

**snowy**hydro

# CORPORATE PLAN

for Financial Years 2023 to 2027



**Snowy Hydro Limited**

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# LEGAL NOTICE

## Disclaimer

This Corporate Plan contains various long-range plans, projections, high-level estimates and other forward-looking information (Estimates). Those Estimates are based on the considered professional assessment of present economic and operating conditions, Australian Government policy at the time of writing this Plan, and assumptions regarding future events and actions which, at the date of writing this Corporate Plan, are expected to take place.

The Estimates involve known and unknown risks, uncertainties and other factors beyond control that may cause Snowy Hydro Limited's actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the Estimates.

While the Estimates are based on the best considered professional assessment, the management team and officers (as defined in the Corporations Act 2001 (Cth)) of Snowy Hydro Limited do not give any guarantee or assurance to any third party that the results, performance or achievements expressed or implied by the Estimates will occur. The Estimates must not be relied on or considered to represent what will happen by a third party.

## Introduction

The Corporate Plan for Snowy Hydro Limited (Snowy Hydro or the Company) sets out who we are, what we do and how we do it over the five-year reporting period from 2023-2027 (Plan Period). It encompasses Snowy Hydro Limited and its wholly-owned operating subsidiaries comprising the Red Energy, Lumo Energy and Direct Connect Australia businesses.

Snowy Hydro was incorporated on 28 June 2002, when the Snowy Mountains Hydro-electric Authority was corporatised under the Snowy Hydro Corporatisation Acts 1997 of the Commonwealth, NSW and Victoria. Since corporatisation in 2002, Snowy Hydro has significantly expanded its footprint beyond the Snowy Mountains Hydro-electric

Scheme. Today, Snowy Hydro operates a growing and profitable energy retailing, wholesale energy risk management and power generation business, which includes the Snowy 2.0 Project and the Hunter Power Project.

Snowy Hydro is 100% owned by the Commonwealth of Australia.

Snowy Hydro is governed by its *Constitution* (the Constitution) that sets out the responsibilities of the Board and Snowy Hydro's reporting obligations, subject to the Corporations Act 2001 (Cth) (Corporations Act) and the *Public Governance, Performance and Accountability Act 2013* (Cth) (PGPA Act).

Snowy Hydro prepared the Corporate Plan (Plan) as required by section 95(1) of the *Public Governance, Performance and Accountability Act 2013* (Cth) (PGPA Act), the *Public Governance, Performance and Accountability Rule 2014* (Cth) (PGPA Rule) and the *Commonwealth Government Business Enterprise Governance and Oversight Guidelines* (January 2018) (GBE Guidelines).

The Plan aligns with the most recent Statement of Expectations (SoE)<sup>1</sup> issued by Shareholder Ministers.

Under section 34 of the PGPA Act, if the Government has published a Statement of Key Priorities (Priorities) and any of these Priorities relate to the Company's business, the PGPA Act requires that the Company's Corporate Plan aligns with those Priorities. Under sections 22 and 93 of the PGPA Act, the Finance Minister may make a Government Policy Order (GPO) specifying a policy of the Australian Government to apply to one or more Government Business Enterprises (GBE). Under Rule 6.2.1 of Snowy Hydro's Constitution, the Company's Shareholder Ministers may give a written instruction or direction to the Directors to exercise the Company's powers in a specified manner if the Shareholder Ministers consider it in the interests of the Commonwealth. At the time of writing this Plan, there were no Priorities, GPOs or written instructions or directions that relate to the Company.



# TABLE OF CONTENTS

<b>Our Purpose</b> .....	<b>6</b>
<b>Our Values</b> .....	<b>9</b>
<b>Chair and Managing Director's Message</b> .....	<b>11</b>
<b>Snowy Hydro keeps people safe</b> .....	<b>14</b>
<b>Snowy Hydro maintains financial credibility for the market and strives for sustainable business performance</b> .....	<b>15</b>
<b>The Future of the National Electricity Market (NEM)</b> .....	<b>25</b>
<b>Business Environment</b> .....	<b>28</b>
<b>Our Generation Business</b> .....	<b>34</b>
<b>Our Retail Business</b> .....	<b>38</b>
<b>Our Capability</b> .....	<b>40</b>
<b>Environmental, Social and Corporate Governance Statement</b> .....	<b>42</b>
<b>Plan Performance Measures</b> .....	<b>56</b>
<b>Risk Management Framework</b> .....	<b>62</b>
<b>Glossary</b> .....	<b>66</b>

# OUR PURPOSE



# ABOUT SNOWY HYDRO

Snowy Hydro is an Australian-owned, dynamic, integrated energy business. Our role is to underpin energy security, lead the transition to renewables and increase competition in energy markets, leading to lower prices for consumers.

In short, we are here to keep the lights on and to help the National Electricity Market (NEM) transition to a decarbonised state, now and into the future.

We have combined the hydropower of the Snowy Scheme with fast and reliable gas and diesel-fired peaking generators. In total, we have 16 power stations, a pumping station, and more than 5,500MW of generating capacity across New South Wales, Victoria and South Australia.

The NEM is in the process of a fundamental transformation – from baseload coal with some peaking assets to a complex, highly interconnected system with variable renewable energy backed by firming and storage. Snowy Hydro is at the heart of this change.

As a leader in the transformation of Australia's energy system, we conduct all our business with integrity as we maintain and promote our core values.

We lead the market in energy storage and capacity products and are the fourth-largest energy retailer in the NEM<sup>2</sup>.

Our asset mix of energy storage and dispatchable generation capabilities underpin the products we provide customers. It is Snowy Hydro's end-to-end wholesale product and generation mix that will meet and sustain increasing demand in the coming decades as more variable renewable energy comes online and coal-fired generators progressively retire.

The vision of our Red Energy and Lumo Energy retail brands is to delight our customers by providing an award-winning and market-leading customer experience. Our track record in that regard is unrivalled in the NEM.

Our entire business is inspired by Snowy Hydro's history, brand identity and reputation.

We provide critical water supply services to the nation's food bowl – the Murray-Darling Basin – through the Snowy Scheme.

Snowy Hydro supports the local communities where we live and work. We invest in our chosen areas of education, youth health and regional capacity-building.

2 By customer numbers.

**snowy**hydro

**DIRECT  
CONNECT**

MAKES MOVING EASY



**red**<sup>™</sup>  
energy





# OUR VALUES

Our Values are the heart of who we are at Snowy Hydro. They guide us in everything we do, from how we interact with each other, our customers and external stakeholders, to the way we deliver our Objectives and Purpose.

Our Values are ingrained in our history. Our first Commissioner, Sir William Hudson, was an ambitious and inspirational leader who knew how to gather and lead a team of great people. He won the respect of workers on all levels by taking practical measures for their wellbeing. He ensured they had good pay, food and quarters and housing for families and was committed to safety. Sir William's focus on safety ensured we introduced many safety initiatives, in some cases years before they became law – like the introduction of more than 3,000 seatbelts into company vehicles from May 1960 – nine years before they became compulsory.

From the construction of the Snowy Mountains Scheme, to the integrated retail and generation business we are today, our Values define us and guide our behaviour, choices, decisions and interactions with each other, our customers, contractors and communities.

We proactively celebrate our Values, including through our annual Values Awards program that recognises and celebrates those who are leading the way and truly living our Values.

## Safety



Safety is always our number one priority

## Teamwork



We help each other succeed through support and trust

## Ownership



We take pride in our work and own our choices

## Agility



We are adaptable and embrace change

## Decency



We treat others the way we'd like to be treated

## Courage



We speak up and act for what's important

**DANGER** LIVE RAILS



# CHAIR AND MANAGING DIRECTOR'S MESSAGE

It has been an extremely challenging year for the Australian energy sector. Severe weather conditions have compounded global fuel shortages and ongoing supply chain disruptions from the COVID-19 pandemic. The impacts of the energy market suspension and the Australian Energy Market Operator (AEMO) intervention in June 2022 highlighted the value of Snowy Hydro's assets and its investments in Snowy 2.0, the Hunter Power Project (HPP) and our energy offtake agreements with 1.3GW of new wind and solar developments.

The Snowy Group played a key role in maintaining system security. Our sophisticated on-demand generation and storage capability produced a record amount of energy to cover shortfalls from other sources of supply. We did so even though generating at this heightened level had financial impacts for the business. 'Keeping the lights on' resulted in significant reductions in earnings during that period, and depleted our scarce reserves of fuel (water).

It's at times of crisis when capability and values are tested. Our assets and people have been stretched to their limits and have delivered on all fronts.

The unprecedented June 2022 market events were precipitated by shortfalls from suppliers of bulk energy, including coal, wind and solar. Ultimately the Company operated its assets at record and unsustainable levels, effectively acting as a de facto baseload generator to help manage the energy shortfall. This mode of operation was outside the design parameters of our assets and water licence, absorbing in the order of 1,500GWh for very low margin.

AEMO's directions to generate during the imposition of the NEM's cumulative price threshold and the subsequent declaration of an AEMO-administered market (i.e. the suspension of an operating spot market) in mid-June further reduced Snowy Hydro's water resource available for the immediately following financial year. Given this, the market is faced with real challenges across summer 2022/23.

The contribution of Snowy Hydro during these market events highlights the challenges posed by the rapid decarbonisation of the NEM. AEMO estimates that as much as 14GW of coal capacity will retire by 2030. The Snowy 2.0 project, along with HPP, will help maintain system security and reliability during this period and drive Australia's transition to renewables. The Company also acknowledges the Commonwealth Government's policy objectives and the potential integration of hydrogen into the fuel mix as an additive to, and eventually a substitute for, gas.

Amidst significant challenges, the Company has progressed these major projects. Construction of Snowy 2.0 continued through FY22 amidst significant challenges, notably: the impacts of COVID-19 on resourcing, high material costs, global supply chain constraints and labour shortages across the Australian construction industry. The project is achieving significant milestones, with all surface work fronts underway. Three tunnel boring machines are in operation, the precast factory at Polo Flat in Cooma is producing thousands of tunnel-lining concrete segments, and in Q3 2022, commencement of the cavern excavation.

The HPP at Kurri Kurri, which will supply an additional 660MW of reliable, peaking power, achieved a number of critical milestones in FY22, including NSW and Commonwealth

Government environmental approvals, as well as the appointment of CIMIC Group's UGL as principal contractor and the signing of a major contract with Mitsubishi Power to deliver open-cycle gas turbines that can be modified to co-fire on 30% hydrogen. The Company looks forward to progressing this critical project towards 30% hydrogen readiness with support from our Shareholder.

Green hydrogen represents an extension of Snowy Hydro's strategy to diversify its generation assets by geography, purpose and fuel type. As such, we have been collaborating with Macquarie Bank, the Port of Newcastle, as well as Governments, CSIRO and Professor Alan Finkel to understand the opportunities and challenges in the rapidly emerging green hydrogen industry and investigate broader supply network development.



On the path to accelerated decarbonisation, the urgency of transmission augmentation became even more evident in FY22. Key decision makers agree on the need for reform and the issue now is not 'if' but 'how' and 'when'. This follows sustained advocacy from Snowy Hydro and other stakeholders; there can be no transition without transmission. Expanding the transmission network will connect geographically diverse sources of renewable energy and leverage investments in storage and firming assets from Snowy Hydro and other participants. The Company welcomes the Federal Government's 'Rewiring the Nation' policy that supports the transmission upgrades identified in AEMO's Integrated System Plan to be implemented with utmost urgency. This is necessary to avoid a potential supply/demand balance for the NEM.

Snowy Hydro is one of the largest purchasers renewable energy offtake agreements in the country, having supported the construction of 1.3GW of new wind and solar plants since 2017. We continue to expand our renewable portfolio, recently agreeing on an offtake with CWP Renewables' Uungula wind farm. Combined with our on-demand hydro assets, these investments allow us to supply 'firm', secure, low-emissions energy to the market.

Our Retail business continues to expand its contribution to Snowy, providing an important, stable channel to market for generation and capacity products, while delivering additional retail margins and helping to stabilise group earnings. It continues to grow market share across the NEM, leveraging the strength of its market leading customer experience, its people and brands, including its connection to the mighty Snowy.

This year Snowy Hydro paid dividends of approximately \$164 million in line with our Shareholder expectations, taking the total over 5 years to approximately \$1 billion. Snowy Hydro continues to manage our balance sheet to service the significant calls on capital. While there is short-term pressure on financial metrics, we remain committed to ensuring planned capital expenditure is responsible, efficient and effective while protecting Snowy's target BBB+ credit rating. This expenditure will enhance the Company's asset portfolio, driving long-term growth and strengthening its role in maintaining system security during the NEM's transition to a low carbon future.

Consistent with our Snowy Hydro values, we are dedicated to our people and their wellbeing. The health and safety of our workforce is our first priority; and we have implemented a comprehensive people strategy to support this goal. As a result, we have an engaged workforce that values safety, diversity, and equal opportunity and is rewarded and recognised appropriately for their efforts.

The times ahead will continue to be challenging, with the risk of further supply shortages occurring at no or very short notice. Snowy Hydro will continue to play a critical role in underpinning a least-cost, reliable and secure NEM as it decarbonises. We look forward working with our Shareholder to drive the NEM's transition and putting our Corporate Plan into action.



**David Knox**  
Chair



**Paul Broad**  
Managing Director  
and CEO

# SNOWY HYDRO KEEPS PEOPLE SAFE

Snowy Hydro is an aspirational company; where we can do better we will endeavour to do so. We aim to be a good neighbour and an exemplar in Australian business and industry. As a good and decent company, we maintain the highest respect for our customers, employees, responsibilities and expectations.

## Safety is Snowy Hydro's highest priority

We are committed to getting the job done, but above all, we want everyone to go home safely at the end of the day.

Our safety and wellness strategy has four core components:

1. Our people begin and end each workday safely and well. Their physical and mental health is improved as a result of working for Snowy Hydro. We believe we are all responsible for making our workplace safe and healthy, that harm to health and wellbeing is preventable, and our people and Company can flourish. Additionally, we positively impact the safety and wellbeing of the households and communities in which we live and operate;
2. Leaders lead from the front being visible, lead safety conversations, ask the right questions and foster a 'no fault' learning environment;
3. Our people recognise hazards, are empowered to 'stop the job', anticipate changed conditions, implement controls and actively contribute to 'mate looking after mate'; and
4. Simple and more streamlined systems assist us to proactively identify hazards, deliver controls that work, and provide the required checks and balances to ensure we use the controls and continue to improve.

