Annual Report

2021-22

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

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AEMO acknowledges the Traditional Owners of country throughout Australia and recognises their continuing connection to land, waters and culture. We pay respect to Elders past and present.

About AEMO

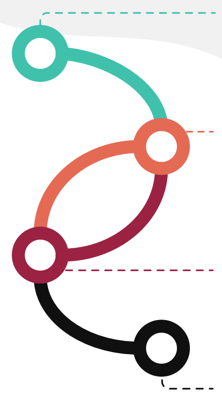
Our role

To ensure safe, reliable and affordable energy today and enable the energy transition for the benefit of all Australians.

The way we work

Together we will work as one AEMO. Our approach is to collaborate with and listen to our stakeholders and adapt to changing industry needs. We will deliver and be accountable for our core obligations as we manage our way through the energy transition. Living our values is central to our role. We will empower our people and stakeholders, we will approach each problem and solution with integrity, and ultimately, we will deliver excellence in our outcomes.

Our values



Inclusion
Strength through diversity and collaboration

Integrity
Courage to share knowledge and be evidence-based

Empowerment
Accountable and supported to achieve

Excellence
Passion to learn, grow and perform

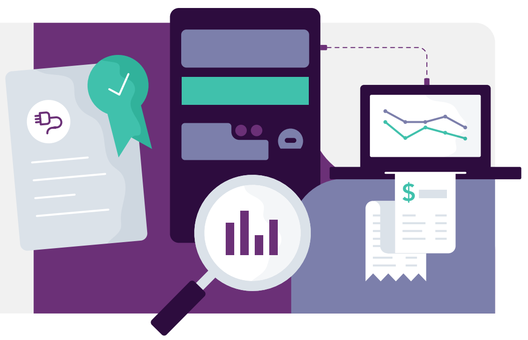
AEMO's core functions and responsibilities

Operate energy systems

- Real-time operations
- System service and security management, monitoring and review
- Engineering analysis, support and modelling
- Operating reserves and operational forecasting
- Emergency and outage management
- Cyber security and planning support

Operate energy markets

- Metering
- Generator and industry registrations and accreditation
- Settlements, prudentials and payments
- Market monitoring, advice and analysis
- Retail market operations and procedures



Enable the energy transition

- Energy system forecasting, modelling and planning
- Network connection enablement
- Technical analysis and resource adequacy assessments
- Statutory and government policy support and integration
- Energy system and market reform consultation and project delivery

AEMO's core functions by state

		WA	SA	VIC	NSW & ACT	QLD	TAS	NT
Operate energy systems	Real-time Operations NEM Power Systems		●	●	●	●	●	
	Real-time Operations WEM South West Interconnected System	●						
	Victorian Transmission Network Service Provider			●				
	Real-time Operations Victorian Declared Transmission System			●				
	Operational Forecasting and Engineering Analysis and Modelling	●	●	●	●	●	●	
	Operational Reserves and Emergency and Outage Management	●	●	●	●	●	●	
	Cyber Security	●	●	●	●	●	●	
Operate energy markets	NEM		●	●	●	●	●	
	WEM	●						
	Gas Bulletin Board (GBB)	●	●	●	●	●	●	●
	Gas Retail Markets	●	●	●	●	●		
	Day Ahead Auction		●	●	●	●		
	Short Term Trading Market		●		●	●		
	Gas Supply Hub (GSH)		●			●		
	Declared Wholesale Gas Market (DWGM)			●				
Enable the energy transition	System Planning and Planning Support	●	●	●	●	●	●	
	Technical Support and Analysis		●	●	●	●	●	
	ESB's P2025 Program		●	●	●	●	●	
	ETS's WEM Reform Program	●						
	NEM Reforms to Wholesale and Retail Markets		●	●	●	●	●	
	DWGM, GBB, GSH and other gas reforms	●	●	●	●	●	●	●
	NSW Consumer Trustee (performed by AEMO Services Limited)				●			

Message from the Chair

Working in the long-term interests of consumers

Legislation governing AEMO's core functions requires us to promote efficiency in the long-term interests of energy consumers, as defined in legislated objectives, with an emphasis on price, reliability and security.

With all nine Australian Governments committed to net-zero emissions by 2050, Energy Ministers have recently announced the intent to add an emissions objective into the national energy objective. This policy alignment and legislative change formalises AEMO's objectives and role in the energy transition.

We welcome the challenge of planning and operating electricity and gas systems and markets efficiently, in the long-term interests of consumers, with respect to price, reliability and security, and emissions. It is both a challenge and a privilege to be playing a central role in the task of transforming the Australian economy to net-zero emissions.

The challenge of the Australian energy transition was demonstrated in June 2022, when AEMO had to take unprecedented actions, including temporarily suspending the entire National Electricity Market (NEM), to keep the lights on and the gas flowing.

The suspension illustrated the scale of disruption in the energy market today, and the need for a robust approach to risk management. We took the decision in the best interests of consumers and are working to implement the lessons learned.

The two most significant AEMO governance developments in FY22 were the re-setting of our core fees and the development of our subsidiary company, AEMO Services Ltd.

In consultation with the Finance Consultation Committee, AEMO reset our NEM budget and fees to reflect a new era of financial discipline at AEMO, in the context of a more complex operating environment, extensive market reform agenda, additional roles and responsibilities, and a clear set of priorities laid out in the corporate plan. A fee increase was also approved in WA, again reflecting the more complex operating environment and significant market reform.

We are conscious that consumers ultimately bear the costs of AEMO. Our costs benchmark at the low end of international peers, and we believe that having a capable energy system and market operator, with the tools and skills to manage transition risks, is in their long-term interests.

The corollary of these cost increases is that AEMO must maintain a focus on both efficiency and transparency.

Our capital investments and staffing must be right-sized and focused on delivering consumer benefits, and our stakeholders must have visibility over our budget plans and outcomes. Transparency is key to maintaining the trust and confidence of governments, market participants, and business and household consumers.

These efficiency and transparency imperatives are also embedded in our work to implement the major programs of market reform underway in the east and west.

After the June 2022 market suspension, energy ministers have signalled that more reforms will be developed, including to the eastern gas market, giving AEMO better tools to manage risk and potential disruption. We have commenced planning for these additional responsibilities.

This past year also marks the first full year of AEMO Services Ltd (ASL). ASL acts as the NSW Consumer Trustee, procuring generation and storage capacity in the interests of NSW consumers under the State Government's Electricity Infrastructure Roadmap.

ASL is now operating under its own Board, chaired by Dr Paul Moy. I commend the ASL Board, executive and staff for the rapid progress it has made towards its first tender in Q4 2022 to procure new renewable generation and long-duration storage, in the context of the early closure of coal-fired generation.

The Board thanks our Managing Director and CEO, Daniel Westerman, for his leadership throughout his first full year in the role. Daniel and his team have responded to the many operational and strategic challenges, maintaining our focus on the long-term interests of consumers.

We also acknowledge and thank John Pittard, who will retire at the 2022 AGM after eight years on the Board. John has made a major contribution to AEMO governance, particularly in the digital domain, including as Chair of the Information Exchange Committee.

This Annual Report outlines AEMO's responses in FY22 to the challenge of planning and operating energy systems and markets in transition. Our FY23 Corporate Plan, published in August 2022, outlines our plans and priorities for the year ahead. I invite you to take this journey with us.

Drew Clarke AO PSM
AEMO Chair

A message from AEMO's CEO

Preparing Australia's energy system for tomorrow while operating today's system and markets

In the past year, Australia has made significant progress to decarbonise the economy. Australia now has legislated a target of net-zero emissions by 2050 and a 43% reduction in 2005-level emissions by 2030, and aims to have the grid fed by 82% renewable energy by then.

As Australia moves rapidly away from our historic dependency on coal generation, our energy future will be built on four things:

- Low-cost renewable energy, taking advantage of the abundant natural resources that Australia has to offer;
- Firming technology like pumped hydro, batteries, and lower emissions gas generation, to smooth out the peaks and fill in the gaps from that variable renewable energy;
- New transmission to connect these new and diverse low-cost sources of generation to our towns and cities; and
- A grid that is capable of running, at times, entirely on renewable energy.

AEMO is planning for Australia's energy future while operating the system and markets of today in a rapidly changing energy landscape.

This Annual Report outlines AEMO's responses to this accelerating and irreversible energy transition, and we want to share our approach with the Australian community in an open, transparent and evidence-based way.

There are significant opportunities in this energy transition.

Enabling the cheapest form of energy to come to market is in the long-term interests of Australian consumers. Our studies with CSIRO show that renewables supported with firming technologies are the lowest-cost form of generation, even accounting for the cost of new transmission that may be required.

Maximising the flow of cheap power into the grid is the best long-term solution to keeping downward pressure on electricity for consumers.

Industry and businesses stand to benefit from the flow of lower-cost electricity generated from the sun, wind and water, which decouples domestic energy prices from international commodity price shocks.

The energy transition, if managed well, has the potential to create thousands of highly skilled roles across Australia designing, building and running new power system assets.

But Australia's rapid and accelerating energy transition is not without its hurdles.

In early June, a confluence of factors — including a cold snap in southern states, tightness in gas supply due to demand, commodity price rises due to overseas factors, and planned and unplanned outages of coal-fired generation — exposed how quickly the security and reliability of Australia's National Electricity Market (NEM) can deteriorate.

For the first time, AEMO invoked the Gas Supply Guarantee to help meet gas demand on the east coast. In electricity, we took a series of unprecedented actions to maintain reliability, including temporarily suspending the entire NEM for the first time ever. Throughout these challenging times, we worked closely with industry and governments, always acting in the best interests of consumers.

Market reforms and additional powers in relation to gas are designed to AEMO to help manage these sorts of disruptions to Australia's energy system as Australia transitions to a greater reliance on renewable energy.

AEMO is planning for Australia's energy future while operating the system and markets of today in a rapidly changing energy landscape.

During the year, AEMO formalised consultations for the NEM 2025 Reform Program. This multi-year program coordinates the delivery of a suite of reforms recommended by the Energy Security Board (ESB) and endorsed by the First Ministers in October 2021, to meet the needs of the energy transition.

NEM 2025 reforms will enable consumers to benefit from rapidly changing technologies in our power system, unlock the value of flexible demand and distributed energy resources (DER), work alongside government schemes to reduce emissions and provide clear signals for timely and efficient investment to deliver reliable, secure, and affordable electricity for consumers.

This program complements our Engineering Framework to identify and implement the engineering changes, in collaboration with the energy sector, to ready Australia's power system to operate at times on 100% renewable energy, which is likely to occur by 2025 and beyond.

In Western Australia, the state's Economic Regulation Authority approved AEMO's next three-year budget, the Allowable Revenue and Forecast Capital Expenditure proposal (2022-25), to continue to support and implement the state's Energy Transformation Strategy.

This enables AEMO to implement the new real-time energy and essential system services market, with more efficient dispatch, co-optimised services, and more competition, and supports the integration of rooftop solar, keeping the power system secure and enabling consumer participation in the market.

In the FY22 year, AEMO reviewed our expenditure and made the necessary decisions, as part of the Finance Consultation Committee, to bring the budget into balance for the year.

Looking to the future, AEMO reset our budget and fees for the NEM, reflecting the additional responsibilities being required of AEMO to manage the energy sector in the context of technological disruption.

And in this energy transition, it is essential to communicate openly.

Meaningful engagement with communities is essential to build the social licence for new energy infrastructure. New transmission is required to connect the emerging areas of renewable generation to the grid, so that low-cost electricity can be fed into the grid with least constraint and conveyed to where the electricity is needed.

Transparency is key to build trust and confidence with governments, market participants, business and the community. AEMO has begun a major uplift in our engagement and consultation practices.

There is much more work for AEMO to do to help enable an orderly and timely energy transition to a low-carbon energy system.

We will continue the journey toward net-zero.

Daniel Westerman
AEMO Chief Executive Officer

Key highlights

AEMO scorecard

- No preventable load shedding
- Achieved operational energy system security and reliability
- No loss of system and/or market suspension due to preventable cyber incidents
- Achieved all material prudential supervision ligations
- High-priority regulatory reform projects delivered on time to approved budget
- Achieved annual budget

Workforce diversity

Male
65%

Female
35%
↑ 3% on last year

Effective operation of Australia's energy market

92%
as voted by our stakeholders

70%
of AEMO's Executive Leadership Team are **female**

Employee lost time injuries
1

Projects registered in the NEM in FY22
28 (3.8 GW)

Gas: Annual Trades and Volumes

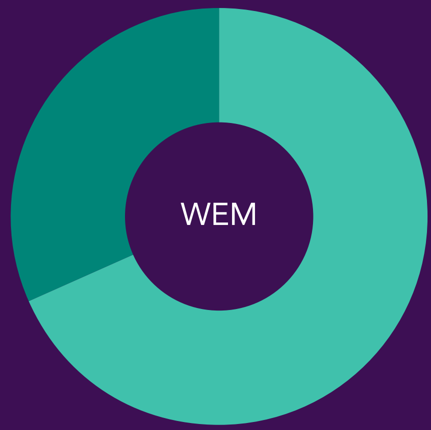
Declared Wholesale Gas Market (DWGM)	Short Term Trading Market (STTM)	Gas Supply Hub (GSH)
204.6 PJ Wholesale gas **withdrawal**	**130.9 PJ** Wholesale gas **withdrawal**	**32.9 PJ** Wholesale gas **withdrawal**
$2.9 B Wholesale gas **purchased**	**$1.9 B** Wholesale gas **purchased**	**$0.404 B** Wholesale gas **purchased**

Electricity: Annual Trades and Volumes

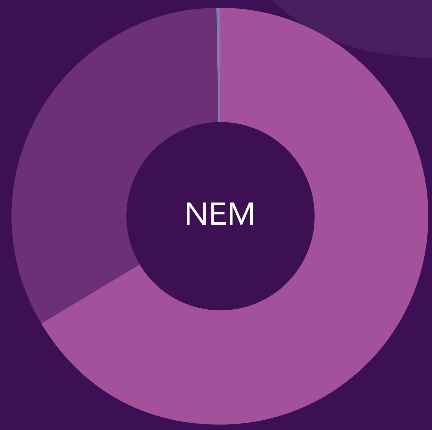
WEM
17,848 GWh
Total energy traded
$1.7 B
Total value

NEM
176,284 GWh
Energy purchased
$24.7 B
Purchase value

Fuel split



- Thermal generation: **68.35%** (Coal, gas and distillate, landfill gas) ↓ **2.81%**
- Renewable generation: **31.65%** (Wind, grid-scale solar, distributed solar) ↑ **2.80%**



- Thermal generation: **66.68%** (Black coal, brown coal, natural gas, liquid fuel) ↓ **4.67%**
- Renewable generation: **33.31%** (Wind, rooftop solar, grid-scale solar, hydro, biomass) ↑ **4.63%**
- Battery storage: **0.01%** ↑ **0.04%**

Record instantaneous renewable penetration in FY22

WEM
78.6%
7 September 2021

NEM
61.8%
15 November 2021

AEMO Executive Leadership Team

Daniel Westerman

Chief Executive Officer & Managing Director

Daniel commenced as CEO and Managing Director of AEMO in May 2021. He oversees AEMO's strategy and operations, including collaboration with market participants and policy-makers.

Daniel is a chartered engineer and a skilled business leader with significant experience in the energy sector.

Prior to joining AEMO, Daniel held a variety of senior executive roles with London-listed electricity and gas utility National Grid Plc. Most recently he served as Chief Transformation Officer and President of Renewable Energy, where he led the company-wide transformation program, and grew a large-scale renewable energy business in the United States. In previous roles he has been responsible for engineering, planning and operational control of the electricity transmission network across Great Britain, as well as the development of distributed energy systems, such as rooftop solar, storage and energy metering.

Prior to joining National Grid Plc, he held positions with McKinsey & Company and Ford Australia.

Daniel holds degrees in Engineering and Mathematics from the University of Melbourne, and an MBA from Melbourne Business School. He is a Fellow of the Energy Institute and the Institution of Engineering and Technology, and a Fellow of the Institute of Directors.

Nevenka Codevelle

Executive General Manager Government & Stakeholder

Nevenka leads AEMO's stakeholder & government division, responsible for engagement with key industry, consumer and government stakeholders to facilitate strong and ongoing partnering and collaboration.

Nevenka joined AEMO in July 2022, bringing 25 years' experience in the energy sector. Starting her career as an infrastructure and regulatory lawyer, Nevenka went on to have a variety of roles in the energy sector spanning government and industry. This included more than 13 years with APA Group as a member of the leadership team that helped grow the business to be included in the ASX50.

Nevenka also founded and led the Energy Charter, which sought to bring together the energy supply chain to deliver better whole-of-system customer and community outcomes.

Gordon Dunsford

Executive General Manager Digital

Gordon is responsible for enabling the business with technology to improve outcomes for both internal and external stakeholders.

Gordon joined AEMO in January 2022 from the NSW Police Force, where he delivered core operational policing systems that enable frontline work, digitised a large component of previously manual, transactional work, and supported cyber and intelligence uplifts over the past four years.

A former Chief Technology Officer with IBM in Asia, Gordon has also worked extensively in the energy sector including with StateGrid China, TransGrid and Integral Energy (now Endeavour Energy).

Michael Gatt

Executive General Manager Operations

Michael is responsible for operating electricity and gas markets and systems on the east coast.

Prior to joining AEMO in August 2020, Michael spent 15 years at TransGrid, where his most recent role was Executive General Manager of Works Delivery. At TransGrid he led the delivery of TransGrid's prescribed capital portfolio together with new generator connections, maintenance, project development, and emergency management functions.

Over the last 25 years, Michael has been an active part of the energy industry, always passionate about its role in society and the people that make it happen. Prior to TransGrid he worked for a distribution business, an industry association and in energy policy roles throughout the development of the NEM.

Vanessa Hannan

Executive General Manager Finance & Governance

Vanessa leads AEMO's finance and governance division, responsible for overseeing AEMO's financial sustainability and oversight of risk management, assurance, legal and governance practices.

Vanessa joined AEMO in January 2022 from Transurban Queensland where she was an Executive Director, while also serving as General Manager Finance for Transurban (ASX: TCL), delivering a finance transformation through a significant growth phase.

Vanessa previously held Chief Financial Officer roles with large divisions of Telstra and AGL.

Geraldine Leslie

Executive General Manager People & Culture

Geraldine is responsible for overseeing health and safety, culture, capabilities and leadership for AEMO's workforce.

Geraldine joined AEMO in September 2020, having spent more than 10 years at AusNet Services as the EGM of People, Safety and Corporate Affairs. This role was responsible for leading the people and business operations, including safety, diversity and inclusion, culture and capability.

Prior to this, Geraldine gained extensive senior executive experience in a diverse range of organisations in energy, manufacturing, health and local government.

Violette Mouchaileh

Executive General Manager Reform Delivery

Violette's role focuses on delivering reforms and market changes.

Prior to moving to her current role in December 2018, Violette held various roles at AEMO in market design development, market change implementation and operations.

Violette previously held roles driving energy market policy in the Commonwealth Government and working on competition policy initiatives at the Australian Energy Regulator (AER) and Australian Competition and Consumer Commission (ACCC). Her experience includes economic regulation, energy policy development, development of regulatory frameworks, market development and design, and market change implementation.

Kate Ryan

Executive General Manager WA & Strategy

Kate is responsible for leading the Western Australia function and AEMO's corporate strategy.

Kate joined AEMO in February 2022, and has extensive knowledge and experience built over decades in the energy industry.

Most recently, Kate was the Coordinator of Energy at Energy Policy WA, where she oversaw strategic policy, reform, regulation and market design for Western Australia's energy markets. Kate has held other senior roles with the Queensland and Western Australian governments and the former Independent Market Operator in Western Australia. She has also managed key reform projects in the Queensland and Western Australian energy sectors.

Paul Verschuer

Executive General Manager AEMO Services

Paul is responsible for leading AEMO's independent subsidiary, AEMO Services Ltd (ASL).

Prior to joining ASL in June 2021, Paul spent more than 35 years in senior governance and management roles across the financial, government and energy sectors. This includes working with the NSW Department of Planning, Industry and Environment, Westpac, the Commonwealth Treasury and NSW Treasury.

Merryn York

Executive General Manager System Design

Merryn is responsible for leading system design at AEMO, driving collaborative and industry-wide efforts to meet the engineering challenges of a net-zero energy system.

Joining AEMO in March 2022, Merryn brings deep industry experience in generator connections, transmission planning, regulatory investment and the delivery of major transmission projects.

Most recently, Merryn served as a Commissioner at the Australian Energy Market Commission (AEMC) where she engaged widely across the industry. Prior to joining the AEMC, she served as Chief Executive of Powerlink Queensland from 2011-2019.

Operating today's systems and markets

AEMO maintained secure energy systems and market operations during another year of challenging events and transformation risks.

Our electricity control room operators continued to experience operational conditions unique to Australia, mainly related to the proliferation of inverter-based renewable generation that is displacing traditional fuel sources, principally black and brown coal.

The continuing increase in the proportion of generation met by inverter-based resources is resulting in more frequent and larger intra-day generation shifts between variable inverter-based solar generation during the daytime and synchronous coal, gas and hydro plant during the morning and at night.

This phenomenon is disrupting the core technical attributes of Australia's power systems, including system strength, voltage control and frequency management, along with system restoration options.

Further, the continued growth of rooftop solar, which now accounts for approximately 8.5% of total generation in the NEM and 13.5% in the WEM, is also driving reduced reliance on electricity from the grid and increasing spikes in renewable penetration.

Alongside the changing operational conditions, the resilience of the power system is being challenged by extreme heat, wind or solar droughts, separation events, the co-ordination of network maintenance, and seasonal generator outages.

During the year, AEMO continued to collaborate with industry, both in Australia and abroad, on power system security resources, operational resilience initiatives and market designs to enable this transformative change while maintaining electricity system reliability, security and resilience.

AEMO is a founding member of the **Global Power System Transformation Consortium (G-PST)**, which includes system operators, research and educational institutions and other stakeholders working to accelerate the transition to low emission, low cost, secure and reliable power systems.

AEMO's participation involves collaboration with system operators at the forefront of the transition globally, as well as knowledge sharing with developing country system operators to build broader confidence in renewable integration.

As an extension to the development of a research agenda by the G-PST, AEMO is working with Australia's national science agency, Commonwealth Scientific and Industrial Research Organisation (CSIRO), to further this work with detailed research roadmaps as well as the **Operations Technology Roadmap (OTR)**.

Published during the year, the OTR is designed to provide a pathway to uplift AEMO's capability to manage future power system operating conditions with high volumes of variable renewable energy and inverter-based resources.

Alongside this, AEMO continued to work with generators to implement mandatory **Primary Frequency Response (PFR)** requirements. Historically only provided by synchronous generating systems, PFR involves a generating unit automatically responding to correct frequency deviations on the power system.

With PFR capability now installed on more than 75% of registered generation capacity in the NEM, today's growing portfolio of wind, solar and battery projects has contributed to a significant improvement in frequency and overall essential power system resilience.

AEMO continued to provide technical input to the AEMC throughout its consultation on the PFR incentives and enduring PFR rule, which the AEMC finalised in September 2022. The PFR incentives framework will be operational from June 2025.

AEMO is also working with transmission network service providers to coordinate the installation of nearly 150 **Phasor Measurement Units (PMUs)** across the NEM by December 2025.

By enhancing visibility of the power system, AEMO can better understand and respond to complex issues in real time. This includes oscillations related to inverter-based plant, managing power flow to dynamic limits, avoiding unnecessary generation constraints and even assisting in the management of system inertia, islanding and system restart.

Data from the PMUs will also allow enhanced complex modelling of inverter-based generation to support new connection requirements. Detailed design and planning have commenced with the first new PMUs expected to be online in Victoria from October 2022.

Connections

During the year, AEMO registered 29 new generation and storage projects totalling 4 GW of capacity, an increase of 1 GW from last year and 2 GW from the FY20 financial year.

This included Australia's largest battery (Victorian Big Battery, 300 MW), largest solar farm (Western Downs Green Power Hub, 400 MW) and largest wind farm (Stockyard Hill, 511 MW).

In addition to the growth in new projects and generation capacity, Australia is also breaking new ground with designing, testing and connecting new technologies, such as grid-forming batteries providing inertia services.

As a world-first, in July 2022 the 150 MW Hornsdale Power Reserve was the first big battery commissioned to operate in virtual machine mode and provide inertia support services under contract with the South Australian Government.

Meanwhile, performance standards were agreed for the combined 150 MW Riverina and Darlington Point Energy Storage Systems, which, once constructed, will enable the facility to operate as one of Australia's largest grid-forming batteries.

