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Energy Senior Officials  
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Sent by email

Dear Mr Sullivan

**Consultation paper: extending the national gas regulatory framework to hydrogen blends & renewable gases**

Jemena welcomes the opportunity to provide a submission on extending the regulatory framework to renewable gases. Our NSW distribution network delivers gas to over 1.4 million residential, business and industrial customers in Sydney, Newcastle, the Central Coast, Wollongong and more than 20 regional centres. We also own a number of gas transmission pipelines serving customers throughout Queensland, NSW, Victoria and the Northern Territory.

We welcome the Energy Ministers' decision to bring renewable gases (including biomethane, hydrogen and hydrogen blends) into the scope of the national gas regulatory framework. We support the approach of expediting changes in respect of renewables gases that are suitable for consumption in existing appliances. We also support the approach to accommodate the evolving future of renewable gas and avoiding changes that could have unintended consequences.

These changes are not simple. The introduction of renewable gases is just one element of the wider transformation of Australia's energy systems. Accordingly, regulatory change to bring renewable gases in scope needs to also provide flexibility to recognise that the energy system of the future will not operate as it does today.

Just as the reforms recognise that pipelines will transport gases other than natural gas, other fundamental assumptions which underpin the regulatory framework are breaking down or will soon no longer hold. For instance, up- and down-stream markets for renewable gas either don't exist or are in their infancy, and pipelines are looking to provide services which currently don't exist (requiring a departure from the current mature business model). Perhaps most challenging of all, we can no longer assume that gas networks will be able to provide services into perpetuity.

Understanding this context is essential to ensuring that economic regulation is targeted at the right issues and problems. Economic regulation in and of itself cannot resolve the technical and economic challenges for gas pipelines. However, it can ensure that the regulatory compact between pipelines and customers adjusts to reflect the different environment in which consumers, pipelines and upstream providers must operate and invest in. Indeed, the very point of economic regulation is to provide a price and access governance mechanism that provides all parties with sufficient incentives to continue investing while taking into account changing circumstances.

With this context in mind, the successful integration of Natural Gas Equivalents (**NGEs**) and Other Gases (**OGs**) into the National Gas Law framework rests on the application of the key definitions (or lack thereof). We consider that several definitions need to be adjusted and new ones need to be created so that pipeline operators can operate with sufficient flexibility to enable and deliver a renewable gas future.

Lastly, we consider that the regulatory framework should have some form of optionality to determine whether specific pipeline assets and services should be covered by the regulatory framework. While in many cases it makes sense for assets to be regulated under the National Gas Law (**NGL**), economic intervention may not always be justified or may otherwise inhibit the development of new gas markets and industries. For instance, while it may make sense for a hydrogen pipeline built as part of our NSW distribution network to be captured, it may not make sense for other pipelines or blending facilities where other mechanisms could produce better outcomes for consumers.

Please find attached further elaboration on the issues outlined:

- Attachment A provides further context on the wicked problem gas distribution networks and the wider community face, the role of economic regulation and what changes to the NGL are required.
- Attachment B provides a practical list of the kind of activities and functions that we are considering or anticipate that we will need to undertake in the future.
- Attachment C provides a summary of what pipeline blending practically entails.
- Attachment D provides answers to the specific questions posed.

Given the significance of these changes, their complexity and the ramifications for Australia's future energy system, ongoing transparent and comprehensive consultation will be crucial. We are keen to continue engaging in this and consequent processes.

Should you have any questions please do not hesitate to contact James Turnley, Gas Networks Regulation Manager, on (02) 9867 8659.

Yours sincerely,

Ana Dijanosic

General Manager Regulation

## **Attachment A. The wicked problem gas networks and the wider community faces, the role of economic regulation and the changes required to the NGL.**

### **The challenge**

The energy system is in the midst of a fundamental transformation. Decarbonisation, propelled by consumer choice and enabled by policy and technological changes, will require that the energy system of the future to be very different to the energy system of today.

We see gas distribution networks, including the Jemena Gas Network (**JGN**) in NSW, playing a crucial role in tomorrow's energy system by:

1. Providing consumers and industry with an alternative decarbonised source of energy – with many of the natural gas characteristics that they value today, such as instantaneous heat as well as the reliability and security from a dual source of energy.
2. Avoiding costly upgrades to the electricity networks and generation fleet providing a lower cost whole of system decarbonisation pathway.
3. Supporting the decarbonisation of other sectors such as transport, and playing a role in energy storage and grid firming.