Snowy Hydro continues to prioritise investment in safe plant and equipment, safety culture, leadership training, critical risk and hazard identification and engineering controls (Major Accident and Single Fatality Prevention), leveraging technology-based safety solutions to increase speed and ease of reporting, and extensive wellbeing programs, especially in rural and regional areas.

With Snowy 2.0, the Principal Contractor (PC) carries primary accountability for safety. However, we require the PC to operate consistent with Snowy Hydro's health and safety principles, targets, objectives and strategy for the project as described in the Employer's Requirements. A comprehensive program of assurance activities, including inspections, critical control verifications and audits, are undertaken by Snowy Hydro to verify that the PC is taking the necessary and appropriate steps to manage the health and safety of Snowy 2.0 workers.

# SNOWY HYDRO MAINTAINS FINANCIAL CREDIBILITY FOR THE MARKET AND STRIVES FOR SUSTAINABLE BUSINESS PERFORMANCE

## **Maintaining a strong investment-grade credit rating is core to Snowy Hydro's successful operations.**

Snowy Hydro's central position in the NEM and demonstration of its financial resilience enables the Company to enter into long-term contracts with buyers and sellers of the wholesale market. Our wholesale customers value this greatly for their own risk management.

The most logical prospects for selling capacity and renewable energy in return for the highest and most stable total net revenue stream is to target the consumer groups willing to purchase customised products for the capacity and energy contained in firmed, reliable green energy products.

A key strategic goal is to reduce the sensitivity of Snowy's earnings to fluctuations in spot and contract prices for energy and capacity.

Due to the nature of the Company's contracting operations, our counterparties are exposed to long-term Snowy Hydro credit risk. Therefore, a strong investment-grade credit rating, defined as BBB+ or better, is essential to write risk management products, hedge contracting positions for retail and Commercial & Industrial (C&I), and enter into long-term contracts for energy and renewable energy certificate purchases. Maintaining a strong rating from Standard & Poor's (S&P) remains a top priority.

There are two main quantitative rating metrics used by S&P: Net Debt/EBITDA and Free Funds from Operations (FFO)/interest. Based on these, S&P's current assessment rates the Company as an ASX top-50 equivalent entity, and as meeting the criteria for a BBB+ credit rating.

Snowy Hydro maintains a number of mitigants to protect its capital structure in the event that ordinary-course-of-business revenues necessitate additional funds. These include dividend management, restructuring the energy market contracts portfolio, increasing hydro generation within the flexibilities provided in the Snowy Water Licence, and risk-assessed deferral of non-essential development capital projects.

# FINANCIAL YEAR 2022 PERFORMANCE

## FY22 HIGHLIGHTS

Snowy Hydro performed exceptionally well in the 2021 financial year (FY21) under significantly difficult circumstances. Despite the bushfire recovery, COVID-19 pandemic, mild weather conditions, falling NEM prices and continued regulatory intervention, Snowy Hydro has delivered its key objectives.



### FINANCIAL

# 1

#### **Generation Revenue FY22**

exceeded planned revenue, albeit with lower margins during the June energy crisis.

# 2

#### **Retail Revenue FY22 and EBITDA**

exceeded plan.

# 3

#### **Underlying EBITDA FY22**

below plan, significantly impacted by June 2022 market event noting market compensation process are yet to be concluded.





## CUSTOMERS

# 1.2m

retail gas and electricity accounts

Customer growth of

# 47,000+



brand amongst peers for Net Promoter Score, 8th year running

# ↑ 8% NSW



2022 Canstar Blue Award for Most Trusted Energy Provider nationally.

# 100% customer satisfaction

for the fourth consecutive year amongst C&I customers, measured by Utility Market Intelligence.



## SAFETY

FY22 ON PAR WITH FY21 IN OVERALL INCIDENTS RECORDED

# 3

 significant safety incidents in FY21 (two injuries & one near-hit incident)

# 3

 significant safety incidents in FY22 (one injuries & two near-hit incident)

# OUR STORY

Ongoing rollout of a behavioural safety program called Our Story has been delivered by our leaders for our people, which will further strengthen Snowy Hydro's positive safety culture in the future.

RETAIL BUSINESS

# ZERO

reportable injuries for 2022

# Over 34 months and 5+ million hours worked since the last significant safety incident.

# FY22 PERFORMANCE

Against the continued COVID-19 pandemic, mild weather conditions, increasing fuel costs and market-administered price periods and suspension, the Company performed admirably against its plan objectives under significantly difficult circumstances over the final FY22 quarter. The company paid dividends of approximately \$164 million in the year taking the total over 5 years to approximately \$1 billion.

Driven by three macro issues: chronic underinvestment in coal generation fleet/generation, extended and extreme La Nina weather conditions, and international energy 'scramble' the 2022 financial year ended with two months of electricity market chaos, in which Snowy's role as the NEM's insurance provider was tested as never before. In the context of the suspension of the spot market and the market operator dispatching Snowy's plants (and consequently our water resource and reserves of gas and diesel backup fuel), the NEM's ability to keep the lights on in NSW and Victoria was underpinned by the people and assets of Snowy Hydro.

However, like an insurance company in a cyclone, this came at significant cost. Snowy has used almost a third of its annual water resource, paying out on its insurance contracts and honouring our obligations to all of our customers.

An otherwise highly successful year, in which strong growth in all of our key business segments underpinned an above-plan EBITDA at the start of May, ended with below-plan EBITDA (excluding market compensation outcomes) due to these events. Compensation processes arising from the administration/suspension events are ongoing and the outcome for the company remains uncertain.

The market challenges triggered a high level of customer movement across the energy market in June and our Retail division responded superbly to accommodate the significant rise in customer enquiries.

Throughout FY22, Snowy Hydro's development activities were characterised by milestone growth in asset portfolio developments, with significant progress recorded by Snowy 2.0 and the Hunter Power Project (HPP). The development of these assets is crucial in supporting the decarbonisation across the NEM by allowing increasing amounts of renewable capacity to be carefully introduced as we head towards net zero and other milestone emissions targets. In addition, Snowy Hydro is focused on maintaining storage levels and gas is accessible for adapting our generation portfolio to new market conditions that will require the Company's generating assets to fill the growing supply gap as coal baseload plants become increasingly unreliable. Lastly, to achieve orderly decarbonisation of the NEM, Snowy Hydro is actively and strongly advocating for more transmission upgrades to unlock the full potential of our assets, as well as provide access to the best renewable resource geographies.

## Energy Crisis / NEM supply disruption

Snowy Hydro is one of the largest suppliers of on-demand generation in the NEM by capacity, totalling over 5,500MW. Our business model is built around supporting the NEM during periods of peak demand, and our generators are designed to operate intermittently to fill "energy gaps" in the NEM and avoid the risk of load-shedding.

Since May 2022, the NEM has experienced a widespread energy shortage due to unavailability of coal thermal plants in NSW and Queensland (due in large part to historical underinvestment in plant and supply chain infrastructure), and critically low wind and solar availability caused by prolonged and extreme La Niña conditions. At the same time, the onset of earlier-than-expected wintery conditions and the war in Ukraine has led to exceptionally high demand for electricity and gas nationally and around the world.

The energy crisis is likely to continue at least until the end of this winter, with limited improvements in thermal and renewable energy generation. Without fundamental changes to the availability of thermal fuels and the reliability of baseload generators, it is not unrealistic to forecast a continuation of the crisis indefinitely until there is technological restructuring of the NEM.

## Snowy 2.0

Recent turbulence in the NEM has only reinforced the need for Snowy 2.0. The capacity and firming markets are evolving at an accelerating rate and Snowy Hydro is a leader in the NEM in developing and selling derivative products to enable this evolution.

Snowy 2.0 construction continued through FY22 despite significant headwinds, notably the impacts of COVID-19 on resourcing, high material costs, global supply chain constraints and high demand for labour across the Australian construction industry. Despite these challenges, the Snowy 2.0 Project is achieving significant milestones, with all surface work fronts underway, three tunnel boring machines continuing to make progress underground, the Polo Flat, Cooma, precast factory producing thousands of tunnel-lining

concrete segments, and in Q3 2022, preparation for tunneling and cavern excavation. Snowy 2.0 will feature one of the world's largest and deepest underground power stations in order to harness the full potential of 2,000MW generation into the NEM.

The Snowy 2.0 Project continues to provide substantial economic benefits to the Snowy Mountains region, through local procurement, job opportunities and growth in regional service and supply chains. More than 150 local businesses have been involved and over \$82 million has been injected into the local economy. The project workforce has topped more than 2,000, with workers accommodated in the three onsite camps and the Joule Ridge facility in Cooma.

## Hunter Power Project

Activity continues at pace with the construction of the 660MW Hunter Power Project. The majority of capital works will occur over FY22 and FY23, with a separate package of works covering the construction of the gas lateral. The gas infrastructure will be built, owned and operated by APA, with Snowy Hydro securing an offtake / availability agreement to use the pipeline and facility. The capacity factor of the plant is estimated to be 2-5% per cent per year; however, this varies according to market demands.

The Hunter Power Project has been timed for the critical summer 2023 period as the market faces the closure of the final Liddell unit. Snowy Hydro is delivering on its promise, committing to the Hunter Region by providing up to 600 new direct jobs during peak construction and 1,200 indirect jobs across NSW.

The Company is committed to working with the Federal Government to achieve its goal to reduce emissions to net zero by 2050, including for the HPP to be 30% hydrogen ready. The Company is investing significant time and resources to progress our knowledge and capability regarding hydrogen readiness and looks forward to progressing this critical project towards 30% hydrogen readiness with support from our Shareholder.

## Extended La Niña conditions

Recent weather and climate patterns had a wide influence in the NEM, including on our hydro generation capacity (inflows and storage), wind and solar resourcing and electricity demand and consumption. FY2022 inflows were materially higher than the previous nine years, driven by frequent rainfall events associated with a negative Indian Ocean Dipole climate pattern during winter-spring 2021 and the development of another La Niña in summer 2021-2022 (following the La Niña in summer 2020-2021).

La Niña conditions in summer 2021-2022 led to persistent cloudy conditions, milder average temperatures and a reduced number of extreme hot days, resulting in lower summertime electricity demand.

The La Niña persisted unseasonably into early winter 2022, with weather conditions playing a role in the developing NEM energy crisis. Extreme cold air outbreaks at the end of May and early June led to the coldest start to winter in decades for most of the NEM. The resulting high electricity and gas heating demand coincided with shortages in NEM generation capability.

## Regulatory reform

Numerous regulatory reforms have been initiated in response to rapid transformation in the market, particularly the displacement of coal by weather-dependent forms of generation capacity. In recent years, the Australian Energy Market Commission (AEMC) considered more than 50 open rule changes, and when combined with the Energy Security Board (ESB) post-2025 market design process, represents the most ambitious reform agenda since the inception of the NEM. The number of reform proposals are expected to increase as a response to the energy crisis.

Snowy Hydro supports a market-based approach to reform. The Company welcomes the proposal to value and create markets for essential system services, including fast frequency control and inertia markets and reforms to incentivise primary frequency control. Without the necessary 'missing' system services markets, the NEM will be left with continued interventions to maintain system security, with consumers bearing the associated costs.

A further important reform relates to transmission infrastructure. More effective transmission access is critical to maintaining system security and reliability during the clean energy transition. Implementing AEMO's Integrated System Plan (ISP) as soon as possible will harness existing and new firm assets that will be needed to manage growing market volatility. The Company supports regulatory initiatives to reform transmission planning arrangements.

## Decarbonisation of the NEM

The NEM is experiencing a long-term decline in total annual demand for energy while undergoing a rapid transition to renewables (wind and solar) as its primary source, with an increased rate of degradation and resultant unplanned outages for coal plants. The Company is uniquely positioned to facilitate the least-cost decarbonisation of the NEM via its portfolio of low emission, fast-response, reliable, flexible generating plant and energy storage, and through its award-winning Retail brands, which are key advantages in the C&I segment.<sup>3,4</sup>

Intermittent generation cannot replace the existing coal fleet and meet the NEM energy security requirements without firming. Wind and solar generation is cheap and output is highly correlated, but not to load peaks, implying a need for large, long-term storage.

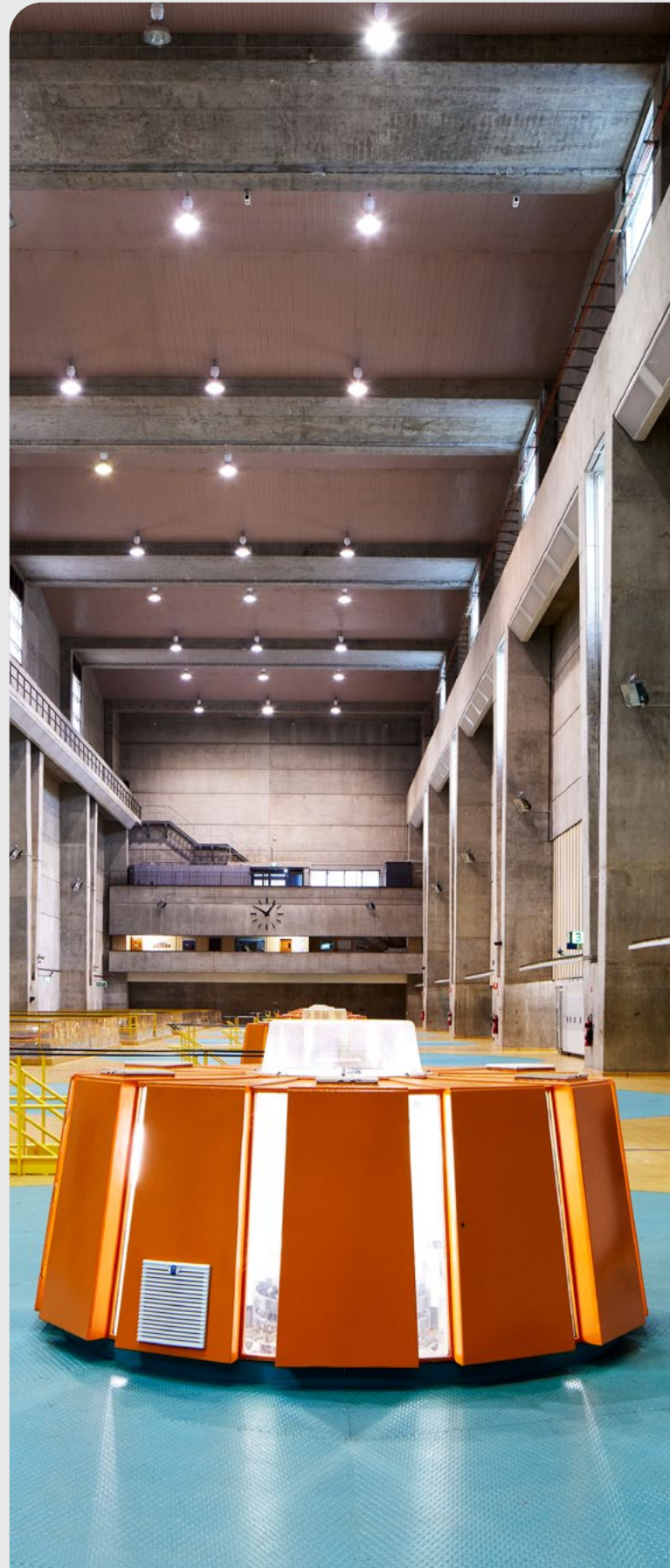
The Company's power generation assets have experienced a major change in utilisation patterns as a result of the renewable transition, with a >50% increase in unit starts over the past five years. This increased 'wear and tear' requires capital investment to ensure Snowy Hydro maintains the requisite reliability and capability to service the NEM.

