

AUSTRALIAN ENERGY MARKET COMMISSION

# APPLYING THE ENERGY MARKET OBJECTIVES

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8 JULY 2019



## INQUIRIES

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235

E [aemc@aemc.gov.au](mailto:aemc@aemc.gov.au)  
T (02) 8296 7800  
F (02) 8296 7899

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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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## SUMMARY

- 1 The Australian Energy Market Commission (AEMC or Commission) is the rule maker for Australian electricity and gas markets. We make and amend the National Electricity Rules, National Gas Rules, and National Energy Retail Rules. We also provide market development advice to governments.
- 2 We are committed to meaningful consultation and engagement with our stakeholders, including consumer advocacy groups, industry and governments. In order to facilitate this engagement it is important to inform our stakeholders about the work of the Commission, how we approach our decision making and the process involved in a rule change or review.
- 3 This document is one such information resource for our stakeholders. It provides an overview of how we apply the energy objectives (i.e. the National Electricity Objective, National Gas Objective or National Energy Retail Objective) to a rule change or review. This includes some context as to what the energy market objectives are, the elements that make up the objectives and the principles that we apply to a rule change or review.
- 4 A unique aspect of the market and regulatory change process in Australia is that any party can submit a rule change to change the arrangements. Rules can be changed in response to requests submitted to us by individuals, consumer groups, industry or governments.
- 5 There is additional information about the Commission, its role and the rule change process on our website, [www.aemc.gov.au](http://www.aemc.gov.au), in particular:
  - a guide on market governance
  - our guides for preparing written submissions for electricity, gas and retail<sup>1</sup> matters.
- 6 The Commission considers this to be a 'living' document and welcomes feedback on this publication, which will be refined and updated over time. Any questions or comments on this document should be directed to Alan Rai ([alan.rai@aemc.gov.au](mailto:alan.rai@aemc.gov.au)).

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1 <https://www.aemc.gov.au/contact-us/lodge-submission>

# 1 APPLYING THE ENERGY OBJECTIVES

The purpose of this document is to set out and explain how we, the Australian Energy Market Commission (AEMC or Commission), make decisions in relation to both our rule making powers and our role as the provider of advice to the COAG Energy Council on market development. This should help stakeholders to understand our decision-making framework, and so assist them in developing rule change requests and submissions to our rule changes and reviews.<sup>2</sup>

The AEMC is established under the Australian Energy Market Commission Establishment Act 2004 and makes rules and conducts reviews under the National Electricity Law (NEL), the National Gas Law (NGL) and the National Energy Retail Law (NERL).

Our work must have regard to the National Electricity Objective (NEO), the National Gas Objective (NGO), and the National Energy Retail Objective (NERO) – the “energy objectives”. Each of these describes the objective of the relevant law to be the achievement of economic efficiency in the long-term interests of consumers. The AEMC may only make a rule if it is satisfied that the rule will or is likely to contribute to the achievement of the relevant objective.

The NEO states that:

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

1. price, quality, safety, reliability, and security of supply of electricity; and
2. the reliability, safety and security of the national electricity system.”

The NGO states that:

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

Finally, the NERO states that:

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

Before we set out how we interpret the energy objectives, it is worthwhile providing a brief description of the context for the establishment of the AEMC and these energy objectives.

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<sup>2</sup> The Reliability Panel forms part of the AEMC's institutional arrangements that support the national electricity system, with its core functions relating to the safety, security and reliability of the national electricity system. The Panel's work is largely driven by specific requirements set out in the National Electricity Rules (NER). For example, when determining the System Restart Standard, the Panel must have regard to the System Restart Ancillary Service Objective: “The objective for system restart ancillary services is to minimise the expected costs of a major supply disruption to the extent appropriate, having regard to the national electricity objective.” Therefore, the Panel is generally required to have regard to the national electricity objective - either directly or implicitly.

## 1.1 The AEMC is established as a body with a clear policy direction and delegated powers

Through a series of reforms, and developments over time, the COAG Energy Council (and its predecessors) has allowed for the development of a resilient, national market framework, facilitated by discussion and agreement on national and jurisdiction-specific policy priorities - see Box 1.

The national energy markets are governed by three laws (electricity, gas and retail) as set out above and a corresponding set of subsidiary 'rules': the National Electricity Rules (NER); National Gas Rules (NGR); and National Energy Retail Rules (NERR). The laws provide the overall principles. The rules have the force of law and, broadly speaking, cover the 'who, what, when, where and how' of operating and participating in the competitive electricity generation, gas wholesale, and energy retail sectors, and the way economic regulation of the transmission and distribution electricity networks, and gas pipelines, is to be applied.<sup>3</sup>

Within this framework there are three market institutions with distinct roles – rule maker and adviser on market development, the market operator, and the regulator. These are the AEMC, the Australian Energy Market Operator (AEMO), and the Australian Energy Regulator (AER) respectively. Separating the roles of governments, rule-maker/market developer, operator and regulator was a key market design choice in the development of these national energy markets.

In particular, the creation of the AEMC and the AER in 2005 replaced a number of jurisdictional and Commonwealth regulators in Australia, helping to provide consistency and stability in regulating the interconnected energy markets. The AEMC was established as a rule-making body with a clear policy direction and delegated powers from the COAG Energy Council (comprising the federal, state and territory energy ministers), allowing the market to develop and respond to the needs of participants and consumers.

At the same time as the AEMC was established, a single national electricity objective was embedded into the regulatory framework – the NEO as described above. This replaced a number of competing objectives in previous state-based laws with a single objective focussed on efficiency in the long-term interests of consumers. The NEO is an economic concept and is intended to be interpreted as promoting efficiency in the long-term interests of consumers. The NGO was added in 2008, and the NERO in 2012.<sup>4</sup>

The result of this governance design choice is that each of the market bodies is an independent decision-maker with clear accountabilities for a particular function, with Governments being appropriately responsible for high-level policy and broader social value

<sup>3</sup> It should be noted that there are other pieces of legislation that may have application to the energy sector. For example, the Australian Consumer Law contains generic consumer regulations, which may relate to new energy products and services; while the Australian Securities and Investments Commission (ASIC) also has a role in protecting consumers in relation to financial products and services. The generic consumer regulation contained in the Australian Securities and Investments Commission Act 2001 reflects the relevant provisions of the Australian Consumer Law.

