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Operationalising the Long-Term Interests of Consumers

The intent of this paper is to aid Energy Consumers Australia and other stakeholders to make promoting the Long-Term Interests of Consumers the foundation of their advocacy.¹

Overview

As expressed by the 2015 Review of Market Governance the overall objective governing the energy sector in Australia is that the long-term interests of consumers of energy services are efficiently served. (Vertigan, Yarrow, & Morton, 2015). This objective is captured in slightly different ways in the Australian Energy Market Agreement (the AEMA) and the three Energy Laws².

Energy Consumers Australia’s constitution focuses the organization on providing and enabling advocacy to “promote the long-term interests of consumers with respect to price, quality, safety, reliability and security of supply.” (ECA, 2015a)³

While there is great clarity that promoting the long-term interests of consumers (LTIC) is the objective of energy policy, there is not always similar clarity about what that means in practice. This paper is intended to assist in providing clarity; and to provide a framework to assess the impact on the long-term interests of consumers.

In particular, the paper provides a framework the Energy Consumers Australia can use to ensure its advocacy fulfils its constitutional objective.

In an earlier paper (ECA, 2016) we also addressed the relationship between the long-term interests of consumers and other policy goals, particularly social and environmental. This paper’s scope is narrower than the earlier paper and so these considerations are excluded.⁴

¹ This paper builds on the earlier Research Paper Interpreting the Long Term Interests of Consumers (ECA, 2016). It has benefitted from conversations with many stakeholders including senior executives from the AER, AEMO and AEMC and participants at the Regulatory Policy Institute’s Competition and Regulation Conference 2017 and the University of East Anglia Centre for Competition Policy.
² The National Electricity Law, the National Gas Law and the National Energy Retail Law.
³ Throughout this paper ‘long-term’ to describe interests will always be hyphenated, even when that is not how it has been presented in the original use.
⁴ We anticipate providing a further paper dealing with these relationships in a contemporary setting, including the actions arising from the Finkel and ACCC review.
Outline

Two Supporting Papers are provided in conjunction with this paper. The first of these explores in more detail the development of the national energy system and the objectives. The second explores in more detail the economic concepts underpinning the relationship between efficiency and the long-term interests of consumers.

The paper consists of four substantive sections:

The objectives of the national energy system and efficiency

This section concludes that the long-term interests of consumers are realised through economic efficiency and an efficient outcome is one where consumers collectively, now and in the future, paying no more than they need to.

Regulatory consequences of promoting the LTIC

There are four regulatory consequences:

- the separation of potentially competitive markets from natural monopoly
- the requirement for markets to be effectively competitive
- the application of best practice monopoly regulation
- a framework that supports innovation

Understanding the non-price criteria

The requirement to promote the long-term interests of consumers with respect to price, quality and reliability as incorporated in the AEMA is a more consumer-oriented expression of the non-price criteria. The more technical supply-side terms of security of supply and system security can be interpreted through this framing.

The LTIC assessment framework

A methodology is provided for assessing proposals against the criteria identified as being required to promote the long-term interests of consumers.

This approach to assessing the long-term interests of consumers provides a framework to assist Energy Consumers Australia in interpreting the constitution and in our approach to advocacy in the context of the objectives in the national energy laws. Central to this advocacy is the importance of market design and innovation. As argued in the paper the promotion of the long-term interests of consumers clearly relates to issues of equity and sustainability.

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5 The reference to the national energy system is an intentional deviation from the more common use of the national energy market and this is explained later.
The objectives of the national energy system and efficiency

The development of a national energy system

Australian households and businesses obtain their energy needs through gas or electricity that is delivered to their premises through two inter-related systems comprising wholesale and retail markets and transmission, pipeline and distribution assets. The systems are inter-related as gas is both a fuel for some electricity generation and is a competing source of energy for some end uses.

This is often described as the ‘national energy market’ but this is an inadequate description. There isn’t one ‘market’ under any definition that a court or an economist would recognise. More recently the system has been augmented by consumers’ investments in Distributed Energy Resources (DER).

Nevertheless, this complex amalgam operates under a (mostly) harmonized set of laws and is overseen by a set of national market bodies all of which have been developed under the framework of the Australian Energy Market Agreement – which has been subject to some amendments since its initiation in 2004, the most recent being in 2013 (COAG, 2013). Despite the goal of harmonization, some policy issues have been reserved for jurisdictions (such as safety) and jurisdictions have otherwise derogated from harmonized laws. Consequently, jurisdictional authorities continue to operate in the space and their activities are not governed by the principles applied by the national legislation.

The evolution of a national approach to energy began in 1991 and this evolution, together with the development of the objectives governing it, is outlined in detail in Supporting Paper No. 1 The development of Australia’s national energy system. National energy reforms have been punctuated by major reports, including those associated with their leads – Hilmer, Parer Beale and Scales.

The National Competition Policy Review chaired by Fred Hilmer recognised that the introduction of effective competition into markets traditionally supplied by public monopolies would often require structural reforms (Hilmer, 1993, p. 215). This echoed the proposal of earlier reviews for vertical separation between generation, transmission and distribution. However, it provided a very detailed analysis of the issues and was the proximate cause for ongoing reform.