The overall number of projects undergoing AEMO connection assessment across the NEM as at August 2022 remains high, with 149 projects representing 22.3 GW at stages from application through to commissioning.

AEMO launches initiative to minimise unintentional power system risks from rooftop solar

AEMO introduced a new operating framework to help maintain power system security during challenging operating conditions coupled with high rooftop solar exports.

While the industry is working to better integrate and utilise business and residential rooftop solar, AEMO's initiative gives market participants advanced warning to respond to emerging risks, minimising the need to implement last resort curtailment of rooftop solar.

NEM suspension

AEMO made the unprecedented decision to suspend operation of the NEM spot market in all regions on 15 June 2022.

Preceding the suspension, a confluence of high commodity prices, extensive planned and unplanned outages of scheduled generating plant, low output from semi-scheduled generation, and high winter demand led to unprecedented operating challenges.

These conditions triggered administered price caps for wholesale electricity in Queensland, New South Wales, Victoria and South Australia. As the price caps commenced, generation volumes offered into the spot market began to drop, leading to forecast and actual shortfalls in reserves.

AEMO took steps under the National Electricity Rules to maintain power system reliability and security. These steps included deferring network maintenance, manually directing generation capacity and activating emergency reserves, while working with governments and generators to facilitate fuel supply chain interventions.

Despite taking these actions, the NEM came close to forced interruption of electricity supply to protect the power system, with forecast supply shortfalls at certain times totalling up to around one-third of NEM winter peak demand.

The scale of interventions needed to manage the extent of reserve shortfalls made it impossible to continue operating the spot market in accordance with the National Electricity Rules, and AEMO suspended the spot market in all NEM regions at 2.00 pm on Wednesday 15 June.

On 22 June, AEMO, having briefed industry and jurisdictions, released its criteria and process for ending the market suspension. Following a staged process, normal dispatch pricing was resumed on 23 June 2022, and the suspension was formally lifted at 2.00 pm on 24 June 2022.

During this event, AEMO worked transparently and collaboratively with market participants, industry and governments to maintain a reliable and secure electricity supply, along with managing the associated compensation and cost recovery processes post-suspension.

Key stats

10 to 24 June, 2022

Price thresholds

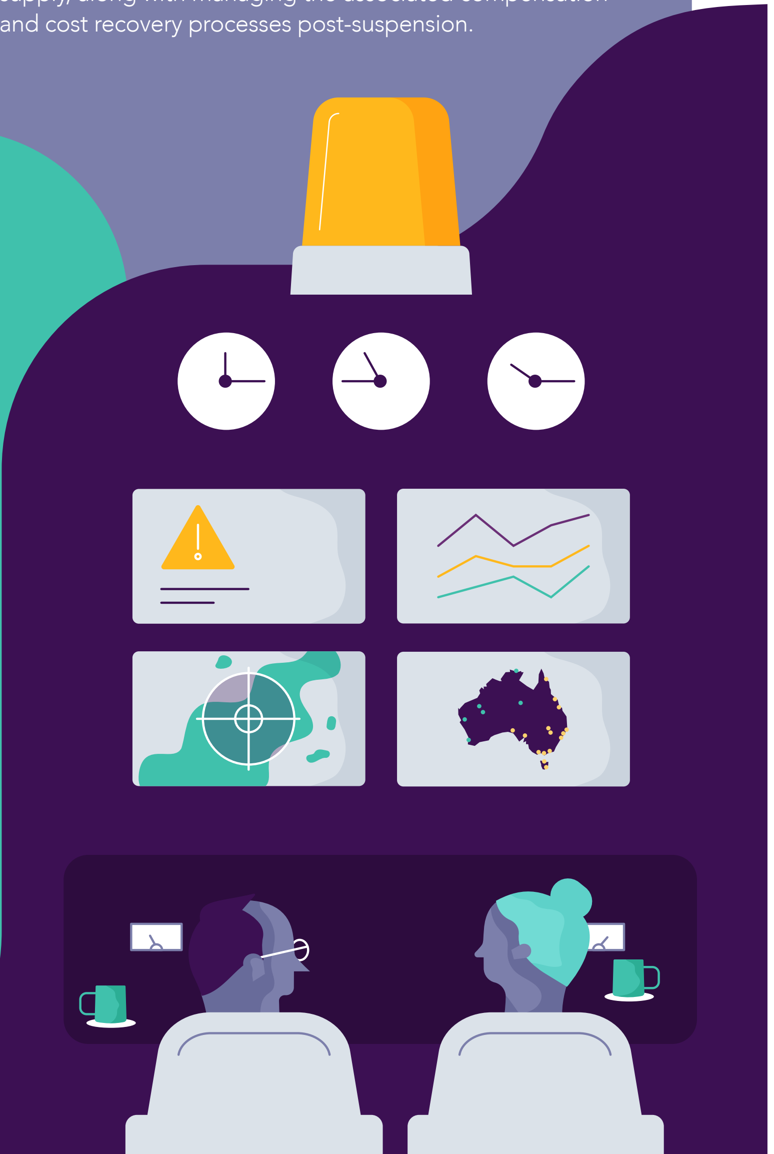
Cumulative price thresholds reached in Queensland, South Australia, New South Wales and Victoria

6.5 GW
of generation capacity offline

5 GW
peak of directed capacity

483
separate directions issued, peaking at 110 directions in a single day

262
actual and forecast lack of reserve (LOR) declarations



Disruption in east coast gas markets

Australia's east coast gas markets experienced volatile conditions from early to mid-2022, including high demand, supply concerns and record wholesale prices.

Key factors included increased heating demand, extremely high international prices for traded gas – influenced by the war in Ukraine and sanctions against Russia – and reduced availability of coal-fired generation, which drove higher levels of gas-fired generation and put pressure on local gas markets. Consequently, prices in all markets reached international levels, and surpassed them into June.

In May 2022, high wholesale gas prices triggered administered cap prices in Victoria, along with the Sydney and Brisbane markets due to a Retailer of Last Resort event after suspension of a trading participant retailer.

On 1 June, AEMO identified a potential gas supply shortfall across Victoria, South Australia and Tasmania for 2 June, due to high gas-fired generation demand and lack of reserve (LOR) forecasts for multiple NEM regions.

As a result, for the first time AEMO triggered the Gas Supply Guarantee and called an assessment conference with Queensland liquefied natural gas (LNG) producers. Based on increased southward gas flows from Queensland the following day, as well as improved NEM conditions, the trigger event was deemed to be resolved.

Further reading

- Updates, fact sheet, Q&As, etc ⟶
- NEM market suspension and operational challenges ⟶
- Global Power System Transformation Consortium ⟶
- Operations Technology Roadmap ⟶
- Primary Frequency Response ⟶

Navigating the energy future

AEMO plays a critical role in helping Australia ready its systems and markets to meet the energy challenges of the future.

We do this by collaborating with industry, government, regulators, academia and consumer groups to design fit-for-purpose energy systems and markets to achieve a net-zero emissions economy in Australia by 2050.

NEM reforms

Significant market and technical reforms in the NEM and WEM are underway to manage a secure and efficient transformation to a low-emissions grid.

In October 2021, AEMO and our industry partners implemented **Five Minute Settlement (5MS)** and **Wholesale Demand Response (WDR)** in the NEM to improve market efficiency, competition and consumer benefits. Years in the making, 5MS and WDR provide better price signals for fast response and flexible technologies and enable businesses to provide peak shaving services in the spot energy market.

Specifically for electricity consumers, **two-day retail switching** was also launched in October 2021, helping consumers quickly transition to better retail deals.

In May 2022, **Global Settlements (GS)** came into effect, changing the way unaccounted-for energy is settled in the NEM, moving from settlement-by-difference to a global settlement framework. GS will lead to fewer settlement disputes between retailers, enhance competition on equal terms, and improve risk allocation.

These market reforms are the cumulation of rule changes, innovative digital systems, and extensive stakeholder engagement and partnership, to deliver this important reform package.

As a member of the ESB, AEMO is working with it and its other members, the AER and AEMC, to progress the **Post-2025** reform workstreams and associated initiatives.

National Cabinet approved the Post-2025 reform recommendations in October 2021 with immediate, initial and long-term changes set out to address the needs of the energy sector as it undergoes its major transition. AEMO is also leading the Reform Delivery Committee to facilitate deep and effective collaboration across industry and navigate reforms over the coming years.

WEM reforms

Meanwhile, we continued to implement our WEM Reform program to deliver the Foundation Regulatory Frameworks as part of the WA Government's broader Energy Transformation Strategy.

This is the most comprehensive set of changes made to the WEM since inception, improving the efficiency of the market and introducing new Essential System Services to help maintain a secure, reliable and affordable electricity system for customers in WA's south west.

AEMO is working closely with industry and government to implement the new market arrangements by 1 October 2023, involving substantial amendments to rules and procedures as well as investment in new market systems.

We are also working closely with the WA Government and industry stakeholders to progress other elements of the Energy Transformation Strategy, including the ongoing review of the Reserve Capacity Mechanism and initiatives in the Distributed Energy Resources Roadmap, to ensure we can continue to enable the transition to low-emissions and distributed energy sources.

Improving future energy system connections

AEMO continued to take steps to further streamline the connection process and experience for participants.

This included developing the '**Connections Simulator Tool**', available for project developers and other interested parties to run studies against common data sets in a simulation of AEMO's existing model. This helps develop higher quality modelling of the connection of prospective generation and storage projects to the grid. Currently undergoing pilot testing, the tool is expected to become available before the end of 2022.

AEMO is also partnering with the Clean Energy Council (CEC) on the **Connections Reform Initiative (CRI)** to remove delays and deal with the increasing complexity in connections to the NEM. A key outcome during the year was publishing the Connections Reform Roadmap in December 2021, following an extensive collaborative co-design process with CEC members, network service providers and industry stakeholders.

As part of the roadmap, AEMO is leading a reform to co-design a streamlined connection process with industry, with an objective to reconfigure the connection process to make it shorter, less complex, and consistent with proponent commercial milestone requirements.

Harnessing greater value from consumers' energy resources

Australians have invested in rooftop solar at world-leading levels, with an estimated 3.1 million systems installed at one in three homes. AEMO's latest ISP forecasts this trend to continue, along with uptake of other emerging distributed energy resources (DER), such as electric vehicles.

AEMO has pursued reforms, research and trials with industry to progress the secure integration of DER, addressing technical and operational challenges.

In September, AEMO published our fourth and final knowledge sharing report under the **Virtual Power Plant (VPP) Demonstration** program. It showed that consumer-owned energy resources can deliver essential system services, respond to energy market price signals, and have the potential to deliver local network services. Following extensive consultation with industry, AEMO operationalised the trial at the end of 2022.

AEMO is also seeking to develop and demonstrate two proof-of-concept DER marketplaces that will enable efficient and secure coordination of aggregated consumer energy resources while maintaining security and reliable of the grid to support a more distributed energy future.

In the NEM, Project EDGE reached several key milestones, commencing the field trial of a two-sided marketplace to deliver real-world evidence into the design and implementation of initiatives contemplated in the ESB NEM2025 reform process, publishing 18 months of key insights and learnings in the Public Interim Report, and setting a research plan and trial marketplace design process.

Meanwhile in the WEM, **Project Symphony** aggregated its first package of residentially generated energy in Western Australia and successfully participated in a simulated bi-directional wholesale electricity market.

Each of the projects above has received funding from The Australian Renewable Energy Agency (ARENA) as part of ARENA's Advancing Renewables Program.

If successful, the work AEMO is doing with industry participants will eventually enable households to participate directly in energy markets and derive more value from their energy assets.

Engineering Framework

AEMO published the *Engineering Framework – Initial Roadmap*, highlighting the operational and engineering requirements for an orderly transition of the NEM, along with an initial roadmap of key decisions and potential priorities for industry consideration.

Developed over months of stakeholder consultation, the report builds on existing insights and collaboration during the development of the *Engineering Framework March 2021* report and *Operational Conditions Summary*, summarising the technical requirements and strategic design decisions needed to enable the futures envisioned in AEMO's *Integrated System Plan* (ISP).

In June 2022, AEMO also published the *Engineering Framework Priority Actions* report, developed through a prioritisation process with stakeholders to prepare Australia's power system for future operational conditions, including periods of 100% instantaneous renewable penetration by 2025.

The Engineering Framework considers and seeks to leverage actions already being led across the ESB, market bodies, and industry to address priority gaps, with near-term actions balancing the best interests for consumers and the need for timely action.

Integrated System Plan (ISP)

In June 2022, AEMO published the final 2022 ISP, concluding almost two years of engagement and consultation that involved more than 1,500 stakeholders, including policy-makers, governments, consumers and energy industry representatives.

The ISP helps inform Australia's energy transformation, based on an 'optimal development path' of essential transmission investments that will efficiently enable low-cost, firmed renewable energy to replace exiting coal generation.

The optimal development path identifies five projects as immediately actionable which should progress as urgently as possible: HumeLink, Victoria – New South Wales Interconnector (VNI), Marinus Link, Sydney Ring and New England Renewable Energy Zone (REZ) Transmission Link.

While delivery dates are as advised by project proponents, earlier delivery would provide valuable insurance for any faster transition or additional benefits to consumers.

These transmission projects are forecast to deliver $28 billion in net market benefits, returning 2.2 times their cost of $12.7 billion.

For the *Draft 2022* ISP, published in early December, stakeholders overwhelmingly nominated 'Step Change' as the most likely future scenario. This scenario meets Australia's net-zero policy commitments, along with reflecting technology advancements, government ambitions and consumer preferences.

Electricity outlook

AEMO's annual electricity and gas statement of opportunities reports assess the 10-year supply- demand balance outlook for Australia's major energy systems and markets.

These reports help inform the decision-making processes of market participants, investors and jurisdictional bodies to assess future risks, opportunities, and development needs in the energy industry.

The latest insights in the 2022 NEM *Electricity Statement of Opportunities* (ESOO), published in August 2022, reiterate the urgent need to progress generation, storage and transmission developments to maintain a secure, reliable and affordable supply.

Forecast reliability gaps have emerged across NEM regions due to considerable coal and gas plant closures in the next decade, along with insufficient new generation capacity commitments needed to offset higher electricity use.

The 2022 Wholesale Electricity Market (WEM) *Electricity Statement of Opportunities* for WA, published in June 2022, also showed that new firmed renewable capacity is needed to replace coal-fired power stations and offset increased energy use by industrial loads, growth in new housing connections, and the uptake of electric vehicles.

By 2050, key changes forecast in the 2022 ISP include:

- Electricity usage from the grid to **nearly double**
- Coal generation retirements **60%** by 2030, **100%** by 2043
- Grid-scale wind and solar to **increase 9-fold**
- Distributed solar capacity to **increase 5-fold**
- Firming capacity to **triple**

Gas outlook

In March, AEMO published the 2022 *Gas Statement of Opportunities* (GSOO) report for eastern and south-eastern Australia, assessing domestic and export needs for natural gas over a 20-year period.

The 2022 GSOO forecasts that existing, committed and anticipated gas supply, including anticipated LNG imports, will meet declining gas consumption until 2033.

The report also shows the pathway for gas is uncertain in Australia, with a wide range of plausible forecasts for future natural gas demand and supply, as the market identifies pathways to decarbonise and users look to alternative fuels, like hydrogen or electricity, for industrial processes, manufacturing, heating, and cooking.

Both the 2022 GSOO and 2022 *Victorian Gas Planning Report Update* forecast a risk of gas shortfalls under extreme weather conditions from winter 2023 in New South Wales, Victoria, Tasmania and the ACT.

In WA, AEMO's 2021 WA *Gas Statement of Opportunities*, published in December 2021, indicated a finely balanced domestic market until 2031, with potential supply from existing and prospective projects expected to meet forecast demand until at least the end of 2024.

The report highlights a potential supply gap of 51 petajoules (PJ) between 2025 and 2027, at rates of up to 85 terajoules (TJ) a day, as depletion of reserves at existing facilities impacts supply.

Further reading

- VPP knowledge sharing report →
- Connections Reform Initiative →
- Connections Simulation Tool →
- WEM Reform →
- 2022 ISP →
- 2022 NEM ESOO →
- 2022 WEM ESOO →
- Operational Conditions report →
- Engineering Framework →
- March 2021 report →
- 2022 Gas Statement of Opportunities →
- 2021 WA Gas Statement of Opportunities →

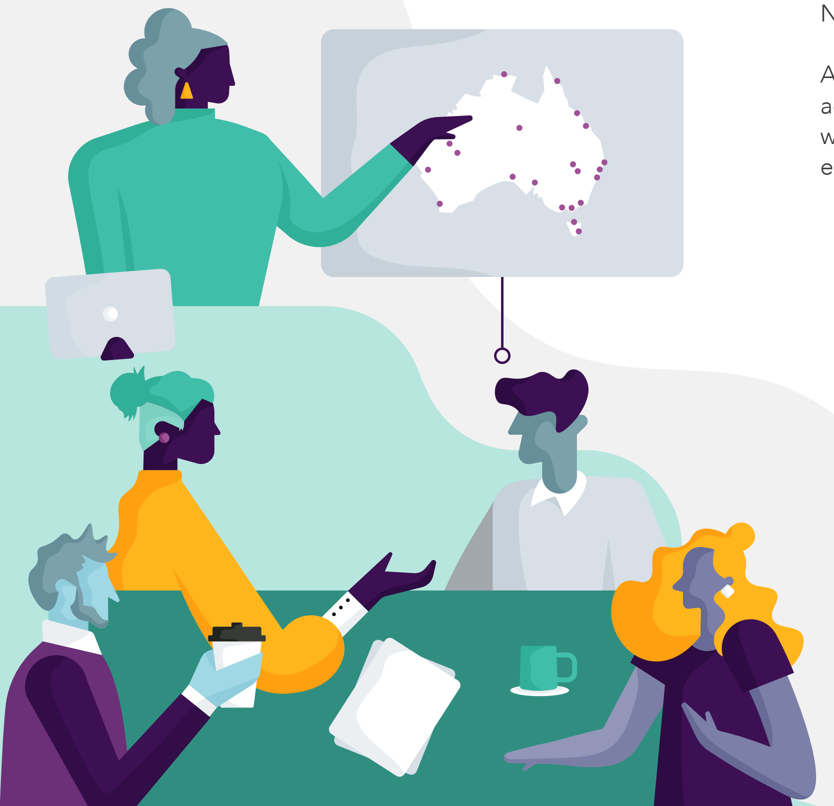
Engaging our stakeholders

The rapid pace and extent of Australia's energy transition underscores the importance of strong, ongoing and transparent collaboration with stakeholders as the energy future takes shape. AEMO is focused on continuing to listen and learn from our stakeholders, and to establish better ways to take into account feedback as part of our decision-making processes so we can deliver better outcomes.

Through this, we are committed to the principles of transparency and collaboration in the way we work to build and maintain trust and to enable us to better carry out our role for the benefit of all Australians.

During FY22, AEMO implemented improvements across our communications and stakeholder engagement functions, delivering more coherent and transparent content with plain and uncomplicated language to ensure inclusivity for all stakeholders. We also provided more options for collaboration through a number of two-way channels, like industry forums and webinars, across several projects, programs, and publications.

AEMO continued supporting stakeholders through critical system incidents, particularly during the market suspension event in June 2022 and disruption in the east coast gas markets. We hosted daily briefings to share situation updates with stakeholders, facilitated continuous open communications through a multitude of channels, and led messaging in the public. Strong and open collaboration across industry and governments was essential in maintaining safe and reliable supply, and restoring the market to its usual operation.



Stakeholder reputation research

AEMO undertook our third annual stakeholder reputation research survey in FY22. The results guide AEMO's understanding of what is driving our reputation, what we are doing well and where we could improve – ultimately shaping the way the organisation operates, engages and communicates with our key stakeholders and informing our future planning.

This year's research comprised a series of in-depth interviews with 37 representatives of 35 stakeholder organisations, grouped into eight broad segments. Compared to the 2020 and 2021 survey, in FY22 a more in-depth research model was applied which provided AEMO with a more robust and detailed view of what factors are influencing stakeholder perceptions.

Overall, the research showed an improvement in AEMO's reputation compared to 2021. Our stakeholders told us that what we are doing well includes:

- Strong performance in energy market operation – 'keeping the lights on'
- Clear improvement in stakeholder engagement, with an increased focus on collaborating with the industry
- Expertise and knowledge of staff, who are smart and highly technical
- Doing well in a challenging environment
- Producing good quality/reliable reports and information.

Feedback also indicated that improvements are needed to lift AEMO's reputation score (57%) and build better trust with the industry on our ability to deliver the National Electricity Objective (63%).

AEMO values the feedback from stakeholders and acknowledges that there's more work to do to ensure we deliver on our corporate priorities, especially as the energy transition continues to accelerate.

Reform Delivery Committee

In late 2021, AEMO formed the Reform Delivery Committee (RDC) to work transparently and collaboratively with industry and market bodies to navigate implementation of ESB reforms over the coming few years.

Operating under the principles of representation, the RDC consists of nominees from retailers, generators and networks, consumer representatives, and representatives of the renewable energy, demand management and energy efficiency industries.

In its work, the RDC looks for opportunities to de-risk delivery, minimise implementation costs and inform implementation timing. In this function, AEMO has published the NEM Reform Implementation Roadmap, setting out the pathway for the NEM 2025 Program to commence in late 2022.

Connections Reform Initiative

AEMO and the CEC launched the Connections Reform Initiative in early 2021 to improve the connection process for new or augmented generators in the NEM.

The collaborative process involves CEC members, network businesses, industry and market body representatives, who spent much of 2021 focused on developing a shared understanding of the issues, with preliminary work on solutions. A roadmap was published in December 2021, which highlighted key reforms that were prioritised by the Initiative's members.

Work on delivering those reforms has been ongoing in 2022 and has expanded to include a more comprehensive coverage of existing and emerging technologies in the energy industry. The roadmap will be refreshed as the reforms evolve.

2022 *Integrated System Plan*

AEMO's ISP, a key planning resource for industry, government and communities, is developed through transparent and open collaboration.

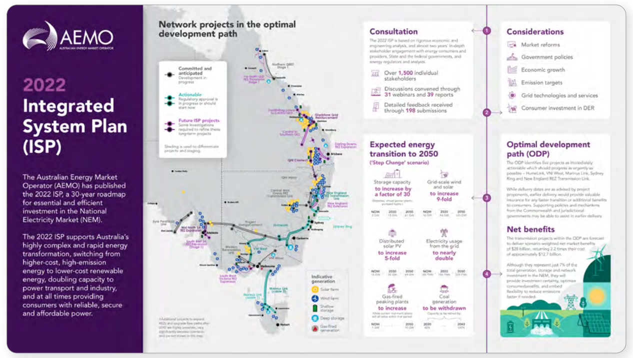
Over more than 18 months, AEMO encouraged stakeholder feedback and participation.

Engagement highlights of the project included:

- **1,500** individual stakeholders
- Discussions convened through **31 webinars and 39 reports**
- Detailed feedback through **198 submissions**
- **Significant contribution** of the new ISP Consumer Panel.

Stakeholder interest in the ISP was further confirmed by demand for the final publication. In the days following its release, more than five thousand unique users downloaded the ISP report. Even the ISP's most technical and extensive appendices were accessed hundreds of times

Consultation has already commenced on the 2024 ISP.



Financial Consultative Committee

With an aim to improve the transparency and rigour of our budget fees processes, AEMO established the Financial Consultative Committee (FCC) in 2021 to consult in-depth on our annual budget and fees and settle AEMO's priorities for the coming year.

The FCC is comprised of representatives from networks, generators, retailers, consumer advocates and governments.

In the past year, AEMO has implemented actions to identify and reduce costs, while driving effectiveness in operations. This included benchmarking AEMO against similar system operators.

AEMO's financial sustainability is critical to helping Australia navigate this once-in-a-generation energy transition.

2022 Zema Energy Studies Scholarship recipients, Saeede Nazari Goldar (left) and Harriet Mason (right) with AEMO CEO, Daniel Westerman.

2022 Zema Energy Studies Scholarship recipients

For the first time since it was launched in 2019, the Zema Energy Studies Scholarship was awarded to two recipients – Saeede Nazari Goldar and Harriet Mason.

Established in memory of AEMO's founding CEO and Monash University alum, Matt Zema, the Scholarship aims to develop Australia's future energy leaders through a world-class PhD program that will deepen their expertise and unlock their full leadership potential.

Ms Goldar will investigate enhanced generation, energy storage and transmission expansion planning, while Ms Mason will focus on visual representations of spatiotemporal uncertainty in monitoring Australia's energy needs.