<sup>4</sup> Recently, the Expert Panel reviewing governance arrangements in the National Electricity Market (NEM) also affirmed this stating that: "The overall objective for the energy sector in Australia is that the long-term interests of consumers are efficiently served". See: Dr Michael Vertigan AC, Professor George Yarrow, Mr Euan Morton, Review of Governance Arrangements for Australian Energy Markets, Final Report, October 2015, pp. 22.

judgements. This enables the three market bodies to focus their efforts on the efficient operation of the market in the long-term interests of consumers.

### BOX 1: HISTORY OF THE ENERGY MARKETS

The formal process to develop the NEM began in 1991 with a decision by the Council of Australian Governments (COAG) to establish a National Grid Management Council to coordinate the planning, operation and development of a competitive electricity market. COAG took this decision in response to a report tabled in 1991 by the Industry Commission which found that potentially significant increases in Australia's Gross Domestic Product (GDP) could be realised by:

- a restructuring of the electricity supply industry with the vertical separation of generation and retail from the natural monopoly elements of transmission and distribution
- the introduction of competition into generation and retail by providing access to the transmission and distribution systems on a non-discriminatory basis
- progressively selling publicly owned electricity generation, transmission and distribution assets to the private sector
- the enhancement and extension of the interconnected systems of NSW, ACT, Victoria and South Australia to eventually include, when economically viable, the power systems of Queensland and Tasmania.

The objective of introducing competition in the generation and retail markets was to decentralise operational and investment decisions away from central authorities to commercial parties competing to meet consumers' wants and needs.

Following this decision, the period 1991 to 1998 also involved a series of developments including:

- the introduction of a uniform single wholesale electricity market across eastern and southern Australia
- disaggregation of the vertically integrated electricity sector into competing generators and retailers, and monopoly transmission and distribution network service providers
- customer choice in electricity supplier across the NEM initially for large customers, which was a first step in the transition to full retail competition and the deregulation of retail pricing.

In 2004, each participating jurisdiction of the NEM signed the Australian Energy Market Agreement (AEMA). Since 2004, the energy market reform agenda has included:

- creation and oversight of the three national energy market institutions (i.e. the AEMC, AEMO and AER)
- introduction of full retail contestability in electricity and gas across all NEM jurisdictions
- implementation of the National Energy Customer Framework in a majority of NEM jurisdictions

- creation of gas Short Term Trading Market (STTM) hubs in Sydney, Adelaide and Brisbane and the Gas Supply Hubs (GSH) at Wallumbilla and Moomba.

Source: AEMC and KPMG, National Electricity Market - A case study in successful microeconomic reform, 2013; and AEMC, Submission to Review of Governance Arrangements for Australian Energy Markets Issues Paper, 30 April 2015.

## 1.2 How we interpret the energy objectives

In performing or exercising any of its functions, the Commission must have regard to these energy objectives.

When considering making a rule, or making a recommendation in a review, we consider whether the applicable objective would be promoted. The focus of the energy objectives is on efficient investment in, and operation and use of, electricity and gas services in the long-term interests of consumers. The question to be answered in the assessment process is therefore, would a proposed change to the rules (or recommendation) promote more efficient decisions across these activities, which would ultimately promote the long term interests of consumers.

It is worth noting that other sectors, as well as other jurisdictions have similar 'objectives' focussing on promoting the long-term interests of consumers that guide regulators or rule making bodies.<sup>5</sup> The energy objectives are therefore not unique. What does differ in these objectives that are applied across sectors and jurisdictions is the form of the specific variables, or 'constraints' that are placed on a rule-maker's decision process.

We now unpack the various components of the energy objectives.

### 1.2.1 Consumers

The energy objectives are focussed on a consideration of 'consumers' and the promotion of their interests in the long term. Consumers in the context of the energy market objectives are consumers in general, or all consumers, rather than a particular type or group. This includes residential consumers of energy and small businesses, but also large industrial users such as aluminium smelters or LNG plants.

The energy objectives have been constructed in this way because it is not considered appropriate for an institution with delegated powers like the Commission to make decisions that involve trading off the interests of one consumer group against another. This is a matter for Governments since it is their function to make these trade-offs, as well as having more tools available to them to help manage the outcomes associated with this.

There can be a number of equally efficient market and regulatory outcomes. The one that is in the *long-term interests* of consumers will often depend on how prices are structured, or

<sup>5</sup> For example, the objective of Part XIC (Telecommunications Access Regime) of the Competition and Consumer Act 2010 is to 'promote the long-term interests of end-users of carriage services or of services provided by means of carriage services'. Other examples include the principle objectives that both Ofgem (Great Britain electricity) and the Northern Ireland Utility Regulator (Northern Ireland electricity) operate under that, again, refer to "the interests of consumers". In water, the Essential Services Commission of South Australia's primary objective is "the protection of the long-term interests of South Australia consumers with respect to the price, quality and reliability of essential services."

how risks are allocated in the market. Therefore, the Commission takes into account such considerations when undertaking reviews, or making rule changes.

### 1.2.2

#### Services

The energy objectives reference services, not assets. In other words, the scope of the objectives includes how energy is used, rather than what it is or how it is delivered. Energy consumers care about what they use their energy for, from heating water in residential homes to helping to run a small business to powering large-scale manufacturing processes. This is a key consideration in the way in which we frame our decisions and advice, because it means we take into account the interaction between demand and supply when we think about the outcomes for consumers – consumers are involved and participate in the process for acquiring the energy services they require, and so it is not just the production of energy itself (i.e. the 'supply-side'). For example, the Commission would consider how a rule change could allow consumers to better engage with the retail energy market, if appropriate to the issue at hand. The focus on services and the way people use their energy means that we must also consider what happens at the customer side of the electricity or gas meter.