The report identified the value of the separation of natural monopoly and potentially competitive activities as well as the value of the separation of

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6 At the time of writing it is still expected that COAG will act on the recommendation in the Finkel Review to revise the agreement further to address the process of derogation.

7 For example, QCA, IPART, ESCOSA, ESCV

8 (Hilmer, 1993) (Parer, 2002) (Beale, Houston, Kenny, Morton, & Tamblyn, 2006) and (Scales, 2007)
different elements of competitive activities. It used electricity transmission and generation as an example of the benefit of the separation of monopoly and competitive activities. The problem that arises from integration is identified as the possibility for the monopoly activities to cross subsidise the competitive activities and that control of the monopoly activities may be misused to stifle, or prevent, competition in the potentially competitive sector.

The framework of the regulatory arrangements introduced as part of national competition reform was therefore based on four principles:

1. The development of a national policy framework and, where possible, national markets.
2. The strict separation of potentially competitive markets from technologies that had natural monopoly characteristics (networks).
3. Promotion of competition in potentially competitive markets.

By 2001 the major reforms proposed by Hilmer and earlier had been completed. These included the separation of the previously vertically integrated supply chain, the introduction of competition between generators and between retailers, the network elements being brought under access and price regulation, and the creation of a National Electricity Market. In gas, laws limiting interstate trade had been repealed and third-party access to pipelines mandated.

However, the reforms had been subject to criticism. At its June 2001 meeting COAG endorsed the need for a national energy policy and the committee that Warwick Parer chaired was charged with identifying any impediments to the full realisation of the benefits of energy market reform and strategic directions for further energy market reform. (COAG, 2001)

In response to the Parer report, the primary recommendations made by the Ministerial Council on Energy (the MCE) to COAG related to the regulatory framework and the approach to economic regulation of networks. (MCE, 2003) ‘Economic regulation’ at its most general refers to any intervention by government into the operation of markets; in the energy market context it refers to the regulation of the terms and conditions of supply, particularly price.

The objectives of the national energy arrangements

Australian Governments entered into the Australian Energy Market Agreement (AEMA) on 30 June 2004 to give effect to the recommendations from the MCE. (COAG, 2004). This agreement introduced the first formal objective for the national energy system, starting with:

The objectives of this agreement are:

(a) the promotion of the long-term interests of consumers with regard to the price, quality and reliability of electricity and gas services; and . . .
{other sections include reference to ‘improving the climate for
investment', 'improve the quality of regulation facing investors', 'a framework for efficient investment'}

In response to the report of the Energy Reform Implementation Group chaired by Bill Scales (Scales, 2007) the Australian Energy Market Operator was created to replace NEMMCO and to take on gas market operation.

Each of the three national energy laws (the National Electricity Law, the National Gas Law, and the National Energy Retail Law) has an objective of the law in the form ‘To promote efficient investment in, and operation and use of, services for the long-term interests of consumers…’ These objectives are very specifically the objectives of the laws and not the market arrangements.9

**Economic efficiency and the long-term interests of consumers**

That there seems to be two goals here – the ‘promotion of the long-term interests of consumers’ and ‘promoting efficient investment and use’ – has at times been problematic.

The thought that the promotion of economic efficiency and the long-term interests of consumers are different things has in the past been advanced by the Productivity Commission (Productivity Commission, 2001) and in the Beale review of network regulation. (Beale, Houston, Kenny, Morton, & Tamblyn, 2006)

Consumer advocates raised their concerns in the context of the 2015 Review of Market Governance.

Consumer Action outlined in its submission:

> We are particularly concerned that the current drafting of the NEO is too narrow to sufficiently consider consumer outcomes in the development of policy, regulations and market practices beyond its economic role.

This position was informed by their experience in seeking a rule change that sought fixed-term prices for fixed-term contracts, leading them to conclude ‘that market structures prioritise energy businesses over consumers.’ (Consumer Action, 2015, p. 8)

Similarly, in a report submitted by the Public Interest Advocacy Centre (PIAC) to the same review notes that in the MCE report following the Parer review (CME, 2015, p. 5):

> The Report focused on regulatory arrangements that would enhance “investment” a term used 23 times in the Report of which 15 times in the context of networks. By contrast “efficient” is mentioned just once in the report in relation to networks and even then followed immediately by the word “investment”.

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8 Specifying the objective as the objective of the law rather than the market was part of the introduction of the National Gas Law in 2008 as a recommendation of the Beale review (Beale, Houston, Kenny, Morton, & Tamblyn, 2006).
The Report of the Governance Review related the two concepts and concluded that ‘The overall objective for the energy sector in Australia is that the long-term interests of consumers are efficiently served.’ (Vertigan, Yarrow, & Morton, 2015, p. 2)

This then promotes the question of what it means for the long-term interests of consumers to be efficiently served.

