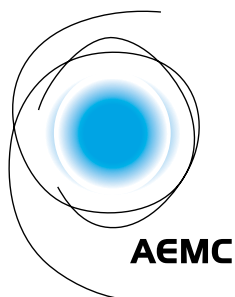


Australian Energy Market Commission
ANNUAL REPORT
2016/2017





Australian Energy Market Commission
Level 6, 201 Elizabeth Street
Sydney NSW 2000

30 September 2017

The Hon Tom Koutsantonis MP
Minister for Mineral Resources and Energy
Level 8
178 Terrace Towers
North Terrace
Adelaide SA 5000

Dear Minister

Australian Energy Market Commission annual report 2016-2017

I am pleased to present the Australian Energy Market Commission 2016-2017 annual report.

This report is prepared in accordance with Section 27 of the Australian Energy Market Commission Establishment Act 2004 (SA).

A handwritten signature in black ink, appearing to read 'John Pierce', is positioned above the printed name and title.

John Pierce
CHAIRMAN

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Performance summary

Market reviews and advice papers

29

17 completed
12 underway

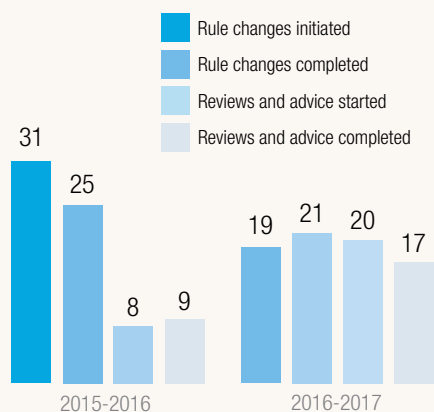
Rule changes

38

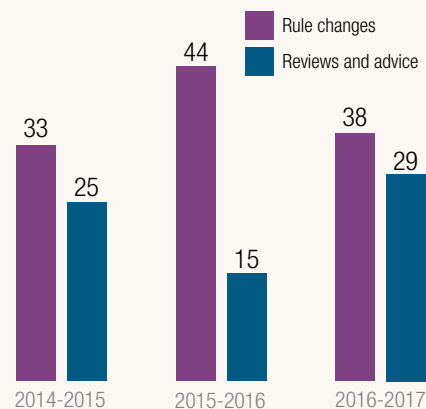
21 completed
17 underway

Judicial reviews of decisions

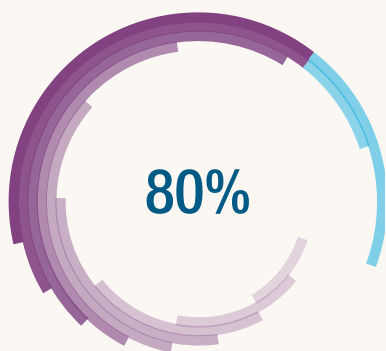
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Rule changes, reviews and advice started and completed



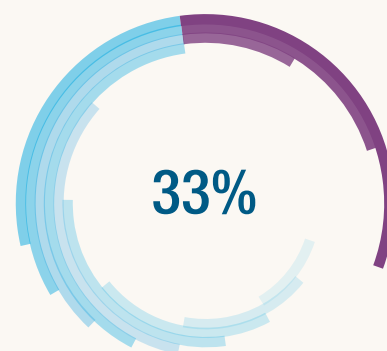
Historical snapshot
All projects undertaken (completed and carried forward)



of market reviews and advice completed within original terms of reference timelines



of rule changes initiated within four months



of rule changes completed without extension after initiation

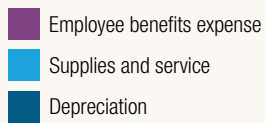
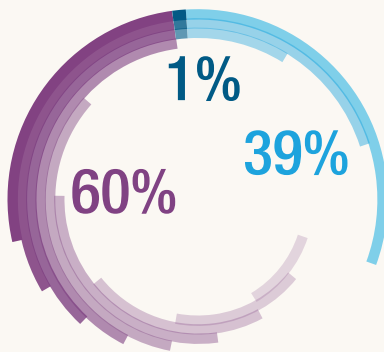
Formal stakeholder forums and workshops



Submissions received from stakeholders



Actual expenses

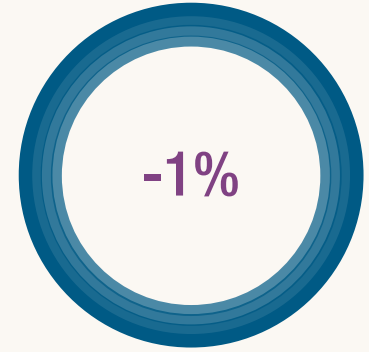


Effective governance



An independent review of our risk assessment framework was conducted this year and found that appropriate mitigation measures were in place and being implemented.

Annual expenditure within budget



(Target +/- 5%)

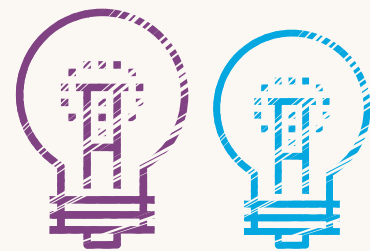
The Commission's funding is provided by the jurisdictions' contributions.

Senior management team by gender



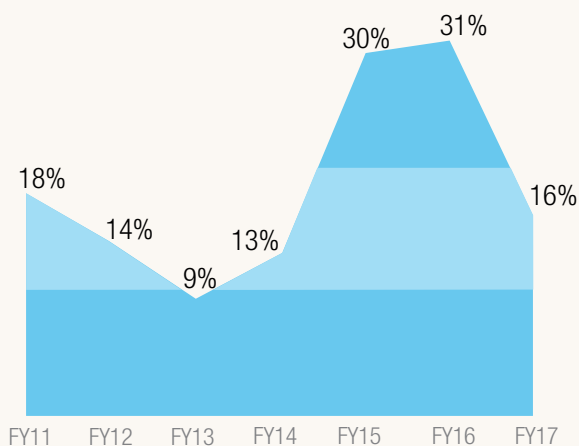
Five female | two male

Employees by gender



56% female | 44% male

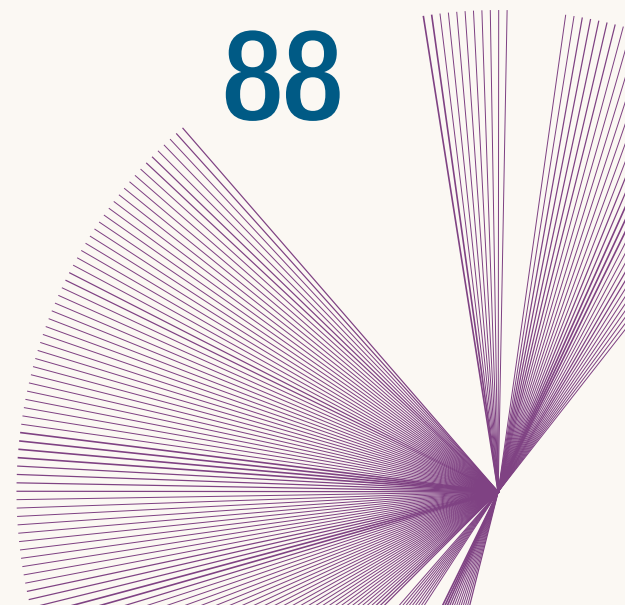
Staff turnover



Target 10%-20% balancing retention of corporate knowledge with infusion of new ideas.

Employees at 30 June

88



Chairman's message

Making energy market transformation work

Our experience of 2016-2017 shines a light on how sensitive the energy ecosystem has become in relation to expanding consumer choices, the take-up of new technologies, and policy decisions at every level of government. Here at the Commission we are intensifying our analysis of the drivers of change and their impacts on consumer bills and system security, so we can advocate mechanisms which will encourage sound investment decisions; and allow consumers, big and small, to see the costs and benefits of various energy choices and help them make decisions that suit them best.



WE ARE DECENTRALISING THE DECISION-MAKING SYSTEM FOR ENERGY

Within the policy framework agreed by governments we are aligning regulatory frameworks to facilitate market development so community needs for power can be met. Technological breakthroughs are making new energy services more accessible to all kinds of consumers; from micro generation; rooftop solar; storage; and large-scale renewables. More households today are producing some of their own power. In the future they will be trading that power with their neighbours and selling it back to the grid whenever prices make that worthwhile. Our long-term *Power of choice* reform program continues to put new pricing and regulatory arrangements in place so energy shoppers can optimise decisions like those in the increasingly competitive retail market. By December 2017 two more key consumer choice rules will come into full effect. Rules promoting competition in metering will help give consumers more opportunities to monitor, manage and adjust their power usage; and new distribution network pricing arrangements will be completely phased in so that prices reflect the actual value of producing electricity at different times.

Today there is far greater diversity in the way consumers use electricity. Two households might have similar incomes and family size, but because of appliances they have and lifestyles

they lead, they will consume electricity very differently. This reform is one of the AEMC's building blocks to help energy consumers see the dollar value of their consumption choices so they can act accordingly when the value to them of using products or services is greater than the efficient cost to the system of providing them. If this criteria is not met the result would most likely be inefficient investment and higher prices.

AEMC CONSUMER BLUEPRINT PROPOSES WAYS TO INCREASE BENEFITS FOR ENERGY SHOPPERS

This year we released our fourth annual report on retail competition which showed more varied products and better priced deals emerging in the market. One in five consumers now have solar panels and say they are likely to take up battery storage or home energy management systems in the next two years. Energy entrepreneurs are forcing traditional retailers to compete not just on price, but with more innovative products and services. Overall, competitive retail market indicators are continuing to improve in jurisdictions with price deregulation. Yet 30 per cent of consumers are still unable to identify the type of plan they are on, and generally find it harder to compare energy offers than in banking, insurance and telecommunications. We have recommended that industry build awareness of cost savings, concession and hardship schemes, and price comparison websites. These kinds of interventions will be increasingly important as the range of energy options continues to grow and were discussed by the Prime Minister and energy retailers at their round table in August 2017 on electricity prices.

Measurable benefits at the consumer end of the market are at risk from rising wholesale prices caused by sweeping changes in the nation's generation mix over recent years. Older generators are retiring and more large-scale renewable generators have entered. This changing generation mix impacts

the price and availability of electricity. While investments under the renewable energy target have increased the level of installed megawatts, there are times when the overall mix cannot deliver enough hours of electricity, or enough security services, at the right time to meet consumer demand. Meeting consumer demand with a new mix of technologies requires consumer-driven price signals to guide private sector investment. In the national electricity market, these price signals come from the spot price and the forward contract price. These signals, if allowed to function, will deliver commercial investment in a combination of technologies that can deliver secure, reliable and low emissions power to consumers at the lowest price.

THE IMPORTANCE OF INTEGRATED EMISSIONS REDUCTION AND ENERGY POLICY

In these circumstances it's critical that there are emissions reduction mechanisms in place, along with appropriate institutional and governance arrangements that allow price signals, within the national electricity market, to work. This means putting all technologies on a level playing field and letting the price do two things – inform investors of what's needed to fill capacity gaps; and encourage the hedging contract market to underpin the necessary investment. We all agree the community must have secure, reliable electricity and gas at the lowest possible prices. Our families and businesses depend on that. But until we have a future policy on emissions reduction that facilitates efficient, commercial investment in generation; and supports a liquid forward contracts market so retailers can effectively manage their risk; consumers will be paying higher prices than they need to.

KEEPING THE LIGHTS ON

We initiated our power system security review in July 2016 and that work has already produced rules which address security risks created by changing generation technologies. New tools have

been provided to the Australian Energy Market Operator (AEMO) to manage the evolving system; putting new obligations on generators and network businesses so the system remains secure; and enhancing emergency frequency control schemes so AEMO can take more pre-emptive action to prepare for, and limit the consequences of, electricity system emergencies. We have proposed new arrangements for more effective frequency control across the whole system as well as new obligations on generators and networks to improve the strength of a changing power system which has a higher proportion of wind and solar generation.

RIISING TO MEET OPPORTUNITIES CREATED BY NEW TECHNOLOGIES

This year our technology work program undertook a distribution market model project to identify future opportunities for consumers to buy and sell distributed energy and energy services in better, more competitive and flexible ways. With good information, accurate price signals and healthy competition in the supply chain, consumers will be able to weigh up the value of using the electricity produced from their solar panel or battery against the value they could gain by selling it back to the market to help networks manage peaks in demand, help make the system secure, or simply to reduce their electricity bills.

KEEPING THE COST OF BUYING AND SELLING GAS AS LOW AS POSSIBLE

The pivotal role of gas in the economy is set to grow as gas-powered electricity generation becomes more important in balancing intermittent renewable supply. In 2016 the Commission recommended a range of reforms that make it easier to buy and sell gas across the entire east coast gas market, and these are now being implemented. These reforms level the playing field by making unused pipeline capacity more readily available, standardising pricing information and

trading arrangements and providing better information about gas production, consumption and prices to support more informed trading and investment decisions. The next step towards a harmonised and well-functioning gas market was taken this year when the Commission recommended trading improvements for Victorian gas. If implemented, these changes will make it easier for buyers and sellers to manage risk and lower transaction costs; and improved gas trading between states will benefit everyone in the market.

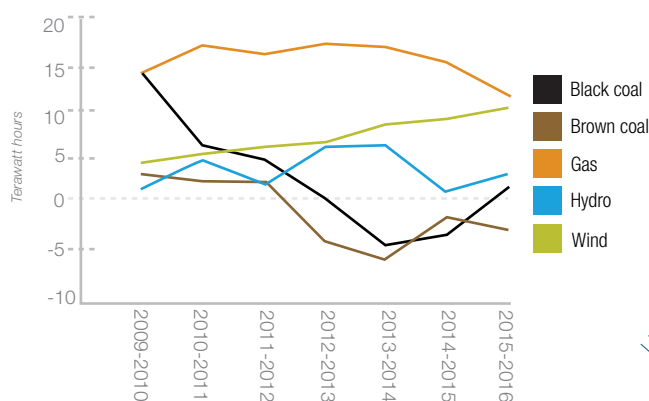
DELIVERING FINKEL REVIEW RECOMMENDATIONS

We are working with the COAG Energy Council, the Australian Energy Market Operator, the Australian Energy Regulator and the newly established Energy Security Board, to implement recommendations made by the *Independent Review into the Future Security of the National Electricity Market*. It is expected that the Energy Security Board will be given the ability to make recommendations to the COAG Energy Council on rule changes. Work is already well underway on delivering many of the 'Finkel' recommendations including addressing generator performance through our review of frequency control frameworks and related rule changes, along with our review of reliability frameworks which is looking at ways to facilitate demand response in the wholesale energy market. We will continue to work closely with the other market bodies and through the Energy Security Board to do everything possible to decrease total system costs through a framework that enables consumers and market participants to make more efficient investment decisions, drawing on the ever-expanding range of energy innovations.



John Pierce
CHAIRMAN

ANNUAL CHANGE IN ELECTRICITY GENERATION BY ENERGY SOURCE



Sources: AEMO; AER
AEMC, Integration of energy and emissions reduction policy, Final report, 9 December 2016



Chief Executive's message

Building a broad dialogue on new ways to operate the energy system

Our deep commitment to building an enduring, effective dialogue with our stakeholders is how we strive to make market transformation work in the long-term interests of consumers. Everything flows from the quality of those relationships and the quality of informed debate. We look to stakeholders to test our thinking and establish common understanding for development of regulatory frameworks which can deliver the best value and security for families and businesses as the energy revolution unfolds.



The year under review was a difficult one for energy consumers. Costs involved in transforming the generation sector are being felt through rising prices. This is being driven through different developments all happening at the same time: uncertainty over emissions policy; the continuing acceleration of wind and solar take-up; the exit of older coal-fired power stations; and the technical impact of this changing generation mix on the power system's stability.

Just as technology and consumer choices are always changing – so too is the regulatory framework. Australia is unique in the fact that everyone – consumers, governments and industry alike – has the ability to suggest and help design new rules for electricity, gas and retail markets. This is the great power of the national energy rule making framework. This open, transparent approach recognises that people who interact with the rules every day to choose their energy deals, run their business, or keep the system stable are usually best placed to say what will and won't work. The system is based on consultation, informed analysis resulting in decision-making that embraces all the views brought to the table and decisions that are understood by all.

BUILDING YOUR FEEDBACK INTO OUR THINKING

It is important that we continue to rely on this approach as we change rules so energy markets can evolve in robust

and resilient ways that deliver the best outcomes for consumers. We respect the role of our stakeholders in the rule making process and in developing advice for governments. We also understand the importance of independent, rigorous analysis of the options we need to consider so the framework can deliver reliable, secure electricity and gas in the long-term interest of consumers. Working in the consumer interest remains absolutely fundamental to everything we do. None of our decisions are taken lightly. The security, reliability and cost of energy underpins our quality of life. It is a vital input to the productive efficiency of every small business and every large industry that generates jobs and impacts the cost of living. To this end we actively seek out new stakeholders to involve them in our research and statutory processes.

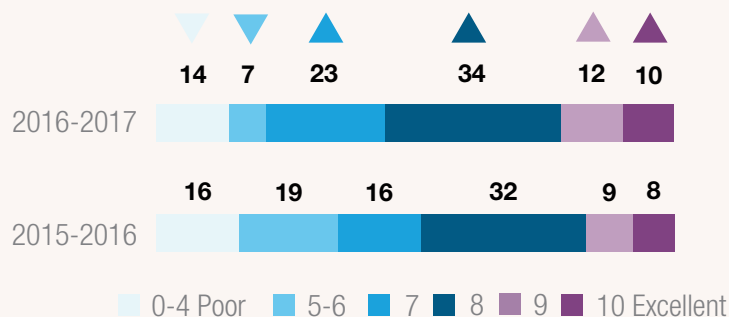
In particular we benefited from stakeholder input to a range of projects including the five minute settlement rule change request which was submitted to us by the Queensland industrial power consumer, Sun Metals Corporation. The Sun Metals request proposes to fundamentally change the operation of the wholesale electricity market to align the timeframes of production decisions and pricing – increasing the supply-side flexibility of generation in the national electricity market – and requested fundamental changes to wholesale market operations to support lower emissions and intermittent generation.

LIFTING THE QUALITY OF OUR ENGAGEMENT

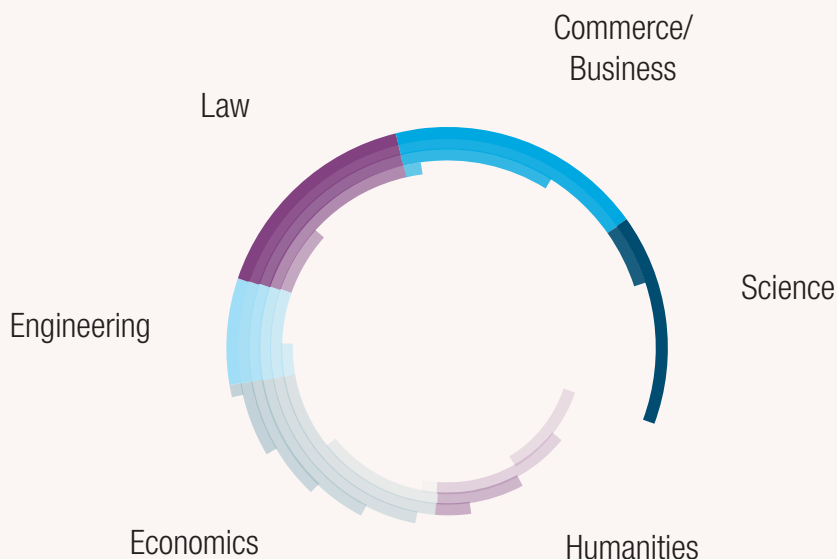
The essence of the AEMC is our strong dialogue with stakeholders. It's fundamentally important because stakeholders contribute valuable insights to our rule making and advice to governments. We depend on views from outside the organisation to challenge our proposals for reform. Sharing many perspectives enriches every discussion we have on market development.

We conduct an ongoing program of online stakeholder surveys to gather feedback

OVERALL RATINGS OF AEMC'S APPROACH TO CONSULTATION



AEMC STAFF QUALIFICATIONS



on the management of selected projects so we can track our performance on our timeliness and the effectiveness of consultation. Even given the challenges of this year stakeholders reported a lift in the consultation quality. Those who participated in our rules and reviews rated us strongly with 78 per cent giving us 7 or more out of 10 for overall consultation performance in FY2017 – compared with 65 per cent in FY2016. This says a lot about the AEMC. But of course, the reason we do these surveys is to inform our continual improvement. And while it is pleasing to see this improvement, we know there is more we can do. For example, we actively seek out stakeholders who are new to the statutory consultation process to let them know how they can participate. This year we published two new guides: *Applying the energy objectives* and *The AEMC rule change process* which provide overviews of the Commission's work; how we approach decision making; and inviting stakeholders to participate in the market development process.

This year we also continued to reach out to small consumers and undertook comprehensive consumer research as part of our annual retail energy competition review to better understand the preferences and expectations of households and small business as we implement our market development reform program.

ADDRESSING CHANGE TOGETHER

Our work continues to expand in scope and complexity. This year our policy teams undertook a total of 67 projects: 38 rule changes and 29 reviews and advisory reports. At the same time the pattern of our work is changing with a marked increase in requests from government for reviews of emerging issues in our transforming electricity and gas sectors; a trend which is continuing

strongly into the new financial year.

At the Commission we understand our role lies in facilitating change in line with consumer preferences. This is the focus of all the rules we make and the advice we provide to Australia's energy ministers. We work closely with the other market bodies, the Australian Energy Regulator and the Australian Energy Market Operator so new technologies can be deployed in ways that maintain reliability and security of the system at the lowest possible cost to families and businesses. Underpinned by a clear legislative role our work program will be carried forward by our rigorous analysis, married with the real-world experience of stakeholders in consumer groups, industry and government.

DOING MORE TO DELIVER WHAT STAKEHOLDERS EXPECT

Expectations on the Commission are high and set to expand further as market transformation accelerates. We are well advanced on implementing recommendations from the Australian Government's *Independent Review into the Future Security of the National Electricity Market*, in addition to our ongoing work in response to stakeholder requests for rules, and jurisdictional requests for reviews and advice.

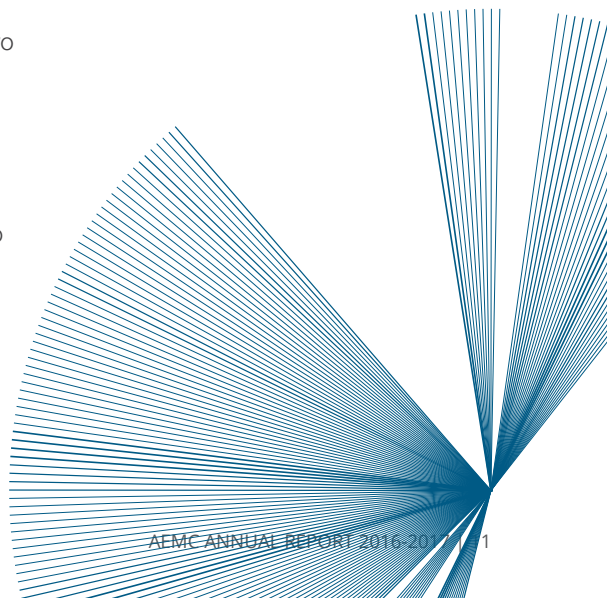
Our ability to sustain and improve our performance relies on the quality of our people. We expect strong performance, knowing it is essential to the ongoing success of the Commission. We are committed to developing the skills of our people in a variety of ways. We encourage our people to continue their education broadly across a number of disciplines. In the year under review two employees were awarded the Stuart Slack Scholarship to pursue higher education in memory of one of our distinguished senior economists. We have also seen the first members of our new graduate program progress to

adviser roles within the organisation and we are pleased to be able to offer places to a new cohort of graduates in 2018.

Our commitment to our people saw turnover return to 16 per cent this year which is within our target range of ten to 20 per cent. Reducing turnover is a key strategy for the organisation and we will continue to put in place initiatives that focus on retaining quality people with the capabilities required to address the issues relating to energy market development in a decarbonising world which are of such deep concern to the community right now.



Anne Pearson
CHIEF EXECUTIVE



How the energy markets are governed

COUNCIL OF AUSTRALIAN GOVERNMENTS (COAG)

COAG is the peak intergovernmental forum in Australia with a role to initiate, develop and monitor the implementation of policy reforms that are of national significance and which require cooperative action by federal, state and territory governments.

COAG ENERGY COUNCIL

The COAG Energy Council is made up of federal, state and territory energy ministers. It provides national leadership on energy policy development.

NATIONAL ELECTRICITY, GAS AND ENERGY RETAIL LAW AND REGULATIONS



ENERGY SECURITY BOARD (ESB)

Comprised of an Independent Chair, Independent Deputy Chair and the most senior leaders of the AEMC, AER and AEMO. Responsible for the implementation of recommendations from the *Independent Review into the Future Security of the National Electricity Market* (Finkel Review)

MARKET BODIES

AUSTRALIAN ENERGY MARKET OPERATOR (AEMO)

Gas and electricity
systems and market
operator

AUSTRALIAN ENERGY MARKET COMMISSION (AEMC)

Rule maker, market
developer and adviser to
governments

AUSTRALIAN ENERGY REGULATOR (AER)

Economic regulation and
rules compliance

MARKET PARTICIPANTS



Generators



Network and
pipeline operators



Energy service
providers



Retailers



Major energy users
and business
consumers



Households
and individual
consumers

What we do

The Australian Energy Market Commission is a national body which plays two main roles in Australia's energy markets. We make and amend the National Electricity Rules, National Gas Rules and National Energy Retail Rules. We also undertake reviews and provide advice to the COAG Energy Council on improvements to regulatory and energy market arrangements.

RULE MAKING

The AEMC makes and amends rules under the National Electricity Law (NEL), the National Gas Law (NGL) and the National Energy Retail Law (NERL).

These rules:

- impact on how market participants can operate in the competitive wholesale generation, gas and retail sectors
- provide specific rights for consumers to whom energy is sold or supplied
- govern the economic regulation of electricity transmission and distribution services – the 'poles and wires' – and gas pipelines.

The AEMC cannot propose rules (except for minor changes such as corrections). However any stakeholder including governments, industry participants and consumers can request rule changes. Our rule-making test, the central focus of which is the long-term interests of consumers, contributes to greater regulatory predictability and transparency of the rule making process.

REVIEWS AND ADVICE

The AEMC undertakes reviews and provides the COAG Energy Council with advice on improvements to regulatory and energy market arrangements that will benefit consumers in accordance with the national energy objectives. In conducting our reviews and preparing advice we consult widely on matters which are related to the progress of the COAG Energy Council's energy reform agenda.

Many of our reviews arise from terms of reference provided by the nation's energy ministers, but we can also initiate our own reviews on matters related to the rules.

The AEMC regularly monitors and reports on a range of matters including the level of competition in energy retail markets, future price trends, and energy market performance. The Reliability Panel, which forms part of the AEMC's institutional arrangements, reviews and reports on the safety, security and reliability of the national electricity system.

We also seek to understand the impact on the energy sector of policies outside the energy market portfolio – such as emissions reduction policies – and highlight any issues in our advice to help promote integrated and consistent policy outcomes.

THE NATIONAL ELECTRICITY MARKET

The national electricity market is the wholesale electricity market for the electrically connected states and territories of eastern and southern Australia – Queensland, New South Wales, the Australian Capital Territory, Victoria, South Australia and Tasmania.

The Northern Territory and Western Australia are not physically connected to the national electricity market and have their own electricity systems

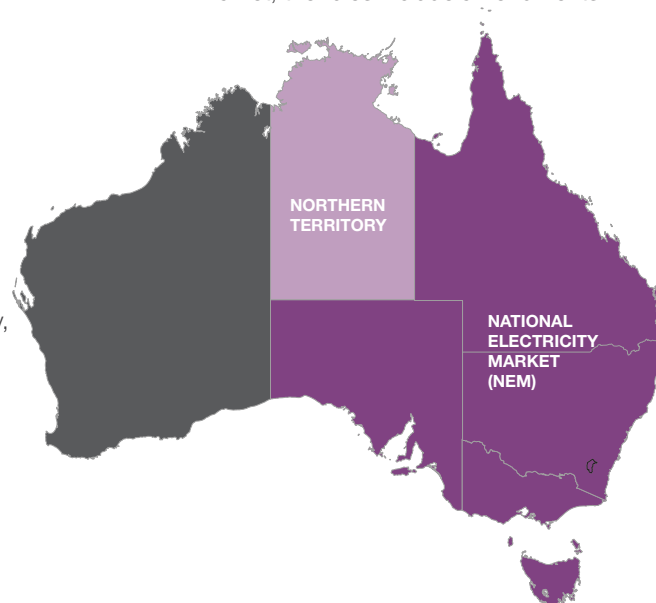
although the Northern Territory has recently adopted parts of the national electricity market's rules framework.

Northern Territory

The AEMC became the rule maker in the Northern Territory for parts of the National Electricity Rules from 1 July 2016. This follows the adoption of the National Electricity law as a law of the Northern Territory in 2015.

The Northern Territory has adopted the rules that regulate access to the network, set revenues that networks can recover, set out arrangements for connections to the network, and regulate metering. The national rules apply to the Darwin-Katherine, Tennant Creek and Alice Springs electricity networks.

As the Northern Territory is not physically connected to the national electricity market, the rules include amendments



to recognise the differences for a non-interconnected network, within an overarching and uniform set of national rules.

NATIONAL GAS MARKETS

The AEMC makes National Gas Rules which apply to three types of wholesale gas markets: gas supply hubs, short term trading market hubs and the declared wholesale trading market in Victoria.

These markets are operated by AEMO with separate price-setting arrangements.

In 2016 the AEMC released a package of reforms as part of our east coast gas review which recommended concentrating wholesale gas trading at two hubs – a northern hub at Wallumbilla in Queensland and a southern hub in Victoria. The Gas Market Reform Group was established by the COAG Energy Council in August 2016 to progress these reforms and the group is currently responsible for four separate work

which relate to information disclosure and arbitration for non-covered pipelines.

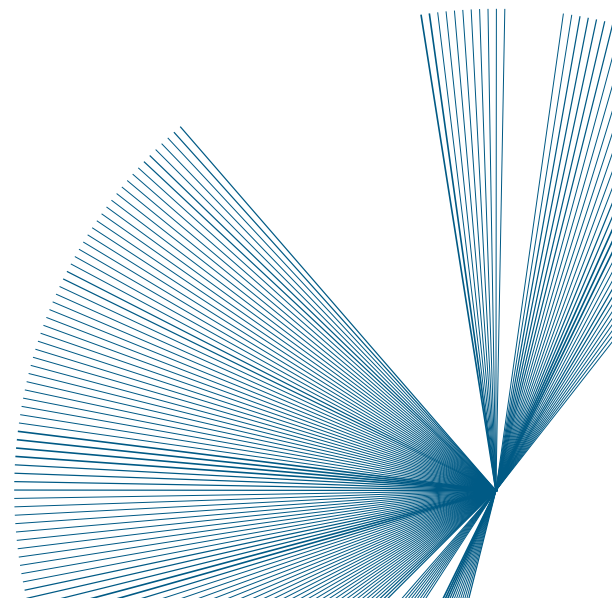
At the request of the COAG Energy Council, in May 2017 we initiated a *Review into the scope of economic regulation applied to covered pipelines*. An issues paper published in June 2017 aims to facilitate public consultation on the policy objectives of the gas access regime and potential improvements to the operation of the current regulatory framework.