Further reading

- Reform Delivery Committee ⟶
- Energy Security Board (ESB) reforms ⟶
- Finance Consultative Committee ⟶
- Connections Reform Initiative ⟶
- Zema Energy Studies Scholarship ⟶

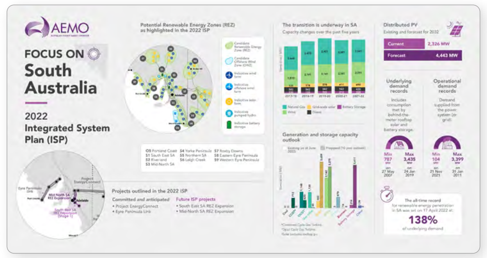
#Energyinsights

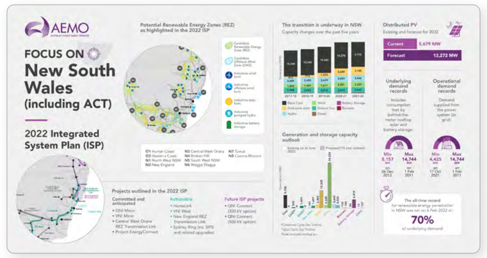
Clear engagement with all our stakeholders is key to delivering Australia's future energy, and ensuring our resources are accessible to a broad audience paves a solid pathway to enable the highest levels of collaboration.

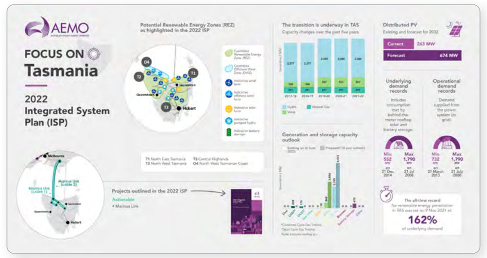
AEMO continues to strengthen our external engagement and communications across all functions to enhance transparency and accessibility, delivering better value to our members and, ultimately, to energy consumers.

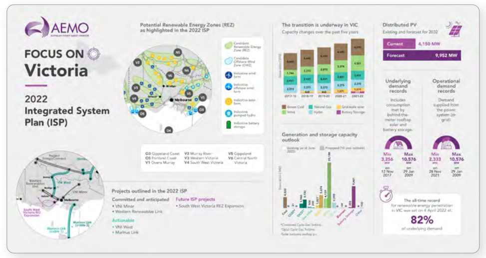
Through FY22, we simplified AEMO's analysis and information by delivering easy-to-digest graphics and summaries to ensure inclusivity for all stakeholders – from industry experts to household consumers.

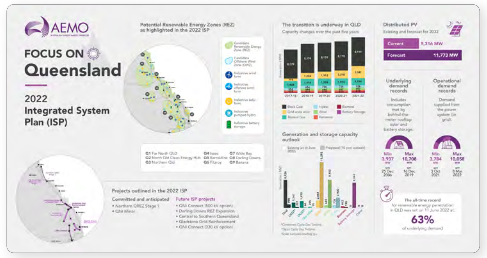
As part of AEMO's 2022 Integrated System Plan (ISP) publication, we took a state-by-state view to focus on the local insights and market trends.





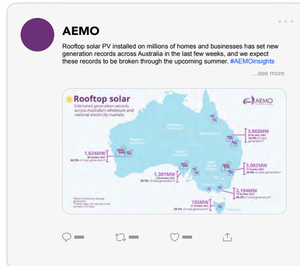


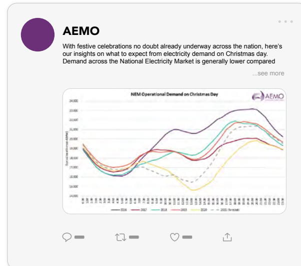


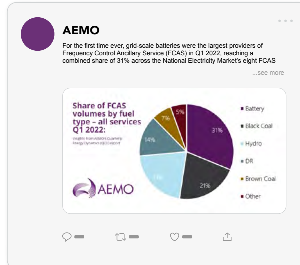


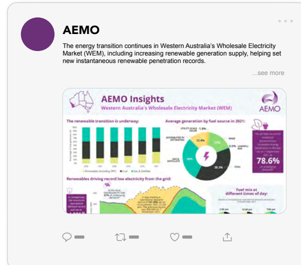
AEMO's publications share key insights that inform industry decision-making and policy development, but they can also be technical and challenging to digest. With our commitment to transparency, we have developed summaries of key publications to provide a snapshot of key findings.

While simple communications are important, so too is accessibility. AEMO has uplifted our social media activity to deliver #energyinsights to broad audiences through the channels they use daily.









Evolving the way we work

As the world around us continues to change, AEMO is on a journey of improvement in organisational efficiency and service delivery so we can become more adaptive and accountable. We are committed to being an inclusive workforce that embraces a stakeholder and consumer mindset across our culture and governance, making a positive difference to Australia's energy future.

During a time of incredible change for both the energy industry and across Australian communities at the height of the COVID pandemic, AEMO's priority has been to support our people through initiatives that encourage resilience, efficiency, collaboration, and inclusivity in our efforts to evolve the way we work.

A cross-functional working group called AEMO Connected was established in FY22 to develop initiatives that encouraged our people to reconnect more strongly to our purpose, our colleagues, our stakeholders and our transformation agenda. Though this, we fostered flexible ways of working to deliver the operational requirements of the business and meet the needs of our people to be productive and engaged.

AEMO delivered workshops to empower our leaders to support their hybrid-working teams, developed resources to maximise the use of digital tools that would enable efficient and effective collaboration, and delivered a flexible working playbook. As a key indicator of sentiment, Hybrid Working was one of the highest rated categories in the 2022 Culture and Engagement survey.

In keeping with the theme of reconnecting, AEMO facilitated our first company-wide face-to-face events in over two years. This was an opportunity for the organisation to align behind our purpose and vision and gain a better understanding of how each of us fits into AEMO's central role in operating today's energy system and navigating the future.

"AEMO 2025 was a great opportunity to get together with old colleagues and meet new ones, to get to know the newly formed Executive Leadership Team, and to contribute to the delivery of the FY23 corporate plan, developing our understanding of our roles in enabling the energy future." Alicia Webb, Manager – Future Systems Engagement

The AEMO 2025 events were hosted in four locations around the nation where over 900 employees and stakeholders came together to connect, celebrate achievements and get behind a big agenda to enable Australia's energy transition to net-zero.

Throughout the year, our people responded to the challenge of delivering on our core operating commitments whilst building people and culture plans for the future. Highlights included:

- Implementing an Organisational Capability Plan to ensure AEMO has the right strategic capability though our people, processes, and systems to deliver on our core obligations and future needs.
- Developing a Culture Roadmap to build on AEMO's vision and purpose, supporting a fit-for-purpose culture and embracing internal, stakeholder and consumer considerations.
- Rolling out a People Leader Essentials program, designed to support all leaders strengthen range of fundamental skills and practices to support our people in meeting AEMO's goals – 97% of attendees responded favourably to the sessions they attended as being relevant to their role.
- Developing a three-year Talent Strategy to articulate how we will plan, attract, develop, retain and transition the talent we need now and into the future.

Diversity, equity and inclusion (DE&I)

With a new three-year strategy in development through FY22, AEMO expanded our diversity and inclusion scope to include equity as the third pillar. As such, the three pillars have been solidified to help achieve our vision: to be a workplace of choice through being fair, equitable, respectful, safe and rewarding.

Through FY22, DE&I has progressed through a number of initiatives and achievements, including:

- Significantly improved gender diversity at senior levels, with new appointments lifting the executive leadership team (ELT) to 70% female representation, and senior leader roles to 36.5%.
- The commencement and successful on-boarding of AEMO's first all-female graduate intake.
- Policy changes to pay superannuation on unpaid parental leave and offer gender-neutral primary carer's leave.
- Delivery of the third mPower mentoring program to a cohort of 19 female mentees, with overwhelmingly positive feedback from both mentees and mentors.
- Successful roll-out of an inclusive leadership program to our senior leadership team (SLT), to embed inclusive leadership behaviours.

Further reading

Graduate program ⟶

2022 graduates from left: Delia Montgomery, Rachael Xiao, Olivia Kong, Holly Casey, Rosalie Fang, Navjeet Dhoot, and Heidi Cummings

Culture and Engagement survey

Over 68% of employees participated in our annual AEMO Culture and Engagement survey, providing key insights about how we can develop better ways of working and continue to evolve the Culture Roadmap.

The results showed a significant increase in pride at working for AEMO and willingness to recommend AEMO as a good place to work, with engagement measures up by 4% overall to a total of 66%.

For the first time, every AEMO employee received direct access to the results for the organisation and their division within three weeks of the survey closing. In teams with more than five employee responses, leaders received direct access to their team results and guidance about how to build action plans with their peers and teams. Local and enterprise actions will inform the activities to enhance our culture and experience in FY23.

Our strengths

Culture and Engagement survey insights:

Pride and advocacy in AEMO: Proud to work here and recommend AEMO as a great place to work

Flex and hybrid working: Confidence to deliver in hybrid, supported to use flex work arrangements

Safety, health and wellbeing: Right systems in place, our leaders demonstrate importance

Alignment: I know how my work contributes to AEMO's success and what I need to do to be successful

Inclusion: Everyone has equal opportunity, I can be my authentic self

Areas to improve

Culture and Engagement survey insights:

Systems and processes: Systems and processes not supporting us to get our work done effectively

Career development and learning: Clear career opportunities, better access to learning and development

Resourcing and workload: Need to more effectively direct resources toward company goals, better manage workload

Confidence in the future: Clarity on how we will achieve future success

Collaborate and communicate: Improve engagement across departments and teams, more open, honest two-way comms

Financial Performance Report

AEMO is an independent, not-for-profit public company limited by guarantee, with membership comprising energy industry members and the Commonwealth, New South Wales, Queensland, South Australian, Tasmanian, Victorian, Western Australian and Australian Capital Territory governments.

In July 2021 AEMO established a subsidiary, AEMO Services Limited (ASL). ASL has been appointed the NSW Consumer Trustee, with responsibilities under the NSW Electricity Infrastructure Roadmap. ASL's members are AEMO and the NSW Government. This section reviews the key themes that shaped the financial outcomes of AEMO Group for the financial year ended 30 June 2022 (FY22).

FY22 in context – a year of challenge, a year of change

Financial year 2022 was a year of significant challenge, with a complex operating environment to navigate, and in concert with our stakeholders, we progressed many changes to enable the energy transition.

The year began with COVID-19 lockdowns impacting our operations across the country and requiring new virtual or flexible working arrangements to enable the critical work AEMO does to continue.

It ended with an unprecedented combination of market circumstances leading to AEMO needing to temporarily suspend the spot market in all regions of the NEM.

Despite these challenges bracketing the year, AEMO delivered an unprecedented range of pivotal reports, major operational improvements and system reforms in the electricity and gas markets across Australia. In collaboration with our stakeholders, we also laid the foundations for further reform over FY23 and beyond to support 100% instantaneous renewables with the development of several new key reform initiatives.

The Consolidated Financial Statements on page 54 of this report carry the imprints of all these themes. The growing demands on AEMO in operating today's complex energy systems and navigating the extensive reform agenda, result in higher levels of expenditure. AEMO, through the Financial Consultation Committee, have reset budget and fees to reflect the operating environment today, alongside a commitment to efficiency and transparency.

Despite the challenges experienced during FY22, total expenses ended the year broadly in line with budget thanks to ongoing management attention to cost efficiency. A key cost metric for AEMO is core operating costs net of recoveries. Recoverable expenditure relates mainly to connections services which are charged directly to clients during the year.

This metric was managed within the agreed budget, despite growth in Depreciation and Amortisation (D&A) costs as new market reform systems were launched, and in Finance costs as interest rates began to rise.

Revenue grew 10% year on year due to a combination of new income from reform initiatives launched in FY22 (e.g 5 Minute Settlements), revenue from higher levels of connections activity, grant income received to support the establishment of AEMO Services Limited, and higher fee and tariff income due to higher energy consumption levels in the final quarter of FY22.

As a result, AEMO's comprehensive financial surplus rose from $4m in FY21 to $24m in FY22, bringing the consolidated accumulated deficit down from $29m to $9m by 30 June 2022. As AEMO is required to repay surplus or recover deficit through the fees and tariffs associated with its market functions, these changes in segment surpluses and deficits will be taken into account in the setting of the FY23-24 fees and tariffs.

FY21-22 financial trajectory Group consolidated (incl ASL)	FY22 Actuals $m	FY22 Budget $m	FY21 Actuals $m	FY22A vs FY22B %	FY22A vs FY21A %
Total Revenue	1,027	980	936	5%	10%
Total Expenses	1,004	992	932	1%	8%
Surplus / (Deficit)	**24**	**(12)**	**4**	**305%**	**554%**
Core operating expenses net of recoveries (excl ASL)	306	308	262	(1%)	17%

AEMO FY22 Financial Performance

The below table is a summary of key financial measures which management considers the best representation of underlying business performance.
The overall FY22 revenue of AEMO Group (consolidated) of $1,027m was 10% higher than FY21 driven by a combination of higher electricity and gas market income, and an increase in Other revenue.

Electricity market income is generated by Fees & Tariffs received by AEMO to cover the costs of its role in operating the markets and systems. The FY22 rise in electricity market income primarily reflected new income for two services introduced in FY22, 5 Minute Settlements and Distributed Energy Resources Marketplace Trials. Other increases came from the National Transmission Planner and NEM Core functions, in part reflecting an increase in electricity consumption and pricing in FY22.

The increase in gas market income primarily reflects increased consumption resulting in higher revenues for the Victorian Declared Wholesale Gas Market. The rise in Other revenue included higher connections activities and the recovery of costs associated with Renewable Energy Zones, as well as the $20m grant for ASL.

The $699m transmission and settlement revenue received by AEMO in its role carrying out its 'declared network functions' in Vic TNSP remained relatively flat YoY (+0.3% change). Total FY22 expenses for AEMO Group (consolidated) were $1,004m, which is 8% higher than in FY21. This increase included a 2% rise in network charges, an 18% increase in operating expenses and a 46% increase in Depreciation and Amortisation (D&A) expenses and financing costs.

AEMO's operating expenses are primarily driven by labour (permanent staff and contractors), consulting and IT costs to deliver AEMO's core obligations. Just under half of the FY22 rise in operating expenses was due to an increase in IT costs to enable the advanced cloud and software capabilities needed to launch and operate key reform programs like 5 Minute Settlements.

There was also an increase in consulting and contracting expenses reflecting engagement of specialist expertise to support the design and operation of a range of key reform initiatives, as well as to set up and scale up AEMO Services Limited. Labour costs, while the largest single operating expense item at $166m, grew by a smaller amount (4%), reflecting efforts by management to deliver cost efficiencies.

Key metrics

Financial metrics and ratios	Unit	FY22	FY22 vs. FY21
Revenue	$m	1,027	10%
Network charges	$m	673	2%
Operating expenses (excl Network Charges, D&A and Finance costs)	$m	278	18%
D&A and Net Finance Costs	$m	53	46%
Operating surplus/(deficit)	$m	24	554%
Accumulated Surplus/(deficit) at 30 June 2022	$m	(9)	(69%)
Capex	$m	104	(28%)
Cash & cash equivalents	$m	1,280	475%[1]
Intangible assets & PPE	$m	402	16%
Payables	$m	1,114	430%[1]
Borrowings	$m	433	21%
Current ratio (Current assets / Current liabilities)	%	104	2pp
Gearing (Debt / Debt + Equity)	%	97	-5pp

[1] Refer to explanation in balance sheet section below.

The significant capital investments AEMO has been making over recent years in digital and reform programs were responsible for the growth in D&A, with the successful launch of a number of initiatives in FY22.

AEMO primarily uses debt to finance capital investments, which is repaid over the life of the asset through recovery of depreciation and amortisation expenses. As a result of the ongoing capital activity over FY22, borrowings rose 21% to $433m.

This rise in borrowings, coupled with the rise of interest rates over the final quarter of FY22, led to an increase in finance costs relative to FY21. The additional borrowings were drawn from AEMO's existing syndicated bank debt facilities.

The most significant movements on the balance sheet relative to FY21 were the increase in Cash and cash equivalents, and similarly in Payables and Other liabilities, both of which were associated with market participant security deposits and prepayments.

These movements were a function of the unique market conditions that happened in the final quarter of FY22 when prices rose significantly for both electricity and gas in response to increased demand and supply constraints.

As a result, higher levels of credit support was required from market participants in the form of security deposits and prepayments. These funds are not available for AEMO's operational use but must be held on behalf of participants in accordance with the National Electricity Market and Wholesale Gas Market rules.

These increases in turn led to the equivalent growth of Payables liabilities (related to the electricity security deposits) and Other Liabilities (related to the gas prepayments for STTM, DWGM and WA WEM gas) as AEMO will need to return those funds over time.

The recent investments in new assets and system capabilities mentioned above resulted in a $55m (16%) rise in Intangible assets and Property Plant and Equipment (PPE), and a $75m increase in borrowings as explained above.

AEMO summary statement of financial position

	FY22 $'000	FY22 vs. FY21 %
Assets		
Cash and cash equivalents	1,280,112	475%
Intangible assets & PPE	402,306	16%
Other	147,655	11%
Total assets	**1,830,073**	**160%**
Liabilities		
Payables	1,114,202	430%
Borrowings	433,180	21%
Other	267,202	86%
Total liabilities	**1,814,584**	**155%**
Total equity	**15,491**	**273%**

Debt financing

As discussed above, AEMO debt funds capital investment programs upfront, which are repaid by fees over the useful life of the asset.

At 30 June 2022, AEMO has a syndicated bank debt facility of $535 million with National Australia Bank and the Australia and New Zealand Banking Group. The facility has a floating interest rate and consists of three tranches as follows:

- Tranche A: $50m maturing May 2023
- Tranche B: $242.5m maturing May 2024
- Tranche C: $242.5m maturing May 2026.

In March 2022, Tranche A of the facility was renegotiated to extend the tenor by 12 months. At 30 June 2022, the syndicated debt facility was drawn to $433m, leaving $102m undrawn and available.

In addition, in April 2022 AEMO entered into a loan agreement with Federal Treasury to fund the amended scope of the Consumer Data Right (CDR) program. The loan of $6.2m was undrawn as at 30 June 2022.

AEMO FY22 segment financial performance

AEMO Group operates five segments: the National Energy Market (NEM), East Coast Gas, Western Australia, the Vic TNSP, and AEMO Services Limited.

NEM

The NEM segment focuses on the market operations and systems to deliver electricity system security and reliability for the eastern and southern states. This includes wholesale metering, settlements and prudential supervision, longer-term energy forecasting and planning services. It does not include AEMO's role as the Vic TNSP or its activities in WA, both of which are discussed below.

The largest operating entity within the NEM segment is NEM Core, which is responsible for the majority of the engineering operations and planning to operate the energy market and system in the eastern and southern states. Other NEM entities include the National Transmission Planner (NTP), Consumer Data Platform (CDP), Five Minute Settlements (5MS) and Global Settlements (GS), Distributed Energy Resources (DER), Full Retail Contestability (FRC) and the NEM 2025 program.

During FY22 a number of key initiatives were delivered. This included the successful launch of the 5 Minute Settlement capability and implementation of Global Settlement changes as well as launch of the Wholesale Demand Response mechanism and implementation of a range of Renewable Energy Zone development plans.

The 2022 *Integrated System Plan* was published as well as the 2022 *Electricity Statement of Opportunities* and the *Engineering Framework* report. In addition, many foundations for future reform were laid with consultation on the NEM 2025 program, release of the Connections Reform roadmap and trials of the Connections Simulation Tool.

The 9% YoY increase in NEM Core revenues reflected higher Fee & Tariff revenue, in part due to the unique market conditions in the last quarter, as well as higher connections activity than in FY21.

The 4% YoY increase in NEM Core expenses was also driven by the higher connections activity, as well as an increase in cloud costs and labour costs to enable the delivery of the operational and reform initiatives outlined above.

The resulting $15.5m deficit brings the accumulated NEM Core deficit at the end of FY22 to $97.5m, which is slightly favourable to the opening position forecast in the FY22-23 Budget and Fees. The three-year deficit recovery fee pathway discussed with the FCC, remains important to enabling AEMO's longer-term financial health.

The significant increases in Other NEM revenue and expenses reflects the launch of new reform programs like 5 Minute Settlements (5MS), and Distributed Energy Resources (DER) and the scaling up of the National Transmission Planner (NTP) function.

NEM Summary P&L	FY22 $000	FY22 vs. FY21 %
NEM Core revenue	130,825	9%
Other NEM revenue	71,070	149%
Revenue	**201,895**	**36%**
NEM Core expenses	146,331	4%
Other NEM expenses	59,218	122%
Expenses	**205,549**	**23%**
NEM Core	(15,506)	(26%)
Other NEM	11,852	563%
Surplus / (Deficit)	**(3,654)**	**(81%)**

East Coast Gas

AEMO performs a number of wholesale gas market functions in the eastern and southern States, including the Declared Wholesale Gas Market (DWGM) as well as other markets supporting the secondary trading of gas and pipeline capacity.

In addition, AEMO operates Australia's gas retailer markets, the Declared Transmission System in Victoria, and bulletin boards that provide up-to-date gas market and system information.

FY22 saw AEMO continuing to play a critical leadership role in the operation and reform of the gas sector. The 2022 *Gas Statement of Opportunities* report highlighted key strategic considerations regarding the future of gas supply and demand, while AEMO also provided expert advice on the development of hydrogen policy and led a consultation with industry on the implementation of a gas futures exchange.

As outlined in the earlier section of this report, AEMO also navigated the disruption in the East Coast gas market.

The increase in gas consumption and traded volumes in the fourth quarter was a key factor behind the 14% rise in gas revenues YoY, most notably in the Victorian Declared Wholesale Gas Market (DWGM), with smaller increases for the Gas Supply Hubs and Day Ahead Auction entities.

As expenses remained flat YoY, this growth in revenue drove a higher than expected surplus for FY22, which will be returned to gas market participants in future years through the fee and tariff setting process.

East Coast Gas Summary P&L	FY22 $000	FY22 vs. FY21 %
Revenue	49,242	14%
Expenses	42,522	0%
Surplus/ (Deficit)	6,720	1,274%

WA

In Western Australia, AEMO oversees the electricity and gas markets, providing power system security and reliability, market operations and systems, wholesale metering, settlements, prudential supervision and long-term energy forecasting and planning services. Fees and charges for these functions reflect recovery of expenditure aligned with the three-year Economic Regulation Authority (ERA) determination on AEMO's allowable revenue and capital expenditure that was applicable during FY22 (AR5)[1].

During FY22 AEMO undertook significant activity to deliver elements of the WA Energy Transformation Strategy.

Key deliverables within AEMO's WEM Reform program included the completion of the foundational design elements, generator performance standards, constraints management, the first release of the Real-Time Market Submission and outage management systems, and enhancements to the Reserve Capacity Mechanism required to support the new market.

AEMO also delivered major components of Project Symphony, the DER orchestration pilot in the SWIS.

In addition, the WA electricity and gas statements of opportunities were published, and foundational design and development work undertaken as part of the WEM Reform project which is a key part of the FY23 capital program.

Although AEMO's WEM functions contributed an operating deficit in FY22, this was planned as part of repaying the $8m accumulated surplus that existed at the end of FY21. Revenues were 4% higher both YoY and relative to budget, due to increased electricity consumption in the WEM in FY22 and higher income for the WA Gas Services Information function.

Expenses were in line with budget but 16% higher than FY21, reflecting additional headcount to support the energy market pilots and development work, and a rise in depreciation and amortisation with the transition of assets into service following investments in new WEM system capability.

WA Summary P&L	FY22 $000	FY22 vs. FY21 %
Electricity market revenue	32,738	2%
Gas market revenue	3,108	23%
Revenue	**35,845**	**4%**
Expenses	**39,250**	**16%**
Surplus / (Deficit)	**(3,405)**	**(597%)**

[1] The WA segment represented in the AEMO Group Financial Statements includes additional operational entities to those included in the ERA determination.

Vic TNSP

As Vic TNSP, AEMO is responsible for providing shared transmission services to users of the Victorian Declared Transmission System (DTS) and the planning of future requirements and procuring of augmentations in the DTS.

During FY22, significant planning and development work was undertaken on major projects for the Victorian Government such as VNI West, the Renewable Energy Zone Development Plan and the Western Victoria RIT-Transmission. The *Victorian Annual Planning Report Update* was also published.

FY22 saw higher volatility in market consumption and pricing through the year, which drove revenue variations, particularly in Settlement Residue.

Full year revenue rose by 1%, driven by higher transmission income and connections activity than in FY21, offset by a drop in the settlement residue revenue outcome.

Expenses rose by 2% mainly due to network charges increasing YoY, though there was an increase in labour expenses related to the planning of the new major projects mentioned above, and additional costs related to the connections activity.