A market economist will propose that the long-term interests of consumers are being served when it isn’t possible to make somebody better off without making someone else worse off; this is how they define the concept of efficiency.

The everyday concept of efficiency is that either the greatest amount of output is created from a given input or that a given output is created with the least input. The outcome of that kind of efficiency is that the output costs the least amount and therefore consumers pay the least amount. This is referred to as productive or technical efficiency.

A second kind of efficiency occurs if the producer is able to charge a price higher than the full cost to produce, where cost includes earning a return for the investments made to make the product. This is referred to as allocative efficiency.

Through the combination of both – lowest cost and pricing at cost – consumers pay the lowest price. This is a static analysis – it is about a single snapshot in time.

Most electricity assets have very long useful lives, some are useful for fifty years or more. The challenge then is to provide an efficient outcome over time, not just the current period. This is referred to as dynamic efficiency. The outcome we seek over this longer time horizon is the same though; consumers are paying the least amount possible over the long-term. This means that only the lowest level of investment necessary should be made and it should happen no earlier than necessary.10

We are still confronted by a further problem; a product might be cheap because it is of poor quality. It isn’t in the interests of consumers to get low prices if the product is of insufficient quality. This condition appears in the objective of the AEMA by the requirement to promote the long-term interests of consumers with respect to price, quality and reliability and in the similar (but more extensive) constructions in the objectives of the Energy Laws.

The idea that the long-term interests of consumers is efficiently served requires efficiency in both its static and dynamic guises – consumers, collectively now and in the future, pay no more than they need to for the quality of services they require.

The economic principles underpinning this conclusion are described in more length in Supporting Paper No. 2 Economic efficiency and the long-term interests of consumers.

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10 Investment should be ‘not one dollar more, nor one day earlier, than necessary.'
Regulatory consequences of promoting the LTIC

Industry structure to promote efficiency

It is an unsurprising conclusion that when efficiency is defined using a market concept (that is the outcome is efficient when there is no further mutually beneficial trade available) that efficiency and the interests of consumers will be realised by a competitive market.

There are special circumstances referred to as a ‘natural monopoly’ where we know a market is not viable. These are the cases where all the output required can be produced at a lower cost by one firm than by multiple firms. Efficiency in this case requires the position of the monopolist is preserved.

Energy networks generally meet this criterion, as acknowledged by Hilmer. The first consequence of this is that these parts of the energy system should be subject to economic regulation because the provider will be unconstrained by competition.

The natural monopoly characteristic of electricity distribution networks is being challenged on the basis that solar PV generation and batteries make disconnection from the network viable. In a report for Energy Networks Australia, Cambridge Economic Policy Associates observed that ‘some activities previously considered non-contestable may now be contestable’ (CEPA, 2016, p. iv). This is an erroneous conclusion; the cost equation hasn’t changed – the consequence of one customer leaving is that all others pay more. The networks continue to be natural monopolies, they are just facing markets that are more able to respond to price (a condition that economists refer to as increased demand elasticity).

The Hilmer report noted that where a firm with a natural monopoly is able to vertically integrate with a firm in a competitive market, the combined firm has the ability to cross-subsidise and to otherwise constrain competition in the competitive market. The best market construction to promote efficiency and interests of consumers is the strict separation of monopoly from viably competitive markets. This has been Australian policy in the energy sector since Hilmer.

Recently arguments have also been advanced that this criterion should be relaxed (Morton & Yarrow, 2016). The argument is that the continued application of the separation imposes a potential loss in efficiency because of investments that could be made by networks in distributed energy resources. The counter is that there is an efficiency loss from integration as the presence of these firms in these potentially competitive markets would foreclose the development of competition.

Ultimately the question hinges on evidence of which is greater—the innovation benefit from network entry into competitive markets or the loss

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11 There are cases with gas pipelines where the volume of gas is larger than one pipeline can manage where case can be made that the natural monopoly conditions don’t apply.
from the exercise of market power. To make a change to existing policy it is not sufficient to simply assert that it is possible that this is the case; it is necessary to demonstrate that it is actually the case.

The absence of any estimation of the efficiency losses and gains by those advocating a relaxation of the rules on separation is strong evidence that the gains do not outweigh the losses. Accordingly, the ongoing separation of natural monopoly networks from competitive markets is a first requirement for realizing efficiency and the interests of consumers.

**Requirement for effectively competitive markets**

It is not sufficient to merely undertake structural separation and remove prohibitions on entry into a previously monopoly market. While the provision of goods or services may be potentially competitive, the long-term interests of consumers are only realized by effectively competitive markets.

Identifying the characteristics of an effectively competitive market has been studied extensively in the economic theory of regulation and by Australian regulators.\(^\text{12}\) The core measure is prices; the test is whether prices are as low as they would be (equal to marginal cost) in a perfectly competitive market.

As this is not directly observable, measures of effectiveness rely on other supply side measures. The ‘structure, conduct, performance’ paradigm from the field of anti-competitive conduct regulation is the archetype for this.

