AusNet services

Task Force on Climate-related Financial Disclosures

2021

Contents

Our company reports include:

- Annual Report
- Corporate Governance Statement
- Infrastructure Entity Statement
- Modern Slavery Statement
- Tax Transparency Report

All reports are available on our website:

ausnetservices.com.au/company-reports

Important Information

This report has been prepared by AusNet based on the information available as at the date of this report. The information in this report is subject to change (without notice) and AusNet assumes no obligation to update the information, including forward-looking statements.

This report contains certain 'forward-looking statements', including the outcomes and other aspects of the Scenario Analysis. The forward-looking statements are based on information available as at the date of this report and are subject to significant assumptions, risks and uncertainties (known and unknown) many of which are outside the control of AusNet. Nor is its reliability predictable.

Actual results, outcomes or impacts may differ materially to those described in the forward-looking statements in this report. Past performance is also not an indicator of future performance.

All statements in this report (other than statements of historical fact) relating to the Scenario Analysis, forecasts, business strategy, plans, expectations, objectives or future activities are forward-looking statements. In addition, the words 'guidance', 'forecast', 'estimate', 'expect', 'anticipated', 'aim' and similar words are intended to identify forward-looking statements.

The information in this report has not been audited, independently reviewed nor verified.

Readers are cautioned against reliance on forward-looking information.

Message from the Chair and Managing Director

We are committed to managing the impacts of climate change on our business, while also playing our role in supporting the transition to renewable energy

This is our first Task Force on Climate-related Financial Disclosures (TCFD) report. The Financial Stability Board, an international body that monitors and makes recommendations about the global financial system, established the TCFD to develop recommendations for more effective climate-related disclosures to foster a better understanding of climate-related risks.

AusNet Services Ltd and its controlled entities (**AusNet**, **Group**, **we** or **us**) TCFD reporting is expected to evolve in coming years through the further integration of climate risk analysis in strategic and financial planning processes and further consideration of relevant metrics and potential targets regarding our environmental impact, among other factors.

This report should be read in conjunction with other recent AusNet public disclosures.

Peter Mason AM
Chair

Tony Narvaez
Managing Director

Peter Mason AM, Chair

Tony Narvaez, Managing Director

Introduction

Our purpose is to 'connect communities with energy and accelerate a sustainable future'. This purpose drives our efforts in line with our strategic goals to create long-term value for our customers, communities and investors

We are actively supporting the transition to renewable energy by connecting to both local and grid-scale renewable generation, while delivering transmission network projects to reduce potential network constraints. This maximises the volumes of renewable energy that can be generated across Victoria.

Given our unique position in the energy supply chain, we recognise that climate change is an important factor in our strategy and operations. While some risks and opportunities arising from climate change are observable today, they will continue to change and evolve, including in response to factors such as government policy, economic activity, advances in technology and investor, community and customer expectations.

To assist stakeholders in understanding AusNet's approach to identifying and managing climate-related risks and opportunities, this is AusNet's first report in consideration of the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures. The recommendations comprise four core elements: **Governance**, **Strategy**, **Risk management**, **Metrics and targets**.

Summary

The Scenario Analysis that was undertaken in the preparation of this report highlights that the AusNet business model would generally remain resilient under various climate change scenarios, provided risks were managed carefully to ensure the worst effects from climate change did not materially impact our business and that the regulatory regime continued to allow the pass through of costs

If this were to change, there could be adverse financial impacts for AusNet. As Australia transitions away from coal-fired power to renewable generation, substantial grid augmentation will be required. AusNet expects to play a key role in facilitating grid development. Further important information regarding the Scenario Analysis including scope, external assistance, assumptions, uncertainties, limitations and qualifications can be found under the sections 'Scenario Analysis' and 'Important Information'.

The Scenario Analysis we have undertaken reinforces the importance of effective policy and regulatory settings in minimising risk and leveraging opportunities. It also highlights that measures to manage risks continue to evolve, and continued monitoring of technology, customer and community expectations remain critical to overall strategic planning.

To oversee the energy transition and manage climate-related risk, we have various risk management and governance processes in place, as well as a forward-looking strategy to mitigate risks and leverage opportunities. Our next steps will be guided by further consideration of relevant metrics and potential targets over coming years, while continuing to work with policymakers, regulators and the market operator to help expedite augmentation of the grid to facilitate further renewable generation.

