

Application for Light Regulation of Envestra's Queensland Gas Distribution Network

Public Version

Envestra Ltd

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Key Messages

- The National Gas Law (NGL) and National Gas Rules (NGR) set out the criteria governing whether pipeline services should be subject to full regulation or light regulation. The NGL and NGR seek to ensure that the form of regulation is commensurate to the degree of market power in the provision of pipeline services.
- The NGL requires a consideration of the likely effectiveness of full and light regulation to regulate the provision of pipeline services and the relative cost of each form of regulation.
- Envestra is not in a position to exercise market power in regards to the services provided on the Queensland gas distribution network (QGDN). This reflects that natural gas is a fuel of choice, there are readily available substitutes for natural gas that can be accessed at a low cost and natural gas has no clear competitive advantage over electricity or liquefied petroleum gas (LPG) in the Queensland energy market.
- This lack of market power is evidenced by the very low penetration rate and customer usage of natural gas in Queensland.
- The cost of light regulation is expected to be around \$4.6 million lower than full regulation over a five year pricing period, which equates to \$65 per customer.
- An assessment of light and full regulation against the relevant requirements set out in the NGL and NGR indicate that light regulation should be applied to the QGDN.
- Light regulation will therefore better promote the National Gas Objective as it will be (at least) as effective as full regulation in promoting access to the QGDN, but at a substantially lower cost.
- There will remain a range of safeguards that will continue to apply under light regulation, including access to a dispute resolution process that is administered by the AER, a requirement for Envestra to publish any price and non-price terms of access on its website, the requirement to offer access to all users on equivalent terms and the ability for any user to seek to have full regulation reinstated if this is considered to be appropriate.
- Envestra is therefore seeking that the National Competition Council, as the relevant decision maker, makes a light regulation determination in respect of the services provided by the QGDN.

1. Introduction and Summary

1. Envestra (Qld) Ltd (Envestra) is the owner and operator of the Queensland Gas Distribution Network (QGDN). Pursuant to section 112 of the National Gas Law (NGL), Envestra is applying for a determination that the services provided by means of the covered portion of the QGDN be classified as light regulation services. In keeping with section 112(2) of the NGL, this application is made in accordance with the National Gas Rules (NGR) and contains the information required by rule 34 of the NGR.
2. An overview of the key elements of this application is provided below and explained in more detail throughout this application.

1.1. Background

3. The QGDN consists of approximately 2,700 km of distribution mains and 300 km of transmission mains and is used to distribute natural gas to customers located in the Brisbane, Northern and Wide Bay-Burnett regions of Queensland. The covered portion¹ of the QGDN, which is the subject of this application, consists of both:
 - *the Brisbane Region* – which includes 2,200km of distribution mains used to supply gas transported via the Roma to Brisbane Pipeline (RBP) to customers located in the Brisbane CBD, Ipswich and suburbs north of the Brisbane River; and
 - *the Northern Region* – which includes 300km of distribution mains used to supply gas transported via the Queensland Gas Pipeline (QGP) to customers located in Rockhampton and Gladstone.
4. The QGDN was one of the original group of pipelines identified in Schedule A of the *National Third Party Access Code for Natural Gas Pipeline Systems* (the Gas Code) and so was deemed to be a covered pipeline from the commencement of the Gas Code in 1997. It retained this status when the NGL and NGR came into effect in 2008. It has been subject to full regulation under both the Gas Code and the NGL.

1.2. Assessment framework for light regulation applications

5. Section 112 of the NGL allows a service provider to apply to the National Competition Council (NCC) for a determination that the pipeline services it provides by means of a covered pipeline be subject to light regulation. When deciding whether or not to make a light regulation determination, the NCC is required by section 122 of the NGL to consider:
 - (a) the likely effectiveness of full and light regulation in promoting access to the pipeline services that are the subject of the application; and
 - (b) the effect of full and light regulation on:
 - (i) the likely costs that may be incurred by an efficient service provider; and
 - (ii) the likely costs that may be incurred by efficient users and prospective users; and
 - (iii) the likely costs of end users.

¹ The pipelines servicing the Wide Bay-Burnett region do not form part of the covered pipeline. There are also a number of network extensions in the Brisbane and Northern regions that do not form part of the covered pipeline.

6. In doing so, the NCC is required by section 122(2) to have regard to:

(a) the National Gas Objective (NGO) set out in section 23 of the NGL, which states:

"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."

(b) the form of regulation factors set out in section 16 of the NGL, which require a consideration of:

- the market power of the service provider (sections 16(a)-(c));
- the countervailing market power that users may have when negotiating with the service provider (section 16(d));
- the ability of users to switch to an alternative energy source (sections 16(e)-(f)); and
- the ability of users to access adequate information to negotiate on an informed basis with the service provider (section 16 (g)).