Western Australia has adopted a modified version of the National Gas Law. Some AEMC amendments to the National Gas Rules apply in Western Australia in relation to certain covered pipelines.

“THE PIVOTAL ROLE OF GAS IN THE ECONOMY IS SET TO GROW AS GAS-POWERED ELECTRICITY GENERATION BECOMES MORE IMPORTANT IN BALANCING INTERMITTENT RENEWABLE SUPPLY.”

streams relating to this process. At the request of the Victorian Government the AEMC made recommendations during the year under review to set a staged approach for the state’s harmonisation with the wider east coast market reforms.

The AEMC also makes rules that cover the economic regulation of natural gas pipelines which are covered under the National Gas Law and, under the new Part 23 of the National Gas Rules, rules



Guiding principles

All of the AEMC's work must have regard to legislated national energy objectives: the National Electricity Objective, the National Gas Objective and the National Energy Retail Objective.

NATIONAL ENERGY OBJECTIVES

In December 2016 we published a guide for stakeholders on *Applying the energy objectives*. The guide explains the elements that make up the objectives, how we apply the objectives in our rule changes, reviews and advice to government, and how we may only make a rule or a recommendation if it will or is likely to help achieve the energy objectives.

This stakeholder guide is available for download at www.aemc.gov.au.

The National Electricity Objective (NEO)

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

- a) price, quality, safety, reliability and security of supply of electricity; and
- b) the reliability, safety and security of the national electricity system."

The National Energy Retail Objective (NERO)

"The objective of this Law is to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to price, quality, safety, reliability and security of supply of energy."

The National Gas Objective (NGO)

"The objective of this Law is to promote

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

MISSION, VISION AND VALUES

Mission

To improve consumer outcomes from the strategic development of energy markets, through rules and advice.

Vision

Flexible and resilient markets that benefit consumers.

Values

The shared values of the AEMC are leadership, engagement and integrity. Each of us seeks to reflect those values in how we act and discharge our functions.

Leadership reflects our desire to foster and support informed debate on energy market development. We engage with governments, consumers and market participants to promote dialogue and understanding. We value different perspectives and welcome meaningful debate on energy market issues. We share our knowledge, and empower those who look to us for advice.

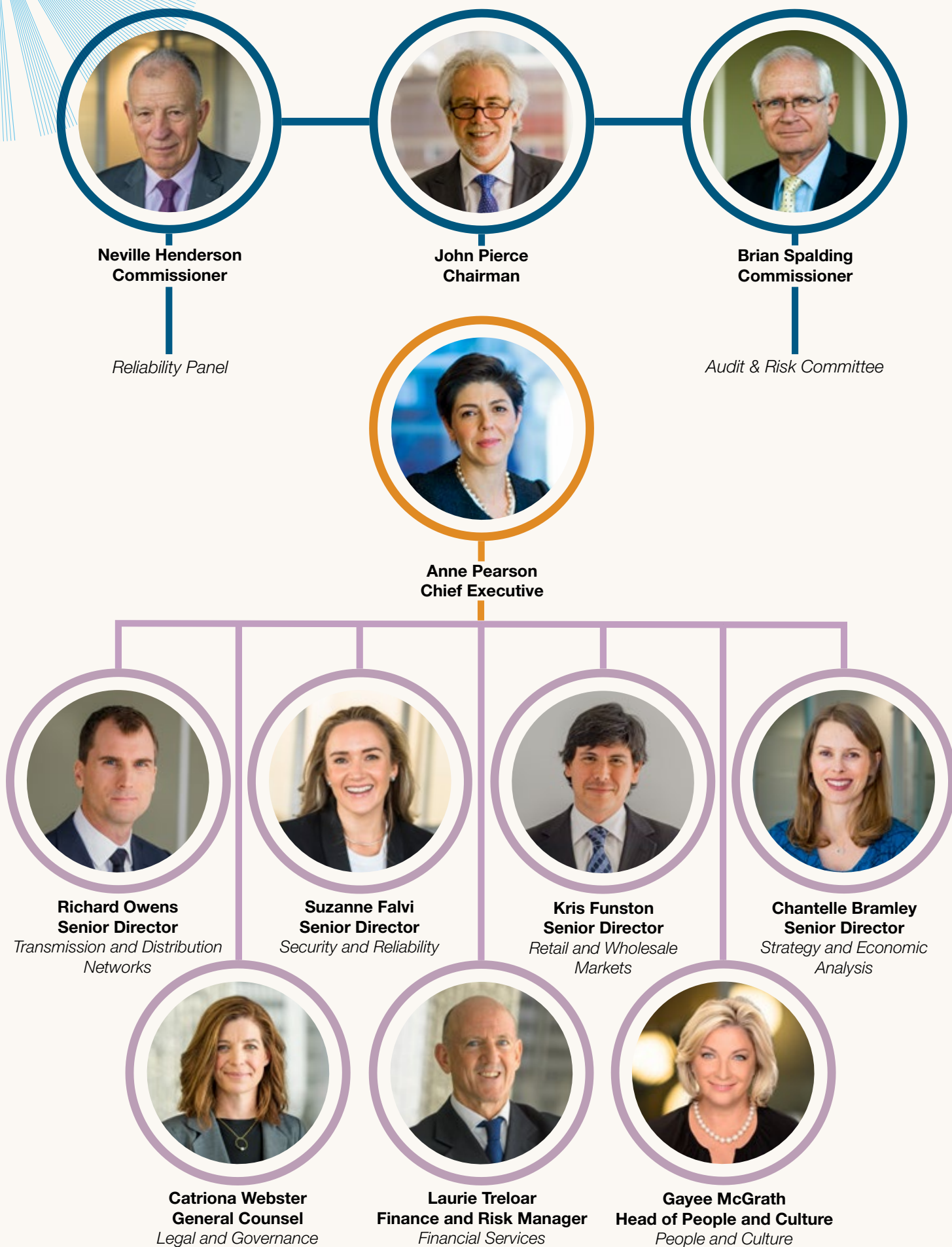
Engagement is at the core of everything we do. We aim to build and maintain strong relationships with stakeholders and we value their input to our rule making and strategic advice to governments.

We focus on pursuing opportunities for consultation and expanding the range of organisations, groups and individuals with whom we collaborate.

Integrity speaks to the respect we have for our stakeholders, our high standards of impartiality, objectivity and the transparent processes that frame the work we undertake. An ethical, reliable and consistent approach is paramount in all our dealings with governments, industry and consumers.

"NONE OF OUR DECISIONS ARE TAKEN LIGHTLY. THE SECURITY, RELIABILITY AND COST OF ENERGY UNDERPINS OUR QUALITY OF LIFE."

Organisation chart



AEMC COMMISSIONERS

Our Chairman, Mr John Pierce, and the two part-time Commissioners, Dr Brian Spalding and Mr Neville Henderson, bring diverse professional backgrounds to AEMC rule making and market reviews. Through a range of positions in the energy sector, and in their roles as AEMC Commissioners, they have helped shape Australia's energy reform program over decades.

MR NEVILLE HENDERSON Commissioner

Mr Henderson was appointed as a part time Commissioner of the AEMC on 19 October 2009 and re-appointed on 19 October 2014. Prior to joining the AEMC Mr Henderson was an Executive Director with PricewaterhouseCoopers where he provided advice to the public and private sectors on energy utility operation, regulation, strategic and business planning, and electricity and gas industry restructuring. While at the National Grid Management Council from 1994 to 1997 Mr Henderson led the development of market and regulatory arrangements for the national electricity market. He holds a Bachelor of Commerce from the University of Melbourne and a Diploma of Mechanical Engineering from Footscray Technology College.

Mr Henderson was nominated for appointment by state and territory energy ministers.

DR BRIAN SPALDING Commissioner

Dr Brian Spalding was appointed as a part time Commissioner of the AEMC on 19 April 2010 and re-appointed on 19 April 2013 and 19 April 2016. He has held key implementation and operational roles in national and state electricity markets since their conception in the early 1990s. He was Chief Executive Officer of the National Electricity Market Management Company (NEMMCO) where he was responsible for the operation of the national electricity market and power system for south and eastern Australia. Prior to joining the AEMC

he was Executive General Manager Operations of the Australian Energy Market Operator. Dr Spalding holds a Bachelor of Science, a Bachelor of Engineering with First Class Honours and a Doctor of Philosophy in Power System Analysis from the University of New South Wales.

Dr Spalding was nominated for appointment by the Commonwealth energy minister.

MR JOHN PIERCE Chairman

Mr John Pierce was appointed as the Chairman of the AEMC on 2 June 2010 and re-appointed on 2 June 2015. He has worked at the most senior levels of policy development and advised ministers, cabinets and the Council of Australian Governments. Mr Pierce is a former Secretary of the Federal Department of Resources, Energy and Tourism, a former Chairman of NSW Treasury Corp and served for more than a decade as Secretary of the New South Wales Treasury. Prior to his time with Treasury, his energy business and operational experience was at Pacific Power and the Electricity Commission of NSW. Mr Pierce is a member of the UNSW Australian School of Business (ASB) Advisory Council and Macquarie University's Industry Advisory Board, Department of Economics. From 2010 to 2012 he served as Panel Chair of the Electricity Supply Industry Expert Panel which conducted a comprehensive review of the development of Tasmania's electricity industry. Mr Pierce holds a Bachelor of Commerce with Honours from the University of New South Wales.

Mr Pierce was nominated for appointment by state and territory energy ministers.

AEMC SENIOR MANAGEMENT TEAM

Our management team strives to continually improve the quality of the AEMC's analysis. We hold ourselves accountable to our stakeholders with respect to our statutory responsibilities for market

development, reviews and rule making. We are always looking for new ways to cultivate engagement with consumers, government and energy market participants on strategic issues and challenges.

We lead by example in implementing and embedding positive organisational change, and are united by a shared commitment to demonstrating the AEMC's core values of leadership, engagement and integrity in everything that we do.

MS ANNE PEARSON Chief Executive

Ms Pearson was appointed as Chief Executive of the AEMC in February 2016, bringing outstanding organisational leadership capabilities, and a breadth of industry and regulatory experience to the role. Prior to her appointment she served as Senior Director, Market Development, where she was responsible for directing reviews and rule determinations to facilitate the energy sector's adjustment to technological change and manage emerging concerns about energy security and consumer responses in a carbon-sensitive world. Before joining the Commission in 2007, Ms Pearson's roles included Executive Manager of Retail Regulation at EnergyAustralia and corporate mergers and acquisitions at law firms Freehills and Deacons. She holds a Bachelor of Arts and a Bachelor of Law with Honours from the University of Sydney.

MS CHANTELLE BRAMLEY

Senior Director, Strategy and Economic Analysis

Ms Bramley's role at the AEMC includes a focus on the organisation's analytical and strategic capabilities. She leads the team responsible for economic research and analysis, business planning and strategic communications. Prior to her appointment, Ms Bramley was the Vice President Strategy at Direct Energy, one of the largest energy retailers in North America. She also worked at TransAlta, Canada's largest publicly traded generator and as a Senior Economist at the Canadian Energy Research Institute. She holds a Bachelor of Economics with Honours from the University of Sydney, a Master of Science in Economics from University College London and a Master of Laws in Business Law from the University of York.

MS SUZANNE FALVI

Senior Director, Security and Reliability

Ms Falvi leads the team responsible for reviews and rule changes relating to system security and reliability. A principal focus of the team in the past year has been the extensive system security work program. She also leads the Reliability Panel Secretariat. Before her appointment as Senior Director, Suzanne was one of the AEMC's Senior Lawyers. She previously worked as a Senior Policy Adviser for the ACT Government in their energy policy team, as in-house counsel in a solar technology R&D company, and for Minter Ellison specialising in competition, energy, administrative law and commercial litigation. She holds a Bachelor of Economics, a Bachelor of Law with Honours and a Master of Laws in International Law from the Australian National University.

DR KRIS FUNSTON

Senior Director, Retail and Wholesale Markets

Dr Funston leads the team responsible for reviews and rule changes relating to the competitive parts of Australia's electricity and gas sectors. He brings wide-ranging commercial experience to the role, having worked in economic regulation and competition across a number of different sectors including water, telecommunications and energy. Dr Funston's previous roles include Manager, Competition and Regulation for Sydney Water, Australia's largest water utility, Senior Regulatory Manager for Telstra, and Deputy Chief Economist at the New Zealand Commerce Commission. Dr Funston holds a PhD in Economics and a Bachelor of Economics with Honours, both from the Australian National University.

MS GAYEE MCGRATH

Head of People and Culture

Ms McGrath has been working with the AEMC since 2016, and is currently the Head of People and Culture, the team responsible for organisational culture, professional development and recruitment. Ms McGrath's background is in executive management; she previously worked as Executive General Manager for CiEvents, a global strategic event management agency, and spent 16 years with Qantas in senior executive roles. Ms McGrath has qualifications in business studies, and certifications in leadership, executive management and human resources.

MR RICHARD OWENS

Senior Director, Transmission and Distribution Networks

Mr Owens leads the AEMC team responsible for reviews and rule changes relating to the operation and economic regulation of electricity and gas networks. From September 2016, Mr Owens had a part-time secondment to the *Independent Review into the Reliability and Security*

of the National Electricity Market. He previously worked as a regulatory and competition lawyer at DLA Phillips Fox and Chapman Tripp, and as principal legal advisor for the New Zealand Ministry of Economic Development. Mr Owens holds a Bachelor of Law with First Class Honours from New Zealand's University of Canterbury, and a Master of Laws from the University of Leuven in Belgium.

MR LAURIE TRELOAR

Finance and Risk Manager

As the AEMC's Finance and Risk Manager, Mr Treloar leads the team which manages the Commission's internal and external finance operations, reporting and compliance including financial risk management. He has worked for UK companies British Gas and Sky1, and spent 17 years in risk management and business operations with the Australian Broadcasting Corporation. Mr Treloar holds a Bachelor of Arts in Accountancy from Macquarie University and a Graduate Diploma in Financial Planning from the Securities Institute of Australia. He is also a Fellow CPA and a Certified Practicing Risk Manager (CPRM).

MS CATRIONA WEBSTER

General Counsel

Ms Webster leads the team which provides and coordinates the provision of support to the Commission on legal, regulatory and governance matters, and drafts amendments to the national energy rules. She has more than a decade of experience in providing legal advice on energy market and regulatory matters. Before joining the Commission, Ms Webster was a corporate counsel for The Marketplace Company where she worked on full retail competition in gas markets and assisted with the transition of those markets from jurisdictional gas market operators to the Australian Energy Market Operator in 2009. She holds a Bachelor of Arts from the University of Adelaide and a Bachelor of Law with First Class Honours from the University of Sydney.

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Overview of our work program

The AEMC's work program for 2016-2017 has focussed on four key areas of reform: power system security and reliability, integrating energy and emission policy, redesigning the east coast gas market, and promoting competitive energy services.

Reform in each of these key areas will enable the market to develop and evolve to deliver secure and reliable energy services at the least cost to consumers.

RULES: OVERVIEW OF PERFORMANCE

An important part of the energy market governance structure is that anyone, other than the Commission itself, can propose a rule change and have it assessed against the national energy objectives. The AEMC does not propose rules except for minor changes like corrections.

Changing how the market operates is as much in the hands of individuals consumer and community groups as it is in the hands of individual governments, regulatory bodies and the energy industry.

Between July 2016 and June 2017, we completed 21 rule change projects (three of which consolidated similar requests). A further 17 were underway at 30 June.

- Stakeholders submitted 17 new rule change requests.
- We received 327 written submissions from stakeholders in relation to the rule change requests we worked on this year.
- We made 10 rules amending the National Electricity Rules.
- We made three rules amending the National Gas Rules.
- We made one rule amending the National Energy Retail Rules.

- We made four determinations not to make a rule in response to requests (two electricity, one retail, one gas).
- No rule change decisions were challenged by judicial review.

Our reasons for making (or not making) a rule, including how our decision serves the long-term interests of consumers, are set out in the final determination for each rule change that is published on our website. Our decisions are subject to judicial review. A number of other accountability mechanisms including reporting obligations under the *Australian Energy Market Commission Establishment Act 2004* and the COAG Energy Council's *Statement of Expectations* also apply to the AEMC's performance of its functions.

The rule change process

In June 2017 we published the second in a series of guides¹ to assist stakeholders in understanding particular aspects of our work. This guide outlines the process for making changes to energy market rules.

It was developed in consultation with consumer groups, industry and other energy market participants, and includes tips for stakeholders on how to submit a rule change request or lodge a submission. It also sets out how we engage with stakeholders to enable meaningful input that helps shape our thinking.

The guide has two parts. The first part outlines the processes involved in a

rule change, from the initial rule change request through to determinations and submissions, and includes tips for stakeholder engagement at each stage. It also provides the context for our processes such as our legal obligations and the value of early engagement.

The second part describes instances where the standard rule change process may be supplemented with other steps such as additional consultation or publication of additional discussion documents and highlights the rationale for this.

The Commission considers the guide to be a living document which will be refined and updated over time. *The rule change process: a guide for stakeholders* is available for download at www.aemc.gov.au.

Rule making timeframes

We seek to complete rule change processes as quickly as possible while recognising the importance of balancing broad public consultation with achieving the right outcomes for consumers.

The rule change process must be undertaken within the statutory timeframes required by the national energy laws.

The standard timeframe under law for a rule change is approximately 130 working days. We must start as soon as practicable after receipt of requests. To facilitate constructive consultation and encourage targeted feedback we start rule changes after an

¹ The first was *Applying the energy objectives: a guide for stakeholders* which was published in December 2016

initial period of analysis and generally publish a consultation paper to facilitate stakeholder submissions.

Before we start the statutory process we make practical decisions about whether the standard timeframes are achievable given the request's scope and competing reform priorities. We are able to extend the timeframe both at the start of a project and throughout in certain circumstances which are specified in the national energy laws.

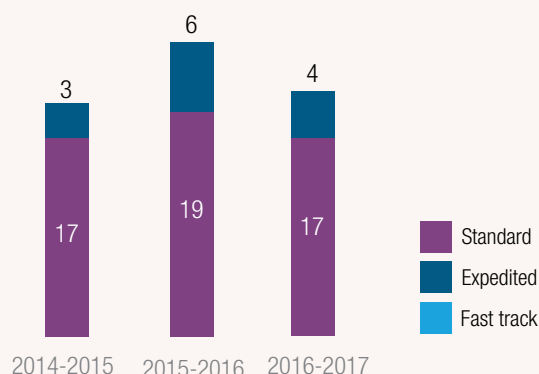
In 2016-2017 we extended five rule changes at initiation because of the complexity of issues involved. For example, *Transmission connection and planning arrangements* was extended at initiation because of the broad scope of issues and extent of drafting changes covered by the rule change request. This allowed us to provide stakeholders with a longer consultation period and give proper consideration to the issues and their implications.

We also extended two-thirds of rule change processes after initiation. While this lengthened the time taken to make the rule, many of these extensions were granted because stakeholders raised important new issues and asked us to consider them. Based on that feedback and the Commission's consideration of the issues to be addressed, the processes were subsequently extended to allow for sufficient consultation, analysis and, where required, rule drafting. The ability to fully define an issue or problem and consult on it adequately in the circumstances, is the backbone of the AEMC's efforts to make the best possible decisions and develop lasting solutions.

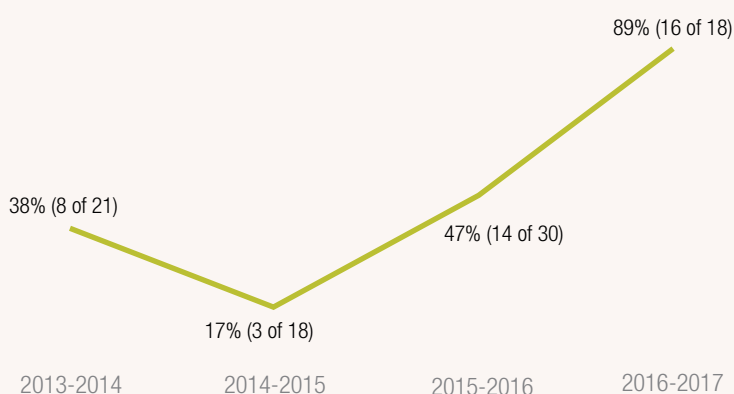
Rule changes by category

The majority of rule changes follow the standard rule making process, but there are two exceptions: the expedited rule making process and the fast-track rule making process. The Commission may expedite the rule making process if the request is for a non-controversial or urgent rule (as those terms are defined in the national energy laws).

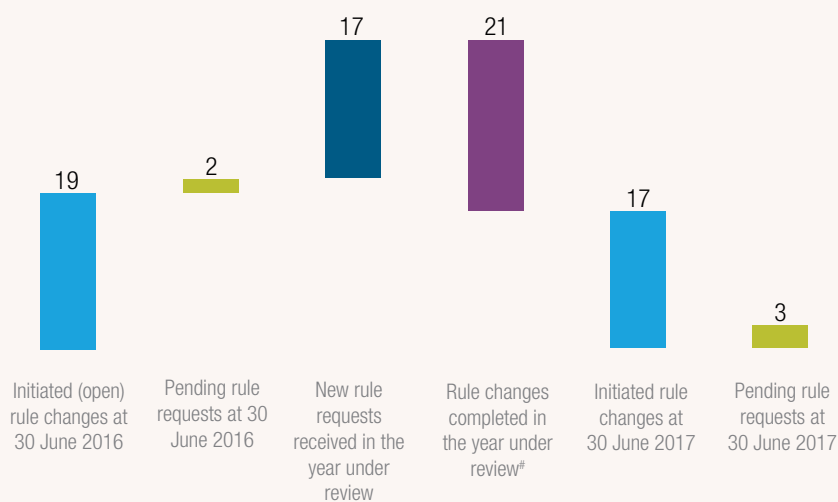
CATEGORIES FOR COMPLETED ELECTRICITY, GAS AND RETAIL RULE CHANGES



RULE CHANGES INITIATED WITHIN FOUR MONTHS



RULE CHANGES REQUESTED, INITIATED AND COMPLETED



[#] Some single requests have resulted in the initiation of multiple related rule changes (electricity/gas/retail)

Under the expedited process there is only one round of consultation on the rule change and no draft determination is made. A final determination must be made within six weeks of the initiation of the rule change request.

The rule making process can be fast tracked where there has been adequate previous public consultation on proposed rule changes by a market regulatory body, or if the request arises from an AEMC review. Under the fast-track process there is no consultation period before the AEMC makes a draft rule determination. The fast-track process is nine weeks shorter than the standard process.

Standard

Seventeen standard rule changes were completed in the year under review. These rule changes were completed within 271 days on average, compared with 188 days on average last year. This longer average timeframe is largely attributable to two complex rule changes: *Retailer-distributor credit support requirements* (which included multiple consolidated requests) and *Transmission connection and planning arrangements*. Decisions to extend both of these projects were informed by stakeholder views on the complexity of the issues under consideration.

Expedited

In 2016-2017 the expedited process was adopted for four rule changes. Two of these (*Register of large generator connections* and *Minor changes 2017*) were completed within six weeks.

Fast tracked

In June 2017 we initiated a rule change request, *Improvements to natural gas Bulletin Board*, under the fast-track process. No rule changes completed in the year under review were fast tracked.

Timeliness

We received 17 new requests to change rules this year, compared with 19 last year.

Our timeliness in initiating rule change requests improved this year as a result of an ongoing focus on streamlining internal processes. This year we initiated 89 per cent of rule change requests within our target four month timeframe, compared with 47 per cent last year.

We completed 33 per cent of rule changes without extension after initiation this year. We are aware of our stakeholders' desire for us to make rules faster and, generally, in no more than six months. We continue to focus on increasing our timeliness while still allowing for comprehensive consideration of relevant issues, extensive stakeholder consultation and development of a robust rule design. We publish all new rule change requests and expected initiation dates on our website once they have been received, and a work program calendar with forecast consultation and publication dates.

Rule change request proponents

Proponent	Requests in 2016-2017
AEMO	4
South Australian Minister for Mineral Resources and Energy	4
COAG Energy Council	2
ActewAGL	1
AER	1
Ausgrid, Endeavour Energy, Essential Energy	1
Australian Energy Council	1
TasNetworks	1
Western Power	1
Westpac	1

REVIEWS AND ADVICE: OVERVIEW OF PERFORMANCE

During the year in review, we completed 11 reviews and made six formal submissions to government inquiries into energy sector issues or regulatory

arrangements. A further 12 reviews were underway at 30 June 2017.

We received 198 written submissions from stakeholders in relation to the reviews we worked on this year.

Of the reviews completed this year, 100 per cent were within the original Terms of Reference timelines. The timeframe for the publication of the AEMC's 2017 retail competition review was extended to 25 July 2017 to allow stakeholders the appropriate time to assess information in the related and recently released *Independent Review into the Future Security of the National Electricity Market*, and the *State of the Energy Market* report from the AER, and consider our retail competition review in light of their findings.

Thirteen new reviews were initiated in 2016-2017. Three were required by the rules, seven were requested by the COAG Energy Council and one was a Reliability Panel review of the frequency operating standard (FOS) as directed by the AEMC.

The remaining two reviews, *Distribution market model* and the *System security market frameworks review* were initiated by the AEMC.

Distribution market model is part of the AEMC's technology work program. The report will be used to help inform the AEMC's analysis of rule changes submitted by stakeholders in response to emerging issues, and our advice to governments. The review builds on the analysis undertaken by other projects in the technology work program, including the 2015 *Integration of storage* report.

The *System security market frameworks review* was initiated in July 2016. As the electricity system transforms to include more renewable generation and distributed energy resources, this review considered the first stage of changes to market arrangements we need to make for a secure operating system at the least cost to energy consumers.

MANAGING RULE MAKING TIMEFRAMES

Standard rule change process

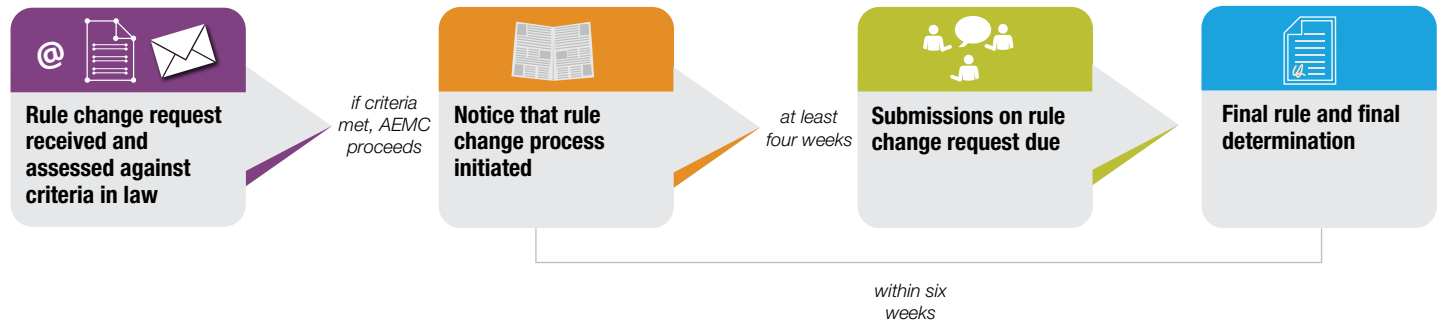
Approximately 130 working days



Expedited rule change process

Approximately 30 working days

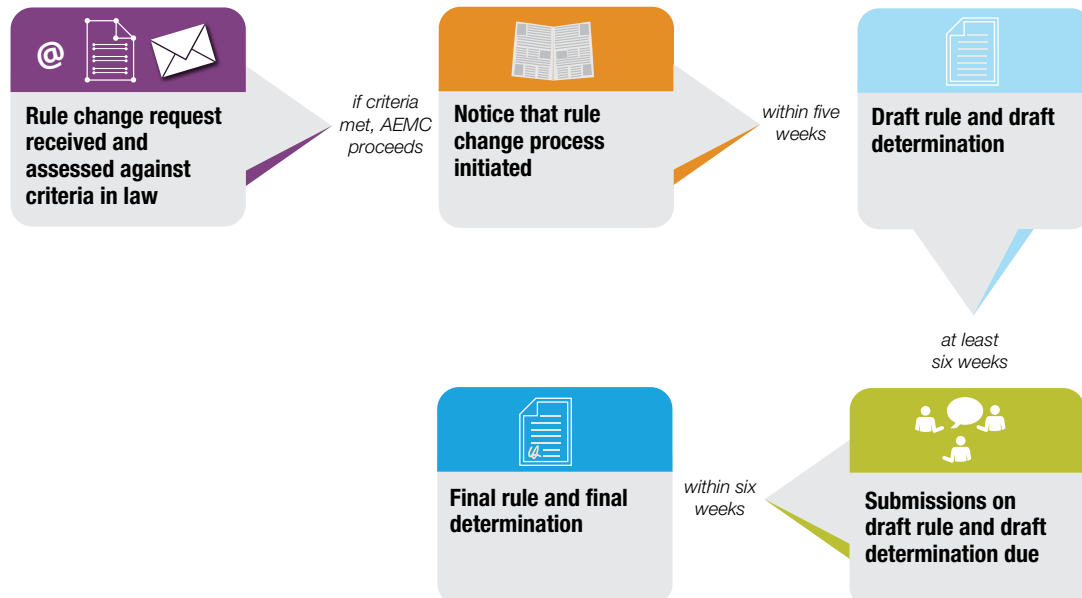
The Commission may expedite the rule making process if the request is for a non-controversial or urgent rule (as defined in the national energy laws).



Fast track rule change process

Approximately 85 working days

The rule making process can be fast tracked where there has been adequate previous public consultation on proposed rule changes by a market regulatory body, or if the request arises from an AEMC review.



Delivering a more stable power system to keep the lights on

The AEMC published its power system security report in June 2017 with a package of reforms to guard against technical failures that lead to cascading blackouts. We initiated this power system security review in July 2016 to strengthen the security of the national electricity market, and started making new rules on system security earlier this year.

The review and related rule changes address risks to energy security created by the power system's evolution as the generation mix changes; with more non-synchronous, intermittent generation like wind and solar entering the market and at the same time old synchronous generation such as coal leaving the market.

The new plan for power system security expands the risk management role for AEMO to detect emerging security issues and take preventive action. We are proposing to give AEMO more tools to increase minimum levels of inertia and help keep frequency in required operating bands, and have also proposed placing new responsibilities on networks and new connecting generators in relation to maintaining a minimum level of system strength.

CONCURRENT RULE CHANGES ON SYSTEM SECURITY

Emergency frequency control schemes

The AEMC's final rules created a new management framework for emergency frequency control schemes which are last line of defence mechanisms to help prevent system-wide blackouts. The rules place a new obligation on AEMO to regularly conduct forward-looking reviews of new frequency risks and implement the most efficient ways to manage them.

Draft rules on frequency, system fault levels and inertia

The AEMC's draft rules on managing the rate of change of power system frequency, if made, will require transmission businesses to provide new minimum levels of inertia determined by AEMO or equivalent alternative services like fast response batteries. A separate rule change on managing power system fault levels will require network businesses to maintain minimum levels of system strength when new generators connect to their networks. Both rules will be finalised in September 2017.

