



Australian Energy Market Commission

APPROACH PAPER

**2019 ECONOMIC REGULATORY
FRAMEWORK REVIEW**

17 JANUARY 2019

REVIEW

INQUIRIES

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ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

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1 INTRODUCTION

1.1 About this review

The COAG Energy Council has requested that the Australian Energy Market Commission (the Commission) conduct the *Economic regulatory framework review* to monitor market developments on an annual basis, and consider whether the economic regulatory framework for electricity networks is sufficiently robust and flexible to continue to support the long term interests of consumers in a future environment of increased decentralised energy supply. The current review is the Commission's third such annual review under a standing terms of reference.¹

This paper has been prepared to explain the Commission's approach and seek stakeholders' feedback on the issues the Commission proposes to consider as part of the *2019 Electricity Networks Economic Regulatory Framework Review* (2019 Review).

This approach paper also provides stakeholders with visibility over the broader work program that is being undertaken by the Commission in relation to network-related issues arising from the current transformation of the electricity sector.

1.2 Consultation

The main purpose of this paper is to provide stakeholders with information about the commencement and proposed scope of the 2019 Review. Stakeholders do not need to provide submissions on this paper, but if they wish to provide any feedback on the proposed areas of focus for the 2019 Review they can do so formally via written submissions or informally through discussions with the project team. It is requested that any feedback be provided by **14 February 2019** via the AEMC website or to:

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Stakeholders will have several opportunities to comment on the Commission's analysis and any proposed recommendations during the course of the review. The first such opportunity will be through a public stakeholder workshop in March 2019, which will focus on the network incentive issues discussed in section 3.2 of this paper. Further details about the workshop will be provided closer to the workshop date.

1.3 Structure of this paper

This approach paper is structured as follows:

- Chapter 2 provides an overview of the Commission's work program supporting electricity sector transformation
- Chapter 3 discusses the Commission's approach and proposed scope of the 2019 Review

1 See: <https://www.aemc.gov.au/sites/default/files/2018-07/Terms%20of%20reference.PDF>

2 AN INTEGRATED PROGRAM OF WORK SUPPORTING ELECTRICITY SECTOR EVOLUTION

2.1 The Commission's work program in a changing operating environment

The energy system that powers Australian residential homes and businesses is evolving. This change is driven both by rapidly maturing technologies that are providing increasing options for consumers, as well as changes in government policy. A move to a lower emission energy system has seen a change in generation mix, with many renewable generators such as wind and solar farms connecting to the grid while older coal and gas generators are retiring. At the same time, there has been a significant uptake of distributed energy resources (DER) such as rooftop solar photovoltaic (PV) systems, battery storage and 'smart' energy systems.

These changes mean electricity is no longer transported 'one-way' from centralised generation to consumers. A decentralised power system is required to manage multi-directional flows both to and from consumers while continuing to deliver secure, reliable and affordable energy supplies.

The regulatory framework is designed to be flexible enough to manage such changes. The Commission plays an important role in supporting the energy market's evolution by providing advice to governments and considering and assessing rule change requests so that regulation continues to deliver the best long term outcomes for consumers.

This chapter provides an overview of some of the fundamental changes delivered by key parts of the Commission's work program that are relevant to this review:

- Adapting the regulatory framework as the sector transforms and keeping the cost of transition as low as possible (see section 2.2)
- Keeping the energy system secure and reliable (see section 2.3)
- Facilitating adoption of new technologies and business models (see section 2.4)
- Protecting consumers, regardless of how they receive their energy (see section 2.5)

2.2 Ongoing reviews to monitor the adaptability of the regulatory framework to the evolving market

The role of the grid and network service providers (NSPs) is evolving as the electricity sector continues to transform. The pace of technological change and policy development means that there are currently multiple potential variations for the future role of the grid.