Structure is measured by the ease and experience of entry and exit from the market, and through aggregate measures of market concentration. Conduct is summarised as the extent of independent rivalry between the actual firms in the market. The dimensions of rivalry include the efforts made by firms to attract customers, and that includes specifically the degree of product variety in the market. Performance is best measured by the price outcomes; specifically that prices reflect costs and that those costs are low as a consequence of competition.

However, the supply side is only half the market. As was observed in the AEMC’s Power of Choice review:

> Efficient markets are characterised by effective participation of both the supply and demand side. The supply side of the market provides a product or service at a price, and the demand side (i.e. consumers) responds to the price/value of the product or service being offered. While there is some evidence of uptake of Demand Side Participation…over recent years, the efficiency of the electricity market can be improved by more active participation by the demand side. (AEMC, 2012)

An analogue of “structure, conduct, performance” for the demand side is “confidence, engagement, satisfaction”.

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\(^\text{12}\) Energy Consumers Australia’s submission to the AEMC’s approach paper to the 2016 retail competitiveness review brought together the dimensions separately identified by the AEMC, EC and ACCC. (ECA, 2015b)
For effective competition, consumers need to be confident in the ability of the market to respond to and meet their needs, and confident that they have the information and tools they need to make choices based on their needs.

Without confidence consumers will not engage in the market. It is most notable when consumers are dis-satisfied but still don’t engage due to lack of confidence or other factors. Whether consumers switch or not depends on factors other than the monetary saving (Deller, et al., 2018). Confidence related factors include ‘confidence in accuracy of savings’, and ‘worried something might go wrong in the switch’.

Ultimately, the measure of an effective market is satisfied customers. Satisfaction is with the whole price-quality balance of the products the consumer is acquiring.

These three measures – confidence, engagement and satisfaction – underpin the measures in our Energy Consumers Sentiment Survey. (ECA, 2016-2018) These elements are necessary conditions for effective competition, but they may not be sufficient. In keeping with economic theory, they are based on an assessment of what Thaler (2015) calls Econs rather than Humans. The extent to which consumers rely on heuristics and other decision-making short-cuts and biases, including the bias in favour of doing nothing, needs to be considered in assessing the demand side factors.

How effectively competitive a market is—on both the supply and demand side characteristics—is a consequence of the market design. Some market design rules are formally stated, such as the rules that govern the operation of the wholesale electricity market. Others are a combination of some generic economic laws (such as, consumer and contract law), market specific rules and the ‘habits’ of both consumers and suppliers.

The choice for policy makers and regulators is not whether to regulate a competitive market or not; it is whether the regulations (the market design rules) work so that the market is effectively competitive.

**Regulating monopoly**

Having structurally separated the monopoly elements from potentially competitive markets we still need a process to subject the monopoly to the disciplines that businesses in competitive markets face.

In general, firms that are in competitive markets have an incentive to be either the least cost producer or to make more highly valued product because they earn more profit or grow their market share. Firms that don’t manage costs will, in a competitive market, eventually go broke and exit the market.

Unlike a firm in a competitive market, a monopoly has no reason to price its services at cost (including return on its investments) nor to reduce its own costs.

Unlike a firm in a competitive market, a monopoly has no reason to price its services at cost (including return on its investments) nor to reduce its own costs. To achieve the first objective (that prices are not set above cost) the monopolist’s prices are either set or constrained by a regulator.

The second objective (of the monopolist reducing its costs) is less easy to implement. Best practice regulation implements some form of an incentive
regime that rewards the owners of the network for innovating and reducing cost or improving service.

There are two primary ways used by regulators to set prices for monopoly service providers; rate-of-return regulation and price (or revenue) cap regulation. The former is good at setting prices equal to cost but creates low incentives to improve, the latter provides strong incentives to improve but in doing so allows the business to be charging more than cost. A third model is called ‘yardstick regulation’ that sets the price as the average for all firms, so in aggregate consumers pay the cost price but efficient firms get a reward (and inefficient firms face a penalty).

The Australian regulatory process has elements of all three and can be thought of as a hybrid model.

The fundamental approach (referred to as the building block model) is an implementation of a rate of return approach. The revenue the business is allowed to earn is calculated by making an allowance for the operating costs of the business, and the return of investment (depreciation) and the return for investment determined by a calculated allowed rate of return.

The inputs to the building block model are subject to a range of tests by the regulator to determine if they represent efficient costs, one of which is a benchmarking exercise of the costs between networks. This benchmarking is a variety of yardstick competition.

Notwithstanding that this approach is meant to be establishing that the forecast costs are efficient costs, the network business has an incentive to do even better by being allowed to keep (over time) 30% of any savings they can make. This is implemented for electricity distribution through the EBSS and CESS incentives. Incentives are also provided to produce more output with the same costs through DMIS and STPIS.13

In addition, the network that has an actual cost of capital that is lower than the allowed rate of return is permitted to keep these windfalls. A similar situation applies if tax paid is less than the tax allowance in the model. Unlike the incentives from capex or opex savings, consumers never benefit.