Our system security review also recommended a market-sourcing mechanism for inertia services. Draft rules for such a mechanism will be published in November 2017 for consultation.

Next steps

In conducting the system security review we worked closely with AEMO and the AER. We will continue collaborating with the other market bodies to conclude consultation on the draft rule changes underway, and to implement the new framework for power system security to achieve the best possible outcome for consumers.

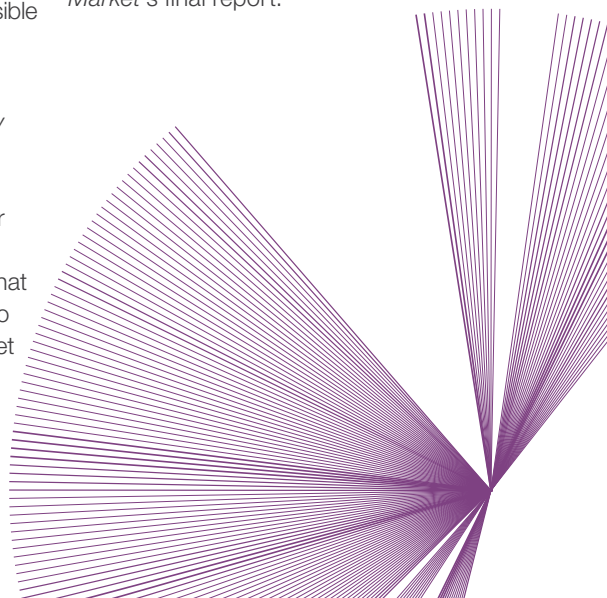
In July 2017, just after the close of the year in review, we initiated the *Reliability frameworks review* and the *Frequency control frameworks review*. The first of these two reviews will consider whether changes are required to the regulatory and market frameworks to make sure that the existing high performance relating to reliability in the national electricity market

continues to occur. The *Frequency control frameworks review* will progress a number of recommendations made by the Commission in the *System security market frameworks review* to address current concerns with frequency performance and to consider how best to integrate faster frequency control services offered by new technologies into the current regulatory and market arrangements.

INDEPENDENT REVIEW INTO THE FUTURE SECURITY OF THE NATIONAL ELECTRICITY MARKET

The *Independent Review into the Future Security of the National Electricity Market*, chaired by Dr Alan Finkel AO, provided a number of recommendations relating to a broad range of issues that intersect with the AEMC's security and reliability work program.

The table on pages 26 and 27 details the alignment between recommendations made in the AEMC's *System security market frameworks review* and those in the *Independent Review into the Future Security of the National Electricity Market's* final report.



WHY IS THERE A NEED FOR A NEW POWER SYSTEM SECURITY PLAN?

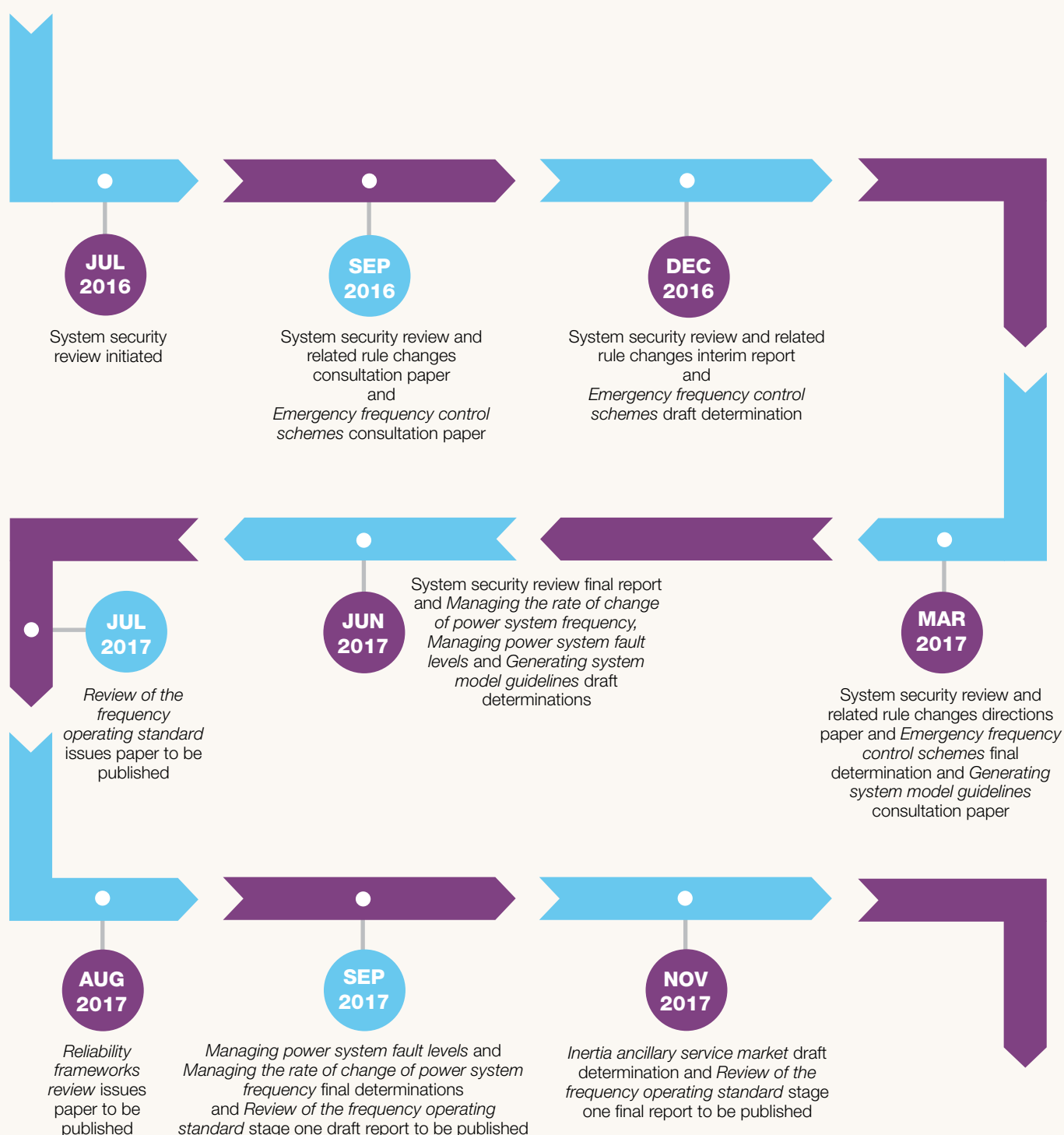
System security deals with the technical parameters of the power system such as voltage and frequency, and is necessary for the efficient functioning of the national electricity market. An electricity system that operates outside of the required technical parameters may become unstable, risking damage to equipment and leading to the possibility of blackouts.

A power system with increasing non-synchronous generation has less inertia; the physical characteristic provided by spinning generators which enables the

power system to resist sudden changes in frequency.

If supply and demand become unbalanced, lower inertia means the system has less time to recover from sudden equipment failure before widespread blackouts take effect. Technologies like wind or solar have no, or low, inertia and currently have limited ability to contribute to inertia levels.

System strength management is a location-specific challenge. The action required is based on the profile of generation in a particular locality – and the extent to which there is more or less non-synchronous generation in that area.



Summary comparison table of AEMC and Independent Review into the Future Security of the National Electricity Market recommendations

AEMC recommendation

How our recommendation will be implemented or further progressed

Independent Review into the Future Security of the National Electricity Market recommendation



A stronger system

- 1 Introduce regulatory arrangements to require network service providers to maintain the system strength at generator connection points above agreed minimum levels, with new connecting generators required to 'do no harm' to previously agreed levels of system strength.

Draft arrangements published for consultation on **27 June 2017** as part of the draft determination made on the Managing power system fault levels rule change proposed by the South Australian government.

Arrangements are scheduled to be finalised on **19 September 2017**.

No specific recommendation, but notes that the Panel agrees with the AEMC's approach (p. 58).

- 2 Consider requiring inverters and related items of plant within a connecting party's generating system to be capable of operating correctly down to specified system strength levels.

In **August 2017**, AEMO submitted a rule change to the AEMC requesting revisions to the generator performance standards consistent with the advice it has provided regarding South Australian generator licence conditions.

This recommendation will be considered for implementation through the AEMO rule change request and is consistent with AEMO's advice provided in respect of South Australia.

2.1 As part of a package of Energy Security Obligations, by **mid-2018** the AEMC should review and update the connection standards in their entirety, which would include addressing system strength.



Resisting frequency changes

- 3 Place an obligation on transmission network service providers to provide minimum required levels of inertia, or alternative equivalent services, to allow the power system to be maintained in a secure operating state.

Draft obligations published for consultation on **27 June 2017** as part of the draft determination made on the Managing the rate of change of power system frequency rule change proposed by the South Australian government.

Arrangements are scheduled to be finalised on **19 September 2017**.

2.1 As part of a package of Energy Security Obligations, by **mid-2018** the AEMC should require transmission network service providers to provide and maintain a sufficient level of inertia for each region or sub-region, including a portion that could be substituted by fast frequency response services.

- 4 Introduce a market-based mechanism to realise the market benefits that could be obtained through the provision of inertia above the minimum obligation on transmission network service providers.

Draft mechanism to be published for consultation on **7 November 2017** as part of the draft determination to be made on the Inertia ancillary service market rule change proposed by AGL.

No specific recommendation.

AEMC
recommendationHow our recommendation
will be implemented
or further progressedIndependent Review
into the Future Security
of the National Electricity
Market recommendation

Better frequency control

- 5** Assess whether mandatory governor response requirements should be introduced and investigate any consequential impacts (including on the methodology for determining causer pays factors for the recovery of regulation FCAS costs).

In **July 2017** the AEMC initiated a review into market frameworks necessary to support better frequency control, the Frequency control frameworks review.

AEMO has commissioned expert advice on the causes and impacts of deteriorating frequency control performance, which was considered by its Ancillary Services Technical Advisory Group in **July 2017**. The Commission will consider the outcome of this work and its implications through the review.

2.3 By **mid-2018**, AEMO and the AEMC should investigate and decide on a requirement for all synchronous generators to change their governor settings to provide a more continuous control of frequency with a deadband similar to comparable international jurisdictions.

- 6** Review the structure of FCAS markets, to consider:
- any drivers for changes to the current arrangements, how to most appropriately incorporate FFR services, or alternatively enhancing incentives for FFR services, within the current six second contingency service; and
 - any longer-term options to facilitate co-optimisation between FCAS and inertia provision.

Further consideration through the AEMC's Frequency control frameworks review (which started in **July 2017**) and AEMO's future work program.

2.2 A future move towards a market-based mechanism for procuring fast frequency response (as proposed in the System security market frameworks review) should only occur if there is a demonstrated benefit

- 7** Assess whether existing frequency control arrangements will remain fit for purpose in light of likely increased ramping requirements, driven by increases in solar PV reducing operational demand at times and therefore leading to increased demand variation within a day.

Further consideration through the AEMC's Frequency control frameworks review (which started in **July 2017**) and AEMO's future work program.

No specific recommendation, but notes that AEMO has recommended a requirement in South Australia for active power control facilities to be fitted to all variable renewable electricity generators. Among other things, this would require the control of ramp rates. It is suggested that AEMO should monitor the effectiveness of this new requirement and assess its application more broadly (p. 101).

- 8** Consider placing an obligation on all new entrant plant, whether synchronous or non-synchronous, to have fast active power control capabilities.

This recommendation will be considered for implementation through the AEMO rule change request which was submitted to the AEMC in **August 2017** and is consistent with a recommendation made by AEMO in respect of South Australia.

2.1 As part of a package of Energy Security Obligations, by **mid-2018** the AEMC should require new generators to have fast frequency response capability.



Facilitating the transformation

- 9** Continue to scope further power system security issues likely to arise from the ongoing transformation of the market, such as:
- the impact on system restart ancillary services of decreasing levels of synchronous generation
 - the adequacy of current voltage control arrangements.

AEMO to further scope these issues.

No specific recommendation, but notes that it is important to maintain sufficient black start services as the generation mix changes (p. 61).

Five minute settlement: a fundamental change to the national electricity market design

This rule change request proposes changing the settlement period for the wholesale electricity spot market from 30 minutes to five minutes. It is being considered against the background of market transformation, where a greater proportion of generation is being supplied by low emissions technology and there is an increasing range of new energy services on offer.

A move to five minute settlement would align the physical electricity system – which matches demand and supply every five minutes – with the price signal provided by the spot market for that five minute period. A more accurate price signal would provide incentives for efficient investment in the range of technologies required to meet consumers' future electricity needs.

Directions paper and the AEMC's initial view

The AEMC published a directions paper in April 2017 which outlined the Commission's initial view that the adoption of five minute settlement is in the long-term interest of consumers. The paper set out a proposed design of how five minute settlement could work so that stakeholders could provide comments.

We received more than 40 submissions in May and June that raised substantive new issues affecting the costs and benefits of the proposed rule change and required additional analysis. Stakeholders also argued that the AEMC must give greater emphasis to the risks when determining the appropriate length of time for any transition period if the rule change is made.

Five minute settlement public forum

Our public forum in May 2017, also available as an audio webcast and transcript, featured presentations by a diverse range of stakeholders and offered an opportunity for stakeholders

to provide feedback on the AEMC's analysis to date and the proposed three year transition period, if the change is to be made.

In his introduction, AEMC Chairman John Pierce highlighted the importance of considering the impact of five minute settlement on hedge markets in the context of the important role they play in underpinning the reliability of supply.

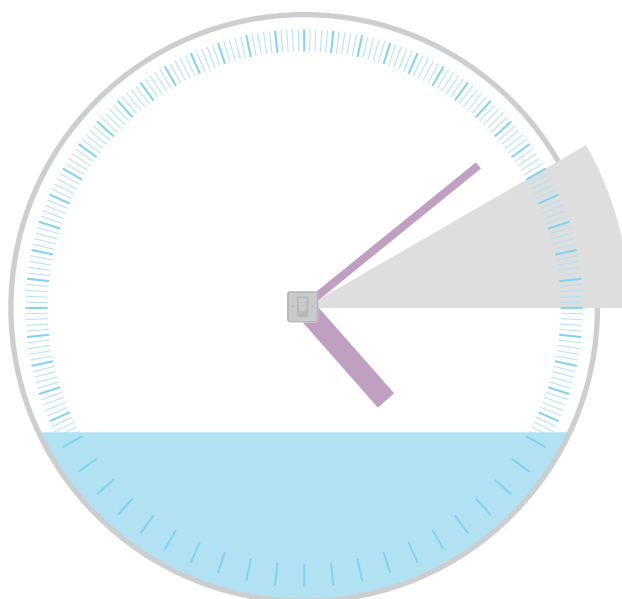
The AEMC will publish a draft determination on five minute settlement in September, with the final determination scheduled for the end of November 2017.

The international experience

Similar changes to the settlement period have been considered in international markets and it has taken considerable time to work through the issues associated with such a change.

The Federal Energy Regulatory Commission in the United States took two years to make a final decision to align dispatch and settlement. Following this decision, the timeframe for implementing the change was close to two years.

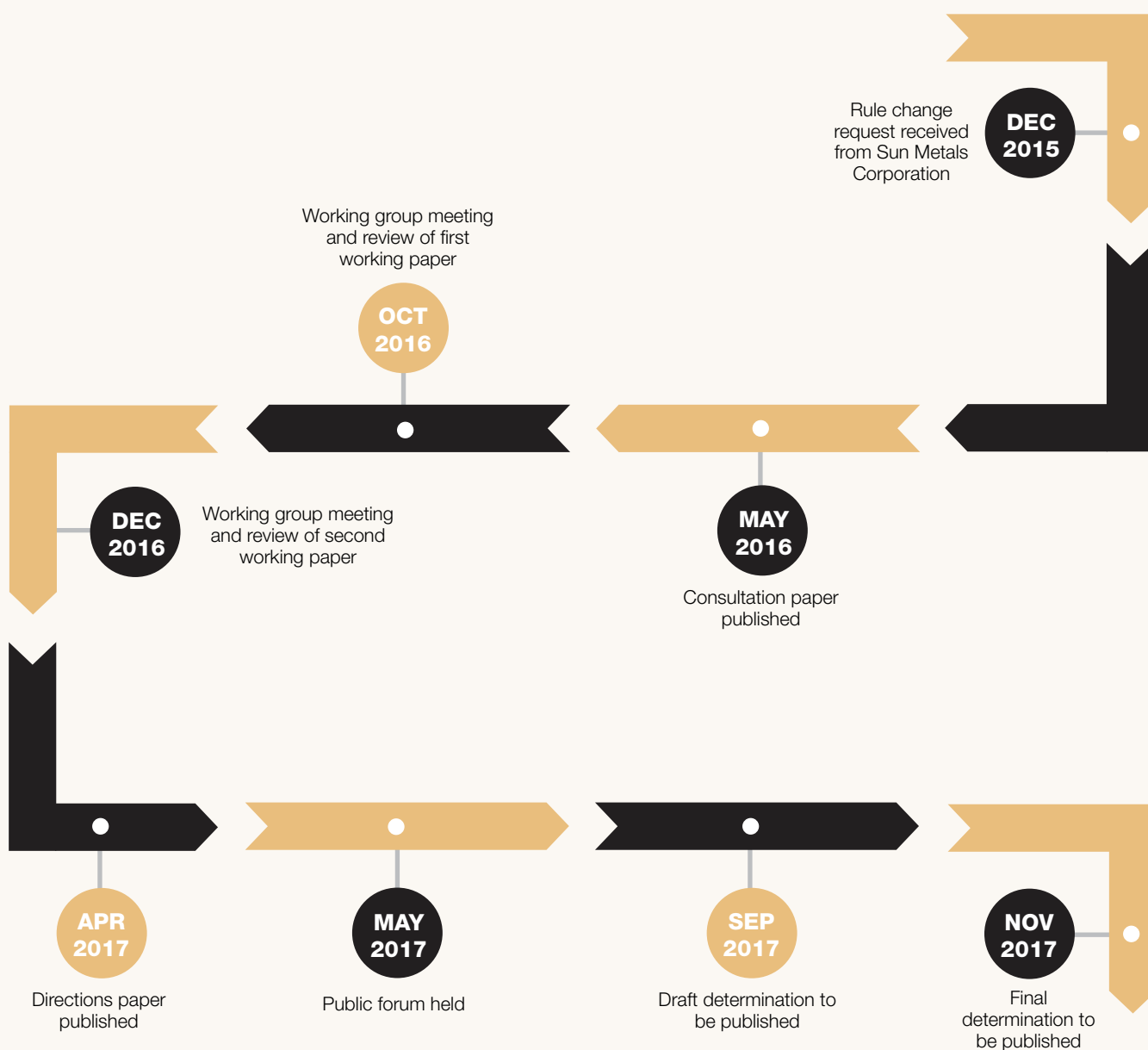
Changes to settlement arrangements in the New Zealand electricity market have been under consideration by the NZ Electricity Authority since 2013 and an implementation proposal is expected in July 2017. New Zealand's implementation is anticipated to take four years.



WHY WASN'T FIVE MINUTE SETTLEMENT IMPLEMENTED WHEN THE NATIONAL ELECTRICITY MARKET BEGAN OPERATING IN 1998?

The 30 minute settlement interval reflects limitations in metering and data computational resources at that time which were not sophisticated enough to handle any finer detail than half hourly pricing.

One of the challenges associated with moving to five minute settlement is the fact that financial transactions, data collection and IT systems have all been designed around a 5/30 framework.



Integration of energy and emissions reduction policy

The overall aim of Australia's energy markets is to provide reliable and secure energy at the lowest cost. External policy objectives such as emissions reduction targets can impact the ability of the energy market to work in the long term interests of consumers.

The way in which emissions reduction objectives are pursued can directly influence movements in wholesale and retail prices, changes to investment incentives and risk allocation, as well as the level of consumer engagement with the market.

The energy sector is capable of helping deliver external policy objectives such as emissions reductions, and the AEMC has often highlighted the importance of integrating any policy mechanisms used to achieve these external objectives with the existing energy market structures that deliver secure reliable energy supplies at least cost to consumers. In 2009 our *Review of energy market frameworks in light of climate change policies* first raised concerns about the impact of environmental policy uncertainty on Australia's energy market and the AEMC has continued to provide advice on this matter since that time.

In December 2015, energy ministers tasked officials with preparing advice on alternatives that could be applied to the wholesale electricity generation sector to help achieve Australia's 2030 emissions reduction target. The AEMC was asked to assist with this advice, and ministers subsequently expanded the scope to include consideration of existing renewable energy target schemes.

The aim of this work was not to recommend a particular mechanism, but to explore the impacts each would have on the energy market and consumers, and to highlight the policy design characteristics that allow some

mechanisms to better integrate with the energy sector than others.

We examined three mechanisms and the potential impacts on prices for consumers, costs to the economy and power system security. Each of the three

“IT’S CRITICAL THAT THERE ARE EMISSIONS REDUCTION MECHANISMS IN PLACE, ALONG WITH APPROPRIATE INSTITUTIONAL AND GOVERNANCE ARRANGEMENTS THAT ALLOW PRICE SIGNALS, WITHIN THE NATIONAL ELECTRICITY MARKET, TO WORK.”

was compared to a business-as-usual scenario which does not meet Australia's commitments under the Paris agreement.

Emissions intensity target

An emissions intensity target requires generators producing high emissions to buy credits created by cleaner generators in order to offset their emissions. This is the most cost effective

way to meet electricity demand and the emissions reduction target. It still delivers energy market and emissions reduction outcomes even if future conditions such as gas prices and technology costs are not as expected, and it minimises system security challenges compared to other mechanisms considered. It is very different from previous emissions trading schemes because its financial impacts are contained entirely within the wholesale energy sector, so instead of customers experiencing a “green” and a “black” price, they just experience a single price for energy. This minimises the cost of the scheme for households and businesses.

Extended large-scale renewable energy target

This mechanism has the highest cost to the economy. It works by supporting the construction of renewable generators rather than targeting lowest cost emissions reductions. It also makes it harder to maintain power system security.

Regulatory closure

Government-led closure of coal-fired power stations results in the highest electricity bills for customers. It also requires governments to determine which fossil-fuelled power stations should close, and when.

The AEMC's analysis showed the emissions intensity target delivers the best outcomes for consumers in terms of price, power system security and certainty of meeting the emissions target.

Delivering affordable, secure and lower emissions power

In April 2017, the Commonwealth Minister for the Environment and Energy requested joint advice from the AEMC and the Climate Change Authority on policies to enhance power system security and to reduce electricity prices consistent with achieving Australia's emissions reduction targets in the Paris agreement.

The AEMC and the Climate Change Authority are of the view that an emissions

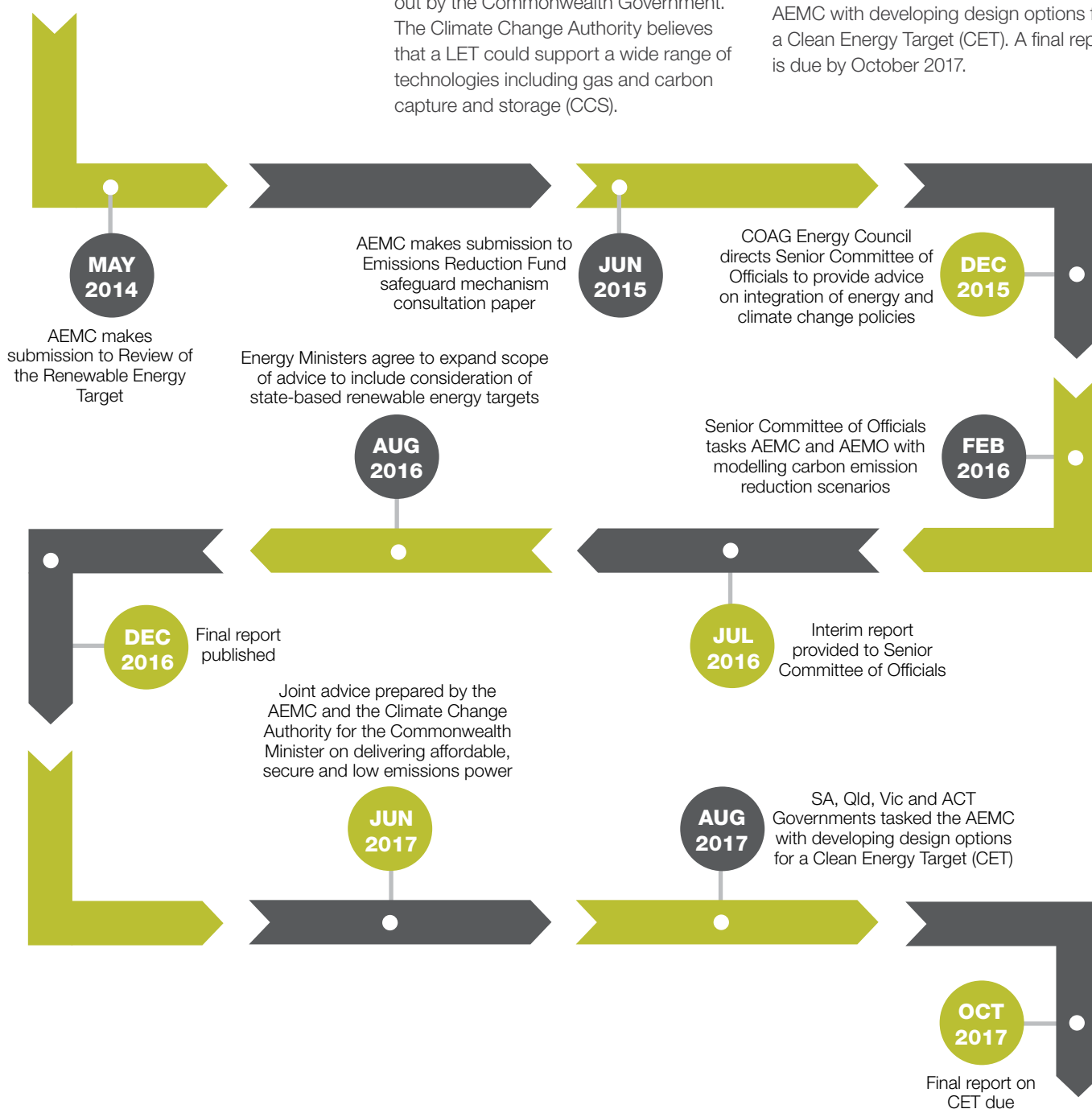
intensity scheme (EIS) is the preferred policy mechanism for the electricity generation sector, consistent with the options they analysed in previous reports.

The joint advice drew on existing analysis and independent modelling and is consistent with previous advice from both organisations.

The Climate Change Authority has recommended a Low Emissions Target (LET) be considered as an alternative policy given that the EIS has been ruled out by the Commonwealth Government. The Climate Change Authority believes that a LET could support a wide range of technologies including gas and carbon capture and storage (CCS).

The AEMC has not conducted any quantitative analysis of a LET-type emissions reduction policy mechanism and how it compares to an EIS. Without such analysis it is not possible for the Commission to assess the impact of such a policy mechanism on the electricity market, and specifically its impact on prices and system security.

In August 2017, after the close of the year in review, the governments of South Australia, Queensland, Victoria and the Australian Capital Territory tasked the AEMC with developing design options for a Clean Energy Target (CET). A final report is due by October 2017.



Gas market reform

In July 2016, the AEMC released the east coast gas review final report which included a package of 15 key reforms to remove roadblocks to faster and more efficient gas trading and access to pipeline transportation along the east coast of Australia.

EAST COAST GAS REVIEW

The reform package was designed to promote the National Gas Objective and the COAG Energy Council's Vision for Australia's future gas market.

If implemented in full, the reforms have the potential to increase Australia's GDP by \$8.7 billion in net present value terms by 2040 through improved viability of gas-using industries and flow-on benefits to employment and tax revenues.

The COAG Energy Council established the Gas Market Reform Group in August 2016 to progress the interlinked suite of reforms proposed by the AEMC's east coast gas review and by Dr Michael Vertigan's *Examination of the Current Test for the Regulation of Gas Pipelines*.

The group has established four work streams to progress the reforms, and progress has continued throughout 2016-2017 concurrent to further gas reform work being undertaken by the Commission. The AEMC is providing the group with ongoing support.

GAS DAY HARMONISATION

In February 2017 the AEMC published the first final rule arising from recommendations made in the east coast gas review.

This rule harmonises the start of the gas day in markets across the eastern seaboard from 2021. Different gas markets across the east coast currently operate with different gas day start times which impose a cost on the increasingly integrated system.

A common gas day start time of 6am will reduce costs and support new market arrangements for capacity trading that were proposed by the AEMC's east coast gas review and are currently being progressed by the Gas Market Reform Group.

REVIEW OF THE VICTORIAN DECLARED WHOLESALE GAS MARKET

At the request of the Victorian government, the AEMC has made a number of recommendations which should lower barriers to entry, streamline trading practices and improve transparency to help support greater competition in the Victorian gas market. This review is the next step in the COAG Energy Council's vision for the redesign of the east coast gas market.

The review's final report, which was published shortly after the close of the period under review, proposes the introduction of a clean and simple wholesale price for the Victorian trading hub, making it easier for buyers and sellers to manage risk and lower transaction costs. We also recommended establishing a new forward trading exchange making it easier for buyers and sellers to trade gas and lock in a future price, helping businesses plan and manage price volatility. Finally, changes to how pipeline capacity rights are allocated and traded will make it easier to trade any unused pipeline capacity rights. This enables buyers and sellers to better manage scheduling risks. Overall, the changes should lower costs for consumers.

The reforms will help the reliability of electricity supply in both Victoria and other

states, as gas fired generators will benefit from having better access to available supplies.

**“WE ALL AGREE
THE COMMUNITY
MUST HAVE
SECURE, RELIABLE
ELECTRICITY AND
GAS AT THE LOWEST
POSSIBLE PRICES.”**

In time, further consideration should be given to implementing more significant changes to the Victorian market which would allow for the continuous trading of gas and explicit, tradeable capacity rights. We will use our biennial report into the liquidity in gas markets, proposed by the AEMC and agreed to by the COAG Energy Council, to advise whether more substantial reforms would be beneficial, building upon the short term recommendations.

Implemented in full, PricewaterhouseCoopers estimates the longer-term reforms to the Victorian gas market have the potential to increase Australia's gross domestic product by up to \$1.7 billion in net present value terms by 2040.