Governance and Risk management

The AusNet Board reviews and guides our system of risk management and internal controls for all risks, including climate-related risks. The Board is also responsible for providing leadership and overseeing the strategic and financial direction of AusNet

This includes an assessment of not only climate-related risks, but also climate-related opportunities. Furthermore, any investment opportunities above a certain threshold require Board approval in accordance with our Delegation of Authority.

The Audit & Risk Committee (**ARC**) assists the Board in discharging these responsibilities. The ARC has oversight of the adequacy and effectiveness of AusNet's Risk Management Framework, including risk identification and management processes. During the year, the ARC received presentations and analysis on the identification of and response to AusNet's risks associated with climate change.

The AusNet Executive team is responsible for the execution of its strategy in accordance with the Board-endorsed risk management policy. .

The Board and management consider the potential impacts of sustainability and climate-related risks including the security, reliability and safety of energy networks, the transitional and physical impacts of climate change including the transition towards renewable generation and decarbonisation, the adoption of distributed energy resources and the subsequent increase in the complexity of operating networks in this changing environment.

During the year we undertook an exercise to identify and assess risks and opportunities specifically related to climate change, based on the outcomes of the scenario analysis conducted. Utilising our Risk Management Framework and tools, various subject matter experts across our network, regulatory, environmental, risk, strategy and finance teams came together to identify and document the risks. This included the identification of the causes, consequences, current mitigating controls and potential future controls.

Further details regarding AusNet's Governance arrangements are contained in AusNet's Corporate Governance Statement.

ausnetservices.com.au/-/media/corporate-governance-statement

Scenario Analysis

To obtain insights into the potential impacts of climate change, Scenario Analysis was conducted using three warming scenarios incorporating inputs from the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA). AusNet engaged external advisors to assist with the Scenario Analysis

The Scenario Analysis outcomes highlighted that, under all scenarios, AusNet's business model would generally remain resilient. However, it underscored the importance of effective policy and regulatory settings in reducing risk and leveraging opportunities. It also highlighted that continued evolution of measures to manage risks, and continued monitoring of technology, customer and community expectations remain critical to overall strategic planning.

AusNet acknowledges the relevance and importance of the AEMO 2020 Integrated System Plan (**ISP**) scenarios. While AusNet has chosen IPCC and IEA inputs to undertake the Scenario Analysis, consideration was also given to the various scenario outcomes under the ISP in assessing potential outcomes relevant to AusNet.

The Scenario Analysis is a point in time assessment that is subject to significant assumptions, risks and uncertainties (known and unknown), many of which are beyond our control. The outcomes and other aspects of Scenario Analysis are not predictions, forecasts, definitive outcomes, preferred views, or statements of fact. Actual outcomes or impacts may differ materially to the Scenario Analysis. Please refer to the Important Information at the beginning of this report for further details.

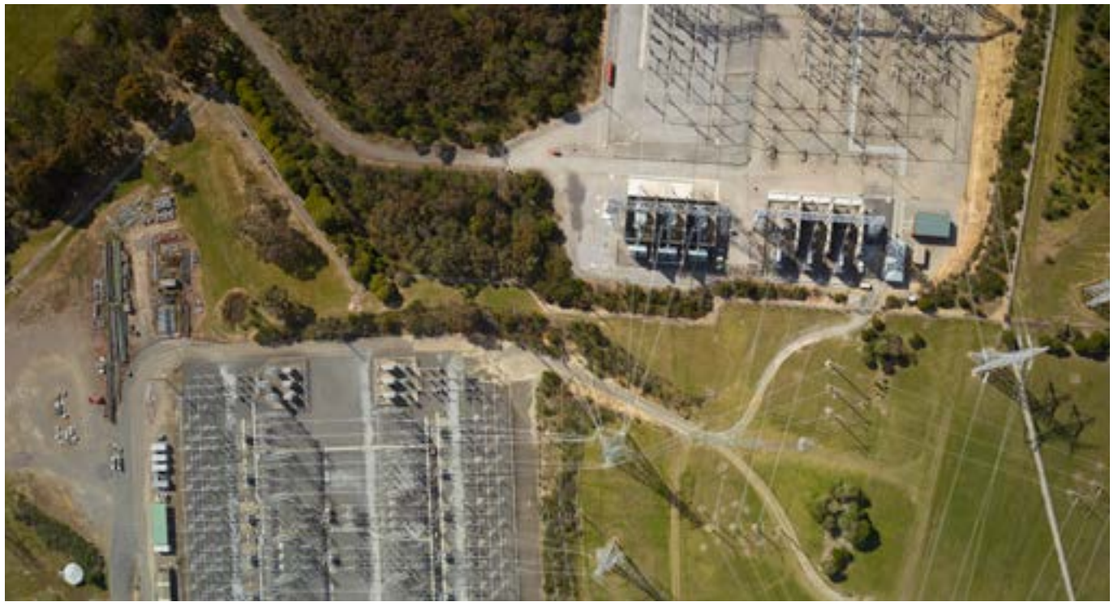
Baseline Scenario	Key outcomes relevant for AusNet
Policies presently in place to reduce baseline emissions, result in 3.2°C warming above pre-industrial levels. Continued reduction in cost of new energy technologies drives a quicker energy transition, but limited policy intervention results in an uncoordinated transition.	– Growth in residential and commercial Distributed Energy Resources (DER) continues unabated. Gradual uptake in batteries and electric vehicles (EVs) along a slowly accelerating path. – Continued investment is undertaken to upgrade and augment transmission networks across the country to support the growth in utility scale renewable generation and storage. – There is limited customer grid defection in electricity over the next 10 years, predominantly on the fringes of the network through standalone power systems. Beyond this time frame, more off-grid and micro-grid solutions become viable for some communities. – Domestic gas usage remains flat/slowly declines. Hydrogen blending is slowly incorporated into the gas network, but there is no significant change regarding the use of gas as an energy source. – Average temperatures continue to rise, leading to more frequent heatwaves, longer fire season and more intense weather events.