Through two standing reviews – this annual *Economic regulatory framework review* and the *Coordination of generation and transmission investment (CoGaTI) review* – the Commission monitors market developments and drivers that impact investment decisions. This allows the Commission to make recommendations to the COAG Energy Council on ways to adapt the

regulatory framework so that it continues to provide the right incentives for efficient investments and minimise the cost of the sector's transition.²

2.2.1

The Economic regulatory framework review: adapting the economic regulatory framework in light of increasing penetration of distributed energy resources

The *Economic regulatory framework review* is an annual review that examines whether network regulation continues to support the delivery of the National Electricity Objective (NEO) in light of the changes in the energy market – particularly with the increasing penetration of DER. The Commission is required to publish the review report annually by 30 June.

Through this review, the Commission monitors changes and developments in the national electricity market (NEM) and examines whether the economic regulatory framework is sufficiently robust and flexible, and continues to support the efficient operation of the energy market in the long term interests of consumers. This review has a medium to long term focus.

The Commission may also conduct analysis that officials and other review bodies task the Commission to do as part of this review. For example, the 2018 edition of the *Economic regulatory framework review* (the 2018 Review) implemented one of the recommendations from the *Independent Review into the Future Security of the National Electricity Market* (the Finkel Review) to conduct financial modelling to test whether distribution NSPs have a preference for capital investments in network assets over operational expenditure (opex) or demand-side measures.³

The Commission's proposed focus for the 2019 Review is discussed in Chapter 3.

2.2.2

The Coordination of generation and transmission investment: biennial reporting on drivers impacting on future transmission and generation investment

While the *Economic regulatory framework review* focusses more on the transformation that is occurring in small scale decentralised generation, the CoGaTI review focusses on the changes that are occurring in relation to large scale generation investment. The CoGaTI review considers the impact of the transformation of the sector on the following key elements of the transmission framework:

- planning
- access
- charging
- connection
- economic regulation.

As the mix of large scale generation changes, there is an increasing need for generator investment and retirement decisions to be coordinated with transmission investment to minimise total costs.

² The reviews are conducted under standing terms of reference from the COAG Energy Council.

³ *Independent Review into the Future Security of the National Electricity Market*, p.152

There is a significant amount of generation capacity that is seeking to connect to the network. Private sector investors are planning generation where transmission has limited or no capacity for generators to connect, and interconnectors are increasingly constrained.

Reducing these constraints may benefit consumers if less expensive generation can be dispatched to meet demand. On the other hand, given transmission infrastructure is expensive, and given the long life of these assets, consumers would pay for these over decades. It would not necessarily be efficient to remove all congestion since this could result in underutilised assets - so the investment costs may outweigh the benefits to consumers.

As the pattern of electricity flows in the transmission system changes and forecasts of future needs are increasingly uncertain, the transmission framework needs to be able to deliver outcomes in a timely and flexible way.

Through the CoGaTI review, the Commission undertakes biennial reporting on when the transmission planning and investment decision making frameworks will need to change, given the state of the power system. The CoGaTI review focuses on evaluating the transmission investment frameworks in light of current and future conditions to see if there is a case for change now to better coordinate investment between the transmission and generation sectors.⁴

After the CoGaTI review commenced in July 2018, the Australian Energy Market Operator (AEMO) published its inaugural Integrated System Plan (ISP), which identifies a pathway for developing the transmission network based on modelling the entire market over a range of possible future scenarios. In August 2018, the COAG Energy Council tasked the Chair of the Energy Security Board (ESB) with leading the delivery of a work program to 'convert the ISP into an actionable strategic plan' and to report back to the Council's December 2018 meeting, as well as reporting back on 'how the Group 1 projects identified in the ISP can be implemented and delivered as soon as practicable and with efficient outcomes for customers, and how the Group 2 projects will be reviewed and progressed.'

In September 2018, the Commission published a paper that sets out options for how the ISP could be made 'actionable' by strengthening the links between the ISP and transmission investment decisions. The spectrum of options also considers key features of the current Regulatory Investment Test for Transmission (RIT-T) that is designed to protect consumers that could be changed.⁵

The Commission's options paper also considered other key areas including renewable energy zones, congestion and access, and the treatment of large scale storage facilities.

