


RULES TO SUPPORT POWER SYSTEM EVOLUTION

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27 NOVEMBER 2018



AEMC

Agenda

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1. Energy market governance: roles and responsibilities
 2. Technology driving change in the power system
 3. Reliability and security: different challenges, different solutions
 5. Finkel update
 6. Energy market reform in 2019
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National governments and energy policy development



Council of Australian Governments (COAG)

implements policy reforms of national significance that require cooperative action by federal, state and territory governments



COAG Energy Council

is made up of the nation's energy ministers. They provide national leadership on energy market development which is so important for the health of the national economy

Market body roles



Australian Energy Market Commission

Rule maker, market
developer and expert adviser
to governments

*Protects consumers and achieves
the right trade-off between cost,
reliability and security.*



Australian Energy Regulator

Economic regulation
and rules compliance

*Polices the system and
monitors the market.*



Australian Energy Market Operator

Electricity and gas systems
and market operator

*Works with industry
to keep the lights on.*

Reliability Panel

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.

The Panel is comprised of members who represent a range of participants in the national electricity market, including:



Consumer groups



Generators



Network businesses



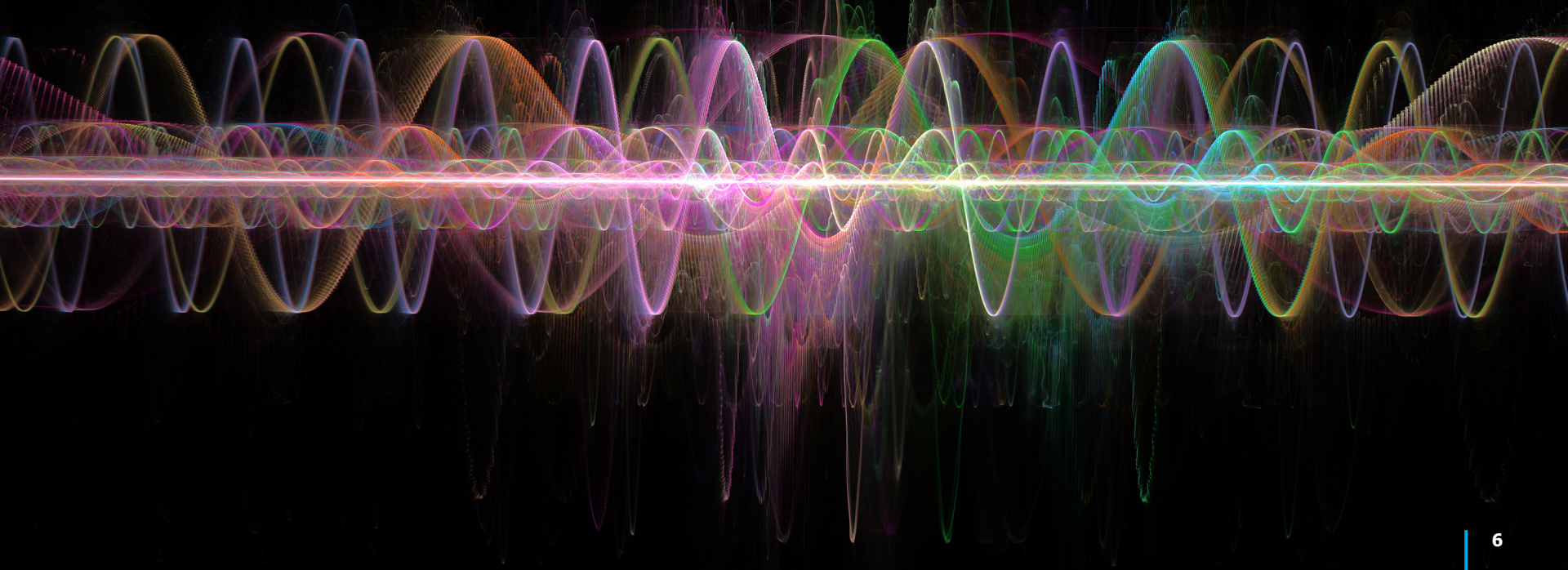
Retailers



Australian Energy Market Operator (AEMO)

TECHNOLOGY DRIVING CHANGE IN THE POWER SYSTEM

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Reliability and security: different challenges, different solutions

Power system security:

the power system's capacity to continue operating within defined technical limits even if a major power system element, like a large generator or a major customer, disconnects from the system.