However, this is not guaranteed. In many feasible future scenarios, including in what some other stakeholders consider the default scenario, gas networks will play a much smaller role. For instance, in each of AEMO's 2050 net-zero scenarios, residential gas heating loads will be entirely (or almost entirely) electrified by 2050.<sup>1</sup> Given that residential customers make up 98% of JGN's customer base this outcome will result in substantial economic stranding.

While the future is uncertain, what is clear is that in any net-zero future the status quo for gas networks cannot remain the same. Gas networks must transition to green gas to unlock the potential benefits that can be delivered for consumers and industry as well as prepare for a future in which their role is a shade of their current role.

A smaller role for gas networks will have significant consumer repercussions. It would require price increases (as our largely fixed costs will be spread over a smaller customer base and recovered over shorter period of time) and a reduction in consumer choice, as it will be uneconomic to continue to provide gas pipeline services in many areas.

It would also mean that consumers will lose access to the benefits that gas, such as system resilience, energy storage and the ability to match supply with demand. These factors are particularly important given that there are unresolved questions on how to fully decarbonise the electricity network, for instance on how to match supply with demand, meet peak demand and manage renewable energy droughts and seasonal fluctuations.

### **How JGN is responding**

We are taking steps now to increase the likelihood that gas networks can continue to deliver whole of system benefits for consumers by facilitating the development of green gases.

At this stage our focus is on green gases which are suitable for use in existing natural gas appliances (biomethane and low level hydrogen blends) as these gases meet Australian Standard 4564 for general-purpose natural gas. These gases require no change to the physical operation of our network or to customer appliances. In respect of 100% hydrogen, we are positioning to be a 'fast follower' so that we can take advantage of this technology as it progresses.

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<sup>1</sup> 2021 AEMO, 2021 Inputs, Assumptions and Scenarios Report, July, p.41

The key challenge is ensuring that a market and supply chain for green gases develops fast enough to satisfy the needs of gas customers who want a decarbonised source of energy. This 'wicked problem' requires the development of up and down stream markets to produce and consume green gases – in addition to the possible reconfiguration of existing networks.

To be clear, JGN's strategy is not to enter up and down stream markets and expand our role in the supply chain. Rather, it is to facilitate these markets to allow other parties to invest and provide the necessary capital and relevant expertise to deliver a green gas future.

### **The role of economic regulation as the energy system transforms**

The purpose of economic regulation is to resolve the hold-up problem where customers, pipelines and upstream producers need to make material sunk and relationship specific investments.<sup>2</sup> In the case of gas networks, customers need to invest in gas specific appliances (which have a life of about 15-20 years, or longer for industrial customers) while pipelines need to make infrastructure investments (with asset lives of generally 50 but up to 80 years).

Given the long-term nature of the investments required and the extent to which the characteristics of the service change over time (for instance, in respect of cost, demand, quality etc) it is impossible to write a complete contract. This has never been truer than with the current transformation of the energy system.

Economic regulation resolves this problem by providing price and access governance mechanisms to manage the incomplete nature of the arrangement to provide consumers, pipelines and upstream producers with sufficient certainty to invest while allowing adaption to changing market conditions over time. Regulation works to ensure that pipelines are provided with an opportunity to recover efficient costs, while providing mechanisms (such as 5-year price reviews) to reflect changes in the environment in which services are provided.

While economic regulation cannot solve the wicked problem gas networks (and the broader community) face, adjustments to the framework are required to ensure that regulation remains fit-for-purpose and networks can continue to provide services that meet the changing needs of consumers and up-stream producers.

### **Changes to the National Gas Law to enable economic regulation to work**

Currently, the regulatory framework is premised on a series of assumptions which no longer hold, such as:

- That pipelines will only transport natural gas.
- That all possible up and down-stream markets for gas already exist.
- That gas networks provide an established, mature service.
- That gas networks will provide services into perpetuity.

Many of these assumptions are reflected in rigid definitions in the NGL. The need for change and greater flexibility is recognised by the Energy Ministers decision to bring renewable gases into the framework.