The accelerated pace of the NEM's renewable transition improves the long-term outlook for the Company, but comes with challenges. Snowy 2.0's economics improve and the need for the Hunter Power Project grows; however, the increased expenditure on assets due to wear and tear, combined with the new-build capital expenditure place short-term pressure on Snowy Hydro's balance sheet.

Total scheduled generation declined significantly over the previous 12 months with a decrease of 4.8% over FY21 (June 2020 – May 2021 inclusive). This compares to a 5.3% drop in FY20. Total intermittent generation increased by 22.8% for FY21 on top of a 34.9% increase in FY20. These changes are driving fundamental shifts in how the NEM operates, with greater volatility, more frequent cycling, and higher ramping requirements.

<sup>3</sup> <https://www.redenergy.com.au/awards-and-recognition/>

<sup>4</sup> <https://www.lumoenergy.com.au/about-us/awards/>



## Transmission

The need for additional transmission capacity to connect new renewable (wind and solar) power stations to load centres became more evident in the 2022 financial year. Dispatchable generation faces increasing transmission access risk due to the growth of wind and solar plants. As thermal assets retire and are replaced by weather-dependent forms of generation capacity, it is critical that the NEM sustains an adequate level of dispatchable generation.

AEMO forecasts that the NEM will require 16GW of utility-scale battery and pumped-hydro storage and 10GW of gas-fired generation for peak loads and firming to back up renewables by 2050. Transmission constraints represent a risk to the ability of Snowy Hydro and other dispatchable assets to manage volatility and offer price insurance products to the market.

The transmission grid needs targeted augmentation to provide capacity, balance resources and unlock Snowy 2.0, existing Snowy assets and Renewable Energy Zones (REZs) in both Victoria and NSW. VNI West and HumeLink are critical to the transition. They will reduce congestion, connect consumers to cheap renewables, firming and storage, and increase competition.

Transmission constraints are attracting the attention of debt and equity capital providers. Constraints directly and negatively affect a generator's cash flows with no offsetting reduction in operating costs and therefore economic returns.

Snowy Hydro has advocated widely on the need to address the crisis in transmission. Key decision makers all agree on the need for transmission. The issue is not 'if' but 'how' and 'when'. There appears to be widespread acceptance that the current regulatory framework is not fit for purpose and contestability is required to ensure best outcomes in transmission development, but reform will take time.

## Retail key drivers

The Retail business experienced higher than expected mass-market electricity and gas consumption, particularly in NSW, with a cold start and finish to the financial year and the effects of lockdowns and travel restrictions due to Covid-19 in both Sydney and Melbourne last winter. However mild weather over summer reversed some of these gains.

Weakness in the wholesale market through the pandemic resulted in another year of tight retail margins and intense competition. Below target customer growth was achieved through much of the year, but with most of the shortfall recovered through record customer growth in June as most second tier competitors withdrew from the market and some threatening substantial imminent price increases. Substantial growth in the uptake of residential rooftop solar saw export volumes purchased up almost 70% on budget. Despite this, wholesale purchases for Retail's mass market customers remained up 6% for the year.

Regulatory restrictions to usual credit collection practices by energy retailers continued through the first half of the year, seeing further growth in the cost of bad and doubtful debts. While collections processes returned to normal by year end, risks remain driven by rising interest rates, higher cost of living and large increases in energy bills. Ongoing improvements in cost to serve remained a focus with the average Cost to Serve improving on the prior year. Costs of acquiring new customers were also lower with more sales being acquired through lower cost channels.







# THE FUTURE OF THE NATIONAL ELECTRICITY MARKET (NEM)

The NEM's rapidly changing fleet of generating assets, with new entrants predominantly renewables, finds itself at odds with a transmission grid built for a different purpose. Given the challenges inherent in building large-scale, long-distance electricity transmission, the role of "deep" storage of energy will become even more critical. In this context, the evolution of Australia's power generation will rely on Snowy Hydro's inherent strengths and growth opportunities in large-scale energy storage, firming products and peaking generation.

The basic design of the NEM was formulated around the intention to use spot price volatility as a signal of the need for new entry. This has enabled NEM participants to calibrate their spot and contract exposures according to their risk thresholds, and to delay the new build of power stations until that market entry was optimal. Unnecessary regulation not agnostic to generating fuel or the NEM participant's risk tolerance creates a disconnect between economic investment (a lot of it already 'sunk') and the required returns.

Snowy Hydro's highest-growth business segment has focused on offering competitive renewable energy products to price-sensitive C&I customers, backed by its generating assets combined with the 2019-2020 lowest-cost renewable energy purchases. This customer segment is populated by organisations with sophisticated electricity procurement, normally supported by external advisers. For Snowy Hydro to thrive in this competitive segment in FY23 and beyond, it must continue to offer innovative, competitively-priced products. More generally, the Company must sell similarly bespoke products to other segments and customers over the coming years.

## The NEM's Energy Transition

Australia's power generation infrastructure is the largest greenhouse gas-emitting industry, contributing a third of total domestic emissions. It is also the cheapest and easiest sector to achieve substantial emissions abatement through the uptake of renewable forms of power generation, underpinned by Australia's abundant, high-quality wind and solar resources. Any scenario with significant decarbonisation of the Australian economy will require the power generation sector to make a leading contribution.

Driven by rapid global growth, the cost of wind and solar generation has progressively declined, reaching the tipping point of price parity between coal and renewables in the NEM, resulting in rapidly increasing consumer demand for now-affordable renewable energy products. These trends resulted in a significant amount of small and large-scale renewable generation being installed in the NEM during calendar year 2021. Further, Snowy Hydro's cheapest and least-risk source of commodity energy is via offtakes with solar and wind farms. The intermittent energy thus procured is transformed into saleable (firm) products using Snowy Hydro's combined asset portfolio and associated risk management systems.

In recent years, stronger renewable energy targets were passed into law in Victoria and Queensland, requiring a 50% contribution from renewable sources by 2030; Tasmania announced an aspirational target of 200%<sup>5</sup> renewable energy by 2040; the NSW Roadmap was legislated setting targets of 12GW of new renewables and 2GW of storage by 2030. With policies supporting the adoption of renewable forms of electricity production, these changes will contribute to a doubling of the market share of renewable generation in the NEM over the next decade.

Peak vs off-peak demand patterns in energy usage in the NEM over the Plan Period are expected to be volatile to the point that the traditional definitions of 'peak' and 'off-peak' have become essentially redundant. The NEM's definition of the 'peak' period will no longer be relevant as it includes the midday demand trough.

In an anticipated environment of at-best minimal NEM energy demand growth over the Plan Period, each market share increase of renewable energy production will create a cycle of diminished production and greater wear and tear, and hence higher energy production costs for coal-fired generators. The accelerated decline in the reliability of the coal-fired plant and the timing of their retirement creates attractive market conditions for further renewable generation.

Increasing renewable penetration requires investment in three key areas:

1. Transmission infrastructure;
2. Ensuring system security is maintained, including additional flexible peaking generation;
3. Additional energy storage, primarily in the form of pumped hydro (longer-term) and batteries (shorter-term); and
4. Open-cycle gas-fired power plants.

These are required to reliably balance increasing amounts of uncertain and variable renewable energy production with patterns of consumer demand, which do not match renewable production patterns, and to reduce curtailment of renewable energy production and deliver emissions reduction in the NEM at least-cost.

## Competition in the NEM

Severe disruptions in the global and domestic energy markets in the second half of FY22 translated to soaring electricity and gas prices in the NEM. In addition to the challenges brought about by the decreasing reliability of coal assets, large 'gentailers' are facing significant coal supply chain disruptions, increasing costs and unclear strategic direction.

Strategically, the large gentailers (Origin, Energy Australia, AGL, Alinta) are increasing their investments in renewable energy and battery storage assets as they look to maintain their vertical integration of energy supply and retailing. To some extent this cannibalises the existing baseload generation business, but is unavoidable given the

<sup>5</sup> Tasmania has an aspiration to produce 100% more energy than it consumes, and the 'surplus' to be entirely produced from renewable sources in Tasmania. The surplus must also be exported, likely in the form of electricity to Victoria or possibly shipped in the form of liquid hydrogen.

market demand for greener products (especially within the C&I segment) and the need for quality renewable generation assets in place for end-of-life baseload shutdowns. Origin and AGL have announced plans to build batteries at the site of their retiring coal power plants (Eraring and Liddell respectively).

Lower barriers to entry for short-duration batteries, similar to wind and solar, represent low competitive advantage, compared with investment in firm generation assets. To create value, the gentailers are broadening their retail market participation and assessing hydrogen production.

In the retail market, the gentailers are looking to diversify products by developing partnerships with broadband service providers to provide tri-products (electricity, gas, broadband) as well as deepening their offering through distributed energy resources (rooftop PV, batteries and virtual power plants).

Origin has announced plans for a potential green hydrogen hub in the Hunter Valley region, similar to the green hydrogen hub Snowy Hydro has been involved with at Port of Newcastle. AGL is also exploring hydrogen production opportunities in that region, while Energy Australia has announced Tallawarra B at Lake Illawarra as being capable of using a blend of green hydrogen and methane.

Green hydrogen can potentially, now or in the near future, offer a technology solution that provides an attractive emissions-free narrative for high energy density applications like long distance haulage or mobility, fertiliser production, air travel and export.

Consistent with their global strategies, Shell, Iberdrola, and other large oil companies are seeking to gain a foothold within Australia, specifically with renewable developments, batteries and retail, with a view to diversify energy and retail sources away from oil.

Shell's Renewables and Energy Solutions business has been active for the past few years investing in retail and generation, specifically through acquisition of ERM (now Shell Energy), Powershop and development of large-scale solar in Queensland. Globally, they have experience with hydrogen, specifically infrastructure associated with mobility and hydrogen production, and additionally have set up a \$1.4 billion fund dedicated to start-ups supporting energy transition initiatives (batteries, storage, hydrogen and mobility).

Iberdrola's Australian energy investments include the acquisition of Infigen Energy (800MW of renewables, including batteries, with 450MW under construction) demonstrating Australia as a key target for renewables expansion.

These markets, including those invested in by oil companies (retail, renewables, short-duration batteries, hydrogen) are expected to experience a high degree of competition from existing and external participants.

Victoria pioneered deregulation and competitive energy markets, but is progressively moving away from national rules and regulations, adding new and unique layers of regulations that create barriers to entry and growth for retailers and add significant operational costs. Retail price regulation across all states restricts the financial returns retailers can make from growing a retail business, increases a new entrant's minimum scale and lengthens the time to recoup costs. However, Snowy Hydro's retail business remains well-placed, with established economies of scale, strong brand recognition and awareness and market-leading customer satisfaction, but is still perceived as a second-tier, fresh alternative to the historically dominant incumbent retailers.

Governments, market bodies comprising rule-makers, regulators and the market operator, and other market participants, are continuing to pursue agendas that contemplate major changes to the design of the NEM's market frameworks and interventions within the existing structure. A major deviation from the NEM's market frameworks could have materially positive or negative impacts on the achievement of Snowy Hydro's strategic goals and financial performance within the Plan Period.

Snowy Hydro supports the retention of the current energy-only wholesale market and State-based regional pool price arrangements, and an actionable Integrated System Plan for the NEM's transmission.

Maintaining high standards of compliance, combined with responding to expected change and an aggressive enforcement posture by policymakers and regulators, will continue to be a focus, and cost, for Snowy Hydro across the retail and generation businesses.

# BUSINESS ENVIRONMENT

Renewable energy targets are reshaping power generation demand. Coupled with an overall transition in Australia's economy towards lower emissions and disruption for coal-fired generation, this plays to Snowy Hydro's strengths in energy storage and flexible generation. The NEM's transition presents Snowy Hydro with substantial and long-term growth opportunities in wholesale and retail markets.

The impact of climate and weather provide risks to infrastructure, supply and demand volatility, but the Company's ongoing efforts in diversification and leading-edge technologies place Snowy Hydro in a robust position to increase value.

Focusing on customer requirements and preferences in this environment and delivering value-based decisions creates the platform for success.

## Energy and climate policy and regulation

As the nation continues to decarbonise the energy sector, there continues to be future emissions reductions in the NEM, with numerous legislated federal, state and territory targets extending out to 2030 and beyond.

Government papers acknowledge that decarbonising the energy market requires generating capacity supplied by increased renewable generation, storage and, for a least-cost solution, supporting gas generation. Snowy Hydro sits at the heart of that progress.

States continue to introduce their own emissions reduction or renewable energy targets. With disparate approaches to targets, the Company continues to put forward a strong fact-based argument directly to key influencers to help achieve the desired policy outcomes. This is particularly important on issues where stakeholders across the sector have differing views and vested interests. Snowy Hydro is well represented and respected in the peak sector bodies – for example being a member of the Australian Energy Council (AEC), Clean Energy Council (CEC) and the Business Council of Australia (BCA) – and proactively participates in policy and regulatory working groups.

The Company has a proactive and strategic approach to addressing regulatory and policy risks based on building targeted and timely relationships with key government, regulatory and industry stakeholders.