Overall, the Vic TNSP segment delivered a $15m surplus in FY22, which was lower than in FY21 and favourable to budget.

Vic TNSP Summary P&L	FY22 $000	FY22 vs. FY21 %
Transmission revenue	653,214	2%
Settlement residue	45,915	(18%)
Other revenue	19,513	70%
Revenue	**718,639**	**1%**
Network charges	672,790	2%
Operating expenses	31,151	21%
Expenses	**703,942**	**2%**
Surplus / (Deficit)	**14,697**	**(31%)**

AEMO Services Ltd

ASL was established as a subsidiary of the Australian Energy Market Operator (AEMO) to independently carry out functions as appointed by National Electricity Market jurisdictions.

In FY22, ASL was appointed by the NSW Government to carry out the functions of the NSW Consumer Trustee, and in this foundational role is a key partner in the implementation of the NSW Government's Electricity Infrastructure Roadmap.

The full extent of the role and obligations of the NSW Consumer Trustee are specified in the NSW Electricity Infrastructure Investments Act 2020 (NSW) (EII Act).

During FY22, ASL exercised a number of key functions as set out in the EII Act including the publication of the inaugural Infrastructure Investments Objectives report which sets out the 20-year development pathway for required infrastructure and the associated 10-year tender program to give effect to the development pathway.

It also undertook preparatory activities to conduct competitive tenders to deliver built energy infrastructure and developed a statutory risk management framework to protect the financial interests of NSW electricity consumers from the risks associated with Long Term Energy Service Agreements (LTESAs).

The $10.1m surplus recorded for FY22 by ASL reflects the unused portion of the grant received from the NSW Government, which will fund ASL's activities into FY23.

AEMO Services Ltd Summary P&L	FY22 $000	FY22 vs. FY21 %
Revenue	**20,013**	**n/a**
Expenses	**9,868**	**n/a**
Surplus/ (Deficit)[1]	**10,145**	**n/a**

[1] The ASL surplus for FY22 was $7.1m net of consolidation adjustments.

AEMO FY22 accumulated surplus/deficit

As a not-for-profit entity, AEMO seeks to ensure fees, tariffs and other charges are set, such that sufficient revenue is generated to recover the full operating expenditure (including D&A and Finance costs) for each function and segment it operates. Via the FCC, AEMO engages industry members on Corporate Plan priorities and the associated budget. The fee and tariff levels are set out in the annual Budget & Fees document that AEMO produces. In any year, the revenues collected, and costs incurred, can vary from the levels estimated in the budget, and these variances can lead to a surplus or deficit in an individual function or segment. Over time, AEMO adjusts its fee and tariff levels in each market so that it can repay an accumulated surplus or recover an accumulated deficit.

This process is made transparent through the FCC and AEMO is committed to delivering it functions efficiently.

The accumulated surplus or deficit attributable to each of AEMO's segments and individual entities is reconciled and managed on an ongoing basis. The following table shows the accumulated surplus/(deficit) at the end of FY22 and FY21 for the major functions within each segment.

Accumulated surplus / (deficit) by function grouped by segment	FY22 $'000	FY21 $'000
Consolidated accumulated surplus / (deficit)	**(8,933)**	**(29,121)**
NEM	(89,767)	(84,937)
NEM Core (including connections)	(97,509)	(81,826)
Electricity Full Retail Contestability (FRC)	3,184	2,950
National Transmission Planner (NTP)	2,726	(6,969)
Five Minute Settlements (5MS)	(933)	0
Distributed Energy Resources (DER)	2,059	(784)
SA Planning Functions (SAP)	2,195	1,850
Consumer Data Platform (CDP)	(704)	(626)
Other	(784)	(530)
East Coast Gas	32,770	26,073
Declared Wholesale Gas Market (DWGM)	12,948	8,417
DWGM – Capital Contribution[1]	8,704	8,704
Gas Full Retail Contestability (Gas FRC)	2,922	2,839
Short Term Trading Market (STTM)	9,125	8,983
Gas Supply Hub (GSH)	(3,789)	(4,524)
Gas Retail Business-to-Business (Gas B2B)	718	502
Gas Bulletin Board (GBB)	208	(83)
Gas Statement of Opportunities (GSOO)	1,821	1,728
Gas Capacity Training (GCT)	(1,558)	(1,080)
Day Ahead Auction (DAA)	1,331	447
Other	341	140
WA	4,221	7,625
Western Australia Wholesale Electricity Market (WA WEM)	5,089	6,041
Western Australia Systems Management (WA SM)	(1,492)	920
Western Australia Gas Full Retail Contestability (WA GAS FRC)	510	639
Western Australia Gas Services Information (WA GSI)	611	182
WA DER	(497)	(156)
Vic TNSP	36,817	22,119
Vic TNSP	37,026	22,325
Settlement Residue Auction (SRA)	(209)	(206)
AEMO Services Limited[2]	10,145	n/a

[1] The DWGM – capital contribution amount relates to VENCorp contributed capital that was required to be treated as an accumulated surplus at the commencement of AEMO

[2] The ASL surplus for FY22 was $7.1m net of consolidation adjustments.

At 30 June 2022 the NEM Core accumulated deficit was $97.5m after a few years where modest annual fee increases did not sufficiently factor in the increasingly complex operating environment.

AEMO engaged with industry body representatives, via the FCC, about the need for the system operator to be in a more sustainable financial position to deliver on its important role in navigating the energy future. A three-year fee pathway to recover the NEM Core accumulated deficit was agreed with members.

Corporate Governance Report

Corporate governance principles

Robust corporate governance arrangements encourage the Board and Management to pursue objectives that are in the interests of the Company, its members and stakeholders. There is a clear correlation between a culture focused on achieving and maintaining high standards of corporate governance and the creation of value for AEMO's members and the broader community.

AEMO is committed to ensuring an effective corporate governance framework is in place and has continued to refine its approach to corporate governance, informed by the ASX Corporate Governance Principles and Recommendations, Not for Profit Good Governance Principles (AICD) and overseas trends, adapting as required to AEMO's corporate structure and Constitution.

As part of the corporate governance framework, the Board has established corporate policies and charters, which are updated, as required, to reflect the increasing governance expectations of society and the evolution of governance standards. These resources are published on AEMO's website.

Composition of the Board

The Board, with the assistance of its Board Committees, oversees AEMO's activities to meet AEMO's objectives and responsibilities under relevant laws and regulatory regimes. The Board monitors the performance, cost-effectiveness and risks of AEMO's operations and systems.

As at 30 June 2022, AEMO had nine Board members including an independent Chair, the Managing Director and Chief Executive Officer, seven non-executive Directors and one Director vacancy. Collectively, the Board possesses the skills and experience prescribed in AEMO's Constitution and those necessary to face challenges from an sector undergoing rapid and challenging transformation.

The selection process for a new Chair or non-executive Directors is overseen by the Board Nomination Committee with the interview short list, interview process and recommendations for appointment being made by the Independent Energy Appointments Selection Panel. In addition to the core skills and experience required by the Constitution, other factors such as independence, diversity, and succession planning are considered as part of the selection process.

AEMO's members (government and industry) must endorse the Appointments Selection Panel's report on its recommendations before they are submitted for approval by the Energy Ministers.

Directors are eligible for reappointment of a term of up to four years.

Director induction and continuing education

Prior to commencement each Director undergoes a structured induction program and is provided with a letter of appointment and a Deed of Access, Indemnity and Insurance. They are also provided with AEMO's corporate governance documentation including the AEMO Constitution, Board Charter, Board Committee Charters, key corporate policies, and an overview of AEMO's strategic objectives and operations. The tailored induction program features briefing sessions with executives and senior managers on key aspects of AEMO's operations and site visits.

Directors are encouraged to continue their education and development by attending training and education relevant to their role. Briefings and workshops are also regularly held in conjunction with Board meetings.

Review of the Board, Chief Executive Officer and Executive Leadership Team

The Board has delegated day-to-day management of the Company to the Chief Executive Officer, assisted by the Executive Leadership Team. Each executive has a formal position description, and their performance is monitored and measured in accordance with AEMO's performance management process. The Board assesses the performance of the Managing Director & Chief Executive Officer. The CEO assesses the performance of the Executive Leadership Team. The People and Remuneration Committee reviews and makes recommendations to the Board on the remuneration and performance payments of the Chief Executive Officer and the Executive Leadership Team.

The Board is committed to the ongoing development of individual Directors and the Board as a whole. The Board regularly undertakes an assessment of its performance. This assessment may be:

- Qualitative, quantitative or both.
- Informal or formal.
- A whole of Board review, or individual Directors.
- Self-administered, administered by the Chair, or administered by an independent expert.
- Focused internally on the Directors or involving the wider body of corporate stakeholders including, but not limited to, AEMO members.

During the Financial Year 2021-22, an external Board Performance Review was conducted to measure Board culture and effectiveness and to identify strengths and areas for development. The review confirmed an effective Board strongly aligned to vision and values, effective in its decision making and collaboration, and adapting to the pace, scale and urgency of issues associated with the energy transition.

Opportunities identified included a commitment to further strengthen diversity, increased scope (post COVID-19) for a higher level of stakeholder and members engagement, and value in reviewing the role and responsibilities of Board Committees to provide an integrated assurance function to the Board in the context of AEMOs changing environment and requirements.

Director independence

The Constitution requires the Chair and a majority of Directors to be independent, as defined in the Constitution. The independent Directors during 2021-22 were Julieanne Alroe, Drew Clarke AO, Dr Peter Davis, Nino Ficca, Anne Nolan, John Pittard, and Kee Wong.

Responsibilities

Directors must act in the best interests of the Company. The Board's responsibilities under its charter include:

- Instilling AEMO values and monitoring AEMO culture.
- Approval of corporate strategies, capital investment, annual plan and budget and monitoring of organisational performance in delivering associated objectives and goals.
- Appointing and assessing performance of the CEO and oversee executive leadership succession plans.
- Monitoring the integrity of AEMO's accounting and financial reporting.
- Reviewing emerging and identified risks and ensuring appropriate controls, monitoring and reporting mechanisms are in place.
- Monitoring compliance with ethical, legislative and regulatory requirements including occupational health and safety, equal opportunity, environmental, corporate governance and reporting obligations.
- Ensuring that AEMO's governance systems and practices are effective.

Directors' access to information and advice

Directors have access to:

a. any information they consider necessary to fulfil their responsibilities and to exercise independent judgment when making decisions;

b. management to seek explanations and information from management; and

c. auditors, both internal and external, to seek explanations and information from them without management being present.

They also have a right of access to Company records in accordance with the Deed of Access, Indemnity and Insurance approved by the Members and entered into between the Company and each Director. Directors have access to the Company Secretary about any matter related to their role as Director. The Directors also have the right to seek independent professional advice at AEMO's expense to help them carry out their duties, provided they have the prior approval of the Chair, which will not be unreasonably withheld.

Conflicts of interest

Directors must avoid conflicts of interest and breaches of duty. Specifically, they must act in good faith in the best interests of the company. Directors must not use their positions for personal benefit or the advantage of another person or organisation at AEMO's expense or use AEMO property inappropriately or place themselves in positions where they owe a duty to a third party that conflicts with their duty to AEMO. Directors are required to immediately declare any interest or duty that conflicts with their duties to AEMO, or that might lead to or be perceived as, a conflict of interest. Conflicts of interest are managed in accordance with the Directors' Interests Protocol.

No Director has received or become entitled to receive a benefit because of contractual arrangements between AEMO and the Director other than as declared in the Annual Report or through their contract of employment or engagement with AEMO.

AEMO Board

Drew Clarke AO PSM
Non-Executive
Independent Chair

Daniel Westerman
Chief Executive Officer
& Managing Director

Julieanne Alroe
Non-Executive
Independent Director

Tony Concannon
Non-Executive
Non-Independent Director

Betsy Donaghey
Non-Executive
Non-Independent Director

Nino Ficca
Non-Executive
Independent Director

Anne Nolan
Non-Executive
Independent Director

John Pittard
Non-Executive
Independent Director

Kee Wong
Non-Executive
Independent Director

Directors' Report

For the Financial Year ended 30 June 2022

For Members

1. The year in review

Your directors present their report on the consolidated entity Australian Energy Market Operator Limited (AEMO) for the financial year ended 30 June 2022.

1.1 Principal activities

AEMO's principal activities over the 2021–22 financial year comprised the following:

- Market operation of the National Electricity Market (NEM) and the WA Wholesale Electricity Market (WEM).
- System operation and security of the NEM interconnected grid, Western Australia's South West Interconnected System (SWIS) and the Victorian Gas Declared Transmission System (DTS).
- Victorian electricity Transmission Network Service Provider (TNSP) responsibilities (including transmission network connections and procurement services).
- Operation of the Victorian Declared Wholesale Gas Market (DWGM).
- Facilitation of Full Retail Contestability (FRC) for electricity and gas in eastern and south-eastern Australia and gas in Western Australia.
- Operation of the Short-Term Trading Market (STTM) for gas at the Adelaide, Sydney and Brisbane hubs.
- Operation of the Wallumbilla and Moomba Gas Supply Hubs.
- Management of the National Gas Bulletin Board and the West Australian Gas Bulletin Board.
- National integrated electricity system planning (National Transmission Planning) including the *Integrated System Plan* (ISP).
- Independent electricity and gas demand forecasting.
- Emergency management responsibilities for electricity and gas and supporting the National Gas Emergency Response Advisory Committee (NGERAC).
- Market operation of the Gas Capacity Trading Platform (CTP) and Day Ahead Auction (DAA).

1.2 Corporate strategy and review of operations

As the national energy market and system operator and planner, AEMO plays an important role in supporting the industry to deliver safe, reliable and affordable energy supply.

As well as carrying out its core operational functions, AEMO delivered a range of important initiatives in 2021-22 to support the security and reliability of the transforming energy systems in the East Coast and Western Australia.

During 2021-22 AEMO:

- Played a critical leadership role in June 2022 in managing the electricity and gas markets through one of the most disruptive events in the history of Australia's energy markets, as a combination of demand and supply factors led to significant price rises and the real risk of blackouts.
- Successfully launched 5 Minute Settlements capability on 1 Oct 2021 to implement AEMC requirement to align operational dispatch and settlement at five minutes, and implemented full Global Settlement changes by May 2022.
- Established AEMO Services Ltd (incorporated 14 July 2021), which has been appointed NSW Consumer Trustee under the *Electricity Infrastructure Investment Act 2020 (NSW) ('EII Act')*. During FY22, AEMO Services exercised a number of key functions as set out in the EII Act including the publication of the inaugural Infrastructure Investments Objectives report which sets out the 20-year development pathway for required infrastructure and the associated 10-year tender program to give effect to the development pathway. It also undertook preparatory activities to conduct competitive tenders to deliver built energy infrastructure and the development of a statutory risk management framework.
- Launched the Wholesale Demand Response mechanism in the NEM on 24 Oct 2021 to support the increasing demand side participation in the electricity market.
- Published the final 2022 *Integrated System Plan* on 30 Jun 2022, building on nearly two years of detailed scenario modelling and extensive collaboration with a broad range of industry participants, consumer representatives and jurisdictions.
- Published the 2022 *Electricity Statement of Opportunities* for the NEM (Aug 2021) and Western Australia (Jun 2022), and *Gas Statement of Opportunities* for the WA (Dec 2021) and east coast gas systems (Apr 2022).

- Published the Engineering Framework report in Jul 2021 to define the operational, technical and engineering requirements to prepare for 100% instantaneous renewables.
- Delivered major components of Project Symphony, WA's largest DER orchestration project.
- Progressed major components of the WEM Reform program, including development of the Real-Time Market Submission and outage management systems, and enhancements to the Reserve Capacity Mechanism required to support the new market.
- Published the Victorian Annual Planning Report (Oct 2021) and the South Australian Electricity Report (Nov 2021).
- Enhanced AEMO's Cyber capabilities with delivery of an identity and access management platform and roll out of advanced threat detection and response capabilities.
- Released the Connections Reform roadmap (Dec 2021) and launched 'Minimum Viable Product' trials of some key Connection Tool capabilities.
- Supported the Energy Security Board with design of a capacity mechanism and a congestion management mechanism for purposes of consultation with industry
- Commenced consultation on the NEM 2025 program to coordinate a suite of reforms to meet the need of the energy transition.
- Supported implementation of a range of actionable ISP projects including Renewable Energy Zone Development Plans Stage 1 & 2.
- Showcased National Simulator in Sep 2021 and developed the conceptual design and architecture.

AEMO's work in 2021-22 to build greater engagement with stakeholders included:

- Uplifting the consistency and quality of stakeholder engagement interactions across the business through improvements in collaboration, process and tools.
- Publishing the third annual stakeholder reputation research report showing year-on-year improvements (across several categories) from the 2021 study, including internal and external engagement on findings.
- Successfully standing up and operating the Consumer Panel for the 2022 ISP. Evaluation both externally (with panel members and other stakeholders) and internally with key ISP authors indicate that the panel brought significant value to the final report and resulted in a stronger ISP outcome overall.
- Establishing and operating a new Financial Consultative Committee which transparently shared AEMO's annual budget and fees. Six meetings of the Committee were held during 2021-22 to enable opportunities for deeper, more timely engagement on AEMO's draft budget and fees. This approach will continue into future years.
- The Consumer Forum held six meetings in 2021-22. The objective of the AEMO Consumer Forum is to provide a channel for information sharing between AEMO, consumer advocates and other relevant industry representatives to share information about projects affecting energy consumers. The forum allows AEMO to present current and planned projects to consumer advocates and seek feedback and comments.
- Developed and implemented engagement and communications strategy for the unprecedented market suspension event and subsequent compensation calculations and the 2022-23 Budget and Fees.

AEMO's achievements in supporting the health, safety and development of our people this year included:

- COVID management and infection controls and general workplace safety support were effective in minimising the impact of COVID-19 on critical operations and in keeping all our employees safe. No workplace lost time injuries were recorded during the year.
- A Wellbeing Calendar of activities was delivered to employees throughout the year to promote healthy minds and bodies and engage employees in workplace safety initiatives.
- Three-year strategies for Talent and Diversity, Equity, and Inclusion (DEI) have commenced, focused on planning, sourcing, development and retention of talent and driving positive change in the areas of gender diversity, inclusion, flexibility, Indigenous reconciliation and supporting people with a disability.
- Listening sessions with the CEO were conducted to demonstrate AEMO core values. These are a causal link in improved engagement scores in the 2022 survey.
- Organisational planning and support was provided to equip, leaders and employees with the skills and resources to work safely and effectively both remotely and in office. AEMO 2025 events saw approximately 900 of our employees reconnect with colleagues and build a sense of connection and belonging at AEMO.

2. Corporate structure

2.1 Not for profit – limited by guarantee

AEMO is a not-for-profit public company limited by guarantee incorporated under the *Corporations Act 2001* (Cth). The Company membership comprises government and industry members with government owning 60% and industry 40%. Government members are the Commonwealth, New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania and the Australian Capital Territory.

Registered participants are eligible to become industry members of AEMO.

AEMO has statutory powers to recover all costs including under and over recoveries in any of its functions in the next or subsequent financial years. This is achieved by including surpluses or deficits in future budgets for specific AEMO functions.

2.2 Contributions on winding up

The Company is incorporated under the *Corporations Act 2001* (Cth) and is a company limited by guarantee. The Constitution states that each Member undertakes to contribute to the Company's property if the Company is wound up during, or within one year after the cessation of, the Member's membership on account of:

a. Payment of the Company's debts and liabilities contracted before they ceased to be a Member;

b. The costs of winding up; and

c. Adjustment of the rights of the contributories among themselves,

an amount not to exceed $1.00.

At 30 June 2022, the total maximum amount that members of the Company are liable to contribute under the Constitution if the Company is wound up is $125 (2021: $103).

3. Directors

The following persons were Directors during the full financial year ended 30 June 2022 and up to the date of this report unless otherwise stated:

Name, qualifications, title, positions held, special responsibilities and independence status, current board appointments and experience	Period of appointment
Mr Andrew (Drew) Clarke AO PSM *MSc, BAppSc, FTSE, MAICD* **Non-executive Independent Chair** **Member Technical and Regulatory Committee** **Member People and Remuneration Committee** *Director, NBN Co; AEMO Services Ltd* *Member, Commonwealth Low-Emission Technology Investment Advisory Council; Chair, ACOLA, Australian Energy Transition Research Plan Steering Committee; Member, Zero-Carbon Energy for the Asia-Pacific Advisory Board, the Australian National University.* Mr Clarke has served in energy policy leadership roles since 2003, including a term as Secretary of the Commonwealth Department of Resources and Energy. He led the Commonwealth's actions in the creation of the National Energy Market Rules and the three NEM market bodies, served as Chair of the Senior Committee of Officials under the COAG Ministerial Council on Energy, led establishment of the Australian Renewable Energy Agency (ARENA) and the Global Carbon Capture and Storage Institute, and was Australia's member on the Governing Board of the International Energy Agency.	1 July 2021 to 30 June 2022
Mr Daniel Westerman *BEng (Hons), BSc, MBA, CEng, CDir, FEI, FIET, FIoD* **Managing Director and CEO** *Director, AEMO Services Ltd* Mr Westerman commenced as CEO and Managing Director of AEMO in May 2021. He oversees AEMO's strategy and operations, including collaboration with market participants and policy-makers. Prior to joining AEMO, Mr Westerman held a variety of senior executive roles with London-listed electricity and gas utility, National Grid Plc. Most recently he served as Chief Transformation Officer and President of Renewable Energy, where he led the company-wide transformation program, and grew a large-scale renewable energy business in the United States. In previous roles he has been responsible for engineering, planning and operational control of the electricity transmission network across Great Britain, as well as the development of distributed energy systems, such as rooftop solar, storage and energy metering. Prior to joining National Grid Plc, he held positions with McKinsey & Company and Ford Australia.	1 July 2021 to 30 June 2022

Name, qualifications, title, positions held, special responsibilities and independence status, current board appointments and experience	Period of appointment
Ms Julieanne Alroe *BEcon, MAICD* **Non-executive Independent Director** **Member of Risk & Audit and Technical & Regulatory Committees** *Chair, Queensland Ballet; Director, BESIX Watpac; Director, Gardior Pty Ltd; Member, Committee for Brisbane Advisory Board; President, Queensland Futures Institute; Member, Queensland Business Hall of Fame Induction Committee; Member, Queensland Thoroughbred Advisory Panel.* Ms Alroe is a professional non-executive director. She is a Board member of BESIX Watpac and Gardior Pty Ltd and a member of the University of Queensland Senate. Ms Alroe is also the Chair of the Queensland Ballet. She is also a Member of the Committee for Brisbane Advisory Board, the Inaugural President of the Queensland Futures Institute (QFI), the Queensland Business Hall of Fame Advisory Committee and a Member of the Queensland Thoroughbred Advisory Panel. Ms Alroe retired in June 2018 from Brisbane Airport Corporation (BAC) where she held the position of CEO and Managing Director since 1 July 2009. She was the Chair of ERM Power Ltd from 2018 until it was sold to Shell in late 2019. She was also the Chair of Infrastructure Australia for 5 years until August 2021. Ms Alroe has a Bachelor of Economics from the University of Queensland and was granted an Honorary Doctor of the Griffith University (honoris causa) in December 2016. She is a Member of the Australian Institute of Company Directors, a Fellow of the Queensland Academy of Arts and Sciences and a member of the Chief Executive Woman (CEW).	1 June 2021 to 30 June 2022
Mr Anthony (Tony) Concannon *BSc (Hons), FAICD, FIMechE, AMIET* **Non-executive Non-independent Director** **Member of People & Remuneration and Technical & Regulatory Committees** *CEO and ownership interest, Reach Solar Energy Management Co Pty Ltd (and related development companies).* Mr Concannon has more than 30 years' experience within the power sector. He is a chartered power engineer with international experience in governance, investor relations, operations management, finance, and risk management. He was an Executive Director of International Power plc (2004-12), previous Chairman of the Electricity Supply Association of Australia (now known as the Energy Council of Australia), CEO for IPR Australia and CEO Asia Pacific region for GDF SUEZ energy until 31 January 2014. In early 2015, he started up a large-scale solar PV business, Reach Solar energy, where he is Managing Director and CEO. Chair of Zema Scholarship Fund Committee since 1 December 2021.	1 July 2021 to 30 June 2022
Dr Peter Davis *BSc (Hons), BEd, MBA, PhD, FAICD, FIEAust* **Non-executive Independent Director** **Chair of Technical & Regulatory Committee (until 1 December 2021)** **Member of People & Remuneration Committee** *Member, Clean Energy Regulator* Dr Davis has worked in the retail, distribution and generation sectors for more than 25 years, and has extensive knowledge of the energy industry. He has deep experience in leading integrated utility businesses, covering generation, distribution, electricity and gas retailing, and telecommunications in both regulated and competitive markets. He was CEO of Aurora Energy Pty Ltd from 2004-14. Chair of Zema Scholarship Fund Committee until 1 December 2021.	1 July 2021 to 1 December 2021 (retired)

