

2019

Annual Report



Zema Energy Studies Scholarship



**Matt Zema, AEMO Chief Executive Officer,
2009 to 2016**

In this report, AEMO reflects on our first decade of operation since establishment in July 2009, and how we've expanded our role and the capability of our people as the energy sector has undergone a rapid transformation.

It is fitting that we pay tribute to our founding Chief Executive Officer, Matt Zema, who tragically passed in 2016.

Matt epitomised the leadership spirit of energy sector reform and his legacy will continue through the next generation of leaders in Australia's energy sector with the Zema Energy Studies Scholarship.

AEMO, with the support of the Council of Australian Governments Energy Council and other contributors, and in partnership with Monash University, has established the scholarship to support PhD students specialising in interdisciplinary energy studies, to deepen their expertise, unlock their full leadership potential and gain exposure to our national energy industry.

Graduates of the program, through their sophisticated and adaptive research skills that bridge the worlds of academia and industry, and later through their leadership, will help shape the energy world of the future.



Contents



About AEMO	4	Consumer engagement	22
Changes across the NEM and WEM	6	Digital innovation	24
Chairman's Message	7	People	26
Managing Director and CEO Message	8	Corporate strategy	28
AEMO Executive Leadership Team	10	Corporate governance	30
System Operations	14	Board of Directors	32
System design	16	Board committee focus areas	35
Markets	20	AEMO members	36
		Financial Statements	38

About AEMO

AEMO is the independent system and market operator for the National Electricity Market (NEM), the Western Australian (WA) Wholesale Electricity Market (WEM), wholesale and retail gas markets and supply hubs, and gas systems.

AEMO is a not-for-profit organisation partly owned by federal and state governments, with members from electricity and gas generation, transmission, distribution, retail and resources businesses across Australia.

Our purpose is to shape a better energy future for all Australians, and we are committed to leading and converting the current challenges into sustained advantages for energy consumers.

AEMO's role is to pursue the national electricity, gas and energy retail objectives of



promoting efficient investment in ... operation and use of electricity and natural gas services for the long-term interests of consumers ... with respect to price, quality, safety, reliability and security of supply".

AEMO operates within a broader energy market governance structure, alongside the Australian Energy Market Commission (AEMC) and the Australian Energy Regulator (AER), and is a member of the Energy Security Board (ESB).

Our functions are prescribed in the national electricity and gas laws, with the national electricity and gas rules and other legislative instruments providing the regulatory framework, procedures and processes for the electricity and gas markets we operate.

AEMO also has a unique role in Victoria, as the State's transmission network planner.

The organisation also works closely with our members and a range of important energy industry stakeholders on issues of future system security and design.

AEMO collaborates with, and undertakes work at the request of, individual jurisdictions, the Council of Australian Governments (COAG) Energy Council, and Western Australia's Public Utilities Office (PUO) and Economic Regulation Authority (ERA).

We also work with State-based regulators: Independent Pricing and Regulatory Commission (IPARC – ACT); Independent Pricing and Regulatory Tribunal (IPART – NSW); Essential Services Commission (ESC – VIC); Queensland Competition Authority (QCA); Essential Services Commission of South Australia (ESCOSA); and the Office of the Tasmanian Economic Regulator (OTTER).

AEMO also maintains a series of partnerships across the energy industry in Australia and globally to gain access to new insights and provide leading perspectives on energy transformation. In particular, our strategic relationships and information-sharing with CSIRO,

BOM, ARENA, the Clean Energy Regulator (CER) and the Clean Energy Finance Corporation (CEFC) help increase our understanding of the challenges and in developing solutions.

AEMO's 10-year anniversary

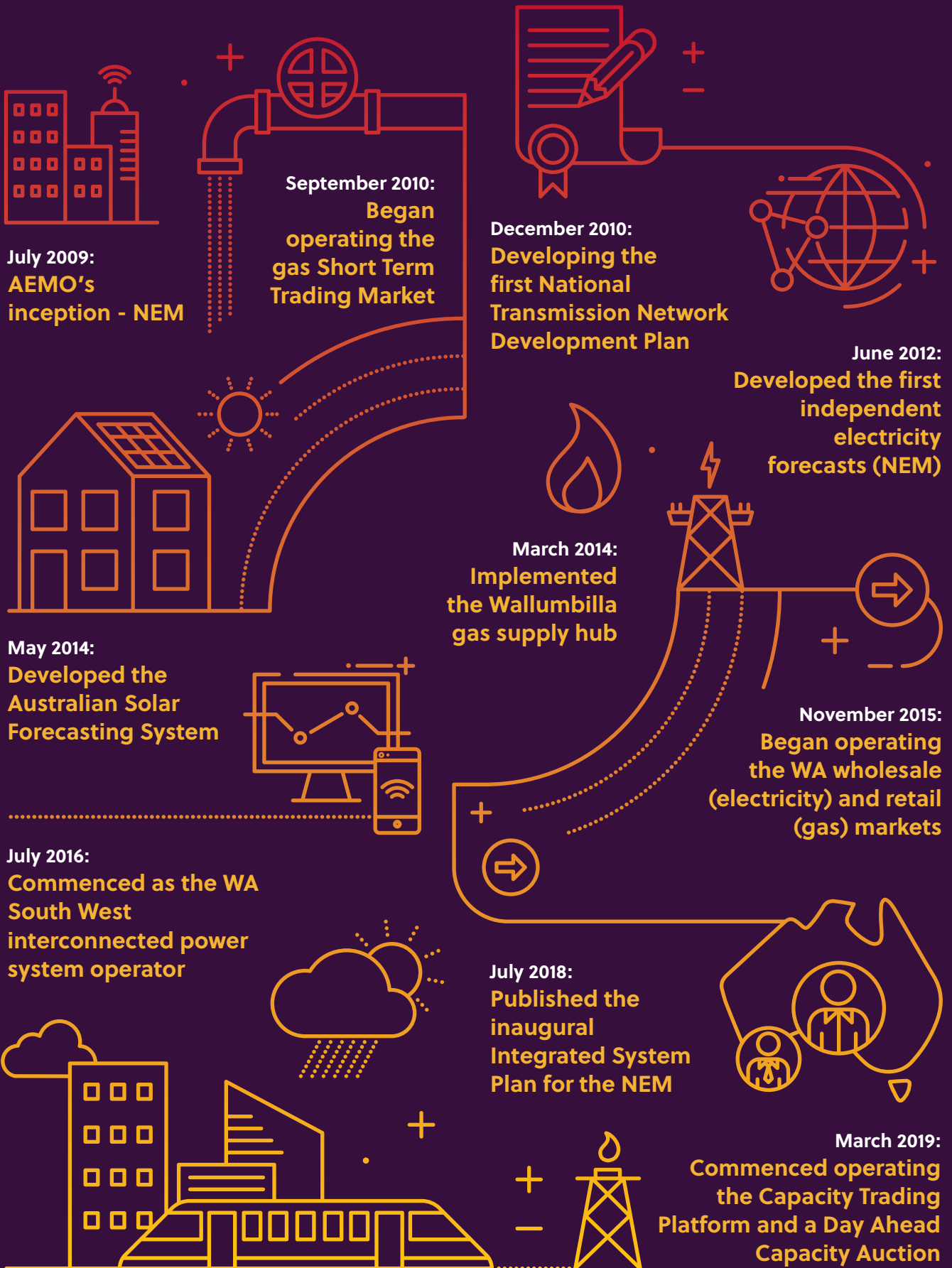
On 1 July 2019, AEMO celebrated our 10-year anniversary as Australia's independent system and market operator, responsible for electricity and gas market functions, system operations for the NEM, operation of Victoria's gas transmission network, and national transmission planning.

AEMO has taken on a progressively larger range of responsibilities over the course of our first decade. This includes the operation of the WEM, the South West Interconnected System (SWIS), and several gas market functions.

Australia's energy systems have changed significantly since 2009. The scale and, more recently, the speed of entry of variable renewable energy generation, and the adoption of distributed energy resources (DER) and storage as core elements of the integrated energy ecosystem, are fundamentally changing the integrated power system.

AEMO's focus and mission is to pursue the technical knowledge, operational focus, requisite collaboration and innovation to produce best-in-class solutions that support Australian consumers to realise the benefits of the energy industry transformation, today and into the future.

AEMO's responsibilities have grown over the decade as Australia's energy industry has transformed



Changes across the NEM and WEM

Rooftop solar photovoltaic systems



35,637

TO

2.29 million

Variable renewable energy capacity



1.89 GW

TO

6.16 GW

Customers



9.73 million

TO

11.19 million

Capacity

Max demand

Grid supplied electricity

2009

52.01
GW

39.01
GW

224.63
TWh

TO

TO

TO

2019

61.08
GW

35.65
GW

213.36
TWh

Registered participants

2009

298

2019

463



Chairman's Message

As anticipated in my first Chairman's Message last year, 2018-19 has presented many challenges for AEMO. Our successes and ongoing pressures are again presented in this Annual Report.

In fulfilling its governance responsibilities, the Board has focused on both oversight of AEMO's operations, particularly from a risk management perspective, and development of our strategy.

This work has now been published in the AEMO Corporate Plan 2020-23, a three-year plan outlining our operating environment, priorities, budget, performance indicators and



risk assessment. The development and publication of the plan is an exercise in both transparency and accountability, and it will be the basis of future Annual Reports. It is firmly grounded in our statutory objective – the long-term interests of Australian energy consumers.

Three specific initiatives to highlight from 2018-19, in which the Board was deeply engaged, are:

- **Capital Program:** the Board approved AEMO's largest capital investment program, which will replace our legacy systems with the modern digital platforms needed to manage our increasingly complex systems and markets.
- **Australian Energy Simulation Centre:** in collaboration with CSIRO, we have completed the feasibility study for this new capability, a 'digital twin' of the Australian energy systems and markets that will support our system planning and be accessible by all market participants, policy makers and researchers.
- **Zema Energy Studies Scholarship:** in memory of AEMO's founding CEO Matt Zema, and in partnership with Monash University, we have established a new PhD Scholarship for students specialising in energy studies.

The publication of our Corporate Plan and these three specific initiatives exemplify AEMO's approach – leadership, transparency, collaboration, and investment in the digital and human capabilities needed to fulfil our role. They illustrate that, to meet the interests

of consumers, AEMO must continually operate on both an immediate and a strategic timescale. However, they have also highlighted some limitations in our funding model, which, like many aspects of our energy systems and markets, are no longer optimum. The Board will be reviewing this during 2019-20.

Over the last year the Board has engaged with many stakeholders – government and industry members, market bodies, industry associations, and energy consumers. I thank them all for their candour and advice on what they want from their independent system and market operator. We will continue this engagement in 2019-20.

The Board welcomed Ms Anne Nolan and Mr Nino Ficca as Directors in February, strengthening our capabilities with the addition of decades of experience in Australia's energy sector. On behalf of the Board, I also thank Mr Stephen Orr for his outstanding contribution before retiring in November.

The non-executive Directors of the AEMO Board enjoy an excellent working relationship with the Managing Director and CEO, Ms Audrey Zibelman, and with management. I thank Audrey for her leadership of a first-class executive team and staff.

I look forward to another year working with the AEMO Board and management in shaping a better energy future for all Australians.

Drew Clarke

Managing Director and CEO Message

AEMO's completion of our 10th year of operations is a great opportunity to reflect on our successes over the last decade and excitement for the future.

As Drew highlighted in his Chairman's Message, last year the Board, management team and staff collaborated to develop our first consolidated corporate plan; our focused actions for meeting Australian consumer needs for affordable, reliable, secure and sustainable energy as the system rapidly transforms.



While we contemplate and pursue forward-looking actions, AEMO also remains grounded in the here and now. In that context, I am extremely proud that in this 10th year of our operations, AEMO has cause to celebrate our continued pursuit of excellence in all that we do, outstanding firsts, and, at the same time, the commitment to apply our knowledge and experience to advance better outcomes for all energy consumers.

Over the course of the year, AEMO achieved a number of significant outcomes and milestones as we supported the industry's transition.

ISP publication and implementation

In July 2019, AEMO published the inaugural Integrated System Plan (ISP) as an integrated roadmap for the efficient development of the NEM over the next 20 years, and beyond.

The ISP proved to be a widely accepted approach towards the development of the power system, maximising value to consumers by designing the lowest cost, secure and reliable energy system.

This year, AEMO worked with industry, government and the ESB to convert the ISP to an action plan for several critical no-regrets interconnector enhancement projects. We also made improvements in the consultative and planning processes for the 2020 ISP to ensure greater transparency of, and confidence in, future system plans to achieve more efficient, certain and cost-effective implementation.

Gas market reform

AEMO progressed several important gas market reforms, including implementing a new pipeline capacity trading platform and developing a capacity trading and day ahead auction market mechanisms to improve trading capabilities and greater liquidity in secondary capacity trading to Australia's east coast gas markets.

Advancing cyber security

The maintenance of the security of the power system against malicious cyber attacks is a vexing and growing reality of our times. This year AEMO coordinated with the Australian Signals Directorate, Australian Cyber Security Centre and industry to develop and adopt internationally accepted best-in-class frameworks for protecting against, responding to and recovering from malicious cyber attacks. AEMO also coordinated acceptance of the framework by governments, advanced our internal processes to achieve targeted improvements, and gained government support for a national approach to oversee cyber security in the energy structure. Over the next fiscal year, AEMO will work with appropriate government agencies to formalise the implementation of this structure.

Facilitating new connections

AEMO continued to facilitate the transition towards an energy system with a higher penetration of renewable generation, working with existing and new market participants to connect approximately 3 GW of new large-scale generators to the network. In addition, a further 120 projects representing 19 GW of capacity are in various advanced stages of the connection process.

Integrating distributed energy resources

DER are poised to become a significant element of the modern Australian power system. For this to occur, AEMO and network operators must have sufficient visibility and capability to operate the system to ensure that we can take advantage of these resources for a more cost-effective and resilient integrated power system, without sacrificing reliability and security.

This year, AEMO collaborated with members, industry participants, governments, regulators and consumer groups on a range of DER projects that collectively move towards building the world's most dynamic two-way energy system and market that will underpin Australia's future energy system.

This includes developing Australia's first DER register, launching virtual power plant (VPP) trials in partnership with ARENA, and partnering with Energy Networks Australia (ENA) to further a blueprint for DER integration, known as the Open Energy Network project.

Data analytics

The conversion of data to information that can be used to achieve positive consumer outcomes lies at the heart of the digital future. With our partners at CSIRO and the support of the Commonwealth Department of Environment and Energy, we formally launched the National Energy Analytics and Research Program (NEAR) to pioneer the collection, integration and enhancement of energy sector information. The NEAR program builds on the Energy Use Data Program (EUDM) and seeks to use the latest data science to develop new datasets to solve emerging challenges.

Operation outcomes and evolving requirements

Along with our new achievements, I am proud to say that – notwithstanding new challenges across the system – our system and market operations in the NEM and

the WEM met all their annual security, reliability and prudential requirements.

As we note further in this report, the operations of the NEM were significantly challenged as a result of a major frequency event in August 2018, and the requirement for involuntary load shedding in Victoria in January 2019. Both events were managed securely with as minimal impact to consumers as safely possible.

As the operator of one of the world's fastest transforming networks, we also experienced several new and critical learnings that we are now converting to solutions to support future operations in the areas of frequency standards, reliability and voltage management.

We have also embarked on a digital program to replace our legacy IT systems. This program, while a significant capital investment, will reduce operating costs for both AEMO and the industry to provide services that support the transition to a new energy environment.

Develop and attracting talent

Like any high performing team, AEMO's successes are built on the considerable passion and capability of our people. As CEO, one of my chief responsibilities is to work alongside the management team to establish the work environment and support the ability of our employees to deliver outstanding results. To that end, last year we announced the initiation of a multi-year comprehensive set of changes to our ways of working to better support our employees and deliver greater value to our members.

I was also pleased during the year to welcome Dr. Alex Wonhas as Chief System Design and Engineering Officer, Tony Chappel as Chief External Affairs Officer and the promotion of Violette Mouchaileh as Executive General Manager of Emerging Markets and Services. These appointments complement the capabilities and

commitment of AEMO's Executive Leadership Team to enable Australian consumers to realise value from the energy industry transformation.

Looking forward

I know I speak for all AEMO employees in noting both the immense challenges and opportunities before us. We are committed to shaping a future energy system in Australia, applying technological innovation and the natural advantages of our country to supply immediate and enduring value to all consumers.

We know achieving this objective requires us to live the values that we aspire to as an organisation. Specifically, we start with the ambition to be excellent in all that we do, open to learning and collaboration because it is how we achieve excellence, inclusive because we are strengthened through diversity and collective wisdom, and accountable because our purpose, the long-term interests of Australian energy consumers, is so critical that we must always remember what is at stake. AEMO's Corporate Plan 2020-23 is our primary tool for focusing our organisation on the necessary actions at the right time.

We recognise that AEMO is not alone in looking to achieve this outcome and we appreciate the support and open collaboration with the Federal and State Governments, our fellow market bodies, members and stakeholders as we collectively work to achieve the desired outcomes of an affordable, secure, reliable and environmentally sustainable energy system.



Audrey Zibelman

AEMO Executive Leadership Team



Audrey Zibelman

Managing Director and Chief Executive Officer

Audrey oversees all of AEMO's strategic, operations and administrative functions and responsibilities.

Audrey has more than 30 years' international experience in the public, private, and not-for profit energy sectors. Prior to joining AEMO in March 2017, her roles included Chair of the New York State Public Service Commission, Executive Vice President and Chief Operating Officer of system operator PJM, executive roles with Xcel Energy, one of the United States largest integrated gas and electricity utilities, and serving on a number of energy industry advisory groups and Boards.

In addition to her role as CEO of AEMO, Audrey also serves on the CSIRO Energy Advisory Committee, the Melbourne Energy Institute's Advisory Board and the Board of the Melbourne Recital Centre.

Alex Wonhas

Chief System Design and Engineering Officer

Alex is responsible for overseeing AEMO's expanded focus on system design, development and engineering, which includes planning and forecasting.

Alex started at AEMO in January 2019. With more than 15 years' experience in the energy sector, Alex was previously the Managing Director – Energy, Resources and Manufacturing at international engineering and advisory firm Aurecon, focusing on growing its energy and resources advisory services to supplement its traditional engineering business. Prior to working at Aurecon, Alex was the executive director responsible for CSIRO's research and development in environment, energy and resources.