The AEMC is required to provide an annual review of economic regulation and the Energy Market Transformation Project Team is currently progressing its own consideration of incentives. These reviews reveal an ongoing bias that encourages excess capital expenditure by networks if the allowed rate of return is greater than 6%. (CEPA, 2018). The AER is reviewing both the allowed rate of return and the tax allowance methodology.

Finally, where markets are effectively competitive the need to survive usually inculcates an intense focus on understanding consumers; what they want and how they decide. In economic regulation the regulator needs to give ‘evidentiary weight’ to the extent that the operator can demonstrate that their investments are similarly underpinned from an understanding of consumers.

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13 These schemes are the Expenditure Benefit Sharing Scheme, the Capital Expenditure Sharing Scheme, the Demand Management Incentive Scheme and the Service Target Performance Incentive Scheme respectively.
This is a concept that has recently started to feature in economic regulation, including in Australia.

**Innovation and regulation**

The focus on efficiency as the objective of the energy laws has a tendency to focus on the static elements; prices are set at marginal cost and these costs are well managed. Dynamic efficiency concerns the inter-temporal characteristics; it captures the ‘long-term’ dimension.

Dynamic efficiency, if mentioned, is often interpreted as just the timing of investments. The more important aspect is the process through which the technology of production is changed or in which new products change consumer preferences, this is the process of innovation. (Havyatt, 2017).

Just like the static elements of efficiency, the process of innovation also has two dimensions. The first is the decision made by firms in each period on how much of their resources to devote to innovation. This itself is made up of components, the investment in research and creativity leading to invention, and the investment in development and design leading to an innovation being introduced. The second dimension is how well that investment is deployed; how much innovation bang the firm gets for a buck of R&D.

Even that is only part of the variety of innovation. As discussed above innovation can result in new products or new processes (or both); product innovation and process innovation promote efficiency. Price innovation can also promote efficiency (at least under a total rather than consumer welfare standard).14

No matter what the industry or circumstance innovation is often going to be constrained by regulation. The existing market design rules exist to support existing products and services. The economic regulation of monopoly infrastructure is focused on policing inefficient expenditure.

While this is not the origin of the term; ‘disruption’ perfectly captures this essential characteristic of innovation. Innovation disrupts market design.

Policy makers and regulators focused on promoting the long-term interests of consumers need to consider the extent to which the market design (and economic regulation) impedes or supports innovation. A regulatory innovation currently employed in the ‘fintech’ markets is a ‘regulatory sandbox’, whereby some rules can be suspended to enable experiments.

Investment in innovation for a regulated firm is effectively a discretionary expenditure; the network will get compensated for its costs whether it innovates or not. The regulator is not ideally placed to determine whether the network is properly investing in innovation; the regulator has even less information to form this judgement than it does about costs in general. Innovation is therefore an area where the regulated firm will benefit by being able to demonstrate the support of its consumers for its proposals.

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14 The concept of total versus consumer welfare standards is discussed in more detail in Supporting Paper No. 2. The discussion of innovation economics is drawn from (Swann, 2009)
Understanding the non-price criteria

Five Formulations of the LTIC
The formulation of the objective of Energy Consumers Australia to advocate to promote the long-term interests of consumers is consistent with the statement of the objective in the Australian Energy Market Agreement and the three Energy Laws. However, each of the instances have differences in the matters to which regard (or respect) the interests of consumers should be considered, as detailed in the table below.

Under the Energy Laws the AER and AEMC are in various ways required to exercise their powers only in ways that will contribute to the achievement of the objectives in the Energy Laws. AEMO is also ‘must, in carrying out functions referred to in this section, have regard to the’ objective. 15

Table 2: Framing the long-term interests of consumers

<table>
<thead>
<tr>
<th>Instance</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEMA</td>
<td>…with regard to the price, quality and reliability of electricity and gas services.</td>
</tr>
<tr>
<td>National Electricity Objective (NEO)</td>
<td>…with respect to price, quality, safety, reliability, and security of supply of electricity; and the reliability, safety and security of the national electricity system.</td>
</tr>
<tr>
<td>National Gas Objective (NGO)</td>
<td>…with respect to price, quality, safety, reliability and security of supply of natural gas.</td>
</tr>
<tr>
<td>National Energy Retail Objective (NERO)</td>
<td>…with respect to price, quality, safety, reliability and security of supply of energy.</td>
</tr>
<tr>
<td>Energy Consumers Australia Objective</td>
<td>… with respect to the price, quality, safety, reliability and security of supply of Energy services…</td>
</tr>
</tbody>
</table>

The first statement of the objective appears in the AEMA and it is notable that this is the shortest version. It refers to only price, quality and reliability. In all the other versions safety and security of supply are explicitly called out.

The second limb for electricity adds “the reliability, safety and security of the national electricity system”. There is a concern that this second limb doesn’t

15 This example for AEMO is s 49(3) of the NEL and s (1A(3) of the NGL.
overtly mention price. The second limb alone carries over into the functions of the Reliability Panel in (s38 of the National Electricity Law) and this creates a risk that reliability or security should be pursued at any cost. We do not see that behaviour currently in the Panel, though some advocates have expressed concern about the Panel’s approach.