Name, qualifications, title, positions held, special responsibilities and independence status, current board appointments and experience	Period of appointment
Ms Elizabeth (Betsy) Donaghey *BSc, MSor* **Non-executive Non-independent Director** **Chair of People & Remuneration Committee** **Member of Technical & Regulatory Committee** *Director, Cooper Energy Limited (ASX: COE); Director, Ampol Limited (ASX:ALD)* During her corporate career, Ms Donaghey held senior executive positions in strategy, marketing and business development at Energy Australia, Woodside Petroleum and BHP Petroleum.	1 July 2021 to 30 June 2022
Mr Nino Ficca *BEng (Hons), Advanced Management Program Harvard USA, GradDip Mgt, MAICD, FIEAust* **Non-executive Independent Director** **Chair of Technical & Regulatory Committee (from 1 December 2021)** **Member of Risk & Audit Committee** *Director, Transurban Queensland; Co-Founder and Director, TasRex; Member of Deakin University Council.* Mr Ficca has extensive senior executive experience in strategic and operational roles within the energy sector, including in the National Electricity Market and gas markets. He served as Managing Director of AusNet Services Limited and its predecessors, SP AusNet and SPI Powernet, from 2001-19. An electrical engineer by training, Mr Ficca has a deep understanding of energy transmission and distribution grids, and their importance in underpinning effective markets and maintaining secure, reliable and high-performing systems. Mr Ficca is also the immediate past Chairman of the Energy Networks Association, and a past Chair of CIGRE Australia.	1 July 2021 to 30 June 2022
Ms Anne Nolan *B. Econ(Hons), M.Econ, Adjunct Professor with University of Western Australia* **Non-executive Independent Director** **Chair of Risk & Audit Committee** **Member of Technical & Regulatory Committee** *Director, Fremantle Port Authority; Member; University of Western Australia Business School; Director, Western Australian Symphony Orchestra; Director, Western Australian Coastal Shipping Commission; Director, Western Australia Venues & Events.* Ms Nolan has had a distinguished career with the Western Australian public service sector, leading the Department of Finance and the Department of State Development and serving as the Deputy Director-General, Cabinet and Policy Division in the Department of Premier and Cabinet. She was the inaugural Chief Executive of the Independent Market Operator for the WA Wholesale Electricity Market (WEM). She is an economist with broad public policy experience in microeconomic reform, energy, infrastructure, tax and Commonwealth-State relations. As Chief Executive of the Office of Energy from 2002-06, Ms Nolan was responsible for driving the reform agenda that saw the introduction of a competitive electricity market in the WEM, an independent third-party network access regime and the disaggregation of Western Power.	1 July 2021 to 30 June 2022

Name, qualifications, title, positions held, special responsibilities and independence status, current board appointments and experience	Period of appointment
Mr John Pittard *BSc, MAICD* **Non-executive Independent Director** **Member of Risk & Audit and Technical & Regulatory Committees** *Chair, AEMO Information Exchange Committee.* Mr Pittard has 30 years of experience in technology related roles and has led digital and technology transformations across several industry sectors in Australia, including media, telecommunications and resources. He has previously held senior executive roles with some of Australia's largest corporations, including NewsCorp Australia, Telstra, Pioneer International and Shell Australia. Mr Pittard has extensive experience as a Non-Executive Director with both listed and unlisted companies including a number "digital disruptors" such as REA Group and CareerOne Limited.	1 July 2021 to 30 June 2022
Mr Kee Wong *BE (Hons), MBA, GradD Computing (D)* **Non-executive Independent Director** **Member of People & Remuneration and Technical & Regulatory Committees** *Managing Director, E-Centric Innovations Pty Ltd; Director, Carsales.com; Director, Australian Institute of Company Directors (AICD); Director, Committee for Melbourne; Non-Executive Director of Walter Eliza Hall Institute; Member, Victorian Government's Ministerial Advisory Council on International Education, Innovation Taskforce and Transform Reform Board (Vic Department of Transport); Member, VicTrack Strategic Innovation Advisory Group; Member, ANU Centre for Asian-Australian Leadership Advisory Board; Member, Swinburne University Technology, Innovation and Value Creation Committee.* Mr Wong is an experienced entrepreneur, investor, advisor and experienced non-executive Director with qualifications in engineering, information technology and business. Mr Wong joined IBM in 1994 as a senior executive running part of its e-business group in the Asia Pacific region, including Australia and New Zealand. In 1999, he founded e-Centric Innovations, an IT/Management consulting firm, and went on the establish several businesses. As adviser to the Victorian Government, Mr Kee helped develop an R&D venture that resulted in a new global joint venture between Xerox and VicTrack to commercialise new technology that will remotely monitor the structural health of bridges. Mr Wong is a member of the Victorian Government's Ministerial Advisory Council on International Education, Ministerial Innovation Taskforce and Transform Reform Board (Victorian Department of Transport). Recently, Mr Wong joined as a member of the VicTrack Strategic Innovation Advisory Group, the ANU Centre for Asian-Australian Leadership Advisory Board, and Swinburne University's Technology, Innovation and Value Creation Committee. Amongst previous Board positions, Mr Wong was also Chairman of the Australian Information Industry Association (AIIA), a Deputy Chairman of Asialink and a Director of LaunchVic.	1 July 2021 to 30 June 2022

The Constitution requires that a majority of Directors, including the Chair, must be Independent Directors. Schedule 2 of the Constitution defines the independence requirements for Directors. Information pertaining to Directors' benefits is detailed later in this report.

Company secretaries

Ms Janice Bale was the Company Secretary for the period 5 November 2021 to 30 June 2022.
Mr Brett Hausler was also a Company Secretary for the period 1 July 2021 to 22 December 2021.

3.1 Meetings of Directors

The number of meetings of the company's Board of Directors and of each Board committee held during the year ended 30 June 2022, and the number of meetings attended by each director, were:

	Board		People & Remuneration		Risk & Audit		Technical & Regulatory		Special Board Meetings[1]	
	A	B	A	B	A	B	A	B	A	B
Drew Clarke AO PSM	8	8	4	4	-	-	4	4	5	5
Julieanne Alroe	8	8	-	-	4	4	4	4	4	5
Tony Concannon	8	8	4	4	-	-	4	4	2	5
Dr Peter Davis[2]	3	3	2	2	-	-	2	2	2	2
Betsy Donaghey	8	8	2	4	-	-	4	4	5	5
Nino Ficca	8	8	-	-	4	4	4	4	5	5
Anne Nolan	7[3]	8	-	-	4	4	3[4]	4	5	5
John Pittard	8	8	-	-	4	4	4	4	2	5
Daniel Westerman	8	8	-	-	-	-	4	4	5	5
Kee Wong	8	8	4	4	-	-	4	4	5	5

A = Number of meetings attended.
B = Number of meetings held during the time the director held office or was a member of the committee during the year which they were eligible to attend.

The Board held eight scheduled meetings and five unscheduled meetings during the financial year.

All Directors are members of the Technical and Regulatory Committee. The Chairman, and Managing Director & CEO attend all committee meetings ex officio. Where a Director is not a committee member, their attendance at meetings is not reflected in the table above. When a Director is unable to attend a meeting, they endeavour to provide written comments prior to the meeting.

[1] These meetings were out of session or Special meetings established to deal with ad-hoc matters.
[2] Retirement effective 1 December 2021.
[3] Meeting missed due to Director being unable to attend due to a prior commitment.
[4] Meeting missed due to Director being unable to attend due to a prior commitment.

4. Remuneration

4.1 Non-Executive Director Remuneration

Non-executive directors are remunerated for fulfilling their Board and Board Committee duties in accordance with relevant industry benchmarks. At AEMO's AGM on 27 November 2020, the members approved an annual remuneration pool to be applied for three years. The remuneration pool was determined on the advice of an independent Board remuneration adviser.

The oversight of executive and employee remuneration is a key responsibility of the Board and the People and Remuneration Committee. In discharging its duties, the Board and the Committee regularly review AEMO's remuneration approach to ensure that it appropriately recognises performance in the context of its Corporate Plan, reflects individual accountability and reinforces alignment with company values.

The remuneration framework, policies, and practices for executives and employees at AEMO are designed to:

a. Demonstrate a clear relationship between company performance and remuneration.
b. Involve an appropriate balance between fixed and variable remuneration.
c. Differentiate between levels of performance using a performance management framework.
d. Be informed by relevant market data and remuneration practices.

There were no fundamental changes to AEMO's remuneration framework and policies during the financial year ended 30 June 2022.

At AEMO's AGM on 27 November 2020, the members approved an annual remuneration pool to be applied for three years. The amount of the pool includes fees paid to the Director chairing the Information Exchange Committee, and projected increases over a three-year period.

The current pool is $1.35 million per year. The Board makes an annual determination as to the part of the approved pool to be applied as non-executive director fees, after considering advice from external remuneration advisers.

Non-executive Director remuneration is designed to ensure that Directors maintain objectivity and independence and that the Board attracts Directors with the necessary skills, expertise and capability. Non-executive Directors are not eligible for performance based or "at risk" remuneration.

Board and Committee Member remuneration

Remuneration per role[1]	Number of Roles[2]	FY22 $'000	FY21 $'000
Board Chair	1	225	224
Board Member	8	100	100
People & Remuneration Committee Chair	1	20	19
People & Remuneration Committee Member	3	10	10
Risk & Audit Committee Chair	1	24	24
Risk & Audit Committee Member	3	12	11
Technical & Regulatory Committee Chair	1	20	19
Technical & Regulatory Committee Member	8	10	10
Information Exchange Committee Chair	1	57	56

Non-executive director remuneration

Remuneration expense	FY22 $'000	FY21 $'000
Short-term employee benefits	1,120	1,038
Post-employment benefits	112	99
Other long-term benefits	-	-
Termination benefits	-	-
Total	**1,232**	**1,137**

[1] Remuneration per role includes superannuation.
[2] This is the nominal number of roles for each Committee. Not all roles were filled for every month of the year.

4.2 Executive Remuneration

For the purpose of this remuneration report Executive Personnel includes persons, whether on an interim basis or for the full period, assuming the Chief Executive Officer and executive leadership roles over the financial period.

Remuneration plans include a mix of fixed and variable compensation with short-term performance-based incentives. This approach to remuneration reflects the focus on outcomes that support value creation and sustainability of our business. Remuneration outcomes reflect both individual and overall company performance.

Managing Director and Chief Executive Officer
The position of the Managing Director and Chief Executive Officer is evaluated based on advice received from several remuneration and benefits specialists. The Board approves the Fixed Annual Reward (FAR) based on this advice. The Board approves any increase to the fixed pay component based on market movement and individual performance and approves any Short-Term Incentive (STI) based on corporate and individual performance.

Executive Key Management Personnel
As well as the Managing Director and Chief Executive Officer, the Board determined that four other Senior Executive roles should be deemed Key Management Personnel (KMP). Given some changes in personnel during FY22, there were in total eight individuals associated with these five executive KMP roles as follows:

Name	Title	Period of appointment
Mr Daniel Westerman	Managing Director and Chief Executive Officer	1 Jul 2021 to 30 Jun 2022
Mr Michael Gatt	EGM – Operations	1 Jul 2021 to 30 Jun 2022
Mr Cameron Parrotte	EGM – WA	1 Jul 2021 to 28 Jan 2022
Ms Kate Ryan	EGM – WA & Strategy	7 Feb 2022 to 30 Jun 2022
Ms Julie Williams	EGM – Finance & Business Services	1 Jul 2021 to 25 Feb 2022
Ms Vanessa Hannan	EGM – Finance & Governance	25 Feb 2022 to 30 Jun 2022
Dr Alex Wonhas	EGM – System Design	1 Jul 2021 to 11 Jan 2022
Ms Merryn York	EGM – System Design	14 Mar 2022 to 30 Jun 2022

All these positions have a role profile that is externally evaluated that supports their FAR. From time to time, AEMO seeks external remuneration advice regarding market movements for this group. The Board approves any annual fixed pay adjustments for KMP based on individual performance and approves any STI awards based on corporate and individual performance.

Other Executive Personnel
In addition to the executive Key Management Personnel, there are other executive roles at AEMO that the Board has not deemed to be Key Management Personnel. In FY22, there were 11 individuals associated with these roles. The remuneration for these roles is managed in the same way as for the executive Key Management Personnel.

4.2.1 Fixed Pay Remuneration
In determining the appropriate level of FAR (base salary + superannuation) applying to KMPs, AEMO references a range of data including relevant comparator groups and targeted salary survey data. Other factors considered in setting FAR include: role accountabilities and complexity; an executive's skills and experience; and internal relativities. While Executive Personnel fixed pay is reviewed annually, there is no contractual obligation to provide an annual increase.

4.2.2 Short term Incentive Plan (STI)
The AEMO STI plan is designed to reward all AEMO's Executive Personnel (and other participants) for achieving outcomes aligned to the delivery of AEMO's Corporate Plan. This component of remuneration is 'at risk', with vesting subject to meeting annual performance targets as agreed between the Executive and Chief Executive Officer, or in the case of the Chief Executive Officer, approved by the Board.

An Executive Personnel's STI opportunity is based on an equal weighting of the following elements:

- A Corporate Scorecard, approved annually by the Board which includes Key Performance Indicators related to the whole of AEMOs performance; and
- An Individual Executive scorecard, including Key Performance Indicators related to the achievement of Corporate Plan Priorities.

The target STI opportunity for Executive Personnel is 30% of the fixed pay remuneration, with a maximum opportunity of 45%. STI awards are made in cash. The final STI outcomes are reviewed and approved by the Board at the conclusion of the financial year and reflect both AEMO's and each Executive's overall performance throughout the financial year. For FY22 AEMO Key Management Personnel were awarded an average STI payment of 75.6% of the maximum opportunity.

4.2.3 Remuneration of Executive Key Management Personnel
The tables below show for FY22 and FY21 the remuneration for the different Executive Key Management Personnel across individual remuneration bands:

Executive Key Management Personnel Remuneration by pay band FY22

Total Remuneration Bands	Number of Executive Key Mgt Personnel[1] ($000)	Short-term employee benefits ($000)	Post-employee benefits ($000)	Other long-term benefits ($000)	Termination benefits ($000)	Total Actual paid ($000)
Executive KMP						
$0 - $200,000	2	311	20	7	-	338
$200,001 - $500,000	2	725	16	7	45	792
$500,001 - $800,000	3	1,602	56	26	86	1,770
>$800,001	1	1,018	24	24	-	1,065
Total	**8**	**3,655**	**115**	**64**	**131**	**3,965**

Executive Key Management Personnel Remuneration by pay band FY21

Total Remuneration Bands	Number of Executive Key Mgt Personnel[1] ($000)	Short-term employee benefits ($000)	Post-employee benefits ($000)	Other long-term benefits ($000)	Termination benefits ($000)	Total Actual paid ($000)
Executive KMP						
$0 - $200,000	1	122	5	3	-	131
$200,001 - $500,000	1	240	-	-	-	240
$500,001 - $800,000	5	2,956	95	58	-	3,109
>$800,001	-	-	-	-	-	-
Total	**7**	**3,318**	**101**	**61**	**-**	**3,480**

[1] Includes persons, whether on an interim basis or for the full period during the financial year.

5. Auditor

Grant Thornton is AEMO Group's external auditor and continues in office in accordance with Section 327 of the *Corporations Act 2001*.

This report is made in accordance with a resolution of directors.

Drew Clarke AO PSM
AEMO Board, Chair
8 September 2022

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Consolidated Financial Statements

for the year ended 30 June 2022

Grant Thornton

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Auditor's Independence Declaration

To the Directors of Australian Energy Market Operator Limited

In accordance with the requirements of section 307C of the *Corporations Act 2001*, as lead auditor for the audit of Australian Energy Market Operator Limited for the year ended 30 June 2022, I declare that, to the best of my knowledge and belief, there have been:

a no contraventions of the auditor independence requirements of the *Corporations Act 2001* in relation to the audit; and

b no contraventions of any applicable code of professional conduct in relation to the audit.

Grant Thornton

Grant Thornton Audit Pty Ltd
Chartered Accountants

B A Mackenzie
Partner – Audit & Assurance

Melbourne, 8 September 2022

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Consolidated Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2022

	Notes	2022 $'000	2021 $'000
Revenue			
Transmission revenue	4(a)	653,214	641,125
Settlement residue	4(a)	45,912	55,817
Electricity market revenue	4(b)	207,325	156,773
Gas market revenue	4(c)	49,570	42,997
Other revenue	4(d)	70,507	37,996
Total Revenue		**1,026,528**	**934,708**
Expenses			
Network charges	5(a)	672,790	661,473
Employee benefits	5(b)	165,572	159,106
Impairment of assets	5(d)	2,234	3,194
Consulting and contracting		42,565	27,977
Information technology		52,545	33,757
Other expenses	5(f)	14,663	10,219
Total Expenses		**950,369**	**895,726**
Surplus/(deficit) before depreciation, amortisation and net finance costs		**76,159**	**38,982**
Depreciation	5(c)	12,624	14,205
Amortisation	5(c)	38,377	21,174
Total depreciation and amortisation		**51,001**	**35,379**
Net finance costs	5(e)	2,395	1,248
Net finance costs		**2,395**	**1,248**
Surplus/(deficit) after depreciation, amortisation and net finance costs		**22,763**	**2,355**
Other Comprehensive Income			
Remeasurement of net defined benefit	6(b)	1,667	1,380
Total comprehensive surplus/(deficit) for the year		**24,430**	**3,735**

Surplus/(deficit) for the year is attributable to:			
Members of the parent		21,386	3,735
Non-controlling interest	18	3,044	-
Total comprehensive surplus/(deficit) for the year		**24,430**	**3,735**

The Consolidated Statement of Profit or Loss and Other Comprehensive Income should be read in conjunction with the accompanying notes.

Consolidated Statement of Financial Position

As at 30 June 2022

	Notes	2022 $'000	2021 $'000
Assets			
Current assets			
Cash and cash equivalents	8(a)	1,280,112	222,803
Receivables	8(b)	131,236	112,487
Defined benefit superannuation	6(a)(b)	1,679	168
Total current assets		**1,413,027**	**335,458**
Non-current assets			
Receivables and other assets	8(b)	206	529
Property, plant and equipment	7(b)	38,901	45,372
Intangible assets	7(e)	363,405	302,006
Right-of-use assets	11(a)	14,534	19,636
Total non-current assets		**417,046**	**367,543**
Total assets		**1,830,073**	**703,001**
Liabilities			
Current liabilities			
Payables	9(a)	1,114,202	210,036
Lease liabilities	11(b)	7,127	6,790
Other liabilities	9(b)	191,296	59,421
Provisions	10	51,338	53,232
Total current liabilities		**1,363,963**	**329,479**
Non-current liabilities			
Borrowings	12	433,180	358,180
Employee benefits	10	3,698	3,850
Lease liabilities	11(b)	13,743	20,432
Total non-current liabilities		**450,621**	**382,462**
Total liabilities		**1,814,584**	**711,941**
Net assets/(liabilities)		**15,491**	**(8,940)**
Equity			
Capital contribution of members		7,093	7,093
Participant compensation fund reserve	13(a)	10,661	9,689
Land reserve	13(b)	3,626	3,399
Accumulated surplus/(deficit)	13(c)	(8,933)	(29,121)
Non-controlling interest	18	3,044	-
Total equity		**15,491**	**(8,940)**

The Consolidated Statement of Financial Position should be read in conjunction with the accompanying notes.

Consolidated Statement of Changes in Equity

For the year ended 30 June 2022

	Capital Contribution of Members	Participant Compensation Fund (PCF) Reserve	Land Reserve	Non-Controlling Interest	Accumulated Surplus/ (Deficit)	Total Equity
	$'000	$'000	$'000		$'000	$'000
At 1 July 2021	**7,093**	**9,689**	**3,399**	**-**	**(29,121)**	**(8,940)**
Surplus for the year				3,044	19,719	22,763
Other comprehensive income	-	-	-	-	1,667	1,667
Total comprehensive surplus	-	-	-	3,044	21,386	24,430
Transfer to/(from) reserves						
- PCF Reserve	-	972	-	-	(972)	-
- Land Reserve	-	-	227	-	(227)	-
As at 30 June 2022	**7,093**	**10,661**	**3,626**	**3,044**	**(8,933)**	**15,491**
At 1 July 2020	**7,093**	**8,648**	**3,172**	**-**	**(31,588)**	**(12,675)**
Deficit for the year	-		-		2,355	2,355
Other comprehensive income	-	-	-	-	1,380	1,380
Total comprehensive deficit	**-**	**-**	**-**	**-**	**3,735**	**3,735**
Transfer to/(from) reserves						
- PCF Reserve	-	1,041	-	-	(1,041)	-
- Land Reserve	-	-	227	-	(227)	-
As at 30 June 2021	**7,093**	**9,689**	**3,399**	**-**	**(29,121)**	**(8,940)**

The Consolidated Statement of Changes in Equity should be read in conjunction with the accompanying notes.

Consolidated Statement of Cash Flows

For the year ended 30 June 2022

	Notes	2022 $'000	2021 $'000
Cash flows from operating activities			
Receipts from customers		310,417	241,712
Receipts from customers – Victorian TNSP function		778,746	762,566
Interest received		388	203
Payments to suppliers and employees		(169,458)	(228,864)
Payments for transmission network charges		(743,970)	(731,167)
Payments from operating grants		(6,049)	-
Interest and other finance costs paid		(2,415)	(1,351)
Net cash inflow/(outflow) from operating activities before movements in security deposits and participant prepayments	8(a)	**167,659**	**43,099**
Receipts of participants security deposits and prepayments		3,172,413	626,303
Repayment of participants security deposits and prepayments		(2,246,793)	(478,923)
Net cash inflow/(outflow) from operating activities	8(a)	**1,093,279**	**190,479**
Cash flows from investing activities			
Receipts of grants		-	740
Payments for plant, equipment and intangible assets		(104,054)	(143,098)
Net cash inflow/(outflow) from investing activities		**(104,054)**	**(142,358)**
Cash flows from financing activities			
Proceeds from borrowings		75,000	120,000
Repayment of lease liabilities		(6,916)	(8,056)
Net cash inflow/(outflow) from financing activities		**68,084**	**111,944**
Net increase/(decrease) in cash and cash equivalents		**1,057,309**	**160,065**
Cash and cash equivalents at the beginning of the financial year		222,803	62,738
Cash and cash equivalents at the end of the financial year	8(a)	**1,280,112**	**222,803**

The Consolidated Statement of Cash Flows should be read in conjunction with the accompanying notes.

Notes to the Financial Statements

1. Corporate Information and Key Events

The consolidated financial statements are for the consolidated entity consisting of Australian Energy Market Operator Limited (the 'Company') and its subsidiary AEMO Services Limited (the 'Subsidiary'), together referred to as the Group. Australian Energy Market Operator Limited (AEMO) is an independent, not-for-profit public company limited by guarantee, incorporated, and domiciled in Australia. It's members include energy industry members and market participants (together with 40% of the votes at a general meeting) and each of the Commonwealth, Victorian, New South Wales (NSW), Queensland, Tasmanian, South Australian, Western Australian and Australian Capital Territory governments (together with 60%).

AEMO's primary activity is to operate energy systems and markets balancing supply and demand in real time, to provide safe, reliable, and affordable energy, across the eastern, southern and western states of Australia. AEMO also has responsibility for planning functions in the National Electricity Market at the national and Victorian level, and various subsidiary functions directed by government legislation and regulations.

AEMO Services Limited (AEMO Services) was established in July 2021 by AEMO and the State of NSW as a company limited by guarantee; AEMO (with 70% of the votes at a general meeting) and the NSW Government (with 30%). In November 2021 AEMO Services was appointed the NSW Consumer Trustee under the *Electricity Infrastructure Investment Act* (EII Act). In its role as NSW Consumer Trustee, AEMO Services procures generation and storage capacity in the interests of NSW consumers.

The consolidated financial statements of the AEMO Group for the year ended 30 June 2022 were authorised for issue in accordance with a resolution of the Directors on 8 September 2022.

Summary of key events during the current reporting period

The COVID-19 pandemic (COVID-19) continued to affect AEMO throughout the current reporting period, with virtual working arrangements used by many staff in line with mandated restrictions, or more recently as part of flexible working. Financial impacts related to the affects of COVID-19 were immaterial in the current reporting period, relating primarily to higher cleaning costs and lower travel expenses.