Alternative Scenarios	Changes from baseline outcomes relevant for AusNet
Accelerated Action World actively moves to keep the global average temperature warming to below 2°C above pre-industrial levels. Australia on track to achieve net zero emissions by 2050.	– Asset outcomes under the baseline scenario generally happen over a quicker time frame, including DER, batteries, EVs, renewable generation and storage, off-grid/micro-grid solutions. In addition, the closure of coal-fired generation happens earlier than current end-of-life assessments. – Residential gas usage declines with the more rapid electrification of energy as well as the gradual transition to hydrogen. – The weather impacts are less pronounced compared to the baseline scenario. – No material changes in electricity grid defection.
Runaway The world has failed to limit carbon emissions and warming is set to reach 4°C above pre-industrial levels. Poor regulatory reform, adverse government intervention, and a lack of a clear carbon-abatement policy has seen the uncoordinated retirement of most coal-fired generation.	– There is no material difference in the uptake of DER and residential batteries compared to the baseline scenario. However, there is little support for network modernisation to accommodate these into the network. – Weather impacts are more pronounced than the baseline scenario. – The two points above result in a less reliable electricity distribution network, with a greater number and severity of outcomes. – EVs are slow to be adopted. – Utility scale renewable generation and storage is also slower to adapt, due to lack of action or slower action on required network support. As a result, some coal-fired generation remains. – Gas usage consistent with the baseline scenario, but hydrogen blending on a much slower uptake, if at all.

Strategy

Utilising the findings and outcomes of the Scenario Analysis, a climate risk assessment has been conducted to identify AusNet's climate-related risk profile.

The climate risk assessment has resulted in three key risks and one opportunity that consider the impacts of climate change and macro-economic risks, as Australia transitions to a low carbon economy. These are summarised in the table on the following page