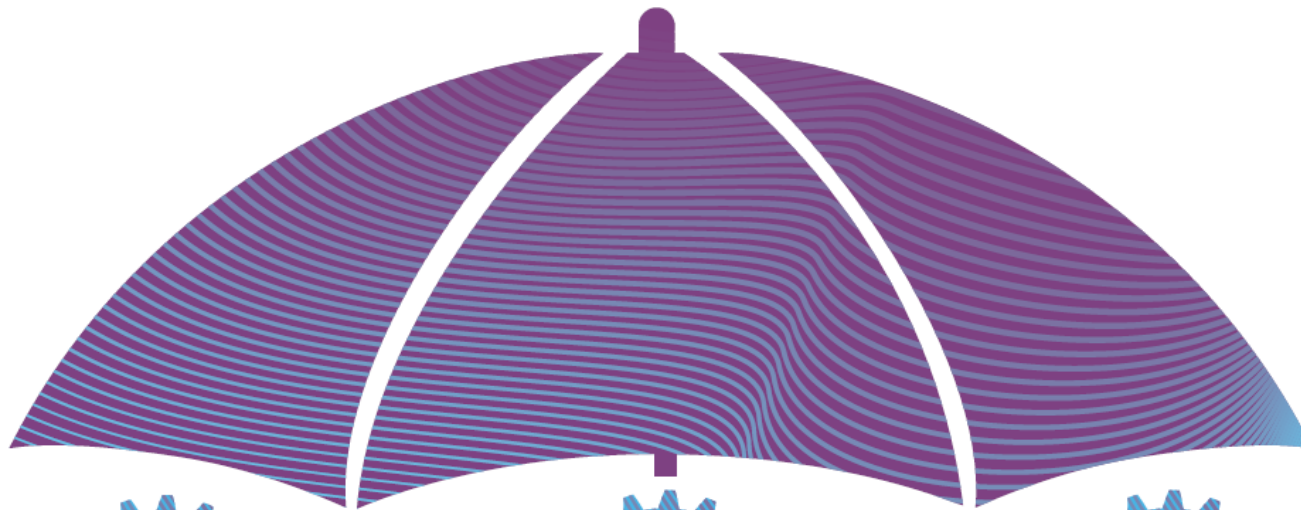
Power system reliability:

having enough generation, demand response and network capacity to produce and transport enough electricity to meet consumers needs in line with the reliability standard

*A reliable power system
will also be a secure
power system;
however, a secure power
system is not necessarily
always a reliable power
system.*



System security



Giving AEMO the tools it needs to keep the power system secure



Strengthening the power system to withstand faults and failures



Keeping frequency operating within the correct range

Keeping the power system secure



Generator technical performance standards

creating the foundation for a secure, least cost transition as new generators with different technical characteristics join the power system



Generating system model guidelines

helping AEMO manage the changing power system by requiring generators and networks to provide more detailed information about how their equipment performs



Register of distributed energy resources

giving AEMO and distribution network businesses more data to help keep the power system secure and safe, and to enable more accurate forecasting of consumer demand

Strengthening the power system to withstand faults and failure



Emergency frequency control schemes
a new management framework for the 'last line defence' mechanism to help prevent system-wide blackouts



Managing power system fault levels
requiring networks to maintain minimum levels of system strength to keep the system stable



Managing the rate of change of power system frequency
requiring networks to maintain required minimum levels of inertia to keep the system secure