Following an unprecedented combination of circumstances resulting in severe reductions in generation capacity available for market dispatch, on 16 June 2022 AEMO suspended the spot market in all regions of the National Electricity Market (NEM), under the National Electricity Rules (NER). At that stage it had become impossible to continue operating the spot market in accordance with the NER due to the level of AEMO intervention required to ensure a secure and reliable supply of electricity for consumers. During the suspension AEMO applied pre-determined suspension pricing schedule for each NEM region. Compensation regime applies for eligible generators who bid into the market during suspension price periods, or were directed to do so. Compensation payments are funded by NEM wholesale market customers through the settlements process.

AEMO resumed trading in a two-stage process, starting the market setting prices again from 4.00 am AEST on 23 June 2022 with the second step completely lifting the suspension from 2.00 pm AEST on 24 June 2022. While these events were significant in the market, they had no material impact on AEMO's financial statements for the year ended 30 June 2022.

2. Summary of significant accounting policies

a. Basis of preparation

This consolidated financial report is a general purpose financial report that consists of a Consolidated Profit or Loss and Other Comprehensive Income, Statement of Financial Position, Consolidated Statement of Changes in Equity, Consolidated Statement of Cash Flows, Directors' Declaration and notes accompanying these statements for the year ending 30 June 2022.

The consolidated financial report has been prepared in accordance with Australian Accounting Standards and other authoritative pronouncements of the Australian Accounting Standards Board and the *Corporations Act 2001*. The Group has applied Australian Accounting Standards that are applicable to not-for-profit entities, as AEMO is a not-for-profit company.

The Group is not subject to income tax, being tax exempt on the basis that AEMO and AEMO Services qualify as public authorities constituted under Australian law. AEMO was granted an income tax exemption for 10 years from 1 July 2018 to 30 June 2028 and AEMO Services from 1 July 2021 to 30 June 2026.

The accrual basis of accounting has been applied in the preparation of the consolidated financial statements whereby assets, liabilities, equity, revenue and expenses are recognised in the reporting period to which they relate, regardless of when cash is received or paid.

b. Basis of consolidation

The consolidated financial statements comprise the financial statements of AEMO and its subsidiary (the Group). A subsidiary is an entity over which the Company has the power to govern the financial and operating policies so as to obtain benefits from their activities. The financial statements of the subsidiary are prepared for the same reporting period as the parent company, using consistent accounting policies. In preparing the consolidated financial statements, all intercompany balances and transactions, income and expenses and profit or losses resulting from intragroup transactions have been eliminated in full. The subsidiary is fully consolidated from the date on which control is obtained by the Group and ceases to be consolidated from the date on which control is transferred out of the Group.

Australian Accounting Standards prescribe the financial reporting framework for the presentation and preparation of consolidated financial statements when an entity controls one or more other entities. Accordingly, these consolidated financial statements are the Group's first consolidated financial statements, with the comparatives being those of the Company.

The Non-Controlling Interest (NCI) in the subsidiary is set out in Note 18.

c. Accounting policies

Accounting policies are selected and applied in a manner that ensures the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events is reported.

Unless otherwise stated, all accounting policies applied are consistent with those of the prior financial year.

There are no new accounting pronouncements or standards that came into effect from 1 July 2021 that apply to, or have been adopted by AEMO Group. AEMO Group has assessed the impact of the International Financial Reporting Interpretations Committee guidance in relation to the configuration or customisation costs in a cloud computing arrangement and concludes there is no impact on the financial statements.

d. Going concern

The consolidated financial report has been prepared on the going concern basis, which assumes continuity of normal business activities, and the realisation of assets and the settlement of liabilities in the ordinary course of business. The Group has an overall accumulated deficit of $8.9 million (2021: $29.1 million). In assessing the appropriateness of the going concern assumption, the directors have considered:

- The Group's statutory right to recover all costs, as well as any under recoveries in any of the specific functions in the next financial year or subsequent financial years. The Group achieves cost recovery by including surpluses or deficits in future budgets and applying these to future fee recoveries for specific AEMO functions. The full recovery of previously incurred establishment costs for NEM, FRC Electricity and STTM over a period of up to 10 years are examples demonstrating AEMO's ability to recoup costs incurred in managing its statutory functions. Accordingly, the accumulated surplus/(deficit) attributable to each of the Group's functions is reconciled and managed on an ongoing basis;
- The Group has $49.1 million net current assets at 30 June 2022 (FY21: $6 million); and
- The Group has $108.0 million of undrawn debt facilities at 30 June 2022 (FY21: $176.8 million).

e. Functional and presentation currency

Items included in this report are measured using the currency of the primary economic environment in which the Group operates (the functional currency). The consolidated financial statements are presented in Australian Dollars, which is the Group's functional currency.

f. Rounding

Unless otherwise stated, amounts in the report are rounded to the nearest thousand dollars ('000).

g. Historical cost convention

These consolidated financial statements have been prepared under the historical cost convention, as modified by the revaluation of financial assets and liabilities (including derivative instruments) at fair value through profit or loss.

h. Compliance with Australian Accounting Standards

Compliance with Australian Accounting Standards ensures the consolidated financial statements comply with all relevant Australian Accounting Standards applicable to not-for-profit entities.

During the financial year there have been no new or revised Australian Accounting Standards and Interpretations that are relevant to or that have a material impact on AEMO's financial statements.

i. Government grants

Government grants are recognised where there is reasonable assurance that the grant will be received, and all attached conditions will be complied with. When the grant relates to a non-transferrable expense item, it is recognised in full as income on receipt of the grant. Income arising from grants with specific identifiable performance obligations, and on which enforceable restrictions on use of grant funding apply, is recognised over time. In general, for a given period this would mean the revenue recognised would match or correlate with the relevant costs incurred.

When the grant relates to an asset, it is recognised as income in equal amounts over the expected useful life of the related asset. When the Group receives grants of non-monetary assets, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life of the asset, based on the pattern of consumption of the benefits of the underlying asset by equal annual instalments.

j. Classification between current and non-current

In the determination of whether an asset or liability is current or non-current, consideration is given to the time when each asset or liability is expected to be realised or paid. The asset or liability is classified as current if it is expected to be turned over or settled within the next twelve months, being the Group's operational cycle. Refer Note 10 under provisions for a variation in relation to employee benefits and Note 12 for a variation in relation to borrowings.

k. Goods and Services Tax (GST)

Revenues, expenses and assets are recognised net of the amount of associated GST, unless the GST incurred is not recoverable from the taxation authority. In this case it is recognised as part of the cost of acquisition of the asset or as part of the expense.

Receivables and payables are stated inclusive of the amount of GST receivable or payable. The net amount of GST recoverable from, or payable to, the taxation authority is included within other receivables or payables in the consolidated Statement of Financial Position. Cash flows are presented on a gross basis.

The GST components of cash flows arising from investing or financing activities that are recoverable from, or payable to, the taxation authority, are presented as an operating cash flow.

l. Critical accounting estimates

Preparation of the consolidated financial statements requires the use of certain critical accounting estimates and requires management to exercise judgement in the process of applying the accounting standards and the Group's accounting policies. All judgements, estimates and assumptions are based on most current facts and circumstances and are reassessed on an ongoing basis. Actual results may differ for these estimates under different assumptions and conditions. This may affect financial results and the carrying amount of assets and liabilities to be reported in the next and future periods. Significant judgements and key estimates and assumptions in applying accounting standards and the Group's accounting policies are set out in the table below:

Area	Estimate assumption
Defined benefit superannuation	Actuarial assumptions used in determining the defined benefit obligations and the related carrying amounts are discussed in Note 6.
Depreciation and amortisation	The estimation of the useful lives of assets has been based on historical and future estimated useful life, as well as manufacturers' warranties (for plant and equipment) and lease terms. In addition, the condition of the assets is assessed at least once per year for any impairment indicators and considered against the remaining useful life. Adjustments to useful lives are made when considered necessary.
Use of assets for network services	AEMO has ongoing Transmission Network Service agreements under which AusNet Services and Murraylink provide network services to AEMO in relation to the Victorian electricity transmission network. The charges levied on AEMO by AusNet Services and Murraylink for the provision of transmission services under the agreements are regulated by the Australian Energy Regulator (AER). AEMO incorporates these charges into its fees to network users. AEMO has determined that these arrangements are not, and do not contain, a lease in accordance with AASB Interpretation 4 Determining whether an Arrangement contains a Lease.
Impairment of non-financial assets	Further disclosures relating to impairment of non-financial assets are also provided in the following notes: • Property, plant and equipment – Note 5 (d) • Intangible assets – Note 5 (d)
Useful lives and residual values of depreciable assets	Management reviews its estimate of the useful lives and residual values of depreciable assets at each reporting date based on the expected utility of the assets. Uncertainties in these estimates relate to technological obsolescence that may change the utility of certain software and IT equipment.
Lease liabilities	In calculating the present value of lease payments, AEMO uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. The discount rate is established on lease commencement and is not changed during the lease term unless there has been a modification to the lease that impacts the remaining lease payments.
Leave provisions	Leave provisions involve assumptions based on the expected tenure of existing staff, patterns of leave claims and payout, future salary movements and future discount rates, and are subject to ongoing assessment by management.

3. Segment information

The segment information provided below reflects the functions which management assess the performance of the Group. It reflects the contribution of each segment to the overall surplus/(deficit).

2022 $'000

	NEM	East Coast Gas	WA	VIC TNSP	Corporate	ASL	Total
Revenue	201,895	49,242	35,845	718,639	2,561	20,013	1,028,195
Total Expenses	(205,549)	(42,522)	(39,250)	(703,942)	(2,634)	(9,868)	(1,003,765)
Surplus/(deficit)	**(3,654)**	**6,720**	**(3,405)**	**14,697**	**(73)**	**10,145**	**24,430**

2021 $'000

	NEM	East Coast Gas	WA	VIC TNSP	Corporate	ASL	Total
Revenue	148,614	43,010	34,625	708,829	1,010	-	936,088
Total Expenses	(167,723)	(42,521)	(33,940)	(687,156)	(1,013)	-	(932,353)
Surplus/(deficit)	**(19,109)**	**489**	**685**	**21,673**	**(3)**	**-**	**3,735**

4. Revenue

The Group operates over 30 ring-fenced service functions, and revenue comprises fees charged for the recovery of expenditure incurred in relation to those functions. For reporting under this note, the functions have been segmented as follows:

- Victorian electricity transmission service provider functions
- Electricity market functions
- Gas market functions
- Other revenue.

The Group derives revenue from the transfer of goods and/or services over time and at a point in time in the following revenue streams. Revenue is recognised when, or as, the performance obligations to the customer are satisfied.

The Group has an ongoing obligation to provide continuous supply of the majority of its core services to energy market customers, participants and members in the markets it operates. Where this is identified, it is deemed that customers simultaneously receive and consume the benefit in line with AEMO performing its obligations, and the associated revenues are recognised over time.

Consideration received in advance of recognising the associated revenue from the customer is recorded as a contract liability. Where performance obligations are satisfied but not yet billed, a contract asset is recorded.

Revenue is measured based upon the consideration specified within a contract with a customer and recognised as the Group transfers control over an asset or service to a customer. The Group follows the five-step approach outlined in AASB 15 Revenue from Contracts with Customers. The grant provided to AEMO Services by the NSW Government has been recorded upfront in accordance with AASB 1058 Income of Not-for-Profit Entities.

Total Revenue	Notes	2022 $'000	2021 $'000
Revenue			
Victorian electricity transmission revenue	4(a)	699,126	696,942
Electricity market revenue	4(b)	207,325	156,773
Gas market revenue	4(c)	49,570	42,997
Other revenue	4(d)	70,507	37,996
Total revenue		**1,026,528**	**934,708**

a. Victorian electricity transmission revenue

Transmission Use of Systems (TUoS) charges recover the costs for providing shared transmission network services in Victoria. TUoS prices are calculated in accordance with the National Electricity Rules and the Company's pricing methodology. Included in the TUoS charges is collection of transmission easement tax (2022: $183 million, 2021: $168 million).

Negotiated Services income relates to grid connection augmentation services and transmission charges between generators and network service providers. This income is a direct pass-through as the Company facilitates the arrangements between infrastructure owner and grid beneficiaries for specific connections (that do not affect the whole network).

Settlement residue income arises in the NEM when the amount paid by market participants to the Group for spot transactions differs from the amount paid by the Company to other market participants for the same transaction. The income is determined through a mathematical outcome uncontrollable by the Company. Any NEM settlement residue surpluses related to Victoria received during the financial year are returned to Victorian Transmission Network users the following year.

Settlement residue auctions income represents auction proceeds of the net position of inter-regional settlement residue.

b. Electricity market revenue

Operating on a fee for service and cost recovery basis, electricity market revenue is received through fees and charges levied to relevant market participants. Each fee is limited to recovering the costs of providing that service, with over or under recoveries in a particular year able to be rolled to the future year or future years.

The structure of NEM fees is established through a market consultation process, leading to a final determination. The current NEM fee structure is locked in through to 1 July 2026, other than in respect to declared projects. The Company consults on its annual budgets and fees prior to the commencement of each financial year.

In Western Australia, the Company's allowable electricity revenue requirement that translates into fees, is approved by the Economic Regulation Authority every three years; under AR6 it is now approved until 2025.

c. Gas market revenue

The Group operates several wholesale markets, including the Declared Wholesale Gas Market and other markets supporting the secondary trading of gas and pipeline capacity. In addition, the Group operates Australia's gas retail markets, and bulletin boards that provide up-to-date gas market and system information.

As per the electricity market, operating on a fee for service and cost recovery basis, gas market revenue is received through fees and charges levied to relevant market participants. Each fee is limited to recovering the costs of providing that service, with over or under recoveries in a particular year able to be rolled to the future year or future years.

d. Other revenue

Operating on a fee for service and cost recovery basis, network connections revenue is received for the provision of assessment and advisory services relating to a connection.

Participant Compensation Fund contributions are collected in accordance with the National Electricity Rules and National Gas Rules through regular allocations until such time it is claimed. Upon reaching the maximum allowable contributions the fund will cease to increase. The funds collected in 2021 and 2022 relate to the National Electricity Market. The fund under the National Gas Rules is at the maximum allowable contribution level. Contributions to the funds and interest earned on fund investments are recognised as a point in time revenue and transferred to the Participant Compensation Fund Reserve. Refer to Note 13(a) for further detail.

Contracted Services income reflects cost recovery for the provision of negotiated services predominantly in relation to market trials and engineering services.

Interest income is recognised as earned at the effective interest rate.

Other revenue also includes grant income, which reflects the upfront treatment of the grant provided to AEMO Services by the NSW Government.

5. Total Expenses

a. Network Charges

	2022 $'000	2021 $'000
Transmission charges	471,686	479,082
Inter-Regional TUoS	15,794	9,086
Easement Tax	182,648	168,100
Victorian National Transmission planning	2,662	5,205
Total network charges	**672,790**	**661,473**

Transmission charges are the Transmission Use of System (TUoS) charges that recover costs for the provision of shared transmission network services in Victoria. The bulk of these charges are paid to transmission network asset owners for use of their transmission network.

Inter-regional TUoS relates to Settlement residue whereby the amount paid by market participants differs to amounts paid by the Group.

Easement tax relates to amounts levied by the State Revenue Office on AusNet Services and is passed through to AEMO.

Victorian National Transmission planning relates to mandated rules to recover planning costs from Market Customers by Transmission Network Service Providers (TNSPs).

b. Employee Benefits

	2022 $'000	2021 $'000
Wages and Salaries	122,142	114,373
Superannuation and other post retirement expense	16,161	15,707
Other employee tax and on-costs	10,977	11,073
Other employee benefits and entitlements expense	16,292	17,953
Total employee benefit expenses	**165,572**	**159,106**

Employee benefits is recorded in the statement of profit or loss net of capitalised labour costs. It includes all costs related to employment including salaries and wages inclusive of performance incentives, taxes, leave entitlements, termination payments and Workcover premiums.

The amount charged to the statement of profit and loss in respect of superannuation represents contributions made or due by the Group to the relevant superannuation plans in respect to the services of the Group's employees (both past and present). Superannuation contributions are made to the plans based on the relevant rules of each plan and any relevant compulsory superannuation requirements that the Group is required to comply with.

The Group makes its employer superannuation contributions in respect of its employees to several superannuation funds, with most contributions made to the Equip Superannuation Fund.

The obligations for contributions to the Fund and other superannuation funds are recognised as an expense in the statement of profit or loss or directly charged to capital expenditure projects when they are incurred or due.

c. Depreciation and Amortisation

	2022 $'000	2021 $'000
Amortisation expense	38,377	21,174
Depreciation – Property, Plant & Equipment	7,171	8,162
Depreciation – Leased right-of-use assets	5,453	6,043
Total depreciation and amortisation expenses	**51,001**	**35,379**

Amortisation expenditure mainly related to investment in electricity and gas wholesale and retail market systems for operations, metering and settlements and long-term energy forecasting tools. Depreciation for property plant and equipment relates to information technology hardware, building and office fit out costs.

d. Impairment

	2022 $'000	2021 $'000
Property, Plant & Equipment	178	475
Intangibles	2,058	1,734
Doubtful debts	(2)	985
Total impairment expenses	**2,234**	**3,194**

Non-financial assets, including items of plant and equipment and intangibles that have an indefinite useful life, are tested at least annually for impairment or more frequently if events or changes in circumstances indicate that they might be impaired. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use.

For the purpose of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets or groups of assets (cash generating units). Non-financial assets that suffer impairment are reviewed for possible reversal of the impairment at each reporting date.

Where an asset measured at cost is written down to its recoverable amount, an impairment loss is recognised through the statement of profit and loss. Where a previously revalued asset is written down to its recoverable amount, the loss is recognised as a revaluation decrement through other comprehensive income.

If there is an indication that there has been a reversal in impairment, the carrying amount shall be increased to its recoverable amount. However, this reversal should not increase the asset's carrying amount above what would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised in prior years.

e. Financing Costs

	2022 $'000	2021 $'000
Borrowing Costs	1,790	484
Leasing Interest	605	764
Total financing costs	**2,395**	**1,248**

Financing costs include bank fees and net interest expenses and leasing interest costs.

f. Other operating expenses

	2022 $'000	2021 $'000
Other operating expenses		
Subscriptions & research data	1,539	1,144
Insurance	3,033	2,735
Travel & accommodation	541	218
Recruitment	2,361	1,018
Facilities	3,498	2,220
Training	756	780
Other operating expenses	2,935	2,104
Total other operating expenses	**14,663**	**10,219**

AEMO has been granted an income tax exemption for 10 years from 1 July 2018 to 30 June 2028 on the basis that it qualifies as a public authority constituted under Australian law. Similarly, AEMO Services has a tax exemption for the period 1 July 2021 to 30 June 2026.

6. Defined Benefit Superannuation Plan

The plan was transferred to the Company as part of the business combination with VENCorp on 1 July 2009. The plan is closed to new members.

AEMO's superannuation Defined Benefit Obligation (DBO) to its members is required to be revalued at fair value annually in accordance with the Australian Accounting Standards and presented as an asset or liability on the balance sheet. The company engages an actuarial expert each year for this revaluation.

At 30 June 2022, the plan comprises seven employees and eight pension members being unchanged from the prior year.

Defined benefit members receive either lump sum benefits or pension benefits on retirement, death, disablement or withdrawal.

a. Reconciliation of the assets and liabilities recognised in the Statement of Financial Position

The liability recognised in the statement of financial position for defined benefit plan is the present value of the DBO at the reporting date less the fair value of plan assets.

Re-measurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognised directly in other comprehensive income.

Service cost on the net defined benefit liability is included in employee benefits expense.

A summary of the Plan's asset is shown below:

	2022 $'000	2021 $'000
Defined Benefit Obligation	16,446	18,883
Fair value of plan assets	(18,125)	(19,051)
Net defined benefit superannuation (asset) / liability	**(1,679)**	**(168)**

The defined benefit superannuation asset included in the Statement of Financial Position at 30 June 2022 is $1.7 million. The liability was $0.2 million at 30 June 2021, with the movement primarily due to a combination of an increase in corporate bond yields resulting in a decrease in the value of the defined benefit obligation and a lower rate of increase in salaries and pensions compared to the prior year.

The valuation of the Plan was performed in accordance with generally accepted actuarial principles and procedures. The accounting calculations provided are based on the assumptions, methods and accounting policies selected by the Group.

b. Reconciliation of the Net Defined Benefit Asset

The reconciliation of the asset related to the Group's defined benefit plan is summarised as follows:

Financial year	2022 $'000	2021 $'000
Net defined benefit (asset)/liability at start of the year	(168)	1,014
Current service cost	160	226
Net Interest	(4)	21
Net result before net actuarial gains	**(12)**	**1,261**
Actual return on plan assets (gains) less interest income	807	(1,049)
Actuarial losses/(gains) arising from changes in demographic assumptions	-	-
Actuarial losses/(gains) arising from changes in financial assumptions	(2,921)	(158)
Actuarial losses/(gains) arising from liability experience	447	(173)
Net actuarial gains on re-measurement of net defined benefit superannuation liability	**(1,667)**	**(1,380)**
Employer contributions	-	(49)
Net defined benefit (asset)/ liability at end of the period	**(1,679)**	**(168)**

The key results are:

- the net defined benefit asset to be included in the Statement of Financial Position as at 30 June 2022 is $1.7 million (2021: liability of $0.2 million).
- the component of defined benefit cost to be recognised in Statement of Profit or Loss for the period ended 30 June 2022 is $0.2 million (2021: $0.2 million); and
- the component of defined benefit cost to be recognised in the Statement of Comprehensive Income (remeasurements) for the period ended 30 June 2022 is an income item of $1.7 million (2021: $1.4 million).

c. Reconciliation of the present value of the defined benefit obligation

The reconciliation to the present value of the defined benefit obligation are as follows:

Financial year	2022 $'000	2021 $'000
Present value of defined benefit obligations at beginning of the year	18,883	19,027
Current service cost	160	226
Interest cost	434	435
Contributions by plan participants	56	67
Actuarial (gains)/losses arising from changes in demographic assumptions	-	-
Actuarial (gains)/losses arising from changes in financial assumptions	(2,921)	(158)
Actuarial (gains)/losses arising from liability experience	447	(173)
Benefits paid	(525)	(517)
Taxes, premiums and expenses paid	(88)	(24)
Present value of defined benefit obligations at end of the period	**16,446**	**18,883**

d. Reconciliation of the fair value of plan assets

The movement in the present value of the defined benefit assets are as follows:

Financial year	2022 $'000	2021 $'000
Fair value of plan assets at beginning of the year	19,051	18,013
Interest income	438	414
Actual return on plan assets less Interest income	(807)	1,049
Employer contributions	-	49
Contributions by plan participants	56	67
Benefits paid	(525)	(517)
Taxes, premiums and expenses paid	(88)	(24)
Fair value of plan assets at end of the period	**18,125**	**19,051**

e. Fair value of plan assets

	Total	Quoted prices in active markets for identical assets – Level 1	Significant observable inputs – Level 2	Unobservable inputs – Level 3
Financial period ended 30 June 22	**$'000**	**$'000**	**$'000**	**$'000**
Investment funds	18,125	-	18,125	-
Total	**18,125**	**-**	**18,125**	**-**

The percentage invested in each asset class at the reporting date is:

As at 30 June	2022 %	2021 %
Australian equity	11	13
International equity	15	14
Fixed income	9	11
Property	4	6
Growth alternatives	15	8
Defensive alternatives	14	11
Cash	32	37

The fair value of plan assets does not include any amounts relating to:

- Any of the AEMO's own financial instruments.
- Any property occupied by, or other assets used by AEMO.

f. Principal actuarial assumptions at the balance sheet date

The principal assumptions used in determining pension and post-employment benefit obligations for the plan are shown below:

Assumptions to determine defined benefit superannuation cost	2022 % p.a.	2021 % p.a.
Discount rate* (active members)	2.5	2.5
Expected salary increase rate	2.0	2.5
Expected pension increase rate	2.0	2.0

These rates are used to calculate the expected defined benefit cost for the period.

Assumptions to determine defined benefit obligation	2022 % p.a.	2021 % p.a.
Discount rate* (active members)	5.1	2.5
Expected salary increase rate	2.5	2.0
Expected pension increase rate	2.5	2.0

* The discount rate used is based on a corporate bond yield of seven years duration.

These rates are used to calculate the defined benefit obligation (future obligation) at year end and were developed by management with the assistance of independent actuaries.

g. Sensitivity Analysis

The defined benefit obligation as at 30 June 2022 under several scenarios is presented below. The defined benefit obligation has been recalculated by changing the assumption as detailed, while retaining all other assumptions.