Brett Hausler

Chief Governance Officer and General Counsel

Brett oversees AEMO's corporate governance, legal, risk, audit, compliance, transmission procurement, and finance functions.

Brett has been with AEMO since its commencement in 2009. Prior to this he was with the National Electricity Market Management Company (NEMMCO) where he was General Manager Corporate Services, after several years in the energy sector. Brett's previous career was in private legal practice.



Cameron Parrotte
Executive General Manager,
Western Australian Functions

Cameron is responsible for the management and operations of Western Australia's electricity system and markets and gas services.

Cameron has led the Western Australian functions since January 2016, when AEMO began the transition to becoming responsible for wholesale and retail markets in Western Australia.

Cameron joined AEMO in 2016 from Western Power, where he had extensive experience in power system operations, design and planning over more than 20 years.

Damien Sanford
Chief Operations Officer

Damien has responsibility for overseeing AEMO's electricity and gas system operations teams.

Prior to starting his role as Chief Operations Officer in January 2019, Damien held a range of operational roles in AEMO, most recently in senior management for real-time electricity and gas operations.

Damien started work at AEMO in 2009, bringing with him a wide range of experience in energy operations and markets, emergency management and risk management, as well as the armed forces.



Joe Locandro
Chief Digital and Business Transformation Officer

Joe is responsible for AEMO's Technology, People, Procurement, Facilities and Property functions.

Joe joined AEMO in March 2018, with more than 20 years of experience in executive IT management and executive roles at Emirates Airlines, Cathay Pacific Airlines, China Light & Power, AusPower, Yallourn Energy and Village Roadshow.

Joe holds a bachelor's degree in Economics and Commerce from University of Melbourne, a graduate diploma in Marketing from Monash University and Strategic Application of Information Technology from Stanford University Graduate School of Business.

AEMO Executive Leadership Team continued...



Peter Geers **Chief Strategy and Markets Officer**

Peter is responsible for overseeing and evolving the financial operation of, and transactions across Australia's gas, electricity and retail markets including market design, market analytics, settlements, prudential management and metering. He is also responsible for AEMO's regulatory affairs and corporate strategy functions.

Peter joined AEMO in 2008 and has held a variety of roles, including Group Manager of AEMO's Markets and Business Strategy divisions.

Peter worked extensively in the energy industry for a decade before joining AEMO, with extensive energy trading and strategy experience at several major Australian energy companies as well as international commodity trading houses.

Tony Chappel **Chief External Affairs Officer**

Tony Chappel oversees AEMO's industry, government, media, communications, emergency management, and stakeholder relations.

Tony joined AEMO in July 2019, and has a long career working in and around energy policy issues, including at AGL Energy Ltd, the New South Wales Government, and the resources and energy sectors, both locally and abroad.

Tony also worked at the Smith School for Enterprise and the Environment at the University of Oxford after completing post graduate study in energy policy in the UK on a Chevening Scholarship.



Violette Mouchaileh

Executive General Manager, Emerging Markets and Services

Violette's role focuses on developing and implementing strategies for emerging areas, including integrating DER, and developing value-add data and information services.

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 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.





I was also pleased during the year to welcome Dr. Alex Wonhas as Chief System Design and Engineering Officer, Tony Chappel as Chief External Affairs Officer and the promotion of Violette Mouchaileh as Executive General Manager of Emerging Markets and Services.

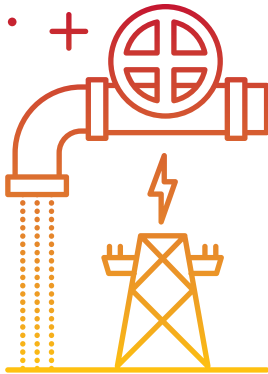
These appointments complement the capabilities and commitment of AEMO's Executive Leadership Team to enable Australian consumers to realise value from the energy industry transformation.

Audrey Zibelman



System Operations

AEMO is adapting and finding solutions to address the immediate and long-term technological challenges confronting the changing energy industry.



Real-time operation of the interconnected NEM electricity power system occurs from control centres located in Queensland and New South Wales, with either control room able to operate the entire NEM, along with a separate control room in Victoria for gas markets. A separate control centre operates the WEM in Western Australia.

Over the last 10 years, AEMO has continuously evaluated and modified our approach to managing the transforming system. Over the past year our focus has been on necessary changes to near-term forecasting, and to secure the systems as we increase our reliance on variable resources and DER as significant components of the power system.

Along with these external facing actions, in the last year AEMO has commenced the process of upgrading our primary operating systems for managing the power system to ensure our operators are given the right tools to manage increasing complex and inter-related operating requirements.

Performance

AEMO measures operational performance across multiple dimensions to ensure the systems we operate are reliable and secure under the national electricity and gas rules.

Electricity

In the NEM and WEM, AEMO maintained system operations within the rules for frequency and voltage. Further, although we were required to apply involuntary load shedding in Victoria on 25 January 2019, impacting a total of approximately 200,000 households, the reliability standard of maintaining unserved energy to no more than .002 percent was also achieved.

Gas

A new gas supply record of 1,815 PJ was set this year in eastern Australia. The record was primarily driven by increased output from Queensland through the QCLNG’s Woleebee Creek facility and the commissioning of the Northern Gas Pipeline from Tennant Creek, NT, which increased the capacity of the South West Queensland Pipeline to supply the southern states.

For the 2019 winter period, there was 22.75 PJ of gas supplied from Queensland to the southern states, a large increase from the 2018 and 2017 winters of 13.8 PJ and 7.3 PJ respectively.

Plunging temperatures resulted in record-breaking gas demand in the Victorian Declared Wholesale Gas Market, with a total daily demand of approximately 1,307 TJ being recorded on 9 August 2019, surpassing the previous record of 1282.1 TJ set on 17 July 2007.

Operational statistics at a glance

Electricity	NEM	WEM
Maintain system operation within rules for frequency, voltage and system strength	✓	✓
Load shedding – no load shedding where other options were available	✓	✓
Achieved short-term and long-term demand forecast accuracy within 3% and 5% of actual peak demand, respectively	✓	✓
Gas	DWGM	
Maintain system pressure and gas quality within rules	✓	
Gas curtailment – effective operational management of gas curtailment events	✓	
Achieved short-term (within 10% of actual) and long-term demand forecast accuracy	✓	

New challenges

Though AEMO met all of the performance requirements for the operating system over the course of the year, there were several significant challenges and developments that we are now addressing.

Power system frequency

Maintaining system frequency within a defined bandwidth is essential to assuring secure system operations. On Saturday 25 August 2018, a single lightning strike on a transmission tower supporting two 330 kV circuits of the Queensland – New South Wales interconnector created circuit faults and disconnected Queensland from the NEM.

At the time of disconnection, 870 MW of power was flowing from Queensland to New South Wales, causing an immediate supply surplus in Queensland and a rise in frequency to 50.9 Hz, while the remainder of the NEM experienced a supply deficit, resulting in approximately 1,110 MW of under-frequency load shedding in New South Wales, Victoria and Tasmania.

This event underscored the criticality of the work AEMO and the AEMC had previously initiated to assure effective frequency management of the changing system. Following this event, AEMO supplemented our ongoing internal work through collaboration with an industry working group and the addition of an internationally experienced power system engineer.

The outcome of this work was a broad consultation process and a number of adjustments in the maintenance of frequency on the system. AEMO also developed and submitted a proposed rule change on mandatory frequency to the AEMC. This rule change is now progressing and reflects AEMO's ongoing commitment to make certain that security of the system is not compromised and work with the AEMC to arrive at market and regulatory arrangements that achieve the optimal outcomes for consumers and market participants.

Reliable supply

The importance of reliable energy supply is a critical feature of modern life. The 2018 Electricity Statement of Opportunities (ESOO) for the NEM identified, among other recommendations, the need to reduce the risk of supply interruptions in Victoria and South Australia for the 2018-19 summer through the Reliability and Emergency Reserve Trader (RERT) mechanism.

In consultation with the Victorian and South Australian governments, AEMO entered into agreements with large electricity users, retailers and generators to secure a total of 930 MW of off-market reserves. These reserves were required and activated due to record-setting temperatures across Victoria and South Australia combined with unplanned major generator outages.

Unfortunately, on 25 January 2019, due to a lack of adequate reserves available, involuntary load shedding was required to maintain power system security. The load shedding impacted approximately 200,000 consumers over a three-hour period, with a rotational load shed that impacted 60,000 to 100,000 consumers for up to two hours at any one time to meet the 250 MW shortfall. AEMO worked closely with the Victorian Government and network service providers to encourage consumers to conserve their energy usage to limit the impact, and this, combined with the RERT activation, approximately halved the impact on Victorian consumers during that afternoon. Without activation of the RERT, AEMO estimates a further 1,252 MWh of load would have been required to be shed.

AEMO supports the development of a reliability standard and effective market mechanisms that provide participants with the information and tools necessary to invest in the supply and demand resources that will cost-effectively manage reliability requirements.

We incorporated the learnings from last summer to improve our analysis of the impacts of plant aging and changing climate on reliability in the sector, and to work with governments, the ESB, and market bodies to progress a better fit-for-purpose standard that will achieve cost-effective reliability at a level that serves the reasonable expectations of Australian consumers and is consistent with international industry norms.

Voltage management

Voltage management is an essential feature of a secure power system. In parts of our power system, the rapid

uptake of rooftop photovoltaic (PV) solar is leading to days in which the demand for grid power in the afternoon is so low that it causes AEMO concerns about our ability to maintain sufficient voltage. This is particularly true today in Western Australia's SWIS and in South Australia.

To address this concern, in March 2019 AEMO published a report identifying a series of critical actions that must be taken to better plan for and integrate DER in the WEM by the early to mid-2020s. We are pleased to be a key participant in the reform review that is occurring in Western Australia that is considering the implications of DER growth. We also are working with the South Australian Government and SA Power Networks (SAPN) to address our voltage concerns. The outcomes of both of these efforts will be informative to the remainder of the power system. These efforts are complementary to other work we are doing with ARENA in the area of VPPs and the ENA to better support DER integration into the power system.

Marginal loss factors (MLFs)

The rapid change to the NEM is leading to large year-on-year changes in MLFs, calculated under the current regulatory framework and methodology. The significant changes are the outcome of the rapid increases in variable resource investments at significant distances from load centres and at relatively weaker portions of the system.

AEMO is actively engaged with industry and the AEMC on options to address these challenges. At a minimum, AEMO will be publishing MLFs on a more frequent basis to increase the information provided to markets. Additionally, AEMO introduced an interactive website that also supports greater transparency of planned investments on the system, with the objective of giving more complete information to developers. These actions will also be supplemented through better development of Renewable Energy Zones (REZs) as contemplated by the actionable ISP.

System design

Our planning and forecasting analysis and publications capture the rapid transformation of the energy landscape, including across generation, transportation, storage, consumption, and sector coupling with gas and transport, as well as the continual increase in new connections our team is facilitating.

Supporting decision-making in electricity and gas markets

Each year, AEMO produces the Electricity Statement of Opportunities (ESOO) and the Gas Statement of Opportunities (GSOO) for both the NEM (eastern and south-eastern Australia) and the WEM (Western Australia), assessing the 10-year supply-demand balance outlook. These reports provide technical and market data that informs the decision-making processes of market participants, new investors, and jurisdictional bodies.

Insights from the 2018 NEM ESOO highlighted the continual risk of unserved energy in the eastern states, confirming again that additional investment will be required to replace retiring capacity and add firming capability to reduce risks of supply interruptions for peak summer periods.

The June 2019 GSOO for eastern and south-eastern Australia confirmed that the risk of previous gas shortfalls has been reduced due to additional production and supply, including the Northern Gas Pipeline connection. Further, from 2030, new gas supply infrastructure is needed to deliver gas to southern customers.

In Western Australia, the 2019 ESOO forecast that committed electricity capacity in the South West Interconnected System (SWIS)

would be sufficient to meet projected demand over the next 10 years, and the 2018 GSOO reported that potential gas supply could be sufficient to meet forecast demand over the outlook period, although ongoing investment is required as new sources of supply are likely to be needed as early as 2022.

As the operator of the Victorian Declared Transmission System (DTS), AEMO also publishes the Victorian Gas Planning Report (VGPR) on the supply-demand balance over the next five years. The 2019 VGPR forecast that supply from existing and committed gas developments would provide sufficient resources to meet demand in southern and south-eastern Australia until 2023, but that additional sources of gas supply would be required to address a forecast gap in meeting long-term winter gas demand from 2024.

Integrated energy roadmap

In July 2018, AEMO released the inaugural ISP, a comprehensive roadmap for the NEM over the next 20 years and beyond.

The ISP builds on AEMO's annual National Transmission Network Development Plan, and responds to the COAG Energy Council's 2017 adoption of the recommendations made in the Independent Review into the Future Security of the NEM (the Finkel Review), for such a strategic national plan.

The primary focus of the inaugural ISP was the likelihood, timing and impact of retirement of our existing aging coal resources and the likely replacement resources based upon costs and system requirements. The secondary focus was the specific identification of REZs that could be used to develop renewable energy resources in a more efficient manner. AEMO applied established tools for scenario planning and economic and technical analyses and an in-depth engineering assessment of security and reliability issues, to several specific enhancements to the bulk power system network that would achieve system benefit regardless of the potential investment scenario and further investments that warranted closer examination and future development.

This ISP revealed how well targeted investment in new transmission will minimise overall system cost and deliver maximum consumer value by making better use of existing plant, including DER, and lower fuel and operating costs as well as reducing operating risks through a more inter-regionally connected system.

Recommended investments in the ISP were grouped, with Group 1 projects required in the short term to maximise the economic use of existing low-cost generation, facilitate the development of new resources, and provide essential system security.



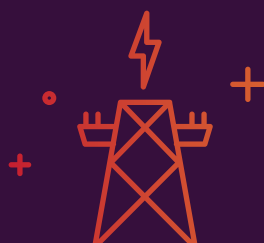
Group 2 projects are required in the medium term to enhance trade between regions, provide access to storage, and support extensive development of REZs. Group 3 projects are longer-term developments to support REZs, system reliability and security.

Key Group 1 projects are set out in the diagram on the right.

During the year the COAG Energy Council directed the ESB to progress work on ensuring the ISP is an actionable roadmap.

AEMO also commenced an extensive stakeholder engagement and collaboration process for the 2020 ISP, complemented by a mechanism of regular engagement with the ESB, the COAG Energy Council’s Senior Committee of Officials (SCO) and transmission network service providers (TNSPs).

Key Group 1 Projects overview



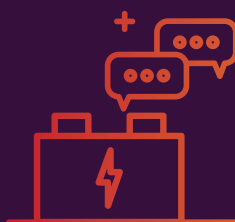
NSW to QLD upgrade

Increase in transfer capacity from QLD to NSW by 190 MW and 460 MW from NSW to QLD



Western Victoria Renewable Integration

Reduce network congestion and facilitate connection of additional generation in Western Victoria



VIC to NSW Interconnector Upgrade

Increase transfer capacity from VIC to NSW by 170 MW



SA system strength remediation

System strength remediation to support system security when gas-powered generation is displaced by renewable energy

System design continued...

Building a resilient power system in Victoria

AEMO produces the Victorian Annual Planning Report (VAPR) as part of our responsibility to plan and direct augmentation on Victoria's electricity transmission network – the Declared Shared Network (DSN).

Consistent with the recommendations of the 2018 VAPR and the 2018 ISP, AEMO is currently undertaking several Regulatory Investment Tests for Transmission (RIT-Ts) on potential transmission network and non-network projects to ensure a reliable, secure and affordable energy supply.

RIT-T Project	Benefit	Status
VIC to NSW Interconnector Upgrade	Alleviate power transfer capacity limitations between the two states, improving utilisation of renewable generation in the southern states, and allowing improved supply sharing between regions	AEMO/TransGrid published second of three RIT-T reports (PADR) in August 2019, and commenced third and final RIT-T report (PACR), due Q1 2020
Reactive Power Support	Deliver additional reactive support in Victoria to alleviate voltage control issues at times of low demand	Published second of three RIT-T reports (PADR) in June 2019, and commenced third and final RIT-T report (PACR), due Q4 2019
Western Victoria Renewable Integration	Reduce network congestion and facilitate connection of additional generation in Western Victoria	Published third and final RIT-T report (PACR) in July 2019, and commenced tender process and contracts due for execution late 2019

Western Victoria Renewable Integration RIT-T

In recent years, the transition in the energy markets has seen Western Victoria become an attractive location for new generation projects due to the quality of its renewable energy resources.

However, transmission infrastructure is currently insufficient to allow efficient access to all the new and committed generation seeking to connect to it. Without proper planning and timely investment in the Western Victorian transmission network, these limitations are expected to increase electricity costs over the long term, due to the increasing cost of generation dispatch and the cost of future investment in generation capacity.

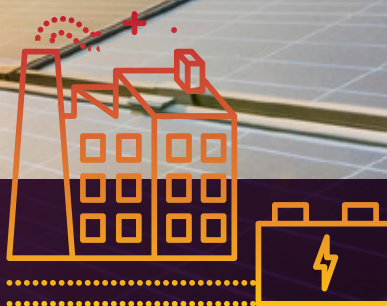
In 2017, AEMO initiated a RIT-T to assess the technical and economic benefits of addressing network limitations in the Western Victorian region, and identify a preferred investment option that maximises net economic benefit for all those who produce, consume and transport electricity in the market. AEMO produced the RIT-T as the planner for the shared transmission network in Victoria.

As part of this process, AEMO undertook more than two years of investigation, including extensive market modelling and broad stakeholder consultation with industry, consumers, key regional representatives, and federal, state and local governments, to interrogate credible options to improve transmission capacity in Western Victoria.

This project in Western Victoria was highlighted in the 2018 ISP as a priority Group 1 project.

In July 2019, AEMO published our final report in the RIT-T process, which recommended a strategic investment projected to deliver \$300 million of net market benefits by unlocking future power system capabilities in the state, expanding the diversity and availability of energy supply, and reducing electricity costs for consumers over the long term. The investment comprises a combination of minor upgrades to existing infrastructure and major transmission works included a new terminal station north of Ballarat and long-distance high voltage lines between Bulgana and Sydenham terminal stations, staged over several years.