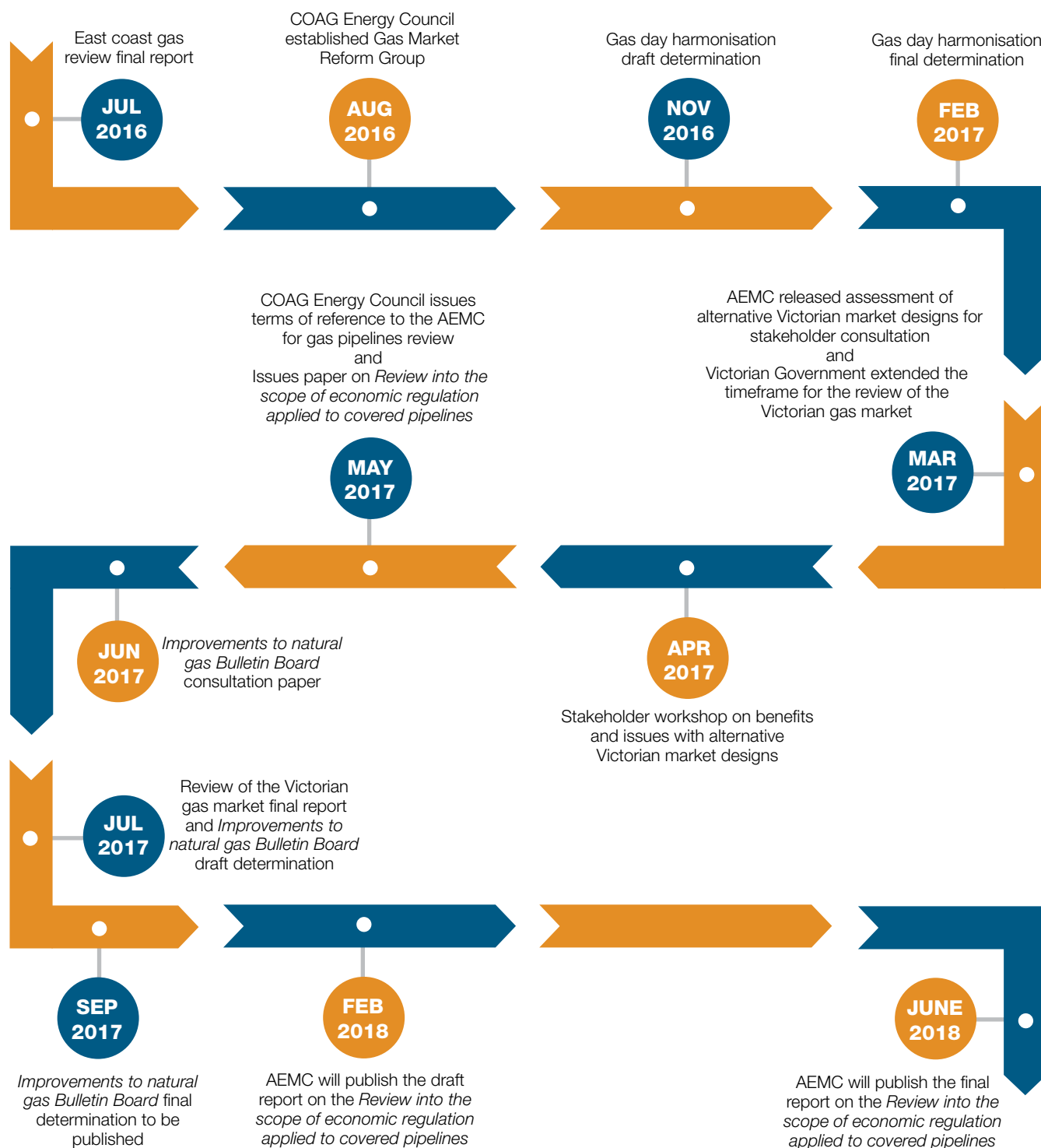
REVIEW INTO THE SCOPE OF ECONOMIC REGULATION APPLIED TO COVERED PIPELINES

In June 2017, the AEMC published an issues paper for our review into the effectiveness of gas pipeline regulation, which covers Parts 8 to 12 of the

National Gas Rules. We are considering whether rules need to be changed so that pipeline services are subject to appropriate regulation, and whether we need to strengthen rules relating to access negotiation and dispute resolution between pipeline service providers and their customers.

We are working closely with the Gas Market Reform Group. We are also consulting the Australian Competition & Consumer Commission, the AER and the Economic Regulation Authority of Western Australia.

A draft report is scheduled for February 2018, and the final report for June 2018.



Retailer-distributor credit support requirements

Electricity and gas distributors provide connection and supply of energy services to retail customers directly. The retailer is responsible for paying the network charges, incurred by its retail customers, to the distributor. But there is a delay between when the network services are provided to these customers and when payment for those services is made by the retailer.

Because of this interval and the fact that distributors do not charge customers directly, distributors face the risk of retailer default and the subsequent non-payment of network charges.

To limit distributors' exposure to this risk, the National Electricity Rules and National Gas Rules included a mechanism for the distributor to request credit support from a retailer when their network charges liability exceeded a predetermined credit allowance. Very few requests for credit support were made.

Consolidation of rule change requests

In 2015 the AEMC received separate rule change requests from AGL Energy, the COAG Energy Council and Jemena Gas Networks, relating to retailer insolvency and the impact on distributors. AGL Energy reasoned that retailers with higher credit ratings should not be required to provide credit support. The COAG Energy Council requested changes to the cost pass-through provisions to

allow distributors to fully recoup network charges that are not paid due to retailer insolvency. The Jemena rule change request requested similar changes to the cost pass-through provisions in the National Gas Rules.

We chose to consolidate these requests and jointly consider the changes to retailer-distributor credit support requirements and retailer insolvency cost pass-through provisions which were raised in the requests.

During the course of this project we published six reports: a consultation paper, an options paper, two consultants' reports, and a draft and final determination. We held workshops for retailers and distributors, and carefully considered the content of the 47 submissions we received.

Final rules

The AEMC's final rules, which apply to both electricity and gas markets, improve the mechanisms available to distributors to manage the risks they face from a retailer default.

The new rules remove the credit support requirement on retailers except where there is a history of late payment. Retailers avoid incurring the upfront costs of insuring against a default risk that may never happen – costs that are typically passed on to customers. The requirement for a retailer to provide credit support where it has a history of late payment provides an incentive for retailers to pay distributors' invoices on time.

Distributors are effectively protected against retailer default through enhancements made to the operation of the retailer insolvency cost pass-through provisions to allow distributors to claim all unpaid network charges arising from a retailer default via this mechanism. This means that costs are only incurred when a retailer default actually takes place.

These changes will provide more certainty to distributors, financial markets and other market participants.

Reducing costs through demand response

Demand response programs can help consumers save money by creating incentives for them to use less electricity during peak times. Reductions in energy use at certain times and in the right places can create savings by reducing the need for investment in peak generation and network capacity.

POWER OF CHOICE REVIEW

The AEMC's 2012 *Power of choice* review recommended the introduction of a demand response mechanism to pay large electricity users to reduce consumption at peak times. In December 2015, the COAG Energy Council submitted a rule change request seeking to create a demand response mechanism and to unbundle the provision of ancillary services from the purchase and sale of electricity.

Through our analysis and stakeholder consultation during 2016, we determined that at that time there were no barriers in the rules to demand response in the wholesale energy market.

The Commission proposed not to create a complex wholesale market demand response mechanism proposed in the rule change request as it would increase costs for consumers and provide no extra benefit for reliability or network purposes.

In addition, further *Power of choice* reforms including distribution network pricing arrangements and new metering services which are starting to take

effect are likely to increase the ability of consumers to exercise their demand response.

DEMAND RESPONSE AND ANCILLARY SERVICES UNBUNDLING - FINAL RULE

Ancillary services are procured to help deliver electricity within prescribed technical standards to maintain the secure operating state of the power system.

The AEMC's final rule created a new type of market participant – a market ancillary service provider – that can offer a customer's demand response, or an aggregation of demand response, directly into ancillary services markets without having to become the customer's retailer.

More competitive ancillary services markets will put downward pressure on the prices for these services.

CLASSIFICATION OF LOADS AS ANCILLARY SERVICE LOADS

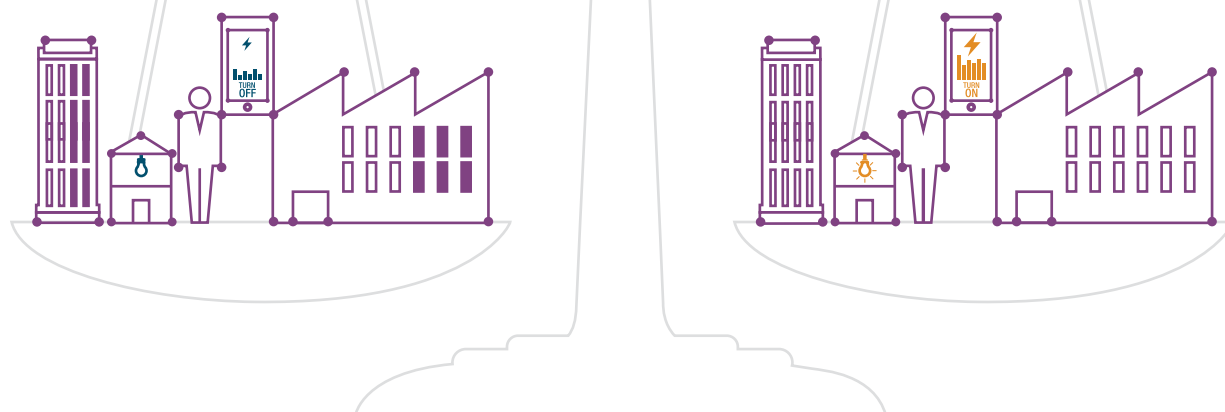
In April 2017, AEMO submitted a rule change request to the AEMC which built on the *Demand response mechanism*

and ancillary services unbundling rule change's separation of the provision of ancillary services from the sale of electricity through the creation of a new type of market participant, a Market Ancillary Service Provider.

In July 2017, following an expedited process, the AEMC made a rule that allows Market Ancillary Service Providers to classify any load approved by AEMO as an ancillary service load. This rule will enhance competition and promote consumer choice, as well as potentially increasing the resources available to AEMO with which to maintain system security.

RELIABILITY FRAMEWORKS REVIEW

In July 2017, just after the close of the year in review, we initiated the *Reliability frameworks review*. This review will consider whether changes are required to existing reliability regulatory and market frameworks. As part of this, it will also consider how to better facilitate demand response into existing regulatory and market arrangements, given changes in the national electricity market since 2016.



The power of choice – giving consumers options in the way they use electricity

This ground-breaking review put consumers in the driving seat.

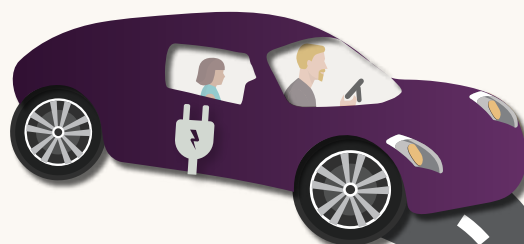
Based on the proposition that individuals themselves are in the best position to decide what works for them, the final report positioned consumers at the centre of future decision-making about energy. The implementation plan set out an approach to achieve this – a series of changes to give people clearer choices and more information about their energy usage.

It's been almost five years since the *Power of choice* review, and Australia's energy market has experienced a period of significant transition. It was this review that laid the foundation for a flexible and resilient energy system that is positioned to adapt to new technologies and changing market dynamics.

In this time the COAG Energy Council has provided terms of reference for a further two reviews and eleven rule change requests. The AEMC conducted extensive stakeholder consultation, produced more than two dozen reports and made nine new rules, which forever changed the face of the electricity market.

For example, new rules made to reform network tariffs so they are more cost reflective of individual customer use, and expanding competition in metering to encourage more and better information for customers, will underpin innovation in energy retail markets so consumers can choose from a broader range of technologies, products and services to meet their specific energy needs.

The progress made by the AEMC, Commonwealth and state officials, and the other market bodies on the comprehensive package of reforms and rule changes recommended by the power of choice review is the reason why households, business and industry now have more opportunities to actively participate in the market and better manage their electricity use and expenditure.



NOVEMBER 2014

Customer access to information about their energy consumption made it easier for consumers to get easy-to-understand, affordable and timely information.

MARCH 2014

Framework for open access and communication standards review recommended open access and new communication standards for smart meters to help establish a competitive market for innovative services

NOVEMBER 2014

Distribution network pricing arrangements required cost-reflective network prices to better reflect the consumption choices of individual consumers.

MARCH 2015

Improving demand side participation information provided to AEMO enabled AEMO to obtain better information on demand side participation from electricity market participants to inform its forecasts.



FEBRUARY 2017

Improving the accuracy of the customer transfer process placed new obligations on electricity and gas retailers to resolve transfers that happen without customer consent.

JUNE 2016

Updating the electricity B2B framework defined the language, or format of communications, between parties using advanced meters which will enhance the benefits of the new competitive metering framework.

NOVEMBER 2016

Demand response mechanism and ancillary services unbundling created a new type of market participants who can do deals with energy users to offer demand response as a tool to help maintain power system security.



NOVEMBER 2015

Expanding competition in metering and related services removed the networks' effective metering monopoly and gave consumers more opportunities to access a wider range of energy services.



DECEMBER 2015

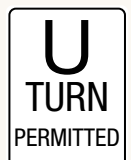
Embedded networks facilitated customers in embedded networks such as apartment blocks, shopping centres, retirement villages and caravan parks choosing their own electricity retailer.

AUGUST 2015

Demand management incentive scheme encouraged electricity distribution networks to make efficient decisions in relation to network expenditure, including investment in demand management.

OCTOBER 2015

Implementation advice on the shared market protocol proposed new communication standards for a smarter energy services market to promote competition for advanced metering services.



Reliability Panel

The AEMC's Reliability Panel is comprised of members who represent a range of participants in the national electricity market, including AEMO, generators, network businesses, consumers and large end users. The Panel determines standards and some of the guidelines used by AEMO and participants which help to maintain a secure and reliable power system for consumers.

Responsibilities

The Panel's work program is set by requirements in the rules and through terms of reference received from the AEMC.

The National Electricity Law sets out the key responsibilities of the Panel.

These include:

- to monitor, review and report on the safety, security and reliability of the national electricity system
- at the request of the AEMC, to provide advice in relation to the safety, security and reliability of the national electricity system.

Reliability standard and settings

The reliability standards and settings are determined by the AEMC and set out in the National Electricity Rules, based on advice from the Reliability Panel.

The reliability standard is an expression of the maximum expected level of

electricity at risk of not being supplied to consumers in any national electricity market region.

The reliability settings are the price mechanisms underpinning the reliability standard and provide a price envelope in which the wholesale market operates:

- the market price cap
- the administered price cap
- the cumulative price threshold
- the market floor price.

Under the National Electricity Rules, the Reliability Panel is required to carry out reviews of the reliability standard and reliability settings every four years. This regular review allows the Panel to take into account any changes in market arrangements and consider whether the reliability standard and reliability settings remain suitable, or whether changes should be made to ensure these mechanisms continue to meet the requirements of the market, market

participants and consumers.

A review of the reliability standards and settings is currently underway. In June 2017 the Reliability Panel published an issues paper to facilitate consultation and seek stakeholder views for the 2018 review. Stakeholder submissions will inform the Panel's assessment of the standard and settings, which must be completed by 30 April 2018.

Work program

In 2016-2017, the Panel completed the *Review of the Reliability and Emergency Reserve Trader Guidelines* and the *Review of reliability standard and settings guidelines*, and undertook the 2015 and 2016 *Annual market performance reviews* and the *Review of the system restart standard*.

The Review of the frequency operating standard and the Reliability standard and settings review 2018 are currently underway.

SECURITY AND RELIABILITY

System security deals with the technical parameters of the power system such as voltage and frequency; the rate at which these parameters might change; and the ability of the system to withstand faults.

While security relates to the stability of the power system, reliability of the power system is about having sufficient capacity to generate and transport electricity to meet consumer demand.

A reliable supply of electricity requires generators to produce electricity, and the transmission and distribution networks to transport the electricity to customers in real time.

As a result, a reliable supply of electricity to customers requires adequate planning, capacity, and maintenance of all parts of the electricity supply chain and a properly functioning market (as investment in reliability is driven by the market).

Annual market performance review 2016

In its review of the national electricity market in terms of reliability, security and safety for 2015-2016, the Reliability Panel highlighted implications for reliability and security as the market transforms from conventional generators powered by coal and gas, towards new technologies such as wind farms, solar panels and battery storage.

The Panel considered projections from AEMO that show there may not be enough generation to meet demand in the medium term, in some regions. This underlines the need for market responses including more investment in generation and demand-side participation so consumer demand for energy can continue to be met.

The report also noted that the reduction in synchronous generation has led to a decrease in system strength in some areas of the power system. This may reduce the stability of the system, which may make it harder for generators to remain connected to the grid. This could in turn increase the risk of interruption of supply to consumers.

The report looked at several incidents in 2015-2016 which showed the extent of the potential supply and price impacts for consumers following major security events in the power system.

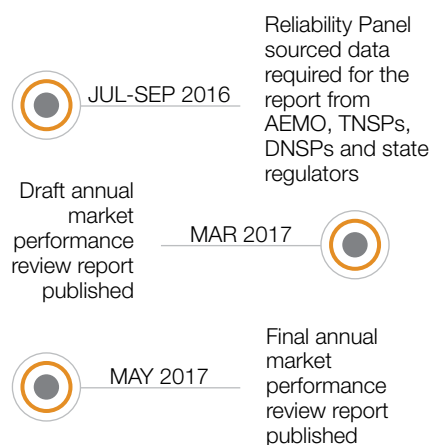
Events such as the November 2015 trip of the Heywood interconnector between Victoria and South Australia, which resulted in problems controlling the frequency in the islanded South Australian power system, show that regions can be more exposed to reliability and security issues when disconnected from the rest of the market.

These types of events also showed that in order to maintain system security, controlled load shedding may be required in some instances as a last line of defence.

In the context of these challenges, the Panel acknowledged the significant body of work underway that is considering how to maintain the resilience of the national electricity market. This includes the AEMC's

System security market frameworks review, AEMO's *Future Power System Security Program* and the *Independent Review into the Future Security of the National Electricity Market*, chaired by the Chief Scientist, Dr Alan Finkel.

The report noted that a number of significant incidents have occurred since the end of the reporting period, including the black system event in South Australia on 28 September 2016. While a brief summary of these events is provided in the 2016 report, they will be covered in more detail in next year's report.



Review of the system restart standard

In December 2016, the Reliability Panel released a new standard for the procurement of ancillary generation services which are needed to restart the power system following widespread blackouts.

This determination followed a year-long public consultation process with energy users, industry, jurisdictional system security co-ordinators and state and territory governments.

Extreme blackouts, also called black system events, can seriously affect public safety and business continuity so it is important that there are enough restart services to quickly restore power supply to generators across the system.

Most generators are not capable of independently starting up again if electricity supply to the system is lost, but

some have specialised equipment which allows them to start independently of the system. AEMO contracts with some of them to provide system restart ancillary services for the rest of the system.

The Panel has now set a new more stringent standard for procurement of these services which is tailored to the specific requirements of each electrical sub-network.

It has also made a number of recommendations to improve the process of generation and load restoration which focus on developing and communicating load restoration plans, strengthening stakeholder engagement and identifying opportunities to fully test the operation of restart services so that more information is available to help fine-tune the procurement process.

The new system restart standard will commence in July 2018 when current contracts for system restart ancillary services expire.

Prior to commencement, AEMO will be transitioning to the new requirements, revising its guidelines on system restart ancillary services and procuring services in accordance with the new standard.



PANEL MEMBERS

Neville Henderson (Chair)

Mr Henderson, Commissioner at the AEMC, has an extensive professional background in energy and utilities. Before joining the AEMC, he was as an Executive Director with PricewaterhouseCoopers (PwC) where he provided advice to both public and private sectors on energy utility operation, regulation, strategic and business planning, electricity and gas industry restructuring, and market issues. Prior to PwC, Mr Henderson was with the National Grid Management Council from 1994 to 1997 where he led the development of market and trading arrangements for the national electricity market.

Trevor Armstrong

Mr Armstrong, Ausgrid's Chief Operating Officer, joined the organisation as a cadet engineer in 1986 and has spent the past 30 years working in various roles including Executive General Manager System Planning & Regulation, and Executive General Manager Transmission & System Operations. He was appointed to the role as Ausgrid's Chief Operating Officer in 2012. Mr Armstrong holds a Bachelor of Engineering and is a Fellow of Engineers Australia, the Treasurer of Cigre Australia and a graduate of the Australian Institute of Company Directors and the INSEAD Advanced Management Program.

Lance Balcombe

Mr Balcombe, Chief Executive Officer of TasNetworks, is the transmission network service provider representative on the Panel. He was appointed CEO of TasNetworks in 2013. His previous roles included executive management positions at Hydro Tasmania, most recently that of Chief Financial Officer, and a similar role with Incat. Mr Balcombe holds a Bachelor of Commerce and is a member of CPA Australia and a Fellow of the Institute of Chartered Accountants.

Murray Chapman

Mr Chapman is AEMO's Executive Officer, Strategy & Innovation, and has more than 35 years' experience in power system operations, transmission, and the development of electricity markets. He played a central role in the development and operation of a state electricity market in NSW in the early 1990s and contributed to the development of the National Electricity Rules and later, the implementation of the national electricity market in the mid-to-late 1990s. He has worked with AEMO since its establishment in 2009 and prior to that held senior roles with NEMMCO.

Mark Collette

Mr Collette, Executive – Energy at EnergyAustralia, is a discretionary member of the Panel. He has worked for EnergyAustralia since 2003 where he is responsible for all aspects of the company's wholesale operations and commodity trading activities. In former roles, Mr Collette held executive responsibility for wholesale markets, corporate strategy and development, policy and government affairs and commercial and industrial sales.

Royce DeSousa

Mr DeSousa, General Manager – Energy & Sustainability, is responsible for energy at Visy Industries, a multinational packaging and recycling company and is a discretionary member of the Panel. His focus includes energy supply, energy efficiency, carbon management, and diversified energy generation including renewable energy. Prior to working in energy, Mr DeSousa was a process, project and maintenance engineer in Visy's paper mills.

Gavin Dufty

Mr Dufty is St Vincent de Paul Society, Victoria's Manager of Policy and Research. He represents end-use customers of electricity on the Panel. He has worked in the community welfare sector for more than 20 years. During this time Mr Dufty has produced a number of reports focusing on the cost of living with a particular emphasis on energy.

Miles George

Mr George is the former Managing Director of Infigen Energy, having retired at the end of 2016, and is currently a Strategic Adviser for Infigen. He has more than 20 years of experience in the infrastructure and energy sectors in Australia, the United States and Europe. Over the past 15 years, Mr George has focussed on business development, investment, financing and management in the renewable energy industry. He represents generators on the Panel.

Chris Murphy

Mr Murphy, Strategic Advisor at Meridian Energy and General Manager – Energy Market Interfaces for Telstra, is a discretionary member of the Panel. In previous roles in the electricity industry he has been responsible for distribution revenue, system-wide load forecasting, tariff development and regulatory affairs.

Richard Wrightson

Mr Wrightson, Executive General Manager Wholesale Markets for AGL Energy, is the market customer representative on the Panel. The Wholesale Markets team is responsible for the procurement, trading and price risk management of AGL's wholesale electricity, gas, oil, carbon and renewable requirements. In his former roles, Mr Wrightson has worked on a wide range of issues including setting up retailing, risk management, power station dispatch and wholesale trading activities.

Member	Organisation and position	Market segment	Term expiry	Panel meetings	
				Eligible	Attended
Current members as at 30 June 2017					
Neville Henderson (Chairman)	Commissioner, AEMC	AEMC	18 Oct 2017	11	11
Trevor Armstrong	Chief Operating Officer, Ausgrid	DNSPs	31 Dec 2019	11	11
Lance Balcombe	Chief Executive Officer, TasNetworks	TNSPs	17 Dec 2018	11	7
Murray Chapman	Executive Officer, Strategy & Innovation, AEMO	AEMO	ongoing	8	7
David Swift	Advisor to CEO	AEMO	n/a	3	3
Mark Collette	Executive Energy, EnergyAustralia	Discretionary	31 Dec 2018	11	6
Royce DeSousa	General Manager – Energy & Sustainability, Visy	Discretionary	31 Aug 2018	11	8
Gavin Dufty	Manager Policy and Research, St Vincent de Paul Society, Victoria	End use customer of electricity	31 Dec 2019	11	11
Miles George	Strategic Adviser, Infigen Energy	Generators	17 Dec 2018	11	10
Chris Murphy	Strategic Advisor, Meridian Energy and General Manager – Energy Market Interfaces, Telstra	Discretionary	31 Dec 2017	11	11
Richard Wrightson	Executive General Manager, Wholesale Markets, AGL Energy	Market customers	31 Dec 2019	11	5
Observers					
Stephen Jarvis	TasNetworks for Lance Balcombe	TNSPs	n/a	4	4
Simon Camroux	AGL Energy for Richard Wrightson	Market customers	n/a	1	1
Cameron Parotte	AEMO	AEMO	n/a	2	2

Stakeholder engagement



Our stakeholders

Effective engagement between the AEMC and stakeholders provides valuable input to our work program. We interact with individuals and organisations throughout each review and rule change process to build stakeholder awareness and understanding and provide an opportunity for meaningful input to inform our decision-making.

We engage with stakeholders through channels which range from the formal such as public forums, teleconferences and written submissions, to more individual interactions including workshops, advisory groups and one-on-one meetings.

The AEMC actively seeks out stakeholders with whom we have not previously engaged to let them know how they can participate in our statutory processes. This year we published two guides: *Applying the energy objectives* and *The rule change process* which provide an overview of the work of the Commission, how we approach our decision making, and the process involved in a rule change or review.

Many stakeholders choose to subscribe to our weekly e-newsletter via the AEMC's website to receive notification of every report we publish, as well as dates for upcoming submission deadlines and events.

Submitting a rule change request

A unique aspect of the energy market and regulatory change process in Australia is that anyone can submit a request to change the arrangements. Rules can be changed in response to requests submitted to us by individuals, consumer groups, industry or governments.

The AEMC's website includes step-by-step guidelines to assist individuals or organisations in preparing a rule change request. If a proponent is unsure about whether their request satisfies the relevant statutory requirements, we encourage them to seek assistance from the AEMC before submitting it.

Engaged and informed consumers

It is consumers themselves who are in the best position to decide what works for them. A significant part of the AEMC's work program over recent years has been focussed on supporting the development

of the competitive retail services market, supporting more engaged and informed consumer choices, and protecting those who are unable to engage, or choose not to.

We regularly engage with Energy Consumers Australia to expand the conversation on consumer priorities. We identify opportunities for AEMC participation in relevant consumer group events, such as consumer roundtables.

We also strive to make the AEMC's work more accessible to individual consumers. Activities include Consumer Priorities forums, more work on plain English documents, and ongoing enhancements to the AEMC website to improve usability. We continually look for ways to improve the clarity and readability of our reports.

It is critical for consumers and their representatives to be engaged in our consultation processes so their views can be properly considered, and we find they often bring diverse perspectives to the table.

THE AEMC'S CONSULTATION PROCESSES

At the start of a rule change, the AEMC assesses the level of stakeholder engagement that may be required throughout the process, taking into account matters such as the anticipated complexity and the potential impacts of the proposed change.

We then create a project plan setting out the most appropriate mechanisms to engage with stakeholders and help them provide meaningful input to the rule change.

We are aware that stakeholders may be concurrently engaging in consultation on a number of other reviews or inquiries within the energy sector. Our focus is on providing stakeholders with sufficient time and information to consider our consultation papers and draft reports, and we are open to extending consultation periods on request.

We are aware of our stakeholders' desire for us to make rules more quickly. Where possible we identify efficiencies which can speed up our processes, provided it does not compromise the thorough consultation and engagement that forms the basis for an open and robust decision-making process.

Consumer research

This year the AEMC continued to reach out to small consumers. We undertook extensive consumer research as part of our annual retail competition review to better understand the preferences and expectations of households and small businesses.

Our most recent consumer research, published in July 2017 within the 2017 retail energy competition review final report, found that energy consumers have more choices to manage their energy use and are looking to take up new technology options:

- 20 per cent of consumers surveyed now have solar panels
- 21 per cent are likely to adopt battery storage in the next two years
- 18 per cent are likely to take up a home energy management system in the next two years.

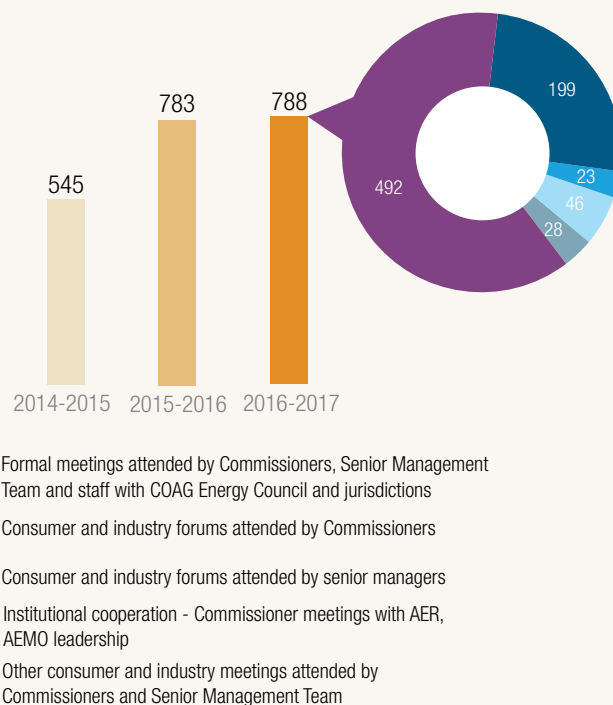
The report made a number of recommendations to make it easier for customers to take advantage of competition and make the best energy choices for their household or business.

New stakeholder engagement channels

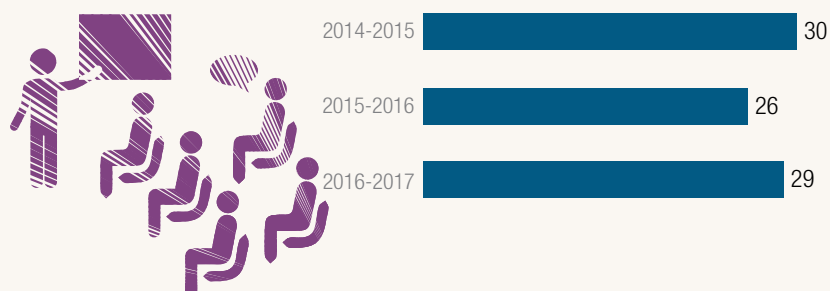
In a changing market, we continue to seek new ways to identify stakeholders and to streamline our processes to make it easier for them to engage with us. We rely on the contributions of our stakeholders in developing robust and long lasting changes to the regulatory framework and we are very cognizant of the effort they put in.

In 2015-2016 the AEMC started using webcasts for major forums to cater for stakeholders unable to attend in person. We have continued this approach in the current period, holding webcasts for *Five minute settlement* and to present consumer research from the 2016 retail energy competition review to consumer group advocates and ombudsmen. We also provided audiocasts for the *Distribution market model* and

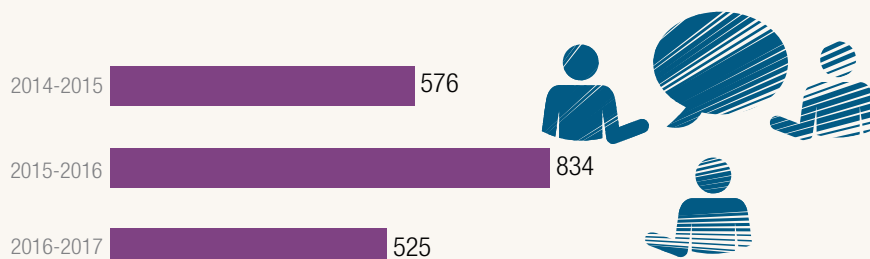
STAKEHOLDER PRESENTATIONS AND MEETINGS



FORMAL STAKEHOLDER FORUMS AND WORKSHOPS



SUBMISSIONS RECEIVED FROM STAKEHOLDERS



Contestability of energy services projects. Feedback from stakeholders provided after each event was largely positive; they appreciated an alternative option to attending in person and found it easy to engage in this way. We have been working with our webcast provider to manage a small number of technical issues experienced by some participants.