### 1.2.3

#### Long-term

The energy objectives refer to the timeframe of the 'long-term'. In this context, the long-term does not refer to a particular period of time but rather to when the capital or fixed components used in the provision of energy services can be changed.<sup>6</sup> Depending on the type of capital equipment in question, this time period can be relatively short (as in the case of IT software in the context of a retail rule change) or many decades (as in the case of the generation fleet in relation to a rule change relating to the way in which generators earn revenue in the wholesale market). Therefore, depending on the nature of the rule change or review, the timeframes that we consider may vary – although all would still be assessed in the context of the 'long-term' interests of consumers.

The concept of the 'long-term' recognises that there is an inherent trade-off between consumers today, and consumers in the future. Changes that may be in consumers' short-term interests may not be in their long-term interests *if those changes undermine incentives to make efficient investments and operational decisions over time*. For instance, making changes specifically to provide customers with short-term price decreases at the expense of enabling investors to recover a return on efficient investment will not be in the long-term interests of consumers if it results in generation retirement and power cuts that are more costly than the short term price savings. It is for this reason that the Commission, when making an assessment of the efficiency of a rule change or review, takes dynamic efficiency into account. This is discussed in more detail below.

An example of this can be found in the AEMC's work on the Integration of Storage where we recommended that the AER should consider a number of factors when determining the appropriate form of ring-fencing to apply in different circumstances. The vertical

<sup>6</sup> That is, the period of time over which all costs are variable. Therefore, in practical terms, "long-term" can be considered to be the economic lifespan of energy infrastructure i.e. 20-25 years.

disaggregation of the electricity supply chain between regulated monopoly and competitive activities should be maintained where the costs (in terms of adverse impacts on competition) exceed the benefits (in terms of achieving economies of scope). In the short-term, allowing regulated businesses to compete in competitive activities could lead to lower prices for consumers of both regulated and competitive services. But, in the long term, it may have harmful implications for consumers if a level playing field is not created and enforced. First, network costs may be higher due to the cross-subsidies between the regulated and competitive activities. Second, competition may never emerge in markets for new services, as no one else may be able to compete with the network business due to advantages it gains through the provision of regulated services. In the long-term, this would result in less choice and higher prices for competitive services.

The long-term interests of consumers require that market design and regulatory arrangements are both flexible and resilient enough to respond and evolve whatever the future may bring. New products and services have the potential to benefit consumers, but the regulatory frameworks need to evolve to allow consumer preferences to be accommodated. Flexible and resilient market and regulatory frameworks are those that rely on the *least demanding assumptions* about how the future may evolve and are robust to a range of different potential future outcomes. In other words, frameworks and regulations should not, to the greatest extent possible, be dependent on a particular state of the future becoming a reality.

Flexible and resilient frameworks seek to decentralise decision-making to the greatest extent possible. This is because it is participants and consumers - rather than regulators or governments - that typically have the information, tools and incentives to respond to changes in circumstances in a manner that promotes consumers' long term interests. The strategic priorities of the AEMC, identify the need for our work to "support an energy sector with the flexibility to respond effectively to changes in technology and business models, increasingly being driven by consumer choices".<sup>7</sup>

#### BOX 2: NEW TECHNOLOGY

The electricity sector is facing unprecedented technological change. The most economic form of *energy* production in Australia is currently renewable generation. These systems can be installed in smaller, more modular formats than conventional thermal high capacity factor plant. This allows investment to be spread across technologies and regions providing some diversification of risk compared to the minimum scale required to make a traditional thermal project viable. Households and businesses are also now able to produce and store energy through the use of solar PV and battery storage.

In this context of rapid technology change, the role of the Commission and the other market bodies is not to predict which technologies and infrastructure will be least cost to consumers.

<sup>7</sup> AEMC, Strategic Priorities for Energy Market Development, 26 November 2016, p.1.

Instead, the Commission's role is to establish market frameworks that allow the most cost-effective technologies to be deployed to minimise costs to consumers, while making sure that Australia's energy systems remain secure and reliable.

#### 1.2.4 Specific set of variables

The energy objectives all include a specific set of variables – price, quality, safety, reliability and security of supply – which must be objectively considered when assessing a rule change or a review. We must base our decision on how the outcome of a particular decision would impact on these variables, where relevant, and these variables alone. Other variables may be relevant, however, to the extent there are indirect impacts on price, quality, safety, reliability and security of supply. The manifestation of mitigation and adaptation risk through climate change is an example of this - see Box 3.

A key issue that we often have to deal with is considering which of these variables we take into account, and the relationship between these variables in the provision of energy services in the long-term interests of consumers. This is done by considering for each project, which variables are most likely to be impacted and so relevant to possible outcomes given the issues in the project. The analysis of a particular rule change could therefore be considered as an assessment of a number of possible outcomes and determining which outcome could deliver the greatest efficiency benefit, giving due consideration to each of the relevant variables.

These variables have a particular definition in the context of the energy markets. For the purpose of assessing a rule change or review against the relevant energy objectives:<sup>8</sup>

- There is a spectrum for what '**quality**' can mean. In an electricity or gas context it simply relates to the technical quality of the energy (e.g. in electricity it refers to the variations to frequency and voltage magnitude, and imperfections in the voltage waveform), while in a retail context it can encompass broader 'quality of service' aspects, depending on the circumstances.
- **Safety** refers to maintaining a 'safe' energy system to meet the general requirements for safety (e.g. in a retail market considering obligations relating to customers with life-support; or in transmission and distribution systems, the generation and other facilities connected to them are safe from damage).
- Reliable supply means there is a high likelihood of supplying all consumer needs. This requires both an adequate supply of energy to meet customer demand, as well as a reliable network (either electricity or gas) to transport the energy to consumers.<sup>9</sup> In the

<sup>8</sup> It is also worth noting that the NEO has two distinct limbs: (a) focuses on the price, quality, safety, reliability and security of the particular service provided by the supply of energy; while the second limb (b) focuses on the reliability, safety and security of the entire national electricity system. The variables and their definitions are interpreted the same whether it is the first or second limb.