Keeping frequency operating within the correct range



**Managing the rate of change
of power system frequency**
working with AEMO to assess the required
level of primary frequency control from
generators

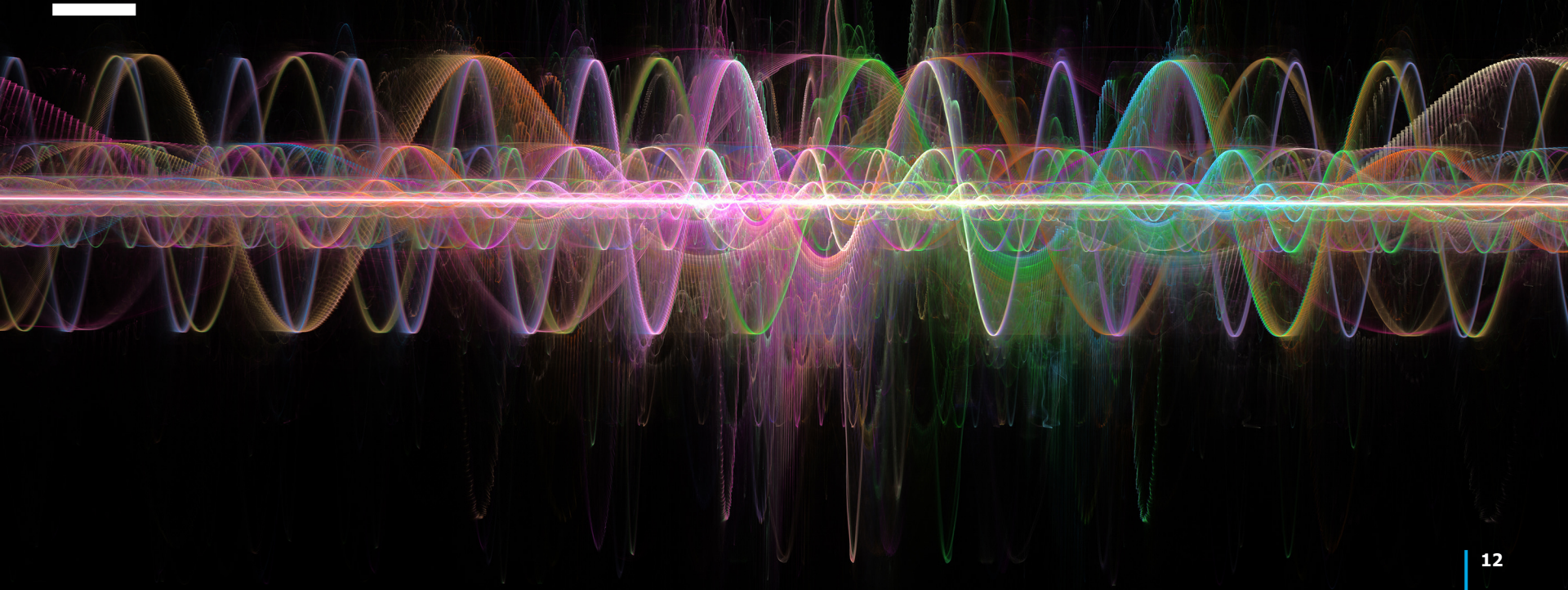


**Reliability Panel review of the frequency
operating standard**
assessing whether the existing standard
is appropriate to maintain a secure power
system as the generation mix changes



Frequency control frameworks review
looking at ways to integrate new
technologies and demand response to
help keep the system secure

FINKEL UPDATE



Finkel Update - key recommendations delivered by the AEMC



- New rules to maintain minimum system strength and inertia (2.1)



- New information about generator system model guidelines now provided to AEMO (2.1)



- Updated generator technical performance standards match to local system needs (2.1, 3.4)



- Updated frequency operating standards to reflect new emergency schemes (2.3)



