

AUSTRALIAN ENERGY MARKET COMMISSION

HOW THE NATIONAL ENERGY OBJECTIVES SHAPE OUR DECISIONS

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INQUIRIES

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ABOUT THE AEMC

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

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HOW THE NATIONAL ENERGY OBJECTIVES SHAPE OUR DECISIONS

The Australian Energy Market Commission (AEMC) makes and amends the energy rules, undertakes reviews of the national energy frameworks, and provides advice to [the Energy Ministers' Meeting](#) (EMM). The national energy frameworks must adapt to manage the unprecedented uncertainty and complexity of change occurring in the sector and harness the potential opportunities for consumers. In maintaining these frameworks, we must grapple with the uncertainties and opportunities of decarbonising markets, active participation by consumers and technological innovation to address the issues of today and prepare for an evolving future.

This guide helps you understand how the [national energy objectives](#) govern our decisions on electricity, gas and energy retail rule changes and reviews. This will help you contribute to our decisions – for example, by assisting with preparing effective [rule change requests](#) and [submissions](#). We value your contributions as key inputs into our decisions.

The three national energy objectives are part of the legislative frameworks that govern the national electricity, gas and related retail markets. There are separate objectives for the electricity, gas and energy retail rules, but all three objectives focus on promoting the long-term interest of consumers through efficient investment, operation, and use of energy services.

BOX 1: DECARBONISATION IN OUR DECISION MAKING

The AEMC's [2021 Strategic Plan](#) identified decarbonisation as one of the two key uncertainties we need to grapple with during this time of unprecedented change. We noted in delivering our work we need to account for trends in decarbonisation, as well as the related uncertainty.

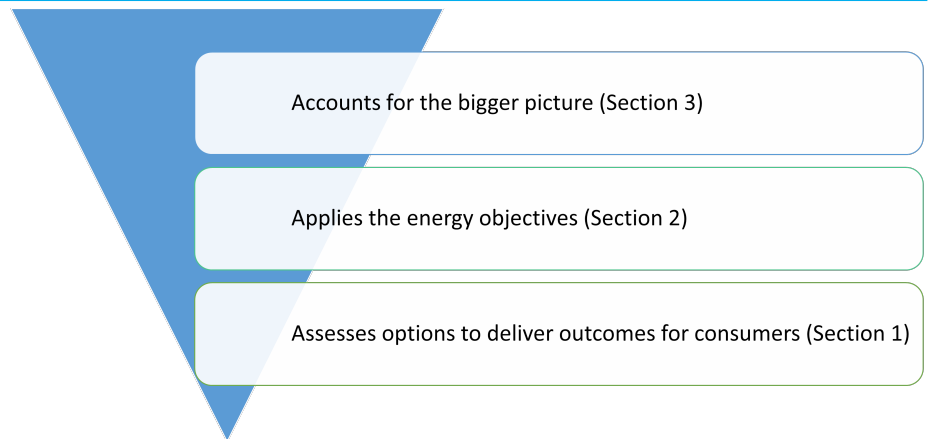
This guide will help you understand how we currently consider decarbonisation in our decision making framework. You can also see how we apply this framework in our reviews (e.g. [hydrogen and renewable gases](#)) and rule changes (e.g. [reactive current](#)).

The recent EMM decision to explicitly include an emissions reduction objective in the national energy objectives will shape the way we make our decisions going forward. This will be a significant change for the sector.

We are supporting the work being done to update the national energy laws to reflect this decision. We will update this guide to provide transparency and guidance on how we will practically apply the updated energy objectives in our decision making once the relevant changes are made.

This guide has been structured to help you understand our decision making process.