<sup>9</sup> Electricity reliability can be measured through use of System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) metrics, or minutes of unserved energy.

future, new technologies may allow customers to choose their own levels of reliability rather than reliability being pre-determined and set for all customers.

- **System security** broadly means that the power system is able to operate with defined technical operational limits, even if there is an incident such as the loss of a major transmission line or large generator. Security is a pre-requisite for achieving a reliable supply of electricity for consumers. In gas, security is achieved when every point across the pipeline network is at acceptable pressure levels.<sup>10</sup>

### BOX 3: CLIMATE CHANGE AND THE NEO

Climate change is a policy issue that has material impacts on the electricity and gas sectors. Australia, through the United Nations Framework Convention on Climate Change (UNFCCC) and Conference of the Parties (COP) process has agreed:

- warming should be limited to 2 degrees Celsius above pre-industrial levels with an aspiration to limit to 1.5 degrees
- the initial target for Australia is to reduce emissions by 26-28% relative to 2005 levels by 2030.

These commitments are interrelated in relation to Australia's optimal climate change policy. From an economic perspective, it is important to note that it is the stock of emissions (i.e. the carbon budget) that is relevant, rather than the flow (i.e. the specific target in any particular year). Based upon an assessment by the Climate Change Authority (CCA, 2014), the existing 26-28% target implies relatively rapid decarbonisation beyond 2030 in order to deliver Australia's commitment to the UNFCCC and the COP process.

Climate change manifests through two broad types of risk:

- how the physical world is changing or likely to change as a result of climate change (adaptation risk)
- how policy makers, consumers and investors are responding, or are likely to respond, to the risks presented by climate change (mitigation risk).

#### Commission decision-making and climate change risks

The Commission makes its decisions on rule changes with reference to the national energy objectives. These objectives do not specifically require the Commission to have regard to the long-term interests of consumers with respect to climate change or the environment. Instead, the national energy objectives direct the Commission to consider the achievement of economic efficiency in the long-term interests of consumers with respect to specified matters, being the price, quality, safety, reliability and security of the supply of energy or energy services. However, in order to make decisions that meet the national energy objectives, the Commission considers whether its decisions are robust to any impacts on price, quality,

<sup>10</sup> This definition does not cover upstream policies that impact on the supply of fuel sources such as coal, gas or water. These are outside of the AEMC's remit. They do, however, influence market outcomes and provide important context for market developments.

safety, reliability and security of supply of energy or energy services, if these matters are impacted by mitigation or adaptation risk that manifests due to the issue of climate change.

### 1.2.5

#### Applying the rule making test to the NERO

When assessing a rule change that relates to the NERR, and therefore the NERO, the NERL sets out that the AEMC may only make an energy retail rule if it is satisfied that the rule will or is likely to contribute to the achievement of the national energy retail objective. However, where relevant (i.e. when the review or rule change relates to small customers<sup>11</sup>), the AEMC must also satisfy itself that the rule is "compatible with the development and application of consumer protections for small customers, including (but not limited to) protections relating to hardship customers".<sup>12</sup> Therefore, any rule changes to or recommendations regarding the NERR require an understanding and examination of the nature, extent and operation of any relevant consumer protections.<sup>13</sup>

In simple terms, this additional test under the NERL can be interpreted as: Can the proposed rule changes be made without causing problems for, or conflicting with, the development and application of consumer protections for small customers? The "application" of consumer protections relates to consumer protections as they currently exist and as they are presently applied, both within and outside the NERR. Considering the "development" of consumer protections requires a forward-looking assessment, such as considering whether the proposed changes are likely to be compatible with the future legislative development of consumer protections, and with consumer protections that may be developed through other regulatory avenues, such as judicial decisions. Typically, the Commission considers whether the proposed provisions are compatible with the development and application of:

- relevant consumer protections under the NERL and NERR
- consumer protections under the general law, including the Australian Consumer Law
- consumer protections under retail energy laws and regulations of jurisdictions participating in the National Energy Customer Framework (NECF), and, where relevant, consumer protections under energy laws and regulations of Victoria.

For any changes to the NERR, understanding the compatibility of the proposed change with the application and development of consumer protections is just as important as establishing the implications for efficiency of the rule change. Consumer protections are an important factor in promoting and maintaining consumer confidence in retail energy markets. Where consumers have confidence in a market, they are more likely to engage in that market, which promotes efficient outcomes.

<sup>11</sup> Small customers include residential customers and small business customers and exclude larger industrial commercial energy uses. The threshold of annual energy consumption for these customers varies by jurisdiction both for electricity and gas.

<sup>12</sup> Section 236(2)(b) of the NERL.

<sup>13</sup> AEMC, Guidelines for proponents: Preparing a rule change request - Retail May 2012. Available at: <http://www.aemc.gov.au/Energy-Rules/Retail-energy-rules/Rule-making-process/Guidelines-for-proponents-preparing-a-rule-change.aspx>

If this additional limb is relevant (i.e. where the review or rule change relates to small customers) and the Commission considers that a proposed recommendation or rule under the NERR is not compatible with the application and development of consumer protections. Then we cannot make the recommendation or rule, regardless of whether it would promote efficiency.

#### 1.2.6 More preferable rules

The Commission can make a different rule than that proposed in the rule change request under certain circumstances. This is known as a more preferable rule. A more preferable rule can only be made if we are satisfied that, after considering the issue(s) in the proponent's rule change request, the more preferable rule will, or is likely to, better contribute to the relevant energy objective than the rule proposed in the rule change request.