Risks	Possible impacts	AusNet response
Climate-related weather events, such as bushfires, storms and flooding, may increasingly impact the reliability and safety of the electricity transmission and distribution networks and contracted infrastructure.	– Network reliability declines, leading to poor customer outcomes and potential increases in penalty payments – Increased costs for emergency management responses – Increased safety risks for our people and communities – Reduced capacity and/or increased premiums for bushfire liability insurance – Increased costs to replace and strengthen assets – Potential consideration of affordability issues by regulators if cost increases are significant.	– Undertake risk-based network investments, including asset replacement and refurbishment programs, to manage ageing, overloaded and high-risk assets – Annual bushfire mitigation and summer preparedness program – Emergency management policies, systems and processes – Stringent asset inspection and maintenance programs – Currently assessing the feasibility of Stand-Alone Power Systems (SAPS) for remote parts of the network in high-bushfire risk areas – Proactive stakeholder management with government, regulators and industry bodies to drive appropriate policy outcomes. This includes working with the AER on its draft guidance note on insurance coverage pass through events – Consider alternative insurance models.
The increasing prevalence of renewables and other technologies (e.g. DER, batteries, SAPS, EVs) may lead to increased network constraints, lower network reliability/stability and lower profitability/value.	– Network reliability declines, leading to poor customer outcomes and potential increases in penalty payments. – Inefficient transition to emerging network technologies results in slower and more expensive take-up for customers, and higher costs for necessary network investments – Negative customer, community and government sentiment, due to perceived inability to support decarbonisation and enable customers to maximise their energy investments.	– Participation in various market trials regarding the enabling of bi-directional networks – Development of DER roadmap and investment in Advanced Distribution Management System – Active pursuit of non-network solutions and demand-management technologies – Additional investment within the 2021–26 Electricity Distribution Price Review (EDPR) to support increasing DER connections – Participation in regulatory and policy reviews to highlight inconsistencies between existing framework.
Government intervention and policy responses to climate change, or lack thereof, adversely impact the existing business model, commercial opportunities, and the network augmentation required to meet future demands and network resilience.	– Inability to comply with regulatory and legal obligations – Reduced commercial opportunities – Lack of appropriate compensation for changing climatic impacts and increased costs of regulatory compliance – Inability to support emerging technologies and shifting generation – Impairment of assets.	– Active monitoring and engagement on regulatory policy matters with Government, AER and other stakeholders, including key industry bodies – Customer and community engagement and advocacy – Continual review and updating of Safety Management Schemes for electricity and gas networks.

Opportunity	Description	AusNet response
The opportunity to play a key role in supporting the energy transition to more renewable energy.	– With the Victorian Government having a 50% renewable energy target by 2030 and committing to a net zero carbon outcome by 2050, AusNet has an opportunity to build, own and operate critical transmission and connection infrastructure to support renewable generation. – In addition, investment and business opportunities exist within electricity distribution to support the network of the future, customer's increasing expectations, and a net zero carbon economy, both on the network and behind the meter.	– Our business is positioned to support this transition, with investments, business models, various trials, and network and industry research and analysis that are all underway. – In addition, AusNet is working closely with Governments, AEMO and other stakeholders in the planning of future investment and network needs.

Risks and opportunities discussion

Energy policy and regulation

AusNet seeks to engage with regulators and policymakers in response to the risks identified, noting many of the factors that drive policy and regulatory change are beyond the reach or influence of AusNet. Therefore, where possible, AusNet seeks to implement various business-related responses to manage climate risk.

The likelihood and impact of climate related risk events affecting AusNet's strategy are heavily influenced by energy policy and the prevailing regulatory environment. As we transition to a low carbon economy, adverse energy policy and regulatory settings present a risk to AusNet's gas and electricity networks, potentially impacting network utilisation and the adoption of costly alternate technologies.

AusNet works closely with Energy Networks Australia (**ENA**) and the broader industry to articulate the benefits of energy networks in the transition to a low carbon economy. AusNet also engages with state and federal governments and highlights increasing risks to the Australian Energy Regulator (**AER**) as part of its regulatory reviews.

Importantly, AusNet also aims to work constructively with customers, as evidenced by its approach to the 2021–26 EDPR submission. Working with customers remains a key part of AusNet's strategy to inform our engagement with policymakers and to shape beneficial outcomes for all stakeholders.

Physical risks

The risk to electricity network reliability increases as more frequent and severe weather events occur causing outages and network interference. Risk management for these risks, particularly bushfire risk, includes reviewing engineering standards and ratings for equipment, a significant annual investment in bushfire mitigation activities, and the ongoing development and testing of emergency response plans.

Investment is also being made in network resilience to strengthen critical parts of the electricity distribution network and enhance contingency planning. AusNet's safety record, network asset management and network maintenance programs are consistent with industry practice. We have consistently achieved a targeted bushfire mitigation index of zero (a zero index means that no works are outstanding beyond their scheduled dates) by the bushfire season declaration and our vegetation management programs are prepared pursuant to the Electricity Safety (Bushfire Mitigation) Regulations.