In April 2017 the AEMC launched its Twitter account. While our website and e-newsletter remain our official online communication channels, we also tweet from @the_AEMC when we release reports which are likely to be of interest to a broad range of stakeholders.

Extent of engagement

The AEMC sustained the previous year's higher level of engagement; between July 2016 and June 2017 we participated in almost 800 separate stakeholder meetings and presentations on rule change projects, reviews or energy market issues. We also received and assessed 525 submissions to reports we published, all of which were taken into account before we made the decisions which were published in our final reports and determinations.

AEMC submissions to external inquiries

The AEMC welcomes opportunities to make submissions to external inquiries or reviews which relate to the energy sector and/or form part of a broader area of work which has implications for our own program of rule changes and reviews.

Our submissions include existing research and analysis undertaken by the AEMC in relevant areas, and provide details about pertinent work completed or underway. Because we regularly monitor and report on a range of matters including competition in energy retail markets, future price trends and energy market performance, we are able to provide expert advice to inform the governments or independent committees undertaking these reviews.

In the period under review, the AEMC made submissions to the following inquiries:

In June 2017, the AEMC published a guide to the rule change process to assist stakeholders to understand particular aspects of our work. The table below is drawn from that guide which can be downloaded in full from our website www.aemc.gov.au.

TIPS FOR STAKEHOLDERS: MAKING A SUBMISSION

- **Discuss your submission with us** - if you would like guidance for making a submission, you can contact the project team.
- **Make the most of your resources** - rule changes can vary in materiality and complexity therefore it is important to assess if and to what extent the rule change is likely to impact you as a stakeholder.
- **Structure your submission** - it is important for stakeholders to indicate whether they agree/disagree with our proposed assessment framework and why, and then address the issues posed throughout the paper.
- **Focus your submission on our decision-making framework** - under the energy objectives achieving the long term interests of consumers is the overarching objective of any rule change and this forms the basis for our decision-making framework. Stakeholders should frame their arguments around how these objectives are likely to be better achieved or not.
- **Assess future impacts** - it is useful to include an assessment of what the future impact for consumers will be in the event that the rule is (or is not) made.
- **Present evidence where possible** - stakeholders' insights are strengthened by providing evidence through quantitative and qualitative analysis as well as practical examples of how proposals may or may not work in practice. We do not expect stakeholders to engage in costly evidence gathering however it is important to articulate the substance of the issue and its potential impact on you as a stakeholder.
- **Explain how your submission adds value** - High quality, well-structured and well-evidenced submissions assist us in understanding the key issues and informs our decision-making process. We encourage a variety of submissions, but it is the quality of arguments, rather than the quantity received, their individual length, or the party which submits them, that influences our decisions. Identical template submissions made by multiple parties are not given any additional weight
- **Submit within the timeframe** - it is important that submissions are lodged within the statutory timeframe to ensure we can consider them as part of our decision making. While we endeavour to have regard to submissions received after the closing date, we cannot guarantee they will be given equal consideration to on-time submissions.

- COAG Energy Council, Energy Market Transformation Project Team, *Energy Storage Registration*
- COAG Energy Council, Energy Market Transformation Project Team, *Stand-alone energy systems in the Electricity Market*
- COAG Energy Council, Energy Market Transformation Project Team, *Consumer Protections for Behind the Meter electricity supply: Consultation on regulatory implications*
- Environment and Communications References Committee, *Retirement of coal fired power stations*
- Dr Alan Finkel AO and Expert Panel, *Independent Review into the Future Security of the National Electricity Market*
- Legislative Council of South Australia, *Select Committee on the State-wide electricity blackout and subsequent power outages*

Our Chairman, Mr John Pierce, spoke before the *Select Committee into the resilience of electricity infrastructure in a warming world* in February 2017, and in March 2017 Senior Director Richard Owens participated in a roundtable for the Standing Committee on the Environment and Energy's *Inquiry into modernising Australia's electricity grid*. Our Chief Executive, Anne Pearson and Senior Director Richard Owens also appeared at a public hearing in May for the same Standing Committee on the Environment and Energy's *Inquiry into modernising Australia's electricity grid*.

Engagement with international energy market bodies

The AEMC actively engages with international energy market bodies that co-operate on global issues affecting energy markets. Our Commissioners and senior management team meet regularly with representatives from the New Zealand Electricity Authority and Ofgem, the UK's Office of Gas and Electricity Markets.

International engagement enables us to gain from the experience of others and also provides a forum to share insights drawn from the high quality analytical work undertaken by Australia's own energy market institutions.

The AEMC is a member of the International Confederation of Energy Regulators (ICER) – an international body whose membership includes more than 200 regulatory authorities around the world. ICER's aim is to improve policy makers' awareness and understanding of energy regulation and its role in addressing energy regulation issues in an international context. Through ICER, regulators exchange information about good practices in energy regulation. The AEMC representative on the ICER Steering Committee is our Chief Executive, Ms Anne Pearson.

In September 2016, our Chairman John Pierce presented the keynote address – his analysis of the evolution of energy regulation in Australia at the 25th anniversary conference of the Regulatory Policy Institute at Oxford University. The two-day retrospective on regulatory and competition policy asked what has worked well, what hasn't worked well, and what have we learned from it all?

Mr Pierce also represented the AEMC at the Utility Regulators Forum held in Darwin in June 2017. Ms Pearson participated in discussions at the Regulatory Future Workshop, held at Columbia University, New York and the Seoul International Conference on the Electricity Market, and Senior Director Richard Owens presented at the New Zealand Government's Smart Grid Forum in Wellington, New Zealand on the regulatory implications of distributed energy resources.

Stakeholder feedback on our consultation processes

In 2014-2015 the AEMC implemented consultation process surveys which are designed to measure stakeholder satisfaction with the AEMC's engagement and communications and identify ways in which engagement can be improved.

THE AEMC'S WEBSITE

Our website – www.aemc.gov.au – plays a pivotal role in our engagement with stakeholders. It is our stakeholders' central source of information about rule changes and reviews, and the main platform for lodging submissions, proposing rule changes and registering for forums.

Following extensive formal and informal consultation with representatives from key stakeholder groups, the AEMC has embarked on a website refresh.

The primary objectives of this exercise are to improve the site's usability – particularly for stakeholders accessing it from a mobile device – and to develop a more intuitive navigation structure.

The new website's launch is scheduled for late 2017.

We committed to evaluating 25 per cent of completed rule changes and reviews each year. This year we surveyed stakeholders who were actively involved in one or more of nine projects, selected to encompass the breadth of the AEMC's work program and a wide range of stakeholder types.

In total, 429 stakeholders were invited to participate and we were pleased to receive responses from 22 per cent of individuals.

The average rating this year was 7.2 (out of 10), an increase from the 6.7 recorded in 2015-2016. Almost 80 per cent of people surveyed rated the AEMC's overall approach to the review or rule change they participated in as quite good, very good or excellent (7 or more out of 10). Significantly fewer stakeholders rated our consultation processes as poor.

Organisation



Our people

The AEMC has a collaborative, diverse and connected culture that supports our vision of flexible and resilient energy markets that benefit consumers. We are committed to our people and have a focus on recruiting, developing and retaining an outstanding workforce who want to be at the forefront of contributing to new energy market dynamics.

Recruitment

In the year under review our staff numbers increased by 11 including full time, part time and employees on fixed term contracts. This growth is in line with our expanding work program. Vacant positions are advertised internally and externally and we recruit both nationally and internationally, targeting applicants with both energy sector and general utility experience, as well as focussing on candidates with interpretive and analytical skills. We launched an AEMC careers website to showcase careers and recruitment opportunities at the AEMC, and refreshed our LinkedIn profile to attract candidates.

Our workforce comprises a team of specialists including economists, engineers, lawyers, regulatory and policy advisers supported by corporate services teams with expertise in people and culture, IT and finance.

This year our turnover was 16.25 per cent which is within our target range of ten to 20 per cent. This turnover calculation includes all permanent full time and permanent part time staff as well as staff whose contract is necessarily fixed due to the requirements of their visa, as they are filling permanent positions within the organisation. This figure excludes casual staff, staff who are secondees and staff on fixed term contracts which are not related to visa requirements.

Reducing our turnover was a key strategy for the current year and we will continue to put in place initiatives that focus on

retaining quality staff – including focussing on talent management and succession planning, providing opportunities for training and development, organisation and peer recognition, improved internal communications and knowledge sharing on our new internal communication platform – as well as the provision of intellectual, fulfilling work conducted in a collaborative and caring professional environment.

Building capabilities

Creating a high performance culture that expects, recognises and rewards strong performance is essential to the ongoing success of the AEMC. We have an integrated approach to performance and development that includes an annual performance and development process aligned to the AEMC goals and values, a detailed personal development plan, and one-to-one objective feedback sessions. Outcomes of performance reviews are reflected in employees' annual remuneration reviews.

Our commitment to developing our people – framed within the personal development plan – is illustrated by the AEMC's provision of training, learning and development aligned to organisational goals, career satisfaction and personal growth. Development is a personal responsibility of each member of staff which is fully supported by the organisation.

Our learning and development program incorporates in-house presentations, formal training courses, coaching and

e-learning and covers a wide range of topics including leadership, technical issues, skills development, health and wellbeing, and teambuilding.

AEMC graduate program

This year we are pleased to confirm that our two Graduate Advisers have progressed to roles as Advisers at the AEMC. Both graduates had the opportunity to spend time with the different teams at the AEMC, be part of project teams and also lead their own projects. The AEMC plans to continue this program and will recruit new graduates for the 2017-2018 financial year.

Equal opportunity

We are committed to a diverse workforce that reflects our stakeholders and the wider Australian community. An inclusive work environment and diverse workforce where tolerance, respect and equal opportunity is valued is essential to the creation of ideas, innovation and collaboration – all important when attracting and retaining staff and achieving the AEMC's vision.

Our workforce comes from a wide range of countries and cultural backgrounds. We also have a high proportion of females in the workforce at all levels of the organisation, including senior management where our Chief Executive and four of our six Senior Directors are female. We support and promote flexible working arrangements.

Health, safety and wellbeing

We consider the health, safety and wellbeing of all our employees, consultants and visitors to the AEMC to be of the highest importance. We are committed to providing and maintaining a safe and healthy working environment. We had no work related injuries in the year under review and have an active employee-led AEMC health and safety committee.

The AEMC recognises the importance of work-life balance. We provide regular educational seminars on physical and mental health including heart health, skin checks, massage, posture and nutrition. We also post helpful health hints on our internal communication platform and have piloted a health and wellbeing program tailored to individual needs.

We have also been able to support staff with more flexible work stations to help address medical issues, and will continue to do this into the 2017-2018 year.

Staff can also access our Employee Assistance Program which provides confidential counselling on a range of topics both personal and work related to both employees and the families.

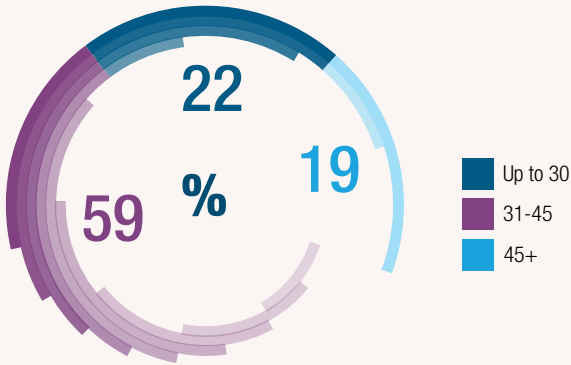
Employee feedback

We conducted an employee engagement survey in the year in review to follow up on a previous survey to seek our employee views on a variety of subjects including communication, development, leadership, reward and recognition, retention, working at and connectivity to the AEMC. We will incorporate the observations and comments from the feedback into a number of strategic initiatives for the 2017-2018 financial year.

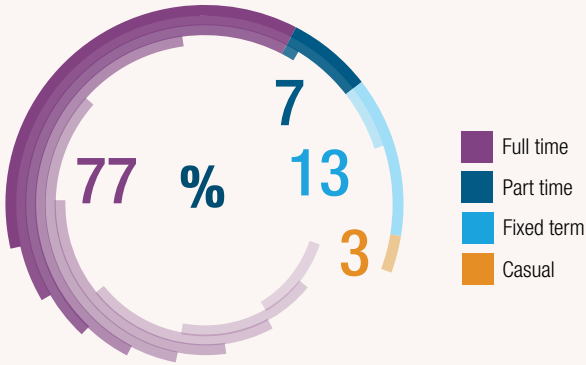
STAFF BY ROLE



EMPLOYEES BY AGE



EMPLOYMENT STATUS



Governance

LEGISLATIVE FRAMEWORK

The AEMC is a body corporate established under South Australian law and its key functions and powers in relation to the making of national energy rules and market reviews are set out in the national energy laws (Part 4, National Electricity Law; Part 2, National Gas Law; Part 9, National Energy Retail Law) and the Australian Energy Market Commission Establishment Act 2004 (SA).

In addition to its powers and functions under these laws, the AEMC is required to comply with a number of South Australian, New South Wales and Commonwealth laws relating to such matters as record keeping, information disclosure, financial reporting and employment related matters. For example, the AEMC complies with the Fair Work Act 2009 (Cth), New South Wales work health and safety laws and South Australian laws such as the Freedom of Information Act 1991 (SA), the Public Finance and Audit Act 1987 (SA) and the State Records Act 1997 (SA).

MEMORANDA OF UNDERSTANDING

To assist in the performance of its operations, the AEMC has entered into Memoranda of Understanding (MOU) with the following organisations:

- Australian Energy Regulator
- Australian Competition & Consumer Commission
- National Competition Council
- Australian Energy Market Operator
- Essential Services Commission of Victoria
- Independent Competition and Regulatory Commission of the ACT
- Office of the Tasmanian Economic Regulator
- Energy and Water Ombudsman New South Wales
- Energy and Water Ombudsman

Queensland

- Energy and Water Ombudsman (Victoria) limited
- Energy and Water Ombudsman (South Australia) Limited
- Energy Ombudsman Tasmania

CORPORATE RESPONSIBILITY

AEMC Commissioners are appointed by Australia's state, territory and federal governments to make the rules under the national energy laws, and to advise governments on overall energy market development. The Commissioners are supported by the AEMC's senior management team and staff.

Together they discharge rule making and market development roles in line with the AEMC's Code of Conduct which requires AEMC staff to act with fairness, honesty, impartiality and integrity in all our dealings.

KEY PERFORMANCE INDICATORS

The AEMC's Statement of Intent sets out how the AEMC will meet the COAG Energy Council's expectations through its strategic priorities and work program. It also sets out the AEMC's deliverables and performance indicators to measure its performance in meeting those expectations.

Our KPIs cover these areas:

- organisational development and budget management
- progress on the work program
- engagement with stakeholders.

The table on page 51 shows our performance for the 2016-2017 year.

PERFORMANCE

We met all our performance targets for key performance indicators this year, with the exception of market reviews and advice completed within Terms of Reference timelines. Two reviews were completed in slightly longer timeframes than directed. We have made

organisational changes which have resulted in the AEMC's turnover figure returning to the target range.

Despite the continued complexity of the rule change requests included in this reporting period, we initiated 89 per cent of rule change requests within the four month target, a significant improvement on previous years. The proportion of rule changes that are extended has increased this year.

THE COMMISSION AND SENIOR MANAGEMENT TEAM

The three Commissioners exercise the AEMC's statutory rule making and market development functions, subject to some delegations as explained below.

Most of the functions relating to the management and day-to-day running of the organisation are the responsibility of the Chief Executive and the senior management team. The Commission retains the majority of the statutory rule making powers and market development functions, and is also responsible for the AEMC's strategic direction. The Chief Executive and senior management team have delegations in relation to some statutory decisions, including initiation of rule changes, and a range of other operational matters, including the employment of staff and engagement of consultants.

The Commissioners review the corporate governance framework of the organisation, overseeing the development of the AEMC's strategic priorities and business planning, and approving corporate development initiatives as proposed by the Chief Executive with the senior management team. The Commission holds monthly organisational meetings to review operational matters.

In terms of risk management and reporting, the Commissioners review the AEMC's budget, monitor its financial performance, and consider and approve the annual financial statements.

STATEMENT OF INTENT KEY PERFORMANCE INDICATORS

AREA	MEASURE	2014-2015	2015-2016	2016-2017
<i>Organisation</i>				
Budget management	Annual expenditure is within +/-5% of initial budget	-1%	-5.2%	-1%
Staff management	Staff turnover, on average, of between 10% and 20% per year (to reflect proactive management of underperformance and retention of key staff)	30%	31%	16%
Staff development	100% of staff have objectives and personal development plans which are reviewed annually	100%	100%	100%
Effective governance	Annual management review of risk assessment framework and implementation of appropriate internal audit work program	Completed	Completed	Completed
<i>Work program</i>				
Rule requests	75% of requests initiated within four months of receipt	17%	47%	89%
	100% of rule changes made within statutory timelines (including where extensions are requested)	100%	100%	100%
Rule change extensions	Proportion of rule change processes that are extended	20%	32%	67%
Rule change challenges	0% of rule change challenges are upheld	No challenges	No challenges	No challenges
Market reviews and advice	85% of reviews completed within original Terms of Reference timelines	100%	100%	80%
Efficient resource use	Proportion of FTE and total budget spend on rule making, reviews and advice	FTE: 84% Total budget: 88%	FTE: 83.4% Total budget: 88.2%	FTE: 82% Total budget: 84.6%
<i>Stakeholder engagement</i>				
Council and jurisdictions engagement	Number of formal meetings attended by Commissioners and/or staff with Council and or jurisdictional leads	155	206	199
Commissioner forums	Number of consumer and industry forums attended by Commissioners	27	45	23
Staff-led forums	Number of consumers and industry forums attended by AEMC staff	63	43	46
Number of consumers and industry forums attended by AEMC staff	Number of meetings between Commissioners and AEMO and AER leadership	8	35	28
Stakeholder satisfaction (survey every three years)	At least 7 out of 10 stakeholders satisfied with the AEMC's performance	N/A	70% of stakeholders gave a rating of 7 or more out of 10 on their overall opinion of the AEMC	N/A
	Develop project-specific stakeholder satisfaction surveys and ensure at least 25% of projects initiate survey upon project completion.	Process established. First survey sent June 2015.	29% of completed projects surveyed.	28% of completed projects surveyed.

COMMISSION STATUTORY AND GOVERNANCE MEETINGS 2016-2017

Commissioner	Current term	Statutory meetings		Organisational meetings	
		Eligible	Attended	Eligible	Attended
Neville Henderson	19 October 2014 to 18 October 2017	34	28	11	10
Brian Spalding	19 April 2016 to 18 April 2019	34	31	11	10
John Pierce	2 June 2015 to 1 June 2020	34	32	11	10

CONFLICTS OF INTEREST

Under Section 22 of the Australian Energy Market Commission Establishment Act 2004 (SA), Commissioners must disclose any direct or indirect conflicts of interest in any matter the AEMC is considering. These disclosures are formally minuted and published on the AEMC website. The following declarations of interest were made by Commissioners in 2016-2017.

Mr Pierce is appointed in a full time capacity and does not consider that his commitments give rise to any conflicts that require management. Mr Pierce is currently a member of the UNSW Australian School of Business Advisory Council. He is also a board member of the Regulatory Policy Institute Advisory Board and the Department of Economics Industry Advisory Board at Macquarie University, and Chair of the St Patrick's College Strathfield Advisory Board.

Dr Spalding is currently a member of the Energy Saving Scheme Committee and the Energy Networks Regulation Committee of the Independent Pricing and Regulatory Tribunal, and an advisor on the New South Wales Energy Security Taskforce. Dr Spalding makes the following statement about the arrangements he has put in place to manage (perceived or actual) conflicts of interest:

1. Any potential involvement on my part in matters relating to the energy sector, which are not within the jurisdiction of the AEMC, would be disclosed to the Chairman of the AEMC before being

involved in such matters to ensure no potential conflict may arise.

2. Confidential information obtained in my capacity as a Commissioner will not be disclosed or used for purposes other than the proper purposes.

Mr Henderson has no conflicts which require management.

AUDIT AND RISK MANAGEMENT

Risk management is a fundamental component of managing our operations. Our processes to identify, assess and manage risk include:

- Audit and Risk Management Committee monitoring of the overall risk management framework, financial reporting processes, processes for compliance, performance of auditors and oversight of the audit program.
- A broad based risk assessment process which is used to develop a rolling three-year internal audit plan and to inform risk management activities.
- The corporate planning processes which prioritise actions based on assessed risks.
- The identification and management of compliance areas on a functional basis with legal support where necessary.
- The project control framework which is used for rule change, review and corporate projects. This includes the creation of a risk register, where relevant, and the active management of identified risks.

AUDIT AND RISK MANAGEMENT COMMITTEE

The AEMC's Audit and Risk Management Committee is comprised of:

- Mr Jim Mitchell – independent Chairman
- Dr Brian Spalding – AEMC Commissioner and Committee member
- Ms Jane Byrne – independent Committee member

Mr Mitchell currently holds appointments as the independent Chair of the Audit and Risk Committee for a range of government agencies including the New South Wales Department of Education. His former roles including Deputy Auditor-General of the Audit Office of New South Wales for seven years, Assistant Director General for the Department of Local Government and probity adviser to the Director General at the New South Wales Department of Transport.

Ms Byrne is a financial services professional with 30 years of experience at senior executive level in trusts, superannuation, wealth management, governance and risk management. She is currently a non-executive director of St Patrick's College Strathfield Advisory Board and Chair of the College's Risk Management Committee. Ms Byrne was Company Secretary of Pillar Administration, Australia's third largest superannuation fund administrator, for ten years and currently consults on governance and risk with PFS Consulting.

COMMISSION AUDIT AND RISK MANAGEMENT COMMITTEE MEMBERSHIP AND MEETINGS 2016-2017

In addition to face to face meetings the audit committee dealt with a number of matters out of session.			
Members	Committee term	Eligible	Attended
Jim Mitchell (Committee Chair)	From 1 July 2015	7	7
Brian Spalding	From 19 April 2010	7	6
Jane Byrne	From 1 July 2015	7	7

FRAUD PREVENTION

Within our risk management framework, procedures are in place to help identify sources of potential fraud or corrupt practices, prevent occurrences, and investigate and take appropriate action on reported breaches. In the year under review, we identified five fraudulent credit card transactions on AEMC credit cards made by unknown external parties. Two credit cards were cancelled as a result of this, and a further card was cancelled as a precaution after an international supplier's subscription base was compromised. The AEMC was reimbursed in full for the fraudulent transactions by the issuing bank so there was no effect on the organisation.

website at www.aemc.gov.au. They can also be inspected at our offices. A request under the Freedom of Information Act 1991 (SA) is not required to inspect them.

BUSINESS CONTINUITY

The objective of the AEMC's Business Continuity and Disaster Recovery Plan is to ensure that business processes are robust and able to withstand minor business interruptions and to ensure the ongoing ability of the AEMC to continue its operations in the event of a major business interruption. The AEMC did not suffer any major business interruptions in the year under review.

FREEDOM OF INFORMATION

The AEMC is subject to the Freedom of Information Act 1991 (SA). There were no freedom of information requests made to the AEMC in 2016-2017. All documents we publish regarding our rule making, reviews, advice and all versions of the National Electricity Rules, National Gas Rules and National Energy Retail Rules are on our



Annual financial statements

**Annual financial statements
for the year ended 30 June 2017**

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Report of the Auditor-General

INDEPENDENT AUDITOR'S REPORT



Government of South Australia
Auditor-General's Department

Level 9
State Administration Centre
200 Victoria Square
Adelaide SA 5000
DX 56208
Victoria Square
Tel +618 8226 9640
Fax +618 8226 9688
ABN 53 327 061 410
audgensa@audit.sa.gov.au
www.audit.sa.gov.au

To the Chairperson Australian Energy Market Commission

As required by section 31(1)(b) of the *Public Finance and Audit Act 1987* and section 26(2) of the *Australian Energy Market Commission Establishment Act 2004*, I have audited the financial report of the Australian Energy Market Commission (the Commission) for the financial year ended 30 June 2017.

Opinion

In my opinion, the accompanying financial report gives a true and fair view of the financial position of the Australian Energy Market Commission as at 30 June 2017, its financial performance and its cash flows for the year then ended in accordance with the Treasurer's Instructions promulgated under the provisions of the *Public Finance and Audit Act 1987* and Australian Accounting Standards.

The financial report comprises:

- a Statement of Comprehensive Income for the year ended 30 June 2017
- a Statement of Financial Position as at 30 June 2017
- a Statement of Changes in Equity for the year ended 30 June 2017
- a Statement of Cash Flows for the year ended 30 June 2017
- notes, comprising a summary of significant accounting policies and other explanatory information
- a Certificate from the Chairperson, Chief Executive and the Corporate Accountant.

Basis for opinion

I conducted the audit in accordance with the *Public Finance and Audit Act 1987* and Australian Auditing Standards. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Report section of my report. I am independent of the Commission. The *Public Finance and Audit Act 1987* establishes the independence of the Auditor-General. In conducting the audit, the relevant ethical requirements of APES 110 Code of Conduct for Professional Accountants have been met.

I believe that the audit evidence obtained is sufficient and appropriate to provide a basis for my opinion.

Responsibilities of the Commissioners for the financial report

The Commissioners are responsible for the preparation of the financial report that gives a true and fair view in accordance with the Treasurer's Instructions promulgated under the provisions of the *Public Finance and Audit Act 1987* and the Australian Accounting Standards, and for such internal control as management determines 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.

The Commissioners are responsible for overseeing the entity's financial reporting process.

Auditor's responsibilities for the audit of the financial report

My 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 my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Commissioners
- evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

My report refers only to the financial report described above and does not provide assurance over the integrity of electronic publication by the entity on any website nor does it provide an opinion on other information which may have been hyperlinked to/from the report.

I communicate with the Chief Executive regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during the audit.

A handwritten signature in black ink, appearing to read 'Richardson', with a long horizontal flourish extending to the right.

Andrew Richardson

Auditor-General

4 September 2017

Certification of the financial statements

Australian Energy Market Commission Financial Statements for the year ended 30 June 2017

Certification of the financial statements

We certify that the:

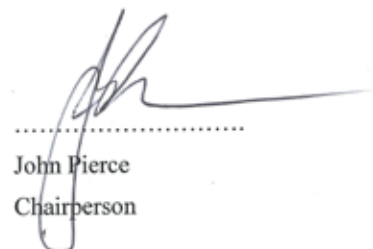
- financial statements of the Australian Energy Market Commission ("the Commission"):
 - are in accordance with the accounts and records of the Commission; and
 - comply with relevant accounting standards; and
 - present a true and fair view of the financial position of the Commission at the end of the financial year and the result of its operations and cash flows for the financial year.
- Internal controls employed by the Commission over its financial reporting and its preparation of the financial statements have been effective throughout the financial year.



Anne Pearson
Chief Executive



Qian Yang CPA
Corporate Accountant



John Pierce
Chairperson

Date: 30 August 2017

Statement of comprehensive income

For the year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
Expenses			
Employee benefits expenses	5	13,752	11,964
Supplies and services	8	9,019	10,851
Depreciation and amortisation expense	9	314	239
Net loss on disposal of non-current assets	10	6	7
Total expenses		23,091	23,061
Income			
Interest revenues	11	209	291
Other revenues	12	262	1,045
Total income		471	1,336
Net cost of providing services		(22,620)	(21,725)
Revenues from Government			
Contributions from participating jurisdictions	13	22,164	20,312
Net result		(456)	(1,413)
Total comprehensive result		(456)	(1,413)

The net result and total comprehensive result are attributable to the participating jurisdictions as owners.

The above statement should be read in conjunction with the accompanying notes.

Statement of financial position

For the year ended 30 June 2016

	Note	2017 \$'000	2016 \$'000
Current assets			
Cash and cash equivalents	14	13,223	12,164
Receivables	15	629	546
Total current assets		13,852	12,710
Non-current assets			
Property, plant and equipment	16	455	522
Intangible assets	17	328	344
Total non-current assets		783	866
Total assets		14,635	13,576
Current liabilities			
Payables	18	864	980
Employee benefits	19	992	725
Other liabilities	20	2,123	795
Total current liabilities		3,979	2,500
Non-current liabilities			
Payables	18	63	60
Employee benefits	19	615	580
Provisions	21	329	331
Total non-current liabilities		1,007	971
Total liabilities		4,986	3,471
Net Assets		9,649	10,105
Equity			
Retained earnings		7,632	8,088
Contributed capital		2,017	2,017
Total Equity	22	9,649	10,105
The total equity is attributable to the participating jurisdictions as owners.			
Unrecognised contractual commitments	23		
Contingent assets and liabilities	24		

The above statement should be read in conjunction with the accompanying notes.

Statement of changes in equity

For the year ended 30 June 2017

	Note	Contributed capital \$'000	Retained earnings \$'000	Total equity \$'000
Balance at 30 June 2015		2,017	9,501	11,518
Net result for 2015-16		-	(1,413)	(1,413)
Total comprehensive result for 2015-16		-	(1,413)	(1,413)
Balance at 30 June 2016		2,017	8,088	10,105
Net result for 2016-17		-	(456)	(456)
Total comprehensive result for 2016-17		-	(456)	(456)
Balance at 30 June 2017	22	2,017	7,632	9,649

All changes in equity are attributable to the participating jurisdictions as owners.

The above statement should be read in conjunction with the accompanying notes.

Statement of cash flows

For the year ended 30 June 2016

	Note	2017 \$'000	2016 \$'000
Cash flows from operating activities			
Cash outflows			
Employee benefits payments		(13,300)	(11,123)
Payments for supplies and services		(10,205)	(12,168)
Payments for paid parental leave scheme		(12)	(29)
Cash used in operations		(23,517)	(23,320)
Cash inflows			
Receipts from participating jurisdictions		23,436	19,640
Other receipts		372	1,097
Interest received		222	255
GST recovered from the ATO		824	435
Receipts for paid parental leave scheme		12	28
Cash generated from operations		24,866	21,455
Net cash (used in)/provided by operating activities		1,349	(1,865)
Cash flows from investing activities			
Cash outflows			
Purchase of property, plant and equipment		(127)	(235)
Purchase of intangibles		(163)	(241)
Cash used in investing activities		(290)	(476)
Net cash used in investing activities		(290)	(476)
Net (decrease)/increase in cash and cash equivalents		(1,059)	(2,341)
Cash and cash equivalents at the beginning of the period		12,164	14,505
Cash and cash equivalents at the end of the period		13,223	12,164

The above statement should be read in conjunction with the accompanying notes.

