AER
Consumer
Reference Group

Improving how the AER assesses Consumption Efficiency

September 2022

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Acknowledgement of Country

The National Energy Market, energy users, and the communities in which they reside and work, including those individuals who participated in CRG's consumer surveys, traverse the lands of many Indigenous nations. We recognise the Traditional Owners of these lands and honour their customs and traditions and special relationship with the land as well as those where this report is being prepared. We respect the elders of these nations, past, present and emerging.

Acknowledgements

We are grateful to the ECA for the funding the University of Wollongong consultancy, enabling us to obtain an independent review to help the AER consider the way it assesses consumption efficiency in the making of the rate of return.

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1 Background

1.1 CRG's October 2020 concerns

In October 2020, the Consumer Reference Group (CRG) responded to the Australian Energy Regulator's (AER) Draft Working paper on the efficient return on equity[1] by strongly supporting the concerns of the Independent Panel formed to consider the 2018 Rate of Return Instrument (RoRI) the CRG was of the view that the energy objectives require the AER to explicitly consider both efficient investment and efficient consumption. The CRG stated:[2]

> *"The AER's selection of model(s) and the approach to each parameter in the model(s) must clearly address both efficient investment and efficient consumption.*
>
> *Further, we contend to date, the AER has not adequately addressed its obligation to equally consider efficient investment and efficient consumption. For example, the AER has not formally considered the impact of its decisions on consumer behavioural response to any potential price increases arising from its RoRI decisions.*
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> *Further, the AER has not adequately considered that consumers have greater opportunities to withdraw from using network services if they believe prices do not represent value for money and/or network charges will continue to rise (as they did between 2009 and 2015). As one advocate for commercial enterprises said, increases in network prices would leave customers turning away from the network, not towards it."*

1.2 Purpose of this document

This attachment to the CRG's advice to the AER's *Draft Rate of Return Instrument* provides a critique of the AER for failing to adequately deal with prescribed matters in its Draft RoRI and a rationale for the AER to undertake an assessment of the relationship between the energy objectives of efficient investment and efficient operation and use of gas and electricity networks.

1 AER, Rate of return, CAPM and alternative return on equity models, August 2020, https://www.aer.gov.au/system/files/Rate%20of%20return%20-%20CAPM%20and%20alternative%20return%20on%20equity%20models%20- %20Draft%20working%20paper%20-%2027%20August%202020_2.pdf

2 CRG, *Submission to AER Return on Equity*, 9 October 2020, available from https://www.aer.gov.au/system/files/CRG%20-%20Submission%20to%20AER%20RoE%20and%20International%20RoR%20working%20paper%20%20-%209%20October%202020_0.pdf , p. 13

2 National gas and electricity network revenue regulation

The AER is responsible for determining the revenue allowances for regulated electricity and gas distribution and transmission networks in accordance with the National Energy Laws in all Australian states and territories, except Western Australia. The AER's decisions on the regulated rate of return accounts for around 50% of energy networks' total revenue allowances. Therefore, the AER's revenue decisions and the AER's decisions on the rate of return, significantly impact on energy costs for all consumers and on the overall Australian economy.

These revenue decisions, including the AER's rate of return decision, must be made to best satisfy the efficiency objectives and other provisions of the energy laws. The AER is considering how best to estimate the rate of return to apply to regulated gas and electricity networks for the 4-year period from 2023 to 2026.

The CRG is concerned that the AER's decisions on the rate of return will not sufficiently apply the twin efficiency objectives prescribed.

2.1 Efficiency objectives

The National Electricity Objective (NEO)[3] and the National Gas Objective (NGO) define the ultimate objectives of the AER Rate of Return Instrument (RoRI). In both cases, the objectives are to promote **efficient investment** in, and **efficient operation and use of,** the relevant electricity and gas services, for the **long-term interests of consumers** with respect to the price, quality, safety, reliability, and security of supply.

So, central to the RoRI are the energy objectives that the AER must make its RoRI,

only if it is satisfied the RoRI will, or is most likely to, contribute to the achievement of the national electricity and gas objectives to the greatest degree. [4]

The statutory test for the RoRI incorporates twin efficiency objectives, the first being efficient network investment and the second efficient operation and use. To date, the AER's has been on the former while largely dismissing the latter. An outstanding issue is how best to interpret and assess the twin efficiency objective and the regulatory pricing principles (RPPs), which are set out in the National Electricity Law (NEL) and National Gas Law (NGL). (Energy Laws). The efficiency objectives and RPPs explicitly require consideration of both efficient investment and the efficient operation and use, of energy networks in the long-term interests of consumers.