Scenario A and B relate to discount rate sensitivity. Scenario C and D relate to salary increase rate sensitivity. Scenario E and F relate to pension indexation rate sensitivity.

	Base Case	Scenario A	Scenario B	Scenario C	Scenario D	Scenario E	Scenario F
		-0.5% pa discount rate	+0.5% pa discount rate	-0.5% pa salary increase rate	+0.5% pa salary increase rate	-0.5% pa pensions increase rate	+0.5% pa pensions increase rate
Discount rate	5.1% pa	4.6% pa	5.6% pa	5.1% pa	5.1% pa	5.1% pa	5.1% pa
Salary increase rate	2.5% pa	2.5% pa	2.5% pa	2.0% pa	3.0% pa	2.5% pa	2.5% pa
Pension increase rate	2.5% pa	2.5% pa	2.5% pa	2.5% pa	2.5% pa	2.0% pa	3.0% pa
Defined benefit obligation ($'000)	16,446	17,059	15,869	16,321	16,573	16,027	16,893

h. Asset-Liability matching strategies

No asset and liability matching strategies have been adopted by the plan.

i. Funding arrangements

The Equip superannuation Contribution and Funding Policy provides for a review of the financial position of the Plan each six months, as at 30 June and 31 December, with the company contribution rate comprising a long-term contribution rate and an adjustment to meet the financing objective of a Target Funding Ratio of 104%.

The Target Funding Ratio reflects the proportion of salary related benefits and the allocation to "growth" assets for the Plan. The Funding Ratio is the ratio of assets to accrued liabilities, being the greater of vested benefits and the present value of past membership benefits.

Where the Funding Ratio is greater than 100% the financing objective is to achieve the Target Funding Ratio over five years. Where the Funding Ratio is less than 100% the primary financing objective is to achieve 100% over three years and Target Funding Ratio over five years.

The Company continues to contribute employee salary sacrifice contributions and at the statutory required rates for accumulation members.

j. Expected contributions

The below table summarises the expected future employer contributions

Financial year	2023 $'000
Expected employer contributions	-

k. Maturity profile of defined benefit obligation

The weighted average duration of the defined benefit obligation as at 30 June 2022 is 8 years.

Expected benefit payments for the financial year ending on	$'000
30 June 2023	1,636
30 June 2024	1,534
30 June 2025	1,872
30 June 2026	2,083
30 June 2027	2,131
Following 5 years	6,551

7. Fixed and Intangible Assets

a. Property, Plant and Equipment

Property, plant and equipment captures physical hardware components including servers, storage, and network equipment relating the Group's wholesale, retail, and corporate systems.

The land and buildings asset category incorporates the land and building the Group owns in Sydney and the fit-out costs of our six offices.

b. Details of the Property, Plant and Equipment and their carrying amounts is as follows:

	Technology Infrastructure $'000	Leasehold Improvements $'000	Land and Buildings $'000	Total $'000
At 30 June 2021				
Cost	77,318	25,645	20,481	123,444
Accumulated depreciation	(53,887)	(17,055)	(7,130)	(78,072)
Carrying value at 30 June 2021	**23,431**	**8,590**	**13,351**	**45,372**
At 30 June 2022				
Cost	77,988	25,645	20,512	124,145
Accumulated depreciation	(59,086)	(17,055)	(9,103)	(85,244)
Carrying value at 30 June 2022	**18,902**	**8,590**	**11,408**	**38,901**

c. Movement in Property Plant and Equipment

	Technology Infrastructure $'000	Leasehold Improvements $'000	Land and Buildings $'000	Total $'000
Reconciliation of carrying amount:				
Year ended 30 June 2021				
Carrying amount at 1 July 2020	18,099	10,454	13,785	42,338
Additions	11,477	28	-	11,505
Disposals	(292)	(18)	-	(310)
Depreciation	(5,853)	(1,874)	(435)	(8,162)
Carrying amount at 30 June 2021	**23,431**	**8,590**	**13,351**	**45,372**
Reconciliation of carrying amount:				
Year ended 30 June 2022				
Carrying amount at 1 July 2021	23,431	8,590	13,351	45,372
Additions	670	(0)	208	878
Disposals	-	-	-	-
Asset Write-offs	-	-	(178)	(178)
Depreciation	(5,197)	(0)	(1,973)	(7,171)
Carrying amount at 30 June 2022	**18,902**	**8,590**	**11,408**	**38,901**

	Technology Infrastructure $'000	Leasehold Improvements $'000	Land and Buildings $'000	Total $'000
Reconciliation of cost:				
Cost amount at 1 July 2020	66,665	28,280	20,481	115,426
Additions	11,477	28	-	11,505
Disposals	(824)	(2,663)	-	(3,487)
Cost amount at 30 June 2021	**77,318**	**25,645**	**20,481**	**123,444**
Reconciliation of cost:				
Cost amount at 1 July 2021	77,318	25,645	20,481	123,444
Additions	670	(0)	208	878
Disposals	-	-	-	-
Asset Write-offs	-	-	(178)	(178)
Cost amount at 30 June 2022	**77,988**	**25,645**	**20,512**	**124,145**

Cost and valuation
Plant and equipment is stated at historical cost, net of accumulated depreciation and/or any accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the item. Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets.

Consistent with AASB 13 Fair Value Measurement, AEMO determines the policies and procedures for both recurring fair value measurements such as infrastructure, property, plant and equipment and financial instruments and for non- recurring fair value measurements such as assets held for sale, in accordance with the requirements of AASB13 and the relevant Financial Reporting Directions.

Property Plant and Equipment is initially measured at cost then subsequently revalued at fair value should there be any indications of impairment or change of useful lives. Any change in fair value recognised during the period is transacted through the statement of profit or loss, and the loss recognised as an expense.

The residual values, useful lives, impairment and amortisation methods are reviewed and adjusted if appropriate, at each financial year end. An item of property, plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

Depreciation of assets is calculated on a straight-line basis to write off the net cost of each item of property, plant and equipment (excluding land) over its expected useful life. Estimates of remaining useful life are made on a regular basis for all assets, with annual reassessments for major items. Land is not depreciated. Depreciation is charged from the month the asset commences service.

Expected useful life periods are as follows:

IT systems hardware	3-7 years
Furniture and equipment	3-5 years
Office and technology infrastructure	7-10 years
Building Fit-out	10-15 years
Building	30 years

The estimation of the useful lives of assets has been based on historical and future estimated useful life, as well as manufacturers' warranties (for plant and equipment) and lease terms. In addition, the condition of the assets is assessed at least once per year for any impairment indicators and considered against the remaining useful life. Adjustments to useful lives are made when considered necessary.

A further distinction is also made based on the effort and internal customisation, with significant or ground-up programs providing longer future benefit and slower refresh than over-the-counter solutions. This is reflected in useful life ranges; specifically, for new markets or substantial participant facing redesign.

d. Intangibles

Delivery of core functions requires significant investment in intangible assets, including both acquired and internally generated that the Group classifies as software assets. This investment expenditure is largely related to the energy market transition that has resulted in a need to refresh current systems and carry out large regulatory-directed programs.

The main areas of intangible asset investments in the current year include:

- Modernisation of technology platforms within the gas and electricity systems and databases; and
- Development and implementation of regulatory rule changes related to energy market reform (includes Five Minute Settlements, WEM Reform Program and WEM DER and NEM2025).

e. Details of the Group's intangible assets and their carrying amounts is as follows:

	$'000
At 30 June 2021	
Cost	561,861
Accumulated amortisation	(259,855)
Net carrying value at 30 June 2021	**302,006**
At 30 June 2022	
Cost	661,635
Accumulated amortisation	(298,230)
Net carrying value at 30 June 2022	**363,405**

f. Movement in intangible assets

	$'000
Reconciliation of cost:	
Cost amount at 1 July 2020	431,023
Additions	132,953
Asset write-off	(1,734)
Disposals	(381)
Cost amount at 30 June 2021	**561,861**

Reconciliation of cost:	
Cost amount at 1 July 2021	561,861
Additions	101,832
Asset write-off	(2,058)
Disposals	-
Cost amount at 30 June 2022	**661,635**

g. Reconciliation of carrying amount intangible assets

At 30 June 2021	$'000
Carrying amount at 1 July 2020	192,127
Additions	132,953
Asset write-off	(1,734)
Disposals	(165)
Acquisition through business combination	-
Transfers	-
Amortisation	(21,174)
Carrying amount at 30 June 2021	**302,006**

Year ended 30 June 2022	$'000
Carrying amount at 1 July 2021	302,006
Additions	101,832
Asset write-off	(2,058)
Disposals	-
Amortisation	(38,377)
Carrying amount at 30 June 2022	**363,405**

Only costs that are directly attributable to a project's development phase and meet the requirements of AASB 138 Intangibles Assets are recognised as intangible assets. Development costs not meeting these criteria are expensed as incurred.

Directly attributable costs include employee costs incurred on software development along with an appropriate portion of attributable overheads and borrowing costs.

Following the initial recognition of the development expenditure as an asset, the asset is carried at cost less any accumulated amortisation and accumulated impairment losses. Amortisation of the asset begins when development is complete, and the asset is available for use. It is amortised over the period of expected future benefit. Amortisation is recorded in operating expenses and during the period of development the asset is tested for impairment annually or when an indicator of impairment exists.

The fair value of intangible assets reflects market participants' expectations at the acquisition date about the probability that the expected future economic benefits embodied in the asset will flow to the Group and as the Group has the right to recover, the carrying value does not differ materially to the fair value.

The Group's intangible assets have finite useful lives, are amortised on a straight-line basis over their useful life and are carried at cost less accumulated amortisation and impairment losses.

Software

Acquired software
Software applications are treated in accordance with the Group's asset policy whereby the first year is capitalised and ongoing costs are considered operational.

Internally developed software
Expenditure required to develop or customise software is recognised as an expense as incurred.

Costs that are directly attributable to a project's development phase are recognised as intangible assets provided, they meet the recognition requirements of AASB 138. Development costs not meeting these criteria for capitalisation are expensed as incurred.

Directly attributable costs include costs incurred on software development along with an appropriate portion of relevant overheads.

Software asset useful life is assessed specific to the asset and broader system it contributes to, to determine its expected useful life.

Assets are amortised over their estimated useful lives as follows:

Market Systems (eg. FRC market management systems, DWGM and FRC Gas IT system software software)	5-10 years
Reform Program (eg. WEM and NEM Reform)	10 years
General IT systems software	3-7 years
Business applications software	5-7 years
WEM software	5-10 years
GSI software	5-10 years

8. Cash and cash equivalents and Receivables

a. Cash and cash equivalents

This section provides information on the purpose and availability for company use, of the cash and cash equivalents held at 30 June 2022.

	2022 $'000	2021 $'000
Cash at bank and on hand	27,546	41,408
Grants held in trust	17,194	14,220
Security deposits and early settlement proceeds not available for use	1,224,792	157,647
Participant Compensation Fund (PCF)	10,579	9,528
	1,280,112	**222,803**

Cash at bank and on hand represents the Group's operating funds and is available for company use.

Grants received represents the grant funding provided by government and other market bodies for specific energy industry projects.

Security deposits and early settlement proceeds are funds received from market participants, that are not available for AEMO's operational use, and are for the purposes of market settlements in accordance with the National Electricity Market and Wholesale Electricity Market rules. The significant 30 June 2022 balance reflects higher prices and demand for electricity and gas in the last quarter of FY2022.

Participant compensation funds are collected and held under the National Electricity Market, Declared Wholesale Gas Market and Short-Term Trading Market for the purposes of paying compensation to participants as a result of scheduling errors. These funds are not available for AEMO's operational use.

Reconciliation of surplus/(deficit) to net cash inflow/(outflow) from operating activities	2022 $'000	2021 $'000
Surplus/(deficit)	22,763	2,355
Depreciation and amortisation (excl leased right-of-use assets)	45,548	29,327
Non-cash defined benefit expense	156	198
Write off of Assets	2,236	2,208
Non-cash doubtful debt expense	-	985
Non-cash movement in employee benefits	16,448	1,682
Change in operating assets and liabilities		
(Increase)/decrease in trade and other receivables	(18,429)	(10,318)
(Increase)/decrease in prepayment and other assets	5,102	6,611
Increase/(decrease) in creditors, accruals and other payables	112,329	8,252
Increase/(decrease) in provisions	(18,494)	1,800
Net cash inflow/(outflow) provided by operating activities before movements in security deposits	**167,659**	**43,099**
Increase/(decrease) in participant security deposits and gas prepayments	925,620	147,380
Net cash inflow/(outflow) provided by operating activities before	**1,093,279**	**190,479**

b. Receivables

Receivables largely comprise wholesale market settlement transactions that have occurred but are yet to be settled and transmission use of system (TUOS) fees which are billed to transmission network users one month in arrears.

AEMO's credit risk for trade and other receivables is low because payment terms or settlement statements for the industry are stipulated under the National Electricity Laws, National Gas Rules or Transmission Use of System Agreements.

Details of the Group's Receivables and other assets and their carrying amounts are as follows	Notes	2022 $'000	2021 $'000
Current			
Participant fees receivable		25,067	20,194
TUoS revenue receivable		77,552	63,513
Other receivables		19,977	21,327
Prepayments		8,640	7,453
Total current receivables and other assets		**131,236**	**112,487**
Non-current			
Prepayments		206	529
Total non-current receivables and other assets		**206**	**529**
Total receivables and other assets		**131,442**	**113,016**

Current and non-current receivables are initially recognised at the fair value of the amounts to be received and are subsequently measured at amortised cost, less any allowance for expected credit losses.

Collectability of receivables is reviewed on an ongoing basis. Debts that are known to be uncollectable are written off.

Accounts receivable are non-interest bearing and the net carrying value of trade receivables is considered a reasonable approximation of fair value.

Receivables are recognised where the right to consideration from the customer is unconditional, with only the passage of time required before payment is due. Accrued revenue is recognised where AEMO has provided services to the customer, but does not have the unconditional right to invoice the customer at reporting date.

All of the Group's trade and other receivables in the comparative periods have been reviewed for indicators of impairment. The Group used a significant degree of professional judgement and considered forward-looking assumptions and information regarding expected future conditions affecting historical customer default rates to assess any indications of impairment. The impaired trade receivables are mostly in relation to aged receivables and renewable (solar and wind farm) grid connection applications.

Trade receivables are non-interest bearing and are generally on 30-90-day terms. A provision for impairment loss is recognised when there is objective evidence that an individual trade receivable is impaired.

Prepayments represent payments made for services to be provided or consumed over future months. IT support costs represent a large proportion of these with the remainder mostly comprising of property lease agreements and insurance premiums. These prepayments are supported by underlying service agreements which would be legally enforceable in the event of default of service. In many instances the services are the result of a competitive process where the financial viability of the vendor has been examined

Included in Other Assets are 60 TJ (1,091 tonnes) of LNG strategic gas reserves held by AEMO at the Dandenong LNG (DLNG) facility in Victoria, which have been assessed as strategic assets. The Victorian Gas Planning's Gas Operations analysis requires AEMO and Participants maintain 250 TJ of gas reserves to ensure safe and reliable operation of the DTS (for which AEMO is responsible).

Participant security deposits relating to the NEM and Gas Supply Hub are monies held by AEMO (in cash and cash equivalents) for prudential requirements of market participants.

9. Trade payables and other liabilities

a. Trade payables

Details of the Group's payables and their carrying amounts are as follows:

	2022 $'000	2021 $'000
Current		
Accounts payable	18,010	26,142
Accrued network charges	49,354	55,636
Finance costs payable	29	9
Participant security deposits	898,394	112,302
Electricity settlement prepayments	124,792	-
Other creditors and accruals	23,623	15,947
	1,114,202	**210,036**

Trade and other payables are carried at amortised cost and due to their short-term nature, they are not discounted. They represent liabilities for goods and services provided to AEMO prior to the end of the financial year that are unpaid and arise when AEMO becomes obliged to make future payments in respect of the purchase of these goods and services. The amounts are unsecured and are usually paid within 30 to 90 days of recognition.

Accrued Network Charges represent network charges that has become due but not yet paid.

Participant security deposits relates to credit support provided by the NEM and GSH participants.

Electricity settlement prepayments relate to NEM weekly settlements, early receipts from the NEM market participants.

Other creditors and accruals includes accrued capital of $11.9 million and accrued expenses of $7.8 million being amounts due to suppliers but unpaid at the end of the reporting period. The Group considers the carrying amount of accrued capital and expenses to be equivalent to its fair value.

b. Other liabilities

Contract liabilities mainly relates to gross pre-paid settlement payments received in advance from DWGM and STTM market participants, who are close to their credit limits to enable them to continue trading in their respective markets in accordance with the National Gas Rules.

Government grants received during the year include those relating to the Gas Bulletin Board scoping study, and the Electricity Consumer Data Rights Platform and the Distributed Energy Resources Register.

Details of the Group's carrying amount in other liabilities are as follows:

	2022 $'000	2021 $'000
Current		
Contract liabilities (pre-paid settlement payments)	179,574	41,838
Government grants received in advance	11,470	17,519
Other liabilities	251	64
	191,296	**59,421**

Government grants are recognised where there is reasonable assurance that the grant will be received, and all attached conditions will be complied with. When the grant relates to an expense item, it is recognised as income on a systematic basis over the periods that the related costs, for which it is intended to compensate, are expensed. When the grant relates to an asset, it is recognised as income in equal amounts over the expected useful life of the related asset.

The carrying values of Other Liabilities are a reasonable approximation of fair value.

10. Employee benefits and provisions

Provision is made for benefits accruing to employees in respect of annual leave and long service leave (LSL) for services rendered to the reporting date and recorded as an expense during the period the services are delivered. Prior year provisions were utilised for superannuation payments owing at year end.

Professional judgement has been applied in the determination of projected leave based on historical leave taken. This may be subject to change based on the impact of COVID-19 restrictions, staff attrition and other environmental factors. Management is actively monitoring leave balances to ensure compliance with internal policies and occupational health and safety requirements.

Sick leave payments are made in accordance with relevant awards, determinations and the Group policy. No provision is made in the consolidated financial statements for unused sick leave entitlements as these are non-vesting benefits.

Details of the Group's carrying amount in provisions are as follows:

	2022 $'000	2021 $'000
Current provisions		
Annual Leave	15,850	15,765
Long Service Leave	18,590	18,687
Provision for Incentives	16,879	18,732
Other Provisions	19	47
	51,338	**53,232**
Non-current provisions		
Long Service leave	3,698	3,850
	3,698	**3,850**
TOTAL	**55,036**	**57,082**

Reconciliation of the Group's movements in the employee provisions is as follows:

	2022 $'000
Opening balance	**57,082**
Additional provisions recognised	32,267
Amount utilised during the period	(33,739)
Impact of discount rate applied	(570)
Closing balance	**55,036**

Annual Leave

Liabilities for salaries and wages (including non-monetary benefits, annual leave, and on-costs) that are expected to be settled wholly within 12 months after the end of the period in which the employees render the related service are recognised in respect of employees' services up to the end of the reporting period and are measured at the amounts expected to be paid when the liabilities are settled. The liabilities are presented as current employee benefit obligations in the statement of financial position.

Liabilities for salaries and wages (including non-monetary benefits, annual leave and on-costs) are all recognised in the provision for employee benefits as 'current liabilities' as per AASB 119 Employee Benefits, as the Group's does not have an unconditional right to defer settlements of these liabilities.

Long Service Leave

Liability for long service leave (LSL) is recognised in the provision for employee benefits.

Unconditional LSL (representing seven or more years of continuous service) is disclosed as a current liability even where the Group does not expect to settle the liability within 12 months as the Group does not have an unconditional right to defer the settlement of the entitlement should an employee take leave within 12 months. Both components of this current LSL liability are measured at nominal value.

Conditional LSL is disclosed as a non-current liability as the Group has an unconditional right to defer the settlement of the entitlement until the employee has completed the requisite years of service. This non-current

LSL liability is measured at present value. Any gain or loss following revaluation of the present value of non-current LSL liability is recognised as a transaction, except to the extent that a gain or loss arises due to changes in bond interest rates for which it is then recognised in the statement of profit or loss.

Performance incentives

The performance incentive plan continued in operation during the current reporting year. Eligible employees have the capacity to earn a proportion of their base pay as a cash incentive annually. The incentive opportunity is set depending on an employment classification. The incentive payments are determined based on an achievement of a range of departmental and organisational goals. A provision is recognised based on indicative achievement of corporate key performance indicators and goals subject to Board ratification.

11. Right-of-use assets and lease liabilities

a. Right-of-use assets

A right-of-use asset is recognised at the commencement date of a lease. The right-of-use asset is measured at cost, which comprises the initial amount of the lease liability, adjusted for, as applicable, any lease payments made at or before the commencement date net of any lease incentives received, any initial direct costs incurred, and, except were included in the cost of inventories, an estimate of costs expected to be incurred for dismantling and removing the underlying asset, and restoring the site or asset.

Right-of-use assets are depreciated on a straight-line basis over the unexpired period of the lease or the estimated useful life of the asset, whichever is the shorter. Where the Group expects to obtain ownership of the leased asset at the end of the lease term, the depreciation is over its estimated useful life. Right-of use assets are subject to impairment and adjusted for any remeasurement of lease.

The Group has elected not to recognise a right-of-use asset and corresponding lease liability for short-term leases with terms of 12 months or less and leases of low-value assets. Lease payments on these assets are expensed as incurred. Variable payments attached to a lease, such as outgoings, are expensed as incurred.

The right-of-use lease assets recognised by AEMO include most tenanted properties leased and data centres for on-premises applications. Properties not recognised as a right-of-use asset include those with a shorter-term lease that are mostly in place to accommodate project resources.

The value of the right-of-use asset at 30 June 2022 was $14.5 million (2021: $19.6 million). Amortisation expenses of $5.5 million were recognised during the period, reflecting the movement in the right-of-use asset.

Movement in right-of-use asset:	$'000
Gross carrying amount Balance at 1 July 2020	**26,247**
Additions	-
Lease incentive received and offset against the right-of-use lease asset	-
Depreciation – Leased right-of-use assets	(6,043)
Disposals	(568)
Balance at 30 June 2021	**19,636**

	$'000
Gross carrying amount Balance at 1 July 2021	**19,636**
Additions	351
Lease incentive received and offset against the right-of-use lease asset	
Depreciation – Leased right-of-use assets	(5,453)
Disposals	-
Balance at 30 June 2022	**14,534**

b. Lease liabilities

Lease liabilities include the following lease payments:

- Fixed payments (including in substance fixed payments), less any lease incentives receivable; and
- Variable lease payments that are based on an index or a rate, initially measured using the index or rate as at the commencement date. At 30 June 2022 AEMO did not have any variable lease payments.

A lease liability is recognised at the commencement date of a lease. The lease liability is initially recognised at the present value of the lease payments to be made over the term of the lease, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, an incremental borrowing rate.

In calculating the present value of lease payments, AEMO uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. The discount rate is established on lease commencement and is not changed during the lease term unless there has been a modification to the lease that impacts the remaining lease payments.

Lease payments comprise of fixed payments less any lease incentives receivable, variable lease payments that depend on an index or a rate, amounts expected to be paid under residual value guarantees, exercise price of a purchase option when the exercise of the option is reasonably certain to occur, and any anticipated termination penalties. The variable lease payments that do not depend on an index or a rate are expensed in the period in which they are incurred.

Lease liabilities are measured at amortised cost using the effective interest method. The carrying amounts are remeasured if there is a change in the following: future lease payments arising from a change in an index, or a rate used; residual guarantee; lease term; certainty of a purchase option and termination penalties.

When a lease liability is remeasured, an adjustment is made to the corresponding right-of use asset, or to profit or loss if the carrying amount of the right-of-use asset is fully written down.

Lease liabilities are presented in the statement of financial position as follows:

Lease liabilities	2022 $'000	2021 $'000
Current	7,127	6,790
Non-Current	13,743	20,432
Balance as at 30 June	**20,870**	**27,222**

Movement in the combined current and non-current lease liabilities:	2022 $'000	2021 $'000
Lease liabilities recognised under AASB 16 at the beginning of the financial year	**27,222**	**34,572**
Interest expense	605	706
Lease payments made	(6,957)	(8,056)
Lease liabilities recognised under AASB 16 at the end of financial year	**20,870**	**27,222**

12. Borrowings

At 30 June 2022, AEMO's borrowings comprise a syndicated bank debt facility of $535 million and a loan from Federal Treasury of $6.2 million.

The syndicated loan facility comprises:

- Facility A: $50 million working capital facility, one-year tenor
- Facility B: $242.5 million facility, three-year tenor
- Facility C: $242.5 million facility, five-year tenor

The facility has floating interest rates and is unsecured. Facility A was rolled for a further 12 months in March 2022.