## Wholesale Energy Markets

**Investment in wholesale generation facilities, new and old, is facing unprecedented challenges while contemporaneously positioning to capitalise for opportunity.**

The large-scale renewable sector contributed nearly 3GW of new capacity in calendar 2021 from the 27 projects completed around the country. The majority were large-scale wind and solar farms. In its Step Change scenario, AEMO's 2022 ISP forecasts more than 125GW of new variable renewable energy is needed by 2050 to replace coal-fired generation.

Large-scale renewable projects are facing cost and net revenue uncertainty, along with a changing risk profile related to grid connection technical

requirements, marginal transmission loss factors and COVID-19 impacts on supply chains. The recent record installation rates are considered unlikely to be replicated in the short term, however, that would need to reverse in the medium term to meet the aforementioned targets.

With the macro picture set, the sector and its capital providers must focus on what is required for further expansion in large-scale renewable energy development. Decisions on technology selection and contracting structures matched to customer preferences and regulatory reform outcomes are key determinants to success. Debt and equity investors with appropriate financing structures can then complete their contribution to meeting the overall challenge.

Snowy Hydro's commitment is to apply its portfolio of on-demand reliable generating assets to firm up incoming renewables and store excess energy. This is demonstrated by our continuous renewable energy procurement programme that has been key to the installation of over 1.2GW of new renewables in the VIC/NSW markets. In total, they will provide 4.1TWh of renewable electricity per annum, which is enough to power approximately 800,000 households.

Further investment in the existing generation portfolio, Snowy 2.0 and the Hunter Power Project strengthens the future portfolio's capability to meet the growing demand for firming and energy storage services and products. Investing in core assets is a key tenet in Snowy Hydro's history and reputation.

AGL retired the first unit at its Liddell Power Station in April 2022 (with closure of the remaining three planned for April 2023) and Torrens A Power Station over a two-year period, which commenced September 2020. Origin announced it would retire Eraring Power Station in 2025. Energy Australia has announced plans for retirement of Yallourn Power Station commencing in mid-2028 and the loss of energy market share resulting from the expected substantial growth of renewable generation in the NEM over the next five years. The potential exists for the closure of one or more of the NEM's remaining aluminium smelters within the Plan Period, given all face renewal of their electricity supply contracts this decade, and if so would accelerate coal-fired generator retirements.

### **Transmission investment to meet the fit-for-current-purpose requirements, and invest for the future.**

2021 was also a watershed year in the development of the NEM's transmission infrastructure, with major new transmission links reaching significant milestones. This paves the way for greater interconnection between the mainland NEM states and a surge in renewable project developments over the Plan Period. A new major interconnection between SA and NSW (Project EnergyConnect) received financial close and began construction, with completion planned for July 2026.

An upgrade of the Queensland to NSW interconnector (QNI Upgrade) also received AER approval, and was fast-tracked with the support of the Federal and NSW Governments. The project was completed in June 2022.

A major new inter-regional transmission link (HumeLink) connecting Sydney to Project EnergyConnect and the Snowy region, completed the regulatory investment test process. AEMO awarded a construction contract for an upgrade to Western Victoria's transmission network, required to accommodate up to 6,000MW of proposed new wind and solar farms in western Victoria in the next decade, and the Victorian government announced plans to accelerate an upgrade to the Victoria to NSW transmission network.

A proposed new submarine cable transmission link between Tasmania and Victoria (Marinus Link) is progressing through the transmission investment test process.

### **Fuel price impacts and outlook**

Commodity energy prices (gas and coal) jumped to extremely high levels in May–June 2022 during the unfolding NEM energy crisis. Recent international events such as Russia's invasion of Ukraine and subsequent imposed sanctions triggered global hydrocarbon supply shortfalls. Locally, an interplay of limited domestic supply and a demand crisis has exacerbated domestic gas prices to exceed the Administered Gas Cap of A\$40/GJ in May 2022.

Demand has been driven by an increased reliance on gas-fired generation to support baseload electricity needs as other fuel sources become less dependable. A 4,000MW reduction in coal-fired generation through May 2022 (compared with the average availability for this time of year) was mostly covered by gas generation and Snowy's hydro assets. This coincided with increased retail gas consumption due to extremely cold weather conditions across south-east Australia. Unplanned outages of coal-fired power plants and shortages in coal supply were the main reasons for coal generation being unavailable.

Fuel costs are projected to remain high during the next three years, flowing through to high forward prices for energy over FY 2023 to FY 2025.

NEM spot and contract prices remain sensitive to supply and demand variations. The extreme price sensitivity is expected to continue, exacerbated by coal unit outages and planned decommissioning and the increase of wind and solar, which acts as a random variable in either suppressing prices (if supply is mismatched to demand on the high side) or causing price spikes, particularly if unexpected under-supply from renewables coincides with low coal availability or transmission line outages.

Like other major wholesale gas-market participants, Snowy Hydro will occasionally seek to purchase long-term wholesale gas with major creditworthy counterparties, each offering contract terms bespoke to their portfolios.



## Retail Energy Markets

Retail competition in the NEM was bolstered by a softening of wholesale prices through the pandemic which favoured new entrants and smaller retailers with strong growth ambitions, over incumbents and larger players. The market has also seen the emergence of new entrants with innovative business models focussed on 'prosumers' and engaged customers. Many however are struggling to grow their customer base to sustainable levels, with most servicing less than 30,000 households. Some retail models are facing significant headwinds from regulation and more recently the spectacular turnaround in wholesale markets. Retailers offering wholesale pass through products are now struggling under regulated price caps.

An increasing number of competing retailers have moved into the 'green energy' space and are offering carbon neutral energy products, either through GreenPower or carbon offsets. Some are using cheap international carbon credits to offer green products at no additional cost. Those credits tend to originate from the Kyoto Protocol's Clean Development Mechanism (CDM) and considered by many carbon auditors and environmental organisations such as GreenPeace and WWF, of low quality and reliability. GreenPower is still recognised as the most credible renewable electricity product in the mass market, but has been losing relevance in the face of this competition, while the use of Australian Carbon Credit Units (ACCUs) is rare due to their higher cost. A couple of smaller retailers have sought to differentiate themselves by seeking accreditation as carbon neutral organisations, as well as offering these products. Red Energy, Lumo Energy and Direct Connect are also seeking Climate Active accreditation, supported by the energy efficient design of the Bryant & May premises and Retail's operational practices.

## Climate and Weather

In a changing climate, Snowy Hydro is well-positioned to continue to operate flexibly and reliably and provide much-needed system stability for the NEM. We have a strong history of operating under highly variable and extreme climate conditions.

The key climate change risks to our assets and operations are associated with Snowy Scheme inflows, NEM demand and volatility, and bushfire impacts on transmission.

Climate projections in the Snowy Mountains point to annual Scheme inflows trending below the long-term historical average and becoming increasingly variable. Operation of the Scheme under the Snowy Water Licence will mean the Scheme is at low storage levels more frequently and will become more reliant on inflows rather than storage to meet release targets. The accumulation of above-target water will also reduce, limiting Snowy Hydro's ability to release more than the required annual release targets in times of high energy demand.

The long-term climate trend marked by hotter summers and more frequent drought is one of many reasons why pumped-hydro, including the existing Tumut 3 Power Station and Snowy 2.0, are such critical large-scale storage assets.

Within the long-term drying trend, climate projections suggest an increase in the frequency and magnitude of extreme precipitation events and extreme flood risk. This presents increased physical risks, primarily to Snowy Scheme infrastructure and operations, notably the Scheme's dam structures. Flood risks to dams are addressed through the Company's Dam Safety Management Program and ensures that Snowy Hydro's dams are capable of safely managing future extreme inflow scenarios in accordance with dam safety regulatory requirements.

Snowy Hydro has demonstrated robust, proactive dam safety management and Scheme operations during significant rain events in recent years. We work closely with the NSW Department of Planning and Environment when controlled releases are necessary to manage spill risks and protect downstream communities during sustained periods of wet weather.

The location-diversification benefits of Snowy Hydro's generation assets across NSW, Victoria and South Australia reduce our exposure to extreme weather events. For instance, in the Black Summer of 2019–2020, with low Scheme storage and high market volatility accompanied by heatwaves, lightning and bushfires in the NEM, we were able to operate safely and utilise our fast-start generation and pumped-hydro storage capacity to help keep the lights on in the NEM. The risk of bushfires impacting or damaging the Company's physical assets' operation is well understood and is the basis of the mitigation strategies pursued by Snowy Hydro.

We will continue to consider the risk of extreme weather, seasonal climate variability and longer-term climate change in our operations and within our portfolio and asset management.

## Water operations

The Snowy Water Licence (the Licence) prescribes the operation of the Snowy Scheme. The Licence, administered by the NSW Government, regulates the use of water in the Snowy Scheme and imposes obligations on Snowy Hydro. It also sets out water accounting and reporting procedures for Snowy Hydro.

Snowy Hydro does not own any water within the Snowy Scheme. The Licence allows Snowy Hydro to collect, divert, store and release water in the Snowy Catchment Area.

It obliges Snowy Hydro to carry out certain minimum water releases each year to the Murray and Murrumbidgee rivers, and environmental releases to the Snowy and Montane rivers. The Licence also requires maximum release limits to balance the interests of water users with energy production.





# OUR GENERATION BUSINESS

At the most fundamental level, Snowy's energy and capacity positions provide the foundations for a portfolio of low-cost capacity, energy and storage assets that is robust to potential changes in industry structure and brilliantly placed to meet the changing demands of electricity customers of every size.

Through the development of our suite of firming products, Snowy Hydro will continue to grow the sale of cost-effective, firmed renewable energy to retail, commencing with C&I customers. Capacity contracts will remain a major contributor to Company value.

Snowy Hydro is ideally placed to offer renewable energy products that C&I customers are increasingly demanding, by supplementing Scheme energy production with energy purchased through contracted offtakes from wind and solar farms.

Capacity product option premiums have been Snowy Hydro's most stable revenue source, delivering much of the economic value while managing a significant amount of risk for customers. However, as the NEM transitions, Snowy Hydro is evolving to deliver products requested by its diversified customer base. Snowy Hydro's portfolio of physical assets and existing derivatives book positions it to be a market leader, combining capacity, energy and storage product components to create firming products and services for intermittent renewable generation sources. Snowy Hydro can provide highly reliable dispatchable capacity and flexibility amongst its portfolio, matching the intermittent requirements inherent in firming products.

Firming products are a combination of energy – supplied through wind and solar offtakes – and capacity – supplied through Snowy Hydro's hydro and thermal generating fleet.

Capacity contracts (caps) are a major contributor to Company value. These contracts are backed by Snowy Hydro's energy generation in NSW, Victoria and South Australia, utilising generating capacity not allocated to the Company's retail customers.

Some of the capacity will be placed into new product lines formed by Snowy Hydro and market players, such as the recently developed 'Super Peak' capacity contract covering only the winter morning and evenings and summer late afternoons to fill demands left uncovered when solar generation is absent or low.

## Commercial and industrial customers

With the contracting of 1.2GW of renewable generation since 2019, Snowy Hydro has successfully marketed and sold new 'firmed' renewable energy products (TrueGreen™) to customers, which provide an attractive alternative to long-term market price risk, while lifting environmental performance to meet growing expectations of our Shareholder and other stakeholders. These firmed renewable products deliver longer-than-usual contract tenure and strong wholesale (energy, capacity and storage) value.

The Snowy Hydro C&I team's outstanding customer experience and ability to develop long-term, value-adding relationships with C&I customers has led the market for five consecutive years in customer satisfaction, achieving unprecedented scores of 100% satisfied and highly satisfied in calendar years 2017, 2018, 2019, 2020 and 2021 in independent customer satisfaction surveys. This has enabled the Company to retain C&I customers at higher margins, reflecting the value customers place on superior service.

## Energy sourcing

The directly-contracted electricity customer load (residential, small and medium-sized enterprises and C&I) in NSW and Victoria will total around 6.6TWh per annum at the start of the Plan Period, significantly exceeding the approximately 4.3TWh of long-term annual average energy production from the Snowy Scheme. Directly-contracted load is forecast to increase over the Plan Period as the retail growth strategy is executed. To meet these needs, Snowy Hydro is supplementing Scheme energy production with energy purchased through contracted offtakes from wind and solar farms in NSW and Victoria.

Additional renewable energy purchases may be necessary to support the ongoing growth in contracted retail customer load over the Plan Period. The quantum and timing of these additional purchases depends on a range of factors, including the achieved and forecast level of retail load growth and the availability of suitably-priced renewable energy offtake contracts.



## Development initiatives

As NEM decarbonisation gathers pace, Snowy Hydro looks forward to the completion of two major enablers of this process. Snowy 2.0 and the Hunter Power Project are both progressing well, and will play different, but complementary, roles in ensuring least-cost, reliable energy supply in the NEM of the future.

## Transmission

Since AEMO's inaugural integrated system plan in 2018, the ISP aims to provide a "whole of system plan" for supplying affordable and reliable electricity to homes and businesses in the NEM while supporting Australia's net zero ambitions. ISP 2022 incorporates significant updated inputs, assumptions and scenarios based on current and forecast economic and market developments.

Since the last version of the ISP (2020), the Regulatory Investment Test for Transmission (RIT-T) was completed by TransGrid for HumeLink, which is progressing to the early works stage. It is projected by TransGrid to be implemented by July 2026. The timing of HumeLink is of utmost importance to the Snowy 2.0 business case, it remains the single-most-important transmission development for the renewable sector in the NEM and for Snowy 2.0. HumeLink must be in place as soon as possible to match the commissioning for Snowy 2.0.

The 2022 ISP recommended VNI West should be progressed for completion urgently, noting a latest delivery date of July 2031 or earlier with additional support.

**VNI West must accelerate to facilitate system security and support the cost-effective growth of large-scale renewable generation in Victoria and NSW, and be ready for the commissioning of Snowy 2.0.**

The Company will continue to advocate to Ausnet, TransGrid, AEMO and stakeholders that VNI West must be accelerated to match the timing of Snowy 2.0 coming online.

In addition to the critical projects, the NSW actionable projects will be assessed under the Electricity Infrastructure Investment Act (2020). To address congestion risk along the existing main transmission path between western Victoria and the main Sydney load centre, Snowy Hydro is proposing to AEMO and TransGrid that additional transmission works be undertaken between Bannaby and metropolitan Sydney to ensure sufficient access to NSW load centres for Victorian exports and southern NSW generation. Similar works are examined in TransGrid's NSW Transmission Annual Planning Report 2020.