(c) any other matters the NCC considers relevant.

1.3. Application of section 122 of the NGL to the QGDN

7. In keeping with the requirements of section 122 of the NGL, Envestra has carefully assessed both:

- the likely effectiveness of full and light regulation in promoting access to the services provided by the QGDN; and
- the regulatory costs that are likely to be associated with these two forms of regulation.

The key findings of this assessment are summarised below.

1.3.1. Effectiveness of light versus full regulation

8. Envestra is not in a position to exercise market power in regards to the services provided on the QGDN for a range of reasons, including that:

- natural gas is a fuel of choice;
- there are readily available substitutes for all natural gas applications, particularly from electricity and to a lesser extent liquefied petroleum gas (LPG);
- the cost of switching away from natural gas to either electricity or LPG is low in the Queensland market (given the small number of installed natural gas appliances);
- the above is problematic given the mild climate in Queensland and associated lack of heating demand (energy choice is largely determined by cooling requirements); and
- natural gas has no clear competitive advantage over either electricity or LPG in the Queensland energy market.

9. The typical Queensland residential consumer uses such a small amount of natural gas at 8 GJ per annum (being 80% less than that used by a Victorian household) that it is impossible to consider Envestra having any market power given their overall use and the ease by which they can switch away from gas.

10. The competitive position of natural gas in Queensland is expected to weaken further given the forecast increases in wholesale gas prices due to the commencement of the liquefied natural gas (LNG) export industry in eastern Australia. By way of example, the NSW Independent Pricing and

Regulatory Tribunal has recently approved increases in retail gas prices of around 20%, which increases were mainly attributable to increased wholesale gas costs in that State.

11. The challenging market position of natural gas in Queensland is reflected by the:
 - low penetration rates across the QGDN of around 15% (as opposed to a penetration rate of over 90% for our Victorian network and 75% for our South Australian network); and
 - low average customer usage, which for residential customers is around 8 GJ per year in Queensland (as opposed to average consumption of 50 GJ per year for our Victorian network).
12. This data demonstrates that customers have, and currently exercise, countervailing market power by either choosing not to connect to the QGDN, or if they do, limiting their uses/applications of natural gas. The low average usage in Queensland means that the time required to recover any costs of switching to electricity (i.e. appliance costs) are recovered over a relatively short period of time. Indeed, one third of the customer base has only a gas cooker (and no other appliance) installed in their home.
13. The large users, in particular gas retailers and large industrial customers, also have countervailing market power. With regard to the former, the market served by the QGDN is supplied by two very large retailers (Origin Energy and AGL) who have a sophisticated understanding of energy markets.² Origin Energy and AGL also have large retail electricity businesses, and in the case of Origin Energy, operate a competing LPG business.
14. The large industrial customers, particularly new industrial customers or those undergoing an expansion in operations, also have countervailing market power in that they can choose to connect to the neighbouring gas distribution or transmission network owned by the APA Group. These competing network options explain the high prevalence of unregulated customers and those regulated customers on negotiated terms on the QGDN.
15. Envestra also submits that there is significant information available in the public domain, in addition to that already held by the retailers and other large users, to facilitate an informed negotiation on the price and non-price terms of access to the QGDN. Furthermore, if the QGDN becomes subject to light regulation, the NGR requires that Envestra publish the price and non-price terms of access to the network on its website.
16. Importantly, a shift to light regulation still maintains a range of safeguards governing access to the QGDN. For example, the NGL sets out an independent dispute resolution mechanism that is triggered in the event Envestra and users are unable to negotiate access terms for the QGDN. The NGL installs the AER as the relevant dispute resolution body. The NGL also allows any stakeholder to seek to have full regulation re-applied to the network if this is considered to be appropriate.
17. The NGR also requires Envestra to:
 - report to the AER the outcomes of any access negotiations in respect of the QGDN; and
 - publish the price and non-price terms of access to the QGDN on our website.
18. For these reasons, Envestra believes that light regulation will be (at least) as effective as full regulation in terms of promoting access to the QGDN. These reasons are explained in more detail in this application.

1.3.2. Likely costs of light versus full regulation

19. Envestra has estimated that the regulatory costs associated with full regulation are likely to be \$5.2 million while the regulatory cost of light regulation are likely to be between \$0.4 million to

² Alinta Energy is the third retailer in the market. It has a far lower market share than Origin Energy and AGL, with its primary focus being on the large industrial market >10TJ pa)

\$0.8 million over a five year period (this period is chosen as it reflects the five year price setting period that applies under full regulation).

20. The difference in the expected cost of full and light regulation is therefore \$4.6 million if the mid-point in the range of costs for light regulation is used. This equates to around \$65 per customer for every five year pricing period. This is a significant and unnecessary cost impost given that Envestra has no market power on the QGDN. That is, light regulation would be as effective as full regulation in promoting access to the QGDN at a significantly lower cost.