To manage bushfire risk, AusNet maintains an extensive and wide-ranging bushfire mitigation plan that includes, but is not limited to, the following main activities:

- scheduled pole inspections
- replacement of high-risk area lines with aerial bundled cable, undergrounding or other technology
- pole reinforcement or replacement
- pole top and conductor hardware maintenance
- vegetation pruning and removal program
- rapid Earth Fault Current Limiter program (**REFCL**). Intent of the REFCL device is to reduce the risk of a bushfire caused by a fallen powerline.
- vegetation management – hazard tree program and maintaining prescribed clearance spaces
- ongoing conductor replacement program
- high voltage fuse replacement programs with more reliable technology. Ninety per cent of fuse incidents are asset related only (i.e. no ground fire)
- crossarms – HV crossarms are now predominantly steel. Removes risk associated with timber crossarm failures
- insulators – old HV insulator fleet associated with timber crossarms replaced with modern types and steel crossarm
- high-quality 3D digital technology providing a more accurate view of our network and tree cutting requirements.

Recent fire events, both domestically and internationally, have resulted in substantial losses. These events are impacting the availability and pricing of bushfire liability insurance globally. AusNet has liability insurance that specifically provides cover for bushfire liability. We review our insurance cover annually and seek cover commensurate with the scale and size of our operations, the risks assessed to be associated with our operations and with industry standards and practice. Recent events have seen some insurers withdraw from the market and premiums rise. This will likely continue to occur for future renewals, thereby increasing the risk of being unable to obtain commensurate cover. There are regulatory mechanisms in place under which, in certain circumstances, we may apply to the AER for a pass through of any reasonable and prudent residual costs that may ultimately be incurred in relation to bushfires above our liability insurance.

Furthermore, there are additional pass through mechanisms for 'natural disasters, which were invoked for the January 2020 bushfires for operational and capital expenditure as part of AusNet's response to the bushfires and the impact of them. Pass through mechanisms allow networks to only recover efficient costs, but they also raise issues of affordability.

Transitional risks and opportunities

There is a high level of uncertainty with respect to the speed of the energy transition and how electricity distribution network design should evolve to manage multi-directional power flows, including when electric vehicles and batteries become commonplace. An uncoordinated transition could lead to customer dissatisfaction and higher rates of disconnection, exacerbated in areas of high network charges, coupled with a critical mass of localised generation and cheap storage. Further, the inability of customers to freely export and import energy could accelerate rates of disconnection and elevate reputational risk.

In addition to the risks identified, community sentiment to remove all fossil fuels from the economy may drive policy action to transition away from gas. This would cause cause high rates of residential disconnection, as electrification is encouraged along with increased appliance efficiency. As a result, gas demand could fall, as new subdivisions are not equipped with gas. Mitigating some of these risks in Victoria, is that gas is currently the predominant fuel for heating. Therefore, electrification has not been established as the most viable pathway to decarbonisation. AusNet notes the Australian Capital Territory (**ACT**) has amended planning regulations to remove the mandating of reticulated gas in new suburbs. As a member of the Australian Hydrogen Centre, AusNet has been selected for a feasibility project to assess the ability to produce and distribute hydrogen in regional towns.

Infrastructure Victoria has been asked to provide the Victorian Government with advice relating to Victoria's gas transmission and distribution networks under a range of 2050 energy sector scenarios. A final report is to be provided by 31 December 2021.

A low carbon economy also creates opportunities. AusNet's Growth & Future Networks (**G&FN**) division continues to build a portfolio of contracted transmission infrastructure that connects grid-scale renewable generation, improves grid capacity, balances resources and unlocks renewable investments. G&FN is also building capability to offer DER services. It is also growing a portfolio of controllable DER assets to provide energy management services to supply-side prosumers/producers and back into networks and the market. Roles are also being explored in grid-scale storage, hydrogen, 'SAPS' and electric vehicle markets.

G&FN and AEMO, with financial support from the Australian Renewable Energy Agency (**ARENA**) are collaborating on Project EDGE (Energy Demand and Generation Exchange), a multi-year project to demonstrate an off-market, proof-of-concept DER Marketplace that efficiently operates DER to provide both wholesale and local network services within the constraints of the distribution network. The project is focused on the Hume region of North East Victoria. The intent is to use this project to demonstrate capabilities that can be replicated across other areas of the National Electricity Market (**NEM**).

Metrics and targets

AusNet currently reports greenhouse gas emissions under Australia's comprehensive National Greenhouse and Energy Reporting scheme (NGERs)

Scope 1 greenhouse gas emissions are the emissions released into the atmosphere as a **direct result** of an activity, or series of activities. Examples in our networks are:

- sulphur hexafluoride (SF6) emissions from electricity transmission and electricity distribution network switchgear
- fugitive emissions from our gas distribution network
- natural gas usage by heaters at city gates
- buildings, typically gas consumption for space heating
- motor vehicle usage by employees
- contractor fuel usage in both motor vehicles and for stationary sources (e.g. small generators).