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<sup>2</sup> Regulation and Administered Contracts Revisited: Lessons from Transactions-Cost Economics for Public-Utility Regulation, K. Crocker and S. Masten, Journal of Regulatory Economics, Vol. 9 (1996), No. 2, 5-39

In extending the regulatory framework to renewable gases it is crucial to keep in mind the wider context in which these changes are being introduced. The drive for renewable gas isn't an isolated phenomena but a result of the wider transformation of the energy system.

Broader changes are required to ensure that the regulatory framework is sufficiently flexible to accommodate and facilitate changes in the market structure, as well as allocation of roles and functions which will accompany the introduction and growth of renewable gas in tomorrow's energy system.

An example of this is the situation where a pipeline blends a stream of 100% hydrogen into a natural gas stream to produce a NGE. It is currently unclear whether the activity would be characterised as production and could not be considered as an ancillary pipeline service.

Another example is that the production of natural gas is historically considered to be upstream of pipelines and is therefore explicitly excluded from the definition of pipeline service. However, to most efficiently provide services in the future, pipelines may produce renewable gas to perform ancillary services, such as undertaking research and development or in undertaking network support functions (see attachment B).

We consider that flexibility can be introduced by amending the definitions of pipeline service, related business, production, processable gas and with the introduction of new definitions for functions such as blending. This will ensure that gas networks are able to undertake the functions ancillary to a pipeline service to facilitate a renewable gas future and that the price and terms of access to these new or expanded services can be governed through the regulatory process (see appendix B).

In turn, this will allow gas network operators, customers and producers of renewable gas to work together to produce a solution in how these new or expanded services are provided – with the AER as the ultimate decision maker.

## Attachment B. How JGN is facilitating the development of green gases

In practical terms, we are:

- Seeking to shape and develop the policy environment – For instance by seeking regulatory change to allow Australian Carbon Credit Units (ACCU) to be awarded where biomethane is injected into our network (as they are currently awarded for flaring but not end-use consumption).
- Supporting the development of a green gas certification scheme – allowing consumers to access independently-certified green gas – just as they can now for electricity.
- Building industry and consumer knowledge of the potential for green gases. For instance, in August 2021 we held a Renewable Gas Workshop with consumers, large users, Governments, investors and other stakeholders to provide greater visibility on renewable gas pathways, general market update and identify barriers and impediments.
- Delivering demonstration projects to test concepts and identify technical issues to support the future development of similar projects by other parties.

We are also looking at options to:

- Procure gas used for network operations from renewable gas producers to underwrite upstream renewable gas projects.
- Procure localised green gases injection or build assets enabling green gas injection or storage to support the delivery of our haulage service, for instance to defer or avoid network augmentation to supply loads at peak times.<sup>3</sup>
- Allow the injection of 100% hydrogen into our network – and using our existing network (with some upgrades) to provide instream blending so that end users are provided with a NGE.
- Undertake a trial blending different renewable gases into conventional gas to understand the impact of changing gas characteristics.
- Undertake additional trial projects to test and demonstrate the technical and economic feasibility of green gas options using our network.

Depending on technological developments and customer support, we anticipate that in the future we may also look to:

- Trial the delivery of 100% hydrogen to large users and/or customers in a new or existing network section.
- Build a new hydrogen pipeline (or convert an existing section of our network) to operate as a hydrogen backbone to our existing network. This could work with 100% hydrogen being delivered to particular customers and a hydrogen/biomethane blend provided to other (likely smaller) customers.

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<sup>3</sup> We note that it may not be possible for a 3<sup>rd</sup> party to provide this services where the safety and security of our network is dependant in supply a key times and/or where the most economic solution is to 'insource' production and operation of a green gas facility.

- Provide a storage service allowing green producers to store renewable gas in parts of our network.
- Reconfigure large parts of our network to provide 100% hydrogen.

## **Attachment C. Blending hydrogen into a pipeline**

### **How can blending occur?**

Hydrogen can be added to a natural gas stream via:

1. Direct injection – where the composition and flow of the upstream natural gas is known and hydrogen is metered, hydrogen can be blended in the network through commingling. This approach only requires a single physical connection to an existing gas main. The heating value of the resultant gas blend can then be adjusted based on the composition and flow rate data.
2. In-stream blending – where the composition and flow of the hydrogen is measured for the purposes of controlling and metering the composition. This involves diverting the path of natural gas to an above ground facility, where the hydrogen is blended with natural gas. To install on an existing gas main it would typically require two physical connections.