1.3.3. Promotion of the National Gas Objective

21. The application of light regulation to the covered portion of the QGDN is consistent with the National Gas Objective. This is because it will result in greater levels of productive, allocative and dynamic efficiency than would otherwise be available under full regulation. These efficiency benefits will, in turn, ensure the lowest sustainable cost of providing the service levels that customers are willing to pay for on the QGDN.
22. This finding is consistent with the assessment against the form or regulation factors, which assessment demonstrated that light regulation will be (at least) as effective as full regulation in promoting access to the QGDN. The form of regulation factors are complimentary to the NGO, such that making a light regulation determination on the basis that the form of regulation factors are satisfied will most likely result in an outcome that better achieves the NGO.

1.4. Customer Consultation

23. Envestra consulted with key stakeholders as an important input in deciding whether to proceed with an application to the NCC for a light regulation determination. Envestra consulted with the Office of the Queensland Energy Minister, the Queensland Government, the National Competition Council (NCC), the Australian Energy Regulator (AER), the Queensland Competition Authority (QCA), the Energy Retailers Association of Australia, Origin Energy, AGL and Alinta Energy.
24. The presentation provided to retailers as part of the stakeholder consultation process is set out as Attachment A to this submission. The key issues raised at the meetings include:
 - general support for testing the merits of light regulation given the challenging characteristics of the Queensland natural gas market (although support or otherwise for our application was generally reserved until the reasons were explained in more detail in our application);
 - acknowledgement that a move to light regulation would be consistent with the objective of the Queensland government, and governments more generally, to reduce regulation where it is not warranted;
 - acknowledgement of the continual regulatory oversight provided by light regulation (as opposed to revocation), particularly as a result of the NGL installing the AER as the relevant dispute resolution body;
 - uncertainty over how a dispute resolution process would be applied in practice given a dispute has never arisen (although it was generally thought that the AER would revert to the methodologies/approaches used to apply full regulation);
 - concern as to whether retailers will seek to effectively negotiate price on behalf of their customers given that network charges are a pass through; and
 - discussion around how price and non-price terms will be set under light regulation, including what information could be provided by Envestra to assist with the negotiation process.

Envestra has sought to address these matters in this application where appropriate. To this end, the retailers raised some specific issues regarding the approach for setting price and non-price terms of access under light regulation that have been addressed in chapter 8.

1.5. Implications of a light regulation determination

25. A decision to make a light regulation determination would place a greater emphasis on commercial negotiation to set the price and non-price terms of access to the QGDN. Such commercial negotiations for pipeline services are common given:

- the current requirement to negotiate separate commercial agreements with retailers and other large users under full regulation (albeit the terms of the commercial agreements are largely consistent with the AER approved Access Arrangement);
- the requirement to negotiate commercial agreements with retailers and other large users in respect of those networks owned by Envestra that are unregulated (such as in Mildura and Wide-Bay);
- the requirement for retailers and large users to negotiate price and non-price terms of access for a range of other pipeline services as it affects their business (for example, negotiating terms in respect of pipeline assets to supply LNG export terminals or gas fired generators); and
- the general requirement for any business, including Envestra and the users of the QGDN, to negotiate contracts with third parties in respect of the multitude of inputs/outputs related to their business.

26. Importantly, any such commercial negotiations would take place against the background of the safeguards provided under the NGL and NGR. This includes:

- the requirement for the service provider of light regulation services to publish the price and non-price terms and conditions of access to those services on its website (NGR 36);
- the requirement to report to the AER (at least annually) the outcomes of any access negotiations in respect of the QGDN (NGR 37);
- access to the dispute resolution procedures set out in the NGL, which installs the AER as the independent dispute resolution body (NGL 181); and
- the ability for a person, other than the service provider, to apply to have full regulation reinstated on the QGDN (NGL 118).

1.6. Structure of this application

27. The remainder of this application is divided into the following parts:

- Part A (Background) – which outlines the legislative framework relating to the making of a light regulation determination and also addresses the specific informational requirements set out in rule 34 of the NGR;
- Part B (Application of Section 122 of the NGL) – which contains Envestra’s assessment of the effectiveness of full and light regulation in promoting access to the services provided by the QGDN and the costs that are likely to be associated with full and light regulation;
- Part C (Conclusion) – which summarises Envestra’s application regarding the merits of light regulation;
- Attachment A – which sets out the presentation provided to stakeholders;
- Attachment B – which contains an index setting out where the specific information requirements of the NGR have been provided in this application; and

- Attachment C – which contains a map of the QGDN.