- New rule to establish a register of distributed energy resources (2.6)



- New rule requiring generators to give three years notice before closing (3.2)

Finkel Update – recommendations underway



- Consulting on a number of options for a mechanism to facilitate demand response in the wholesale market (6.7)



- Considering enhancements to the reliability and emergency reserve trade scheme – a type of strategic reserve (3.4)



- Considering ways to improve coordination of generation and transmission investment (5.2)



- Trials to better integrate distributed energy resources into the NEM particularly for system security (2.5)

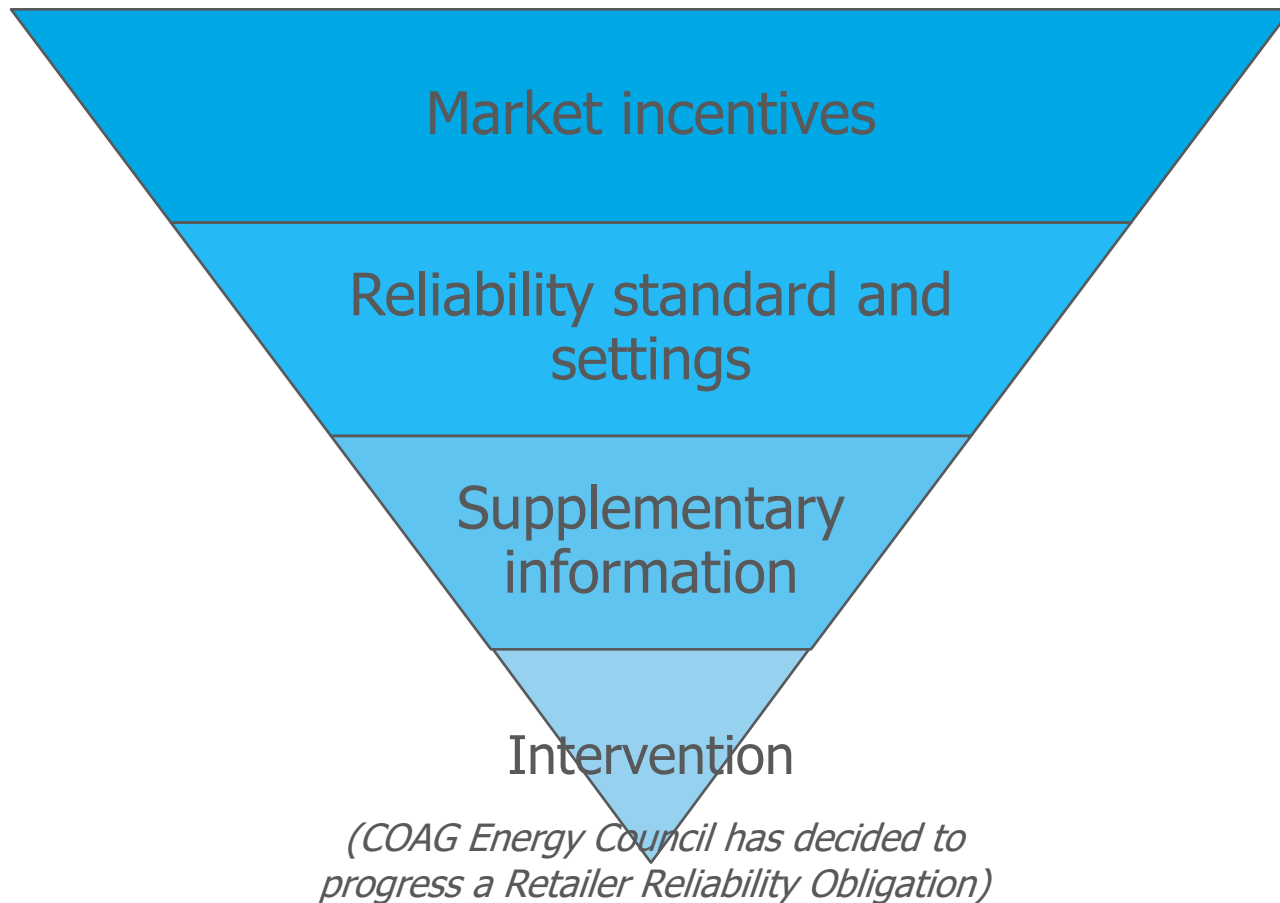


- Review of regulatory arrangements for standalone power systems (6.9)