The final report for CoGaTI was published on 21 December 2018.⁶ It set out a package of recommendations for how investment in generation and transmission should be better coordinated in future.

4 For more information, go to <https://www.aemc.gov.au/markets-reviews-advice/reporting-on-drivers-of-change-that-impact-transmi>

5 AEMC, Coordination of generation and transmission investment, Options paper, 21 September 2018.

6 AEMC, Coordination of generation and transmission investment, Final report, 21 December 2018.

The Commission's work as part of this review was provided as an input into the Chair of the ESB's report to the COAG Energy Council in December 2018 on how to convert the ISP into an actionable strategic plan.

2.3

The security and reliability work program

2.3.1

Reliability

A reliable power system has enough generation, demand response and network capacity to supply customers with the energy that they demand with a very high degree of confidence. The Commission's work in this area has focused on encouraging the right amount of investment in the power system's long term capacity, at lowest cost, so that the market operator, AEMO, is not forced to intervene more than necessary with higher cost 'safety net' options.

The Commission's *Reliability frameworks review* was one of the key projects that looked at ways to deliver a reliable power system.⁷ This review was completed in July 2018 and made a number of recommendations aimed at supporting reliable outcomes for consumers at lowest cost. This included options to facilitate demand response in the wholesale market and to improve transparency of the forecasts that underpin decision making. In conjunction with rule change requests arising from the review's recommendations (including three rule changes received by the Commission on facilitating demand response in the wholesale market), the Commission will continue to progress the other recommendations from this review through its reliability work program.

In particular, a key current project in the reliability work program is the Commission's assessment of AEMO's *Enhancement to the Reliability and Emergency Reserve Trader* rule change request.⁸ AEMO's rule change request proposes broad changes to the reliability and emergency reserve trader (RERT) framework, including an increase in the amount of time AEMO has to enter into RERT contracts prior to projected shortfalls to one year (and beyond in some circumstances), taking into account a broader risk assessment framework when procuring the RERT, rather than using the existing procurement trigger, and the standardisation of RERT products. Given that the AEMO considers that the existing procurement trigger, the reliability standard, is no longer appropriate, the appropriateness of the reliability standard is an issue within scope of this rule change request. A draft determination for the rule is due on 31 January 2019. The Commission is working closely with AEMO on this rule change request.

2.3.2

Security

In addition to reliability, the power system also needs to be secure such that it is able to operate within defined technical limits such as frequency and voltage, and to be able to withstand faults and failures such as the loss of a major transmission line or large generator.

⁷ For more information, go to <https://www.aemc.gov.au/markets-reviews-advice/reliability-frameworks-review>

⁸ This follows the Commission reinstating the long-notice reliability and emergency reserve trader (RERT) as an urgent rule earlier this year. The final determination was published on 21 June 2018, with the Commission increasing the lead time available for AEMO to procure out of market reserves ahead of a projected reserve shortfall. This allowed AEMO to procure reserves under the long-notice RERT for the upcoming summer.

Two essential requirements of a secure power system are sufficient system strength and inertia. System strength and inertia are provided by conventional synchronous generators powered by coal and gas. However, with an increasing proportion of non-synchronous generation (such as wind and solar) connecting to the grid, some areas of the power system will have less system strength and inertia, which may impact on the ability to maintain a secure power system.

The Commission has an ongoing system security work program that aims to address risks to the power system as the electricity sector changes. Through this work program, the Commission has already made several rule changes (with more underway) to address the immediate system security needs. Recent rules made such as *Generator technical performance standards*⁹ and the *Register of distributed energy resources*¹⁰ adds to AEMO's already comprehensive toolkit to keep the power system secure. Reviews such as the *Frequency control frameworks review*¹¹ delivered recommendations that will help support better frequency control in the long term and enable the delivery of frequency control services from new technologies.