Typically, blending will require a control system, testing regime, validation of gas dilution as well as operational controls such as detection of hydrogen leakage, development of protocols for emergency response, SCADA and active fault monitoring, and potentially the establishment of new heating zones to reflect the new heating values.

## Chapter 4: Extending the NGL and NERL to natural gas equivalents

No.	Questions	Feedback
<b>Section 4.3: Potential approach to extending the NGL</b>		
<b>Section 4.2.1: Extension to NG equivalents and related facilities and activities</b>		
1	<p>What are your views on the potential approach to extending the application of the NGL to NG equivalents and related facilities and activities? Are there any other approaches that you think would better achieve the objectives of Energy Ministers (see section E.3)?</p>	<p>Jemena supports the proposed approach to extend the existing NGL regulatory framework to NGEs on the basis that NGEs can be delivered to, and used by customers, by the same equipment and facilities that currently deliver and consume natural gas. The current regulatory framework provides a legal and regulatory impediment for NGEs rather than a technical or operational restraint.</p> <p>However, careful consideration and analysis needs to be given to the facilities and activities involved in the creation of NGEs as the industry develops and evolves. We are supportive of a framework that promotes the development of a market for production of renewable gas while also recognising that in the early stages, the activities may not be easily distinguishable from provision of existing pipeline services and there may be safety, technical and other benefits from allowing pipeline service providers to have a role in those activities as the industry develops.</p>
2	<p>What are your views on the policy intention to enable all elements of the national gas regulatory framework to apply to NG equivalents and their related facilities and activities in the same way that they do to natural gas?</p>	<p>Jemena is generally supportive of a 'light' touch approach that does not introduce additional, prescriptive requirements for a NGE product and service which will be substitutable for a natural gas product and service.</p> <p>Similarly, we consider that where there is an existing regulatory mechanism or approach, this would, and should, be, the mechanism that apply to NGE and related facilities. Only where additional flexibility is needed should further changes be required.</p> <p>An example of this is where curtailment may be required for producers who directly inject hydrogen into a pipeline and the pipeline approaches the blending limit. This is analogous to the situation where a pipeline needs to curtail deliveries of gas where there is an incident limiting or restricting gas deliveries.</p> <p>The current framework accommodates this sort of consideration - a process for curtailment of deliveries is already addressed through JGN's Access Arrangement</p>

No.	Questions	Feedback
		<p>(and similarly for many other pipelines). A similar process to apply to injection of hydrogen could be developed with the input of users and submitted to the AER for approval in a future Access Arrangement.</p> <p>This regulatory mechanism remains the most appropriate forum for any curtailment issues (such as who has firm curtailment rights and whether these rights should be priced in some way) to be explored with users and resolved.</p>
3	<p>What are your views on the NGL requiring jurisdictions to make a local regulation to confirm when a gas or gas blend authorised for supply through a pipeline (or part of a pipeline) is an NG equivalent?</p>	<p>Jemena supports the approach that jurisdictions with responsibility for safety and technical licensing are best placed to determine the gas or gas blends that should be supplied through a pipeline. This is consistent with the current economic and technical framework and there seems no reason why a different approach is required in relation to NGEs.</p> <p>Industry led organisations such as Standards Australia will remain the primary mechanism for creating and amending technical specifications, both in relation to gas quality specification and also technical/operating specifications.</p> <p>Having regard to the evolving nature of this function as further gases and blends could be introduced, consideration needs to be given to:</p> <ul style="list-style-type: none"> <li>• ensuring the regulation making power is sufficiently broad to allow jurisdictions to determine the application of gas or gas blends to pipelines, networks and customers;</li> <li>• ensuring cross border pipelines, networks and associated facilities are adequately addressed.</li> </ul>
4	<p>Who is likely to operate the blending facilities involved in the creation of NG equivalent blends?</p>	<p>Whether blending is undertaken by a pipeline operator or a third party will depend on a number of matters, including the configuration of the connection assets which connect the constituent gas equipment to the pipeline. Like any other connection, the process is largely at the discretion of the connection applicant with the pipeline operator specifying requirements in relation to the technical envelope for the connection. This is reflected in the current market where receipt points on transmission or distribution pipelines are sometimes owned by the pipeline operator or the producer.</p>