2.2 Consumption efficiency in the RoRI

Consumption efficiency is a collective term (though not one specified in the law) to integrate those elements of the energy laws which take account of conduct on the consumers side of the meter. It is comprised of the elements of the relevant laws and rules which go to the efficient operation and use of network services, the economic costs and risks falling on consumers of the potential for under and over investment by a regulated network service provider and the economic costs and risks of the potential for under and over utilisation of a network which are borne by consumers in the short and long term. These are found in the NEL and the NGL.

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3 See National Electricity Law Section 18(I)(3)

4 Ibid

2.3 Context and issues

The legislative expression of the NEO and the NGO are well known[5] but have a complicated history. With roots in the economic regulation of telecommunications and having undergone numerous policy and legislative changes there remains a degree of controversy about their meaning and application.

A specific point of contention is the extent to which the AER has regard to under and overinvestment by networks and under or over utilisation of networks (as specified in the statutory RPPs) in the making of the RoRI.[6]

For example, the issue was brought to light by the Independent Panel (the **Panel**)[7] in their review of the AER's 2018 Draft RoRI. The Panel stated its position very clearly, as follows:[8]

> *"Submissions to the AER focused on a specific risk – the effect on investment incentives of over or underestimating the rate of return. But that the national objectives also include consumption efficiency, which needs to be addressed as well. In achieving the national objectives, **attracting capital is necessary but not sufficient**."*

The Independent Panel went on to spell out in more detail its views on consumption efficiency:[9]

> *"There is a broader point to make. A particular rate of return does not achieve the national objectives just because finance theory says it should. The national objectives are achieved not by finance theory but by the rational, informed actions of the firms and individuals who comprise the regulated industries: debt investors, equity investors, the managers and employees of regulated firms, consumers large and small, and the practitioners who represent their interests before regulatory tribunals."*

In its *Final Decision* on the 2018 RoRI, the AER responded to this challenge by stating that:[10]

> *"We have explored a range of issues and submissions relevant to the costs that might arise if our rate of return is too high or too low. Overall, we do not consider the evidence supports the application of a bias toward a higher or lower rate of return. Reasonable points are made in support of both directions"*

The CRG considered that the AER's response to the Panel in its 2018 *Final Decision* was not sufficient. The AER's response largely ignored the essential critique by the Panel that the energy objectives need to be also addressed, and attracting capital is not sufficient. For this reason, in the CRG's response to the AER's 2020 Draft Working paper on the efficient return on equity, the CRG

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5 See Appendix.

6 See http://classic.austlii.edu.au/au/legis/nsw/consol_act/nel282/s7a.html National Electricity (NSW) Law - Sect 7a Revenue and Pricing Principles (6) Regard should be had to the economic costs and risks of the potential for under and over investment by a regulated network service provider in, as the case requires, a distribution system or transmission system with which the operator provides direct control network services. (7) Regard should be had to the economic costs and risks of the potential for under and over utilisation of a distribution system or transmission system with which a regulated network service provider provides direct control network services.

7 The AER established an independent panel (Panel) to review its Draft RoRI as a means of promoting stakeholder confidence in the review process and confidence that the Final RoRI is capable of achieving the national gas and electricity objective (see Independent Panel Review of the AER's Rate of Return Draft Guidelines REPORT 20180907.docx)

8 Independent Panel, *Review of the Australian Energy Regulator's Draft Guidelines*, September 2018, p. 77, available from https://www.aer.gov.au/system/files/Independent%20Panel%20Report%20-%207%20September%202018.pdf

9 Ibid

10 Australian Energy Regulator, *Rate of Return Instrument, 'Explanatory Statement'*, December 2018, p. 415, available from https://www.aer.gov.au/system/files/Rate%20of%20Return%20Instrument%20-%20Explanatory%20Statement.pdf

strongly supported the Panel's concerns that the objectives require the AER to explicitly consider both efficient investment and efficient consumption. The CRG stated:[11]

> *"The AER's selection of model(s) and the approach to each parameter in the model(s) must clearly address both efficient investment and efficient consumption.*
>
> *Further, we contend to date, the AER has not adequately addressed its obligation to equally consider efficient investment and efficient consumption. For example, the AER has not formally considered the impact of its decisions on consumer behavioural response to any potential price increases arising from its rate of return decisions."*

Further, the AER has not adequately considered that consumers have greater opportunities to withdraw from using network services if they believe prices do not represent value for money and/or network charges will continue to rise (as they did between 2009 and 2015).