The Commission will work closely with AEMO and other stakeholders to progress these recommendations through a longer-term collaborative work plan so the security needs of the system can be achieved at lowest possible cost.

2.4 Facilitating adoption of new technologies and business models

2.4.1 Five minute settlement rule change

Complementing the work program on security and reliability, the Commission made a fundamental change to wholesale market operation through the *Five minute settlement* rule¹² change. Five minute settlement provides better price signal for investment in fast response technologies such as batteries, new generation gas peaker plants and demand response. These fast response technologies enhance power system security as they can respond in real time to variation in intermittent generation, which is making up an increasing proportion of the generation mix.

These technologies are already being rolled out in the market, and the rule change is providing a clearer incentive to invest in these services. The rule change will also align the physical electricity system – which matches demand and supply of electricity every five minutes – with the price signal provided by the market for that five minute period.

2.4.2 Stand-alone power systems

New technologies are enabling the development of emerging products and services that provide customers more choices in how their electricity is generated, delivered and consumed. The falling cost of these technologies has now made alternative models of supply

9 For more information, go to <https://www.aemc.gov.au/rule-changes/generator-technical-performance-standards>

10 For more information, go to <https://www.aemc.gov.au/rule-changes/register-of-distributed-energy-resources>

11 For more information, go to <https://www.aemc.gov.au/markets-reviews-advice/frequency-control-frameworks-review>

12 For more information, go to <https://www.aemc.gov.au/rule-changes/five-minute-settlement>

such as stand-alone power systems increasingly viable options for providing electricity services to some customers. This is particularly the case in remote locations where the cost of providing grid-connected services may be high. Stand-alone power systems can also have significant benefits in terms of improving reliability and managing bush-fire risk in certain locations.

A stand-alone power system is an electricity supply arrangement that is not physically connected to the national grid and encompass both microgrids which supply electricity to multiple customers, and individual power systems, which relate only to single customers.

Stand-alone power systems are currently not captured under the national electricity frameworks and are subject to jurisdictional legislative frameworks, which vary in their comprehensiveness. States and territories with significant numbers of stand-alone power systems may have relatively well -developed regulatory frameworks, while others with relatively few may not. As stand-alone power systems become more viable as alternative models of supply, there is a risk that the current regulatory frameworks, by not adequately supporting the use of stand-alone power systems and the transition of grid connected customers to stand-alone solutions, might be inhibiting the use of the most efficient technological solutions to supply some customers.

The Commission is therefore undertaking the *Review of the regulatory frameworks for stand-alone power systems*¹³ under a COAG Energy Council terms of reference which will consider law and rule changes required to allow stand-alone power systems to be used where it is economically efficient to do so, while maintaining appropriate consumer protections and service standards. The Commission is currently conducting the first stage of the review, which focuses on the development of a national framework to facilitate the transition of grid-connected customers to stand-alone power systems provided by the incumbent distribution NSP. The first stage of this review will also develop a mechanism under national regulatory arrangements to facilitate the transition of customers currently supplied by a distributor to a stand-alone power system that is provided by a third party - such as a developer or community group.

The Commission is currently consulting on the draft report for the first stage of the review. Submissions are due by 5 February 2019.

2.5 Protections for customers: updating the regulatory frameworks for embedded networks and energy retail rule changes

Another aspect of the electricity sector's transformation is the increasing prevalence of embedded networks. Embedded networks, which are privately owned networks serving multiple customers through a 'parent' connection point, can provide benefits to consumers, but should be appropriately regulated. These benefits can include the promotion of innovation in products and services that can help manage energy costs in embedded networks such as embedded generation and demand management services.

¹³ For more information, go to <https://www.aemc.gov.au/market-reviews-advice/review-regulatory-frameworks-stand-alone-power-systems>

However, the Commission's 2017 *Review of regulatory arrangements for embedded networks*¹⁴ found many embedded network customers are not receiving better prices and are less able to change supplier if they are unhappy. Embedded network customers also receive fewer consumer protections than customers with standard supply arrangements. The review therefore proposed a new regulatory framework to provide embedded networks customers with appropriate levels of access to retail competition and consumer protections.