**Demand-side and supply-side perspectives**

The form of the objective in the AEMA describes the outcomes consumers observe. Consumers, the demand-side, really only consider price, quality and reliability.

What consumers think of as ‘quality’ includes all the dimensions of customer service as well as the more technical characteristics that the voltage and frequency are sufficient to make appliances work without damaging them and that the service is safe. Reliability to consumers is just the question of whether when you depress the switch or turn on the valve there is energy delivered; consumers don’t care whether this was a network fault, insufficient supply to meet demand or for the safe operation of the system.

The objectives ‘safety and security” in the law describe the operation of the system; they are a supply-side view of the objectives.

The use of these five common English terms (price, quality, reliability, safety, security) in legislation leaves the possibility of multiple interpretations. In addition, the achievement of each of the elements may be measured by more than one characteristic. 16

**Price** has a relatively clear meaning; as discussed in previous sections the objective is for consumers to pay no more than they need to. However, there are other aspects to price. Consumers make their own investments (in appliances and in generation) and so want low price volatility. For consumers to make informed choices, prices need to be comprehensible. The goals of price stability and comprehension have been critical elements in the approach to implementing cost reflective tariffs. 17

**Quality** of energy services from a system view is purely technical. For electricity, this is the requirement that it operate within the voltage and frequency standards, for gas it is pressure (or possibly in future the calorific value if hydrogen is blended with methane). These technical requirements are assumed by the consumer, despite the fact they are essential for the operation of appliances.

This technical definition is often the only aspect that market bodies consider, but it isn’t the only aspect of quality from a consumer perspective. The quality element consumers see most, is the customer service provided – mostly by retailers but also by networks regarding faults. Quality from a consumer perspective has a third element, which is the effect on the environment of the deployment of infrastructure, including visual amenity (as

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16 The AEMC for example provided its interpretation of the words other than price in (AEMC, 2016)

17 Energy Consumers Australia is trying to consistently use ‘price’ to refer to the charging structures consumers see, while using ‘tariffs’ to refer to the charges networks make to retailers or large directly connected parties.
a simple example, consumers care about vegetation management practices in their local streets).

**Safety** is relatively clear but has multiple dimensions. It covers fire risk from networks through to the safety of appliances (with batteries being a new issue).

It is somewhat intriguing that the objectives include ‘safety’ even though safety regulation is still an explicit function retained by jurisdictions. It was only added to the first limb of the NEO in amendments in 2007, at the same time as the objective was changed to refer to the law not the market arrangements.\(^{18}\)

The second reading statement makes no reference to the inclusion of ‘safety’ in the first limb. Indeed, it is excluded in the summary form of the changes even though its insertion is part of this amendment. The statement does, however, describe the revised National Electricity Objective as being ‘mirrored’ in the National Gas Objective. This is true of the first limb only and requires the inclusion of safety in the first limb to do so. (Conlon, 2007)

The AEMC has noted that in the context of the retail law “safety” includes obligations relating to customers with life-support needs. We think consumers would regard all these considerations as part of the quality of energy services.

**Reliability** in the energy market context is used to cover any circumstance where demand is not met by supply and includes any of the elements from a failure at the connection point (e.g. meter fault) through to network breaks, transformer failures or inadequate generation availability.

For consumers, the experience of reliability is blackouts and the restoration times following them. It is decades since Australians have experienced frequent staged blackouts or brownouts due to lack of generation capacity.\(^ {19}\)

**Security of supply** and **System security** are somewhat more confusing.

Both the AEMC and AEMO exclusively define ‘security’ as the concept of ‘system security’ from the second limb of the NEO. For example, the AEMC uses the following definition:

> System security broadly means that the system operates in a stable and predictable manner where technical parameters and equipment are operated within design limits, and there are equipment and processes in place to respond to disturbances. Retail customers

\(^{18}\) The NEO as enacted in the replacement of the schedule under the *National Electricity (South Australia) (New National Electricity Law) Amendment Act 2005 (No 14 of 2005)* read “The national electricity market objective is to promote efficient investment in, and efficient use of, electricity services for the long term interests of consumers of electricity with respect to price, quality, reliability and security of supply of electricity and the reliability, safety and security of the national electricity system.”

\(^{19}\) Even the system black event in South Australia in September 2016 was not attributable to a lack of supply to meet demand, it was a repercussion of transmission network faults.
have access to electricity provided across the secure system. In gas, security is achieved when every point across the pipeline network is at acceptable pressure levels. (AEMC, 2016)

The consequence of system insecurity for consumers is either a reduction in quality (for example below voltage supply) or far more likely an interruption to supply as parts of the system or the whole the system is shut-down to protect it. (Shut downs occur to avoid more catastrophic outcome is damage to supplier or customer equipment from failure to respond to the system not being in a secure state. 20)

The International Energy Agency (IEA) “defines energy security as ‘the uninterrupted availability of energy sources at an affordable price’”. (International Energy Agency, 2016, p. 29) The IEA also notes that ‘electricity security encompasses several dimensions, fuel security, system security and adequacy.’