Scope 2 greenhouse gas emissions are the emissions released into the atmosphere from the **indirect consumption** of an energy commodity. Examples in our networks are:

- electricity transmission line losses
- electricity distribution line losses
- buildings – electricity usage
- contractors – electricity usage

Greenhouse Gas Emissions

Our emissions reduced overall by approximately 2.5%, with the electricity distribution business contributing the major portion of this reduction. The reduction results from a lower amount of total energy consumed in the 2020 reporting year and a lower emissions factor. Electricity distribution line losses decreased by 2.3% in terms of energy loss, and due to the reduction in electricity emissions index, the associated reduction in greenhouse gas emissions was 6.9%. Our transmission business reported a reduction in the associated greenhouse gas emissions for transmission line losses by around 0.9%. However, emissions associated with SF6 from electricity transmission increased. AusNet's operation and maintenance procedures take into account the requirements to reduce SF6 gas leaks as part of our environmental obligations. There is no set target, but moving forward, AusNet intends to develop a SF6 leakage repair strategy that will outline the SF6 repair requirements and potential targets.

The emissions associated with AusNet's Gas Services increased slightly, despite continued pipeline replacement activities. This is primarily due to the higher gas throughput (7.5%) resulting in higher Unaccounted for Gas (**UAFG**). The additional emissions were almost offset by the reduction in losses resulting from the pipeline replacement project.

The benchmark for UAFG is set by the Essential Services Commission (**ESC**) for the five-year regulatory period, 2018–2022. AusNet has consistently outperformed the benchmark set by the ESC for UAFG. The following proactive measures are currently in place to minimise UAFG:

- Replacing around 100 km per year of old cast iron pipes. Old cast iron pipes have a much greater tendency to corrode and leak than modern polyethylene pipes.
- Usage data analysis for interval customers (>10 TJ usage) to detect anomalies.

Year (30 June)	2016–17	2017–18	2018–19	2019–20
Units	**Tonnes CO_2-e**	**Tonnes CO_2-e**	**Tonnes CO_2-e**	**Tonnes CO_2-e**
Scope 1				
AusNet Services (Transmission) Pty Ltd	23,867	27,197	25,949	29,756
AusNet Asset Services Pty Ltd	13,165	14,220	17,205	16,001
AusNet Gas Services Ltd	163,902	164,643	163,763	164,371
Mondo	2,458	1,446	924	744
Total Scope 1 emissions	**203,392**	**207,506**	**207,841**	**210,872**
Scope 2				
AusNet Services (Transmission) Pty Ltd	1,308,613	942,334	880,256	872,519
AusNet Asset Services Pty Ltd	526,483	514,935	510,641	476,308
AusNet Gas Services Ltd	2,025	1,422	1,350	1,277
Mondo	2,839	2,326	2,868	2,382
Total Scope 2 emissions	**1,839,960**	**1,461,017**	**1,395,115**	**1,352,486**
Total emissions	**2,043,352**	**1,668,523**	**1,602,956**	**1,563,358**

Next steps

AusNet does not currently have an emissions reduction target. However, given the importance of this issue, further work will be conducted on the evaluation and appropriateness of an emissions reduction target (among other considerations). The majority of emissions attributable to AusNet occur through line losses, a function of transmitting electricity over long distances

The achievability of any target would primarily depend on the rate of grid decarbonisation and the losses experienced through AusNet's electricity networks. Both of these factors have a degree of inherent uncertainty. Electricity consumption (and in turn, volumes of energy transmitted) and decarbonisation of energy generation activities are primarily a function of customer demand and the technologies used by generators (including customers) to produce or store energy, as applicable. These factors remain a function of Federal and State policy, along with regulatory outcomes.

Through the Victorian State Government's 50% renewable energy target, by 2030 renewables are expected to become a larger proportion of the generation mix, and scope 2 emissions from line losses will potentially decline as a result. In addition, we are engaging with the Victorian Government and the transmission planner for Victoria (**AEMO**), to expedite the augmentation of the grid to facilitate the connection of renewable generation.

AusNet will continue to support customers in their renewable energy ambitions. We are also cognisant of our licence obligations to assure energy security and connect all generator fuel types. Our responsibility to engage and connect customers in a timely, low-cost way to ensure energy flows to customers remains our top priority. AusNet is presently working on a range of initiatives, including minimising planned outages and improved forward scheduling to reduce line losses.

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