Figure 1: Our decision making

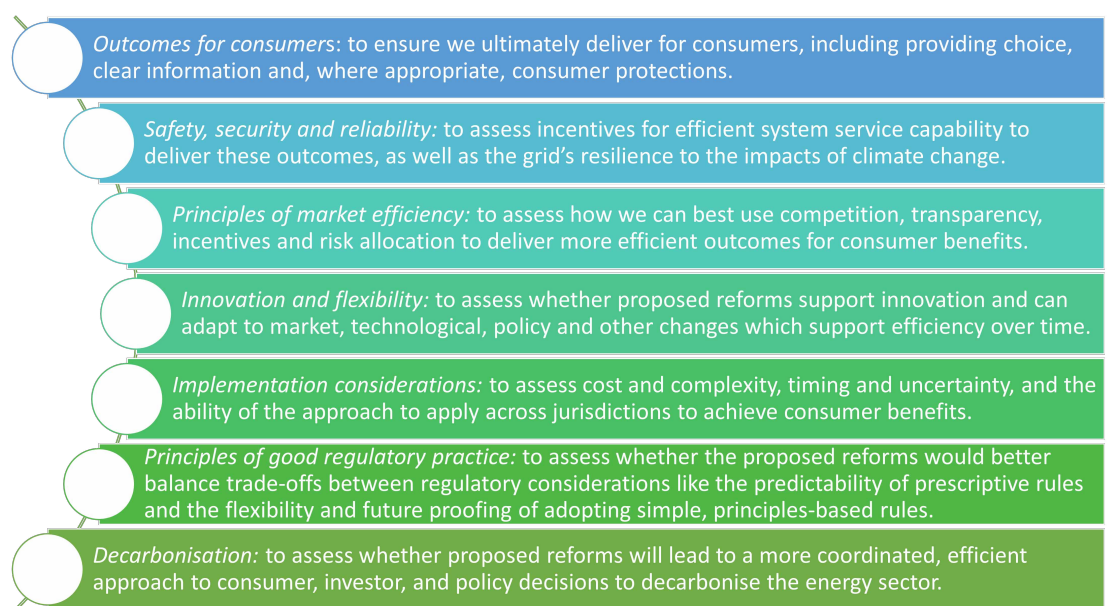


OUR DECISION-MAKING FRAMEWORK

The AEMC can only [make and amend](#) the electricity, gas and energy retail rules, or recommend changes to the national energy framework in reviews, if doing so will contribute to the relevant [energy objective](#).

Our 2021 [strategic plan](#) includes an initiative to refine our [decision-making framework](#) for rule changes, reviews and advice. As part of this initiative, we have developed our assessment criteria for assessing our decisions against the national energy objectives, which focus on seven key areas.

Figure 1: Assessment criteria



All of our reviews and rule changes are presented according to these assessment criteria to ensure you have a clear and consistent framework to engage with our decisions. These criteria have also fed into our in-house *Brevity* [initiative](#) to improve the accessibility and effectiveness of the AEMC's communications through more concise and accessible documents. You will see the relevant criteria reflected in each of our documents.

THE MEANING OF THE NATIONAL ENERGY OBJECTIVES

The national energy objectives are set out in [national energy legislation](#). These [three objectives](#) contain key terms that are important to understand to be able to engage with our decision-making process. The national energy objectives are set out below with emphasis added for the key terms.

The national energy objectives

The *National Electricity Objective* ('NEO') is to promote **efficient** investment in, and efficient operation and use of, electricity **services** for the long term interests of **consumers** of electricity with respect to:

- **price, quality, safety, reliability** and **security** of supply of electricity; and
- the **reliability, safety** and **security** of the national electricity system.

The *National Energy Retail Objective* ('NERO') 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.

The *National Gas Objective* ('NGO') 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.

Key terms explained

Efficient

Efficiency is a vital consideration in our work as all three national energy objectives require efficient investment in, and operation and use of, each component of the service. As outlined in Box 2, we generally refer to three types of efficiency. When we balance all three types, market participants have incentives to invest, operate and use energy services to provide the best outcome for consumers, now and in the future.

BOX 2: THREE TYPES OF EFFICIENCY

- *Productive* - providing services at the lowest cost, e.g. our [rule change](#) to ensure the cheapest electricity generation available is dispatched to meet consumer needs in the NEM by providing more granular signals.
- *Allocative* - allocating services to those who value them most, e.g. our [rule change](#) to explicitly provide export services for consumers who want to supply their excess solar power to the grid.

- *Dynamic* - adapting to changing circumstances to maintain these efficiencies in the long term, e.g. our [review](#) into how to extend the regulatory frameworks to include low-level hydrogen blends and renewable gases to encourage investment and innovation.

Services

This term covers everything from the services to generate, transport and sell energy, to the supporting services that enable this to occur efficiently, securely and reliably. As the sector continues to transition, new types of services are emerging such as the aggregation of energy services to provide consumers with access to energy and ancillary services markets. The best outcomes for consumers are only possible when every part of the chain delivers its contribution well and there are seamless interactions between them.

Consumers

Consumers of electricity, natural gas and related services take many different forms. For instance, households and small businesses (end users) consume retail energy products that package different energy related services together. Others may only consume a subset of the energy services, such as generators using the network services that transport their energy to market. It's important that all relevant consumers are considered in our decisions, as well as interactions with any relevant protections for those consumers.