In August 2018, the Commission commenced a subsequent review on *Updating the regulatory frameworks for embedded networks*.¹⁵ Under this review, the Commission is developing detailed advice and a package of inter-related law and rule changes to implement the recommendations from the 2017 embedded networks review. These changes will strengthen protections and improve access to competitive offers for embedded network customers.

The Commission's draft report will be published in late January 2019.

In the energy retail sector, the Commission has recently made new rule changes such as *Advance notice of price changes*,¹⁶ *Notification of end of fixed benefit period*,¹⁷ *Preventing discounts on inflated energy rates*,¹⁸ and *Metering installation timeframes*¹⁹ to help deliver more affordable energy and improve outcomes for consumers as the electricity system transforms.

2.6 Commission's participation in industry-led projects

Two other major projects that are highly relevant to the Commission's work program are Open Energy Networks and the Distribution Energy Integration Program. The Commission is participating in reference groups for these projects, which informs our broader work program.

2.6.1 Open Energy Networks

Open Energy Networks is a joint Energy Networks Australia (ENA) and AEMO consultation that is seeking stakeholder input on how best to integrate DER into the electricity grid. The consultation paper, which was released on 15 June 2018, presents potential approaches to integrating DER in the NEM that aim to optimise the value of DER while managing distribution network constraints and system security.

The consultation paper also sets out several 'straw man' frameworks for a Distribution System Operator (DSO) or distribution level optimisation to be developed further with stakeholders. The consultation paper discusses the high level functions, roles and

14 For more information, go to <https://www.aemc.gov.au/markets-reviews-advice/review-of-regulatory-arrangements-for-embedded-net>

15 For more information, go to <https://www.aemc.gov.au/market-reviews-advice/updates-regulatory-frameworks-embedded-networks>

16 For more information, go to <https://www.aemc.gov.au/rule-changes/advance-notice-price-changes>

17 For more information, go to <https://www.aemc.gov.au/rule-changes/notification-of-end-of-fixed-benefit-period>

18 For more information, go to <https://www.aemc.gov.au/rule-changes/preventing-discounts-on-inflated-energy-rates>

19 For more information; go to <https://www.aemc.gov.au/rule-changes/metering-installation-timeframes>

responsibilities required to coordinate DER optimisation within both transmission and distribution network limits, and the different options proposed by the ENA and AEMO for allocating the responsibility to manage DER optimisation and dispatch.

The 2018 Review discussed the Open Energy Networks project in detail. The Commission considered that there is a strong interrelationship between the evolving role of NSPs and the efficient integration of DER in the grid.

The Commission will continue to work closely with AEMO and ENA through their consultation and provide input into the process. In particular, the Commission intends to host a public stakeholder workshop in collaboration with AEMO and ENA in 2019 on regulatory issues related to the proposed options for DER optimisation.

2.6.2 Distributed Energy Integration Program

The Commission is a member of the Distributed Energy Integration Program steering group and secretariat. The program, launched on 3 October 2018, is an initiative of the Australian Renewable Energy Agency (ARENA) that brings together energy peak bodies, market authorities, industry associations and consumer associations to maximise the value of DER for all energy users. The program will work to coordinate the rollout of initiatives aimed at growing the penetration of DER through improved cost and time efficiencies, informing energy consumers and supporting development of innovative business models.

Through this process, the Commission will share insights, develop priorities and coordinate work programs with other members of the steering group.

3 COMMISSION'S APPROACH TO THE 2019 ECONOMIC REGULATORY FRAMEWORK REVIEW

The previous chapter discussed many areas of the regulatory framework that are already being explored, reviewed and updated. This chapter discusses the Commission's approach to the 2019 Review.