The pace of transmission development in Victoria has increased considerably compared with the previous decade and other NEM states, with major new transmission projects arising from ISP outcomes and the broader renewable energy transition, and further accelerated by the Victorian Government's increased renewable energy target (VRET), targeting 50% renewable energy by 2030.

As a direct result of the rapid uptake of renewables in Victoria, a significant transmission system weakness has been identified in the renewable resource-rich western region of Victoria (the West Murray Zone). This will require significant transmission system reinforcement to fully overcome. Fortunately, the planned transmission system developments required to address the long-term solution for the West Murray Zone, notably Project EnergyConnect and VNI West, are, at the time of writing, well-aligned from a capability perspective with the inter-regional developments previously proposed to support Snowy 2.0.

The technical characteristics of the transmission infrastructure, its operation and associated market rules are sources of market access risk for Snowy Hydro. The mal-operation or forced loss of transmission capability is a low probability but potentially high financial consequence event (transmission tail risk).

The Company's Colongra, Laverton and Valley Power gas-fired power stations provide critical transmission 'tail risk' diversification for Snowy Scheme generators, given their favourable location within the transmission network relative to the constraints impacting market access for Snowy Scheme generators. The benefits of this transmission risk mitigation are a key factor influencing locational decisions for future peaking generation developments.

The Hunter Power Project and transmission developments across NSW and north-western Victorian transmission networks have the potential for favourable and unfavourable impacts on transmission constraints and risks for NEM participants. While the Hunter Power Project will provide the firm and dispatchable capacity required by the future NSW network, it is unclear how Battery Energy Storage Systems (BESS), renewables and transmission investments will affect the NSW electricity system.

## Hydrogen

Snowy Hydro considers that green hydrogen represents an extension of its successful strategy to diversify its generation assets by geography, purpose and fuel type. Hydrogen's emerging potential role is significant, particularly as an additional provider of energy storage. This would ideally occur by way of a network of hydrogen electrolyzers powered by surplus renewables in diverse locations, feeding into a dedicated hydrogen transmission network and powering hydrogen-fired Gas Powered Generation (GPG).

Snowy Hydro participated in the Port of Newcastle – Hydrogen Hub Pipeline/Network Feasibility Study (PoN Hub) as a key member. The study recognised the Hunter region as an ideal location for an early green hydrogen electrolyser and pipeline Development. The project and infrastructure in that region provides the potential to decarbonise significant industry users, household distribution, and export, as well as support green hydrogen as a fuel for GPG.

The development of the project's hydrogen pipeline network extending across the Hunter/ Central Coast regions, including the Hunter Renewable Energy Zone (REZ), will enable the flow of hydrogen from multiple electrolyzers or injection points within the hydrogen network, thus providing a level of fuel reliability and diversification of green hydrogen production and supply.

Equally, the length and cubic capacity of this hydrogen pipeline network will enable the storage of energy at a scale that is materially beyond the economic ability of batteries to deliver. For Snowy, hydrogen has the potential to be a synergistic storage provider to pumped-storage hydro.

Snowy Hydro continues to assess green hydrogen options for use as a fuel source for GPG at various levels of blended hydrogen, including the potential for developing GPG fueled by 100% hydrogen. Snowy Hydro has planned the Hunter Power Project (HPP) to allow it to operate on hydrogen in line with the commercial availability of the fuel. The timing of HPP green hydrogen access or the development of 100% hydrogen GPG plant will be driven by the development pathway and economics of regional hydrogen production and requisite dedicated pipeline network infrastructure.

# OUR RETAIL BUSINESS

Our purpose is to *bring energy to life for our customers* while delivering a return to our Shareholder.

In a market where price and product differentiation is challenging, brand value, innovation, trust and reputation are essential ingredients for customer growth. A focus on delivering exceptional customer experience through a highly engaged workforce guided by our values is the core element of a proven strategy to achieve this.

The Retail business provides an important, stable channel to market for generation and capacity products, while delivering additional retail margins and helping to stabilise group earnings.

Value is delivered by growing a quality customer base, defined by customers who stay, pay and refer, with an ongoing focus on three established pillars for success:

1. Delivering an exceptional customer experience to generate loyalty, referral business and a willingness to pay for value provided;
2. Maintaining a highly engaged workforce, living our values and delivering the exceptional customer experience the business strives for;
3. Growing the profitability of the business by growing market share, delivering shareholder value through the Retail EBITDA contribution, as well as providing earnings stability to Snowy Hydro through its purchase of wholesale electricity.

We will continue to enhance systems to increase customer choice in how they interact with us and invest in technology and automation to reduce cost to serve, driving productivity and efficiency gains from process enhancement and automation, freeing up people to engage with customers.

The Victoria and NSW retail markets remain a core focus, aligned with the Company's integrated generation position. South Australia is also an attractive opportunity for growth, backed by Snowy Hydro's physical assets and renewable contracts and supported by Project EnergyConnect's strengthening of interconnection with NSW by 2026.

The Queensland market must sustain an independently profitable retail operation with no integration benefits accruing to the Snowy Group. The regulatory environment has in the past proved unpredictable and securing cost effective, risk managed wholesale energy supplies a challenge. Nonetheless retail competition has been intense. However, south-east Queensland is the third-largest retail market in the NEM and offers an opportunity to secure scale benefits from customer growth and remains a live opportunity for Red Energy.

Regulated default prices will keep downward pressure on retail prices and margins over the Plan Period and are expected to constrain the level of competition and maintain the relatively low level of customer churn currently observed.

Our investment in customer growth is guided by the dynamics of state regulations, shifting emphasis of marketing and customer acquisition efforts between states, regions and segments as profitability changes. Our response is to continue to invest in a suite of brands that offer flexibility with price, products and by market segment, while building brand awareness and consideration through a combination of above-the-line and digital advertising and selective sponsorships.

The rapid increase in solar penetration is resulting in lower daytime residential imports and forecasts, by 2030, operational residential demand across all jurisdictions will be negative between noon and 2pm.

As a consequence, daytime is becoming the new off-peak period, with lower wholesale, network and feed-in-tariff rates.

South Australia's network operator has already introduced a 'solar sponge' tariff to that effect. Residential batteries will become increasingly valuable in shifting PV generation to a time where electricity rates are more expensive, particularly with many network businesses planning to introduce export charges for customers from July 2024. However battery costs currently remain prohibitively expensive for mass market appeal.

Building a diverse range of sales channels remains a core strategy to address the risks of regulatory interference in specific channels. The value of channel diversity was evident when field sales and kiosk operations were suspended due to COVID-19 for considerable periods, while new connections and online sales channels flourished. Red Energy's partnership with Qantas Loyalty continues to deliver sales and customer growth largely through digital and electronic direct mail initiatives, with many members looking to accumulate points for spending on the ground, or as international travel recommences. The Qantas partnership is a model for the potential offered by development of other new partnerships.

We remain open to exploring loyalty benefits through partnerships rather than acting as a principal providing other services.

## Electric vehicles

The uptake of EVs in Australia, based on infrastructure investment and vehicle costs, will provide a welcome reversal of a long trend of declining average household load.

The impact of a transition at scale to EVs would extend across the entire energy market in terms of energy consumption, load profile, changes to network tariffs, metering arrangements and importantly, innovation in retail products. We aim to maximise value from this emerging market and offer residential and commercial customers renewable EV charging, whether at home, work or in a public space.

Given the market infancy, this will require agility, partnerships and investment in technology. The business continues to build operational readiness, undertaking customer research and developing capability to position the Red Energy brand as a leader and innovator of products for EV owners.

## Wholesale gas supply

Mass market gas volume projections continue to be driven primarily by residential heating load in Victoria and the state's high penetration of reticulated gas. Volumes are projected to decline, driven by the assumption of ongoing efficiencies and electrification of gas appliances.

Government intervention may accelerate this with ACT banning the installation of gas systems for new builds and the Victorian government also seeking to phase out gas for residential use over the longer term. Rising gas costs are expected to accelerate electrification.

Snowy Hydro has maintained stable wholesale gas supply arrangements over a number of years, providing a risk-managed, reliable source of gas at reasonable prices, and recently extended them to the end of calendar year 2025.

Gas costs remain uncertain, subject to upstream price reviews and linked to Brent crude oil futures prices. The Company has undertaken due diligence on alternative sources of supply and build capability to manage gas market and risk management operations in-house.

The purchase of a separate supply of gas for sales into the C&I market has been key, with forecasting and market interactions managed internally. The learnings have borne benefits and materially improved the expected cost of supply of gas for the retail business from 2023 onwards.



# OUR CAPABILITY





Snowy Hydro attracts highly agile, intellectually curious and intelligent problem-solvers. We pride ourselves on the agility and diversity of thought demonstrated by our workforce, and their ability to think 'outside the box' in identifying and delivering solutions that achieve the best outcomes for the Company and community.

Snowy Hydro's people are our greatest assets, and we are proud of our successful track record in maintaining and fostering a highly-skilled, diverse, professional and technical workforce. This is increasingly important in the face of a rapidly-evolving industry and corporate environment, where innovation, dynamic capabilities and non-traditional approaches are critical to organisational success.

A robust corporate governance framework oversees the capability strategy. The People and Culture Committee provides advice to the Board on strategic priorities and risks of human resources to ensure the Company has the requisite capability to achieve its strategic goals and long-term success.

We conduct regular strategic workforce planning reviews to ensure we have the capacity and capability to achieve the long-term success of the Company in a highly complex and rapidly changing environment. Snowy Hydro also routinely augments its internal skill set through strategic supplier and service partnerships, specialist consultants and contractors.

Snowy 2.0 and the Hunter Power Project have reinforced the importance and ongoing need for our pipeline of talent, as has the ability and agility of the

Company's Retail executives to grow their capability over a 10-year period in alignment with the Retail growth strategy.

Snowy Hydro has an excellent track record in its management of Snowy 2.0 and the Hunter Power Project, with a robust governance and oversight framework. This ensures that delivery capability risk is effectively managed, including aligning organisational structures with the evolving needs of each project, fit-for-purpose governance processes, and specialist external advisors with global megaproject experience to support the project team. Project management is overseen by a highly-skilled and diverse team that brings together Snowy Hydro staff and world-leading technical experts.

The continuing acquisition, retention and development of 'home-grown' talent will be critical given the demand for skills on Snowy 2.0 and the Hunter Power Project, volatile and uncertain energy policy settings and the emergence of automation, robotics and mobile technologies.

Snowy Hydro also proactively invests in its future capability through targeted apprenticeships, traineeships, cadetships and graduate programs, with approximately 10% of the generation workforce in these programs. We engage with local students to encourage an interest in science, technology, engineering and mathematics (STEM)-oriented careers to build a sustainable local talent pipeline.

Snowy Hydro also provides ongoing career development opportunities to our workforce through promotions, transfers, secondments or involvement in projects and cross-functional teams to ensure we develop the right skills for the future.

# ENVIRONMENTAL, SOCIAL AND CORPORATE GOVERNANCE STATEMENT



Snowy Hydro has a long-standing commitment and track record in delivering on Environmental, Social and Governance (ESG) principles underpinned by a Values-led culture and high standards of integrity, transparency and professionalism in business operations.

### Environmental performance

Snowy Hydro is proud of its positive contribution to the environment through its role as the biggest renewable generator by capacity in the NEM. We have a deep renewable footprint, and our carbon emissions from generation operations are a fraction of our competitors' emissions. We are committed to operating in a way that avoids harm to the environment where possible, and performance indicators over the last five years reflect that this is being achieved.

We have a 73-year record of care for the land and respectful stakeholder relationships. Snowy Hydro continues to work with the National Parks and Wildlife Service, Environment Protection Authority and other regulators to maintain and progress our standards to align with leading environmental and social practices. These provide the foundation for delivering on our commitment and avoiding harm to the environment when conducting our work.

As Snowy Hydro evolves, we will continue to meet our high standards for environmental performance wherever we operate. We understand that community and regulatory expectations for environmental performance change over time, and we have consistently met or re-set those standards for the industry since our inception. Practically speaking, this means the impacts of our operations on land, air, and water must meet increasingly high standards.

Snowy Hydro relies on three 'pillars' to meet and continually improve these standards:

- **Our plant** – designed, built, operated and maintained to minimise impacts on the environment;
- **Our operations** – a business model that fundamentally minimises our environmental impacts; and
- **Our people and processes** – those with the skills and tools to control impacts where and when we operate supported by good environmental practice integrated into our business processes through an Environmental Management System.

In a changing climate, Snowy Hydro is well-positioned to continue to operate flexibly and reliably and provide much-needed system stability for the NEM. We have a strong history of operating under highly variable and extreme climate conditions. For instance, in the Black Summer of 2019-2020, with low Scheme storage and high market volatility accompanied by strong winds, heatwaves, lightning and bushfires, we were able to operate safely and utilise our fast-start generation and pumped hydro storage capacity to help keep the lights on in the NEM. The long-term climate trend marked by hotter summers and drought is one of many reasons why Snowy 2.0 is such a critical large-scale storage project.

We have also demonstrated robust, proactive dam safety management and Scheme operations during significant rain events in recent years. We work closely with the NSW Department of Planning and Environment when controlled releases are necessary to manage spill risks and protect downstream communities during sustained periods of wet weather. We will continue to consider the risk of extreme weather, seasonal climate variability and longer-term climate change in our operations and within our portfolio and asset management.

## Operations, carbon and emissions

Since Guthega Power Station was commissioned in 1955, Snowy Hydro has been supplying Australia with renewable energy from hydropower with relatively low levels of associated carbon emissions. By the time Tumut 3 Power Station was commissioned in 1974, Snowy Hydro could provide 3,740MW of renewable hydro-electric energy per year to the NEM.

Today Snowy Hydro has a mixture of generation sources, with more than 5,500MW of generating capacity across NSW, Victoria and South Australia. Hydro generation—which produces the least emissions relative to other sources—makes up 91% of the Company's MWh output. Gas and diesel are generally used for generation when shortages of the more efficient hydro fuel arise. Snowy Hydro is therefore incentivised to run on the lowest emission generation.

Snowy 2.0 will provide 2,000MW of dispatchable, on-demand generating capacity and approximately 350,000MWh of large-scale storage to the NEM. It is the largest committed renewable energy project in Australia. When complete, Snowy 2.0 will pump surplus water to the upper dam when demand for energy is low, and there is surplus renewable energy in the grid, and then release the water again when demand is high. Water is reused, or 'recycled' in a closed-loop, using excess solar and wind energy to pump and provide on-demand electricity. Snowy 2.0 pumped-hydro will underpin Australia's transition to a low carbon emissions future and allow Snowy Hydro to prioritise the generation of electricity from hydropower.