However, our powers to make a more preferable rule are limited by the scope of the original rule change proposal. That is, we can only make more preferable rules where the subject of the preferable rule is consistent with the scope of the issue identified in the rule change request.

### 1.3 Efficiency in the long-term interests of consumers is the fundamental objective

Collectively, the specific set of variables set out above describe a nuanced version of traditional energy policy concerns often listed as safe, secure, reliable and affordable. When developing the NEO, a particular consideration was the replacement of the normative term "affordable" with the more neutral or objective term "price".<sup>14</sup> This was thought to be appropriate given the market design choices underpinning the energy markets – that the Commission has delegated powers, with governments responsible for broader policy matters.

Two common examples of broader policy objectives, other than efficiency in the long term interests of consumers, but related to the energy market, are affordability and environmental policy.

Governments are concerned about issues such as affordability, as well as a host of other policy objectives relevant to the energy sector including environmental ones. This means that governments may have potentially multiple and conflicting objectives to manage, which results in trade-offs being made between different objectives on behalf of consumers. Therefore, the achievement of such policy objectives is typically associated with a subjective value judgement that typically differs, depending on a particular view, and may potentially have broad societal impacts; rather than a more narrow, objective assessment based on technical engineering, economic or financial considerations such as those relevant to energy objectives. Governments also have other policy mechanisms available to them such as income measures and environmental regulations to address policy objectives beyond the impacts of the variables listed in the energy objectives.

<sup>14</sup> See: <http://www.aemc.gov.au/News-Center/What-s-New/Speech-Documents/Regulatory-Policy-Institute-Oxford-Speech-14-Sep-2.aspx>

Importantly, the Commission does not ignore wider policy objectives in carrying out its role as adviser to governments, since consideration is given to potential negative impacts on certain stakeholder groups. However, to the extent they do not impact on reliability, safety, security, quality and price, these wider policy objectives are not taken into account when the Commission makes rules, or recommendations. For example, in providing advice to governments on policy mechanisms to achieve a given greenhouse gas emissions reduction target, the Commission will consider the distributional impacts associated with different policy mechanisms, as well as assessing the characteristics of alternative mechanisms for achieving emissions reduction targets. An emissions reduction mechanism that is most capable of integrating with the NEM will promote the NEO because it would achieve the objective of reducing emissions at lowest cost to consumers. These wider policy settings by governments can therefore be thought of as a constraint that must be satisfied while furthering the energy objectives.

Further, we consider that our role is to inform governments and a range of interested parties of these impacts in order to assist their decision-making so that appropriate actions can be taken. The Commission avails itself of the relevant advice on key matters that impact on the long-term interests of consumers. This includes consideration of the impacts of mitigation and adaptation risk that manifests through the prism of climate change.

The example of affordability and government support is instructive in illustrating the above concepts. Our role is to promote market outcomes where prices reflect the efficient costs of providing energy services. Energy costs, and therefore prices, may rise for many reasons, for example, network investment or renewable energy subsidies. Affordability can be considered as the gap between the efficient cost of providing energy services, and what people can afford to pay given a particular income. Affordability can be measured using a number of metrics e.g. payback periods. However, there is no clear consensus as to which is best, and subjective decisions are required. Measuring affordability also involves having knowledge of household incomes, the prices consumers pay for energy and an evaluation of what constitutes an unreasonable burden for consumers to bear. We can make governments and other stakeholders aware of issues in the wholesale and retail energy markets, and networks, to inform any decisions around the scope or magnitude of assistance programmes implemented by government with an objective of improving affordability. Further, to the extent that we make rules and recommendations that allow for the more efficient functioning of the market, then this should typically lower the costs of supply and so prices for consumers in the long-term.

Emissions reductions is another pertinent example. Lowering emissions requires governments to make value judgements using information on the economy as a whole and the welfare of the population. Therefore, governments should decide what a particular emissions reduction target should be, given the target's broad societal impact. Our role is to act as an adviser to government on the features and impacts of alternative emissions reduction mechanisms that can achieve a particular emissions reduction target set by governments. We ensure we consider the impacts of mitigation and adaptation risk manifesting through climate change in our analysis of the impact of rule changes on security, reliability, price, security and quality.

## 1.4 How we apply the energy objectives to a particular project

In all rule changes and reviews, our analysis is centered on the concept of efficiency. Efficiency has three different elements and each project may emphasise a different one, there may also be trade-offs between these different elements of efficiency, specifically:

1. The first element of efficiency focuses on an individual task or process and is an evaluation of whether, for a given level of output, the value of resources (inputs) for this output are *minimised*.<sup>15</sup> If the value of resources used in a process are not minimised there is an unnecessary economic cost in producing that level of output. In energy markets, this would mean removing inefficient costs incurred by market participants in order that they may supply energy to consumers at a price that closer reflects the cost of providing that energy service.
2. The second element of efficiency is concerned with allocating resources to produce the *right mix of things*.<sup>16</sup> In energy markets this means that the community's demand for energy services is met by the lowest cost combination of demand and supply side options.<sup>17</sup> This would occur when the value of the energy services to consumers is greater than the cost of supplying those energy services: when faced with a set of prices, consumers and businesses will choose the services that they value most, and resources will be allocated accordingly.
3. The first two elements of efficiency are based on an assessment of a market at a particular point in time. The last element considers the prospects for having the right mix of resources, to produce the maximum amount for the minimum cost, *over time*.<sup>18</sup> Such markets are characterized where there are no barriers to innovation, the exit of technology or the uptake of new technology and efficient long-term investment. For example, in assessing policy mechanisms that may be put in place by governments to reduce emissions, the ability of that policy to adapt to uncertain future outcomes, for example demand outcomes deviating from forecasts, will determine how well that policy can be integrated with the energy market.