1.7. Applicant's name and contact details

Applicant: Envestra Limited (ACN 078 551 685)

Website: www.envestra.com.au

Contact details: Craig de Laine
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Part A – Background

2. Legislative and Regulatory Framework

28. The regulatory framework applying to covered pipelines is set out in the NGL and the NGR, both of which came into effect on 1 July 2008. The NGL, which is set out in the Schedule to the *National Gas (South Australia) Act 2008*, is applied as a law of Queensland by application of the *National Gas (Queensland) Act 2008*. Prior to 1 July 2008, covered pipelines were subject to the regulatory framework set out in the *Gas Pipeline Access (South Australia) Act 1997* (GPAL) and the Gas Code, which were introduced in 1997.
29. This section provides an overview of:
- the different forms of regulation that can be applied to covered pipelines under the NGL and the NGR; and
 - the relevant provisions in the NGL and NGR governing the making of a light regulation determination.

2.1. Forms of regulation

30. The NGL and NGR provide for two alternative forms of regulation for covered pipelines: full regulation and light regulation. The key differences between these two forms of regulation are outlined below.
31. A service provider of a pipeline that is subject to full regulation is required by the NGR to periodically submit a 'full access arrangement' (AA) to the AER and obtain its approval for:
- the proposed price and non-price terms and conditions of access to the pipeline's reference service(s); and
 - the pipeline's queuing policy, capacity trading policy, extensions and expansions policy and the terms on which receipt/delivery points may be changed by the shipper.

When assessing a service provider's proposed full AA, the AER is required to have regard to the price and revenue regulation related provisions set out in Part 9 of the NGR, the NGO and the revenue and pricing principles set out in section 24 of the NGL.

32. Unlike the direct form of control imposed on pipelines subject to full regulation, light regulation places greater emphasis on commercial negotiation, but still provides protection primarily through the dispute resolution mechanism that is administered by the AER in the event that a commercial negotiation can not be reached between the service provider and network users.
33. For pipeline services that are subject to light regulation, the NGR requires the service provider to:
- publish the price and non-price terms and conditions of access to light regulation services on its website (NGR 36); and
 - report to the AER on access negotiations (at least annually) in the manner and form determined or approved by the AER and state the result of the negotiations and other information required by the AER (NGR 37).
34. The service provider of a pipeline subject to light regulation also has the option under section 116 of the NGL to submit a 'limited access arrangement' for approval by the AER. The key difference between a 'full access arrangement' and a 'limited access arrangement' is that a limited access arrangement only includes the non-price terms of access to the pipeline.

35. One additional obligation that a service provider of light regulation services is required to comply with is set out in section 136 of the NGL. In short, section 136 prevents a service provider from engaging in price discrimination when providing light regulation services, unless it is conducive to efficient service provision.
36. Irrespective of whether a pipeline is subject to full or light regulation, users and prospective users can have recourse to the dispute resolution mechanism set out in the NGL (Chapter 6) and the NGR (Part 12) in the event of a dispute about the terms of access. If a dispute arises, the user may notify the dispute resolution body (the AER) in writing. The AER may then require the parties to mediate, conciliate or engage in other alternative dispute resolution processes to resolve the dispute.
37. The dispute resolution process affords considerable protection to users and prospective users of light regulation services. This is because the AER has a detailed understanding of the costs of operating a gas distribution network through its role as the economic regulator of full regulation pipelines. The AER also has well established methodologies for determining the price and non-price terms of access that will most likely be used in deciding on an access dispute.
38. Other provisions that apply equally to pipelines that are subject to full or light regulation are the ring-fencing provisions set out in the NGL and the facilitation of, and request for, access rules set out in Part 11 of the NGR. Amongst other things, these provisions require service providers to:
 - make available the applicable access arrangement (where relevant) and other information to prospective users;
 - respond to any access request made by a prospective user within a defined period and provide a prospective user with information about the tariff that would apply to the service(s) sought by the prospective user (if it is commercially and technically feasible to provide that service(s)); and
 - maintain a public register of spare capacity.
39. Users and prospective users of light regulation pipeline services are therefore afforded a considerable degree of protection. This stems from the dispute resolution mechanism, the requirement to offer the same price and non-price terms of access to all users, the requirement to publish the terms of access on our website and the obligation that service providers have to make information available to users and prospective users.
40. Furthermore, section 118 of the NGL allows a person to apply to have light regulation revoked. The implication of such an application might be that full regulation will be re-instated to the pipeline services. This option could be triggered if, for example, the cost of light regulation exceeds the costs of full regulation (for example, as a result of frequent disputes between parties). This is however unlikely given the above-mentioned dispute resolution procedures and safeguards more generally.

2.2. National Gas Law

41. Section 112 of the NGL allows a service provider to apply to the NCC for a determination that the pipeline services it provides by means of a covered pipeline be subject to light regulation. The specific requirements that a service provider must adhere to when making such an application under section 112 are set out below:
 - (1) *A service provider may apply to the NCC for a determination that pipeline services provided by the service provider by means of a covered pipeline be light regulation services (a **light regulation determination**).*
 - (2) *An application must—*
 - (a) *be in accordance with the Rules; and*

(b) contain the information required by the Rules.

