
- Purchased goods and services
- Capital goods
- Fuels and energy related activities outside of scope of scope 1 and 2
- Upstream transportation and distribution
- Business travel
- Waste management
- Employee commuting

Figure 3 Diagram of Scope 1, 2 and 3 GHG emissions

Year (30 June)	2018-19	2019-20	2020-21	2021-22
Units	Tonnes CO2e	Tonnes CO2e	Tonnes CO2e	Tonnes CO2e
Total Scope 1	26,921	27,578	25,746	23,868
Line loss emissions (part of Scope 2)	605,568	549,302	563,045	523,031
Total Scope 2	623,378	559,456	572,220	531,665
Total scope 1 and 2 emissions	**650,299**	**587,034**	**597,966**	**555,533**

Table 1 Scope 1 and 2 GHG emissions over the past four years

Figure 4 Combined Scope 1 and 2 GHG emissions over the past four years



Essential Energy employee commuting in their electric vehicle - Port Macquarie NSW

Future priorities and timeframes

We will be leveraging the Scope 1 and 2 historical emissions data and adding a baseline quantity for Scope 3 emissions during 2022-23. A specialist consultant is engaged on this project.

A transition plan and decarbonisation pathway will be developed that addresses Scope 1, 2 and 3 emissions. This will clearly articulate the nature of the business, emissions profile and focus on the controllable emission areas. The transition plan and target setting will be developed in close consultation with our Board, NSW Government and regulators. Planned emissions reduction activities include fleet electrification, leveraging renewables, installing solar photovoltaic panels on depots and managing the use of sulphur hexafluoride (SF6).

Our Sustainability Strategy and Corporate Strategy outline other climate-related metrics and targets and will be disclosed along with the performance against targets.

Essential Energy plug-in hybrid electric vehicle (PHEV) charging at office - Port Macquarie NSW

Independent Limited Assurance Statement to the Board and Management of Essential Energy

Assurance Conclusion

Based on the scope of our independent limited assurance engagement, nothing has come to our attention that causes us to believe that selected performance data and disclosures included in the Essential Energy Task Force on Climate-related Financial Disclosures (TCFD) Statement for the year ended 30 June 2022, have not been prepared and presented fairly, in all material aspects, in accordance with the Criteria defined below.

Scope

We, Point Advisory Pty Ltd ('Point Advisory'), performed a limited assurance[1] engagement over selected performance data and disclosures presented in Essential Energy's TCFD Statement for the year ended 30 June 2022 ('Statement').

Criteria

We have used the Financial Stability Board's TCFD Recommendations as criteria against which to evaluate the content of the Statement.

Respective responsibilities

Essential Energy management is responsible for the preparation and presentation of information within the Statement. Essential Energy management is also responsible for the design, implementation, maintenance, and effectiveness of internal controls over information relevant to Statement preparation, so that it is free from material misstatement. Essential Energy management is also responsible for setting internal control performance monitoring targets, and reporting on effectiveness.

Point Advisory's responsibility, in accordance with the terms of the agreement with the NSW Treasury (Office of Energy and Climate Change) dated 21 June 2022, is to express a limited assurance conclusion as to whether selected performance data, and associated disclosures, presented in the Statement have been made in accordance with the Criteria. Our assurance engagement has been planned and performed in accordance with the Australian Standard on Assurance Engagements ASAE 3000 *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* (ASAE 3000). We do not accept or assume any responsibility for any other purpose or to any other person or organisation. Other stakeholders should do their own due diligence before taking any action from this Assurance Statement.

Our Methodology

The assurance procedures we performed were based on our professional judgement and included:

- Interviews with key staff to understand Essential Energy's internal control environment, processes, and information systems, relevant to the Statement's preparation;
- Reviewing and assessing data, and disclosures, included in the draft Statement against the Criteria;
- Reviewing documentation with respect to Essential Energy's climate-related governance, strategy, risk management, metrics and targets processes;
- Performed limited substantive testing over selected performance data and disclosures within the Statement and reviewed supporting information; and
- Reviewed the selected performance data and disclosures in the Statement included in the NSW Essential Energy's Annual Report to ensure the information is accurately presented.

Inherent limitations

Our evidence gathering procedures were designed to obtain a 'limited level' of assurance (as set out in ASAE 3000) on which to base our conclusions. The extent of evidence gathering procedures performed is less than that of a reasonable assurance engagement (such as a financial audit) and therefore a lower level of assurance is provided. As such, we did not evaluate the design of control activities, obtain evidence about their implementation, or test their operating effectiveness.

Our independence and competencies

We are not aware of any issues that could impair our independence or objectivity for this assurance engagement. Point Advisory's independence policy and supporting measures apply to management and professional staff. This policy also prohibits any financial interests in our clients that would or might be seen to impair independence.

Led by a Lead Certified Sustainability Assurance Practitioner (CSAP), our assurance team has qualifications and experience in applying the ASAE 3000 and TCFD Recommendations relevant for this assurance engagement.

Our detailed conclusions and observations

Our detailed observations and areas for improvement have been raised in a report to Essential Energy's management.

[1] Defined by ASAE3000 - "Limited Assurance Engagement" means an assurance engagement where the assurance practitioner's objective is a reduction in compliance engagement risk to a level that is acceptable in the circumstances of the assurance engagement but where that risk is greater than that for a reasonable assurance engagement, as the basis for a negative form of expression of the assurance practitioner's conclusion.

Use of our Assurance Statement

We do not accept any responsibility for any reliance on this Assurance Statement to any person(s) or organisation(s) other than the Board and management of Essential Energy. Other stakeholders should do their own due diligence before taking any action as a result of this Assurance Statement.

On behalf of the assurance team.

Alan Dayeh
Managing Principal, NSW
Point Advisory, Sydney
28 October 2022

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