In the 2019 Review, the Commission will focus on the following areas:

- **Continuing to implement the Finkel recommendation on network incentives.** In the 2019 Review, the Commission will commence consultation on alternative approaches to NSP expenditure assessment and remuneration - as recommended by the Finkel Review. This follows on from the Commission's finding in the 2018 Review that incentives are not aligned and, in certain circumstances, a strong capex bias exists. (see section 3.2 for further discussion)
- **Monitoring of key trends and market developments.** As requested in the standing terms of reference for this review, the Commission will continue to monitor key trends in grid usage as well as development and uptake of new technology and new business models. (see section 3.3 for further discussion)
- **Providing advice on regulatory sandboxes.** As requested by the COAG Energy Council Senior Committee of Officials, the Commission will provide advice on a framework for co-ordination of proof-of-concept trials and the need for formal regulatory sandbox arrangements to support innovative projects. (see section 3.4 for further discussion)

3.1 Overarching themes for the 2019 Review

3.1.1 The evolving role of NSPs

Evolving consumer preferences and technological developments are changing the operating environment for NSPs. The last decade saw a significant increase in the uptake of new technologies such as rooftop solar PV systems, battery storage and 'smart' energy management systems at the distribution level. These technologies enable consumers to be more engaged in the energy market. Consumers can manage and monitor their consumptions and alter behaviour in response to price signals. Some consumers have also become power producers. In the future, consumers will also increasingly be able to utilise their investment in DER to contribute to strengthening the power system to which they are connected.

These changes mean that the grid of the future is likely to become a platform that enables a broad range of technologies and business models – managing multi-directional energy flows both to and from consumers. The way in which NSPs deliver their services is also changing. NSPs will face new technical and operational challenges in managing this future grid, and may need to undertake different types of investments to maintain power quality and reliability and operate the network within safe limits. While NSPs' primary function of providing safe, secure and reliable supply of electricity to consumers is likely to be the same

in the future, this may be in an environment in which consumers exercise a significant level of choice which involves a range of new services and technologies.

At the same time, NSPs may also have access to a greater range of options for delivering these services. For example, instead of investing in additional assets (such as building poles and wires), NSPs may be able to contract with third party providers to access distributed generation, storage devices or harness a greater range of demand response to optimise the performance of the integrated network and connected DER.

3.1.2 Providing the best outcome for consumers: a framework that promotes efficient investment and supports electricity sector transition at lowest cost

The regulatory framework needs to continue to adapt so that it remains appropriate for the evolving role of NSPs and their operating environment. Importantly, it needs to continue to deliver the best outcomes for consumers.

While the future role of NSPs may include the provision of new services, they are likely to remain monopoly service providers in the foreseeable future and their revenue will therefore continue to be regulated. The Commission noted in the 2018 Review that NSPs may need to invest in more sophisticated monitoring and control functionality in the short term and that the current regulatory framework provides sufficient flexibility for this investment to occur. However, the Commission also stressed that any investment should be subject to cost-benefit assessment, which can be conducted through existing tools under the current framework. Through the Distributed Energy Integration Program, the Commission, AER and AEMO are considering other tools that will assist in cost-benefit assessments. The outcome of program will provide a key input to this review.

In the context of the sector's transformation, the Commission considers the best outcome for consumers is where the cost of transition is kept as low as possible, and that they do not pay more than necessary for assets that will enable the transition. Transition costs can be kept low where the economic regulatory framework promotes efficient investment by NSPs. The Commission considers that incentive regulation remains the most appropriate mechanism for this to be achieved.²⁰

3.2 Continuing to implement the Finkel recommendation on networks incentives

The current regulatory framework provides incentives for NSPs to reduce costs, improve service quality and undertake efficient investment. A key element of the framework is the separate assessment and method of recovery of capital expenditure (capex) and opex under the building block model. The issue of NSPs preferring capex over opex under the current framework has been the subject of reviews and regulatory changes both in Australian and overseas jurisdictions, and is particularly relevant in a transitioning system with a heightened focus on secondary equipment - including IT systems and efficient operating approaches.

²⁰ In the 2018 Review, the Commission found that incentive regulation remains the appropriate fundamental principle of the economic regulatory framework.