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[11] CRG, *Submission to AER Return on Equity*, 9 October 2020, p. 13, available from https://www.aer.gov.au/system/files/CRG%20-%20Submission%20to%20AER%20RoE%20and%20International%20RoR%20working%20paper%20%20-%209%20October%202020.pdf

3 The AER's response to the CRG's concerns

In responding to the CRG's submission, the AER Reiterated its response to the 2018 Panel:' critique. The AER …….agreed that achieving the legislative objectives requires more than just efficient investment in energy networks, but also **requires efficient use of energy network services**.[12] The AER then concluded that an unbiased estimate of efficient investment is a sufficient condition to promote the efficient use of energy, and that therefore it could achieve its statutory objectives by focussing on an unbiased estimate of the rate of return required to achieve "efficient investment".

The AER expressed itself open to considering improvements in how it might assess efficient use of the network (i.e., consumption efficiency). The AER also acknowledged that "errors" in the rate of return can affect the broader economy. For example, the AER states:[13]

> *"A biased expected rate of return is likely to have a broader effect across the economy. Energy supply is an essential service, supporting the broadest range of economic activity. If this essential activity is incorrectly priced it is likely to distort decisions throughout the economy. This may result in efficiency losses where consumers use more or less energy network services than otherwise. It may also lead to consumers making incorrect downstream investment decisions. The impacts are likely extended beyond monetary effects, such as the consequences for vulnerable consumers that may be disconnected."*

Having expressed its openness to improvements in how it might assess consumption efficiency, the AER goes on to provide several arguments to demonstrate that it has considered the issue.[14]

However, the AER's arguments do not go further than this theoretical assessment. The practical task of assessing how to address the gap in assessing consumption efficiency has not been done by the AER.

In the following section we provide a synopsis of a study the CRG commissioned with the University of Wollongong. The study provides an economic and regulatory framework for addressing consumption efficiency and serves as a first step to filling out the gap we identified in the AER's Draft RoRI.

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12 Australian Energy Regulator, Rate of Return, *'Assessing the Long-term Interests of Consumers', Position paper*, May 2021, available from https://www.aer.gov.au/system/files/AER%20-%20Rate%20of%20return%20and%20assessing%20the%20long%20term%20interests%20of%20consumers%20-%20Position%20paper%20-%2021%20May%202021_1.pdf.

13 Ibid, p. 7

14 Ibid, p. 6

4 University of Wollongong report

The CRG, with the financial support of Energy Consumers Australia (ECA) requested the University of Wollongong (UoW) to "develop a framework for undertaking an assessment of the relationship between the energy objectives of efficient investment and efficient operation and use of the network. The result of this consultancy is a detailed report containing key regulatory insights and the identification of issues.[15]

This section considers the advice in that report highlighting the key issues. The full report with detailed reasoning and references from the University of Wollongong is attached to our September 2022, *Advice to the Australian Energy Regulator, CRG Response to the AER's Draft Rate of Return Instrument.*

4.1 The purpose of economic regulation of energy networks

The UoW Report begins with a reminder from the Australian Federal Court that the regulatory scheme seeks to obtain the benefits of economic efficiency through mimicking the processes that would occur in a competitive market.

The relevance of this Federal Court observation is developed through a description of incentive-based versus cost-of-service-based regulation and the importance in the Australian context of incentive schemes and the revenue and pricing principles which require the AER to have regard for the way its decisions interact in the real world.

Finance theory alone is an inadequate means of securing the objectives, much less meeting the long-term interests of consumers. The *UoW Report* concludes that the AER's *Draft RoRI Explanatory Statement* should address consumption efficiency by considering demand effects in particular a review of the outcome of the 2018 RoRI.

The *UoW Report*, at the request of the CRG, consists of three parts:

1. A review of the regulatory framework. This consists first of understanding the AER's task as defined in the National Electricity Law (NEL) and the National Electricity Rules (NER) and the corresponding requirements in the gas legislation and rules.
2. A description of the market impacts of the allowed rate of return. It explores both the impact of the average price level on demand and consumer behaviour, the need for efficient prices, and the motivations for network service providers (NSPs) to implement such prices.
3. Bringing together these discussions. It returns to the regulatory framework in the context of the demand discussion to demonstrate that the investment can be neither too low nor too high while the utilisation is still too low. That is, it is insufficient for the AER to base the RoRI only on an unbiased estimate concerning investment.