The Australian Government defines energy security as “as the adequate, reliable and competitive supply of energy where:

- adequacy is the provision of sufficient energy to support economic and social activity,
- reliability is the provision of energy with minimal disruptions to supply, and
- competitiveness is the provision of energy at an affordable price which does not adversely impact on the competitiveness of the economy and which supports continued investment in the energy sector. (Department of Environment and Energy, 2017)

These definitions of security of supply incorporate aspects of reliability. long-term security of supply requires ongoing availability of energy sources, which can be referred to as sustainability. Given Australia’s commitment to the Paris agreement21 a long-term view of supply should assume ongoing action to reduce emissions.’.

The definitions of reliability and security that are adopted by the market bodies makes it difficult to see any reason why they need to be repeated in the second limb of the NEO. We are unable to identify any additional meaning from the two-limb construction. A weakness of the two-limb

21 The Paris Agreement has as its central aim to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Under the Agreement signatories are required to provide a Nationally Determined Contribution to the UNFCCC Secretariat every five years. Australia’s first NDC committed Australia to implement an economy-wide target to reduce greenhouse gas emissions by 26 to 28 per cent below 2005 levels by 2030. The next round of NDCs are required to be lodged in 2020.
approach is that it separates system safety, security and reliability from the question of price. 22

**Conclusion**

From a consumer (demand side) perspective issues can be adequately addressed using the AEMA construction of the long-term interests of consumers with respect to price, quality and reliability.
The LTIC assessment framework

Energy Consumers Australia’s obligation to promote the LTIC

Energy Consumers Australia has a constitutional responsibility to promote the long-term interests of consumers with respect to price, quality, safety, reliability and security of supply through advocacy.

We have discussed above the potential redundancy of the limb of the NEO requiring consideration of the safety reliability and security of the electricity system. We interpret these as being incorporated in the equivalent terms in our constitution.

However, in the framework for assessing whether an action promotes the long-term interests of consumers, it makes more sense to talk in demand-side terms; price, quality and reliability.

In this construction:

- **Price** refers to the prices that consumers pay, the consumer interest is that prices are low, stable, comprehensible.
- **Quality** refers to all aspects of the quality of the customer experience, including the technical quality (voltage, frequency, pressure, calorific value), the safety of the services, the customer service experience and the environmental impact of energy service provision (not including greenhouse effects).
- **Reliability** refers to anything that can result in loss of supply, from distribution network faults, to lack of supply to meet demand and the repercussions of the system not being in a secure state.

A further distinction exists between the obligation of Energy Consumers Australia to promote the long-term interests of consumers and that of the objectives of the laws and market bodies; this is a focus on residential and small business consumers rather than all consumers. The residential segment constitutes only a third of national electricity consumption and between them residential and small business are probably less than half of all standing energy consumption. However, on many issues the interests of large and small customers are aligned, paying no more than necessary for the service required. It is usually in the details of proposals that the differences are likely to be material.

As discussed above, in general the long-term interests of consumers are fulfilled when current and future consumers pay no more than is necessary for the quality and reliability they are prepared to pay for.

In addition to these elements, the focus on the long-term requires a focus on how change occurs. As discussed above the dynamic efficiency element of economic efficiency requires innovation. Innovation is a requirement to provide reliability in the face of the transition to a lower emission electricity system. Therefore, how something affects incentives to innovate is added as a criterion.
And while social and environmental goals are not specifically included in the objective, it is important that the pursuit of the long-term interests of consumers is conducted in a manner consistent with policy intention in those fields.

These considerations provide the basis for an “LTIC assessment framework” This sets out a quick method for the consideration of whether a thing does or does not promote the long-term interests of consumers.

There is one important further qualification, the extent to which policy and regulatory decisions that sit outside the national arrangements affect the realization of the long-term interests of consumers. This applies to aspects of safety regulation which are still controlled by state-based safety regulators, and some aspects of network reliability. The incomplete coverage of the National Energy Retail Framework and the extensive derogations from it are another restriction of the national character of the market.

The extent to which a new policy proposal would extend the genuinely national character of the energy market has implications for efficiency through reduced compliance costs, facilitated innovation and reduced barriers to entry and expansion in competitive markets. Extending the national character of the laws is therefore considered part of promoting the long-term interests of consumers.\(^{23}\)

**LTIC assessment framework (electricity)**

The considerations in this paper can be summarised as two sets of questions to be asked of any policy or regulatory proposal, including a rule change or specific regulatory determination. The first is the consideration of the market impact of the proposal, the second is the assessment of the proposal against the criteria of price, quality, reliability and innovation.

**Market Impact**

Whether the market impact of the proposal promotes the long-term interests of consumers depends on whether the proposal addresses competitive or monopoly elements. The questions to be answered are shown in Table 3.