The Hunter Power Project will improve energy reliability and security in the NEM, allow for more firming of solar and wind renewable energy, and facilitate the transition from coal-fired power as major coal-fired power stations are decommissioned over the next few decades. Once complete, the HPP will be capable of supplying an additional 660MW of dispatchable and on-demand power from gas and hydrogen generation.

The HPP's two open-cycle gas turbines (OCGT) will utilise the latest and most efficient turbine technology that can be modified to co-fire on 30% hydrogen. The Company looks forward to progressing this critical project towards 30% hydrogen readiness with support from our Shareholder.

Completion of the project will align with the closure of the coal-fired Liddell Power Station in 2023, which will reduce NSW's electricity supply by around 13%. Without suitable replacement dispatchable capacity, electricity prices are at risk of rising by 30% over two years. A further 10,000MW of coal-fired power is set to be removed from the market by 2040, and the HPP will ensure that this gap in energy demand is filled. The dispatchable energy provided by the HPP will also allow Snowy Hydro to expand its firming contracts to support an estimated additional 1.5 to 2GW of renewable energy from solar and wind companies.

### Emissions reporting

Snowy Hydro reports emissions annually in its National Greenhouse and Energy Report (NGER). From year-to-year, this ranges between 0.15 million to 0.4 million tCO<sub>2</sub>e. Comparatively, coal-based generators report in the range of 20 to 40 million tCO<sub>2</sub>e annually—between 50 to 265 times Snowy Hydro's emissions.

The emissions we produce are primarily due to gas and diesel being burnt and from the electricity consumption from the NEM for pumping and auxiliary uses like lighting in our offices and power stations. The most significant emissions come from using electricity for pumping water between storage

reservoirs within the hydro operations. However, pumping is only undertaken when there is a high percentage of renewables penetrating the grid and electricity prices are low.

Emissions are calculated by applying the average annual greenhouse gas intensity of electricity produced from generators in the NEM to Snowy Hydro's annual electricity use for pumping. The associated emissions from pumping are lower than reported. The electricity used from pumping is mainly produced from renewable sources such as wind and solar with very low carbon intensity. If the MWh produced from hydro, gas and diesel were produced by coal-fired power plants instead, the emissions would be significantly higher.

#### Average Snowy Hydro Energy Output & Carbon Emissions from NGER (2015-2021)

Snowy Hydro sources	Energy Generated (MWh)	Carbon Emissions (tonnes CO <sub>2</sub> e)	Intensity (tCO <sub>2</sub> e/MWh)	CO <sub>2</sub> Emissions if generated using coal (tCO <sub>2</sub> e)
Hydro	4,274,600	224,672	0.06	1,391,126
Gas & Diesel	138,663	101,668	0.75	45,127

\*This does not include the embedded carbon emissions from gas sold by Red Energy.

The carbon intensity of Snowy Hydro's operations over the last six years averages 0.074 tCO<sub>2</sub>e per MWh each year. By comparison, the average carbon intensity of electricity produced in the NEM (renewable and non-renewable sources) averages 0.789 tCO<sub>2</sub>e per MWh generated. In FY21, the carbon intensity of Snowy Hydro's operations was 0.063 tCO<sub>2</sub>e per MWh generated, while the average carbon intensity of the NEM was approximately 0.697 tCO<sub>2</sub>e per MWh.

Snowy Hydro's generation has resulted in the avoidance of approximately 3.4 million tCO<sub>2</sub>e each year of additional greenhouse gases, when compared with the NEM's average carbon intensity.

## Firming of wind and solar

Renewable energy generation is intermittent. The output cannot be controlled as it is impossible to guarantee when wind or solar power can be generated. Renewable energy companies are not able to secure contracts with retailers in the wholesale electricity market. This is one of the key barriers to Australia's transition to renewable energy generation.

Firming contracts allow other energy suppliers to guarantee supply for renewable energy generators at times when generation may be intermittent. This enables renewable generators to honour contracts with wholesale retailers even when generation is low. Firming contracts allow renewable energy companies to sell electricity in the forward contract market and guarantee price protection at times their generation is intermittent. This reduces barriers for new renewable energy companies to enter the market, increases competition and accelerates greater innovation. Snowy Hydro is dedicated to supporting the development of new renewable energy projects through firming contracts. In recent years Snowy Hydro has invested in over 1GW of renewable energy contracts for 12 new wind and solar projects and will continue to invest more in the future.

## Retail – Red Energy

Snowy's retail business is at the forefront of the transition to renewable energy. The growing awareness and appeal of sourcing energy at low or no carbon emissions has seen the emergence of increased choice in alternative carbon offset, renewable matching and GreenPower products. Snowy Hydro Retail sets itself apart as a trustworthy organisation offering reliable carbon neutral options by:

- Becoming a carbon neutral organisation under the Climate Active program and sourcing its Australian operations' electricity consumption from 100% GreenPower;
- Offering customers the option to procure 100% GreenPower electricity and 100% carbon offset natural gas at competitive prices;
- Solely relying on Australian Carbon Credit Units (ACCUs) to offset its organisation and natural gas product carbon footprints;
- TrueGreen™, a product that provides C&I customers with 100% renewable energy with 100% matching large-scale generation certificates.

These initiatives set Snowy Retail apart as a credible and reliable renewable energy supplier and a retailer which does not only transact in renewable energy, but also embraces and facilitates customers' efforts to reduce their carbon emissions footprint.

## Social – Our People and Wellness

Consistent with our Values, Snowy Hydro deploys strategies, programs and activities that help drive the success of our Company and enable our people to be the best they can be. We focus on attracting, developing and retaining talent and maintaining a highly engaged, safe, healthy culture that values diversity. Our commitment to our people is underpinned by a strong diversity strategy, as well as robust procedures on workplace behaviour, code of conduct, ethical behaviour, and reward and recognition.

We deliver on our long-standing commitment to the health and wellbeing of our people and their families through programs, health initiatives, injury management and emergency first response in our remote Snowy Mountains sites in conjunction with various agencies and our Employee Assistance Program. We also invest in our long-term capability by maintaining 10% of our workforce in a formal development program, such as graduates, trainees, apprentices and scholarship students.

The safety of our people and the communities in which we operate is at the heart of everything we do. To manage the potential of material harm to employees, contractors and members of the public or the natural environment, Snowy Hydro continues to focus on leadership from the top and a relentless focus on identifying and controlling Health, Safety and Environment (HSE) risks, combined with incident reporting and investigation and learning. All employees' variable compensation is tied to a safety gate, with outcomes reviewed and approved by our Board, reinforcing a culture of ownership and commitment to safety.

Further, the business has a long history of utilising technology to reduce or eliminate safety hazards and improve productivity. For more than 20 years, we have used unmanned vehicles for aerial and underwater inspections. Our culture of innovation and technology has resulted in a deferral of intrusive tunnel outages and replaced more hazardous activities such as commercial diving, helicopter inspections and hazardous area inspections such as diesel fuel tanks and exhaust stacks.



### Social – Diversity and inclusion

Our Values underpin our approach to diversity and inclusion. Snowy Hydro's Values are fundamental to who we are, guide our decisions, and enable a culture of high trust, inclusion and ownership. Diversity has been at the heart of the Company's culture since the inception of the Snowy Scheme in 1949. Over 100,000 people from more than 30 different countries came together to build the Snowy Scheme.

A diverse workforce brings innovation and creativity. An inclusive workplace creates a psychologically-safe environment. Our people feel safe to challenge ideas, challenge the traditional way of doing things, and ultimately make better and more informed decisions. In line with our Values, we developed a Diversity and Inclusion Strategy that provides a framework to focus on advancing equality, specifically on gender balance in the middle to upper management and non-traditional technical roles such as trades and engineering.

The strategy is underpinned by four pillars:

# DIVERSITY AND INCLUSION PILLARS



## Gender Balance

Increase the numbers of women and men in non-traditional roles.

Build an external profile as an employer of choice for women.

Maintain an environment where everyone is respected and valued regardless of gender.



## Culture and Identity

Maintain an environment in which employees feel included, listened to and safe to speak up.

Give people an opportunity to take on diverse roles to develop broader competence than just one's technical skillset.

Foster respect for different views so that employees are free to express views regardless of hierarchy, beliefs or their cultural identity.



## Flexibility

Create a flexible and resilient workplace with resources and support that considers and caters for the needs of our employees.

Ensure that both hearts and minds are actively engaged so employees bring their best to work.



## Community

Facilitate both employees and leaders connecting with and making positive contribution to the communities we live and work in.

Play an active role within our communities.

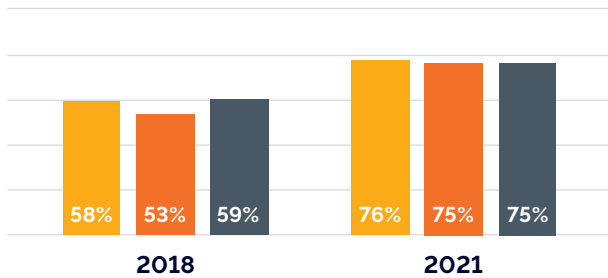


The purpose of our Diversity and Inclusion Strategy is to:

- Foster a vibrant culture that thrives on diversity and inclusion and is connected to the communities in which we live, work and serve
- Build the awareness and capability of our people leaders to embrace difference – diversity of thought, inclusion and flexibility
- Identify and remove any unintended barriers that may prevent people from achieving their aspirations and potential.

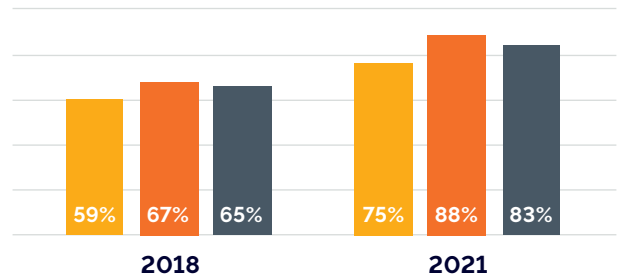
In our most recent employee engagement survey, Snowy Hydro had a response rate of 86% with an engagement result of 75%. This substantial increase in prior survey results represents a top quartile when benchmarked against Australian and Global (Fortune 500 Companies) norms. Our results validate our commitment to diversity and inclusiveness and demonstrate our Values-led approach delivers strong engagement, despite the challenges to social cohesion posed by COVID-19.

**Engagement**



- Generation
- Retail
- Group

**Diversity & Inclusion**



**77%**

of respondents indicated that we have a workplace where people can be themselves and 'not be penalised or treated unfairly due to who they are'.

**87%**

of our people believe people here are 'treated fairly regardless of gender'.

**81%**

of our people believe 'we treat employees equally' regardless of age, gender, ethnicity, sexual orientation or carer status.

**86%**

believe 'we value the diversity' these differences bring to the workplace.

**86%**

believe that from an inclusion perspective 'we value input even when it is different from others' and we have a work environment that 'values diverse perspectives'.

## Social – Community Support

The Company supports the local communities where we live, work and serve. Each year, Snowy Hydro invests in partnerships and sponsorships with not-for-profit organisations targeted at the communities in which we operate. We are committed to improving economic outcomes for these communities and investing in partnerships that will lift educational, health and social conditions. Our Retail business also partners with sporting clubs, associations and charitable foundations that share our Values.

Examples of our community support and partnership initiatives include:

- **Clontarf Foundation** – an organisation that assists in the education, employment, life skills and self-esteem of young Aboriginal and Torres Strait Islanders across Australia;
- **Breast Cancer Network Australia (BCNA)** – supports over 18,000 Australians affected by breast cancer annually. Since 2014, Red Energy's partnership with the Pink Lady Match at the MCG and community events such as Pink Sports Days have enabled us to contribute, support and collaborate with BCNA on a personal cause for many Australians. Red Energy launched the BCNA Community Saver retail energy product 18 months ago, creating a new revenue stream for our charity partner, which as of June 2022 has over 2,500 customer accounts signed up, contributing \$5 per fuel per month;
- **Country Universities Centre (CUC)** – a not-for-profit organisation committed to providing tertiary education opportunities to students of rural and regional Australia. Snowy Hydro was a founding partner of the CUC and continues to support its work in building long-term community and educational infrastructure in regions that need it most, commencing with its flagship education centre in Cooma. The CUC has helped more than 3,500 students since its inception in 2015. Currently, 1,408 students are receiving support through 15 facilities across the east coast. Of these students, 47% are the first in their family to study at university;
- **Police Citizens Youth Club (PCYC) NSW** – Australia's pre-eminent youth organisation, working with the police and community to empower young people to reach their potential. Snowy Hydro and Red Energy are principal partners of the PCYC in NSW. The partnership focuses on the PCYC Rise Up program, which connects 7,159 young people with family, education, culture, employment and community. The annual Nations of Origin sporting event is also proudly supported by Snowy Hydro and Red Energy. In 2019, the event brought 1,364 participants together. To participate, young people must have a minimum school attendance of 80%, no current negative dealings with police, train and participate in activities in the lead-up to the event and hold a current PCYC NSW membership. Unfortunately, the event was cancelled in 2020 and 2021 due to COVID-19 and is now scheduled for October 2022;
- **Snowy Hydro Next Generation Education Programs** – a range of national curriculum-aligned programs delivered face-to-face at the Snowy Hydro Discovery Centre and online via the Snowy Hydro Next Generation Education Hub, with more than 4,000 unique views of content year-to-date. Students of all ages can discover more about the Snowy Scheme's past, present and future while learning about the engineering and science of the Scheme, as well as the diverse range of STEM career pathways through unique, real-life learning experiences;
- **Snowy Hydro Young Driver Training Program** – a professionally-delivered annual program integrated with seven local high schools. Year 12 students undertake theory and practical sessions outlining key focus areas such as their attitude and driving behaviours. This program is valued by high schools and the local community alike, benefiting participants, families, and the community. It aims to make a meaningful difference to the safety of all drivers on our roads, especially new drivers, and aligns with safety being our number one priority. Around 1,600 students have participated in the program, with 275 young people participating this year;

- **Steven Walter Children's Foundation** – founded in 2001 to commemorate the wishes of Steven Walter, who died in 2000 at the age of 19 after an eight-year battle with cancer. The foundation is committed to raising funds for much-needed and vital cancer research. Snowy Hydro has proudly supported the foundation and sponsored its annual Snowy Ride for more than 20 years, donating over \$1.3 million since its inception. These funds were directed to research, but also sponsored the Snowy Hydro Family Program, which hosts families with a child enduring cancer treatment in Thredbo for the weekend of the Snowy Ride, giving them a break from their hospital routines. Since the partnership was formed, more than 100 families have been included in the program; and
- **The Salvation Army** – since 2014, Lumo Energy has supported the Salvos' Utility Assistance Program through a monetary grant. This program provides a range of support and services to Victorian and South Australian people experiencing financial utilities stress.