No.	Questions	Feedback
		<p>Different pipeline operators and producers may have different preferences for development of blending facilities where a facility is required to create a NGE blend (either a new receipt point or a blending facility).</p> <p>Pipelines could provide a blending function if a connection application requests a single receipt point is built on the network. The pipeline could then construct the assets to allow hydrogen to be injected through direct injection or in-stream blending. Blending in this circumstance should be considered to be part of the pipeline service.</p> <p>Alternatively if the connection application requests both a delivery and receipt point it could withdraw natural gas from then network, blend in the hydrogen then reinject the gas as a NGE, in this case, the upstream facilities and blending will not form part of the pipeline service.</p> <p>Lastly, an NGE could be created upstream of a pipeline.</p> <p>This arrangement is no different to how current connections work. Connection applicants can (and do) choose the configuration that meets their needs – which in some cases (particularly where the customer has an ability to store gas) means choosing whether they request a delivery point or both a delivery and receipt point.</p> <p>In our view, ‘blending’ is something distinct from other mid-stream activities such as compression and processing. It does not neatly fall within the current definitions of either production or a pipeline service.</p>
5	Do you think blending facilities should be subject to the same economic regulatory framework that applies to pipelines? Please explain your response to this question.	<p><u>Blending provided by a pipeline</u></p> <p>We consider that blending provided by a pipeline is indistinguishable from a pipeline service. Allowing a connection of a 100% hydrogen flow of gas into a network is no different to allowing a connection for injection of natural gas or a NGE as it requires a new connection asset to be constructed (albeit with additional equipment and operating requirements).</p> <p>We consider that the definition of pipeline service should be amended so that it is clear pipelines can perform this function if they are ancillary to the operation of a pipeline.</p>

No.	Questions	Feedback
		<p>Accordingly, in the case where this service is provided by a scheme pipeline, the setting of price and access terms to this service will be regulated by the AER as part of the usual price review process.</p> <p>Establishing the access terms as part of an Access Arrangement review will provide comfort to the market that the terms are reasonable, including that the pipeline operator does not discriminate between hydrogen producers. Further consideration may also be required on how to allocate limited blending capacity (which may require the use of price signals). For example, JGN's Access Arrangement sets out the technical and commercial conditions for establishing of a new injection point or withdrawal facility, and also the priority of service to customers where there is an incident limiting gas supply.</p> <p>We consider that the AER has sufficient tools with respect to the economic regulation of those activities as part of its regulation of pipeline services.</p> <p>However, a review of the ringfencing provisions in the NGL including the definition of 'related business', the interaction with the definition of 'pipeline service' and the exemptions available for pipelines should be undertaken. The primary purpose of this review would be to ensure that the ringfencing rules are sufficiently flexible to allow the efficient development of the future energy system.</p> <p><u>Blending not provided by a pipeline</u></p> <p>In relation to external facility blending – that is not ancillary to a pipeline – careful consideration needs to be given to how these facilities are defined by reference to the gas supply chain. Given that the adoption of a OGs into the NGL framework is at its inception, a firm categorisation has the danger of deterring innovation and investment.</p>
6	Are there any specific physical characteristics of NG equivalents or the supply chain for these products that you consider should be taken into account when extending the natural gas regulatory framework to NG equivalents?	
7	Are there any other observations you would like to make about the potential approach to extending the application of the NGL to NG equivalents and related facilities and activities?	Jemena can see the merits in the Energy Ministers' approach to not amending the definition of 'natural gas' in order to preserve the ordinary meaning of 'natural gas'.