- (3) An application may only be made in respect of all of the pipeline services provided by means of the covered pipeline.*

42. The principles that the NCC is required to have regard to when assessing such an application are set out in section 122 of the NGL, which states:

- (1) In deciding whether to make a light regulation determination under Division 1 or to revoke a light regulation determination under Division 2, the NCC must consider—*
- (a) the likely effectiveness of the forms of regulation provided for under this Law and the Rules to regulate the provision of the pipeline services (the subject of the application) to promote access to pipeline services; and*
 - (b) the effect of the forms of regulation provided for under this Law and the Rules on—*
 - (i) the likely costs that may be incurred by an efficient service provider; and*
 - (ii) the likely costs that may be incurred by efficient users and efficient prospective users; and*
 - (iii) the likely costs of end users.*

Note—

The forms of regulation provided for under this Law and the Rules to regulate the provision of the pipeline services by means of a covered pipeline are—

- (a) making a light regulation determination so that those services become light regulation services;*
- (b) not making a light regulation determination so that those services are regulated under a full access arrangement decision that approves or makes the applicable access arrangement that applies to those services.*

(2) In doing so, the NCC—

- (a) must have regard to the national gas objective; and*
- (b) must have regard to the form of regulation factors; and*
- (c) may have regard to any other matters it considers relevant.*

43. Put simply, the application of this section of the NGL requires the NCC to consider:

- the likely effectiveness of full and light regulation in promoting access to the services provided by the pipeline that is the subject of the application; and
- the effect of full and light regulation on the likely costs that may be incurred by an efficient service provider, users and prospective users and, in turn, end users.

44. In considering these two issues, the NCC is required by section 122(2)(a) of the NGL to have regard to the NGL, which is set out in section 23 of the NGL and states:

The objective of this Law [the NGL] is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interest of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

45. The NCC is also required by section 122(2)(b) to have regard to the form of regulation factors set out in section 16 of the NGL. The form of regulation factors include:
- (a) *the presence and extent of any barriers to entry in a market for pipeline services;*
 - (b) *the presence and extent of any network externalities (that is, interdependencies) between a natural gas service provided by a service provider and any other natural gas service provided by the service provider;*
 - (c) *the presence and extent of any network externalities (that is, interdependencies) between a natural gas service provided by a service provider and any other service provided by the service provider in any other market;*
 - (d) *the extent to which any market power possessed by a service provider is, or is likely to be, mitigated by any countervailing market power possessed by a user or prospective user;*
 - (e) *the presence and extent of any substitute, and the elasticity of demand, in a market for a pipeline service in which a service provider provides that service;*
 - (f) *the presence and extent of any substitute for, and the elasticity of demand in a market for, electricity or gas (as the case may be);*
 - (g) *the extent to which there is information available to a prospective user or user, and whether that information is adequate, to enable the prospective user or user to negotiate on an informed basis with a service provider for the provision of a pipeline service to them by the service provider.*
46. Section 122(2)(c) also allows the NCC to consider any other matter it considers relevant in making a light regulation decision.
47. The manner in which the NCC has previously interpreted these provisions, including the interaction between section 122(1), the NGO and the form of regulation factors, is captured in the following extracts taken from the Gas Guide:³

The operation of s 122(1)(a)

The question in s 122(1)(a) of whether light regulation or full access arrangement regulation will be more effective in a particular case, must be informed through consideration of the national gas objective and form of regulation factors.

The consideration of the effectiveness of each form of regulation in promoting access to the particular pipeline services in the market in question is a central part of the 'with or without' analysis to be conducted. The effectiveness analysis of light regulation compared to the full regulation scenarios is guided by the economic efficiency focus of the national gas objective and degree of market power

...

The operation of s 122(1)(b)

In making a decision as to which form of regulation is appropriate in a particular situation, the Council is required under s 122(1)(b) to consider the effect that each form of regulation may have on a number of different entities, in terms of the likely costs that may be incurred by those entities.

³ NCC, Gas Guide, October 2013, pp. 79-81.

Consistent with the national gas objective, a primary issue in determining the form of regulation is to minimise the overall costs of regulation across all parties.

2.2.1. Circumstances whereby light regulation may be appropriate

48. Some insight into how policy makers intended section 122 to operate and the circumstances in which light regulation could be applied can be found in the following extract taken from the Second Reading Speech:⁴

Determining how covered pipeline services are to be regulated requires an assessment of the potential for market power to be exploited by a service provider. ... Accordingly, where light regulation can reduce the costs of regulation while still providing an effective check on a pipeline's market power, the light regulation option should be available...

The National Gas Objective and 'form of regulation factors' guide this assessment of the form of regulation to apply to covered pipeline services.