While the three elements of efficiency are useful to guide our thinking, we rarely mention these elements individually. This is because, when applying the relevant energy objective to a specific issue it is more intuitive to use specific elements of the issue at hand in our assessment. For example, if we make a rule that increases the transparency of the retail energy market by providing consumers with additional information on their energy consumption it relates to the second element, producing the right mix of things. This is because the additional information given to consumers will allow them to more accurately weigh up different options available to them and demand the most appropriate product or service for their needs.

<sup>15</sup> This is commonly known as 'productive efficiency'.

<sup>16</sup> This is commonly known as 'allocative efficiency'.

<sup>17</sup> For example, when considering economic regulation arrangements for electricity businesses this could include an appropriate combination of network and non-network solutions.

<sup>18</sup> This is commonly known as 'dynamic efficiency'.

Not all aspects of the energy objectives are relevant for all rule changes or reviews, and so the application of the objectives differ depending on the rule change or review the Commission is considering. However, the following common approach or way of thinking is generally applied in all cases. The approach we take to inform our decision making is outlined in the Box below, which lists some of the general principles that we use in our rule change and review processes.

#### **BOX 4: OUR APPROACH TO ANALYSIS OF A RULE CHANGE OR REVIEW**

##### **1 Market signals will generally lead to better outcomes than regulation**

Prices tend to be closer to costs where there is a high degree of competition between businesses in provision of a particular service. This is because, in a workably competitive market, businesses have an incentive to innovate and minimise costs and prices over time, provide a quality of service matching customer expectations and a choice of services consistent with consumer preferences. Rule changes and reviews consider how the rule change or recommendation would promote or hinder current levels of competition as well as considering whether the change would have an effect on future opportunities for competition to develop (for example, whether the rule change would remove or embed a barrier to entry in the market). This is consistent with the fundamental principles that underpin the development of the NEM, and which were set out in Box 1.

##### **2 Regulation may be necessary in the case of market failure or to safeguard safe, secure and reliable supply of energy to consumers**

While competition and market signals are preferred, there may be some situations in which regulation is necessary (such as when competition is not workable or efficient). Rule changes and reviews may be assessed in respect of whether or to what extent they are addressing a market failure<sup>3</sup> or enabling a safe, secure and reliable supply of energy. In relation to regulation, we prefer financial, incentive-based regulation, as opposed to prescriptive rules. All bodies face incentives: financial incentives provide an understandable and transparent approach to influence behaviour. Businesses that face financial incentives therefore have the best ability to respond to the regulation. This view, that financial incentives are likely to lead to more efficient outcomes, is widely held (and practised) by regulators internationally and in Australia. However, in assessing the case for regulation in the presence of a market failure, it is also necessary to consider the potential distortionary effects of regulation. Efficient outcomes can be best promoted by aligning the commercial incentives on businesses with the interests of consumers.

##### **3 Consumers should have options in the way they use energy**

Consumers should have the opportunity to make informed decisions or choices about the way they use electricity, gas or retail services based on the benefits that the services provide to them. Providing consumers with useful information on which to base their choices in the energy market can help in this regard. For example, transparent and understandable information on prices is important so that consumers can adjust consumption and make

choices about provision of services. Ultimately, consumers will be in the best position to decide what works for them and who they engage to provide their required energy services.

**4 Regulatory frameworks and market design should provide a clear, understandable set of rules without favouring one technology or business model over another**

Consumers and businesses need to understand what their obligations are and what others' obligations are with respect to the transactions they undertake. This promotes confidence in markets and allows participants to develop and adapt business strategies to best meet the changing needs of consumers. Rule changes and reviews should therefore promote transparency and consistency. These rules should also not bias one particular technology to enable the greatest choice.

**5 Risks should be allocated to those best placed to manage them**

One of the main elements in choosing a market design or form of regulation is deciding who takes responsibility for the various risks that are present. The placement of risk should lead to:

- mitigation of risk - the consequences of that risk should it materialise (that is, the potential for loss - either in a financial or a physical sense) being avoided or lessened through mitigation actions being available to participants; and
- incentives to improve risk management over time - this involves allocating risk to a party who can, relative to others, better assess and manage the consequences of that risk.

This can occur if the party holding the risk has: incentives to manage the risk, because it stands to gain or lose from doing so, and there is a clear link between its actions and the outcomes of the risk; more information than other parties to manage risk since it can use this information to better mitigate the impact of the associated loss; the ability to better manage risk than other parties, and so it can take actions to avoid or reduce the impact of the associated loss; and the ability to improve risk management over time through experience, it can learn and become more adept at risk management meaning that it might make fewer errors in the future, or the likelihood of errors would become lower over time.

Therefore, risks should be borne by, or allocated to, parties who are in the best position to manage them and have the incentives to do so. This ultimately leads to lower costs for consumers. A key reason why workably competitive markets are good for efficiency is that they generate this outcome. Businesses such as retailers or generators have financial incentives to manage risks efficiently, while also being subject to board and capital market (i.e. equity and debt markets) discipline. For example, in the electricity generation sector, competition provides price signals that guide participants' behaviour, such as when they should run their plant, when maintenance should be carried out and what type of technology to invest in. These businesses face profit and capital market discipline incentives to manage risks. Therefore, any changes to the allocation of risks as a result of a rule change or review are considered.

Note: <sup>a</sup>The long term interests of consumers are unlikely to be promoted in the presence of a market failure. In energy markets, regulation is often motivated by mitigating the market power of monopolists (e.g. networks) or of firms operating in a competitive environment where there are a small number of players. Examples of market failures may include asymmetric bargaining power when dealing with a monopoly provider or informational asymmetries, where one side of a transaction has significantly more information which it can use to the disadvantage of others.

## 1.5 Application of the energy objectives leads to different processes being undertaken for different projects

Since not all aspects of the energy objectives are relevant for all rule changes or reviews, this also means that the process by which we undertake rule changes or reviews also differs. Some rule changes can be completed in an expedited manner and be completed in a matter of months, while other rule changes can take over a year and include multiple rounds of consultation. All our decisions are evidence-based - some projects utilise detailed quantitative information such as economic or financial modelling, while others use more qualitative, principled-based assessments. However, regardless of the issue under consideration, the Commission's assessment and decision making is well considered, based on evidence and guided by the relevant energy objective.