AEMO has commenced a tender process to procure the services required to deliver the contestable augmentations. The services will include design, construction, operation, and ownership of the new infrastructure.



Growth in new connections

This financial year the growth in renewable generation continued with approximately 3 GW of new large-scale generation connected to the network. In addition, a further 120 projects representing 23 GW of capacity are in various advanced stages of the connection process. In January alone, AEMO had a concerted effort to complete nearly 50 generator performance standards agreements with a combined 4.2 GW ahead of a rule change for generator technical performance effective 1 February.

Markets

AEMO has responsibility for Australia's gas and electricity wholesale and retail markets in Western Australia and along the east coast. This includes settlements and prudentials, and contributing to the design and implementation of new market reforms to deliver long-term value to consumers.

Launched capacity trading market mechanisms

In June 2018, the COAG Energy Council agreed to implement the legal and regulatory framework required to deliver a new capacity trading reform package recommended by the AEMC as part of its Eastern Australian Wholesale Gas Market and Pipelines Framework Review.

Following this, AEMO was tasked with developing the Capacity Trading Platform (CTP) and Day Ahead Auction (DAA) market mechanisms, delivering improved trading capabilities and more liquid secondary capacity trading to Australia's east-coast gas markets.

Gas day harmonisation

In late 2017, the COAG Energy Council endorsed the Gas Market Reform Group (GMRG) recommendation to harmonise gas day start and cut-off times for natural gas facilities across the east coast and in the Northern Territory. The varying market timetable is a result of legacy arrangements, imposing unnecessary cost on the increasingly integrated gas system.

To implement a standard timetable, AEMO developed a transition plan for all gas markets, amended wholesale and retail market procedures, and coordinated an industry readiness program, outlining requirements and assisting with the resolution of transition issues.

AEMO has also been making required changes to our systems to implement the start time of gas day changes that took effect on 1 October 2019.

Retailer Reliability Obligation (RRO)

The development of the RRO was a major focus of the year. AEMO worked with the industry and the ESB to contribute to the rules and implementation of the RRO in the NEM, which came into effect on 1 July 2019.

The RRO mechanism, relying on several of AEMO's existing functions, such as forecasting, settlements and RERT procurement, is triggered if AEMO identifies that the reliability standard will not be met in three years' time through our ESOO forecasts.

Retailers are placed on notice that they may be assessed by the AER for compliance and are incentivised to enter into contracts to remediate the forecast reliability gap. AEMO retains our powers under the RERT to procure emergency reserves if the gap is not closed and any retailers that are found to be non-compliant by the AER are liable for a share of the RERT costs.

Implementation of 5-minute settlement and global settlement

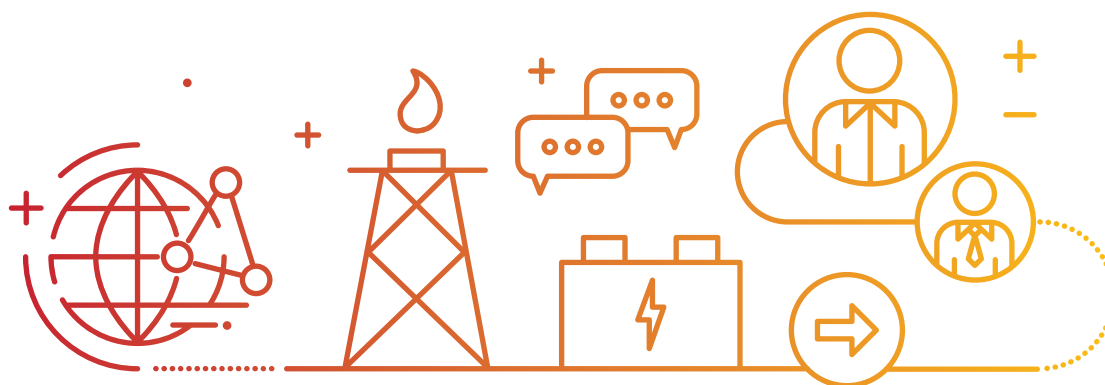
In November 2017, the AEMC issued a final rule to change the settlement period for the electricity spot price in the NEM from 30 minutes to five minutes from 1 July 2021, aligning financial settlement with dispatch. The intent of the shorter settlement period is to price signals and bidding incentives, leading to more efficient generation and use of electricity, and incentives to invest in a wider mix of energy-smart technologies.

The AEMC supplemented the 5-minute settlement (5MS) rule in December 2018 when it issued a final rule requiring implementation of a global settlement (GS) framework for the NEM wholesale electricity market to begin 6 February 2022.

GS will mean that AEMO settles the market using the same process for all retailers, providing a greater level of visibility of energy uncertainties, known as Unaccounted for Energy (UFE).

AEMO initiated a multi-year program to implement the 5MS and GS, including defining required changes to market procedures, the design, development and testing of changes to AEMO market systems, and assisting the industry throughout the transition.

To support timely implementation, AEMO completed a successful proof of concept to confirm the chosen technology architecture and contracted a technology services vendor for key deliverables. We also established a structured framework for engagement through working groups to support and co-ordinate readiness of the industry and AEMO for full commencement of 5MS and GS.



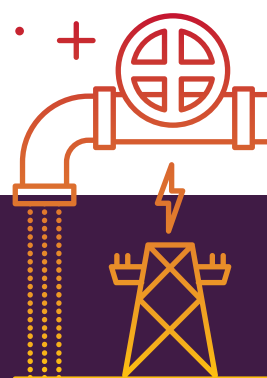
Gas Bulletin Board redevelopment

In September 2018, AEMO completed the redevelopment of the Natural Gas Bulletin Board, which provides gas system and market information to help participants make more informed decisions about trading, investing in, or using gas.

The enhanced bulletin board supports faster and more efficient gas trading and access to pipeline transportation along the east coast of Australia.

Summary Annual Trades and Volumes

NEM		2018/19
Energy Purchased		186,220 GWh
Purchase Value		\$18.3 B
DWGM		2018/19
Wholesale gas withdrawal		204.08 PJ
Wholesale gas purchased		\$2376 M
STTM		2018/19
Wholesale gas withdrawal		147 PJ
Wholesale gas purchased		\$1414 M
GSH		2018/19
Wholesale gas withdrawal		22.7 PJ
Wholesale gas purchased		208.8 M
WEM		2018/19
Total energy consumed		17,367 GWh
Total value		\$1.619 B



Quarterly Energy Dynamics

To support its understanding of the markets, AEMO engages in quarterly reviews of activity and trends in each of the markets it operates. Last year, we began sharing this analysis publicly, and during the year AEMO published four Quarterly Energy Dynamics reports to provide energy market participants, businesses, consumers, governments and other interested parties with comprehensive information on electricity and gas market dynamics, apparent trends and outcomes. These reports reflect AEMO’s commitment to increased market understanding and transparency. In their first year these reports have gained significant interest and wide acceptance as a critical source of information on market dynamics.



Consumer engagement

This year AEMO established Emerging Markets and Services, a new division that supports a focused understanding of new technologies and services and how AEMO can best facilitate their integration into wholesale markets to achieve greater value for all consumers.

AEMO's initial focus is on gaining consumer value from their energy-related data and on the successful integration of DER into the power system to support better price and energy security.

In order to further advance this capability of DER, AEMO continued and initiated a number of new activities related to both DER integration and data access.

DER integration

In 2018, AEMO embarked on a comprehensive program of inter-related DER projects that will contribute to establishing a flexible, two-way energy system, and a sophisticated market to 'buy and sell' these services from consumers' distributed resources.

Open Energy Networks

AEMO and the ENA partnered on the Open Energy Networks program,

collaborating with the energy sector to recommend a blueprint to recognise an integrated system and two-sided market place to enable DER to be aggregated, incentivised and optimised in the distribution network.

The program's Required Capabilities and Recommended Actions Report was released last year, and a final recommendation report later in 2019 will detail analysis and recommendations for a preferred framework. This will lay the foundation for the blueprint and roadmap to best integrate DER, and will inform policy, regulatory change, and pilots necessary to transition to a distributed world.

Importantly, AEMO is also collaborating with stakeholders across the sector to introduce important access reforms, opening energy to a range of new entrant business models with aggregators or third parties to create solutions that benefit consumers and the grid, such as the

demand response mechanism rule change currently before the AEMC.

These projects are essential to ensure we can continue to provide secure, reliable and affordable electricity and value for all Australians today, and into the future.

DER register and technical standards

AEMO moved a step closer to launching Australia's first database of DER devices, a cornerstone project to provide visibility of these devices for the first time. After securing funding from COAG, AEMO has finalised the register's design, information guidelines and data collection process with NSPs, installers and government agencies in anticipation of launching the register for the NEM in December 2019.

AEMO is also working with the Energy Transformation Implementation Unit in Western Australia to develop the DER roadmap by end of 2019.



AEMO is working to determine the technical capabilities, operational standards and protocols to safely “plug and play” DER in our electricity network, without causing issues to real-time operations of the shared grid. These capabilities are key in moving towards our vision of a two-sided system and market place.

During the year, AEMO released a study on the need for technical integration of DER, outlining a program of work to uplift device standards, cyber standards, data and interoperability requirements to better operate the system securely and enable flexibility services to be provided by DER. As a first step, and following extensive consultation, AEMO submitted changes to Standards Australia to amend AS4777 (inverter Standards). AEMO looks forward to working with industry to put in place the remaining standards and protocols to effect secure and reliable DER integration.

VPP demonstration program

In April 2019, ARENA announced \$2.46 million for AEMO’s VPP demonstration program. This program is testing the operational capabilities of VPPs – aggregations of DER, such as rooftop PV systems, batteries and controllable-load devices, operated as ‘virtual power plants’ using software and communications technology – to deliver scalable energy and network services traditionally performed by large-scale, conventional electricity generators.

This initiative contributes to unlocking new value for Australian consumers with DER, including an estimated two million rooftop solar systems, benefiting all energy users through a more efficient and affordable power system.

The program builds on collaboration between AEMO, the AEMC, the AER and industry members to establish the framework to support these VPP demonstrations. Registration for the trial opened in July 2019, with the trial commencing in October 2019. Learnings from the trial will inform regulator and technical operational change.

Consumer data information

Digitalisation of the power system provides the ability to give consumers and their representatives much better information to achieve better outcomes. During the year, AEMO was engaged in a number of activities to enhance value from energy-related data and data availability for consumers.

National Energy Analytics and Research (NEAR) Program

In February 2019, AEMO, the Australian Government and CSIRO jointly launched the NEAR Program, a data analytics program that pioneers the collection, integration and enhancement of energy data to support better consumer outcomes.

Building on the EUDM pilot program, the NEAR Program includes an extensive research program, using the latest data science to develop new datasets to develop the efficient energy system of tomorrow. This rich dataset will enable new insights into how peak load, daily load shape, demographics, technology and the environment all interact to shape contemporary Australian energy behaviour.

Consumer Data Right

In August 2019, the Federal Government legislated the introduction of Consumer Data Right (CDR), enabling the sharing of consumer data from an existing provider to an accredited third party, initially in the banking, energy and telecommunications sectors.

Leading up to this milestone, the ACCC led a consultation process from early 2019 to determine a suitable data access model for a CDR in energy, considering key criteria such as cost-effectiveness, security and

privacy, user functionality and interoperability.

Along with the broader energy industry, AEMO provided key learnings through our unique set of data and information responsibilities, knowledge and associated capabilities to help inform a preferred CDR model for consumers to efficiently, conveniently and securely access their energy data.

The ACCC released a position paper recommending AEMO’s gateway model as an efficient mechanism to meet the objective of energy data liquidity, increased competition and innovation to the ultimate benefit of the consumer. This approach was also endorsed by the Federal Treasurer.

AEMO looks forward to working with the ACCC, Data61 (a division of CSIRO), and industry stakeholders to implement CDR in the energy sector.

Two day switching

In October 2018, the COAG Energy Council SCO asked the AEMC and AEMO to provide coordinated advice on improving the customer transfer process in the NEM.

Accelerating the time it takes consumers to change electricity retailers, from months to a next day transfer will make it easier for customers to move to better electricity offers and access new services.

In May 2019, AEMO submitted a draft rule change to the AEMC, accompanied by a high-level design blueprint for procedure and system changes to facilitate the next day transfer process. The AEMC is expected to release a final rule and determination in early December 2019.

AEMO’s consultation process for procedure and system change is targeted to commence in mid-October 2019, completing in February 2020. Transition to the new customer switching framework is on target for implementation by May-June 2020.

Digital innovation

For more than a decade, AEMO has managed and enhanced our digital systems to perform our critical role and to efficiently service our people, members and consumers.

While our legacy IT systems have served their purpose in an era of stable energy markets and limited data usage, AEMO’s technology assessment concluded that the prudent option is to replace the current aging infrastructure, taking into account the rapid rate of digital change and the technology requirements to deliver significant initiatives, including the 5MS Program and WA Market reform.

AEMO is embarking on our largest digital replacement program at a cost of \$181.2 million in 2019-20, to reduce operating costs for both AEMO and the industry to provide services that support the transition to a new energy environment.

Transforming our digital capability

At the core of our digital strategy is a commitment to deliver measurable benefits coupled with a frictionless, secure and scalable digital experience for our people, members, market participants and all energy consumers.

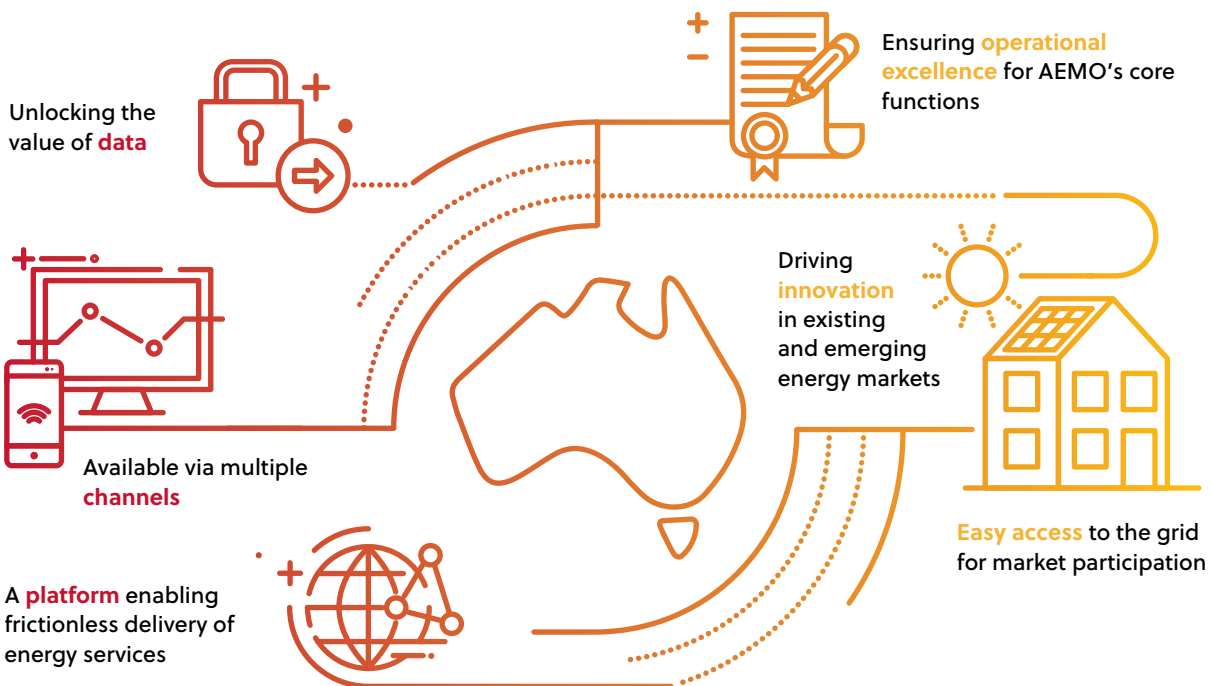
Our strategy is built on flexible and adaptive technology platforms that enable easier access to our systems through streamlined, mobile and web-enabled applications.

Our new digital systems will deliver access to accurate, timely and sophisticated planning and forecasting data. Our data will be curated and cleansed by artificial intelligence and machine-based learning, to optimise our investment.

The replacement of incumbent legacy systems and processes will reduce long-term operating costs for AEMO and the industry, improve services, reduce duplicated investment and lower entry barriers to enhance competition. The new technology platforms will also drive speed and agility to react and adapt to market needs and rule changes, through standard industry application programming interfaces.

The shift in system and data capability will transform our people, processes and solutions, enabling crucial value-adding projects including the DER Register, 5 Minute Settlement and Gas Systems, and the National Energy Analytics Research Project.