Notes to & forming part of the financial statements

For the year ended 30 June 2017

1 Objectives of the Australian Energy Market Commission

The Australian Energy Market Commission ("the Commission") was established on 22 July 2004 pursuant to the *Australian Energy Market Commission Establishment Act 2004 (South Australia)*. The Commission operates in Australia from a single office in Sydney, NSW.

The Commission's key functions under the AEMC Establishment Act, the National Electricity Law, National Gas Law, and the National Energy Retail Law, are to:

- a) consider rule change requests and make rule determinations;
- b) conduct market reviews on request of the Ministerial Council on Energy (MCE), or on the AEMC's own initiative; and
- c) provide advice on request from the MCE.

2 Summary of significant accounting policies

a) Statement of compliance

These financial statements have been prepared in compliance with section 23 of the *Public Finance and Audit Act 1987*.

The financial statements are general purpose financial statements. The accounts have been prepared in accordance with relevant Australian Accounting Standards (Reduced Disclosure Requirements) and comply with South Australian Treasurer's Instructions and Accounting Policy Statements promulgated under the provisions of the *Public Finance and Audit Act 1987*.

The Commission has applied Australian Accounting Standards that are applicable to not-for-profit entities, as the Commission is a not-for-profit entity. The Commission applies Tier 2 Australian Accounting Standards reporting requirements.

b) Basis of preparation

The preparation of the financial statements requires:

- the use of certain accounting estimates and requires management by the Commission to exercise judgement in the process of applying the Commission's accounting policies. The areas involving a higher degree of judgement or where assumptions and estimates are significant to the financial statements, are outlined in the applicable notes.
- accounting policies are selected and applied in a manner which ensures that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events are reported.
- compliance with Accounting Policy Statements issued pursuant to section 41 of the *Public Finance and Audit Act 1987*. In the interest of public accountability and transparency the accounting policy statements require the following note disclosures, which have been included in this financial report:
 - i) expenses incurred as a result of engaging consultants
 - ii) employees whose normal remuneration is equal to or greater than the base executive remuneration level (within \$10,000 bandwidths) and the aggregate of the remuneration paid or payable or otherwise made available, directly or indirectly by the entity to those employees, and
 - iii) commissioner and committee member and remuneration information, where a member is entitled to receive income other than a direct out-of-pocket reimbursement.

The Commission's Statement of Comprehensive Income, Statement of Financial Position and Statement of Changes in Equity have been prepared on an accrual basis and are in accordance with historical cost convention.

The Statement of Cash Flows has been prepared on a cash basis.

The financial statements have been prepared based on a 12 month period and presented in Australian currency.

c) Reporting entity

The Commission is a body corporate established under South Australian law.

The Commission does not control any other entity and has no interests in unconsolidated structured entities. The Commission has not entered into any contractual arrangements which involve the sharing of control or significant influence over another entity.

d) Comparative information

The presentation and classification of items in the financial statements are consistent with prior periods except where specific accounting standards and/or accounting policy statements have required a change.

e) Rounding

All amounts in the financial statements and accompanying notes have been rounded to the nearest thousand dollars (\$'000).

f) Taxation

The Commission is not subject to income tax. The Commission is liable for payroll tax, fringe benefits tax and goods and services tax (GST).

Income, expenses and assets are recognised net of the amount of GST except:

- when the GST incurred on a purchase of goods or services is not recoverable from the Australian Taxation Office, in which case the GST is recognised as part of the cost of acquisition of the asset or as part of the expense item applicable; and
- receivables and payables, which are stated with the amount of GST included.

The net amount of GST recoverable from, or payable to, the Australian Taxation Office is included as part of receivables or payables in the Statement of Financial Position.

Cash flows are included in the Statement of Cash Flows on a gross basis and the GST component of cash flows arising from investing and financing activities, which is recoverable from the Australian Taxation Office, is classified as part of operating cash flows.

g) Events after the reporting period

Adjustments are made to amounts recognised in the financial statements, where an event occurs after 30 June and before the date the financial statements are authorised for issue, where those events provide information about conditions that existed at 30 June.

Note disclosure is made about events between 30 June 2017 and the date the financial statements are authorised for issue where the events relate to a condition which arose after 30 June 2017 and which may have a material impact on the results of subsequent years. Refer to Note 26.

h) Income

Income is recognised to the extent it is probable that the flow of economic benefits to the Commission will occur and can be reliably measured.

Income has been aggregated according to its nature and has not been offset unless required or permitted by a specific accounting standard, or where offsetting reflects the substance of the transaction or other event.

The following are specific recognition criteria:

Contributions received from participating jurisdictions

The Commission's funding is provided through contributions by the participating jurisdictions within the meaning of the National Electricity Law and the National Gas Law and the National Energy Retail Law. South Australia's contribution to the Commission is an expense of the SA Government and not an inter-agency transaction.

Contributions are recognised as an asset and income when the Commission obtains control of the contributions or obtains the right to receive the contributions and the income recognition criteria are met (i.e. the amount can be reliably measured and the flow of resources is probable).

Generally, the Commission has obtained control or the right to receive for:

- Contributions with unconditional stipulations - this will be when the agreement becomes enforceable i.e. the earlier of when the receiving entity has formally been advised that the contribution has been approved; agreement/contract is executed; and/or the contribution is received.
- Contributions with conditional stipulations – this will be when the enforceable stipulations specified in the agreement occur or are satisfied; that is income would be recognised for contributions received or receivable under the agreement.

All contributions received by the Commission have been contributions with unconditional stipulations attached and have been recognised as an asset and income in the period in which they are earned.

i) Expenses

Expenses are recognised to the extent that it is probable that the flow of economic benefits from the Commission will occur and can be reliably measured.

Expenses have been aggregated according to their nature and have not been offset unless required or permitted by another accounting standard, or where offsetting reflects the substance of the transaction or other event.

The following are specific recognition criteria:

Employee benefits expenses

Employee benefits expenses include all costs related to employment including wages and salaries, non-monetary benefits and leave entitlements. These are recognised when incurred.

Superannuation

The amount charged to the Statement of Comprehensive Income represents the contributions made by the Commission to the superannuation plan in respect of current services of current Commission staff.

Depreciation and amortisation

All non-current assets, having a limited useful life, are systematically depreciated/amortised over their useful lives in a manner that reflects the consumption of their service potential. Amortisation is used in relation to intangible assets such as software, while depreciation is applied to tangible assets such as property, plant and equipment.

Asset residual values, useful lives and amortisation methods are reviewed and adjusted if appropriate on an annual basis.

Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are accounted for prospectively by changing the time period or method, as appropriate, which is a change in accounting estimate. These have not changed.

Depreciation/amortisation is calculated on a straight-line basis over the estimated useful life of the following classes of assets:

Class of assets	Useful life (years)
Plant and equipment	3-20
Intangibles	4-5
IT infrastructure	3-4

Net gain / loss on disposal of non-current assets

Any gain/ (loss) on disposal of assets are recognised at the date control of the asset is passed to the buyer and are determined after deducting the written down value from the proceeds of the asset sale at the time.

j) Current and non-current classification

Assets and liabilities are characterised as either current or non-current in nature. Assets and liabilities that are to be sold, consumed or realised as part of the normal operating cycle even when they are not expected to be realised within twelve months after the reporting date have been classified as current assets or current liabilities.

k) Assets

Assets have been classified according to their nature and have not been offset unless required or permitted by a specific accounting standard, or where offsetting reflects the substance of the transaction or other event.

Cash and cash equivalents

Cash and cash equivalents in the Statement of Financial Position and for the purposes of the Statement of Cash Flows, include cash at bank and cash on hand and in other short-term, highly liquid investments with maturities of six months or less that are readily converted to cash and which are subject to insignificant risk in changes in value.

Cash is measured at nominal value.

Receivables

Receivables include funding receivable, net GST input tax credits recoverable, interest receivable, prepayments and other accruals.

Receivables are generally settled within 30 days after issue of an invoice. Collectability of receivables is reviewed on an on-going basis. An allowance for doubtful debts is raised when there is objective evidence that the Commission will not be able to collect the debt. Bad debts are written off when identified.

Non-current assets

Acquisition and recognition

Non-current assets are initially recorded at cost plus any incidental cost involved with the acquisition. Non-current assets are subsequently measured at fair value less accumulated depreciation. All non-current tangible assets with a value equal to or in excess of \$2,000 are capitalised.

Revaluation of non-current assets

All non-current tangible assets are valued at written down current cost (a proxy for fair value); and revaluation of non-current assets or group of assets is only performed when its fair value at the time of acquisition is greater than \$1 million and estimated useful life is greater than three years. No revaluation was performed for the year ended 30 June 2017 as the Commission did not have non-current assets which met the revaluation criteria.

Impairment

All non-current tangible and intangible assets are tested for indication of impairment at each reporting date. Where there is an indication of impairment, the recoverable amount is estimated. The recoverable amount is determined as the higher of the asset's fair value less costs of disposal and depreciated replacement cost. An amount by which the asset's carrying amount exceeds the recoverable amount is recorded as an impairment loss.

Intangible assets

An intangible asset is an identifiable non-monetary asset without physical substance. Intangible assets are measured at cost. Following initial recognition, intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses.

The useful lives of intangible assets are assessed to be either finite or indefinite. The Commission only has intangible assets with finite lives. The amortisation period and the amortisation method for intangible assets are reviewed on an annual basis.

The acquisition of, or internal development of software is capitalised when the expenditure meets the definition criteria (identifiably, control and the existence of future economic benefits) and recognition criteria (probability of future economic benefits and cost can be reliably measured) and when the amount of the expenditure is greater than or equal to \$2,000.

l) Liabilities

Liabilities have been classified according to their nature and have not been offset unless required or permitted by a specific accounting standard, or where offsetting reflects the substance of the transaction or other event.

Payables

Payables include creditors, accrued expenses, net GST payable, employment on-costs and Paid Parental Leave Scheme payable.

Creditors represent the amounts owing for goods and services received prior to the end of the reporting period that are unpaid at the end of the reporting period. Creditors include all unpaid invoices received relating to the normal operations of the Commission.

Accrued expenses represent goods and services provided by other parties during the period that are unpaid at the end of the reporting period and where an invoice has not been received.

The Paid Parental Leave Scheme payable represents amounts which the Commission has received from the Commonwealth Government to forward onto eligible employees via the Commission's standard payroll processes. That is, the Commission is acting as a conduit through which the payment to eligible employees is made on behalf of the Department of Human Services.

All payables are measured at their nominal amount, are unsecured and are normally settled within 30 days from the date of the invoice or date the invoice is first received.

Employee benefit on-costs include payroll tax, workers compensation levies and superannuation contributions in respect to outstanding liabilities for salaries and wages, long service leave and annual leave.

The Commission makes contributions to several externally managed superannuation schemes on behalf of employees. These contributions are treated as an expense when they occur. There is no liability for payments to beneficiaries as they have been assumed by the respective superannuation schemes. The only liability outstanding at reporting date relates to any contributions due but not yet paid.

Leases

The determination of whether an arrangement is or contains a lease is based on the substance of the arrangement. The Commission has entered into operating leases.

Operating leases

The Commission has an operating lease for its office accommodation. Operating lease payments are recognised as an expense in the Statement of Comprehensive Income on a straight-line basis over the lease term. The straight-line basis is representative of the pattern of benefits derived from the leased asset.

Lease incentives

All incentives for the agreement of a new or renewed operating lease are recognised as an integral part of the net consideration agreed for the use of the leased asset. Incentives received to enter into operating leases are recognised as a liability. The aggregate benefits of lease incentives received by the Commission in respect of operating leases have been recorded as a reduction of rental expense over the lease term, on a straight-line basis.

Employee benefits

These benefits accrue for employees as a result of services provided up to the reporting date that remain unpaid. Long-term employee benefits are measured at present value and short-term employee benefits are measured at nominal amounts.

Salaries, wages, annual leave and personal/carer's leave

The liability for salary and wages are measured as the amount unpaid at the reporting date at remuneration rates current at reporting date. The annual leave liability is expected to be payable within 12 months and is measured at the undiscounted amount expected to be paid.

No provision has been made for personal/carer's leave as all personal/carer's leave is non-vesting and the average personal/carer's leave taken in future years by employees is estimated to be less than the annual entitlement for personal/carer's leave.

Long service leave

The liability for long service leave is measured as the present value of expected future payments to be made in respect of services provided by employees up to the end of the reporting period using the projected unit credit method. The estimated liability for long service leave is based on actuarial assumptions over expected future salary and wage levels, experience of employee departures

and periods of service. These assumptions are based on employee data across South Australian Government entities.

Expected future payments are discounted using market yields at the end of the reporting period on government bonds with durations that match, as closely as possible, the estimated future cash outflows.

The unconditional portion of the long service leave provision is classified as current as the Commission does not have an unconditional right to defer settlement of the liability for at least 12 months after reporting date. The unconditional portion of long service leave relates to an unconditional legal entitlement to payment arising after 10 years of service. However, the liability is classified as non-current if it is not expected to be settled wholly before 12 months after the reporting date.

Provisions

Provisions are recognised when the Commission has a present obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the reporting date. If the effect of the time value of money is material, provisions are discounted for the time value of money and the risks specific to the liability. The Commission has no requirement to recognise a workers compensation provision as workplace injuries are insured through Allianz insurance.

Provision for make good

The Commission has recognised a provision for make good as a result of its obligation to return refurbished leasehold improvements to their original condition at the end of its operating lease for office accommodation.

m) Unrecognised contractual commitments and contingent assets and liabilities

Commitments include operating, capital and outsourcing arrangements arising from contractual or statutory sources are disclosed at their nominal value.

Contingent assets and contingent liabilities are not recognised in the Statement of Financial Position, but are disclosed by way of a note and, if quantifiable, are measured at nominal value.

Unrecognised contractual commitments and contingencies are disclosed net of the amount of GST recoverable from, or payable to, the Australian Taxation Office. If GST is not payable to, or recoverable from, the Australian Taxation Office, the commitments and contingencies are disclosed on a gross basis.

3 New and revised accounting standards and policies

The Commission did not voluntarily change any of its accounting policies. The Commission adopted Australian Accounting Standard - AASB 124 - Related party disclosures, for 2016-17.

4 Economic dependency

The continued existence of the Commission in its present form is dependent on Government policy in each of the jurisdictions who fund the Commission, and the Commonwealth Government. The Commission is unable to borrow funds and retains capital and cash reserves sufficient to meet the majority of its liabilities and unrecognised contractual commitments.

To assist with revenue certainty, in January 2017 the Council of Australian Governments' Energy Council advised the approval of funding of \$24.4m for 2017-18, \$26.9 for 2018-19, \$27.6m for 2019-20 and \$28.2m for 2020-21.

5 Employee benefit expenses

	2017 \$'000	2016 \$'000
Salaries and wages	10,807	9,397
Long service leave	160	200
Annual leave	951	823
Employment on-costs - superannuation	1,007	893
Payroll and Fringe Benefits Tax	764	565
Relocation expenses	63	86
Total employee benefit expenses	13,752	11,964

Employees are appointed under common law contracts and are not employees under the South Australian *Public Sector Act 2009*. Commissioners are appointed by the Governor of South Australia on the recommendation of the Minister following nomination by the Ministerial Council on Energy or the Commonwealth as appropriate in accordance with the *Australian Energy Market Establishment Act 2004*.

Remuneration disclosures for employees below are in accordance with the South Australian Government Accounting Policy Framework APF II paragraph APS 4.8 for the year ended 30 June 2017.

Remuneration of employees	2017 No.	2016 No.
The number of employees whose remuneration received or receivable falls within the following bands:		
\$145,000 – \$147,000*	n/a	1
\$147,001 – \$157,000	3	2
\$157,001 – \$167,000	1	2
\$167,001 – \$177,000	5	2
\$177,001 – \$187,000	1	3
\$187,001 – \$197,000	1	2
\$197,001 – \$207,000	6	3
\$207,001 – \$217,000	2	-
\$217,001 – \$227,000	1	5
\$227,001 – \$237,000	2	1
\$257,001 – \$267,000	1	1
\$267,001 – \$277,000	1	1
\$277,001 – \$287,000	1	-
\$287,001 – \$297,000	1	-
\$317,001 – \$327,000	-	1
\$367,001 – \$377,000	1	-
Total number of employees	27	24

* This band has been included for the purposes of reporting comparative figures based on the executive base level remuneration rate for 2015-2016.

The table includes all employees who received remuneration equal to or greater than the base executive remuneration level during the year, as established by the South Australia Department of Treasury and Finance.

Remuneration of employees reflects all costs of employment including salaries and wages, payments in lieu of leave, superannuation contributions, salary sacrifice benefits and fringe benefits and any net fringe benefits tax paid or payable in respect of those benefits. The total remuneration received by these employees for the year was \$5,660,000 (2016: \$4,827,000).

6 Remuneration of Commissioners

The following persons held the position of Commissioner during the financial year:

John Pierce (Chair) (appointed 2 June 2010 and re-appointed 2 June 2015)

Neville Henderson (appointed 19 October 2009 and re-appointed 19 October 2014)

Brian Spalding (appointed 19 April 2010, re-appointed 19 April 2013, and 19 April 2016)

	2017 No.	2016 No.
The number of Commissioners whose remuneration received or receivable falls within the following bands:		
\$180,000 – \$189,999	-	1
\$200,000 – \$209,999	-	1
\$210,000 – \$219,999	2	-
\$560,000 – \$569,999	-	1
\$570,000 – \$579,999	1	-
Total number of Commissioners	3	3

Remuneration of Commissioners reflects all costs of performing Commission member duties including sitting fees, salaries and wages, superannuation contributions, salary sacrifice benefits and fringe benefits and any net fringe benefits tax paid or payable in respect of those benefits. The total remuneration received or receivable by Commissioners for the year was \$1,002,000 (2016: \$956,000).

Remuneration of committee members

Committee Members during the 2016-17 financial year were:

Audit and Risk Management Committee

Brian Spalding (appointed 19 April 2010 and re-appointed 19 April 2013, and 19 April 2016)

Jim Mitchell (Chair) (appointed 1 July 2015 and re-appointed 1 July 2017)

Jane Byrne (appointed 1 July 2015 and re-appointed 1 July 2017)

Reliability Panel

Neville Henderson (appointed 3 November 2009, and re-appointed 19 October 2014)

	2017 No.	2016 No.
The number of committee members whose remuneration received or receivable falls within the following bands:		
\$0 – \$9,999	-	1
\$10,000 – \$19,999	2	2
Total number of members	2	3

Remuneration of committee members reflects all costs of performing committee member duties including sitting fees, salaries and wages, superannuation contributions, salary sacrifice benefits and fringe benefits and any net fringe benefits tax paid or payable in respect of those benefits. The total remuneration received or receivable by committee members for the year was \$24,000 (2016: \$26,000).

Unless otherwise disclosed, transactions between members are on conditions no more favourable than those that it is reasonable to expect the entity would have adopted if dealing with the related party at arm's length in the same circumstances.

7 Related party transactions

The Commission is a statutory authority established pursuant to the *Australian Energy Market Commission Establishment Act 2004*.

The Commission is not owned or controlled by the South Australian Government. Related parties of the Commission include all key management personnel, their close family members and any entities controlled by those persons.

Key management personnel

Key management personnel of the authority include the Commissioners, the Chief Executive and six members of the senior management team who have responsibility for the strategic direction and management of the Commission.

Total compensation for the Commission's key management personnel is \$3,111,000.

Transactions with key management personnel and other related parties

There were no transactions with key management personnel or other related parties in the financial year.

8 Supplies and services

	2017 \$'000	2016 \$'000
Property expenses [^]	1,661	1,633
Information technology expenses	966	773
Accounting, legal and audit expenses	304	133
Project contractor and consultancy expenses [#]	3,180	4,874
Other contractor and consultancy expenses	572	816
Project support expenses [*]	424	794
General office administration expenses	154	63
Travel and accommodation expenses	676	576
Recruitment expenses	310	520
Staff training expenses	681	570
Other staff related expenses	91	99
Total supplies and services	9,019	10,851

[^] Includes operating lease payments, which are recognised as an expense on a straight-line basis over the lease term, as it is representative of the pattern of benefits derived from the leased assets. These payments totalled \$1,184,000 (2016: \$1,182,000).

[#] Includes professional services such as economic advice, modelling, and legal advice directly related to project work on rule changes, market reviews and expert panels.

^{*} Includes stakeholder communication, venue hire, research data and statutory advertising directly related to project work on rule changes, market reviews and expert panels.

The total supplies and services amount disclosed includes GST amount not recoverable from the ATO due to the Commission not holding a tax invoice or payments related to third party payments.

The number and dollar amount paid/payable in total to each consultant that fell within the following bands:	2017		2016	
	No.	\$'000	No.	\$'000
Below \$10,000	-	-	4	20
Above \$10,000	28	3,088	33	4,730
Total paid/payable to the consultants engaged	28	3,088	37	4,750

9 Depreciation and amortisation expense

	2017 \$'000	2016 \$'000
Plant and equipment	24	20
IT infrastructure	131	101
Intangible assets	159	118
Total depreciation and amortisation	314	239

10 Net loss on disposal/write-off of non-current and other assets

	2017 \$'000	2016 \$'000
Plant and equipment		
Proceeds from disposal	–	–
Less net book value of assets disposed	6	7
Net loss from write-off of plant and equipment	(6)	(7)
IT infrastructure		
Proceeds from disposal	–	–
Less net book value of assets disposed	–	–
Net loss from write-off of IT infrastructure assets	–	–
Total assets		
Total proceeds from disposal	–	–
Less total value of assets disposed	6	7
Total net loss from disposal of assets	(6)	(7)

11 Interest revenues

	2017 \$'000	2016 \$'000
Interest earned on bank accounts	209	291
Total interest revenues	209	291

12 Other revenues

	2017 \$'000	2016 \$'000
Recovery of project costs, staff costs and rent	262	1,045
Total other revenues	262	1,045

13 Contributions from participating jurisdictions

	2017 \$'000	2016 \$'000
Operational funding	22,164	20,312
Total contributions from participating jurisdictions	22,164	20,312

14 Payables

	2017 \$'000	2016 \$'000
Cash at bank and on hand	7,007	6,068
Short-term deposits	6,216	6,096
Total cash and cash equivalents	13,223	12,164

Short-term deposits

Short-term deposits are made for varying periods of three months and six months. The deposits are lodged with the ANZ bank and earn interest at the respective short-term deposit rates.

15 Receivables

	2017 \$'000	2016 \$'000
Current		
Interest receivable	42	56
Prepayments	347	255
GST input tax recoverable	218	169
Other receivables	22	66
Total receivables	629	546

Allowance for doubtful debts

As at 30 June 2017, there was no objective evidence that a receivable was impaired. Therefore the Commission has not recognised any allowance for doubtful debts

16 Property, plant and equipment

	2017 \$'000	2016 \$'000
Plant and equipment, at cost (deemed fair value)	209	182
Accumulated depreciation at the end of the period	(85)	(62)
Total plant and equipment	124	120
IT infrastructure, at cost (deemed fair value)	898	845
Accumulated depreciation at the end of the period	(583)	(650)
Total IT infrastructure	315	195
Work in progress	16	207
Total IT infrastructure and work in progress	331	402
Total property, plant and equipment	455	522

All property, plant and equipment assets are classified as a level 2 asset for the purposes of the fair value hierarchy.

Impairment

There were no indications of impairment of property, plant and equipment at 30 June 2017.

Reconciliation of non-current assets

The following table shows the movement of non-current assets during 2017.

16 Property, plant and equipment (continued)

	2017 \$'000	2016 \$'000
Plant and equipment		
Carrying amount at beginning of the period	120	45
Acquisitions	28	103
Disposals/write-offs	(2)	(37)
Depreciation adjustment for write-offs	2	30
Depreciation and amortisation	(24)	(21)
Carrying amount at the end of the period	124	120
IT infrastructure		
Carrying amount at beginning of the period	195	296
Acquisitions	258	–
Disposals/write-offs	(206)	–
Depreciation adjustment for write-offs	199	–
Depreciation and amortisation	(131)	(101)
Carrying amount at the end of the period	315	195
Work in progress	16	207
Total IT infrastructure	331	402
Total property, plant and equipment	455	522

17 Intangible assets

	2017 \$'000	2016 \$'000
Computer software, at cost (deemed fair value)	2,943	2,790
Accumulated amortisation	(2,624)	(2,466)
Total computer software	319	324
Work in progress	9	20
Total intangible assets	328	344
Reconciliation of computer software		
Carrying amount at beginning of the period	324	221
Acquisitions	154	221
Disposals/write-off	–	(663)
Amortisation adjustment for write-offs	–	663
Amortisation	(159)	(118)
Carrying amount at the end of the period	319	324
Work in progress	9	20
Total intangible assets	328	344

All intangible assets are classified as a level 2 asset for the purposes of the fair value hierarchy.

Impairment

There were no indications of impairment on intangible assets at 30 June 2017.

18 Payables

	2017 \$'000	2016 \$'000
Current		
Creditors	99	172
Accrued expenses	625	702
Employment on-costs	140	106
Total current payables	864	980
Non-current		
Employment on-costs	63	60
Total non-current payables	63	60
Total payables	927	1,040

19 Employee benefits

	2017 \$'000	2016 \$'000
Current		
Accrued salaries and wages	236	161
Annual leave	711	557
Long service leave	45	7
Total current employee benefits	992	725
Non-current		
Long service leave	615	580
Total non-current employee benefits	615	580
Total employee benefits	1,607	1,305

Australian Accounting Standard - AASB 119 - Employee Benefits, contains the calculation methodology for long service leave liability. The actuarial assessment is performed by the SA Department of Treasury who provide the basis for the measurement of long service leave.

20 Other liabilities

	2017 \$'000	2016 \$'000
Current		
Unearned revenue	1,867	595
Deferred lease incentive*	256	200
Total other liabilities	2,123	795

* Deferred lease incentive is the net difference between total rent paid year to date for the office accommodation lease, and the year to date costs calculated on a straight line basis.

21 Provisions

	2017 \$'000	2016 \$'000
Non-current		
Provision for make good	329	331
Total non-current provisions	329	331
<i>Reconciliation of provision for make good</i>		
Carrying amount at beginning of the period	331	324
Provision to make good leasehold premises	(2)	7
Carrying amount at end of the period	329	331

22 Equity

	2017 \$'000	2016 \$'000
Contributed capital		
New South Wales	750	750
Victoria	556	556
Queensland	432	432
South Australia	173	173
Tasmania	54	54
Australian Capital Territory	36	36
Western Australia	14	14
Northern Territory	2	2
Total contributed capital	2,017	2,017
Retained earnings	7,632	8,088
Total equity	9,649	10,105

The Funding Agreement with the Jurisdictions provides for the maintenance of a Capital reserve to meet any adverse funding situation or unexpected cash flows. Each State and Territory provided their portion of the funds for the Capital reserve which is intended to be retained by the Commission for its lifetime.

23 Unrecognised contractual commitments

Capital commitments	2017 \$'000	2016 \$'000
Capital expenditure contracted for at the reporting date but are not recognised as liabilities in the financial report, are payable as follows:		
Within one year	–	26
Total capital commitments	–	26

Expenditure commitments - other	2017 \$'000	2016 \$'000
Within one year	902	1,691
Later than one year but not longer than five years	169	165
Total commitments - other	1,071	1,856

The Commission's other commitments are for agreements for provision of services.

Operating lease commitments	2017 \$'000	2016 \$'000
Commitments for minimum lease payments in relation to non-cancellable operating leases, contracted for at the reporting date but not recognised as liabilities are payable as follows:		
Within one year	1,138	1,090
More than one year but not later than five years	3,608	4,746
Later than five years	–	–
Total operating lease commitments	4,746	5,836
Representing		
Non-cancellable operating leases	4,746	5,836
Total operating lease commitments	4,746	5,836

The Commission's operating leases are for office accommodation. Office accommodation is leased from Perron Investments Pty Ltd and Perpetual Trustee Company Limited. A lease commenced 1 June 2013 and is non-cancellable with a term of eight years (expiring on 31 May 2021) with an option to renew for a further five years. Rent is payable monthly in advance. The lease rental increments are fixed at 4.0% per annum for the lease term.

24 Contingent assets and liabilities

The Commission is not aware of any contingent assets and liabilities.

25 Financial risk management/ Financial instruments

Financial risk management

Risk management is managed by the Commission's corporate services and legal sections and risk management policies are in accordance with ISO 31000 - International Standard for Risk Management – Principles and guidelines.

Categorisation of financial instruments

Details of significant accounting policies and methods adopted including the criteria for recognition, the basis of measurement, and the basis on which income and expenses are recognised with respect to each class of financial asset, financial liability are disclosed in Note 2 Summary of significant accounting policies.

The Commission does not recognise any financial assets or financial liabilities at fair value, but does disclose fair value in the notes. All of the resulting fair value estimates are included in level 2 as all significant inputs required are observable.

The carrying value less impairment provisions of receivables and payables is a reasonable approximation of their fair values due to the short-term nature of these (refer Notes 2, 15 and 18).

Categorisation analysis of financial assets and liabilities

Category of financial asset and financial liability	Note	2017 Carrying amount/ Fair value (\$'000)	2016 Carrying amount/ Fair value (\$'000)
Financial assets			
Cash and cash equivalents	14	13,223	12,164
Receivables (1), (2)	15	65	122
Total financial assets		13,288	12,286
Financial liabilities			
Financial liabilities at cost			
Payables (1)	18	564	698
Total financial liabilities		564	698

(1) Receivable and payable amounts disclosed here exclude amounts relating to statutory receivables and payables. In government, certain rights to receive or pay cash may not be contractual and therefore in these situations, the requirements will not apply. Where rights or obligations have their source in legislation such as levy receivables/payables, tax equivalents, Commonwealth tax etc. they would be excluded from the disclosure. The standard defines 'contract' as enforceable by law. All amounts recorded are carried at cost.

(2) Receivables amount disclosed here excludes prepayments. Prepayments are presented in Note 15 as trade and other receivables in accordance with paragraph 78(b) of AASB 101 – Presentation of financial statements. However, prepayments are not financial assets as defined in AASB 132 – Financial instruments presentation, as the future economic benefit of these assets is the receipt of goods and services rather than the right to receive cash or another financial asset.

26 Events after reporting period

There are no events occurring after 30 June that have a material financial implication on the financial statements.

Statutory reports

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Statutory reports

MCE Statements of Policy Principles

There are currently no Statements of Policy Principles made by the Ministerial Council on Energy.

External consultants

The AEMC supplements its own resources with consultants. In 2016-2017 the total amount expended was \$3.09m.