No.	Questions	Feedback
		<p>However, as this consultation process demonstrates, the role of ‘natural gas’ in the NGL framework is evolving and the application of the definition of ‘natural gas’ and the related definition of ‘processable gas’ are no longer reflective of the gas supply chain. The success in extending the NGL to other types of gas (as those gases are defined in jurisdictional instruments) will rely on ensuring that the framework is sufficiently agile to accommodate the different sources and processes used to produce those gases.</p> <p>As part of the review to extend the framework to NGEs, consideration should also be given to the purpose of the definition of ‘processable gas’ and how that definition will be impacted by those proposed reforms. This is particularly relevant to mid-stream activities and the formal introduction of blending into the NGL framework and draws attention to existing ambiguities with how this term is applied across the framework particularly with respect to ringfencing.</p>
8	Are there any other changes that you think need to be made to the NGL to accommodate NG equivalents and related facilities and activities?	See response to question 14.
<b>Section 4.2.2: Extension to constituent gases and related facilities and activities</b>		
9	What are your views on the proposal to amend the NGL to enable the national gas regulatory framework to apply to the constituent gases and related facilities and activities involved in the supply of NG equivalents (where appropriate to do so) set out in section 4.2.2?	The application of economic regulation under the NGL and NGR to constituent gases and related facilities, including pipelines, is a significant and complex issue which requires careful consideration given the long-term consequences which may result from these decisions.
10	What are your views on the proposal that pipelines involved in the transportation of a constituent gas (e.g. a hydrogen pipeline) be subject to economic regulation under the NGL and NGR?	While it may be appropriate in some cases, it will not be true in all circumstances and in all future scenarios that constituent gas pipelines ‘are likely to be natural monopolies and have a significant degree of market power’ or that the current national regulatory framework is fit-for-purpose.
11	Are there any other observations you would like to make about the potential approach to extending the application of the NGL to constituent gases and related facilities and activities?	In the context of an emerging market where investment in constituent gases and their related facilities will be critical to achieving Energy Ministers’ objectives, the regulatory framework must provide flexibility to accommodate a range of potential market participants, facility types and commercial models. Accordingly, a robust analysis of the unique market dynamics faced by these assets is required to
12	Are there any other approaches that you think would better achieve the objectives of Energy Ministers (see section E.3)?	

No.	Questions	Feedback
13	<p>Are there any other changes that you think need to be made to the NGL to accommodate constituent gases and related facilities and activities?</p>	<p>determine whether regulation will deliver the best outcomes for consumers and other market participants.</p> <p>For example, where it is preferable to integrate a constituent gas facility into an existing pipeline owned by a single service provider the application of economic regulation to the constituent gas facility may be appropriate. However, the framework should also recognise the potential risks to longer-term market development of applying economic regulation to constituent gas facilities owned and operated by third parties and which are potentially subject to competition.</p> <p>We believe that an appropriate degree of flexibility in this regard is likely to be best achieved by providing a constituent gas facility owner the ability to elect (or for a set of criteria to apply) to determine whether the facility should be integrated into an existing pipeline (and therefore potentially subject to economic regulation) or considered to be a 'standalone' facility (not subject to economic regulation).</p>
<p><b>Section 4.2.2: Extension of market bodies' functions and powers</b></p>		
14	<p>What are your views on the potential approach to extending market body functions and powers set out in section 4.2.3 to:</p> <p>NG equivalents and related facilities and activities?</p> <p>constituent gases and related facilities and activities?</p>	<p>Market bodies will play a key role in relation to the development of the renewable gas industry while also acting as a gatekeeper on ensuring that the national gas objective is met. However, in these early stages, it is not possible to identify how the market will develop and it is therefore not possible to identify with certainty the kinds of regulatory oversight that may be required. A degree of flexibility is required to ensure that the regulatory bodies can adapt to the renewable energy transition while not preventing or inhibiting the development of the market.</p> <p>Jemena considers that of the market bodies AEMO will play a key role in the renewable energy transition as ultimately many key issues are likely to be operational in nature. AEMO should have sufficient flexibility in the exercise of its statutory functions to be able to administer the relevant markets including the ability to grant exemptions (including temporary exemptions) from facilitated market registration requirements or from retail market procedures. Such exemptions are important to allow for trials and other innovative solutions to be considered.</p>