Our digital vision



Cyber security


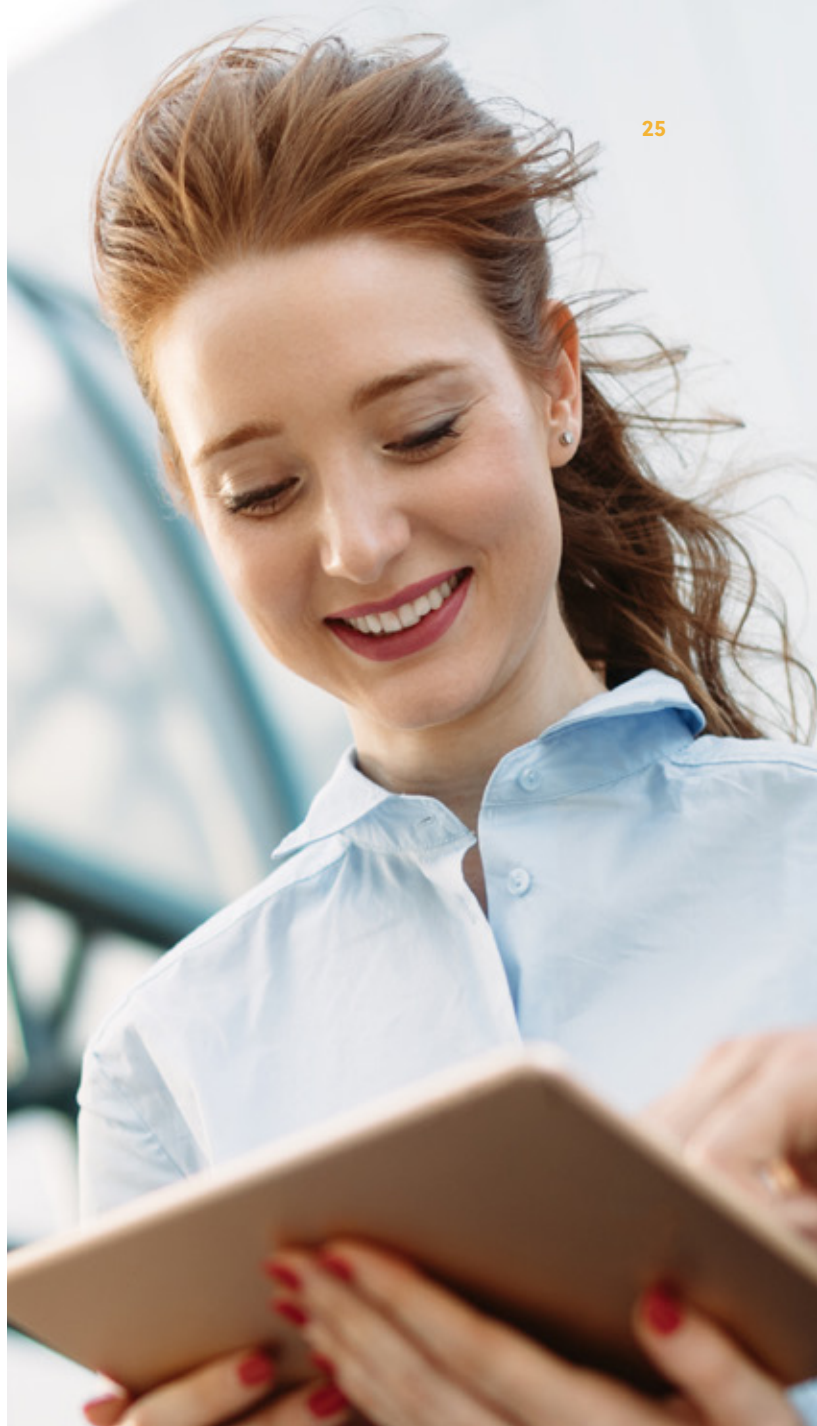
AEMO is playing a leading role in strengthening energy cyber security in Australia. We believe that protecting Australia's energy sector from cyber incidents is a matter of national importance, with broad impacts to society, public health and safety and the national economy.

To maintain energy security and propel Australia's energy future in an increasing data-driven, technology-enabled landscape, AEMO developed the Australian Energy Sector Cyber Security Framework in collaboration with energy market participants, the Australian Cyber Security Centre (ACSC) and the Critical Infrastructure Centre.

The framework provides market participants with useful resources to assess their vulnerabilities, rate capabilities, and ultimately strengthen the cyber resilience across the energy sector.

This framework builds on AEMO's contribution to the inaugural 2018 Summary Report into the Cyber Security Preparedness, in response to recommendation 2.10 from the Finkel Review Report (Independent Review into the Future Security of the National Electricity Market - Blueprint for the Future, June 2017).

AEMO will also co-facilitate a sector-wide, national cyber security emergency exercise with the ACSC in November 2019, improving cyber incident response preparedness.



Unlocking data-enabled services to provide consumer value

Data is critical to AEMO performing our role in electricity and gas system operations, wholesale market transactions, metering and other data-related processes delivering value to consumers.

In February 2019, AEMO, the Australian Government and the CSIRO jointly launched the National Energy Analytics and Research (NEAR) Program, a data analytics program that pioneers the collection, integration and enhancement of energy data to support better consumer outcomes.

Building on the Energy Use Data Model (EUDM) pilot program, the NEAR Program includes an extensive research program, using the latest data science to develop new datasets to develop the efficient energy system of tomorrow. This rich dataset will enable new insights into how peak load, daily load shape, demographics, technology and the environment all interact to shape contemporary Australian energy behaviour.

People

AEMO's greatest assets are our people and the passion and capability they bring each day to achieve positive outcomes for Australian consumers.

At a time when our industry needs to attract and retain talented and committed individuals with diverse educational backgrounds and work experiences, AEMO recognises the importance of providing a workplace for employees to achieve their individual and our collective organisational goals.

We are fortunate that our employees have a personal commitment and passion to achieve the best outcomes for Australian energy consumers.

Creating the workplace of the future

In view of the complex and novel challenges that we confront each day at AEMO, we recognised last year that we must create a workplace environment that drives excellence towards transformational change, as evidenced in our Corporate Plan.

This includes our people having the technical tools and structures to understand the problems we are looking to solve, recognition of the importance of learning, collaboration,

transparency and agility in an environment that is in many ways industry leading and always changing. Further, supporting the value of diversity of experience and individual contribution to achieve better outcomes than we can each do on our own.

To harness this, AEMO initiated a People, Culture and Capability Strategy that will continue to develop our capability in professional excellence, enhance our ways of working, and create a continued collaborative environment. Our employees will have a greater opportunity to engage and work together to solve challenges we confront.

Inclusion

Diversity and inclusion are part of AEMO's culture, as we strive to create and maintain an inclusive workplace that is fair, equitable, respectful, safe and rewarding.

This year, our people shared their views on what diversity and inclusion

should look like at AEMO, and this formed the basis of our inaugural Diversity & Inclusion Strategy 2019-2022. Our strategy enables meaningful connection, where our people bring their different perspectives and ideas and feel involved in shaping the success of AEMO.

Workplace health and safety

AEMO met or exceeded every measure relating to safety, hazards and injury management, employee health and wellbeing, and community, at a time when the organisation was experiencing significant growth.

AEMO's Health and Wellbeing program, Healthy Bodies and Minds, continues to focus on the physical and mental health of our workforce. Our program, including a focus on nutrition, achieved a participation rate of 86 per cent for the last 12 months, the highest since it launched two years ago and six per cent higher than last year.

At AEMO, we are proud of the fact that we have some of the most impressive energy professionals in the world representing our organisation.

In March, the US-based Energy Systems Integration Group (ESIG) awarded Babak Badrzadeh, AEMO's Manager, Operational Analysis & Engineering, its 2019 Excellence Award for his work in planning and analysis in low inertia grids. The award recognises energy professionals from around the world for their contributions towards the planning and operation of energy systems in ways that are reliable, economic, and sustainable.

In addition to his award, Babak has also been awarded three years of financial support from CIGRE (the International Council on Large Electric Systems) to convene two international working groups to tackle power system restoration accounting for a rapidly changing power system and generation mix, along with electromagnetic transient simulation models for large-scale system impact studies in power systems having a high penetration of inverter connected generation.





Jane Yu with Babak Badrzadeh (AEMO Manager, Operational Analysis & Engineering)

Graduate Development Program

Since 2013, AEMO’s Graduate Development Program has played an important role in our talent management strategy, attracting more than 55 high-quality graduates into our offices across Australia. As part of the three-year program, our graduates gain experience, knowledge and key skills while rotating throughout business divisions and programs supported by a buddy, manager and mentor.

This year, AEMO welcomed nine graduates – three female – educated in fields that are key focus areas for a future AEMO (engineering, economics, IT and data science).

Jane Yu (above) joined AEMO’s graduate program in 2018, having graduated from the Australian National University with degrees in Mechatronics Engineering and Sustainability Science.

Growing energy literacy

Late in the financial year, AEMO launched our new online learning management system, the AEMO Learning Academy, as a key resource to enhance the knowledge and capability of both our employees and external stakeholders.

The Learning Academy complements AEMO’s Energy Education program, which delivered 95 courses to more than 1,800 employees and industry professionals over the last 12 months. This is an increase of almost 40 per cent from the previous year.

Community

AEMO’s Community program aims to strengthen our connection with the community and provide our people with opportunities to give back through volunteering and fundraising.

This year, our people’s volunteering support increased 43 per cent from the previous year, contributing to key programs such as Clean Up Australia Day, packing food orders at Foodbank, and supporting Power of Engineering to promote careers in science, technology, engineering and mathematics (STEM).

Our people also continued to donate blood as Red25 ambassadors, saving an estimated 189 lives, up from 140 last year.



“I was motivated to join AEMO’s graduate program as I wanted to work in an industry which had a fundamental impact on society and create long-term sustainability, across social, environmental and economic perspectives.”

“I saw AEMO as perfectly placed for me to leverage my skills and knowledge to create a lasting positive outcome for society.”

“As a graduate, I have had opportunities to develop maturity in dealing with the complexity of the issues AEMO and the rest of the industry is facing, both nationally and internationally.”

“The breadth provided to a graduate via rotations, and my managers who have been very open to developing my skill sets to prepare me for the future, has been amazing. This has included working with the Strategy & Markets and Operations teams, applying data analytics to metering data for NEM settlement processes, and using electromagnetic transient studies to improve our understanding of new components, such as generator types.”

Jane Yu
AEMO Graduate

Corporate strategy

The rapid transformation of the energy industry requires a clear strategy for managing the challenges ahead.

AEMO’s Corporate Plan 2020-23 was published in June 2019, identifying the specific challenges and outcomes that AEMO will pursue over the defined planning horizon.

On an annual basis, AEMO engages in corporate planning.



In the last fiscal year, the Board and management determined that because of the scale and scope of

changes in the industry it was important that AEMO add to its annual planning process to develop a forward-looking strategic plan and specify a near term plan to achieve defined outcomes.

AEMO’s Corporate Plan 2020-23 identifies the targeted action that our organisation will focus on to assure that we are meeting our commitment to consumers and our members.

AEMO’s strategic plan is built around the six foundational pillars that represent our core operations and areas of strategic focus.

Within each of these pillars AEMO identifies the principal outcomes that we want to achieve and from there discrete actions that we will take throughout the year to achieve these goals.

Purpose	Shaping a better energy future for all Australians	
Mission	Pursue operational, technical and commercial understanding and excellence.	Partner with others to explore, test and learn.
Core functions	 Maintain and improve power and gas security	 Manage a number of power and gas markets
Strategic pillars		
1 Reliable and secure system operations Maintain high-reliability operation of energy systems while adapting to anticipated changes in generation, and improve our forecasting services.	2 Future system design Facilitate among stakeholders an orderly transition to a fit-for-purpose future system.	3 Adaptive markets and regulations Implement new approved market requirements, adapt rules and markets to emerging needs within current regulatory framework; and influence overarching reform of regulatory processes to support rapid innovation.
Actions		
<ul style="list-style-type: none"> • Frequency management - portfolio of projects in FCAS, primary frequency management and inertia • Voltage management - DER performance standards, behaviour models and installation data register • System strength management - network-wide models and operational limits, new tools • Forecasting - 'digital twin', machine learning, reliability forecasting 	<ul style="list-style-type: none"> • Develop Integrated System Plan (ISP) and WA Whole-of-System Plan (WoSP) • Implement ISP major projects • Orchestrate distributed/variable renewable energy generators • Enhance system resilience • Integrate planning across electricity, gas and transport 	<ul style="list-style-type: none"> • Implement 5-minute settlements (5MS) and Global Settlements • Work with ESB and AEMC to evolve rules and market designs • Contribute expertise and leadership to regulatory reform process • Trial and enable markets to manage and optimise consumer DER

AEMO’s publication of the plan is representative of our organisational values to be transparent, accountable and focus on performance excellence in our mission to serve the current and future requirements of Australian energy consumers.

Next year’s Annual Report, and subsequent Annual Reports, will outline progress made and report the outcomes of the corporate plan.

AEMO looks forward to collaborating with member organisation, market participants, governments and consumer representatives on this journey.

The plan can be found at www.aemo.com.au/About-AEMO/Our-vision-mission-and-values

AEMO’s Corporate Plan 2020-23 identifies the targeted action that our organisation will focus on to assure that we are meeting our commitment to consumers and our members.

Contribute to affordable, secure, reliable and sustainable energy for all Australians.



Lead the design of Australia’s future energy system



Facilitate competition and data availability for power and gas markets

4 Consumer engagement and access

Empower individuals to exercise choice in the energy market, improving access to data and decision tools, and reducing friction in sharing data and implementing decisions.

- Improve public data on choices and outcomes, facilitate energy plan comparisons
- Upgrade digital platform
- Influence regulatory changes to reduce switching times
- Update DER standard and engage in trials of DER markets

5 Digital and data

Deliver a modern digital platform that will unlock new value for consumers, improve data access, choice and user experience, and enable flexibility and new services.

- Provide a frictionless, secure and scalable digital experience for stakeholders
- Deliver a single-source-of-truth for data integrity
- Enable new services with rapid, low cost integration to others via APIs
- Ensure security-by-design underpins thorough cyber security defences

6 People, culture and capabilities

Build on our key assets – our organisational knowledge and our people – by broadening our technical skills and evolving our culture to favour innovation and collaboration, enabling our people to deliver on our strategic pillars, and keeping AEMO a sought-after environment where our diverse, talented people can thrive.

- Grow our people and invest in strategic capabilities
- Develop exceptional enterprise leaders
- Change our thinking, be agents of change
- Realise the power of small high performing teams
- Make it easier to get things done
- Strengthen impactful relationships
- Remain value-driven and outcome-focused

Corporate governance

AEMO is committed to ensuring a robust corporate governance framework is in place.

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 creating value for AEMO's members and the broader community.

AEMO has used a range of sources to continue to refine its approach to corporate governance, including the ASX Corporate Governance Principles and Recommendations, AICD Good Governance Principles and Guidance for not-for Profit organisations 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 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 and cost-effectiveness of AEMO's operations and systems.

As at 30 June 2019, AEMO had 10 Board members (including an independent Chairman, the Managing Director and Chief Executive Officer) and nine non-executive Directors. Collectively, the Board possesses the core skills prescribed in the AEMO Constitution and provides a broad and diverse

range of skills and experience necessary to face the challenges from an industry undergoing transformation.

The selection process for a new Chair or Directors is overseen by the Board Nomination Committee with the interview process and recommendations for appointment being made by the independent COAG Energy Council 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) approve the Appointment Selection Panel's recommendations before they are submitted for approval by the COAG Energy Council.

In relation to Director reappointments, the Chairman reviews all Directors whose term of appointment is due to expire and who are eligible for reappointment and then compiles a list of Directors whom the Chairman recommends for reappointment.

AEMO's members approve the submission of the list to the COAG Energy Council for approval. Under the Constitution, Directors are eligible for reappointment of a term of up to four years.

Director induction and continuing education

Prior to commencement on the Board each Director undergoes a full induction program. Each Director is provided with a letter of appointment and a Deed of 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 induction program includes briefing sessions with executives and senior managers on key aspects of AEMO's operations and site visits with the program tailored to meet the needs of the new Director.

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.

At the commencement of the Financial Year 2017-18, the Board conducted an internal review that covered:

- An assessment of Board performance
- Chairman and the Board Committee performance; and
- Management's assessment of Board performance.

Strategies were put into place to address any improvements identified such as a stakeholder meeting programme, a focus on culture and consideration of AEMO's risk appetite.

During the 2019-20 Financial Year, the Board will undertake an externally facilitated review.

Director independence

The Constitution requires the Chair and a majority of Directors to be independent, as defined in the Constitution. The independent Directors during 2018-19 were Mr Clarke, Dr Davis, Mr Hubbard, Ms Krieger, Ms Nolan, Mr Pittard, and Mr Orr.

Responsibilities

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

- Overseeing the company's activities to achieve the objectives set out in the Constitution.
- Setting the Company's goals and strategy.
- Determining the financial, operational, human, technological and administrative resources required by the Company to meet its objectives and goals; Ensuring that induction procedures are in place to allow new senior executives to participate fully and actively in management decision making at the earliest opportunity.
- Establishing and maintaining adequate and effective reporting lines and procedures that enable all material matters and information to be identified and reported to the Board.
- Ensuring clear delegation, authorisation and accountability frameworks are in place.
- Approving the Company's annual budget and monitoring compliance with financial reporting obligations.
- Appointing the Chief Executive Officer and monitoring their performance.
- Establishing and approving the charters of the Board committees.
- Establishing effective controls and procedures to enable risks to AEMO to be identified, assessed, and managed.
- Monitoring compliance with ethical, legislative, and regulatory requirements including occupational health and safety, equal opportunity, environmental, corporate governance, and reporting obligations.

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 Chairman, 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 letter of appointment or engagement with AEMO.

Board of Directors



Ms Audrey Zibelman

Managing Director
and Chief Executive
Officer

Technical and
Regulatory
Committee

Mr Andrew (Drew) Clarke, AO PSM

Chairman
Technical and
Regulatory
Committee

Mr John Pittard

Non-executive
Independent Director

Member of People
and Remuneration,
and Technical
and Regulatory
Committees

Mr Nino Ficca

Non-executive
Independent Director

Member of Risk and
Audit, and Technical
and Regulatory
Committees

Ms Sibylle Krieger

Non-executive
Independent Director

Chair of People
and Remuneration
Committee and
Member of Technical
and Regulatory
Committee. Member
of Risk and Audit
Committee until
September 2018



Dr Peter Davis

Non-executive
Independent Director

Chair of Technical
and Regulatory
Committee and
Member of People
and Remuneration
Committee

Ms Betsy Donaghey

Non-executive
Independent Director

Member of Risk and
Audit, and Technical and
Regulatory Committees.
Member of People
and Remuneration
Committee until
September 2018

Ms Anne Nolan

Non-executive
Independent
Director

Member of Risk and
Audit, and Technical
and Regulatory
Committees

Mr Jon Hubbard

Non-executive
Independent Director

Chair of Risk and
Audit Committee and
Member of Technical
and Regulatory
Committee

**Mr Tony
Concannon**

Non-executive
Independent Director

Member of People
and Remuneration,
and Technical
and Regulatory
Committees

Board committee focus areas

The Board seeks assistance and support from a number of Board committees to discharge its duties effectively.

Each Board Committee has a charter that outlines its responsibilities. Board committees have access to internal and external resources and access to independent advice as required.

Each Board committee chair briefs the Board on the outcomes of their respective committee meetings. The Chairman and Managing Director attend all Board and committee meetings.

The purpose of each Board committee and their respective focus areas during 2018-19 are described below.

Risk and Audit Committee

This committee assists the Board to fulfil its responsibilities for oversight and governance of financial, risk, audit, corporate governance, and compliance matters.