### 1.5.1 The analytical framework for assessing a rule change or review

As noted above, we have a standard way of approaching a problem.<sup>19</sup> The below outlines, in broad terms, the steps taken when assessing a rule change or review:

1. Define the issue.
2. Identify the affected parties.
3. Analyse the impacts of the proposed change or potential alternative options on affected parties.
4. Analyse the impacts of the proposed change or potential alternative options on efficiency in the long-term interests of consumers.
5. Analyse the consumer protection implications, if applicable.

The above process is used for issue identification and for planning stakeholder engagement for a given rule change or review. The analysis presented in a rule determination or review may not follow this structure but the above process would be used to frame the analysis presented by the Commission in explaining its reasoning and decision-making. It is worth noting that the Commission often recommends rule changes as a result of undertaking a review. When these rule changes are submitted to us, the Commission undertakes assessment of these afresh. That is, they are assessed against the same objective, but in light of new information and, typically, more detailed analysis.

The first step is to inform ourselves about the issue being considered, or the problem posed in order to **define the issue**. This includes understanding what the current arrangements are (if any) that relate to the project, how they are intended to work, and how they actually

<sup>19</sup> This discussion outlines the process undertaken in assessing a project once a rule change or review is underway. The Commission intends to publish more information on the process for submitting a rule change and the statutory deadlines associated with the rule change process.

work in practice. This may involve dialogue with external stakeholders on the relevant issues, the proponent, other market institutions, or key stakeholders. Generally, the more we need to equip ourselves to understand the problem the longer a project would take, and the more consultation would be involved.

In the second step, we seek to **identify** who are the stakeholders that are likely to be affected by the rule change request, and *how* might they be affected. We recognise that reforms of a more significant nature require a substantial amount of effort and time from a number of stakeholders, including market participants and market bodies in energy markets. Accordingly, larger reforms or rule changes typically involve longer timeframes, more consultation, and more detailed economic or financial modelling.

A third step in the process involves **analysing the impacts of the proposed change** on the affected parties i.e. analysing behaviour of the affected stakeholders and the incentives they face. The aim of this is to consider how stakeholders behave under the current rules (the status quo) and compare this to how behaviours may change under the proposed change (which may involve changes to the obligations or opportunities faced by certain stakeholders). Such behavioural insights analysis can be applied across the energy sector, for example, from considering how consumers behave in the retail markets, to considering how generators may behave in the wholesale market, or to how retailers trade gas.<sup>20</sup>

Another key consideration is of what existing analysis or precedents there may be. For example, has the AEMC considered similar issues; have other market bodies or stakeholders recently considered similar issues or undertaken work on the particular topic.

After all of these issues are considered, the fourth step **analyses the efficiency in the long-term interests of consumers implications** of the rule change or review. That is, whether the recommendation or rule change would promote the energy objective of efficiency in the long term interests of consumers is evaluated and this will ultimately inform the Commission's decision on whether the change to the Rules in question or the recommendation should be made.

Fifth and finally, if the rule change relates to the NERR, the Commission must consider whether the proposed change is compatible with the development and application of **consumer protections**.

In summary, while all rule changes and reviews may appear to operate under a different set of assumptions, these are all guided by these general principles set out above.

<sup>20</sup> An example of this would include the Commission engaging Oxera to provide information on how customers' behaviour and preferences can affect their engagement and participating in energy markets, and how this may affect our competitive market indicators in our retail competition reviewed. See: Oxera, Behavioural insights into Australian retail energy markets, report to the AEMC, March 2016. We also engaged EY to consider the theoretical impact of late rebidding on contract markets in the NEM as part of the bidding in good faith rule change. See: EY, Impact of late rebidding on the contract market, Final report to the AEMC, 11 September 2015.

### **BOX 5: RULE-MAKING TIMEFRAMES**

The rule change process must be undertaken within the statutory timeframes required by the national energy laws including the National Electricity Law (NEL), National Gas Law (NGL) and the National Energy Retail Law (NERL).

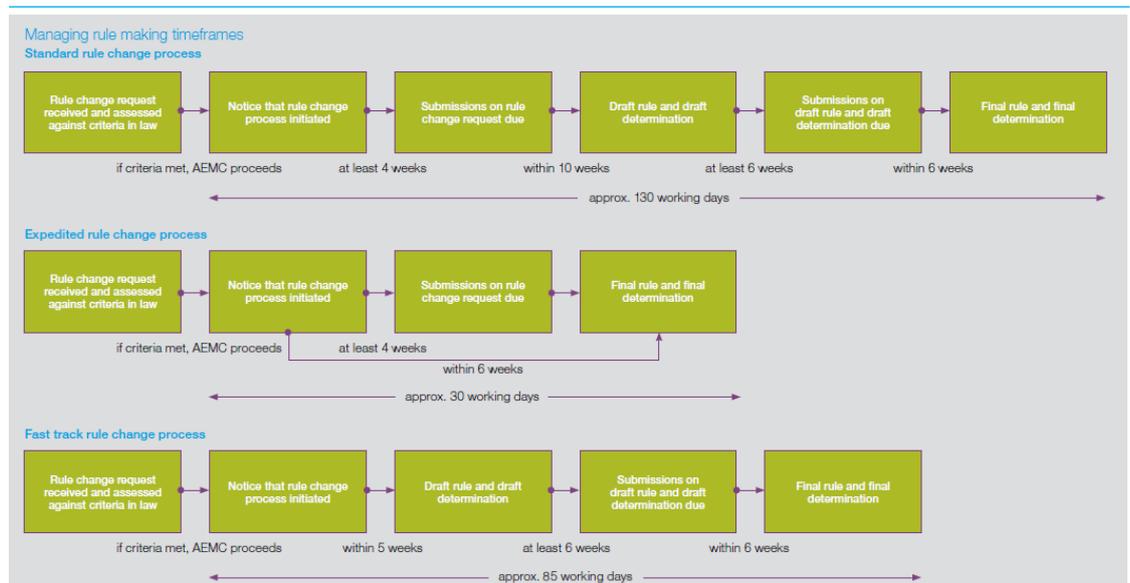
The standard timeframe under law for a rule change is approximately 130 working days. We must commence as soon as practicable after receipt of requests. To facilitate a constructive consultation and encourage targeted feedback we commence rule changes after an initial period of analysis.