This issue was examined as part of the Finkel Review which recommended for the Commission to examine financial incentives facing NSP.

The recommendation is replicated in Box 1 below:

BOX 1: FINKEL REVIEW RECOMMENDATION 6.8

By mid-2018, the COAG Energy Council or the Australian Energy Market Commission should commission financial modelling of the incentives for investments by distribution network businesses, to test if there is a preference for capital investments in network assets over operational expenditure on demand-side measures.

If this work demonstrates that there is a bias towards capital expenditure, the COAG Energy Council should direct the Australian Energy Market Commission to assess alternative models for network incentives and revenue-setting, including a total expenditure approach. This should be completed by end-2019.

3.2.1

Findings from the Commission's 2018 Review

Through the 2018 Review, the Commission implemented the first part of the Finkel recommendation by undertaking modelling to test for a preference for capital investments in network assets over opex or demand-side measures.

The Commission's modelling and analysis showed that while the regulatory framework does not create a clear, systematic bias in favour of either capex or opex, the financial incentives for NSPs are nevertheless not aligned as they vary depending on the circumstances. The Commission concluded that the misalignment of incentives is due largely to the current method of separate assessment and remuneration of opex and capex.²¹

The potential for expenditure bias impacts the economic regulatory framework's ability to continue to support the electricity sector's transformation. In a future with a high uptake of DER, it is possible that there will be a greater substitution possibility between capex and opex solutions. A potential for capex bias may distort investment decisions where a NSP may choose a solution that would provide the greatest financial returns instead of the most efficient solution.

3.2.2

Consultation on alternative approaches to expenditure assessment and remuneration

Several potential solutions may be available to address the risk of bias, and reforms could range from refinements to the existing framework to recommending new approaches for setting revenues for regulated businesses. The Commission also recognises that any changes to current arrangements would require extensive stakeholder consultation and collaboration between the industry and market bodies such as the Commission and the AER, and that significant lead time may be required.

²¹ See Chapter 2 of the 2018 Review Final Report (AEMC, *Economic regulatory framework review: 2018 Final Report*, pp. 14-37).

Through the 2019 Review, the Commission will therefore commence consultation on potential alternative models to the current expenditure assessment and remuneration approaches to address the risk of bias - as recommended by the Finkel Review.

Some potential options

One of the potential options is to change the basis of remuneration by setting the proportion of total expenditure that is rolled into a NSP's regulatory asset base (RAB) independently of the actual proportion of the total expenditure that is capital expenditure. This would remove incentives for NSPs to favour one type of expenditure over another to a large extent. A process would need to be established to determine how much expenditure would be recovered in the forthcoming regulatory period, and how much would be capitalised within the RAB and recovered over time. Financeability assessments may also be required.

This option would not necessarily require changes to how the regulator determines its estimates of efficient opex and capex at the start of a regulatory control period. Instead, the focus of these changes would be on aligning incentives for making efficient capital and operating expenditure decisions within a regulatory control period.²²

Another option, which could be considered as an enhancement to the above option, may be to combine and simplify the expenditure assessment rules. The current provisions of the NER, which set out separate capex and opex objectives, factors and criteria, may not lead to the most efficient outcomes.

Key focus of the 2019 Review consultation

A key focus of the Commission's consultation for the 2019 Review is to seek stakeholder feedback on the range of potential solutions available to address the issue of bias, the advantages and disadvantages of those solutions as well as how they could be implemented. A key part of this consultation process is the public workshop that will be held in early-March 2019. The Commission encourages all interested stakeholders to participate in this workshop.

Other reforms proposed by the industry

The Commission is also aware that some transmission network businesses have recently called for an equivalent of the recently amended Demand Management Incentive Scheme and Demand Management Innovation Allowance for DNSPs to be extended to TNSPs.²³ These mechanisms currently provide additional incentives for DNSPs to undertake efficient non-network expenditure on demand management, and may counter any existing capex bias.