The Committee met four times during 2018-19. Its responsibilities include:

- Assisting the Board by reviewing the principal risks facing AEMO, risk management strategy and reporting, AEMO's strategic and key operational risks, and the system of identifying, assessing, monitoring, and managing material risk throughout AEMO.
- Reviewing the annual financial report and the appropriateness of AEMO's material accounting policies and procedures, significant estimates, judgements, and notes to the financial statements.
- Approving the internal audit plan, reviewing the findings of the internal auditor and the effectiveness of the internal audit function.

- Reviewing the approach for the external market audits conducted for all markets and systems operated by AEMO, and reviewing the findings of the market auditors and the effectiveness of the market audit functions.
- Monitoring compliance reporting and analysis, including the development and ongoing review of appropriate regulatory compliance programs.
- Consideration of reports on capital expenditure and projects undertaken by the organisation.

People and Remuneration Committee

This committee assists the Board to fulfil its responsibilities in the management of its people and their remuneration.

This Committee met four times during 2018-19. Its responsibilities include:

- Review of strategies for resourcing, the recruitment and retention of people, including their health, safety and wellbeing.
- Consideration of succession planning.
- Review of remuneration strategies, including performance payments and other monetary and non-monetary benefits, and the Enterprise Agreement.
- Monitoring AEMO's compliance with workplace health and safety obligations.

- Evaluating the performance of AEMO's people, including that of the Chief Executive Officer and the Executive Leadership Team, as well as company performance.
- Consideration of people-related matters such as workforce diversity.

Technical and Regulatory Committee

This committee assists the Board to fulfil its responsibilities for the oversight and governance of technical matters, including information technology, technical publications, emergency preparedness, and regulatory matters.

This committee met four times during 2018-19. Its responsibilities include:

- Review of information technology performance.
- Oversight of the strategic direction and high-level structure and content of key AEMO forecasting and planning publications including the first Integrated System Plan, the Electricity and Gas Statement of Opportunities.
- Implications for future power system operations.
- Reviewing energy market performance.
- Consideration of regulatory reforms and proposals for regulatory reform.

Nomination committee

This committee assists the Board in relation to the process for appointing directors to the Board.

During 2018-19, the committee met on a number of occasions to finalise the appointment of two new directors.

This involved identifying the skills required on the Board, the appointment of a search firm, assessing the suitability of potential candidates and providing input to the independent COAG Energy Council Appointment Selection Panel.

Risk management

AEMO faces a variety of risks given the nature of its operations. These include industry transformation, cybersecurity, regulatory, compliance, financial, prudential, reputational, people and operational risks. At AEMO, risk management includes the culture, processes, and structures that are directed to taking advantage of potential opportunities and managing potential threats or adverse consequences.

AEMO is committed to a comprehensive and integrated risk management framework that has the effect of embedding risk identification, treatment, and review into every business activity, function, and process. This enables AEMO to identify and manage risks that may have a material adverse impact, including strategic and emerging risks. AEMO's objective is to achieve a high performing, continually improving risk management function, aligned to the International Risk Management Standard ISO 31000:2009.

During 2018-19, further improvements were made to the processes and systems that support risk management, including reporting to the Risk and Audit Committee and the Executive Leadership Team, benchmarking and various other initiatives to improve risk culture across AEMO. In addition to its overarching risk management policy, supported by internal procedures and control systems, AEMO has several other policies and procedures

that directly or indirectly serve to reduce, manage, or mitigate risk. These cover matters including:

- IT security.
- Site security.
- Regulatory compliance.
- Financial compliance.
- Financial information management.
- Privacy.
- Competition and Consumer Law.
- Workplace Health Safety and Environment Policy.
- Fraud and corruption prevention.
- Whistleblower Protection.
- Diversity.

Ethical standards and Code of Conduct

AEMO is committed to sound and ethical corporate practices and decision-making. This entails not only complying with legal obligations, but also considering the reasonable expectations of stakeholders including members, market participants, employees, energy market governance bodies, consumers, and the broader community.

AEMO has a Code of Conduct which sets out the required standards of behaviour and legal, ethical and other obligations applicable to employees and contractors. Each employee and contractor is given a copy of the Code of Conduct when joining AEMO. The Code of Conduct provides guidance on the following:

- Honesty and integrity.
- Respect for people.
- Responsibility and accountability.
- Efficiency and economy.

Employees are encouraged to report known or suspected inappropriate conduct either to management or an independent Whistleblower hotline service that reports directly to the Company Secretary and the Chair of the Risk and Audit Committee.

Internal and External Auditors

The Risk and Audit committee is responsible for the performance and objectivity of the internal auditor and the performance and independence of the market auditors.

External auditors are not permitted to provide any services to AEMO that might compromise its independence or give rise to an actual or perceived conflict with assurance and compliance roles.

Timely and balanced disclosure

AEMO endeavours to ensure that all company announcements are factual and balanced, and that timely access to material is given to stakeholders and to the market where possible. All non-confidential reports are published in PDF format and available on the company's website. AEMO is committed to maintaining transparency on matters related to the operation and administration of its markets.

Respect the rights of members and stakeholders

Efficient and effective outcomes are the result of teamwork and contributions from a range of different sources, including all of AEMO's varied stakeholders. AEMO's corporate governance framework recognises that its interests and those of its stakeholders are served by fostering co-operation and interaction.

AEMO's industry and government members have rights and obligations under the AEMO Constitution. Annual General Meetings are held in accordance with the Corporations Act. At these meetings all members are able to participate in the decision making process in accordance with their voting rights under the Constitution.

Board committee focus areas continued...

AEMO wants to give all relevant stakeholders a fair and full opportunity to participate in the ongoing operation, development, and planning of Australian energy markets. AEMO strives to be a constructive facilitator, bringing stakeholders together so that all viewpoints are heard and considered, building consensus on the right way forward where possible.

AEMO fulfils this role by providing and disseminating information and market data and by facilitating processes, programs, committees, and other consultative forums for stakeholders to provide input on emerging energy market issues and opportunities, and to provide feedback on AEMO's proposals and operational performance.

These consultation processes are vital to maintaining effective day-to-day operations, developing and refining effective new market mechanisms, and the integrity of AEMO's long-term planning.

Remunerate fairly and responsibly

Non-executive directors are remunerated for fulfilling their Board and Board committee duties in accordance with relevant industry benchmarks. At AEMO's Annual General Meeting on 1 November 2017, 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.

AEMO members

Government members

As at 30 June 2019

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

AEMO Industry members

As at 30 June 2019

- Advanced Energy Resources
- AETV Pty Ltd
- AER Retail Pty Ltd
- A-Star Electricity Ptd 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) Pty Ltd
- Alinta Sales Pty Ltd
- Alinta Energy Retail Sales Pty Ltd
- 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
- Ausgrid
- Bluewaters Power 1 Pty Ltd
- Bluewaters Power 2 Pty Ltd
- Central Ranges Pipeline Pty Ltd
- CitiPower Pty Ltd
- Click Energy Pty Ltd
- Collgar Wind Farm Pty Ltd

- Covau Pty Ltd
- Delta Electricity
- Denmark Community Windfarm Ltd
- Diamond Energy Pty Ltd
- Directlink Joint Venture (ABN 16 779 340 889) (Directlink (No. 1) Pty Limited ABN 85 085 123 468, Directlink (No. 2) Pty Limited ABN 87 095 439 222, and Directlink (No. 3) Pty Limited ABN 86 095 449 817 trading as Directlink Joint Venture)
- 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
- EnergyAustralia Gas Storage Pty Ltd
- EnergyAustralia Pty Ltd
- EnergyAustralia Yallourn Pty Ltd
- Energy Pacific (Vic) Pty Ltd
- EnerNOC Pty Ltd
- Enova Energy Pty Ltd
- Epic Energy South Australia Pty Ltd
- ERM Power Ltd
- ERM Power Retail Pty Ltd
- ESCO Pacific Pty Ltd
- Essential Energy
- Flinders Operating Services Pty Ltd
- FPC 30 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
- Jemena Ltd
- Kiamal Solar Farm Pty Ltd
- LMS Energy Pty Ltd
- Marubeni Australia Power Services Pty Ltd
- Millmerran Energy Trader Pty Ltd
- Murraylink Transmission Company Pty Ltd
- 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
- 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
- Phoenix Energy Australia Pty Ltd
- Pooled Energy Pty Ltd
- Powercor Australia Pty Ltd
- Queensland Electricity Transmission Corporation Limited (trading as Powerlink Queensland)
- Reach Solar Energy Management Co Pty Ltd
- RE Oakey Pty Ltd
- Santos Ltd
- Simcoa Operations Pty Ltd
- SIMEC ZEN Energy Retail Pty Ltd
- Solar Reserve Australia II Pty Ltd
- South East Australia Gas Pty Ltd
- Snowtown Wind Farm Pty Ltd
- Snowtown Wind Farm Stage 2 Pty Ltd
- Snowy Hydro Pty Ltd
- SPI Electricity Pty Ltd
- Strategic Gas Market Trading Pty Ltd
- Tasmanian Gas Pipeline Pty Ltd
- TasNetworks Pty Ltd
- TransGrid
- Vicpower Trading (State Electricity Commission of Victoria trading as Vicpower Trading)
- Water Corporation
- Wesfarmers Kleenheat Gas Pty Ltd
- Western Downs Solar Project Pty Ltd
- Westpac Banking Corporation
- WINconnect Pty Ltd



Financial Statements

For the year ended 30 June 2019



Australian Energy Market Operator Limited
ABN 94 072 010 327

Directors' Report	39	11. Other Liabilities	60
Auditor's Independence Declaration	43	12. Defined Benefit Superannuation Plan	61
Statement of Profit or Loss and Other Comprehensive Income	44	13. Reserves	65
Statement of Financial Position	45	14. Key Management Personnel Disclosures	67
Statement of Changes In Equity	46	15. Remuneration of Auditors	68
Statement of Cash Flows	47	16. Contingent Liabilities	69
Notes to the Financial Statements	48	17. Commitments	69
1. Introduction	48	18. Accumulated Surplus/(Deficit)	70
2. Revenue	51	19. Events Occuring after Balance Sheet Date	70
3. Expenses	53	20. Reconciliation of Surplus/ (Deficit) to Net Cash Inflow/ (Outflow) from Operating Activities	71
4. Cash and Cash Equivalents	53	21. Related Party Transactions	71
5. Trade and Other Receivables	54	Directors' Declaration	71
6. Property, Plant and Equipment	55	Independent Auditor's Report	72
7. Intangibles	56		
8. Trade and Other Payables	58		
9. Borrowings	59		
10. Provisions	60		

IN SUMMARY

The aim of the text in the "IN SUMMARY" boxes is to explain more complex sections in plain English.

Directors' Report

Your directors present their report on the Australian Energy Market Operator Limited (AEMO) for the year ended 30 June 2019.

Directors

The following persons were directors for the full financial year and up to the date of this report, with the exception of Mr Stephen Orr who retired effective 1 November 2018 and Ms Anne Nolan and Mr Nino Ficca who were appointed to the Board effective 1 February 2019.

- A. Clarke AO, PSM
- A.P. Concannon
- Dr. P.L. Davis
- E.A Donaghey
- N. Ficca (*appointed 1 February 2019*)
- J.G. Hubbard
- S. Krieger
- A. Nolan (*appointed 1 February 2019*)
- S.C. Orr (*retired 1 November 2018*)
- J. Pittard
- A. Zibelman

Principal activities

AEMO's principal activities over the 2018-19 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 (NGBB) 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) from 1 March 2019.

Corporate strategy and review of operations

As the national energy market operator and planner, AEMO plays an important role in supporting the industry to deliver a more integrated, secure, and cost effective national energy supply.

As well as carrying out its core functions, AEMO delivered a range of important initiatives in 2018-19 to support the security and reliability of the transforming power system in the NEM and Western Australia.

During 2018-19 AEMO:

- Delivered the 2018 Integrated System Plan (ISP), providing the foundation for the future energy system in the NEM, and began working with stakeholders on delivery for the 2020 ISP.
- Achieved significant progress on the vital task of successfully integrating Distributed Energy Resources (DER) in the power system. AEMO's DER Program activities included: partnering with Energy Networks Australia to progress the Open Energy Networks project, a blueprint for DER integration; delivering guidelines for the DER register in the NEM; and announcing the rollout of virtual power plant (VPP) trials.
- Upgraded the NEM Energy Management Platform. This enhances AEMO's ability to manage the integration of additional grid and distributed resources as the grid continues to transition, and provides a proven platform that can also be deployed in the WEM.
- Helped define the workings of the Retailer Reliability Obligation (RRO) in the NEM, working closely with industry and the Energy Security Board (ESB) to implement a functional process.

- Supported the Western Australian Government in its aim of implementing a regulatory regime to facilitate third party access to electricity network assets in Western Australia's North-West Interconnected System. AEMO helped the Government with the detailed design to establish an ISO in the region, and continues discussions regarding implementation and funding.
- Completed the first full year of successful operation of the NEM Machine Learning Forecast Uncertainty Measure for reserve management, increasing the confidence of the business to manage extreme electricity events.
- Achieved significant progress towards completing the Western Victoria Renewable Integration Regulatory Investment Test for Transmission (RIT-T), which will be one of the largest energy infrastructure projects in Australia since AEMO was formed.
- Implemented another comprehensive summer readiness program in the NEM, including deploying Reliability and Emergency Reserve Trader (RERT) reserves in Victoria and South Australia in January 2019 to minimise costly involuntary load shedding. RERT was deployed over summer in Victoria, but in that case was not sufficient to replace the deficit resulting from multiple unplanned generation outages, and some load shedding occurred.
- Developed a strategy to deliver a modern digital platform that will provide a frictionless, secure and scalable digital experience, unlocking new value in the market for consumers and facilitating innovation for the benefit of members/participants, consumers, third parties, and AEMO.
- Implemented internal and external cyber security programs, including working with industry and government partners to develop the tailored Australian Energy Sector Cyber Security Framework (AESCSF).
- Launched the Capacity Trading Platform (CTP) and Day Ahead Auction (DAA) market mechanisms, delivering improved trading capabilities and more liquid secondary capacity trading to Australia's east coast gas markets.
- Produced the Electricity Statement of Opportunities (ESOO) for the NEM and WEM, and Gas Statement of Opportunities (GSOO) for Western Australia and eastern and south-eastern Australia, which gained extensive third party support for their level of detail and stakeholder engagement.
- Delivered the SWIS Renewables Integration paper, whose recommendations were very closely aligned to the subsequently released WA Government's Energy Transformation Strategy.
- Drafted and launched (August 2019) AEMO's Corporate Plan 2020-23 to inform stakeholders of our plans to shape a better energy future for all Australians within a rapidly changing energy landscape.

AEMO's work in 2018-19 to build greater energy knowledge in the sector and the broader community included:

- Providing innovative content through our news content and multimedia platform, Energy Live. This platform received 250,000 visitors throughout 2018-19 (more than double the numbers the year before) and added 6,000 new subscribers.
- Delivering a year-round Energy Education program for industry professionals, government representatives, and others. In 2018-19, this amounted to 95 courses, attended by more than 1,800 participants, an increase of almost 40 per cent over the previous year.
- Launching our new learning management system, to improve our learning delivery platform for both AEMO employees and external customers.

- Delivering quarterly analysis of the market and trends, generating positive feedback from a broad range of stakeholders.

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

- Meeting or exceeding every target relating to safety, hazard and injury management, employee health and wellbeing, and community, at a time when the organisation was experiencing significant growth.
- Delivering a wellbeing program, with more than 86 per cent of employees participated in at least one wellbeing initiative. This is the highest participation rate since the wellbeing program was launched.

Corporate structure

AEMO is a not-for-profit public company limited by guarantee incorporated under the *Corporations Act 2001*.

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.

Directors' details

Name, qualifications and responsibilities	Current Board appointments
<p>Mr Andrew (Drew) Clarke, AO, PSM <i>MSc, BAppSc, FTSE, MAICD</i></p> <ul style="list-style-type: none"> • Non-executive Independent Chairman • Technical and Regulatory Committee 	Director, NBN Co; Director, CSIRO
<p>Mr Anthony P. Concannon <i>BSc (Hons), FAICD, FIMeCLE, AMIET</i></p> <ul style="list-style-type: none"> • Non-executive Non-independent Director • Member of People and Remuneration, and Technical and Regulatory Committees 	Director, Reach Solar energy
<p>Dr. Peter L. Davis <i>BSc (Hons), BEd, MBA, PhD, FAICD, FIEAust</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Chair of Technical and Regulatory Committee and Member of People and Remuneration Committee 	Member, Clean Energy Regulator; Member, University of Tasmania Built Environment and Infrastructure Committee
<p>Ms Elizabeth A. Donaghey <i>BSc, MSor</i></p> <ul style="list-style-type: none"> • Non-executive Non-independent Director • Member of Risk and Audit, and Technical and Regulatory Committees. Member of People and Remuneration Committee until September 2018. 	Director, Cooper Energy Limited (ASX: COE)
<p>Mr Nino Ficca (appointed 1 February 2019) <i>BEng (Hons), Advanced Management Program Harvard USA, GradDip Mgt, MAICD, FIEAust</i></p> <ul style="list-style-type: none"> • Non-executive Non-independent Director • Member of Risk and Audit, and Technical and Regulatory Committees 	Managing Director, AusNet Services Limited; Non-executive Director, Transurban Queensland, Professor, Industry Engagement, Deakin University
<p>Mr Jon G. Hubbard <i>BCom, CA, GAICD</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Chair of Risk and Audit Committee and Member of Technical and Regulatory Committee 	Director, Infocus Wealth Management Ltd (and related companies), Director, Tavas Holdings Limited
<p>Ms Sibylle Krieger <i>LLB (Hons), LLM, MBA, FAICD</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Chair of People and Remuneration Committee and Member of Technical and Regulatory Committee. Member of Risk and Audit Committee until September 2018. 	Chair of Xenith IP Group Limited (ASX: XIP) Resigned 15 August 2019; Director, MyState Limited (ASX: MYS); Director, Vesale Pty Ltd
<p>Ms Anne Nolan (appointed 1 February 2019) <i>B. Ec., M.Econ, Adjunct Professor with University of Western Australia</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Member of Risk and Audit, and Technical and Regulatory Committees. 	Member, Fremantle Port Authority; Member, University of Western Australia Business School; Member, Western Australian Symphony Orchestra, Member Stateships
<p>Mr Stephen Orr (retired 1 November 2018) <i>BEng (Mech)</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Member of Risk and Audit, and Technical and Regulatory Committees until retirement. 	Not Applicable
<p>Mr John Pittard <i>BSc</i></p> <ul style="list-style-type: none"> • Non-executive Independent Director • Member of People and Remuneration, and Technical and Regulatory Committees. 	Chair, RXP Services Ltd (ASX: RXP); Non-executive Director, Barnardos Australia; Chair, Information Exchange Committee
<p>Ms Audrey Zibelman <i>BA, J.D</i> <i>Executive Management Program University of Minnesota</i></p> <ul style="list-style-type: none"> • Managing Director and Chief Executive Officer • Technical and Regulatory Committee 	Director, Melbourne Recital Centre

A majority of directors, including the Chair, must be independent directors. The AEMO Constitution defines the independence requirements for Directors. Information pertaining to directors' benefits is detailed in Note 14 – Key Management Personnel Disclosures.