## Social – Customer Protections, Retail Compliance

As well as offering award-winning customer service, Snowy Hydro's Retail business is committed to looking after our customers while ensuring compliance with our legal and regulatory obligations. We have robust processes and policies to ensure customers are treated in accordance with our values and regulatory requirements, and are committed to continuously improving our customers' experience through targeted reviews of existing processes.

In FY22, we received well below the industry average in complaints made to the Ombudsman (almost 45% less), illustrating our commitment to excellent customer service and living by our values.

In addition to our obligations in providing support to customers facing hardship or payment difficulty, we proactively adopted and applied the Victorian Family Violence obligations to our customers across all Australian jurisdictions in which we operate, setting a higher standard than legally required, to ensure we provide all customers with high levels of care and support.



## Governance

Snowy Hydro is committed to achieving best practice corporate governance. Our corporate governance framework and practices have been developed referencing the *Corporations Act 2001*, the *Public Governance, Performance and Accountability Act 2013* and the ASX Corporate Governance Council's Principles and Recommendations.

Corporate governance at Snowy Hydro is underpinned by an independent, highly experienced skills-based Board, supported by dedicated Board Committees that assist the Board in discharging its governance responsibilities. The Board is principally responsible for the strategic oversight of Snowy Hydro, guiding strategies and policies to optimise performance and create value, and ensuring the business objectives are aligned with Shareholder expectations.

The current Board comprises eight Non-Executive Directors and one Executive Director, being the CEO and Managing Director, reflecting diversity of skills, gender, experience and geographic location. A summary of the qualifications and experience of each Director is available on Snowy Hydro's website and in its annual report.

Five committees assist the Board in discharging its responsibilities, overseeing risks pertaining to the Company's strategy and operations. This includes consideration of environment-related risks and opportunities that are increasingly important as Snowy Hydro underpins the NEM's renewable transition. The five committees are:

- **The Audit and Compliance Committee** – oversees risks relating to audit, financial reporting, financial and business risk management, corporate management frameworks and certain compliance matters;
- **The People and Culture Committee** – oversees risks pertaining to the Company's human resources, including workforce development, people strategies, diversity, Board performance, remuneration and succession planning;
- **The Safety, Operations and Environment Risk Committee** – oversees risks pertaining to workplace health and safety, environmental practices including water release obligations, cybersecurity and the operations of the generation, hydraulic and communication assets of the Company;
- **The Portfolio Risk Committee** – oversees risks pertaining to the Company's energy trading activities (including credit risk management), treasury functions, trading operations and corporate and strategic activities; and
- **The Snowy 2.0 Project Advisory Committee** – oversees risks pertaining to the delivery of Snowy 2.0, including project management, environmental, technical design and construction, procurement, legal and stakeholder-related risks.

**Corporate Governance Framework**



The respective Board Committees are supported by executive management committees who oversee the aforementioned risks on a day to day basis and ensure timely escalation of material matters.

The Snowy Hydro Board conducts regular site visits to gain a first-hand understanding of company assets and safety standards and engage directly with a wide range of staff and community stakeholders. While COVID-19 has impacted the frequency of these visits, Snowy Hydro has implemented alternate mechanisms to maintain the Board's close engagement with our people and operations, including virtual site visits and all-staff Town Hall events.

As a part of our commitment to best practice corporate governance, the Snowy Hydro Board conducts an annual review to ensure its practices remain effective in meeting Snowy Hydro's strategic objectives and delivering appropriate governance oversight of the Company. The annual review considers Board skills, composition, performance and culture; and incorporates qualitative and quantitative feedback from Directors and the Executive team. The results of the annual review inform Board planning activities and recommendations to the Shareholder regarding Director appointments.

The annual Board review forms part of a robust corporate governance framework that includes a Code of Conduct for all Directors and staff, mechanisms for timely disclosure and management of any potential or actual conflicts of interest, and processes to support Board induction and ongoing education.

## Values-led governance

Snowy Hydro seeks to treat its employees, customers and stakeholders in a safe, decent and transparent manner. This is reflected in the Company's approach to managing significant inherent risks such as modern slavery, cybersecurity and conduct, implementing controls that go above and beyond legislative requirements.

Snowy Hydro has implemented a comprehensive modern slavery assurance program to identify, eliminate and prevent the risk within the organisation and its supply chain. Our Modern Slavery Statement is available on the Snowy Hydro website. Snowy Hydro's assessment and ongoing management of modern slavery risks are reported through the Board Audit and Compliance Committee to ensure the adequacy of the systems in place to identify and manage human rights risks. An internal audit conducted in FY22 found that Snowy Hydro has implemented a sound framework to identify and mitigate the key modern slavery risks, including risk assessments based on a defined set of criteria and incorporated into existing procurement processes.

Snowy Hydro actively fosters a culture of ethical conduct and compliance and is committed to meeting its ethical and legislative obligations while also living our Values. To ensure behaviour and outcomes that deliver our obligations, we have numerous additional policies and procedures that provide frameworks to ensure best practice and adherence to these obligations.

Snowy Hydro expects all employees to keep our Values front of mind in all interactions and to actively and mindfully contribute to the workplace that they are proud of. As such, all employees of the Company are expected to adhere to our Code of Conduct policy. This policy outlines the obligations and expectations of all employees, including but not limited to, maintaining specified standards of performance and conduct, as well as interacting professionally with diligence and integrity.

In conjunction with our Code of Conduct policy, all employees must adhere to the Reportable Conduct Policy. This policy sets out the mechanisms via which employees, contractors or third parties can escalate concerns regarding potentially reportable conduct in a confidential manner. The Company is committed to protecting those who disclose any concerns from detriment and provides a range of options for escalating concerns, including via formally-appointed Protection Officers, an anonymous external hotline, and directly to the Chair of the Audit and Compliance Committee. Any reports received will be thoroughly investigated and addressed; with outcomes and learnings reported to the relevant Snowy Hydro governance body.

To ensure that Snowy Hydro engages in open and transparent decision-making, all employees must also identify and declare any perceived, potential and actual conflicts of interest and any reportable gifts or benefits. Disclosures are maintained in a central Conflicts and Gifts Register and are reviewed contemporaneously by relevant senior management to ensure they have been appropriately managed.

Snowy Hydro is also committed to maintaining the privacy and data security of our employees and customers in a heightened cyberthreat environment. The Company aligns its cybersecurity mitigation strategy and measures with the Australian Cybersecurity Centre's "Essential Eight" maturity model and invests heavily in achieving high maturity levels against the model. The Company has implemented a robust cybersecurity assurance program to minimise risk exposure, including through application whitelisting, vulnerability scanning, multifactor authentication and security awareness and training.



# PLAN PERFORMANCE MEASURES



The Company projects solid growth in EBITDA and Net Profit after Tax.

Snowy Hydro's performance is measured against financial and operational indicators incorporating safety, environment, revenue and customer components. While some performance measures, such as safety, apply across the Snowy Hydro Group, others are cascaded across relevant business units and roles to ensure alignment on the Company's objectives. This framework is benchmarked against industry best practice and is reviewed annually by the Board.

The Board and management regularly review the key performance measures to ensure the Company is meeting its objectives and to identify emerging issues. In addition, Board Committees review performance measures and targets within the remit of their respective charters in detail based on performance and current developments.

## FINANCIAL MEASURES

Snowy Hydro's Consolidated EBITDA will be driven by the growth platform the Company has established. The mix of C&I and mass-market retail customers will be balanced by the ongoing sale of wholesale products, with a particular focus on combining capacity, renewable energy and storage products.

### Revenue

For Snowy, the level of capacity revenue projected for FY23 is relatively firm; rebalancing will continue throughout the Plan Period to manage changing energy and capacity balances, and market developments, particularly with changing market conditions related to the gas fuel resource and decreasing reliability of coal generation. Near term challenges are expected to be driven by the significant hydro energy resources required during the energy crisis in late FY22.

Our FY23 inflows (26%) are forecast to be wetter than FY22 forecast, with expected generation volumes to be higher. Beyond 2023, inflows are expected to become increasingly drier, averaging out to the 30-year long-term average for the remainder of the Plan Period, with an expectation of higher average generation where prices are expected to be higher.

The Retail business will grow its contribution to the Company by growing customer numbers to outpace declining average consumption. The strategy is focused on providing earnings stability to Snowy Hydro through the long-term purchase of wholesale electricity at prices more stable than the movements in electricity forward markets.

Ongoing regulatory intervention provides a number of challenges, including adjusting our customer acquisition and pricing strategies and delaying growth and value-adding technology changes.

## Operating costs

Underlying operating costs will continue to be managed closely, particularly with higher inflationary pressures in coming years. We anticipate increased focus on plant maintenance, reflecting rising demands on our ageing plant, as evident in the final quarter of FY22 as Snowy played a significant role in keeping the lights on, resembling a baseload generator at times.

We anticipate a rising headcount, to support the plant maintenance activity and the Snowy 2.0 Project and Hunter Power Project, while wage inflation is also expected to rise. Additional costs are expected for dam safety, cybersecurity, utilities and insurance, while we also expect some rebound in costs such as travel and training, which were artificially low during COVID-19.

Retail operating costs are increasing, primarily driven by the cost to serve, bad and doubtful debts and cost to acquire/retain. In the future, the Company will look to gain process and automation efficiencies and lower customer debt balances.

## Capital Expenditure

Snowy Hydro's future capital expenditure will focus on ensuring the safety of our people, asset reliability and integrity and compliance with dam safety requirements.

The latest update of the Generation business long-term asset management plan (Strategic Asset Plan) spans a period of transition in the NEM. The historical dependence on coal as the primary fuel source for producing electricity is transitioning to one dependent on renewable 'fuels', notably wind and solar.

These transitions are expected to have a major impact on the value of Snowy Hydro's power generation assets, their patterns of utilisation and the investment required to ensure they provide the Company with the reliability and capability it needs in a safe and compliant manner.

Impacts of the transitions are clearly evident, with a >50% increase in unit starts over the past five years, from an historical baseline of 10,000 starts per year to 15,000. This is due to changed operating practices

that have been expected and are necessary to ensure support in response to the increased penetration of variable renewable generation in the NEM.

Increasing unit starts and shorter run durations are expected to increase the 'wear and tear' on the generating units and will result in shorter time frames between unit major overhauls.

Forecast expenditure on major overhaul activity remains materially aligned when compared to the previous plan, although the timing of some works has changed in response to the latest condition monitoring data.

## Dividends

Snowy Hydro aims to deliver financial returns consistent with its commercial operations, while implementing the optimal and sustainable capital management required to create and protect Shareholder value and maintain a strong investment-grade rating.

For planning purposes, a dividend payout ratio of 70% of Net Profit After Tax (NPAT) over the medium term is considered a suitable target. Snowy Hydro's capital management strategy may change in response to economic, industry and company-specific factors, including the variability of forecast and actual inflows into the Snowy Scheme.

The Shareholder acknowledges that dividends will be calculated as a proportion of NPAT before the adjustment for the fair value of derivatives, amortisation of customers on acquisition and capitalisation of interest. Each year, an interim dividend will be paid in April and a final dividend in October. The Board will observe the Shareholder's preference for predictable dividend payments.

## Credit Rating

Maintaining a strong investment-grade credit rating is key to Snowy Hydro's commercial success. It is a key measure of our creditworthiness and the ability to honour contracts covering market risks, and underpins the risk management products we provide to energy market participants.

# NON-FINANCIAL MEASURES

Snowy Hydro measures itself with a series of non-financial operational performance measures that seek to align our people with the things we can and must stand for.

**Table 1: Key non-financials forecasts**

Purpose and measure	FY22	FY23 targets	FY24 onwards targets
<b>Staff and safety</b>			
Fatalities (number of employees and supervise contractors)	0	0	0
Total reportable injury frequency rate (number per million hours worked; employees and supervised contractors)	Target <2.40 EOFY 1.86	<2.4	Reducing over time
Employee engagement (percentage of staff very/extremely satisfied as determined by survey)	Top quartile of the Global Benchmark Index	Top quartile of the Global Benchmark Index	Top quartile of the Global Benchmark Index
<b>Retail customer experience</b>			
Net Promoter Score (percentage of promoters minus the percentage of detractors)	+37 Industry leading	Industry leading	Industry leading
Customer satisfaction (percentage of customers very or quite satisfied)	86%	Industry leading	Industry leading
<b>Regulatory compliance</b>			
Ombudsman complaints (number of com-plaints per 10,000 mass-market customers)	1.1 (below the industry average of 1.9)	Below industry average	Below industry average
Retail Regulatory financial penalties	0	0	0
Compliance with Snowy Water Licence requirements (percentage of requirements met)	100%	100%	100%
Publicly reportable environmental licence breaches (number of)	0	0	0
<b>Generation reliability</b>			
Generator start reliability (%)	99.67	> 99.5	> 99.5
Generator forced outage factor (%)	2.18	< 1.0	< 1.0