Price

Prices, and choosing to respond to price, are at the very heart of our economic system. Prices create incentives for participants to act efficiently by reflecting the consumer's marginal benefit and/or supplier's marginal cost. The price we're willing to pay reflects how much we value the service, while the price we're willing to sell for should reflect the cost of providing that service. The AEMC wants to make sure consumers can see the full benefits and cost of their choices through prices, so they can make informed choices. We consider the consumers' perspective and know that the broader context can affect how consumers see and respond to these prices.

Quality

Quality can mean different things depending on the context. For example:

- the technical quality of energy, such as variations to frequency and voltage magnitude (e.g. harmonics) and imperfections in the voltage waveform
- the calorific value or blend of hydrogen and renewable gas flowing through the pipes
- the quality of service that retail consumers receive from retailers and distribution businesses.

Safety

Gas and electricity can be dangerous products and it's part of our role to consider their safe supply. There are a variety of requirements for safety under the national energy frameworks that apply to electricity, gas and related energy services. There are also various state and territory laws, regulations and bodies that govern safety, including the safe supply of energy and broader safety requirements associated with energy use in households and businesses. These requirements make sure everyone in the supply chain invests, operates and uses their assets in a way that provides for safe supply.

Reliability

Reliability is associated with consumer expectations regarding the dependability of their supply. Reliability requires:

- an adequate supply of capacity to meet demand (including a buffer to respond to shocks)
- a reliable transmission and distribution network
- the system to be in a secure state.

This means consumers' needs can be met, in a range of circumstances, with electricity generation or gas supply. It also means the networks can transport energy to consumers and that the system operates smoothly.

Security

Security is part of the technical resilience of the system. Security requires the system to continue operating within defined technical limits even if a major element like a generator or large consumer disconnects from the system. System services, technical standards and capabilities can be used to provide this security. For instance, inertia, frequency control and system strength all help keep the power system secure and survive major elements disconnecting for a range of reasons, like mechanical failures. This allows consumers to have confidence in their electricity and gas supply.

Regulating for efficiency

The national energy objectives refer to the long-term interests of consumers in the context of efficient investment, operation and use of energy services. Market-based solutions that drive competition are often the most effective and efficient way to achieve these efficiencies and deliver the best outcomes for consumers. However, regulatory intervention may be needed to replicate these market forces in certain cases such as the operation of natural monopolies (e.g. network businesses), where it is more efficient to have a single supplier.

While we are guided by the concept of perfectly competitive markets, in practice there are always deviations to be accounted for. You may see these scenarios referred to in our decisions as 'market failures' or opportunities to improve the regulatory framework. As the sector transitions, the nature of these market failures and opportunities to improve the regulatory framework will change. There will be times when practical considerations may

require a different approach to market-based solutions in order to help the sector through the transition.

Addressing market failures

Imperfect information is an example of market failure because not everyone has access to the same information or understanding of the significance of that information. The NEM's complexity means some differences in understanding are unavoidable, but we sometimes make rules to ensure everyone has access to information that materially impacts their participation in the market. For example, we work with AEMO, AER and stakeholders to ensure clear, consistent and timely communication of generator availability.

Another example of a market failure is when barriers stop consumers and suppliers from entering and exiting the market. However, it is important to also consider whether the costs of removing those barriers outweigh the benefits. For example, the cost of complying with consumer protections may be a material and potentially prohibitive expense for some businesses but is in the long-term interest of consumers.

Continually refining the regulatory framework

Regulating to address market failures has its own costs and challenges. We need to continually review our approach to ensure the cost to implement, administer and enforce regulation is proportionate to, and effectively addresses, the relevant issues. This is demonstrated, for example, by our [rule change](#) that balances greater flexibility for AEMO to manage new and unexpected threats to power system security from a rapidly changing sector and climate change with increased transparency for stakeholders.

We can also improve the regulatory framework by encouraging innovation and strengthening incentives, particularly when they interact with broader market forces and jurisdictional policies. For example, our [rule change](#) to support more responsive and adaptable regulation of gas and electricity bills by replacing previous billing provisions with a mandatory AER guideline that takes into account changes in the market and consumer preferences.

Making practical decisions

Our decisions also need to account for practical considerations, such as whether the desired outcome can be achieved within the required time, noting the scale of the problem and the level of uncertainty. The need to allow time for markets to mature and for technology to develop may also inform our decisions. For example, our [draft rule](#) which acknowledges the significant work required to define and value more essential system services (ESS) and considers a potential transitional mechanism for AEMO to deploy ESS in a practical, secure yet economically feasible way.