4.2 Issues in regulatory economics

In its treatment of issues in regulatory economics, the *UoW Report* notes that it is ultimately concerned with the relationship between the RoRI and the achievement of "consumption efficiency". Consequently, consideration of issues in regulatory economics begins with a discussion of the meaning of "efficient". It then outlines criticisms of the AER's interpretation of efficiency of the RORI. The discussion of efficiency is followed by a history of the development of regulatory

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15 University of Wollongong, *AER Consideration of Demand Side Issues in Making the Rate of Return Instrument*, report prepared by David Havyatt, Rabinda Nepal and David Johnstone for the CRG, August 2022

approaches leading up to the Performance Based Regulation (PBR) framework. (While PBR is sometimes used interchangeably with incentive regulation, the *UoW Report* prefers the former, more inclusive term.) The *UoW Report* then shifts focus to finance theory before returning to PBR and the application of finance theory.

This section of the *UoW Report* draws the conclusion that:[16]

> *"The objectives of the energy laws are simple: to promote economic efficiency for the long-term interests of consumers. The RPPs add that NSPs should be provided incentives to promote economic efficiency. We argue that the AER has erred in its interpretation of the objectives; the Independent Panel that reviewed the 2018 guideline also criticised the AER for inadequately considering demand side, or consumer, efficiency."*

4.3 Consumer confidence

Much of the CRG's consumer engagement revolves around a central theme that consumers need to have confidence in regulatory processes if they are to accept the outputs of economic regulation.[17]

The *UoW Report* picks up this theme. it references consumer sentiment surveys and cites the Independent Panel's Report on the Draft 2022 RoRI. The Panel called for the AER to undertake a more conclusive analysis of the efficacy of the 2018 RoRI, and to discuss the effect of the RORI under a wider range of scenarios to better inform consumers regarding the potential impact of the regulatory system particularly when combined with changes in macroeconomic variables on energy bills. Transparency on the impacts of different decisions will in turn support consumer confidence in the AER's decisions.

To emphasise the important role of consumer confidence in the regulatory process, the UoW Report then cites the 2018 Independent Panel Report which stated:[18]

> *"In making this observation, the Independent Panel echoed concerns of the 2018 Panel that: A particular rate of return does not achieve the national objectives just because finance theory says it should. The national objectives are achieved not by finance theory but by the rational, informed actions of the firms and individuals who comprise the regulated industries: debt investors, equity investors, the managers and employees of regulated firms, consumers large and small, and the practitioners who represent their interests before regulatory tribunals.* ***The Draft Guidelines will be capable of promoting the national objectives only if it wins the trust of, and induces the efficient conduct of, all those parties.****" [emphasis added]*

4.4 Consumer agency

In past regulatory determinations, consumers' role in shaping output and supply was limited. The *UoW Report* suggests any consideration given to consumer agency is restricted to one aspect, the choice to self-generate. The *UoW Report* notes that options for consumers to make choices with significant implications for the energy system are much broader.

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16 Ibid, p. 16

17 See for example, Consumer Reference Group, *Advice to the Australian Energy Regulator, CRG Response to the AER's July 2021 Draft Working Papers: The Overall Rate of Return, Debt Omnibus and Equity Omnibus Papers Volume 2: Engagement*, September 2021, available from https://www.aer.gov.au/system/files/CRG%20-%20Submission%20-%20Overall%20rate%20of%20return%2C%20Equity%20and%20Debt%20-%20Volume%202%20-%203%20September%202021.pdf

18 University of Wollongong, *AER Consideration of Demand Side Issues in Making the Rate of Return Instrument*, report prepared by David Havyatt, Rabinda Nepal and David Johnstone for the CRG, August 2022, p. 24

Bearing in mind the Federal Court description that the regulatory scheme seeks to obtain the benefits of economic efficiency through mimicking the processes that would occur in a competitive market, it would seem an obvious requirement for application of the regulator to enquire into consumer behaviour. The *UoW Report* notes that the first option is investing in energy-efficient appliances and housing. It then explores a range of other issues before concluding with a reference to the Independent Panel Report on the 2022 draft RoRI which noted:[19]