Company secretary

The company secretaries are Ms Lisa Deramond and Mr Brett Hausler.

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 2019, and the number of meetings attended by each director were:

	Full meetings of directors		People and Remuneration		Risk and Audit		Technical and Regulatory		Nomination	
	A	B	A	B	A	B	A	B	A	B
A. Clarke AO	8	8	-	-	-	-	3	3	2	2
A. P. Concannon	8	8	4	4	-	-	4	4	-	-
Dr. P. L. Davis	8	8	4	4	-	-	4	4	2	2
E. A. Donaghey	7	8	1	1	4	4	4	4	-	-
J. G. Hubbard	8	8	-	-	4	4	4	4	2	2
N. Ficca	4	4	-	-	1	2	1	2	-	-
S. Krieger	8	8	4	4	1	1	3	3	1	2
S.C. Orr	3	3	-	-	2	2	2	2	-	-
A. Nolan	4	4	-	-	2	2	2	2	-	-
J. Pittard	8	8	4	4	-	-	4	4	-	-
A. Zibelman	8	8	-	-	-	-	3	3	-	-

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 Chairman and Managing Director/Chief Executive Officer attend all committee meetings. All other directors are eligible to attend committee meetings. From September 2018, all directors became members of the Technical and Regulatory Committee, Ms Donaghey ceased as a member of the People and Remuneration Committee, and Ms Krieger ceased as a member of the Risk and Audit Committee. 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 have endeavoured to provide written comments prior to the meeting.

Contributions on winding up

The Company is incorporated under the *Corporations Act 2001* 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 2019, the total maximum amount that members of the Company are liable to contribute

under the Constitution if the Company is wound up is \$103 (2018: \$103).

Rounding

The amounts contained in the financial report have been rounded to the nearest \$1,000 (where rounding is applicable and where noted (\$'000)) under the option available to the Company under ASIC Corporations (Rounding in Financial/Directors' Reports) Instrument 2016/191. The Company is an entity to which the Instrument applies.

Auditor's independence declaration

A copy of the auditor's independence declaration as required under Section 307C of the *Corporations Act 2001* is set out on page 39.

Auditor

Grant Thornton continues in office in accordance with Section 327 of the *Corporations Act 2001*.

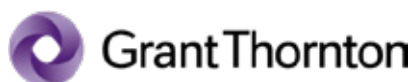
Resolution

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



A. Clarke, AO, PSM
Chairman, Melbourne

5 September 2019



Collins Square, Tower 5
727 Collins Street
Melbourne Victoria 3008

Correspondence to:
GPO Box 4736
Melbourne Victoria 3001

T +61 3 8320 2222
F +61 3 8320 2200
E info.vic@au.gt.com
W www.grantthornton.com.au

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 2019, 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.

A handwritten signature in blue ink that reads "Grant Thornton".

Grant Thornton Audit Pty Ltd
Chartered Accountants

A handwritten signature in blue ink that reads "B A Mackenzie".

B A Mackenzie
Partner – Audit & Assurance

Melbourne, 5 September 2019

Grant Thornton Audit Pty Ltd ACN 130 913 594
a subsidiary or related entity of Grant Thornton Australia Ltd ABN 41 127 556 389

www.grantthornton.com.au

'Grant Thornton' refers to the brand under which the Grant Thornton member firms provide assurance, tax and advisory services to their clients and/or refers to one or more member firms, as the context requires. Grant Thornton Australia Ltd is a member firm of Grant Thornton International Ltd (GTIL). GTIL and the member firms are not a worldwide partnership. GTIL and each member firm is a separate legal entity. Services are delivered by the member firms. GTIL does not provide services to clients. GTIL and its member firms are not agents of, and do not obligate one another and are not liable for one another's acts or omissions. In the Australian context only, the use of the term 'Grant Thornton' may refer to Grant Thornton Australia Limited ABN 41 127 556 389 and its Australian subsidiaries and related entities. GTIL is not an Australian related entity to Grant Thornton Australia Limited.

Liability limited by a scheme approved under Professional Standards Legislation.

Statement of Profit or Loss and Other Comprehensive Income

Year ended 30 June 2019

	Notes	2019 \$'000	2018 \$'000
Revenue			
Transmission income	2	500,237	504,538
Settlement residue	2	68,720	67,812
Electricity Market income	2	127,916	120,924
Gas Market income	2	42,247	45,944
Other Revenue	2	19,014	14,766
	2	758,134	753,984
Expenses			
Network charges	3	(599,771)	(547,738)
Employee benefits	3	(126,776)	(115,277)
Depreciation	6	(5,428)	(5,333)
Amortisation	7	(13,627)	(11,145)
Consulting, contracting and outsourcing		(28,935)	(22,231)
Information technology and maintenance		(23,728)	(19,534)
Insurance		(1,881)	(2,173)
Finance Costs	3	(846)	(595)
Travel and accommodation		(3,736)	(3,243)
Occupancy		(7,595)	(6,933)
Other expenses		(8,686)	(8,971)
		(821,009)	(743,173)
(Deficit)/Surplus before income tax		(62,875)	10,811
Income tax expense	3	-	-
(Deficit)/surplus for the year		(62,875)	10,811
Other comprehensive income			
Re-measurement of net defined benefit superannuation liability (loss)/gain	12	(2,741)	2,971
Total comprehensive (deficit)/surplus		(65,616)	13,782

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

Statement of Financial Position

As at 30 June 2019

	Notes	2019 \$'000	2018 \$'000
Assets			
Current Assets			
Cash and cash equivalents	4	78,452	67,489
Trade and other receivables	5	87,838	84,375
Defined benefit superannuation	12	-	863
Total current assets		166,290	152,727
Non-current assets			
Trade and other receivables	5	1,059	1,337
Property, plant and equipment	6	36,473	34,747
Intangible assets	7	97,477	48,889
Total non-current assets		135,009	84,973
Total assets		301,299	237,700
Liabilities			
Current liabilities			
Trade and other payables	8	109,038	70,894
Borrowings	9	15,700	1,822
Provisions	10	41,101	36,376
Other current liabilities	11	35,014	30,457
Defined benefit superannuation	12	2,121	-
Total current liabilities		202,974	139,549
Non-current liabilities			
Trade and other payables	11	7,190	8,098
Borrowings	9	77,100	11,200
Provisions	10	2,254	1,456
Total non-current liabilities		86,544	20,754
Total liabilities		289,518	160,303
Net assets		11,781	77,397
Equity			
Capital contribution of members		7,093	7,093
Participant compensation fund reserve	13	7,522	6,349
Land reserve		2,946	2,720
Accumulated surplus/(deficit)	18	(5,780)	61,235
Total equity		11,781	77,397

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

Statement of Changes in Equity

Year ended 30 June 2019

	Capital Contribution of Members	PCF Reserve	Land Reserve	Accumulated Surplus/ (Deficit)	Total equity
	\$'000	\$'000	\$'000	\$'000	\$'000
At 1 July 2017	7,093	5,235	2,493	48,794	63,615
Surplus for the year	-	-	-	10,811	10,811
Other comprehensive income	-	-	-	2,971	2,971
Total comprehensive surplus	-	-	-	13,782	13,782
Transfer to/(from) reserves					
- PCF Reserve	-	1,114	-	(1,114)	-
- Land Reserve	-	-	227	(227)	-
As at 30 June 2018	7,093	6,349	2,720	61,235	77,397
At 1 July 2018	7,093	6,349	2,720	61,235	77,397
Deficit for the year	-	-	-	(62,875)	(62,875)
Other comprehensive deficit	-	-	-	(2,741)	(2,741)
Total comprehensive deficit	-	-	-	(65,616)	(65,616)
Transfer to/(from) reserves					
- PCF Reserve	-	1,173	-	(1,173)	-
- Land Reserve	-	-	226	(226)	-
As at 30 June 2019	7,093	7,522	2,946	(5,780)	11,781

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

Statement of Cash Flows

Year ended 30 June 2019

	Notes	2019 \$'000	2018 \$'000
Cash Flows from operating activities			
Receipts from customers		834,710	848,130
Payments to suppliers and employees		(851,316)	(813,922)
		(16,606)	34,208
Interest received		1,100	1,316
Interest and other finance costs paid		(688)	(643)
Net cash (outflow)/inflow from operating activities before movements in security deposits		(16,194)	34,881
Receipts of participants' security deposits		1,377,530	589,050
Repayment of participants' security deposits		(1,360,782)	(583,812)
Net cash inflow from operating activities		554	40,119
Cash flows from investing activities			
Payments for plant, equipment and intangible assets		(69,369)	(31,867)
Net cash outflow from investing activities		(69,369)	(31,867)
Cash flows from financing activities			
Proceeds from borrowings		81,600	-
Repayment of borrowings		(1,822)	(3,226)
Net cash inflow/(outflow) from financing activities		79,778	(3,226)
Net increase in cash and cash equivalents		10,963	5,026
Cash and cash equivalents at the beginning of the financial year		67,489	62,463
Cash and cash equivalents at end of the financial year	4	78,452	67,489

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

Notes to the Financial Statements

Year ended 30 June 2019

1. Introduction

This financial report covers the Australian Energy Market Operator Limited (AEMO). AEMO is a not-for-profit public company limited by guarantee, incorporated and domiciled in Australia. Its registered office and principal place of business is:

Level 22, 530 Collins Street
Melbourne, Victoria, 3000

The financial report was authorised for issue by the directors on the date of the directors' declaration.

The principal accounting policies adopted in the preparation of the financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

a) Basis of preparation

The financial statements are general purpose financial statements which have been prepared in accordance with Australian Accounting Standards, other authoritative pronouncements of the Australian Accounting Standards Board and the *Corporations Act 2001*.

The company complies with International Financial Reporting Standards (IFRS), except that it applies accounting for government grants and other non-reciprocal transfers received in accordance with the applicable Australian Accounting Standard, which differs from IFRS.

The financial statements are presented in Australian Dollars and all values are rounded to the nearest thousand dollars ('000) unless otherwise stated.

Historical cost convention

These 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.

Critical accounting estimates

Preparation of financial statements that conform with the Australian Accounting Standards requires the use of certain critical accounting estimates. It also requires management to exercise judgement in the process of applying the company's accounting policies. Areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements, are tabled below:

Area	Estimate assumption
Defined benefit superannuation	Actuarial assumptions are used in determining the defined benefit obligations and the related carrying amounts are discussed in Note 12.
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 Provider 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 <i>Determining whether an Arrangement contains a Lease</i> .

b) Currency

Functional and presentation currency

The financial statements are presented in Australian Dollars, which is AEMO's functional and presentation currency.

c) 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 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.

d) New accounting standards and interpretations

A number of new and revised accounting standards are effective for annual periods beginning on or after 1 July 2018.

AEMO has adopted all new and revised standards and Interpretations issued by the Australian Accounting Standards Board (the AASB) which are mandatory to apply to the current reporting period.

New standards adopted during the year

AASB 9 Financial Instruments (Effective date: 1 July 2018)

AASB 9 Financial Instruments replaces AASB 139 Financial Instruments: Recognition and Measurement. It makes major changes to the previous guidance on the classification and measurement of financial assets and introduces an 'expected credit loss' model for impairment of financial assets.

AEMO has assessed the classification and measurement of the Company's financial liabilities and financial assets.

While this represents significant new guidance, the implementation of the new guidance did not have a material impact. As such, AEMO has applied transitional relief, elected not to restate prior periods and has not recognised differences in opening retained earnings at 1 July 2018.

Impairment of trade receivables

For trade receivables, and for contract assets mandated under AASB 15 Revenue from Contracts with Customers, AEMO applies a simplified approach of recognising lifetime expected credit losses as these items do not have a significant financing component. In using this practical expedient, AEMO uses its historical experience, external indicators and forward looking information to calculate the expected credit losses using a provision matrix. The impairment allowance for trade receivables remained unchanged at 1 July 2018.

AASB 15 Revenue from Contracts with Customers (Effective date: 1 January 2018)

This nature of this standard establishes a new revenue recognition model, changing the basis for deciding whether revenue is to be recognised over time, or a point in time.

AASB 15 replaces AASB 118 Revenue, AASB 111 Construction Contracts and several revenue-related Interpretations. The new Standard has been applied as at 1 July 2018 using the modified retrospective approach. Under this method, the cumulative effect of initial application is recognised as an adjustment to the opening balance of retained earnings at 1 July 2018 and comparatives have not been restated. In accordance with the transition guidance, AASB 15 has only been applied to contracts that are incomplete as at 1 July 2018. The adoption of AASB 15 has not resulted in a material change and therefore no adjustment has been recognised to the financial statements.

AEMO has assessed the impact of this new standard and identified income streams relating to registration fees could fall under this standard as revenue is received upfront when a new participant joins the market with a benefit extending throughout the timeframe a participant continues in the market. AEMO has considered this new standard and determined the impact of the new standard is immaterial, i.e. less than \$2 million in revenue a year and therefore no adjustments have been recognised.

Revenue arises mainly from services provided.

To determine whether to recognise revenue, AEMO follows a 5-step process:

1. Identifying the contract with a customer
2. Identifying the performance obligations
3. Determining the transaction price
4. Allocating the transaction price to the performance obligations
5. Recognising revenue when/as performance obligation(s) are satisfied.

AEMO may enter into transaction involving a range of services. In all cases, the total transaction price (or AEMO set fee) for a contract is allocated amongst the various performance obligations based on their relative stand-alone selling prices. The transaction price for a contract excludes any amounts collected on behalf of third parties.

Revenue is recognised either at a point in time or over time, when AEMO satisfies performance obligations by transferring the promised goods or services to its customers. AEMO recognises revenue as the service is performed or when milestones are satisfied under grant funding agreements.

The National Electricity Rules and National Gas Rules each require AEMO to establish and maintain a Participant Compensation Fund. Note 13 provides further details of AEMO's participant compensation funds.

Contributions to the funds and interest earned on cash are recognised as revenue and transferred to the Participant Compensation Fund Reserve.

Accounting policy applicable to the comparative period (30 June 2018)

Revenue is recognised as the services are provided.

The National Electricity Rules and National Gas Rules each require AEMO to establish and maintain a Participant Compensation Fund. Note 13 provides further details of AEMO's participant compensation funds.

Contributions to the funds and interest earned on fund investments are recognised as revenue and transferred to the Participant Compensation Fund Reserve.

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

New standards issued but not yet effective (Effective date: 1 July 2019) AASB 16 Leases

This new lease standard replaces AASB 117 Leases and some lease related Interpretations:

- requires all leases to be accounted for 'on-balance sheet' by lessees, other than short-term and low value asset leases
- provides new guidance on the application of the definition of lease and on sale and lease back accounting
- largely retains the existing lessor accounting requirements in AASB 117
- requires new and different disclosures about leases

AEMO intends to apply the simplified transition approach and will not restate comparative amounts for the year prior to first adoption. AEMO has performed an assessment of the impact of the adoption of the Standard for the year ending 30 June 2020, and has commenced accounting for this new standard from 1 July 2019 for AEMO's leased offices and data centres.

The impact expected in 30 June 2020 will be:

- An initial recognition of equal balances of \$32.8m in lease liabilities and 'right of use' lease assets.
- The opening 'right of use' asset balance will be then adjusted to recognise the unused lease incentives of \$7.7m (i.e. unutilised Perth, Brisbane and Sydney lease incentives).
- The 'right of use' asset will be 'depreciated' in the Profit and Loss statement on a straight line basis for the remaining lease term. The lease liability will be reduced by lease payments for the period partly offset by interest recognised on the remaining lease liability in the Profit and Loss statement.
- The forecast balance at 30 June 2020 of the 'right of use' asset (non-current) is \$20.3m and lease liability (recognised as current and non-current) is \$27.2m assuming the current portfolio of leases remain unchanged. An additional impact to the Profit and Loss will be approximately \$0.4m in 2019-20.

Over the course of the lease term (i.e. years remaining) operating expenses are higher in the earlier periods because the standard recognises more lease expenses in the earlier periods of a lease and less in the later periods as a result of the front loaded finance charge applied to the lease liability which diminishes as the lease term unwinds. Total overall costs and cash outflow over the life of a lease remain unchanged.

2. Revenue

IN SUMMARY

This section provides detail on the services that AEMO provides and the revenue received to recover the costs of providing those services.

Electricity transmission income is received in our role as the Victorian Electricity Transmission Network Service Provider. This income represents greater than 66% of our total revenue and primarily relates to the recovery of network asset charges paid to the transmission network asset owners.

Settlement residue income (intra-regional) is received in our role as Victorian TNSP. Settlement residue arises in the NEM when the amount paid by market participants to AEMO for spot transactions differs from the amount paid by AEMO to other market participants for the same transaction. The income is determined through a mathematical outcome uncontrollable by AEMO. Any settlement residue surpluses received during the financial year are returned to Victorian TNSP participants the following year. Settlement residue income (inter-regional) represents the net position of settlement residue auction proceeds of positive and negative settlement residues received and paid during the financial year. In 2019, total settlement residue income (intra and inter) represent 9% of our total revenue. Electricity market income and gas market income reflects the annual fees and charges AEMO budgets and consults on with industry prior to the commencement of each financial year. The fee structures for these income streams are mainly driven by energy consumption for wholesale markets such as the NEM, WEM and DWGM, or connection points in the electricity and gas full retail contestability markets.