THE BIG-PICTURE: DECISION-MAKING IN A TRANSITIONING SECTOR

We are responsible for rule-making and providing expert advice as the Australian energy sector undergoes fundamental change in how energy is produced, delivered, sold, stored, and used. When making decisions, we cannot lose sight of the bigger picture and the depth and breadth of the reforms that are occurring and the need to manage the unprecedented challenges facing the sector. Nor can we ignore that the pace of change is accelerating as we navigate through the uncertainty this rapid transition brings.

As AEMC decisions guide action towards a decarbonising, affordable and reliable energy system, we must consider the broader changes occurring in technologies, stakeholder behaviour and jurisdictional policies. Practical rules also require us to grapple with the increased uncertainty around these elements. This ensures our decisions drive innovation and greater efficiency in the focus and timing of investments, operational decisions and use of energy.

Elements shaping the big picture

Decarbonisation

Decarbonisation in response to climate change is a significant focus for the energy sector. State and commonwealth governments have committed to net zero by 2050 and adopted a range of policy initiatives to meet this objective. Investors increasingly consider decarbonisation in the context of environmental, social and governance (ESG) criteria. Household investment in consumer energy resources such as rooftop solar and batteries reflects concerns about the environment.

Climate change itself also affects the security and reliability of our energy system. Climate change is making extreme abnormal conditions increasingly frequent and impacting weather-dependent generation technologies. As a result, unforeseen and unexpected threats to the power system are emerging. Our decisions must consider how these fundamental shifts interact with our rules and how best to encourage an efficient, coordinated approach to the transition.

Technological change

The new capacity arising from renewable sources, such as wind, solar and hydrogen, and the retirement of the old generator fleet, partly reflects the shift to decarbonisation. But the rapid technological change occurring in the energy sector also reflects other advances, such as digitisation. These trends are also blurring the lines between sectors and market participants' roles within those sectors. For example, while electric vehicles are a decarbonised form of transport, they can also effectively become batteries on wheels should the consumer desire. The AEMC is technology agnostic: we don't pick winners, but we can create regulatory frameworks that reward innovation and enable consumers to choose what is best for them.

Stakeholder behaviour

Investors, industry and consumers are also changing their behaviour in ways that affect the transition. Within the energy sector, we are seeing the decentralisation of energy and the rise of the 'prosumer'. There is also increasing diversity in behaviours driven by external factors affecting energy use. For example, greater variety in working patterns following the global pandemic, evolving digital-service sectors, the internet of things (IoT), and even mining for cryptocurrencies. These all change the way people use electricity and gas and interact with energy services. Our decisions need to account for the impact of these trends on incentives in the energy sector, as well as the potential change in behaviours and roles that result.

Jurisdictional policy trends

State and commonwealth policies shape the electricity, gas and energy retail sectors, as well as our role in them. We consider how our decisions interact with these policies to ensure the regulatory framework operates as effectively and efficiently as possible. For example, government subsidies to encourage investment in rooftop PV and batteries can change consumer behaviours and, with the right incentives, help support the transitioning sector. Jurisdictional policies on the pathway to net zero include adjusting the role of traditional thermal generation and the evolution of gas networks. Our decisions must be flexible enough to work with these policies, while ensuring the NEM clearly and systematically promotes the long-term interest of consumers.

Increased uncertainty

The energy sector is facing significant challenges at the moment. In response to this, we regularly consider whether our decision-making approach and framework remain fit-for-purpose with the pace, speed and uncertainty of the world we are in. Our decision-making process must look ahead to deliver timely, effective and enduring reforms when they are needed.

To manage the uncertainties facing the sector, we will often consider a range of scenarios to test the likelihood of success, expected timings of benefits and costs, and how robust our approach to implementation is. This helps us have confidence that our decisions will leave consumers better off.

Get involved

You can be part of our decisions by responding to [rule change projects](#) or [reviews](#) when they affect you or your organisation. You can share your views on the assessment of the proposed regulatory change against our assessment criteria in a written submission or in person by joining our public forums.

We value stakeholder feedback to help us better understand trends in the market and the key areas of stakeholder concerns, to be forward thinking and to make good decisions. The best way to stay in touch with the rule change projects and reviews is to [subscribe to our newsletter](#). You can also [contact us](#) if you have any questions.

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
EMM	Energy Ministers Meeting
ESG	Environmental, social and governance
IoT	Internet of things
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEM	National electricity market
NEO	National electricity objective
NERL	National Energy Retail Law
NERO	National energy retail objective
NGL	National Gas Law
NGO	National gas objective
PV	Solar photovoltaic