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

There are two exceptions to the standard rule making process: the expedited rule making process and the fast-track rule making process. The Commission may expedite the rule making process if the request is for a non-controversial or urgent rule (as those terms are defined in the national energy laws). Under the expedited process there is only one round of consultation on the rule change and no draft determination is made. A final determination must be made within six weeks of commencement of the rule change.

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

**Figure 1.1: Rule-making timeframes**



## 1.5.2

### Considerations that guide a rule change or review process

The above steps give an indication of how we approach applying the energy objectives to a rule change or review. When assessing a rule change, we take a holistic view of all aspects of energy markets including the physical operation of the electricity or gas network, the economic forces at play and the financial incentives and arrangements that underpin the market. A rule change or recommendation in a review must work for the entire market and not simply shift a problem or inefficiency from one area to the other, e.g. from the operational to the financial sphere. This should ultimately promote efficiency in the long term interests of consumers. The energy markets are a holistic, interconnected set of outcomes, and so any potential changes to those arrangements must be considered in that regard.

The above steps show how we identify issues and affected stakeholders, key behaviours and the implications for long-term efficiency. These considerations do not change. In reality, however, the rule change and review process can vary considerably across projects. For example, the timeframe, number of publications, level of stakeholder engagement and the use of quantitative and qualitative analysis may differ across projects. While the process for the completion of a given project will be decided on a case-specific basis there are some considerations that guide the Commission's decisions with regard to the process.

These include:

- **Complexity:** The timeframe and process for a project will be guided by how complex the material covered in the rule change request or terms of reference for a review. If a project relates to subject matter that is particularly complex, or which has an effect on

many parts of the energy Rules in question, significant work may be needed. This work would be necessary to define the issue at hand, to identify all potentially affected parties and to define all the associated implications for the gas, electricity or retail energy market. In particularly complex projects we may need to spend time engaging with stakeholders to communicate the issues associated with the rule change and to gather valuable feedback. It may also be necessary to complete discrete pieces of analysis in order to understand all aspects of a rule change that is complex and multi-faceted.

- **Materiality:** Some rule changes or reviews are related to issues that are particularly material to the operation of the gas, electricity, retail energy market or consumer experiences. These issues may be of particular importance at a point in time or have implications for the development of the market into the future. If the Commission is considering an issue that has the potential to have a material effect on the market it may be necessary to undertake additional analysis and stakeholder engagement to understand the issue in detail and the likely implications of our decision for the future. For example, the 'competition in metering and related services' rule change created a competitive market for metering, which has a large impact on the provision of energy services in the NEM for consumers. Again, this project was longer than a standard rule change and included a significant amount of consultation.
- **Interaction with other work:** The process for undertaking a rule change may be impacted by other work being undertaken, both within the AEMC and by other organisations, market bodies or governments. If a number of rule changes are inter-related or impact significantly on each other, the Commission may decide to consider these issues together as a package. Other work may also impact on the work conducted by the Commission and this may be taken into consideration when deciding on the timing and process for a rule change.
- **Level of experience the Commission has with the subject matter:** The Commission may have experience with a particular subject matter and therefore have material already prepared to draw on in the consideration of a subsequent rule change or review on the same subject. However, it may be the case that a project is received that is related to an area that the Commission has no previous experience in. In such cases, it may be necessary to undertake increased stakeholder engagement to gain a deeper understanding of the issue and how the proposed changes may impact on the market. In some cases, the Commission may decide to hold a series of public forums or form a working group of interested stakeholders. These processes are designed to provide valuable feedback from the industry to guide our decision-making.
- **How quantitative in nature is the rule change:** In some projects, the assessment of the proposed changes to the rules is quantitative in nature, for example, the costs and benefits of the rule change or recommendations are modelled or estimated, for other projects no such analysis is conducted and the assessment is qualitative. The decision regarding whether quantitative analysis is to be conducted is guided by a number of considerations including: how easily the anticipated effects of the recommendations are quantified; how material the costs and benefits of the recommendations are expected to be; and what value or insight can be gained by undertaking quantitative analysis. For

example, projects relating to the wholesale market typically lend themselves naturally to more quantitative analysis, such as our analysis in the Bidding in Good Faith rule change. The above list is not exhaustive but it gives a guide as to what factors are considered when we undertake a rule change or review process.

## ABBREVIATIONS

|                    |  |
|--------------------|--|
| AEMC               | Australian Energy Market Commission                          |
| AEMO               | Australian Energy Market Operator                            |
| AER                | Australian Energy Regulator                                  |
| ASIC<br>Commission | Australian Securities and Investments Commission<br>See AEMC |
| MCE                | Ministerial Council on Energy                                |
| NECF               | National Energy Customer Framework                           |
| NEL                | National Electricity Law                                     |
| NEM                | National Electricity Market                                  |
| NEO                | National electricity objective                               |
| NER                | National Electricity Rules                                   |
| NERL               | National Energy Retail Law                                   |
| NERO               | National energy retail objective                             |
| NERR               | National Electricity Retail Rules                            |
| NGL                | National Gas Law   |
| NGO                | National gas objective                                       |
| SAIDI              | System Average Interruption Duration Index                   |
| SAIFI              | System Average Interruption Frequency Index                  |