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\(^{23}\) We note that many consumer advocates do not agree with this proposition as they find jurisdictional regulations more responsive to change.
Table 3: Assessing market impacts

<table>
<thead>
<tr>
<th>To improve the effectiveness of competition:</th>
<th>To improve economic regulation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How does the proposal affect the supply side – including structure, conduct and performance?</td>
<td>• How does the proposal improve certainty over return of and for capital (and hence reduce cost of capital for networks)?</td>
</tr>
<tr>
<td>• How does the proposal affect the demand side – including confidence, engagement and satisfaction?</td>
<td>• How does the proposal improve the assessment of technical efficiency and promote further efficiency improvement?</td>
</tr>
<tr>
<td>• How does the proposal protect the competitive market from network market power?</td>
<td>• How does the proposal improve consumer direction of discretionary expenditure?</td>
</tr>
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The long-term interest criteria

As discussed above ultimately the promotion of the long-term interests of consumers is about balancing the consumers’ long-term interest in low prices with their interest in quality and reliability of the service. To reflect this the questions in Table 4 should be addressed in determining how the proposal balances price against the other elements of the long-term interests of consumers.
Table 4: Assessing the components of the long-term interests of consumers

<table>
<thead>
<tr>
<th>1. <strong>Price</strong></th>
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<tbody>
<tr>
<td>1.1. Will the proposal help consumers pay no more than they need to?</td>
<td></td>
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<tr>
<td>1.2. Will the proposal reduce price volatility from year to year?</td>
<td></td>
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<tr>
<td>1.3. Will the proposal make prices more comprehensible to consumers or otherwise facilitate choice?</td>
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<td>1.4. Will the proposal result in price outcomes that are in conflict with concessional arrangements?</td>
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<th>2. <strong>Quality</strong></th>
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<tbody>
<tr>
<td>2.1. Does the proposal support delivery of voltage and frequency consistency?</td>
<td></td>
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<tr>
<td>2.2. Does the proposal improve the quality of customer service?</td>
<td></td>
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<tr>
<td>2.3. Does the proposal mitigate existing safety risks?</td>
<td></td>
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<tr>
<td>2.4. Does the proposal create new safety risks?</td>
<td></td>
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<tr>
<td>2.5. Does the proposal contribute positively to the “environment” – including local visual environment?</td>
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<th>3. <strong>Reliability</strong></th>
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<tbody>
<tr>
<td>3.1. Does the proposal decrease the likelihood of a network failure?</td>
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<tr>
<td>3.2. Does the proposal decrease the expected restoration period following a network failure?</td>
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<tr>
<td>3.3. Does the proposal enhance the provision of capacity to meet forecast demand over the next decade?</td>
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<tr>
<td>3.4. Does the proposal enhance the transition in the energy source mix?</td>
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<tr>
<td>3.5. Does the proposal enhance responsiveness of capacity to demand increases, or of demand to supply shortages?</td>
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<td>3.6. Does the proposal increase or support system security?</td>
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<tr>
<th>4. <strong>Incentives, Innovation and National Approach</strong></th>
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<tbody>
<tr>
<td>4.1. Does the proposal create clear incentives to institute changed behaviour (on both demand and supply sides of the market) to promote the long-term interests of consumers?</td>
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<tr>
<td>4.2. Does the proposal promote process, product or pricing innovation?</td>
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<tr>
<td>4.3. Are there other factors which will detract from the incentives?</td>
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<tr>
<td>4.4. Does the proposal conflict with or promote other social policy or environmental goals?</td>
<td></td>
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<tr>
<td>4.5. Does the proposal promote the further development of the national character of the energy market?</td>
<td></td>
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</tbody>
</table>
Conclusion

The Long-term Interests of Consumers are best promoted through economic efficiency. An economically efficient outcome (in either an effectively competitive market or a regulated monopoly) is one in which current and future consumers pay no more than they need to for the quality and reliability they want.

This framing of the legislative intent was specifically referenced when amendments to the process for AER revenue determinations and Limited Merits Review were introduced in 2013.

In assessing the potential trade-off between price and the other criteria it is important to clearly delineate the outcomes for each of the criteria that will occur as a result of a specific policy proposal or business initiative, both now and in the future.
Glossary

ACCC  Australian Competition and Consumer Commission
AEMA  Australian Energy Market Agreement
AEMC  Australian Energy Markets Commission
AEMO  Australian Energy Market Operator
AER  Australian Energy Regulator
CESS  Capital Expenditure Sharing Scheme
COAG  Council of Australian Governments
DMIS  Demand Management Incentive Scheme
EBSS  Efficiency Benefit Sharing Scheme
EC  Energy Council
ESCOSA  Essential Services Commission of South Australia
ESCV  Essential Services Commission of Victoria
IEA  International Energy Agency
LTIC  The Long-term Interests of Consumers
IPART  Independent Pricing and Regulatory Tribunal
MCE  Ministerial Council on Energy
NEO  National Electricity Objective
NERO  National Energy Retail Objective
NGO  National Gas Objective
PC  Productivity Commission
PIAC  Public Interest Advocacy Centre
QCA  Queensland Competition Authority
STPIS  Service Target Performance Incentive Scheme
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