External consultants - spending bands

Number and dollar amount of consultancies that fell within the following bands:	No.	2017 \$'000
Below \$10,000	0	0
Above \$10,000	28	3,088
Total	28	3,088

External consultants - project descriptions

Company	Project description
AECOM Australia Pty Ltd	Modelling the impact of embedded generation on network planning; assessing the network impact of new technologies
Axiom Economics Pty Ltd	Advice for the Victorian gas review
Cambridge Economic Policy Associates	Advice on transitional measures for reforms to the Victorian DWGM
Creative Energy Consulting	Assessment of whether the current distribution regulatory and market design frameworks are flexible enough to respond to changes in technology e.g. an increased uptake of distributed energy resources
Deloitte Touche Tohmatsu	Economic assessment of system restart ancillary services in the national electricity market
Endgame Economics Pty Ltd	Economic advice and analytical support of the <i>Five minute settlement</i> rule change; analytical support for <i>Non-scheduled generation and load in central dispatch</i> ; economic and analytical advice for the <i>System security frameworks review</i> and the <i>2017 retail energy competition review</i>
Energy Edge	Assessing the potential impact of the <i>Five minute settlement</i> rule change request
Ernst & Young	Analysis of the impact of non-scheduled generation and load on dispatch demand accuracy
Farrier Swier Consulting	Advice relating to the retailer survey for the <i>2017 retail energy competition review</i>
Frontier Economics Pty Ltd	Modelling and advice on residential electricity price trends; electricity market modelling of emissions reduction policies
Herbert Smith Freehills	Provision of legal support on projects
Johnson Winter & Slattery Lawyers	Provision of legal support on projects
K Lowe Consulting	Ongoing advice for the <i>Review of the Victorian declared wholesale gas market</i>

King & Wood Mallesons	Provision of legal support on projects
List G – Tom Clarke	Statutory interpretation advice in connection with various rule change requests
Marsden Jacob Associates	Advice on the electricity contract market
Mercer	Internal governance and human resources
Minter Ellison	Provision of legal support on projects
Newgate Research	Quantitative consumer research for the <i>2017 retail energy competition review</i>
Oakley Greenwood Pty Ltd	Assessment of the approach to market modelling in the 2014 review of the reliability setting and standards; survey of retailer-contracted demand response; advice on embedded networks for the <i>2017 retail energy competition review</i>
Park Industrial Pty Ltd	Independent peer review of AEMO's black system restoration modelling results for NSW
Phacelift Consulting Services Pty Ltd	Technical advice on <i>Five minute settlement</i>
Popple Power Consulting Pty Ltd	Peer review of <i>Transmission connection and planning arrangements</i>
PricewaterhouseCoopers (NSW)	Cost-benefit analysis for the <i>Review of the Victorian declared wholesale gas market</i> ; internal audit services
Promontory Australasia (Sydney) Pty Ltd	Peer review of <i>Retailer-distributor credit support requirements</i>
Regulatory Policy Institute	Report on Great Britain's experience of environmental and energy policy integration
Seyfarth Shaw	Employment law advice
University of Wollongong	Advice to inform the AEMC's consideration of <i>Non-scheduled generation and load in central dispatch</i>

AEMO's use of Powers of Direction

A report of the AEMC under section 27 of the Australian Energy Market Commission Establishment Act 2004 (SA) must include a report on AEMO's use of powers of direction. AEMO can direct registered participants to undertake actions that are in AEMO's view necessary to help deliver power system security. A registered participant who is subject to a direction from AEMO may be entitled to compensation for complying with the direction. AEMO can also issue instructions to any registered participants. Participants complying with an instruction are not able to obtain compensation.

The directions below were issued by AEMO between 1 July 2016 and 30 June 2017 in relation to power system security under clause 4.8.9(a) of the National Electricity Rules (NER).

1. Between 9 and 10 October 2016, AEMO issued a direction to a participant in South Australia (SA) in order to maintain power system security under clause 4.8.9 of the National Electricity Rules (NER). The direction was issued during SA market suspension and was required in order to maintain a minimum of three thermal synchronous generating units, each of not less than 100 MW installed capacity, on-line at all times in SA.

The direction was issued between 2054 hrs on 9 October 2016 and 0530 hrs on 10 October 2016. The directed participant received compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). The directed participant made no claims for additional compensation under NER clause 3.15.7B.

2. On 11 October 2016, AEMO issued a direction to a participant in South Australia (SA) in order to maintain power system security under clause 4.8.9 of the National Electricity Rules (NER). The direction was issued during SA market suspension and was required in order to maintain a minimum of three thermal synchronous generating units, each of not less than 100 MW installed capacity, on-line at all times in SA.

The direction was issued between 1616 hrs and 1906 hrs on 11 October 2016. The direction was cancelled prior to the directed generating unit having synchronised and shortly before the resumption of the spot market following market suspension. The directed participant did not receive compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). However, the directed participant submitted a claim to AEMO for additional compensation, which has been settled in accordance with NER clause 3.15.7B.

3. On 1 December 2016, AEMO issued directions to three participants in South Australia (SA) to restore power system security under clause 4.8.9 of the National Electricity Rules (NER) or Section 116 of the National Electricity Law (NEL). The power system was

not secure due to the shortage of contingency frequency control ancillary services (FCAS) following the separation of SA from the rest of the mainland.

- From 0130 hrs to 0500 hrs, AEMO directed a participant in SA to provide Fast Raise FCAS under clause 4.8.9 of the National Electricity Rules (NER). The Directed Participant received compensation for the provision of market ancillary services pursuant to the direction, in accordance with NER clause 3.15.7(c). The Directed Participant submitted a claim for additional compensation, which was assessed by an Independent Expert and has been settled in accordance with NER clause 3.15.7B.
 - From 0230 hrs to 0500 hrs, AEMO directed a second participant in SA to provide other services by reducing energy output from the generating unit with the highest level of output under clause 4.8.9 of the National Electricity Rules (NER). The fair payment price under 3.15.7A and additional compensation claim under 3.15.7B for this direction was assessed by an Independent Expert. The claim, in accordance with the final determination by the Independent Expert, will be settled on 15 September 2017.
 - From 0210 hrs to 0500 hrs, AEMO directed a third participant in SA to reduce supply to a major load under Section 116 of the National Electricity Law (NEL). The major load was not a registered participant and did not receive any compensation following the Direction.
4. On 1 December 2016, AEMO issued a direction to a participant in Victoria (VIC) to restore power system security under clause 4.8.9 of the National Electricity Rules (NER). The power system was not secure due to the shortage of contingency lower frequency control ancillary services (FCAS) services and the high flow across Heywood interconnector exceeding the operating limits from SA to VIC.

The direction was issued between 1030 hrs and 1545 hrs on 1 December 2016 to provide other services by requiring a generating unit to reduce output to 0 MW and de-synchronise. The fair payment price under 3.15.7A and additional compensation claim under 3.15.7B for this direction was assessed by an Independent Expert. The claim, in accordance with the final determination by the Independent Expert, will be settled on 15 September 2017.
 5. On 8 February 2017, AEMO issued a direction to a participant in South Australia (SA) to restore power system security under Section 116 of the National Electricity Law (NEL). The power system was not secure due to high flow

across Murraylink interconnector exceeding its operating limits from VIC to SA. The direction was issued between 1803 hrs and 1830 hrs and the participant was directed to interrupt supply to customer load in SA. There was no compensation associated with this direction.

6. On 9 February 2017, AEMO issued a direction to a participant in South Australia (SA) to maintain power system reliability under clause 4.8.9 of the National Electricity Rules (NER).

The direction was issued between 1505 hrs and 1900 hrs on 09 February 2017. The directed participant received compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). The directed participant made no claims for additional compensation under NER clause 3.15.7B.

7. On 10 February 2017, AEMO issued a direction to a participant in New South Wales (NSW) to restore power system security under Section 116 of the National Electricity Law (NEL). The power system was not secure due to high flows across the QNI, Terranora and VIC-NSW interconnectors exceeding their operating limits into NSW. The direction was issued between 1658 hrs and 1801 hrs and the participant was directed to interrupt supply to customer load in NSW. There was no compensation associated with this direction.
8. On 1 March 2017 AEMO issued a direction to a participant in South Australia (SA) to maintain power system reliability under clause 4.8.9 of the National Electricity Rules (NER).

The direction was issued between 1639 hrs and 1925 hrs on 1 March 2017. The directed participant received compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). The directed participant made no claims for additional compensation under NER clause 3.15.7B.

9. Between 28 and 29 March 2017, AEMO issued two directions to a participant in Queensland (QLD) to maintain power system security under clause 4.8.9 of the National Electricity Rules (NER). The direction was required due to the threat of loss of multiple circuits between central and north QLD which had been reclassified as a credible contingency.
 - From 1440 hrs to 1500 hrs on 28 March 2017, AEMO directed the participant in QLD to commit a generating unit. This generating unit was unable to synchronise due to start-up issues and therefore AEMO cancelled the direction at 1500 hrs.
 - From 1500 hrs on 28 March 2017 to 0400 hrs on 29 March 2017, AEMO directed the participant in QLD to commit a second generating unit.

- Once the start-up issues were resolved, from 1600 hrs on 28 March 2017 to 0400 hrs on 29 March 2017, AEMO directed the participant in QLD to re-commit the generating unit that had failed to synchronise earlier.

The directed participant received compensation for the provision of energy pursuant to the three directions, in accordance with NER clause 3.15.7(c). The directed participant submitted a claim to AEMO for additional compensation, which is currently under assessment by an Independent Expert in accordance with NER clause 3.15.7B.

10. Between 25 and 26 April 2017, AEMO issued directions to two participants in South Australia (SA) to maintain power system security under Section 116 of the National Electricity Law (NEL). The direction was required to maintain a minimum of two thermal synchronous generating units on-line at all times in SA.
 - From 0235 hrs to 1415 hrs on 25 April 2017, AEMO directed a participant in SA to synchronise and follow dispatch targets. The Directed Participant received compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). The Directed Participant submitted a claim for additional compensation, which is being assessed by an Independent Expert in accordance with NER clause 3.15.7B.
 - From 0745 hrs on 25 April 2017 to 1210 hrs on 26 April 2017, AEMO directed a second participant in SA to synchronise and follow dispatch targets. The Directed Participant received compensation for the provision of energy pursuant to the direction, in accordance with NER clause 3.15.7(c). The Directed Participant submitted a claim for additional compensation, which is being assessed by an Independent Expert in accordance with NER clause 3.15.7B.

Use by Registered Participants of inspection and testing rights

From 1 July 2016 to 30 June 2017 AEMO was not informed of any inspections conducted under clause 5.7.1, or any tests conducted under clause 5.7.2 of the National Electricity Rules. These provisions relate to the right of registered participants to enter the facilities and test the equipment of other participants to assess compliance with technical requirements.

Compliance

This report details our performance from 1 July 2016 to 30 June 2017 in accordance with the Australian Energy Market Commission Establishment Act (SA) and the Australian Energy Market Commission Establishment Regulations Act 2005 (SA).

This index indicates where each of the items which the AEMC must report on is located within the report.

1. A report of the AEMC under section 27 of the Act must include a report on the following in respect of the financial year concerned:
 - a) the National Energy Law provisions and other legislative provisions that confer functions on the AEMC **13**
 - b) the AEMC's relationship to other bodies involved in the administration of National Energy Laws **12**
 - c) the membership and organisation of the AEMC **16**
 - d) the AEMC's strategic plans and the relationship of the plans to objectives set out in the National Energy Laws **15**
 - e) the AEMC's activities and their efficiency and effectiveness **20-37**
 - f) the AEMC's financial affairs **59-78**
 - g) disclosures made by Commissioners under section 22 of the Act **52**
 - h) positions in the employment of the AEMC, including salary levels for the positions, any positions created or filled and any positions abolished or vacated **69-70**
 - i) the extent to which external consultants have been engaged by the AEMC, the nature of the work undertaken by the consultants and the total cost to the AEMC of the consultancies **80-81**
 - j) the occupational health, safety and rehabilitation programs of the AEMC and their effectiveness **49**
 - k) any instances of fraud in the operations of the AEMC and the strategies implemented to prevent and control fraud **53**
 - l) in relation to electricity:
 - I. the extent to which the operation of the Rules has met the national electricity market objective and the strategic development of the Rules to meet the national electricity market objective **20-22**
 - II. any statements of policy principles that have been issued by the MCE in relation to the AEMC and any directions that have been given by the MCE to the AEMC **80**
- III. the rule making activities of the AEMC under the National Electricity Law, including:
 - A) requests for Rules in each of the categories of jurisdictional derogations, participant derogations, non-controversial Rules and urgent Rules, and **86-89, 95-96**
 - B) the stages at which proposed Rules are in the Rule making procedure, and **90-94, 95, 96**
 - C) decisions of the AEMC not to proceed with requests for Rules, and **89, 95-96**
 - D) Rules made, and **86-89, 95-96**
 - E) Rules that have come into operation **86-89, 95-96**
- IV. MCE directed reviews and AEMC initiated reviews under the National Electricity Law **97**
- V. market development functions **97-105**
- VI. recommendations made by the AEMC for the MCE to request the making of Rules **24-37**
- VII. the composition and activities of the Reliability Panel and of any other panels or committees that have been established by the AEMC **38-41**
- VIII. AEMO's use of powers of direction in relation to power system security under clause 4.8.9(a) of the Rules **82-83**
- IX. The use by registered participants of inspection and testing rights under clauses 5.7.1 and 5.7.2 of the Rules **83**
- X. The extent and effectiveness of demand side participation in the national electricity market, including measures that could be undertaken to enhance demand side participation in the national electricity market **35, 36-37**
2. The AEMC's report must include its audited financial statements for the financial year and the Auditor-General's report on the financial statements. **54-78**

Appendix

AEMC index of rules, reviews and advice 2016-2017

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Table A Electricity rules made by the AEMC in 2016-2017

ELECTRICITY RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Register of large generator connections	Rule 2016 No. 7 (NER version 93 and NT NER version 10)	1 Sep 2016	1 Jul 2017	COAG Energy Council	Expedited	<p>This rule change request arose from a recommendation made in the 2015 <i>Optional firm access, design and testing</i> review.</p> <p>The new rule requires transmission network services providers (TNSPs) to establish, publish and maintain a register of larger generator connections to their network. TNSPs will also be required to undertake impact assessments for new large generator connections. This is likely to promote efficient investment by increasing the level of transparency relating to the effect of transmission connections.</p>
Application of offsets in the prudential margin calculation	Rule 2016 No. 8 (NER version 83)	22 Sep 2016	29 Sep 2016	AEMO	Standard	<p>A market participant's prudential margin is part of the overall credit support provided by market participants to minimise the risk of a payment shortfall when purchasing electricity in the NEM's spot market.</p> <p>The Commission made a rule that removes the restriction on market participants using off-market trading relationships (such as hedging contracts) to reduce the amount of credit support they are required to provide to AEMO. This will allow market participants to use their collateral more efficiently and may result in cost savings. It also supports competition by potentially reducing barriers to entry and expansion.</p> <p>Next steps: The removal of the prohibition in the National Electricity Rules on offsetting of trading and reallocation amounts in the prudential margin calculation takes effect from 20 October 2017.</p>
Rate of return guidelines review	Rule 2016 No. 9 (NER version 84 and NT NER version 2)	13 Oct 2016	20 Oct 2016	AER	Expedited	<p>This rule extends the first deadline for the Australian Energy Regulator's review of the Rate of Return Guideline to five years.</p> <p>Extending the time to review the Guideline provides the opportunity for the outcomes of the Federal Court of Australia decisions related to the NSW and ACT limited merits review processes to be taken into account in the next Guideline review process.</p> <p>Next steps: The final rule required the AER to complete its review of the Rate of Return Guidelines by 17 December 2018; the AER initiated this review on 31 July 2017.</p>
Demand response mechanism and ancillary services unbundling	Rule 2016 No. 10 (NER version 93 and NT NER version 10)	24 Nov 2016	1 Jul 2017	COAG Energy Council	Standard	<p>The AEMC's final rule created a new type of market participant who can do deals with energy users to offer demand response as a tool to help maintain power system security.</p> <p>It allows for the 'unbundling' of the provision of the ancillary services necessary for a secure power system from the provision of energy.</p>

(continued over page)

ELECTRICITY RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Demand response mechanism and ancillary services unbundling						<p>(continued from previous page)</p> <p>This will facilitate a more competitive ancillary services market and provide an additional value stream for customers when providing ancillary services.</p> <p>The AEMC's analysis during 2016 found that there were no barriers at that time in the National Electricity Rules to demand response to wholesale electricity spot prices which means that the benefits identified in the rule change proposal can be delivered without the extensive costs of a new regulatory mechanism for demand response.</p>
Market participant suspension framework	Rule 2016 No. 11 (NER version 88 and NT NER version 5)	1 Dec 2016	1 Jan 2017	COAG Energy Council	Standard	<p>This rule clarifies whether AEMO must suspend a market participant under external administration from trading.</p> <p>The final rule establishes a more selective approach to suspension in cases where a market participant has more than one registration – for example as a generator and a retailer.</p> <p>It allows AEMO to suspend one or more of a market participant's activities, while allowing it to continue to participate in other activities. Clarifying AEMO's discretion aims to reduce the potential for financial instability in the market.</p>
Local generation network credits	Rule 2016 No. 12 (Transitional Amendments NER version 87; Schedule 1 NER version 93)	8 Dec 2016	15 Dec 2016, 1 Jul 2017	City of Sydney, Property Council of Australia, Total Environment Centre	Standard	<p>The AEMC made a final rule which places new obligations on electricity distribution network businesses to provide better information on opportunities to adopt alternatives to 'poles and wires' investment.</p> <p>These changes will help reveal new opportunities for embedded generation, demand response and other technologies in situations where they can address system constraints at the least cost to consumers.</p> <p>The Commission did not support the introduction of 'local generation network credits'. The AEMC's analysis showed that the proposed credits would likely result in higher costs for all electricity customers.</p> <p>Next steps: The AER was required to develop and implement a system limitation template procedure by 1 July 2017, which was completed as required. Distribution network service providers must publish the first system limitation reports in December 2017.</p>

ELECTRICITY RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Retailer-distributor credit support requirements	Rule 2017 No. 1 (NER version 89 and NT NER version 6)	2 Feb 2017	9 Feb 2017	COAG Energy Council; AGL Energy	Standard	<p>This rule improves the mechanisms available to distributors to manage the risks they face when a retailer defaults and is unable to pay its outstanding network charges.</p> <p>Allowing distributors to collect unpaid network charges and any costs associated with a retailer default provides more certainty to distributors, financial markets and other market participants.</p> <p>The rule also removes the requirements for credit support between retailers and distributors, except in the case of a history of late payment. This means that retailers would avoid incurring these upfront costs which are typically passed on to customers.</p>
Emergency frequency control schemes	Rule 2017 No. 2 (NER version 7 and NT NER version 90)	30 Mar 2017	6 Apr 17	South Australian Minister for Mineral Resources and Energy	Standard	<p>These new rules, which are part of the AEMC's system security work package, will help protect the power system in emergencies.</p> <p>The rules set out new management framework for emergency frequency control schemes, which are 'last line of defence' mechanisms which help prevent system-wide blackouts.</p> <p>The new rules also require AEMO to conduct regular forward-looking reviews of power system frequency risks so that all technological solutions can be employed to limit the consequences of emergency frequency events.</p> <p>Next steps: AEMO must develop, update and maintain schedules specifying settings for operation of the emergency frequency control scheme for each participating jurisdiction.</p> <p>AEMO must undertake a power system frequency risk review by April 2018 and at least every two years on an ongoing basis.</p> <p>Each transmission network service provider must conduct an annual planning review which takes into account the most recent power system frequency risk review.</p> <p>The Reliability Panel must undertake an economic assessment of any request made by AEMO to declare a "protected event" and, if accepted, set a "protected event emergency frequency control standard" for that event.</p>
Minor changes 2017	Rule 2017 No. 3 (NER version 91 and NT NER version 8)	19 Apr 2017	2 May 2017	AEMC	Expedited	<p>Minor rule changes are made annually, or as needed, to correct minor errors and make non-material changes to the rules. They improve the quality of the rules in terms of accuracy and consistency.</p>

ELECTRICITY RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Transmission connection and planning arrangements	Rule 2017 No. 4 (NER version 92 and NT NER version 9)	23 May 2017	30 May 2017, 1 Jul 2018	COAG Energy Council	Standard	<p>This rule change request was largely based on recommendations made by the AEMC in its <i>Transmission frameworks review</i>.</p> <p>The AEMC's final rule enables more competition in the provision of transmission connections while maintaining clear accountability for the safety, security and reliability of the transmission network. It provides more choice, control and certainty for any parties connecting to the transmission network, while at the same time making it clear that the incumbent transmission businesses are accountable for providing a safe, reliable and secure transmission network – even if some parts of it are built and owned by other parties.</p> <p>Transmission businesses will be required to provide more information in their annual planning reports and to consider investment options in another transmission business's region. Better planning and coordination should support more alternative solutions put forward in response to future network needs and help businesses to identify the lowest cost option.</p> <p>Next steps: The connections aspects of the final rule start on 1 July 2018. The new planning arrangements started in May 2017.</p>

Table B Determinations to not make a rule in response to an electricity rule change request

ELECTRICITY RULE REQUEST	DETERMINATION DATE	PROPONENT	CATEGORY	REASONS
Using estimated reads for customer transfers	2 Feb 2017	COAG Energy Council	Standard	<p>The AEMC determined not to make a rule on the use of estimated meter reads when a small customer with a manually-read meter transfers to a new electricity retailer. The AEMC's analysis found that recent developments in the energy market, particularly a reduction in transfer times, are helping to improve the efficiency of the transfer process. In addition, transfer times should continue to improve as more advanced meters are installed across the market as a result of the AEMC's competition in metering rule change determination made in November 2016.</p> <p>Next steps: The Commission will continue to monitor customer transfer statistics to check that transfer times continue to reduce over time.</p>

ELECTRICITY RULE REQUEST	DETERMINATION DATE	PROPONENT	CATEGORY	REASONS
Improving the accuracy of customer transfers	2 Feb 2017	COAG Energy Council	Standard	The AEMC determined not to make a rule introducing an address standard for data used when customers switch retailers. The AEMC's research and consultation indicated that recent and upcoming system improvements by market participants meant that an address standard would not be effective in further reducing transfer errors and delays.

Table C Electricity rules under consideration at 30 June 2017

ELECTRICITY RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Five minute settlement	Sun Metals Corporation	19 May 2016	Standard	<p>In a directions paper released in April 2017, the AEMC outlined the impacts of changing the settlement period for the electricity spot price from 30 minutes to five minutes. The Commission's initial position, subject to stakeholder feedback on detailed immediate and future costs and benefits, is that the adoption of five minute settlement is in the long term interest of consumers.</p> <p>A move to five minute settlement would align the physical electricity system – which matches demand and supply every five minutes – with the price signal provided by the spot market for that five minute period. An improved price signal would incentivise investment in fast response generation.</p> <p>The AEMC held a public forum on <i>Five minute settlement</i> in May 2017. At 30 June, we were continuing to review the more than 40 submissions stakeholders made to the directions paper, and preparing a draft determination for publication in September 2017.</p>
Non-scheduled generation and load in central dispatch	ENGIE, Snowy Hydro	5 Nov 2015	Standard	<p>The AEMC's draft determination on this consolidated rule change request proposed not to make a rule requiring large industrial companies and smaller generators to inform AEMO of their planned consumption and generation, and to follow AEMO's instructions.</p> <p>Our analysis shows that the benefits to the market from the proposed changes are limited and uncertain, while the costs of the proposed change would be likely to flow through to consumers in the form of higher prices.</p> <p>At 30 June 2017, we were awaiting submissions from stakeholders on the draft determination.</p>

ELECTRICITY RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Contestability of energy services	COAG Energy Council	15 Dec 2016	Standard	<p>In December 2016 the AEMC started consultation on rule change requests from the COAG Energy Council and the Australian Energy Council that seek to promote the development of competitive markets for new technologies which are capable of providing services in contestable and regulated markets.</p> <p>Technology, and the increased choices it offers consumers, is changing the energy sector. In particular, technologies such as battery storage – which are able to provide multiple services – make it more difficult to draw the line between what is economically regulated and what is provided by contestable markets.</p> <p>Both rule requests propose changes to the National Electricity Rules regarding the classification of distribution services. The classification determines which services provided by distribution network businesses are economically regulated and in what form.</p> <p>In addition, the Australian Energy Council seeks to restrict distribution network businesses' ability to earn a regulated rate of return on assets that provide network support, demand response or are located on the customer's side of the meter. The rule change request also proposes that the threshold for the regulatory investment test for distribution businesses be reduced so that it applies to smaller projects.</p> <p>At 30 June 2017, the AEMC was preparing draft determinations for publication in late August.</p>
Contestability of energy services – demand response and network support	Australian Energy Council	15 Dec 2016	Standard	See above.
Inertia ancillary service market	AGL Energy	8 Sep 2016	Standard	<p>This rule change is part of the AEMC's system security work program.</p> <p>The final report in the <i>System security market frameworks review</i> was released in June with a package of recommendations for both immediate measures to address priority issues and further proposals to continue the AEMC's ongoing security work.</p> <p>In November 2017 the AEMC intends to introduce draft rules to establish an inertia ancillary services market as part of the broader system security work.</p>

ELECTRICITY RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Replacement expenditure planning arrangements	AER	27 Oct 2016	Standard	<p>In April 2017 the AEMC made a draft rule placing new obligations on network businesses to provide more information about their plans for retirement and replacement of electricity network assets.</p> <p>As the technology-driven transformation of the electricity market continues, there is now a greater focus on managing the existing electricity network in new ways. For example, developments in battery storage, demand response and other technologies may provide alternatives to 'poles and wires' when parts of the network need to be replaced.</p> <p>Taking account of these changes, the draft rule extends some of the mechanisms and planning arrangements in the rules to provide better information and more transparency on upcoming network replacement projects.</p> <p>Improving transparency should help providers of non-network solutions, such as battery storage, embedded generation and demand response, to identify investment opportunities in the network.</p> <p>Increased transparency is also likely to assist the AER and stakeholders in regulatory decision-making processes such as revenue determinations.</p> <p>At 30 June 2017, we were preparing the final determination.</p>
Participant derogation – NSW DNSPs revenue smoothing	Ausgrid, Endeavour Energy, Essential Energy	17 Nov 2016	Standard	<p>In March 2016 the AER applied to the Federal Court for a judicial review of the Australian Competition Tribunal's decisions on the NSW and ACT distribution network revenue determinations for the period 2014-2019.</p> <p>In April 2017, the AEMC made draft rule determinations to minimise price volatility for NSW and ACT customers that may occur as a result of these judicial review proceedings.</p> <p>At the end of the period under review, we were considering submissions to the draft determinations.</p>
Participant derogation – ACT DNSPs revenue smoothing	ActewAGL	17 Nov 2016	Standard	See above

ELECTRICITY RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Managing power system fault levels	Minister for Mineral Resources and Energy (SA)	8 Sep 2016	Standard	<p>In June 2017 the AEMC released its <i>System security market frameworks review</i> final report and a package of draft rules for public consultation on proposals to stabilise the grid in relation to frequency management and system strength.</p> <p>System strength is stronger or weaker in different places depending on the generation mix. It is a localised problem and is measured by the fault level at specific points in the network. More non-synchronous generation in a region makes the system weaker. The technical term for this weakness is a 'low short-circuit ratio'.</p> <p>If made, this draft rule would create new obligations for generators and networks to maintain system strength. At 30 June 2017, we were awaiting submissions on the draft determination.</p>
Managing the rate of change of power system frequency	Minister for Mineral Resources and Energy (SA)	8 Sep 2016	Standard	<p>This rule change request is also part of the AEMC's system security work program.</p> <p>The changing generation mix means the power system has less inertia. Less system inertia means frequency may become volatile. If frequency changes too fast then the system is at high risk of going black. The power system needs to be managed differently to integrate new technologies.</p> <p>This draft rule would require transmission network service providers to maintain a minimum level of inertia on their network to help deliver more effective frequency control across the whole system. At 30 June 2017, we were awaiting submissions on the draft determination.</p>
Generating system model guidelines	AEMO	15 Mar 2017	Standard	<p>In June 2017 the AEMC made a draft rule requiring generators and network businesses to provide AEMO with more detailed data models of generation systems and other equipment.</p> <p>More comprehensive details about operating capability and modelling data can help AEMO in managing a power system with reduced system strength.</p> <p>Under the draft rule, AEMO would develop guidelines setting out the technical and operational details of the modelling data and the specific circumstances when that data is required.</p> <p>At 30 June 2017 we were preparing to consider submissions on the draft determination.</p>

ELECTRICITY RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Secondary trading of settlement residue distribution units	Westpac Banking Corporation	11 Apr 2017	Standard	<p>Regions of the national electricity market have different levels of demand and differently priced generation, which leads to different wholesale prices. Price separation between regions occurs when there is not enough interconnector capacity to equalise the spot price flowing from a lower to higher priced region. In these cases, AEMO collects more money in the higher priced region (from consumers) than it needs to pay to the generators in the lower priced region. That money is called the settlements residue.</p> <p>AEMO auctions the rights to a share of this settlements residue on a quarterly basis, which provides auction participants with an additional hedging tool to help manage inter-regional price risk ultimately lowering costs for consumers. While secondary trading of previously purchased settlements residue distribution units is allowed in the rules, this rule change request proposes a new platform for secondary trading based on an AEMO-facilitated auction.</p> <p>The AEMC published a consultation paper in April 2017. At 30 June we were considering submissions and preparing a draft determination.</p>
Alternatives to grid-supplied network services	Western Power	14 Jun 2017	Standard	<p>This rule change request asserts that there are regulatory barriers which prevent distribution businesses from providing off-grid electricity supply to remote consumers as an alternative to maintaining or replacing the long power lines which connect those consumers to the grid.</p> <p>The proposed change to the National Electricity Rules would allow network businesses to provide electricity via individual power systems or microgrids in place of grid supply, in certain locations where it would be cheaper than maintaining the grid connection.</p> <p>At 30 June 2017 we were awaiting submissions on the consultation paper.</p>
Classification of loads as ancillary service loads	AEMO	27 Jun 2017	Expedited	<p>In November 2016 the AEMC made a rule which created a new type of market participant, an “ancillary service provider”, who can do deals with energy users and offer their load as demand response services to help AEMO control frequency on the electricity system.</p> <p>In developing systems and procedures to implement the new rule, AEMO identified an issue that would limit the benefits of this rule. Therefore, AEMO submitted a rule change request seeking to classify any load wanting to provide frequency control ancillary services as ‘ancillary service’ load, as long as AEMO’s technical requirements are met.</p> <p>At the end of the period under review we had just published the consultation paper.</p>

Table D Gas rules made by the AEMC in 2016-2017

GAS RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Rate of return guidelines review	Rule 2016 No. 2 (NGR version 31)	13 Oct 2017	20 Oct 2017	AER	Expedited	See details Table A.
Retailer-distributor credit support requirements	Rule 2017 No. 1 (NGR version 33)	2 Feb 2017	9 Feb 2017	AGL Energy; Jemena Gas Networks	Standard	See details Table A.
Gas day harmonisation	Rule 2017 No. 2 (The provisions will be included in a new version of the NGR on commencement)	16 Feb 2017	1 Apr 2021	COAG Energy Council	Standard	<p>This rule harmonises the start of the gas day at 6am EST in the east coast markets from 2021. At present, different gas markets across the east coast operate with different gas day start times as a result of legacy pipeline arrangements.</p> <p>The rule change arose from a recommendation in the AEMC's East coast gas review which put forward a roadmap to implement the COAG Energy Council's vision for an integrated east coast gas market. A common gas day will support new market arrangements proposed by that review which are currently being progressed by the Gas Market Reform Group established by the energy ministers.</p> <p>Next steps: Gas contracts will need to be reviewed and amended to reflect the new gas day start time. A business program will need to implement changes to metering infrastructure on pipelines and facilities. AEMO will need to amend its procedures and processes.</p>

Table E Determinations to not make a rule in response to a gas rule change request

GAS RULE REQUEST	DETERMINATION DATE	PROPONENT	CATEGORY	REASONS
Improving the accuracy of customer transfers	2 Feb 2017	COAG Energy Council	Standard	See details Table B

Table F Gas rules under consideration at 30 June 2017

GAS RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Improvements to natural gas bulletin board	COAG Energy Council	14 June 2017	Fast-tracked	<p>This rule change from the COAG Energy Council seeks to undertake a range of improvements to the natural gas services Bulletin Board.</p> <p>The request is part of the AEMC's package of gas market reforms, endorsed by the COAG Energy Council, which are designed to support faster and more efficient gas trading and access to pipeline transportation along the east coast of Australia.</p> <p>In developing the east coast gas review's final report, the AEMC consulted extensively on the issues and recommendations within this rule change request, so we are using a fast-track process.</p> <p>A draft determination is due to be published in July 2017.</p>

Table G Retail rules made by the AEMC in 2016-2017

RETAIL RULE MADE	CONSOLIDATION	DATE MADE	COMMENCED	PROPONENT	CATEGORY	BENEFIT/IMPACT
Improving the accuracy of customer transfers	Rule 2017 No. 1 (NERR version 7)	2 Feb 2017	2 Feb 2017, 3 Aug 2017	COAG Energy Council	Standard	<p>This rule places new obligations on electricity and gas retailers who transfer small customers without informed consent. It is based on recommendations in the AEMC's <i>Review of electricity customer switching</i>.</p> <p>The rule establishes a clear process and timeframes for retailers to resolve incorrect transfers. Retailers will also be prohibited from cutting off customers who have raised the issue of lack of consent to transfer. This aims to strengthen customer confidence in the transfer process and support customers exercising their choice of retailer. It may also help to reduce complaints to ombudsmen regarding transfers without consent.</p> <p>Next steps: AEMO must amend the Retail Market Procedures to take account of the Amending Rule prior to its commencement in August 2017.</p>

Table H Determinations to not make a rule in response to a retail rule change request

RETAIL RULE REQUEST	DETERMINATION DATE	PROPONENT	CATEGORY	REASONS
Using estimated reads for customer transfers	2 Feb 2017	COAG Energy Council	Standard	See details Table B.