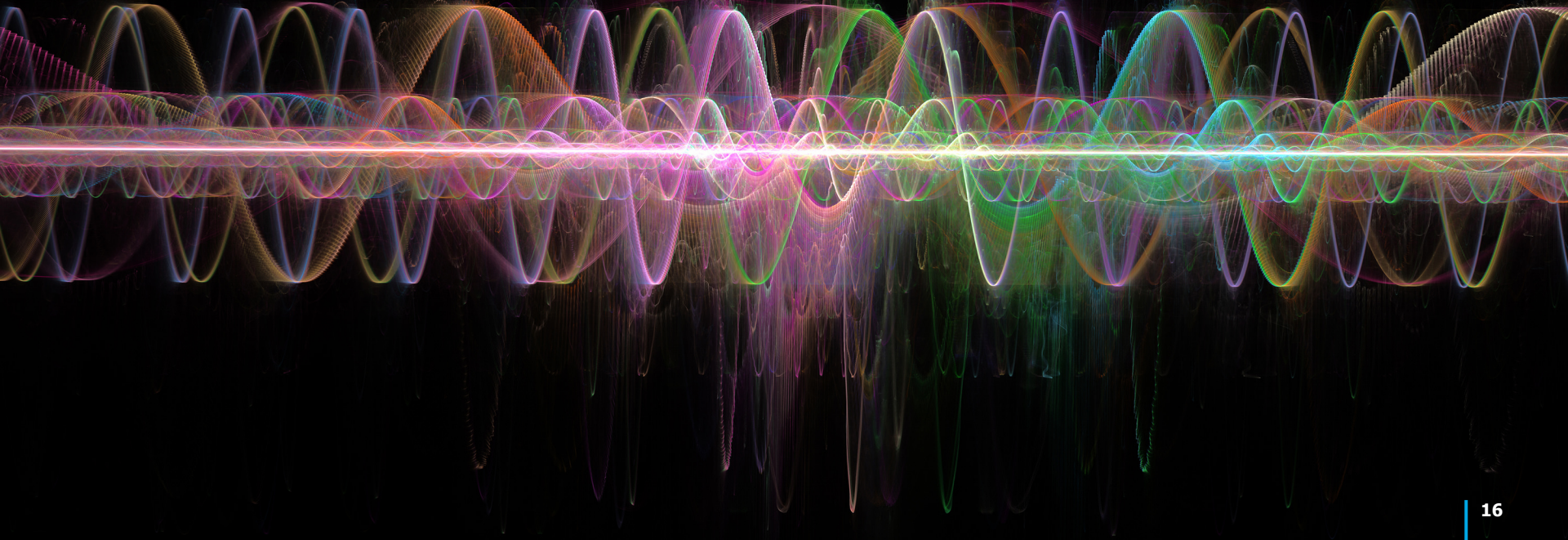
- Investigate whether there is a preference for capital investments over operational expenditure (6.8)

Reliability in the NEM – a component of the NEG



ENERGY MARKET REFORM IN 2019

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AEMC key areas of focus

- Choice, control and protection for consumers
- A continuing focus on power system security
- Making it easier to buy and sell gas
- Encouraging the right amount of investment in the power system's capacity over the long term



We have a unique system in Australia where anyone, any company, government, advocacy group or individual person, can propose a change to the rules.



Collaboration is the key to success as it will deliver workable and lasting change.



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