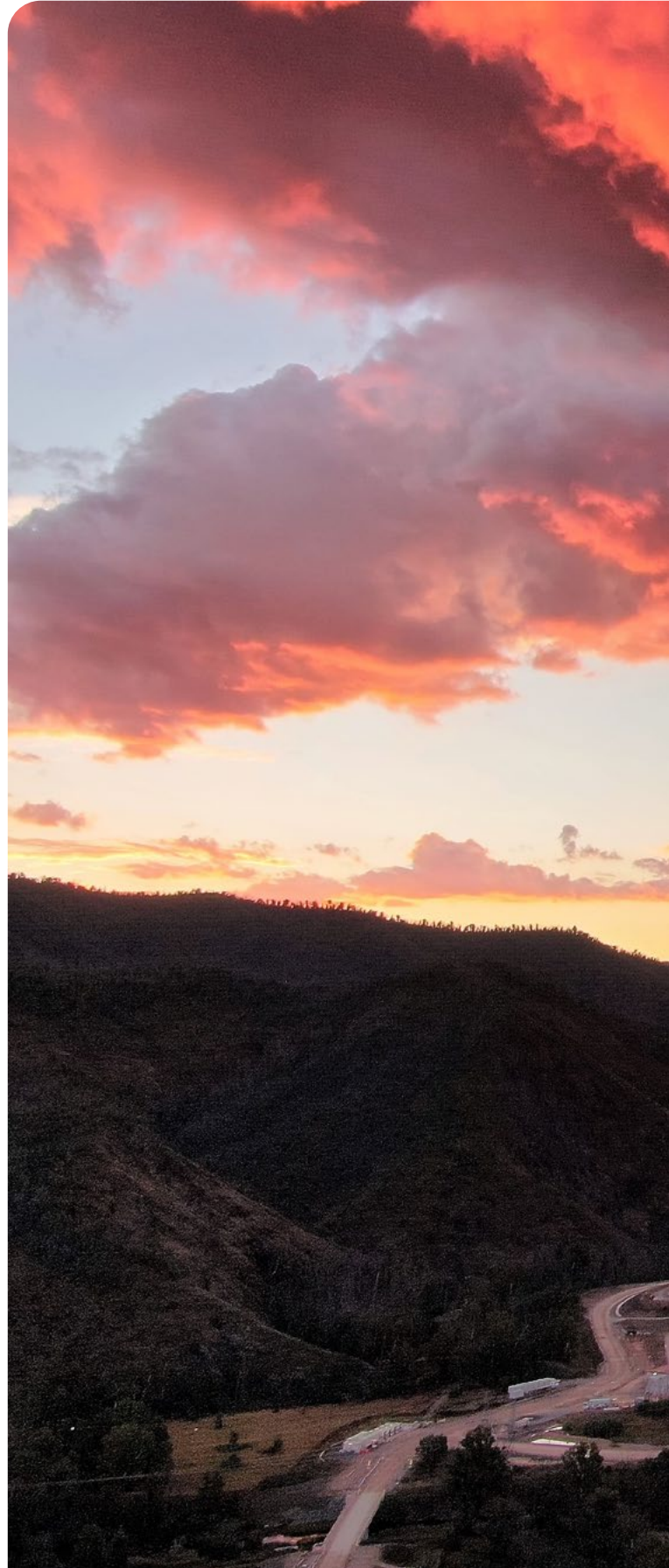
The Company monitors all aspects of the Snowy 2.0 and Hunter Power projects and maintaining the overall guidance: *a safe project is a productive project*.

The safe and responsible delivery of the Snowy 2.0 pumped-hydro expansion of the existing Snowy Scheme is the single largest project for the Company over the Plan Period. The key delivery milestones are:

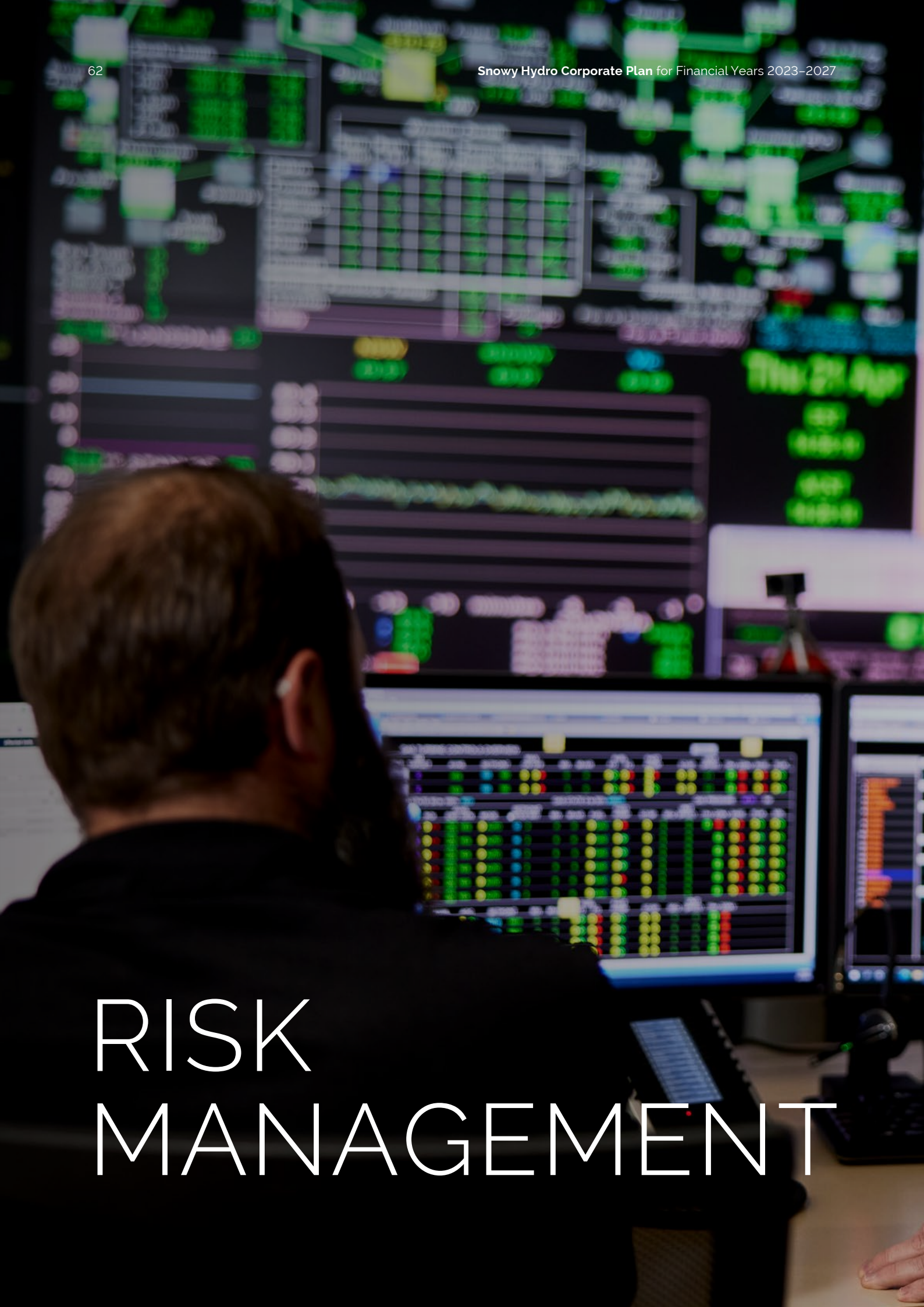
1. **2021** – Commence underground tunnelling works;
2. **2022** – Commence excavation of underground power station complex commences;
3. **2023** – Completion of all three TBM drives;
4. **2024** – Completion power station complex and commence installation of major equipment; and,
5. **2025 / 2026** – First power.

To support Australia's transition to intermittent, renewable energy sources and provide stability in the NEM, the dispatchable Hunter Power Project will be constructed with hydrogen-ready capability. The key delivery milestones are:

1. **2021** – Final Investment Decision reached;
2. **2022** – Construction of the power station commences; and
3. **2023** – First power out of the Hunter Power Project.







# RISK MANAGEMENT



# RISK MANAGEMENT FRAMEWORK

Snowy Hydro's Board and management are committed to maintaining a robust and effective risk management framework that proactively identifies, assesses and manages risks across the Company.

Snowy Hydro's risk management framework aligns with the international standard for risk management: AS/NZS ISO 31000:2009 *Risk Management – Principles and Guidelines* and is based on a 'Three Lines of Defence' model.

## Our approach to risk management

The Snowy Hydro corporate *Risk Management Policy* sets out the Company's objectives of maintaining and continuously improving a strategic enterprise-wide approach to risk management, integrated into organisational processes and underpinned by a risk-aware culture.

The Board has ultimate accountability for managing risks affecting Snowy Hydro and ensuring effective risk management practices are in place across the business. The Audit and Compliance Committee assists the Board by monitoring the effectiveness of Snowy Hydro's risk identification and management framework. Other Board Committees (comprising the Safety, Operations and Environmental Risk, Portfolio Risk, People and Culture and Snowy 2.0 committees) support the Board in managing key risk areas within their remit, including safety, environmental, operational, retail, project, regulatory compliance, portfolio, energy trading, and people-related risks.

Management is accountable for, and has implemented, internal controls to identify, evaluate and manage Snowy Hydro's significant business risks. These internal controls cover regulatory compliance, financial and operational risks, and take the form of appropriate financial delegations, planning and reporting, compliance with applicable regulatory requirements, procurement standards, strategic and operational planning, and internal audit practices.

The effectiveness of the risk management framework is regularly assessed through self-reviews and independent and objective assurance provided by Snowy Hydro's internal audit. The internal audit operates according to an annual internal audit plan tailored to address key internal and external risks applicable to the business. This plan is reviewed and approved annually by the Audit and Compliance Committee of the Board, and audit results are incorporated into the continuous improvement of the risk management framework and supporting controls. Further assurance is provided via the appointment of an external auditor to audit Snowy Hydro's financial statements.

## Key risks and mitigation strategies

Health, Safety & Environment is Snowy Hydro's foremost priority. The Company strives to ensure the safety and wellbeing of its employees, contractors and the communities in which it operates. Recent challenges posed by weather events (regional bushfires and floods) and COVID-19, and the commencement of significant construction activity on Snowy 2.0 and the Hunter Power Project have led to increased inherent safety risks. These risks are identified and controlled via a robust health and safety system, underpinned by visible safety leadership, comprehensive staff training and clear processes for reporting, investigating and sharing learnings from incidents.

Snowy Hydro has implemented a comprehensive program of safety assurance activities across the business, including for the Snowy 2.0 Project and Hunter Power Project, with outcomes reported to management and the Board. COVID-19 risk protocols and COVID-safe plans remain in place across the Group and are reviewed regularly to ensure they remain fit-for-purpose.

Energy supply and market stress crisis caused by sustained coal outages, insufficient renewables and the absence of adequate firming to 'fill the gaps' has led to critical supply constraints in the NEM, and a consequent unilateral response by the market operator.

Snowy Hydro has faced unprecedented and unpredictable draws on its energy supply for an extended period. It has been – and continues to be – forced to operate in the manner of a baseload player (rather than a peaking generator) in order to manage its contract positions and provide much-needed system security.

This significantly increases the risk of degradation and/or breakdown in physical and people assets. It also poses the risk of significant financial impacts given the forward opportunity cost of using high volumes of hydro fuel in circumstances outside the Company's choosing, with no certainty regarding the extent of such use or the compensation that the Company will receive in exchange.



While these conditions are largely out of the Company's control, Snowy Hydro will continue to advocate strongly with the government and regulatory and market bodies on the immediate need to resolve critical supply constraints. Management is also actively reviewing and assessing acceptable financial and operational parameters, recognising the situation remains volatile, with a high degree of uncertainty..

Uneconomic market or policy changes may materially impact the Company's value, including the design and operation of the wholesale and retail energy markets and associated transmission networks, and/or Snowy 2.0.

The absence of adequate transmission and storage to support a smooth renewable transition and growing insecurity in the NEM have exacerbated the risk of increased regulatory intervention, demonstrated by the unprecedented imposition of price caps across NEM states and subsequent market suspension in June 2022.

Snowy Hydro's strategy remains focused on risk mitigation through advocacy and engagement with regulatory and industry stakeholders. While the Company continues to advocate for the best outcomes for the market and consumers, residual risk remains high as final outcomes are outside the Company's control.

Transmission augmentation and the timely delivery of transmission links are critical for the NEM and the Company. Failure to deliver the transmission infrastructure connecting Snowy 2.0 to the NEM when required (being HumeLink and VNI West) could impact the project's ability to provide system security and reliability. While transmission accountability sits with external parties, Snowy Hydro is exploring mitigation options.



# GLOSSARY

Abbreviation or term definition	Definition
ABN	Australian Business Number
AEC	Australian Energy Council
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AGL	Australian Gas Light Company
AS	Australian Standard
ASX	Australian Stock Exchange
BCA	Business Council of Australia
BESS	Battery Energy Storage Systems
C&I	Commercial and Industrial customer, > 4GWh / annum (> 800 times annual average mass-market customer consumption)
caps	Capacity contracts
CEC	Clean Energy Council
CEO	Chief Executive Officer
COAG	Council of Australian Governments
COGATI	COAG Energy Council's Coordination of Generation and Transmission Investment
Company	Snowy Hydro Limited
Corporations Act	Corporations Act 2001 (Cth)
CSG	Coal Seam Gas
DMO	Default Market Offer
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortisation
ESB	Energy Security Board

Abbreviation or term definition	Definition
ESC	Essential Services Commission
Estimates	long-range plans, projections, high-level estimates and other forward-looking information
EV	Electric Vehicles
FFO	Free Funds from Operations
Future Generation JV	Future Generation Joint Venture
FID	Final Investment Decision
FY	Financial Year
GBE	Government Business Enterprise
GJ	Gigajoule
GPO	Government Policy Order
GSOO	Gas Statement of Opportunities
HPP	Hunter Power Project
HumeLink	Wollongong to Newcastle
ISO	International Standards Organisation
ISP	Integrated system plan (for comprehensive new transmission connection across NSW, SA and Victoria)
JV	Joint Venture
LFS	Large Format Store
the Licence	Snowy Water Licence
LNG	Liquefied Natural Gas
Marinus Link	transmission link between Tasmania and Victoria
MW	megawatt

Abbreviation or term definition	Definition
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Regulations
NSW	New South Wales
NTP	Notice to Proceed
NZS	New Zealand Standard
OVO	UK-based energy provider
PC	Principal Contractor
PGPA	Public Governance, Performance and Accountability
Plan	Snowy Hydro Corporate Plan
Plan Period	5-year reporting period from 2022-2026
PoE	Probability of Exceedance
Priorities	Statement of Key Priorities
PV	Photovoltaic cells
QNI	Queensland to NSW interconnector
RIT-T	Regulatory Investment Test for Transmission
Roadmap	NSW's government's recently released Electricity Infrastructure Roadmap
RRO	retailer reliability obligation
S&P	Standard & Poor's
SA	South Australia
Semi-scheduled generation	Large scale wind and solar generation
SME	Small and Medium Enterprise
SoE	Statement of Expectations
TBM	Tunnel Boring Machines

Abbreviation or term definition	Definition
VDO	Victorian Default Offer
VIC	Victoria
VNI West	Southern transmission link to Melbourne
VRET	Victoria's renewable energy targets
VWA	Volume Weighted Average







**snowy**hydro