Table I Retail rules under consideration at 30 June 2017

RETAIL RULE REQUEST	PROPONENT	INITIATED	CATEGORY	STATUS AT 30 JUNE 2017
Strengthening protections for customers requiring life support equipment	AER	20 Jun 2017	Standard	<p>There are rules in place that limit when electricity retailers and distributors are able to interrupt supply to customers requiring life support equipment such as a ventilator or kidney dialysis machine.</p> <p>This rule change request from the AER seeks to strengthen the protection framework for these customers by clarifying that protections apply from the time customers first inform their retailer or distributor, not from when they provide a medical certificate.</p> <p>The proposed changes would also require the retailer or distributor first contacted by the customer to follow a prescribed process for removing a customer from the register.</p> <p>At 30 June 2017 we were reviewing submissions to the consultation paper.</p>

Table J Market reviews and advice summary table

AEMC PROJECT	PROPONENT	START DATE	END DATE	STATUS AT 30 JUNE 2017
COAG ENERGY COUNCIL INITIATED REVIEWS				
2016 residential electricity price trends	COAG Energy Council	11 Jan 2016	14 Dec 2016	Completed
Integration of energy and emissions reduction policy	COAG Energy Council	1 Jan 2016	9 Dec 2016	Completed
2017 retail energy competition review	COAG Energy Council	22 Dec 2016	Continuing	Preparation of final report
2017 energy sector strategic priorities	COAG Energy Council	13 Jan 2017	Continuing	Preparation of discussion paper
Electricity network economic regulatory framework review	COAG Energy Council	31 Aug 2016	Continuing	Preparation of final report
Reporting on drivers of change that impact transmission frameworks	COAG Energy Council	9 Mar 2016	Continuing	Preparation of stage 1 final report
2017 residential electricity price trends	COAG Energy Council	18 Jan 2017	Continuing	Preparation of final report
Review of the system black event in South Australia on 28 September 2016	COAG Energy Council	6 Jan 2017	Continuing	Initial analysis
Review of the Victorian declared wholesale gas market	COAG Energy Council	4 Mar 2015	Continuing	Preparation of final report
Review into the scope of economic regulation applied to covered pipelines	COAG Energy Council	5 May 2017	Continuing	Preparation of draft report
Review of regulatory arrangements for embedded networks	COAG Energy Council	15 Dec 2016	Continuing	Preparation of draft report
OTHER REVIEWS AND ADVICE				
Review of compensation guidelines	Rules requirement	3 Mar 2016	8 Sep 2016	Completed
Last resort planning power – 2016 review	Rules requirement	6 Jun 2016	13 Oct 2016	Completed
System security market frameworks review	AEMC	14 Jul 2016	27 Jun 2017	Completed
Towards the next generation: delivering affordable, secure and lower emissions power	Minister Josh Frydenberg	10 Apr 2017	1 Jun 2017	Completed
Distribution market model	AEMC	1 Dec 2016	Continuing	Preparation of final report
RELIABILITY PANEL PROJECTS				
Review of the system restart standard	AEMC	30 Jun 2015	15 Dec 2016	Completed
Annual market performance review 2015	Rules requirement	17 Dec 2015	1 Sep 2016	Completed
Review of reliability standard and settings guidelines	Rules requirement	7 Jul 2016	1 Dec 2016	Completed
Annual market performance review 2016	Rules requirement	13 Jun 2016	16 May 2017	Completed
Review of the reliability and emergency reserve trader guidelines	Rules requirement	29 Sep 2016	15 Dec 2016	Completed
Reliability standard and settings review 2018	Rules requirement	30 Mar 2017	Continuing	Preparation of draft report
Review of the frequency operating standard	AEMC	30 Mar 2017	Continuing	Preparation of issues paper

Table K Market reviews and advice completed

REVIEW NAME	OVERVIEW	EXPECTED BENEFITS/IMPACTS FROM RECOMMENDATIONS
2016 residential electricity price trends	This report is the seventh annual residential electricity price trends report prepared by the AEMC at the request of the COAG Energy Council. The report provides information on the supply chain components expected to affect the trends in residential electricity prices for each state and territory of Australia over the three years from 2015/2016 to 2018/2019.	<p>The AEMC's annual report on household price trends looks at what is driving changes in the underlying cost of household electricity bills. It analyses the competitive market sectors of wholesale generation and retail, the regulated networks sector, and price implications from government environmental policies.</p> <p>The 2016 report, which was published in December, showed that the retirement of coal-fired generators will increase residential electricity prices in most regions of the national electricity market. Wholesale costs and electricity prices are also being affected by:</p> <ul style="list-style-type: none"> an emissions policy in the form of the large-scale renewable energy target that is not properly integrated with the national electricity market the price for gas through gas-fired power stations, which are expected to play a larger role in the market in the future. <p>Wholesale prices are estimated to increase by between 5% and 15% each year in most states and territories, while demand remains flat.</p> <p>The 2016 price trends report estimates the national average residential bill will be \$78 higher in 2018/2019 due to Hazelwood retiring, compared with Hazelwood continuing to operate.</p> <p>The price trends identified in this report are not a forecast of actual prices, but rather a guide as to what may influence prices based on current expectations, assumptions and government legislation.</p>
Integration of energy and emissions reduction policy	Energy ministers tasked the Senior Committee of Officials (SCO) with preparing advice to allow the COAG Energy Council to better understand the potential impact of climate change policies on the national electricity market. The AEMC and AEMO were asked to assist officials with this work.	<p>The AEMC's advice to the COAG Energy Council, provided in December 2016, identified the cheapest way to reduce emissions with the lowest impact on consumer prices, the economy and power system security.</p> <p>The report looked at the potential impacts of three mechanisms, compared to a business-as-usual scenario which would not meet Australia's Paris commitments.</p> <p>The three mechanisms are:</p> <p>A market-based emissions intensity target (EIT), where generators with high emissions would need to buy credits and those with low emissions create and sell credits. This option would have the lowest impact on prices and is technology-neutral. Under an EIT, risks are allocated to those best placed to manage them. It is different from an emissions trading scheme because its financial impacts are contained entirely within the energy sector.</p> <p>An extended Large-scale Renewable Energy Target (LRET), which has the highest cost to the economy. This mechanism targets renewables rather than emissions so its ability to achieve emissions targets is uncertain. It also makes it harder to maintain power system security.</p> <p>Government-led regulatory closure of coal-fired power stations, which results in the highest electricity bills for consumers. It also requires governments to successfully predict which power stations they should close and when.</p> <p>The AEMC's analysis showed the emissions intensity target delivers the best outcomes for consumers in terms of price, power system security and certainty of meeting the emissions target.</p>

REVIEW NAME	OVERVIEW	EXPECTED BENEFITS/IMPACTS FROM RECOMMENDATIONS
Review of compensation guidelines	<p>Administered price caps and administered floor prices help to reduce volatility and manage risks for market participants, but in some cases they can cause market participants to incur a loss. The National Electricity rules provide for compensation in some circumstances where these losses occur. Historically, administered pricing events have occurred rarely.</p> <p>The compensation guidelines describe how compensation is to be determined if a claim is made by an eligible party following the application of an administered price cap or administered floor price.</p> <p>A new rule made by the AEMC required amendments to the compensation guidelines before it commenced in September 2016.</p>	<p>The AEMC amended the compensation guidelines to reflect the final rule. In addition to the required amendments, we also amended the definition of opportunity cost; the criteria for assessing whether opportunity costs can be claimed; the methods of valuing opportunity costs; and the frequency with which the compensation guidelines are reviewed.</p> <p>These amendments reflect changing conditions in the market, improve the transparency of the compensation claim assessment process, and provide additional clarity for eligible participants on the assessment and valuation of costs when submitting a compensation claim.</p>
Last resort planning power – 2016 review	<p>The last resort planning power is an oversight mechanism conferred on the AEMC to complement the planning roles of AEMO, as national transmission planner, and transmission network companies. It allows the AEMC to require network companies to consider and consult on options to alleviate constraints on the interconnected transmission network when these companies have not initiated this process themselves.</p>	<p>The AEMC decided not to exercise the last resort planning power in 2016.</p> <p>Our analysis showed that, at this time, transmission network companies are adequately considering the need for inter-regional transmission investment in their planning activities.</p>
System security market frameworks review	<p>New sources of electricity like wind and solar power are changing the way Australia's power system works.</p> <p>The impact of renewable energy on system security was highlighted in the AEMC's <i>Strategic priorities for market development</i> as an important focus in the coming years and this review has been initiated by the Commission to continue its work in this area.</p> <p>The <i>System security market frameworks review</i> was initiated by the AEMC in July 2016 to address the need for possible changes to market arrangements that lead to more efficient outcomes for energy consumers while delivering a secure operating system.</p>	<p>The AEMC released its power system security report in June 2017 with a package of reforms to guard against technical failures that lead to cascading blackouts.</p> <p>The review and related rule changes address risks to energy security created by the power system's evolution as the generation mix changes; with non-synchronous, intermittent generation like wind and solar replacing old synchronous power stations as they leave the market.</p> <p>The new plan for power system security expands the risk management role for AEMO to detect emerging security issues and take preventive action.</p> <p>The AEMC has recommended that AEMO is given more tools and that additional requirements are placed on transmission network service providers to maintain minimum levels of inertia to help keep frequency within required operating bands. Draft rules published in June 2017 place new responsibilities on networks and new connecting generators in relation to maintaining a minimum level of system strength.</p>
Towards the next generation: delivering affordable, secure and lower emissions power	<p>In April 2017 the Commonwealth Minister for the Environment and Energy requested joint advice from the AEMC and the Climate Change Authority on policies to enhance power system security and to reduce electricity prices consistent with achieving Australia's emissions reduction targets in the Paris agreement.</p>	<p>This joint report, published in June 2017, focuses on solutions for affordable, secure and lower emissions energy.</p> <p>The AEMC and the Climate Change Authority are of the view that an emissions intensity scheme (EIS) is the preferred policy mechanism for the electricity generation sector, consistent with the options they analysed in previous reports.</p> <p>The joint advice drew on existing analysis and independent modelling and is consistent with previous advice from both organisations.</p> <p>In addition, the Climate Change Authority has recommended a Low Emissions Target (LET) be considered as an alternative policy given that the EIS has been ruled out by the Commonwealth Government. The Climate Change Authority believes that a LET could support a wide range of technologies including gas and carbon capture and storage.</p>

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REVIEW NAME	OVERVIEW	EXPECTED BENEFITS/IMPACTS FROM RECOMMENDATIONS
Towards the next generation: delivering affordable, secure and lower emissions power		<p>(continued from previous page)</p> <p>The AEMC has not conducted any quantitative analysis of a LET-type emissions reduction policy mechanism and how it compares to an EIS. Without such analysis it is not possible for the Commission to assess the impact of such a policy mechanism on the electricity market, and specifically its impact on prices and system security.</p>
Review of the system restart standard	<p>The system restart standard specifies the parameters for restoring generation and transmission system operations after a major supply disruption including a black system event (black out).</p> <p>Most generators are not capable of independently starting up again if electricity supply to the system is lost. But some generators have specialised equipment which allows them to start independently of the system and AEMO contracts with them to provide restart services for the rest of the system.</p> <p>This generation capability can then be used to restart other generators which can then restore supply to consumers.</p> <p>In April 2015, the AEMC made a rule that amended the requirements for the Reliability Panel in determining the system restart standard. Consequently, the AEMC provided the Panel with terms of reference to review the standard.</p>	<p>In December 2016 the Reliability Panel released a new standard for the procurement of sufficient system restart services which are needed to restart the power system following widespread blackouts.</p> <p>The Reliability Panel set a new, more stringent standard for procurement of these services which is tailored to the specific requirements of each electrical sub-network.</p> <p>It also made recommendations to improve the process of generation and load restoration. The Panel recommended that AEMO and the network businesses develop detailed load restoration plans so that state emergency plans can manage the impact of a black system event. AEMO should strengthen its engagement with transmission and distribution network service providers so they are adequately informed about the amount of system restart ancillary services which have been procured.</p> <p>The Panel also recommended that AEMO, network businesses and system restart service providers identify opportunities to fully test the operation of restart services so that more information is available to help fine-tune the procurement process.</p> <p>The new standard will commence in July 2018.</p>
Annual market performance review 2015	Please see below.	The Annual market performance review 2015's final report was published on 1 September 2016. The final report's findings were consistent with the draft report which was summarised in the AEMC's 2015-2016 annual report.
Annual market performance review 2016	<p>The annual market performance review is a requirement under the National Electricity Rules.</p> <p>It provides the Panel with the opportunity to consider specific events that have occurred in the national electricity market over the previous financial year, and to assess the performance of the power system against standards and guidelines determined by the Reliability Panel.</p> <p>The annual market performance review may assist governments, policy makers and market institutions to monitor the performance of the power system, and to identify the likely need for improvements to the various measures available for delivering reliability, security and safety.</p>	<p>The Reliability Panel published its annual market performance review for the period July 2015 to June 2016 in May 2017.</p> <p>The Panel highlighted implications for reliability and security as the market transforms from conventional generators powered by coal and gas, towards new technologies such as wind farms, solar panels and battery storage.</p> <p>The Panel also noted projections from AEMO that show there is a risk of insufficient generation to meet demand in the future. This underlines the need for market responses including more investment in generation and demand-side participation.</p> <p>There were a number of system security issues during the 2015-2016 year, with several resulting in interruption of supply to customers. Events like the November 2015 trip of the Heywood interconnector between Victoria and South Australia, which resulted in problems controlling the frequency in the islanded South Australian power system, show that regions can be more exposed to reliability and security issues when disconnected from the rest of the market.</p> <p>The report notes a number of significant incidents have occurred since the end of the reporting period, including the black system event in South Australia on 28 September 2016. While a brief summary of these events is provided in the 2016 report, they will be covered in more detail in the 2017 review.</p>

REVIEW NAME	OVERVIEW	EXPECTED BENEFITS/IMPACTS FROM RECOMMENDATIONS
Review of reliability standard and settings guidelines	<p>The reliability standard is the number that provides an acceptable level of reliable electricity at the lowest possible cost. Under this standard, sufficient generation and transmission capacity is required so that over the long term, no more than 0.002% of the annual energy required by consumers in any region is at risk of not being supplied.</p> <p>The reliability settings are the price mechanisms in the electricity wholesale market: the market price cap, the market floor price, the cumulative price threshold and the administered price cap.</p> <p>Every four years the Reliability Panel reviews the reliability standard and reliability settings that apply in the national electricity market. Following the most recent review of the standard and settings, the Panel recommended the development of guidelines which set out the methodology to be used for these reviews.</p>	<p>The Reliability Panel published reliability standards and settings guidelines and an accompanying final determination in December 2016. When determining the reliability standard, the Panel considers the appropriate trade-off between the value consumers place on supply reliability and the overall power system costs associated with achieving a certain reliability level.</p> <p>The new guidelines which will be used for the Panel's future reviews of the reliability standard:</p> <ul style="list-style-type: none"> establish the assessment framework to be applied by the Panel identify an approach to assessment of each component of the reliability framework outline a general approach to modelling to be applied by the Panel.
Review of the reliability and emergency reserve trader guidelines	<p>The National Electricity Rules provide for a reliability and emergency reserve trader (RERT) mechanism that enables AEMO to contract for electricity reserves ahead of a period where AEMO projects an insufficient amount of supply.</p> <p>A final rule made by the AEMC in June 2016 changed the timeframe for AEMO to contract for electricity reserves using the RERT from nine months to ten weeks to enable AEMO to make more up to date and accurate projections. It also required the Reliability Panel to review and amend the RERT guidelines.</p>	<p>The Reliability Panel published a final report in December 2016 which set out the Panel's amendments to the RERT guidelines.</p> <p>The amendments provide consistency between the Rules and the guidelines, and clarify the processes that may be carried out by AEMO.</p> <p>The final guidelines also clarify that in medium-notice situations, AEMO may contract reserves from RERT panel members or other potential reserve providers. This gives AEMO flexibility in contracting reserves in an efficient, cost-effective manner.</p> <p>The final rule and the amendments to the guidelines benefit consumers as they seek to minimise the use of the RERT unless necessary as the RERT costs consumers more than if electricity is supplied by the market in the usual way.</p>

Table L Market reviews and advice current at 30 June 2017

REVIEW NAME	OVERVIEW	STATUS
2017 retail energy competition review	<p>This annual review of energy retail competition assesses the state of competition in the small customer electricity and natural gas retail markets in all national electricity market jurisdictions.</p> <p>Retail competition reviews are conducted in accordance with the framework set out in the Australian Energy Market Agreement (AEMA).</p> <p>A range of information sources are used to form an evidence base to assess the state of competition against the following five competitive market indicators:</p> <ul style="list-style-type: none"> the level of customer activity in the market customer satisfaction with market outcomes barriers to retailers entering, expanding or exiting the market the degree of independent rivalry whether retail energy prices are consistent with a competitive market 	<p>This review provides advice to governments to support a commitment made by all jurisdictions under the AEMA to remove retail energy price regulation where effective competition can be demonstrated.</p> <p>The AEMC's 2017 retail competition review was published in July after the end of the period under review. The contents of the report will be covered in the 2017-2018 annual report, and are also available for review at www.aemc.gov.au.</p>

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2017 energy sector strategic priorities	<p>The <i>Review of Governance Arrangements for Australian Energy Markets</i>, undertaken for the COAG Energy Council in 2015, recommended that the AEMC prepare a major policy paper every three years containing advice on strategic priorities for the COAG Energy Council.</p> <p>Following that recommendation, the COAG Energy Council has tasked the AEMC with providing advice to inform the Council's future priorities as the technology-driven transformation of the energy sector continues to accelerate.</p>	<p>Effective and active leadership by the COAG Energy Council in setting a strategic direction for the energy sector is critical to deliver secure, reliable and safe power at the best price for consumers.</p> <p>In an approach paper published in April 2017, the AEMC outlined how we propose to develop advice to inform the COAG Energy Council's priorities.</p> <p>The AEMC's advice to the Council will incorporate Dr Finkel's recommendations, prioritising those relevant for the market institutions into a work program for the next few years. It will also go further, drawing on the views of stakeholders to consider other priorities. To do this, the AEMC will undertake detailed consultation with a broad range of stakeholders including energy users and representative bodies; and industry groups; existing and new energy market participants; government and regulators; and other interested groups. The advice will be prepared in close consultation with the AER, AEMO and Energy Consumers Australia.</p> <p>At 30 June 2017, we were undertaking stakeholder engagement and preparing to publish a discussion paper.</p>
Electricity network economic regulatory framework review	<p>Electricity networks are moving away from being one-way delivery systems and becoming managers of multi-directional flows of energy.</p> <p>Decentralised energy production is now a feature of the national electricity market. Consumers are increasingly generating their own electricity especially through rooftop solar systems and more businesses want to generate their own power from sources like gas, solar, wind or biomass.</p> <p>The economic regulatory framework for electricity networks must be able to provide sufficient flexibility for network businesses to adapt to these changes.</p> <p>Recognising the importance of providing early warning of market developments that may need to be addressed by changes to the National Electricity Rules, the COAG Energy Council has asked the AEMC to undertake annual monitoring of the economic regulatory framework.</p>	<p>In December 2016, the AEMC published an approach paper for a new annual monitoring report to assess the state of economic regulation for electricity networks in the face of energy market transformation.</p> <p>The approach paper set out how the AEMC intends to conduct the task, proposed information sources and proposed priority areas of focus for the 2017 report.</p> <p>Each year, the AEMC intends to identify emerging themes or potential challenges that may be faced by the regulatory framework in the near to medium term. The themes and challenges will be informed by monitoring indicators and market developments as well as consultation with key stakeholders.</p> <p>At 30 June 2017 we were preparing to publish the final report for 2017.</p>
Reporting on drivers of change that impact transmission frameworks	<p>In February 2016 the COAG Energy Council provided the AEMC with terms of reference for a biennial regime to report on a series of drivers that could impact on future transmission and generation investment.</p> <p>In July 2016 the AEMC published a statement of approach for stakeholder information, which set out our proposed methodology and approach to consultation.</p>	<p>The draft stage one report, which was published in April 2017, presented the AEMC's initial analysis on the underlying drivers necessary for the next wave of transmission frameworks reform.</p> <p>The report observed that uncertainty surrounding future government environment policies makes it difficult to predict the technology of new generation investment and the future generation mix. This in turn leads to uncertainty regarding future transmission investment as generation technology can influence the location of and need for the investment and so potential future needs of the network.</p> <p>Reduction in the cost of new technologies has led to increased penetration of distributed energy resources with potential for new energy services which might affect electricity demand and network requirements. At the same time the pace of market change and development continues to accelerate and state and federal governments are announcing market interventions – all these developments will affect transmission and generation investment.</p> <p>The draft stage one report outlined the scope for each driver of change and how these drivers have changed since the Commission last looked at them in 2015.</p> <p>At 30 June 2017 we were preparing the final stage one report.</p>

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2017 residential electricity price trends	Refer to overview for 2016 residential electricity price trends report (Table K).	The 2017 residential electricity price trends report is underway and expected to be published in late 2017.
Review of the system black event in South Australia on 28 September 2016	<p>The COAG Energy Council's terms of reference for this review direct the AEMC to build on the work conducted by the AER and AEMO, focussed on the compliance of market participants with requirements in the National Electricity Law and the National Electricity Rules, and technical issues contributing to the system black event that occurred in South Australia on 28 September 2016.</p> <p>The AEMC is required to provide a report to the COAG Energy Council within six months of the completion of both AEMO and the AER's reports.</p>	<p>In March 2017 AEMO published its final report into the system black event. As at 30 June 2017, AEMO had completed six of the 19 recommendations made following the black system event, with the remaining recommendations in progress or on track for completion by the end of this year; the AER was in the investigation phase of its compliance review.</p> <p>In January 2017 we provided the COAG Energy Council with a letter setting out our proposed approach to the review, including a three-staged process:</p> <ul style="list-style-type: none"> • develop a fact base • identify the issues • develop recommendations <p>At 30 June 2017, we were reviewing published reports and inviting stakeholders to provide their views or request a one-on-one meeting to discuss the facts, findings or conclusions set out in AEMO's report.</p>
Review of the Victorian declared wholesale gas market	<p>In March 2015 the Victorian Government, with the agreement of the COAG Energy Council, asked the AEMC to conduct a review of the Victorian declared wholesale gas market (DWGM). The terms of reference for the review required the AEMC to consider:</p> <ul style="list-style-type: none"> • The ability of market participants to manage price and volume risk in the DWGM and options to increase the effectiveness of risk management activities. • Whether market signals and incentives are providing for efficient use of, and efficient and timely investment in, pipeline capacity on the declared transmission system (DTS). • If, and to what extent, the current DWGM arrangements inhibit trading of gas between the DTS and interconnected facilities and pipelines. • Whether the DWGM arrangements continue to facilitate market entry and promote competition in upstream and downstream markets and how this could be improved. 	<p>The final report for the Victorian gas review was published in July 2017, just after the close of the period under review.</p> <p>The report put forward a package of reforms to help keep the costs of buying and selling gas as low as possible. Implementing these recommendations should lower barriers to entry, streamline trading practices and improve transparency to help support greater competition in the Victorian market.</p> <p>Specific reforms recommended by the review included:</p> <ul style="list-style-type: none"> • Introducing a clean and simple wholesale price for the Victorian trading hub, making it easier for buyers and sellers to manage risk and lower transaction costs, lowering costs for consumers. • Establishing a new forward trading exchange, making it easier for buyers and sellers to trade gas and lock in a future price, helping businesses plan and manage price volatility. • Improving the allocation and trading of pipeline capacity rights, making it easier to trade unused pipeline capacity rights enabling gas traders to manage scheduling risks. <p>In time, further consideration should be given to implementing more significant changes to the Victorian market which would allow for the continuous trading of gas and explicit, tradeable capacity rights.</p> <ul style="list-style-type: none"> • Implemented in full, PricewaterhouseCoopers estimates the longer-term reforms to the Victorian gas market have the potential to increase Australia's gross domestic product by up to \$1.7 billion in net present value terms by 2040.

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Review into the scope of economic regulation applied to covered pipelines	<p>The COAG Energy Council has asked the AEMC to review the effectiveness of gas pipeline regulation to address concerns that consumers may be paying more than necessary for gas pipeline services.</p> <p>This request follows the ACCC's inquiry into the competitiveness of wholesale gas prices in eastern and southern Australia, and Dr Michael Vertigan's December 2016 paper on the current regulatory test for the regulation of gas pipelines.</p> <p>The AEMC will consider whether rules need to be changed so that pipeline services are subject to appropriate regulation, including price regulation.</p>	<p>The AEMC published an issues paper in June 2017. The issues paper seeks stakeholder views on the policy objectives of the gas access regime, and the operation of the current regulatory framework for the economic regulation of covered gas transmission and distribution pipelines.</p> <p>At 30 June 2017, we were engaging with gas consumers, industry participants, regulators and governments and awaiting submissions to the issues paper.</p>
Review of regulatory arrangements for embedded networks	<p>Embedded networks are private electricity networks which serve multiple customers and are connected to another distribution or transmission system in the national electricity market through a parent connection point. Examples of embedded networks include shopping centres, retirement villages, apartment complexes and caravan parks.</p> <p>In December 2016 the COAG Energy Council asked the AEMC to undertake a review of embedded networks. This followed the AEMC's <i>Embedded networks</i> rule change, completed in December 2015.</p> <p>During our work on this rule change, we raised a number of substantial retail market issues that could not be resolved at the time due to the limited scope of the rule change request.</p> <p>This review will identify and assess issues regarding retail arrangements for embedded network customers.</p>	<p>The AEMC published a consultation paper in April 2017 which set out the scope of the review and broke issues into four core questions for stakeholders:</p> <ul style="list-style-type: none"> • Is the regulatory framework for embedded networks fit for purpose? • Can access to retail market offers be improved? • What consumer protections should apply to embedded network customers? • Are current regulatory arrangements for gas embedded networks appropriate? <p>At 30 June 2017 we were reviewing submissions and working on the draft report.</p>
Distribution market model	<p>The <i>Distribution market model</i> project is part of the AEMC's technology work program. The findings will be used to help inform our advice to government and the AEMC's analysis of rule changes submitted by stakeholders in response to emerging issues.</p> <p>The project's purpose is to explore options to put consumers and their energy service providers in the driving seat – giving them more control over how their distributed energy resources are used.</p>	<p>The draft report was published in June 2017. It outlines a vision for a competitive distribution market which would enable consumers to get the most value out of their rooftop solar panels, batteries and electric vehicles as we move to a lower emissions future.</p> <p>For consumers this means that if they want to use the electricity they generate or store, they can. And if they don't need it, they can sell it to whoever values it the most at a particular point in time, for example the local network business or the wholesale market.</p> <p>The draft report identifies key market and technical arrangements required to help consumers benefit while still ensuring the safety, security and reliability of electricity supply.</p> <p>At 30 June 2017, we were considering submissions to the draft report.</p>
Reliability standard and settings review 2018	<p>The AEMC has provided the Reliability Panel with terms of reference for this review, which is required by the rules. The Panel will consider whether the reliability standard and settings remain suitable for current market arrangements, and determine the settings that will apply from 1 July 2020 to 1 July 2024.</p> <p>For further information on the reliability standard and settings, see page 38.</p>	<p>Under the National Electricity Rules, the Reliability Panel is required to carry out a review of the reliability standard and reliability settings every four years. The Panel is considering the standard and settings in the context of significant changes currently underway in the energy sector.</p> <p>An issues paper was published in March 2017 to facilitate consultation and seek stakeholder views to inform the assessment of the standard and settings.</p> <p>At the end of the year in review, the Panel was preparing the draft determination for public comment, with publication scheduled for late 2017.</p>

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Review of the frequency operating standard	<p>Under the national electricity rules, AEMO must keep the power system stable and securely operating at a frequency close to 50 hertz. The specific frequency requirements that AEMO must meet under different power system conditions are set out in the frequency operating standard, which is determined by the Reliability Panel.</p> <p>This review is an integrated part of the AEMC's system security work program which is addressing the implications for power system security as the energy market transforms. The AEMC supplied terms of reference to the Reliability Panel in March 2017.</p> <p>Stage one of the review will primarily address technical issues and changes stemming from the new <i>Emergency frequency control schemes</i> rule.</p> <p>Stage two will consider various components of the frequency operating standard, including the settings of the frequency bands and time requirements for maintenance and restoration of system frequency.</p>	<p>Under the National Electricity Rules, the Reliability Panel is required to carry out a review of the reliability standard and reliability settings every four years. The Panel is considering the standard and settings in the context of significant changes currently underway in the energy sector.</p> <p>An issues paper was published in March 2017 to facilitate consultation and seek stakeholder views to inform the assessment of the standard and settings.</p> <p>At the end of the year in review, the Panel was preparing the draft determination for public comment, with publication scheduled for late 2017.</p>

Enquiries

Anne Pearson
Chief Executive
Australian Energy Market Commission
PO BOX A2449
Sydney South NSW 1235

W www.aemc.gov.au

E aemc@aemc.gov.au

T 61 2 8296 7800

F 61 2 8296 7899

ABN 49 236 270 144

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