> *"The consumer has a role to play in achieving an efficient transition. Determining the most cost-effective and efficient transition pathway requires the active engagement of consumers as well as network businesses. To the extent that demand management can forestall additional investment it can contribute to the achievement of the Energy Objectives. Building and maintaining trust of all stakeholders is an important part of this process. Given the heightened sensitivity of energy pricing and the cost implications for consumers of increased investment in network assets, there should be increased focus on ensuring maximum efficiency of existing network assets. Although consideration of most of these issues is outside of the scope of Panel's review, we believe that it is important to highlight the role that they play in determining whether the Energy Objectives are achieved."*

4.5 More than investment efficiency

4.5.1 The legislative requirements and regulatory judgement

The final section of the *UoW Report* addresses consumer efficiency in regulatory decision making.

The section commences with a review of the AER's regulatory task, examines legislative requirements and in particular an exploration of Regulatory Pricing Principles (RPP's). The *UoW Report* notes that:

The legislation imposes two standards specified in the legislation on the AER in making the RORI.[20]

> *"The AER must only make an instrument if it is:*
>
> - *satisfied the instrument will, or is most likely to, contribute to the achievement of the national electricity objective to the greatest degree. (NEL s18I(3))*
>
> *In making an instrument, the AER must have regard to:*
>
> *(a) the revenue and pricing principles; and*
>
> *(b) other information the AER considers appropriate. (NEL s18I(5))"*

Both of these requirements, according to the *UoW Report*, refer to the objective of economic efficiency; the NEO as an end in itself, while the RPPs refer to the requirement to provide "effective incentives to promote economic efficiency". Apart from this distinction between the ends (NEO) and the means to that end (RPPs), the two differ in how the threefold aspect of economic efficiency is detailed. In the NEO, they all pile up together ("promote efficient investment in, and efficient operation and use of, electricity services"), and it is very easy to focus on the objective of promoting efficient investment (or even simply promoting investment).

19 Ibid, p. 31

20 Ibid, p. 34

The construction of the law and its purpose is described in the *UoW Report* as:[21]

> *"The RPPs are not expressed in this way; they deliberately lay out the three aspects of efficiency that need to be promoted: efficient investment, efficient service provision, and efficient use. As a matter of statutory interpretation, the other words are redundant if efficient investment was sufficient to guarantee efficient operation and use. Put another way, the makers of the statute intended those extra words to mean something, and it is incumbent on the AER to understand them and execute them.."*

In support of the more thorough application of the RPP's, the *UoW Report* cites both the 2018 and 2022 Independent Panel Reports, which it notes, identified the need for the AER to explicitly address efficient use and efficient operation. Regulatory judgement

The *UoW Report* also concerns the application of regulatory judgement by the AER. In this regard the *UoW Report* notes:[22]

> *"It is instructive to note that the AER has not included in its list of matters relevant to exercising its judgement any of the matters listed in legislation as being relevant to making the RORI, in particular the energy objectives or the RPPs. Similarly, the AER regards past decisions as being relevant to inform judgement by way of precedent but not as the basis for analysis of the consequences of those decisions. As we will see, the UoW Reports of the Independent Panels for the 2018 and 2022 RoRIs, respectively, suggest the AER has erred in not making doing so."*

21 Ibid

22 Ibid, p. 8

5 Conclusion

The *UoW Report* prepared by the University of Wollongong was commissioned by the CRG in response to a concession by the AER that achieving the legislative objectives for the ROI requires more than just efficient investment in energy networks, but also requires efficient use of energy network services. The CRG is of the view that the *UoW Report* provides a regulatory framework for the AER's further investigation of consumption efficiency. The report describes the tasks of the AER, highlights issues in regulatory economics and provides specific advice to the AER. The *UoW Report* proceeds to consider market impacts including an analysis of prices and the scope for consumer agency before concluding with efficiency in regulatory decision making.

The CRG considers the AER cannot achieve the energy objectives without serious attention to the matters raised in the *UoW Report* and a revision of its *Explanatory Statement* to show it has done so.

Appendix: National Electricity Objective

The National Electricity Objective as stated in the National Electricity Law (NEL) 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:

- price, quality, safety and reliability and security of supply of electricity
- the reliability, safety and security of the national electricity system"

The National Gas Objective as stated in the National Gas Law (NGL) 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."