No.	Questions	Feedback
		<p>While we consider that the AEMC should have the powers to make rules to support and facilitate the renewable gas transition, we consider that such rules should only be made where a need arises for such rules. In our view, it is too early in the transition to establish prescriptive rules for NGEs and constituent gases until there has been sufficient time to test whether the existing framework can accommodate NGs and constituent gases.</p>
15	<p>Do you think arrangements are needed for distribution pipelines attached to the DWGM and STTM to provide for independent management of blending limits (or gas specification requirement) imposed by a jurisdiction? If you think AEMO or another third party should be responsible for this function, please explain what costs and benefits you think would be associated with it doing so.</p>	<p>The successful operation of pipelines to date has been underpinned by the respective roles of service providers, technical regulators and AEMO in relation to the operation of the pipelines, setting of technical specification and the operation of the related STTM. We see no reason to change these arrangements.</p> <p>As is the case presently, JGN has obligations under its jurisdictional licensing obligations to manage the safety and technical specifications of its gas network including ensuring any matter blended with natural gas meets the specification. We expect that these processes and protocols will continue. To the extent that additional technical and safety protections are required, these should be managed at the jurisdictional level. In NSW, there is an existing framework in place to address any additional arrangements for managing blends. For example, this could be addressed through the safety regulations, the general natural gas regulations, market operation rules or changes to the quality specification in AS4564. We understand that other jurisdictions have a similar framework.</p>
16	<p>Are there any other changes to market body functions and powers required to accommodate NG equivalents, their constituent gases, or related facilities and activities?</p>	
17	<p>Are there any other approaches that you think would better achieve the objectives of Energy Ministers?</p>	
<p><b>Section 4.3: Potential approach to extending the NERL</b></p>		
18	<p>What are your views on the potential approach to extending the application of the NERL to NG equivalents set out in section 4.3?</p>	<p>Customers of gas purchase energy which is delivered to them in the form of natural gas. Accommodating NGEs will not change the service or product a customer will</p>

No.	Questions	Feedback
19	What are your views on the potential approach to extending the AER's and AEMC's functions and powers under the NERL to NG equivalents set out in section 4.3?	be receiving and therefore should not require material changes to the underlying framework.
20	Are any other changes to the NERL or the market bodies' functions and powers under the NERL required to accommodate NG equivalents?	It's important to keep in mind that the a retailer does not purchase specific molecules of gas - the retailer purchases a quantity of gas to meet the quantity of gas consumed by their customers. As is the current situation, the molecules a customer consumes (and whether they form part of a blend or not) will change day to day based on localised injections and use of the pipeline. This is no different to the electricity market.
21	Are there any other approaches that you think would better achieve the objectives of Energy Ministers (see section E.3)?	However, we do consider that as the energy system transforms to provide renewable gas, distributors, retailers and governments all have a role to play to ensure customers receive transparent information regarding changes in the nature of gas that they may be receiving. The existing disclosure provisions in the NERL supported by the Australian Consumer Law provide a robust framework to ensure that customers receive accurate and clear information.

## Chapter 5: Accommodating other gas products in the NGL and NERL over time

No.	Questions	Feedback
<b>Section 5.1: Potential approach to accommodating other gas products in the NGL</b>		
22	What are your views on the potential approach to allowing the NGL to accommodate OG products over time, as described in section 5.1?	See our response to questions 9-11.
23	Could amending the NGL in the manner described in section 5.1 lead to any unintended consequences? If so, please explain what those unintended consequences may be.	
24	What are your views on the proposal to apply the economic regulatory provisions to pipelines involved in the haulage of OG products and their constituent gases?	
25	Are any other changes to the NGL required to accommodate OG products?	
26	Are there any other approaches that you think would better achieve the objectives of Energy Ministers (see section E.3)?	

Section 5.2: Potential approaches to accommodating other gas products in the NERL		
27	What are your views on the potential approach to allowing the NERL to accommodate OG products, as described in section 5.2?	<p>The NERL already operates as a 'dual fuel' framework and has sufficient consumer protections in place to address customers electing to buy different energy fuels (i.e. electricity and gas). On the presumption that a OG product/service will be something separate from natural gas and electricity, we consider the same framework can be applied to those OG products and service.</p> <p>From a distributor perspective, we consider the AER approved connection contract process can adequately address customer led OG connections.</p> <p>The area of consumer protection that requires most consideration is the role that customer choice plays in the election of a particular fuel during the transition period but also over the long term. Some issues that require further consideration are:</p> <ul style="list-style-type: none"> <li>• Will customers or class of customers be entitled to a particular fuel source (electricity, NGE or OG)?</li> <li>• Where OG products and services are not the result of a Government mandate, how does the obligation to connect a customer apply?</li> <li>• Do distributors have the ability to reject applications to connect where it is not economically feasible (e.g. a particular part of the network is to be upgraded to a hydrogen only network)?</li> </ul>
28	What are your views on the second potential approach to allowing the NERL to accommodate OG products, as described in section 5.2?	
29	Could amending the NERL in the manner described in section 5.2 lead to any unintended consequences? If so, please explain what those unintended consequences may be.	
30	Are any other changes to the NERL required to accommodate OG products?	
31	Are there any other approaches that you think would better achieve the objectives of Energy Ministers (see section E.3)?	