3.2.3

Complimentary reforms

Expenditure assessment and remuneration is only an aspect of the economic regulatory framework, albeit an important one. To deliver the best outcomes for consumers, the

²² For example, there would be no need to undertake what is referred to as "totex benchmarking" in the UK. Instead, the regulator could continue to calculate separate opex and capex estimates, or use any other permitted method to assess efficient expenditure levels. The Commission's analysis to date indicates that the key issue for delivering unbiased incentives is the differing incentives that NSPs may have to decide between opex and capex within a regulatory control period, rather than issues related to how estimates of efficient opex and capex are determined at the start of a regulatory control period.

²³ See for example ElectraNet's submission to the 2018 Economic Regulatory Frameworks Review, available on the AEMC's website.

Commission considers that the regulatory framework overall needs to promote efficient investment and additional or complementary reforms may be needed.

In the 2018 Review, the Commission considered other measures such as output/performance based regulation. A different consumer engagement process may be needed to complement any expenditure assessment or remuneration reforms. The Commission is actively monitoring developments in potential models for consumer engagement, including as a participant on the Program Board and Reference Group for the AER, ECA and ENA's NewReg trial of models for negotiated agreements between consumers and network businesses.

The Commission is interested in stakeholder views on whether additional or complementary reforms to the framework are needed so that the regulatory framework is sufficiently robust to provide the best outcomes to consumers.

3.3 Continual monitoring of current issues in the electricity sector

In previous editions of this review, the Commission monitored and reported on key metrics such as network expenditure, RAB values and network utilisation. In the 2019 Review, the Commission will continue to monitor and report on these key metrics and emerging issues for the regulation of electricity networks to develop a vision on how the regulatory framework can best support an evolving market. As the electricity sector continues to evolve, the Commission is interested in stakeholders' views on whether other metrics and additional issues should be included as part of the monitoring.²⁴

In the 2018 Review, the Commission noted that stakeholders had raised a number of issues that the Commission intended to consider in the 2019 Review, including consideration of extending the AER's ex-post review powers, and arrangements for regulatory sandboxes.²⁵

The Australian Competition and Consumer Commission's (ACCC's) Retail Electricity Pricing Inquiry (REPI) report made a range of recommendations regarding electricity network regulation, including the treatment of assets that may be stranded in the future (which raises similar issues to extended ex-post-review powers) and reducing the level of prescription in the rules. The Australian Government and the COAG Energy Council have yet to respond to the networks-related aspects of the ACCC's recommendations. The Commission will continue to monitor and liaise with the COAG Energy Council on potential responses to the ACCC recommendations, so that it is positioned to appropriately respond to any COAG decisions and referrals.

3.4 Regulatory sandbox

On 24 October 2018, the COAG Energy Council Senior Committee of Officials (SCO) formally requested the Commission to provide interim advice by February 2019 on a framework for co-ordination of proof-of-concept trials and the need for formal regulatory sandbox arrangements to support innovative projects. SCO requested the Commission to engage

²⁴ For example, additional metrics could include data on voltage and thermal constraints and the scale of rejected DER connection applications.

²⁵ See the 2018 Review Final Report, page xiv

closely with the AER, AEMO, Energy Consumers Australia (ECA) and ARENA as part of this work.

A separate consultation paper was published on 20 December 2018 to facilitate stakeholders' response as the issue affects not only network regulation, but also the retail and wholesale market as well as emerging responses to address security and reliability issues. Submissions to the consultation paper is due on 31 January 2019.

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ARENA	Australian Renewable Energy Agency
Capex	Capital expenditure
Commission	See AEMC
COAG	Council of Australian Governments
DER	Distributed energy resources
DSO	Distribution system operator
ECA	Energy Consumers Australia
ENA	Energy Networks Australia
ESB	Energy Security Board
ISP	Integrated System Plan
NEM	National electricity market
NEO	National electricity objective
NSP	Network service provider
Opex	Operating expenditure
RAB	Regulatory asset base
TNSP	Transmission network service provider