49. The following extract from the NCC's Gas Guide also provides some useful insights into the circumstances in which light regulation may be relevant:⁵

The intention in introducing this lighter form of regulation is that, through its use in appropriate circumstances, the administrative costs to the pipeline services provider and the regulator will be lower. This less intrusive form of regulation is considered to be appropriate where the market power exercised by the provider is less substantial and there is the potential for contestability for the services to emerge. It may also be appropriate where the number of access seekers is relatively small and these parties can themselves exercise some countervailing market power in the course of commercial negotiations. Further, light regulation may be an appropriate option for regulation where particular assets are in a transition towards effective competition.

2.2.2. Access Dispute Resolution

50. Chapter 6 of the NGL details the requirements for access dispute resolution. Section 178 defines an access dispute as:

... a dispute between a user or prospective user and a service provider about 1 or more aspects of access to a pipeline service provided by means of a scheme pipeline.

51. Section 181 details that the user or prospective user, not the network service provider, must notify the access dispute body (being defined in section 2 of the NGL as the AER) of an access dispute. Importantly, section 181 confirms that:

A dispute about access to a light regulation service may be notified under this section because light regulation services are pipeline services provided by means of a covered pipeline (which is a scheme pipeline).

52. Part 3 of chapter 6 details how, amongst other things, the access dispute resolution body will make an access determination. The dispute resolution body may:

- require the parties to the dispute to mediate, conciliate or engage in an alternative dispute resolution process – section 185;

⁴ South Australian Hansard 2008, 'National Gas (South Australia) Bill 2008', Legislative Assembly, pg. 2701, 9 April 2008.

⁵ NCC, Light regulation of covered pipeline services – A guide to the function and powers of the NCC under the NGL Part C, July 2011, p14.

- terminate an access dispute if it deems the notification vexatious, trivial or if the party who notified the access dispute had not entered into negotiations in good faith – section 186;
 - decide no access determination is required where it considers there is genuine competition – section 187.
53. Part 6 of Chapter 6 details the procedures to be followed for an access dispute hearing. The dispute resolution body must act speedily (section 198 (1)(b)); may require evidence or argument presented in writing or orally (section 198 (3)); and has power to compel an individual, by means of summons, to appear as a witness before the dispute resolution body (section 202). Furthermore, section 206 confirms that each party to the dispute is to bear its own costs. The dispute resolution body may however order a party to pay all or a specified amount of the other party's costs.
54. Finally, as specified in section 184(3) the dispute resolution body must make an access determination:
- in writing;
 - include a statement of reasons for making the determination; and
 - be given to the parties without delay.

2.2.3. Other relevant sections in the NGL

55. Other relevant sections of the NGL include:
- section 113 - which requires the NCC to deal with any application for a light regulation determination in accordance with the NGR;
 - section 114(1) - which requires the NCC to decide whether to make a light regulation determination within four months of receiving an application;
 - section 114(2) - which requires a light regulation determination to contain the information required by the NGR;
 - section 115 - which states that a light regulation determination will take effect 60 business days after the light regulation determination is made;
 - section 116 - which allows (but does not require) a service provider to submit a limited access arrangement to the AER for its approval under the NGR for light regulation services;
 - section 117 - which allows for a light regulation determination to be revoked on advice from the service provider; and
 - section 118 - which allows a person, other than the service provider, to apply for a revocation of a light regulation determination.

2.3. National Gas Rules

56. Rule 34 of the NGR sets out the information that must be included in a light regulation application. In accordance with this rule, the application must:
- (a) be in writing;
 - (b) identify the pipeline and include a description of the services for which the light regulation determination is sought;
 - (c) include the reasons for asserting the pipeline services should be light regulation services; and
 - (d) include any other information relied upon by the applicant in support of its application.
57. The application must also include the following information:

- the capacity of the pipeline and the extent to which that capacity is utilised;
- a description of the area served by the pipeline, including the points where natural gas is injected into the pipeline;
- an indication of any other sources of energy available to consumers of gas from the pipeline (consistent with the requirement of sections 16(e) and 16(f) of the NGL);
- the identity of parties with an interest in the pipeline and the nature and extent of that interest;
- a description of any relationships between the owner, operator and controller of the pipeline, including any relationships between such parties with either a user, a supplier or consumer of gas or owner, operator or controller of any other pipeline serving the same area; and
- an estimate of the annual cost to the service provider of regulation on the basis of light regulation and full regulation (consistent with the requirement of section 112(2) of the NGL).

58. All of the background information required by rule 34 of the NGR is provided in Part A of this application while the reasons for seeking a light regulation determination and the likely costs of full and light regulation are set out in Part B. The specific location of the information required by rule 34 is set out in Attachment A.