Revenues for government advice and new generator connections are increasing driven by market complexity, growth in renewables, and increased demand for AEMO's engineering skills in the industry.

AEMO operates over 30 ring-fenced functions, and revenue comprises fees charged for the recovery of expenditure incurred primarily in relation to providing the following services:

- Victorian Electricity Transmission Network Service Provider (TNSP).
- National Electricity Market (NEM).
- Electricity Full Retail Contestability (FRC).
- Victorian Declared Wholesale Gas Market (DWGM).
- Gas FRC in Victoria, South Australia, New South Wales, Queensland and Western Australia.
- Short Term Trading Market (STTM).
- National Transmission Planning (NTP).
- South Australian Planning.
- Western Australia Wholesale Electricity Market (WEM).

- Western Australia Gas Services Information (GSI).
- Western Australia Systems Management (SM).
- Gas Supply Hub (GSH).
- Gas Statement of Opportunities (GSOO).
- Gas Business to Business (B2B).
- Gas Bulletin Board (GBB).
- Settlement Residue Auctions.
- Capacity Trading Platform (CTP).
- Day Ahead Auction (DAA).

Revenue is recognised as the services are provided, or when milestones are met under grant agreements.

The National Electricity Rules and National Gas Rules each require AEMO to establish and maintain a Participant Compensation Fund. Note 13 provides further details of AEMO's participant compensation funds.

Contributions to the funds and interest earned on fund investments are recognised as revenue and transferred to the Participant Compensation Fund Reserve.

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

	2019 \$'000	2018 \$'000
From continuing operations		
TUOS income	460,838	470,053
Funded augmentation income	39,399	34,485
Electricity Transmission income	500,237	504,538
Settlement residue (TNSP)	44,666	52,265
Settlement residue auctions (TNSP)	24,054	15,547
Settlement residue	68,720	67,812
NEM Fees	80,237	74,621
FRC tariffs - electricity	12,566	12,864
Registration fees	1,613	1,584
National Transmission Planner	4,259	3,868
WEM	12,271	12,293
WA System Management	16,970	15,694
Electricity market income	127,916	120,924
DWGM tariffs	21,123	22,609
FRC tariffs - gas	7,940	8,272
STTM	7,053	9,908
Gas SOO	2,014	1,818
Registration fees	298	484
GSI	1,519	1,472
Other gas revenues	2,300	1,381
Gas market income	42,247	45,944
PCF interest	173	123
PCF contributions received	1,000	997
Bank interest revenue	926	1,172
Government advice	1,284	1,111
New connection assessments	8,014	4,436
Other	7,617	6,927
Other revenue	19,014	14,766
	758,134	753,984

3. Expenses

IN SUMMARY

This section provides detail on the key expenditure items of the company.

Network charges represent a large portion of AEMO expenses. These are charges paid to transmission network asset owners for use of the transmission network.

Wages and salaries reflect the largest controllable cost component of our expenses to operate the functions under our remit.

Amortisation and depreciation expenditure mainly reflect improvements to our electricity and gas wholesale and retail market systems for operations, metering and settlements and long-term energy forecasting tools.

AEMO is income tax exempt on the basis that it qualifies as a public authority constituted under an Australian law. AEMO was granted an income tax exemption for 10 years from 1 July 2018 to 30 June 2028.

	2019 \$'000	2018 \$'000
(Deficit)/Surplus before income tax includes:		
Network Charges	599,771	547,738
Amortisation expense	13,627	11,145
Depreciation expense	5,428	5,333
Wages and Salaries	94,059	87,660
Defined contribution superannuation expense	10,875	8,975
Defined benefits superannuation expense	243	468
Other employee benefits expense	21,599	18,174
Employee benefits	126,776	115,277
Employee benefits above exclude capitalised employee costs	18,768	6,850
Bank fees	396	140
Interest expense	450	455
Finance costs	846	595
Rental expenses related to operating leases	6,514	5,815

4. Cash and Cash Equivalents

IN SUMMARY

AEMO's cash and cash equivalents are segregated into three different categories which determine the purpose and availability for company use.

- Cash at bank and on hand is the company's operating funds.
- Security deposits and early settlement proceeds are funds received from market participants, that are not available for AEMO's operational use, and are held on behalf of participants in accordance with the National Electricity Rules.
- Participant compensation funds are collected and held for participants under the NEM, DWGM and STTM for compensation as a result of scheduling errors. These funds are not available for AEMO's operational use.

	2019 \$'000	2018 \$'000
Cash at bank and on hand	24,162	34,904
Security deposits and early settlement proceeds not available for use	46,863	26,322
Participant Compensation Fund (PCF)	7,427	6,263
	78,452	67,489

For Statement of Cash Flows presentation purposes, cash and cash equivalents include cash on hand; and deposits held at call with financial institutions that are readily convertible to cash on hand and are subject to an insignificant risk of a change in value.

5. Trade and Other Receivables

IN SUMMARY

Trade and other 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.

	2019 \$'000	2018 \$'000
Current		
Participant fees receivable	21,935	23,762
TUOS revenue receivable	45,529	44,924
Other receivables	15,538	10,686
Prepayments	4,836	5,003
	87,838	84,375
Non-current		
Non Current Prepayments (Deferred Expenses)	1,059	1,337
	1,059	1,337

Financial risk management - credit risk

Credit risk arises where one party to a financial instrument will cause financial loss to the other party by failing to discharge an obligation. AEMO has exposure to credit risk on cash and cash equivalents, prepaid expenses, and receivables.

Exposure to credit risk is mitigated by a rigorous market prudential regime that requires credit support from either a bank guarantee or deposit equivalent to the level required by the National Electricity Rules and National Gas Rules.

Guarantees will only be accepted from banks that have a credit rating which is either:

1. A rating of A-1 or higher for short-term unsecured counterparty obligations of the entity, as rated by Standard and Poor's (Australia) Pty Ltd, or
2. A rating of P-1 or higher for short-term unsecured counterparty obligations of the entity, as rated by Moody's Investor Service Pty Ltd.

If there is to be a change to the credit support (expiry or termination) then at least 10 business days prior to the time at which the existing credit

support is due to expire or terminate, the market participant must procure a replacement.

Prepayments represent payments made for services to be provided or consumed over future months. Insurance agreements represent a large proportion of these, with the remainder comprised mostly of IT support. 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.

6. Property, Plant and Equipment

IN SUMMARY

This section represents the current book value for our wholesale and retail market systems, and corporate systems. The majority of our systems are nearing or have reached their end of estimated useful life. Land and buildings reflect the fit-out costs of our six offices and the land and building AEMO owns in Norwest, Sydney.

	Electricity Systems (NEM, FRC and WEM)	Gas Systems (DWGM, GSH and FRC)	Short-term Trading Market Systems	Plant and Equipment	Land and Buildings	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
At 30 June 2018						
Cost	18,086	3,320	525	29,030	44,532	95,493
Accumulated depreciation	(15,135)	(3,201)	(525)	(21,864)	(20,021)	(60,746)
Net book value at 30 June 2018	2,951	119	-	7,166	24,511	34,747
Reconciliation of carrying amount:						
Year ended 30 June 2018						
Carrying amount at 1 July 2017	2,121	88	-	4,964	23,327	30,500
Additions	954	31	-	5,078	3,519	9,582
Disposals	-	-	-	(2)	-	(2)
Depreciation	(124)	-	-	(2,874)	(2,335)	(5,333)
Carrying amount at 30 June 2018	2,951	119	-	7,166	24,511	34,747
Reconciliation of cost:						
Cost amount at 1 July 2017	17,644	3,309	525	24,391	41,013	86,882
Additions	954	31	-	5,078	3,519	9,582
Disposals	(512)	(20)	-	(439)	-	(971)
Cost amount at 30 June 2018	18,086	3,320	525	29,030	44,532	95,493
At 30 June 2019						
Cost	18,086	3,320	530	35,329	45,381	102,646
Accumulated depreciation	(15,186)	(3,201)	(525)	(25,156)	(22,105)	(66,173)
Net book value at 30 June 2019	2,900	119	5	10,173	23,276	36,473
Reconciliation of carrying amount:						
Year ended 30 June 2019						
Carrying amount at 1 July 2018	2,951	119	-	7,166	24,511	34,747
Additions	-	-	5	6,300	849	7,154
Disposals	-	-	-	-	-	0
Depreciation	(51)	-	-	(3,293)	(2,084)	(5,428)
Carrying amount at 30 June 2019	2,900	119	5	10,173	23,276	36,473
Reconciliation of cost:						
Cost amount at 1 July 2018	18,086	3,320	525	29,030	44,532	95,493
Additions	-	-	5	6,299	849	7,153
Disposals	-	-	-	-	-	0
Cost amount at 30 June 2019	18,086	3,320	530	35,329	45,381	102,646

Property plant and equipment

AEMO initially recognises items of property, plant and equipment that qualify for recognition as an asset at cost.

After initial recognition as an asset, an item of property, plant and equipment is carried at its cost less any accumulated depreciation and any accumulated impairment losses. This methodology is applied to each class of property, plant and equipment.

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
- Buildings – Norwest 30 years

7. Intangibles

IN SUMMARY

This section represents costs to establish our markets and enhancements to software to run those markets, along with corporate software costs.

The major additions in 2018-19 include modernisations of technology platforms, systems to automate and enhance the accuracy of long-term forecasts and transmission planning and technology systems modernisation for electricity and gas functions.

	NEM Establishment costs	FRC Establishment costs	Software - Electricity (NEM, FRC and WEM)	Software - Gas (DWGM, GSH and FRC)	Software - Short- term Trading Market	Other	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
At 30 June 2018							
Cost	44,473	27,330	125,150	22,953	21,577	17,097	258,580
Accumulated amortisation	(44,473)	(27,330)	(94,550)	(13,903)	(21,048)	(8,387)	(209,691)
Net book value at 30 June 2018	-	-	30,600	9,050	529	8,710	48,889
Reconciliation of carrying amount: Year ended 30 June 2018							
Carrying amount at 1 July 2017	-	-	24,430	8,201	1,580	3,536	37,747
Additions	-	-	12,069	3,776	75	7,771	23,691
Asset write-off	-	-	(611)	-	-	(794)	(1,405)
Amortisation	-	-	(5,289)	(2,927)	(1,126)	(1,803)	(11,145)
Carrying amount at 30 June 2018	-	-	30,600	9,050	529	8,710	48,889
Reconciliation of cost:							
Cost amount at 1 July 2017	44,473	27,330	113,692	19,177	21,502	10,137	236,311
Additions	-	-	12,069	3,776	75	7,771	23,691
Asset write-off	-	-	(611)	-	-	(794)	(1,405)
Disposals	-	-	-	-	-	(17)	(17)
Cost amount at 30 June 2018	44,473	27,330	125,150	22,953	21,577	17,097	258,580
At 30 June 2019							
Cost	44,473	27,330	150,435	31,909	23,013	43,635	320,795
Accumulated amortisation	(44,473)	(27,330)	(100,861)	(17,652)	(21,411)	(11,590)	(223,317)
Net book value at 30 June 2019	-	-	49,574	14,257	1,602	32,045	97,477
Reconciliation of carrying amount: Year ended 30 June 2019							
Carrying amount at 1 July 2018	-	-	30,600	9,050	529	8,710	48,889
Additions	-	-	25,285	8,956	1,436	26,538	62,215
Asset write-off	-	-	-	-	-	-	-
Amortisation	-	-	(6,311)	(3,750)	(363)	(3,203)	(13,627)
Carrying amount at 30 June 2019	-	-	49,574	14,257	1,602	32,045	97,477
Reconciliation of cost:							
Cost amount at 1 July 2018	44,473	27,330	125,150	22,953	21,577	17,097	258,580
Additions	-	-	25,285	8,956	1,436	26,538	62,215
Asset write-off	-	-	-	-	-	-	-
Disposals	-	-	-	-	-	-	-
Cost amount at 30 June 2019	44,473	27,330	150,435	31,909	23,013	43,635	320,795

Intangibles

AEMO'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.

AEMO has had increased capital project investments in the current year and will continue this trajectory in future years across a number of areas as necessary investments are made to deliver modernised systems which are fit for purpose as the industry transforms.

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

- Modernisation of technology platforms within the gas and electricity systems and databases;
- Automation and improvements in the accuracy of short and long term energy forecasts and transmission planning to adapt to increased numbers and types of generation sources;
- New market services to industry and end consumers such as gas Capacity Trading Platform (CTP) and Day Ahead Auction (DAA);
- Development and implementation of regulatory rule changes to evolve with reform and industry changes.

Software

Acquired software

Acquired computer software licences are capitalised on the basis of the costs incurred to acquire and install the specific software.

Internally developed software

Expenditure on the research phase of the projects to develop new customised software for IT and telecommunication systems 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 AASB138. 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.

Subsequent expenditure on computer software maintenance is expensed as incurred. Software asset useful lives vary according to the type of asset.

Assets are amortised over their estimated useful lives as follows:

- NEM, WEM and FRC market management systems software: 5-10 years.
- DWGM and FRC Gas IT system software: 5 years.
- STTM system software: 5 years.
- IT systems software: 3-7 years.
- Business applications software: 5-7 years.
- WEM software: 5-7 years.
- GSI software: 5-7 years.

Significant assets that have now been fully depreciated mainly relate to:

i. NEM establishment costs

NEM establishment costs represent the expenditure incurred to establish the NEM. These costs were recovered from registered participants over a 10-year period commencing 13 December 1998 and ending 31 December 2008. The straight-line method of amortisation was used and the asset is now fully amortised.

ii. Electricity FRC costs

Electricity FRC costs represent the expenditure incurred during the period January 2002 to June 2003 to develop and implement the electricity FRC market. These costs were recovered from FRC market participants over a 10-year period commencing 1 July 2003 and ending 30 June 2013. The straight-line method of amortisation was used and the asset is now fully amortised.

iii. STTM establishment costs

The STTM establishment costs represent the expenditure incurred to develop and implement the gas short term trading market during the period September 2008 to September 2010 for the Sydney and

Adelaide market and to December 2011 for the Brisbane market. Costs were recovered over a 7-year period.

Additions of assets

The purchase cost method of accounting is used for all acquisitions. Cost is determined as the fair value of the assets at the date of acquisition plus costs directly attributable to the acquisition. Subsequent costs are included in the asset's carrying amount or are recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to AEMO and the cost can be reliably measured.

All other repairs and maintenance are charged as expenses during the financial period in which they are incurred.

An asset is capitalised if AEMO has control over the asset and will gain future economic benefit. Expenditure directly incurred in making the asset operational is also capitalised. All other expenditure is treated as operating expenditure.

Impairment of assets

Intangible assets that have an indefinite useful life are not subject to amortisation and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. Other assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. 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.

8. Trade and Other Payables

IN SUMMARY

Trade and other payables represent liabilities for goods and services provided to the company prior to the end of the financial year that remain unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

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

	2019 \$'000	2018 \$'000
Current		
Accounts payable	23,220	11,989
Accrued network charges	51,847	44,957
Finance costs payable	225	67
Participant security deposits	22,588	7,036
Other creditors and accruals	11,158	6,845
	109,038	70,894

9. Borrowings

IN SUMMARY

AEMO's loans relate to major capital projects, current and longer term working capital requirements for the NEM and the Norwest land and building.

AEMO executed a new debt facility in August 2016 with a five-year facility term with the Commonwealth Bank of Australia. This agreement was amended and restated in November 2018 to provide for a \$180m facility agreement and allowed for a further increase of \$70m by written notice, totalling a \$250m debt funding facility.

	2019 \$'000	2018 \$'000
Current		
Bank Loans		
Norwest	700	700
Working capital	15,000	-
WA Loans	-	1,122
	15,700	1,822
Non-current		
Bank Loans		
Norwest	10,500	11,200
Working capital and capital projects	66,600	-
	77,100	11,200
TOTAL	92,800	13,022

The above borrowings are unsecured.

Borrowing costs

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.

Financial risk management – market 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 other price risk. In AEMO's case only interest rate risk and currency risk are relevant.

Interest rate risk arises from long-term borrowings issued at variable rates.

On occasions AEMO enters into contracts denominated in foreign currency for mainly IT related purchases.

Financial risk management – 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 continually forecasts and monitors cash flow and invests surplus funds in highly liquid markets. To mitigate this risk AEMO has a revolving cash advance facility and trade finance working capital facility provided by Commonwealth Bank of Australia.

Undrawn borrowing facilities

	Limit \$ '000	Balance \$ '000	Undrawn \$ '000
30 June 2019			
Total facility available	180,000	92,800	87,200

	Limit \$ '000	Balance \$ '000	Undrawn \$ '000
30 June 2018			
Total facility available	63,000	13,022	49,978

Loan repayment commitments

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

30 June 2019

Institution	Loan name	< 1 year \$'000	1–5 years \$'000	> 5 years \$'000	Total \$'000
CBA	Norwest	942	3,627	8,621	13,190
	Working capital (< 12 months)	15,290			15,290
	Working capital (> 12 months) and capital projects	1,531	42,858	29,852	74,241
TOTAL COMMITMENTS		17,763	46,485	38,473	102,721

30 June 2018

Institution	Loan name	< 1 year \$'000	1–5 years \$'000	> 5 years \$'000	Total \$'000
CBA	Norwest	1,053	4,027	9,911	14,922
	WEM	1,127	-	-	1,127
TOTAL COMMITMENTS		2,180	4,027	9,911	16,049

10. Provisions

IN SUMMARY

The company provisions mainly relate to employee benefits (annual leave, long service leave and performance incentives).

- **'Current' liability – Short-term employee benefits including annual leave and short term performance incentives** – Current liabilities include long service leave estimated to be payable within 12 months, total annual leave liability and employee short term performance incentives.
- **Provision (other)** – Third party contractual payments required following the milestone delivery of a feasibility study relating to the National Energy Simulator.
- **'Non-current' liability – Long service leave** – Long service leave not payable for more than 12 months from the reporting date is recognised as a non-current liability measured at the present value of expected future payments. Consideration is given to expected future wage and salary levels, experience of employee departures, and periods of service.