Detail of the Group's drawn borrowings consist of the following Financial Liabilities held at fair value:

	2022 $'000	2021 $'000
Non-current		
Bank Loans		
Syndicated facility	433,180	358,180
TOTAL	**433,180**	**358,180**

Borrowings are classified as current liabilities unless AEMO has an unconditional right to defer settlement of the liability for at least 12 months after the reporting date.

Borrowings are initially recognised at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortised cost. Any difference between the proceeds (net of transaction costs) and redemption amount is recognised in the statement of profit or loss over the period of the borrowings using the effective interest rate method.

In April 2022 AEMO entered into a loan agreement with Federal Treasury to undertake the amended scope of the Consumer Data Right (CDR) program. The loan of $6.2m is undrawn at 30 June 2022.

a. Financing Costs

Borrowing costs consist of interest and other costs that AEMO incurs in connection with borrowing activities.

Borrowing costs are recognised as expenses in the period in which they are incurred, except where they are included in the costs of qualifying assets. The Group's borrowing costs directly attributable to the acquisition, construction or production of an asset are capitalised as part of the cost of the asset.

Costs incurred in connection with the arrangement of borrowings are capitalised and amortised over the effective period of the funding.

b. Financial risk management

The Group's activities expose it to a variety of financial risks: market risk (including interest rate risk), credit risk and liquidity risk.

The financial risk management function is carried out centrally and the Group reviews operations actively to identify and monitor all financial risks and to mitigate these risks. The Board is kept informed in a timely manner of any material exposures to financial risks.

c. Market and interest rate risk

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. It comprises three types of risk: interest rate risk, currency risk, and credit risk. AEMO's exposure to market risk is primarily through interest rate risk, noting its exposure to foreign currency is limited to specific software purchases and credit risk is managed through cash investments being held with tier one Australian banks.

The Group's exposure to interest rate risk arises from long-term syndicated bank debt facilities with floating rate interest. No interest rate hedges have been entered into as at 30 June 2022.

AEMO's financial sensitivity to movements in interest rates is presented below.

2022	Carrying	Interest rate Risk +1%		Interest rate Risk -1%	
	Amount $'000	Net Result $'000	Equity $'000	Net Result $'000	Equity $'000
Financial Assets					
Cash and cash equivalents	1,280,112	66	66	(66)	(66)
	1,280,112	**66**	**66**	**(66)**	**(66)**
Financial Liabilities					
Interest bearing liabilities	433,180	51	51	(51)	(51)
	433,180	**51**	**51**	**(51)**	**(51)**

2021	Carrying	Interest rate Risk +1%		Interest rate Risk -1%	
	Amount $'000	Net Result $'000	Equity $'000	Net Result $'000	Equity $'000
Financial Assets					
Cash and cash equivalents	222,803	10	10	(10)	(10)
	222,803	**10**	**10**	**(10)**	**(10)**
Financial Liabilities					
Interest bearing liabilities	358,180	66	66	(66)	(66)
	358,180	**66**	**66**	**(66)**	**(66)**

d. Liquidity risk

Liquidity risk arises where there is a possibility that AEMO will encounter difficulty in meeting obligations relating to financial liabilities and will not have sufficient funds to settle a transaction on the due date.

To manage this risk AEMO forecasts and monitors cash flow and invests surplus funds in highly liquid markets.

Undrawn borrowing facilities

30 June 2021	Limit $ '000	Balance $'000	Undrawn $'000
Total bank debt facility available	535,000	358,180	176,820

30 June 2022	Limit $ '000	Balance $'000	Undrawn $'000
Total bank debt facility available	535,000	433,180	101,820
Total Federal Treasury loan available	6,153	-	6,153

Loan repayment commitments
Total loan repayment commitments (principal and estimated interest charges) are as follows:

30 June 2022	< 1 year $'000	1–5 years $'000	> 5 years $'000	Total $'000
Syndicated bank debt facility	-	146,431	221,424	367,854
Federal Treasury loan			6,153	6,153
Total Commitments	-	**146,430**	**227,577**	**374,007**

30 June 2021	< 1 year $'000	1–5 years $'000	> 5 years $'000	Total $'000
Syndicated bank debt facility	1,473	365,604	-	367,077
Total Commitments	**1,473**	**365,604**	-	**367,077**

13. Capital

a. Participant Compensation Funds

National Electricity Market

Established under the National Electricity Rules, the purpose of this fund is to pay compensation to certain types of participants for scheduling errors as determined by the Dispute Resolution Panel. The funding requirement for each financial year is the lesser of $1.0 million and $5.0 million minus the amount which AEMO reasonably estimates will be the balance of the PCF at the end of the relevant financial year.

Victorian Declared Wholesale Gas Market

Established under the National Gas Rules, the purpose of this fund is to pay compensation to market participants for unintended scheduling results as determined by the dispute resolution process. The funding requirement for each financial year is the lesser of $0.5 million and $1.0 million minus the amount AEMO reasonably expects to be the balance of the fund at the end of the financial year.

Short Term Trading Market

Established under the National Gas Rules, the purpose of these funds is to pay compensation to market participants for unintended scheduling results as determined by the dispute resolution process. The funding requirement for each financial year is:

I. ***Sydney hub:*** The lesser of $0.335 million and $0.670 million minus the amount AEMO reasonably expects to be the balance of the fund at the end of the financial year.

II. ***Adelaide hub:*** The lesser of $0.115 million and $0.330 million minus the amount AEMO reasonably expects to be the balance of the fund at the end of the financial year.

III. ***Brisbane hub:*** The lesser of $0.225 million and $0.450 million minus the amount AEMO reasonably expects to be the balance of the fund at the end of the financial year.

The balances for all PCFs, except the National Electricity Market PCF, have reached the funding requirements under the Rules. No further PCF fees will be charged for these markets unless there is a claim against the funds, however interest will continue to be earned on these funds. The National Electricity Market PCF has fallen below the funding requirement and therefore PCF fees of $1.0 million have been charged in the 2021-22 financial year in line with the National Electricity Rules.

The balance of each of the Participant Compensation Fund reserves at 30 June are:

	PCF NEM	PCF Vic Wholesale Gas	PCF STTM Sydney hub	PCF STTM Adelaide hub	PCF STTM Brisbane hub	TOTAL
	$'000	$'000	$'000	$'000	$'000	$'000
2021						
Balance 1 July 2020	3,066	3,783	863	434	502	**8,648**
Contributions during the year	998	-	-	-	-	**998**
Interest earned during the year	15	19	4	3	2	**43**
Payments of claims during the year	-	-	-	-	-	**-**
Balance 30 June 2021	**4,079**	**3,802**	**867**	**437**	**504**	**9,689**

	PCF NEM	PCF Vic Wholesale Gas	PCF STTM Sydney hub	PCF STTM Adelaide hub	PCF STTM Brisbane hub	TOTAL
	$'000	$'000	$'000	$'000	$'000	$'000
2022						
Balance 1 July 2021	4,079	3,802	867	437	504	**9,689**
Contributions during the year	997	-	-	-	-	**997**
Interest earned during the year	17	15	4	2	-	**40**
Payments of claims during the year	(64)	-	-	-	-	**(64)**
Balance 30 June 2022	**5,029**	**3,817**	**871**	**439**	**504**	**10,661**

b. Land Reserve

The Land Reserve has been established to recover the cost of the purchase of the Norwest land from participants over a 30-year period.

c. Accumulated Surplus/(Deficit)

The Group has been reporting an operating loss in recent years due to operating requirements exceeding fee levels, and at 30 June 2022 the accumulated deficit was $8.9 million (2021: $29.1 million). Individual functions within the Group are delivering surpluses/deficits and the annual budget and fees process enables surpluses to be returned to members/deficits to be recovered from fees, in accordance with the Group's statutory cost recovery model.

The DWGM – capital contribution amount relates to VENCorp contributed capital that was recorded as an accumulated surplus at the commencement of the Group.

14. Key Management Personnel and related parties

A review of AEMO's Key Management Personnel was undertaken during the year, largely to assess the executive personnel that have strategic decision-making authority for the planning, directing and controlling of the overall activities of AEMO. Arising from the review, the Key Management Personnel were determined to be all Directors, the Managing Director and Chief Executive Officer, along with four executive management roles.

a. Key Management Personnel

The following people were key management personnel of AEMO during the financial year ended 30 June 2022, or part thereof (as stated):

Non-Executive Directors

Name	Title	Period of appointment
Mr Andrew Clarke, AO, PSM	Chair	01 Jul 2021 to 30 Jun 2022
Ms Julieanne Alroe	Director	01 Jul 2021 to 30 Jun 2022
Mr Anthony Concannon	Director	01 Jul 2021 to 30 Jun 2022
Dr Peter Davis	Director	01 Jul 2021 to 01 Dec 2021
Ms Elizabeth Donaghey	Director	01 Jul 2021 to 30 Jun 2022
Mr Nino Ficca	Director	01 Jul 2021 to 30 Jun 2022
Ms Anne Nolan	Director	01 Jul 2021 to 30 Jun 2022
Mr John Pittard	Director	01 Jul 2021 to 30 Jun 2022
Mr Kee Wong	Director	01 Jul 2021 to 30 Jun 2022

Executive Key Management Personnel

Name	Title	Period of appointment
Mr Daniel Westerman	Managing Director and Chief Executive Officer	01 Jul 2021 to 30 Jun 2022
Mr Michael Gatt	EGM – Operations	01 Jul 2021 to 30 Jun 2022
Mr Cameron Parrotte	EGM – WA	01 Jul 2021 to 28 Jan 2022
Ms Kate Ryan	EGM – WA & Strategy	07 Feb 2022 to 30 Jun 2022
Ms Julie Williams	EGM – Finance & Business Services	01 Jul 2021 to 25 Feb 2022
Ms Vanessa Hannan	EGM – Finance & Governance	25 Feb 2022 to 30 Jun 2022
Dr Alex Wonhas	EGM – System Design	01 Jul 2021 to 11 Jan 2022
Ms Merryn York	EGM – System Design	14 Mar 2022 to 30 Jun 2022

b. Remuneration of Key Management Personnel

Aggregated remuneration received or receivable by the key management personnel of AEMO, as detailed on page 85, during the reporting periods is as follows:

	2022 $'000	2021 $'000
Non-Executive Directors		
Short-term employee benefits	1,120	1,038
Post-employment benefits	112	99
Other long-term benefits	-	-
Termination benefits	-	-
	1,232	**1,137**

Note: the above table is non-IFRS information and is unaudited

	2022 $'000	2021 $'000
Executive Key Management Personnel		
Short-term employee benefits	3,655	3,318
Post-employment benefits	115	101
Other long-term benefits	64	61
Termination benefits	131	0
	3,965	**3,480**

Note: the above table is non-IFRS information and is unaudited

c. Retirement benefits of Key Management Personnel

No retirement benefits were paid by AEMO in connection with the retirement of key management personnel for the 2022 financial year (2021: $nil).

Chair and the Non-executive Board members

The annual Directors remuneration pool was last approved by Members at the Annual General Meeting in 2020. The amount of the pool includes fees to the Director chairing the Information Exchange Committee, and projected increases over a three-year period.

The current pool is $1.35 million per annum. The Board makes an annual determination as to the part of the approved pool to be applied as fees to each director, after considering advice from external remuneration advisers.

Managing Director and Chief Executive Officer

The position of the Managing Director/Chief Executive Officer is evaluated based on advice received from several remuneration and benefits specialists. The Board approves the Fixed Annual Reward (FAR) based on this advice. The Board approves any increase to fixed pay based on market movement and individual performance and approves any Short-Term Incentive (STI) based on corporate and individual performance.

Other key management personnel

All KMP positions have a job profile that outlines the key accountabilities of each KMP. From time to time, AEMO seeks remuneration advice from Hay Group regarding market movements for this group. The Board approves any annual fixed pay adjustments for KMP based on individual performance and approves any STI awards based on corporate and individual performance.

d. Related Parties

The Group's related parties have been determined as follows:

- Key Management Personnel and their close family members; and
- Government and industry members as detailed below.

AEMO Government Members

- **Commonwealth Government**
- **Australian Capital Territory**
- **State of New South Wales**
- **State of Queensland**
- **State of South Australia**
- **State of Tasmania**
- **State of Victoria**
- **State of Western Australia**

AEMO Industry Members

- Ararat Wind Farm Pty Ltd
- Advanced Energy Resources
- AETV Pty Ltd
- AER Retail Pty Ltd
- A-Star Electricity Pty Ltd
- AGL Energy Ltd
- AGL Loy Yang Marketing Pty Ltd
- AGL Macquarie
- Agora Retail Pty Ltd
- Allgas Energy Pty Ltd
- APA EE Holdings Pty Ltd
- APA GasNet Australia (Operations) P/L
- Alinta Sales Pty Ltd
- Alinta Energy Retail Sales Pty Ltd
- Amalgamated Energy Services P/L
- Amanda Energy PL
- APT Facility Management Pty Ltd
- APT Petroleum Pipelines Pty Ltd
- APT Pipelines (NSW) Pty Ltd
- Ararat Wind Farm Pty Ltd
- Attunga Capital Pty Ltd
- Aurora Energy Pty Ltd
- Australian Gas Networks Limited
- Australian Pipeline Trust
- Aus Gas Trading Pty Ltd
- AusNet Services
- Bluewaters Power 1 Pty Ltd
- Bluewaters Power 2 Pty Ltd
- Central Ranges Pipeline Pty Ltd
- Chinova Resources Osborne Pty Ltd
- CitiPower Pty Ltd
- Clean Energy Investments Pty Ltd
- Click Energy Pty Ltd
- Collgar Wind Farm Pty Ltd
- Covau Pty Ltd
- Delburn Wind Farm Pty Ltd
- Delta Electricity
- Denmark Community Windfarm Ltd
- Diamond Energy Pty Ltd
- Directlink Joint Venture
- Directlink Pty Ltd
- Dodo Power & Gas Pty Ltd
- East Australian Pipeline Pty Ltd
- EDL Group Operations Pty Ltd
- ElectrAg Pty Ltd
- ElectraNet Pty Ltd
- Endeavour Energy
- Energex Limited
- Energy Australia Gas Storage Pty Ltd
- Energy Australia Pty Ltd
- Energy Australia Yallourn Pty Ltd
- Energy Pacific (Vic) Pty Ltd
- Enova Energy Pty Ltd
- Epic Energy South Australia Pty Ltd
- Ergon Energy Pty Ltd
- ERM Power Ltd
- ERM Power Retail Pty Ltd
- ESCO Pacific Pty Ltd
- Essential Energy
- FPC 30 Ltd
- FRV Services Australia Pty Ltd
- GSP Energy Pty Ltd
- Hydro-Electric Corporation
- Hydro Power Pty Ltd
- ICAP Australia Pty Ltd
- Infigen Energy Markets Pty Ltd
- Infratil Energy Australia Pty Ltd
- International Power (Engie Energy) P/L
- Jemena Ltd
- Kiamal Solar Farm Pty Ltd
- LMS Energy Pty Ltd
- Marubeni Australia Power Services P/L
- Millmerran Energy Trader Pty Ltd
- MTA Energy Pty Ltd
- Murraylink Transmission Company P/L
- Newcrest Mining Limited
- NewGen Power Kwinana Pty Ltd
- New Gullen Range Wind Farm Pty Ltd
- N. P. Power Pty Ltd
- OneSteel Manufacturing Pty Ltd
- Onsite Energy Solutions Pty Ltd
- Origin Energy Electricity Ltd
- Origin Energy Eraring
- Overland Sun Farming Company Pty Ltd
- Oxley Solar Development Pty Ltd
- Pacific Hydro Challicum Hills Pty Ltd
- Pacific Hydro Clements Gap Pty Ltd
- Pacific Hydro Portland Wind Farm Pty Ltd
- Pacific Hydro Retail Pty Ltd
- Perth Energy
- Powercor Australia Pty Ltd
- Queensland Electricity Transmission
- Phoenix Energy Australia Pty Ltd
- Pooled Energy Pty Ltd
- Reach Solar Energy Management Co P/L
- RES Australia Pty Ltd
- Santos Ltd
- Simcoa Operations Pty Ltd
- SIMEC ZEN Energy Retail Pty Ltd
- Snowy Hydro Limited
- Solar Reserve Australia II Pty Ltd
- South East Australia Gas Pty Ltd
- SPI Electricity Pty Ltd
- Strategic Gas Market Trading
- Syncline Energy Pty Ltd
- Tasmanian Gas Pipeline Pty Ltd
- TasNetworks
- TransGrid
- Urth Energy Pty Ltd
- Vellocet Clean Energy pty Ltd
- Vicpower Trading
- Water Corporation
- Wesfarmers Kleenheat Gas Pty Ltd
- Western Downs Solar Project Pty Ltd
- Westpac Banking Corporation
- WINconnect Pty Ltd
- Yarranlea Solar Pty Ltd

e. Significant transactions with Key Management Personnel

There were no significant transactions with Key Management Personnel during the reporting year.

f. Significant transactions with related party entities

AEMO's significant related party transactions during the reporting year are summarised below.

Markets and Settlements

AEMO's core system operations, markets and settlements activities involve significant, regular material transactions with most members. The transactions are governed by regulations, rules and published arrangements and occur at arm's length, with no special consideration or discounts. The majority of the activities are subject to annual audits.

Further, no debt or equity inter-relationships exist between AEMO and market participants. Given the nature of these related party transactions and the operational controls in place to mitigate related party transaction risk, the transactions are not presented in detail.

Connections

Connection activities are underpinned by contractual arrangements, without special considerations or discounts. The total connections revenue during the financial year equated to $31.1 million.

Government Grants

In January 2022 AEMO received a grant from Federal Treasury of $5.4 million to fund the costs incurred to develop the Consumer Data Right (CDR) gateway for the energy market, in accordance with the initially proposed legislation by Federal Treasury. Further funding for an amended scope for the CDR program was provided in April 2022, in the form of a loan from Federal Treasury for $6.2 million, which is undrawn at 30 June 2022.

AEMO Services, in its role as NSW Consumer Trustee, is funded initially by the NSW Government. During the year ended 30 June 2022, AEMO Services received $20.0 million in the form of a grant from the NSW Government. This has been recorded in Other Revenue in accordance with AASB1058.

Government Members

Government engagements are either underpinned by legislative requirements or milestone driven contractual arrangements subject to annual audits. Government related parties with annual interactions of above $0.5 million are detailed below.

Member / Engagement	$'000
Department of Planning, Industry and Environment (NSW)	2,920
• New South Wales Consumer Trustee implementation	
Department of Environment, Land, Water and Planning (VIC)	6,211
• Renewable Energy Zones Development Plan • Victoria – New South Wales Interconnector System Integrity Protection Scheme	

15. Commitments

Capital commitments at balance date represent contractual consultancy arrangements for AEMO's major programs, including National Energy Simulator, WEM Reform, NEM 2025 and Digital. At 30 June 2022 the Group had $24.4 million (2021: $22.6 million) in capital commitments.

AEMO's capital commitments are detailed below:

	2022 $'000	2021 $'000
Capital Commitments		
Not later than one year	23,983	21,786
Later than one year but not later than five years	415	768
Later than five years	-	44
	24,398	**22,598**

16. Contingent liabilities

Contingent liabilities and contingent assets are not recognised in the statement of financial position but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset, or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

Where the probable outcome against the company can be measured, an appropriate liability is recognised in the financial statements. Where the outcome is unknown and the company is defending the action, or it is unlikely that any significant liability will arise, an amount is not recognised in the financial statements.

From time to time the Group may be involved in disputes with registered participants. As referred to in Note 13(a) Participant Compensation Funds, the Group maintains PCFs for payment of compensation to market participants for unintended scheduling results and scheduling errors as determined under various dispute resolution processes. Payment of such claims are capped to the extent of the funds available in the applicable PCF. Disclosure of details of claims are not provided where the directors consider that this would be prejudicial to AEMO in resolving the dispute.

17. Parent company financial information

a. Summary financial information

The individual financial statements for the Parent company show the following aggregate amounts:

Statement of Profit or Loss and Other Comprehensive Income for the year ended 30 June 2022	2022 $'000	2021 $'000
Revenue	1,012,636	934,708
Expenses	1,000,018	932,353
Surplus/(deficit) for the period	**12,618**	**2,355**
Other comprehensive income	1,667	1,380
Total comprehensive surplus/(deficit)	**14,285**	**3,735**

Statement of Financial Position as at 30 June 2022	Notes	2022 $'000	2021 $'000
Assets			
Current assets		1,400,718	335,458
Non-current assets		417,027	367,543
Total assets		**1,817,745**	**703,001**
Liabilities			
Current liabilities		1,361,787	329,479
Non-current liabilities		450,613	382,462
Total liabilities		**1,812,400**	**711,941**
Net assets/(liabilities)		**5,345**	**(8,940)**
Equity			
Capital contribution of members		7,093	7,093
Participant compensation fund reserve	7(a)	10,661	9,689
Land reserve	7(b)	3,626	3,399
Accumulated surplus/(deficit)		(16,035)	(29,121)
Total equity		**5,345**	**(8,940)**

18. Investment in subsidiary

a. Summary Financial Information

The consolidated financial statements incorporate the assets, liabilities and results of the following subsidiary in accordance with the accounting policy described in Note 1.

Name	Country of Incorporation	Business Activities Carried on in	2022 %	2021 %
AEMO Services Limited	Australia	Australia	70	-

Non-controlling interest	2022 $'000	2021 $'000
Surplus for the year	3,044	-

19. Remuneration of auditors

During the year the following fees were paid or payable for services provided by the auditor of the Group and its related practices:

Amounts received or due and receivable by Grant Thornton	2022 $'000	2021 $'000
Audit of financial reports	110	105
Other assurance services	17	
Other services	9	11
Total remuneration of Grant Thornton	**136**	**116**

20. Events occurring after balance date

In July 2022 AEMO reached financial close on a $210 million bank debt facility with a tenor of three years.

Through July and August 2022, AEMO received consideration of $0.5 million in aggregate from the disposal of cryptocurrency assets (energy web tokens). Proceeds exceeded the book value of $0.4 million at 30 June 2022, hence there is no revaluation or impairment at 30 June 2022. The gain on sale ($0.1 million) will be returned to members and recognised in the financial statements in the year ending 30 June 2023.

There are no other significant events that arose subsequent to balance date.

Directors' Declaration

The directors of Australian Energy Market Operator Limited declare that:

1. The consolidated financial statements, comprising the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of financial position, the consolidated statement of changes in equity, the consolidated statement of cash flows, and accompanying notes, are in accordance with the *Corporations Act 2001* and:
   - a. comply with Accounting Standards as described in Note 2 to the financial statements and the *Corporations Regulations 2001*; and
   - b. give a true and fair view of the Group's financial position as at 30 June 2022 and of its performance for the year ended on that date in accordance with the accounting policies described in Note 2 to the financial statements.
2. In the directors' opinion, there are reasonable grounds to believe that the company will be able to pay its debts as and when they become due and payable.

This declaration is made in accordance with a resolution of the Board of Directors and is signed for and on behalf of the directors by:

A. Clarke AO, PSM
Chair

8 September 2022

Grant Thornton

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Independent Auditor's Report

To the Members of Australian Energy Market Operator Limited

Report on the audit of the financial report

Opinion

We have audited the financial report of Australian Energy Market Operator Limited (the Company) and its subsidiaries (the Group), which comprises the consolidated statement of financial position as at 30 June 2022, the consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and the Directors' declaration.

In our opinion, the accompanying financial report of the Group is in accordance with the *Corporations Act 2001*, including:

a giving a true and fair view of the Group's financial position as at 30 June 2022 and of its performance for the year ended on that date; and

b complying with Australian Accounting Standards and the Corporations Regulations 2001.

Basis for opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report. We are independent of the Group in accordance with the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Information other than the financial report and auditor's report thereon

The Directors are responsible for the other information. The other information comprises the information included in the Group's annual report for the year ended 30 June 2022, but does not include the financial report and our auditor's report thereon.

Our opinion on the financial report does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Directors' for the financial report

The Directors of the Company are responsible for the preparation of the financial report that gives a true and fair view in accordance with Australian Accounting Standards and the *Corporations Act 2001*. The Directors' responsibility also includes such internal control as the Directors determine is necessary to enable the preparation of the financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the Directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

A further description of our responsibilities for the audit of the financial report is located at the Auditing and Assurance Standards Board website at: http://www.auasb.gov.au/auditors_responsibilities/ar3.pdf. This description forms part of our auditor's report.

Grant Thornton

Grant Thornton Audit Pty Ltd
Chartered Accountants

B A Mackenzie
Partner – Audit & Assurance

Melbourne, 8 September 2022

Australian Energy Market Operator Limited

ABN 94 072 010 327

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