59. Some other relevant provisions of the NGR include:

- rule 35 - which requires the NCC to consult with the AER and also sets out the information that the NCC's light regulation determination must contain;
- rule 36 - which requires a service provider providing light regulation services to publish the price and other terms and conditions of access to light regulation services on its website;
- rule 37 - which requires a service provider to report (at least annually) on access negotiations relating to light regulation services in a manner and form determined by the AER; and
- rule 45 - which sets out what a limited access arrangement and limited access arrangement information must include, which is only relevant if the pipeline owner decides under section 116 of the NGL to submit a limited access arrangement to the AER for approval under the NGR.

3. Network Details

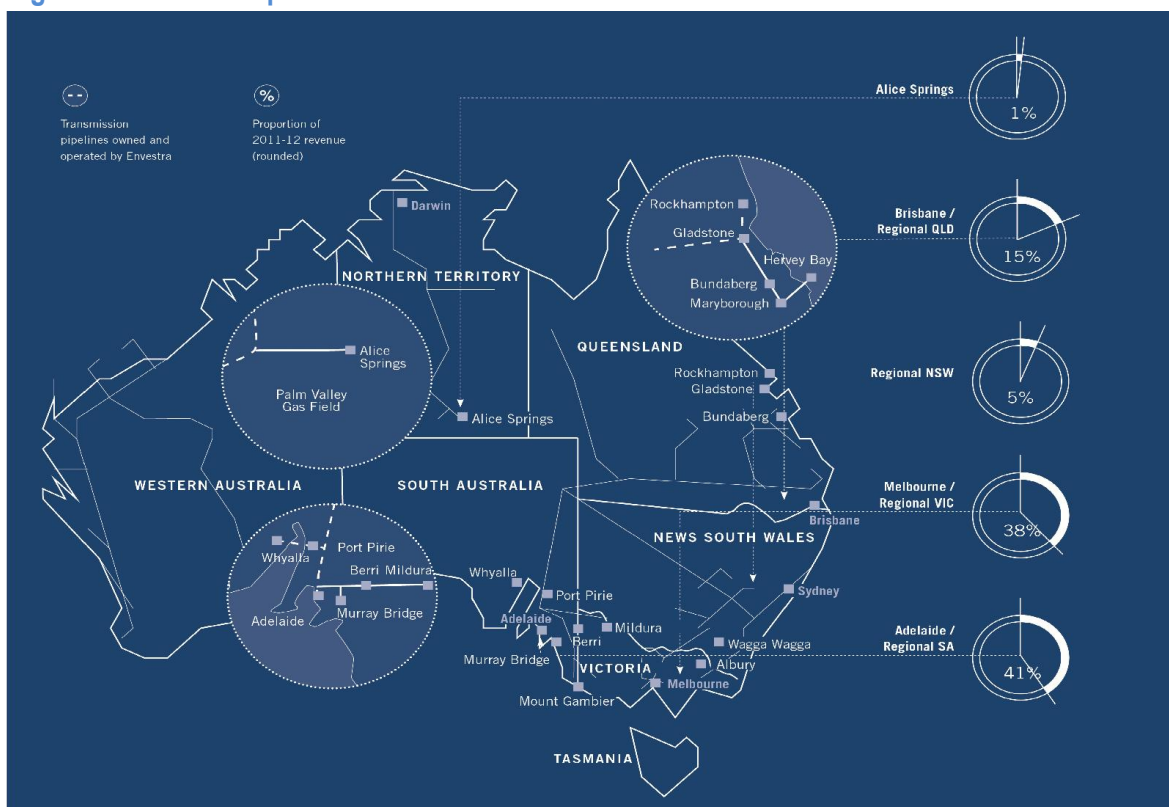
60. In keeping with the requirements set out in rule 34 of the NGR, this section of the application provides further detail on:

- the ownership and operation of the QGDN;
- the areas served by the QGDN and the points at which natural gas is injected into the network;
- the services provided by the QGDN;
- current and projected demand for the services provided by the QGDN; and
- the capacity of the QGDN and the extent to which that capacity is currently utilised.

3.1. Ownership and operation of the QGDN

61. Envestra is one of Australia's largest gas distribution businesses, servicing almost 1.2 million consumers and delivering around 120 PJ of gas across South Australia, Victoria, Queensland, New South Wales and the Northern Territory. Envestra owns approximately 23,000 km of natural gas distribution networks and 1,100 km of transmission pipelines. Figure 1 provides a snapshot of Envestra's operations.

Figure 1: Envestra operations



Data source: Envestra. 2012. Annual Report. p 26.

62. Envestra was listed on the Australian Stock Exchange in August 1997 following its demerger from the Boral group. On 7 May 2014, Envestra received an off-market takeover proposal to acquire all of the shares in Envestra from a consortium of companies comprising Cheung Kong (Holdings) Limited, Cheung Kong Infrastructure Holdings Limited and Power Assets Holdings Limited (jointly referred to as the CK Consortium).