	2019 \$'000	2018 \$'000
Current		
Provision for employee entitlements	40,601	36,376
Provision (other)	500	-
	41,101	36,376
Non-current		
Provision for employee entitlements	2,254	1,456
	2,254	1,456
TOTAL	43,355	37,832

11. Other Liabilities

IN SUMMARY

Contract liabilities revenue 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 Register.

Other current liabilities are primarily office lease incentive benefits to be amortised within the current period. The non-current liability of lease incentive relates to office lease benefits (i.e. cash incentives or rent-free periods) which are amortised over the course of the lease to the profit and loss statement beyond twelve months from balance date.

	2019 \$'000	2018 \$'000
Current		
Contract liabilities (pre-paid settlement payments)	24,328	19,344
Government grants received in advance	9,539	9,377
Other liabilities	1,147	1,736
	35,014	30,457
Non-current		
Lease incentive	7,190	8,098
	7,190	8,098

12. Defined Benefit Superannuation Plan

IN SUMMARY

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

The defined benefit superannuation obligation 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 uses an actuarial expert annually for this revaluation.

The plan comprises 7 employees and 8 pension members at 30 June 2019.

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

The defined benefit superannuation liability at 30 June 2019 is \$2.121m. This liability was previously an asset of \$0.863m at 30 June 2018 and the movement is primarily due to a combination of a reduction in corporate bond yields increasing the value of the defined benefit obligation and lower investment returns during the year ended 30 June 2019.

i. Defined contribution plans

AEMO's default employee superannuation fund is an accumulation benefit fund. Employees have the choice of joining the AEMO-nominated fund or another superannuation fund of their choice. Superannuation contributions are included within expenses for the year.

ii. Defined benefit plans

Through the business combination that occurred on 1 July 2009 AEMO acquired responsibility for the defined benefit superannuation plan from VENCORP. No new members are permitted to join the plan, however it is continuing for the benefit of existing members. The defined benefit plan comprises 7 employees and 8 pension members.

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

The Company calculates the DBO annually with the assistance of an independent actuary. This is based on assumptions and estimates as disclosed below.

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.

Reconciliation of the assets and liabilities recognised in the statement of financial position

	2019 \$'000	2018 \$'000
Defined Benefit Obligation	20,282	16,881
Fair value of plan assets	(18,161)	(17,744)
Net defined benefit superannuation liability / (asset)	2,121	(863)

Reconciliation of the Net Defined Benefit Liability

Financial year	2019 \$'000	2018 \$'000
Net defined benefit (asset)/liability at start of the year	(863)	1,640
Current service cost	270	418
Net Interest	(27)	50
Actual return on plan assets (gains) less interest income	(252)	(842)
Actuarial losses arising from changes in demographic assumptions	-	-
Actuarial losses/(gains) arising from changes in financial assumptions	2,319	167
Actuarial losses/(gains) arising from liability experience	674	(2,296)
Net actuarial losses/(gains) on re-measurement of net defined benefit superannuation liability	2,741	(2,971)
Employer contributions	-	-
Net defined benefit liability / (asset) at end of the year	2,121	(863)

Reconciliation of the present value of the defined benefit obligation

Financial year	2019 \$'000	2018 \$'000
Present value of defined benefit obligations at beginning of the year	16,881	21,713
Current service cost	270	418
Interest cost	556	731
Contributions by plan participants	74	95
Actuarial losses arising from changes in demographic assumptions	-	-
Actuarial (gains)/losses arising from changes in financial assumptions	2,319	167
Actuarial (gains)/losses arising from liability experience	674	(2,296)
Benefits paid	(441)	(3,897)
Taxes, premiums and expenses paid	(51)	(50)
Present value of defined benefit obligations at end of the year	20,282	16,881

Reconciliation of the fair value of plan assets

Financial year	2019 \$'000	2018 \$'000
Fair value of plan assets at beginning of the year	17,744	20,073
Interest income	583	681
Actual return on plan assets less Interest income	252	842
Employer contributions	-	-
Contributions by plan participants	74	95
Benefits paid	(441)	(3,897)
Taxes, premiums and expenses paid	(51)	(50)
Fair value of plan assets at end of the year	18,161	17,744

Fair value of plan assets

Financial year ended 30 June 2019	Total \$'000	Quoted prices in active markets for identical assets – Level 1 \$'000	Significant observable inputs – Level 2 \$'000	Unobservable inputs – Level 3 \$'000
Investment funds	18,161	-	18,161	-
Total	18,161	-	18,161	-

As at 30 June	2019 %	2018 %
Australian equity	8	16
International equity	12	17
Fixed income	12	18
Property	5	8
Growth alternatives	10	16
Defensive alternatives	6	9
Cash	47	16

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

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

Principal actuarial assumptions at the balance sheet date

Assumptions to determine defined benefit superannuation cost	2019 % p.a.	2018 % p.a.
Discount rate (active members)	3.5	3.6
Discount rate (pensioners)	3.5	3.6
Expected salary increase rate	2.9	2.9
Expected pension increase rate	2.5	2.5

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

Assumptions to determine defined benefit obligation	2019 % p.a.	2018 % p.a.
Discount rate* (active members)	2.3	3.5
Discount rate (pensioners)	2.3	3.5
Expected salary increase rate	2.9	2.9
Expected pension increase rate	2.5	2.5

* The discount rate used is based on a Corporate bond yield of 7 years duration.

These rates are used to calculate the defined benefit obligation (future obligation) at year end.

Sensitivity analysis

The defined benefit obligation as at 30 June 2019 under several scenarios is presented below.

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 pension increase rate	+0.5% pa pension increase rate
Discount rate	2.3% pa	1.8% pa	2.8% pa	2.3% pa	2.3% pa	2.3% pa	2.3% pa
Salary increase rate	2.9% pa	2.9% pa	2.9% pa	2.4% pa	3.4% pa	2.9% pa	2.9% 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)	20,282	21,389	19,262	20,099	20,472	19,505	21,128

The defined benefit obligation has been recalculated by changing the assumptions as outlined above, whilst retaining all other assumptions.

Asset-liability matching strategies

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

Funding arrangements

The Equipsuper 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 salary sacrifice contributions and at the required rates for accumulation members.

Expected contributions

Financial year	2020 \$'000
Expected employer contributions	-

Maturity profile of defined benefit obligation

The weighted average duration of the defined benefit obligation as at 30 June 2019 is 7 years.

Expected benefit payments for the financial year ending on	\$'000
30 June 2020	1,441
30 June 2021	1,324
30 June 2022	1,324
30 June 2023	1,272
30 June 2024	1,218
Following 5 years	7,470

The weighted average duration of the defined benefit obligation at 30 June 2018 was 7 years.

13. Reserves

Nature and purpose of reserves

Participant Compensation Fund Reserve

AEMO maintains the following 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 \$1,000k and \$5,000k 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 \$500k and \$1,000k 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 \$335k and \$670k 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 \$115k and \$330k 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 \$225k and \$450k 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 \$1m have been charged in the 2018-19 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 \$'000	PCF Vic Wholesale Gas \$'000	PCF STTM Sydney hub \$'000	PCF STTM Adelaide hub \$'000	PCF STTM Brisbane hub \$'000	TOTAL \$'000
2018						
Balance 1 July 2017	-	3,547	810	407	471	5,235
Contributions during the year	993	-	-	-	-	993
Interest earned during the year	4	80	18	9	10	121
Payments of claims during the year	-	-	-	-	-	-
Balance 30 June 2018	997	3,627	828	416	481	6,349
2019						
Balance 1 July 2018	997	3,627	828	416	481	6,349
Contributions during the year	1,000	-	-	-	-	1,000
Interest earned during the year	33	95	21	11	13	173
Payments of claims during the year	-	-	-	-	-	-
Balance 30 June 2019	2,030	3,722	849	427	494	7,522

Land Reserve

AEMO has established the Land Reserve to recover the cost of the purchase of land at Norwest from participants.

14. Key Management Personnel Disclosures

Directors

The following persons were directors of AEMO during the financial year:

Chairman – non-executive

A. Clarke AO, PSM

Chief Executive Officer and Managing Director

A. Zibelman

Non-executive directors

A.P. Concannon

Dr. P.L. Davis

E.A. Donaghey

N. Ficca (appointed 1 February 2019)

J.G. Hubbard

S. Krieger

A. Nolan (appointed 1 February 2019)

S.C. Orr (retired 1 November 2018)

J. Pittard

All of the above persons were directors for the full financial year and up to the date of this report, with the exception of Mr Stephen Orr who retired effective 1 November 2018 and Mr Nino Ficca and Ms Anne Nolan who were appointed as Non-executive directors effective 1 February 2019.

Key management personnel compensation

	2019 \$'000	2018 \$'000
Directors' compensation		
Short-term employee benefits	2,503	2,176
Post-employment benefits	103	156
Other long-term benefits	25	25
Termination benefits	-	-
	2,631	2,357
Other key management personnel		
Short-term employee benefits	4,353	3,551
Post-employment benefits	215	229
Other long-term benefits	128	267
Termination benefits	928	310
	5,624	4,357
	8,255	6,714

Key Management Personnel remuneration

Chairman and the Non-executive Board members:

The benchmarks for determining remuneration for the Chairman and non-executive Board members were considered by the members when assessing the annual remuneration pool. This was based on external advice and was approved at the annual general meeting on 6 November 2014. The annual remuneration pool is reviewed every three years with the members approving a revised annual remuneration pool of \$1.35 million to apply from 2 November 2017 and to be reviewed in three years.

The annual remuneration pool reflected the inclusion of fees for a director chairing the Information Exchange Committee, the inclusion of a standing Nomination Committee and projected increases over the three year period.

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 Total Employment Cost (TEC) 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 positions have a job profile that is evaluated using the Hay Group evaluation methodology. This determines their TEC. Each year AEMO seeks remuneration advice from Hay Group regarding market movements for this group. The Board approves any increase to fixed pay based on both market movement and individual performance, and approves any STI based on corporate and individual performance.

15. Remuneration of Auditors

During the year the following fees were paid or payable for services provided by the auditor of the entity, its related practices and non-related audit firms:

	2019 \$'000	2018 \$'000
Statutory financial audit services		
Services provided by the financial auditor Grant Thornton		
Statutory audit of the financial statements of the company	116	123
Other services		
Other audit services not provided by AEMO's financial auditor *	1,262	606

* Other audit activities include gas and electricity market audit services, which include the review of AEMO's control procedures and its compliance with the Rules. A significant portion of these services are on behalf of registered participants and the review reports are distributed to them. This balance also includes internal audits of the company, review and accreditations, and other advisory services. None of these services were performed by the external auditor during the year.

16. Contingent Liabilities

IN SUMMARY

A contingent liability is a liability that may be incurred but is dependent on an uncertain future event.

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

17. Commitments

Capital commitments

	2019 \$'000	2018 \$'000
Not later than one year	14,155	2,963
Later than one year but not later than five years	1,956	-
Later than five years	-	-
	16,111	2,963

IN SUMMARY

The capital commitments at balance date mostly represent contractual consultancy arrangements for AEMO's major projects. These are 5 Minute Settlement, Consumer Data Rights and Western Australia System Management System Transition.

AEMO's digital uplift program

AEMO's digital program will be one of the largest capital investments during our corporate plan period of 2020-23. AEMO's current technology infrastructure was developed in an era where energy markets were stable and use of data was predictable and limited. This investment program will deliver new platforms and services that will support the evolving transition to a new energy environment and modern digital technologies, reducing operating costs and providing scalability for the industry to interact with us. More information on AEMO's published Corporate Plan for 2020-23 is found on our website.

In considering the long-term pricing approach to participants impacted by the digital program, our published annual Budget and Fees document (June 2019) proposes NEM costs to be recovered over a 10-year period rather than the previous 5-year period.

Operating lease commitments

IN SUMMARY

This section details operating lease commitments which are mainly office leases contracted for at balance date but not recognised as liabilities.

The leases relate to the following:

- Melbourne Collins Street premises – lease agreement to 31 October 2023.
- Melbourne King Street premises – lease agreement to 28 February 2021.
- Sydney CBD premises – lease agreement to 28 February 2021.
- Brisbane CBD premises – lease agreement to 31 January 2026.
- Adelaide CBD premises – lease agreement to 15 July 2020.
- Perth CBD premises – lease agreement to 31 August 2028.

	2019 \$'000	2018 \$'000
Not later than one year	7,663	7,003
Later than one year but not later than five years	27,866	25,905
Later than five years	4,348	4,797
	39,877	37,705

Lease commitments payable are based on AEMO's current lease rates and include agreed future increments.

Operating lease payments are charged on a basis which is representative of the pattern of benefits derived from the leased property.

Incentives received under non-cancellable operating leases in the form of rent free periods and contributions to fit-out costs are recognised as a liability. The liability is reduced by allocating lease rental payments between rental expense and reduction of the liability on a straight-line basis over the remaining term of the lease.

18. Accumulated Surplus/(Deficit)

The accumulated surplus/(deficit) attributable to AEMO's functions is detailed below:

	2019 \$'000	2018 \$'000
NEM	(36,822)	(10,810)
Electricity FRC	1,920	1,546
Victorian TNSP	3,797	47,759
DWGM – capital contribution	8,704	8,704
DWGM	6,490	7,665
Gas FRC (excluding WA)	3,091	3,258
WA Gas FRC	1,136	1,393
STTM	7,194	5,169
NTP	(1,209)	351
Gas Supply Hub	(4,703)	(5,045)
WEM	2,956	1,624
GSI	486	410
WA Systems Management	(1,410)	(3,348)
Gas B2B	(49)	206
Settlement Residue Auction	(147)	(283)
Gas Bulletin Board	30	9
Gas Statement of Opportunities	1,404	1,249
SA Planning Function	1,637	1,377
Gas Capacity Trading	(124)	-
Day Ahead Auction	(156)	-
Other	(5)	-
	(5,780)	61,235

IN SUMMARY

AEMO has statutory powers to recover all costs as well as under and over recoveries in any of the specific functions in the next financial year or subsequent financial years. It does this by including surpluses or deficits in future budgets and applying these to future fee recoveries for specific AEMO functions. Accordingly, the accumulated surplus / (deficit) attributable to each of AEMO's functions is reconciled and managed on an ongoing basis.

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.

New functions commenced by AEMO in 2019 include the Gas Capacity Trading Platform (CTP) and Day Ahead Auction (DAA).

19. Events Occuring After Balance Sheet Date

There are no material events occurring after balance sheet date up to the date of signing the report.

20. Reconciliation of Surplus/ (Deficit) to Net Cash Inflow/ (Outflow) from Operating Activities

	2019 \$'000	2018 \$'000
(Deficit)/Surplus	(62,875)	10,811
Depreciation and amortisation	19,055	16,478
Non-cash defined benefit expense	243	468
Change in operating assets and liabilities		
Increase in trade and other receivables	(3,185)	(2,833)
Increase in creditors and accruals	25,045	5,757
Increase in participant security deposits	16,748	5,238
Increase in provisions	5,523	4,200
Net cash inflow provided by operating activities	554	40,119

21. Related Party Transactions

All directors comply with the Directors Interests Protocol adopted by the Board, which abides by the *Corporations Act 2001* provisions and sets out the policy for each director's responsibility to disclose conflicts of interest, declaration of interests, and management of conflicts.

There is one director occupying a role in another energy company which pays fees to AEMO and which AEMO also makes payments to.

These transactions are not considered related-party transactions as defined by accounting standards and are therefore not disclosed in this note, as the relevant director of AEMO is not considered to have significant control over any of the entities with which AEMO transacts.

Directors' Declaration

The directors of Australian Energy Market Operator Limited declare that:

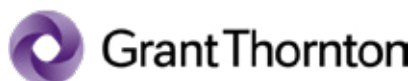
1. The financial statements, comprising the statement of profit or loss and other comprehensive income, statement of financial position, statement of changes in equity, statement of cash flows, and accompanying notes, are in accordance with the *Corporations Act 2001* and:
 - a. comply with Accounting Standards as described in Note 1 to the financial statements and the *Corporations Regulations 2001*; and
 - b. give a true and fair view of the company's financial position as at 30 June 2019 and of its performance for the year ended on that date in accordance with the accounting policies described in Note 1 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
Chairman

Melbourne
5 September 2019



Collins Square, Tower 5
727 Collins Street
Melbourne Victoria 3008

Correspondence to:
GPO Box 4736
Melbourne Victoria 3001

T +61 3 8320 2222
F +61 3 8320 2200
E info.vic@au.gt.com
W www.grantthornton.com.au

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 (the Company), which comprises the statement of financial position as at 30 June 2019, the statement of profit or loss and other comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies, and the Directors' declaration.

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

- a giving a true and fair view of the Company's financial position as at 30 June 2019 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 Company 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* (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

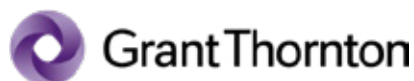
The Directors are responsible for the other information. The other information comprises the information included in the Company's Director's report for the year ended 30 June 2019, but does not include the financial report and our auditor's report thereon.

Grant Thornton Audit Pty Ltd ACN 130 913 594
a subsidiary or related entity of Grant Thornton Australia Ltd ABN 41 127 556 389

www.grantthornton.com.au

'Grant Thornton' refers to the brand under which the Grant Thornton member firms provide assurance, tax and advisory services to their clients and/or refers to one or more member firms, as the context requires. Grant Thornton Australia Ltd is a member firm of Grant Thornton International Ltd (GTIL). GTIL and the member firms are not a worldwide partnership. GTIL and each member firm is a separate legal entity. Services are delivered by the member firms. GTIL does not provide services to clients. GTIL and its member firms are not agents of, and do not obligate one another and are not liable for one another's acts or omissions. In the Australian context only, the use of the term 'Grant Thornton' may refer to Grant Thornton Australia Limited ABN 41 127 556 389 and its Australian subsidiaries and related entities. GTIL is not an Australian related entity to Grant Thornton Australia Limited.

Liability limited by a scheme approved under Professional Standards Legislation.



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 Company'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 Company 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 decision 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/ar4.pdf. This description forms part of our auditor's report.

A handwritten signature in blue ink that reads "Grant Thornton".

Grant Thornton Audit Pty Ltd
Chartered Accountants

A handwritten signature in blue ink that reads "B A Mackenzie".

B A Mackenzie
Partner – Audit & Assurance

Melbourne, 5 September 2019

**Australian Energy
Market Operator Limited**

ABN 94 072 010 327

www.aemo.com.au