63. The key condition for the takeover to proceed was that the CK Consortium were able to acquire at least 50.1% of the issued shares in Envestra (the CK Consortium had an existing interest of 17.5% in Envestra). On 7 August 2014, the APA Group announced that it would accept the takeover offer in respect of its 33% shareholding, which meant that the offer was made unconditional at this date. At the time of submitting this application, the CK Consortium had acquired an 88% controlling interest in Envestra.
64. The CK Consortium is part of the Cheung Kong Group (CKI), who is one of the largest listed companies on the Hong Kong stock exchange specialising in infrastructure assets. CKI also has significant interests in three electricity distribution networks in Australia – SA Power Networks (South Australia), Powercor and CitiPower (Victoria). Apart from its interest in Envestra, CKI does not have any other interests in gas pipelines or other natural gas services in Australia.

3.1.1. Outsourcing Arrangement

65. Envestra has entered into an Operating and Management Agreement (OMA) with the APA Group in respect of its gas distribution networks (including the QGDN). The services provided by APA pursuant to the OMA include:
- operating and maintaining each of Envestra's networks (including the QGDN);
 - planning, designing and constructing network extensions;
 - preparing and settling with Envestra the budget for each financial year;
 - providing Envestra with regular information on financial and other management issues; and
 - reading meters and billing retailers.
66. APA is Australia's largest natural gas infrastructure business and currently owns and/or operates more than \$12 billion of gas transmission and distribution assets across Australia. Of particular relevance in the current context are the interests APA has in:
- the Roma to Brisbane Pipeline (RBP) - which is used to transport gas to the entry point of the Brisbane region of the QGDN; and
 - the Allgas gas distribution network (through its 20% interest in Energy Infrastructure Investments) - which is located south of the Brisbane river.
67. Importantly, APA does not have any controlling influence over the operational decisions of the QGDN or the pricing and contracting decisions of this pipeline. Nor does APA have any controlling influence on the decisions made by Envestra more generally. This primarily reflects that Envestra is controlled by CKI (and, from 29 August, there will be no APA appointed directors on the Envestra Board).

3.2. Description of the QGDN

68. The QGDN is located in the Brisbane, Northern and Wide Bay-Burnett regions of Queensland. While the vast majority of the QGDN is covered, the pipelines in the Wide Bay-Burnett region and a small number of network extensions in the Brisbane and Northern regions are *not* covered. The terms and conditions of access to these unregulated parts of the network are established through negotiation and are not subject to any regulatory oversight.
69. The covered portion of the QGDN, which is the subject of this application, consists of both:
- *the Brisbane Region* - which is used to supply customers in the Brisbane CBD, Ipswich and suburbs north of the Brisbane River. This part of the covered network is supplied with gas from the RBP at gate stations located at Murarrie, Redbank and Riverview; and

- *the Northern Region* - which is used to supply customers in Rockhampton and Gladstone. This part of the covered network is supplied with gas from Jemena's Queensland Gas Pipeline (QGP) at gate stations located at Rockhampton and Gladstone.

Maps of the Queensland network are set out in Attachment B to this application.

70. Table 1 sets out the network length by pressure tier and geographic location across the covered and uncovered segments of the QGDN. As this table indicates:

- the covered portion of the network accounts for around 85% of the network (on a km basis);
- the Brisbane Region accounts for close to 90% of the covered network; and
- only 8% of the network operates at low pressure.

71. With regard to the last point, the relatively low proportion of low pressure pipes means that the majority of the network has adequate capacity to cater for materially increased utilisation at virtually no additional cost. Envestra is currently implementing a significant mains replacement program directed at converting those remaining parts of the network operating at low pressure to high pressure.

Table 1: Summary of Network Composition by Pressure Tier (km), as at 30 May 2014

| | Low Pressure <7 kPa | Medium Pressure 7-210kPa | High Pressure 210-1050kPa | Transmission Pressure >1050 kPa | Total |
|------------------------------|---------------------------|--------------------------------|---------------------------------|---------------------------------------|--------------|
| Covered pipeline | | | | | |
| Brisbane | 239 | 1,537 | 129 | 8 | 1,914 |
| Ipswich | 14 | 241 | 47 | 1 | 303 |
| Rockhampton | | 224 | 8 | 1 | 233 |
| Gladstone | | 56 | | | 56 |
| Total Covered | 252 | 2,058 | 184 | 10 | 2,506 |
| Uncovered | | | | | |
| Coominya | | | 21 | | 21 |
| Grantham | | | 5 | | 5 |
| Bundaberg | | 55 | 7 | | 62 |
| Maryborough | | 23 | 33 | | 56 |
| Hervey Bay | | 49 | 10 | | 58 |
| Wide Bay Pipeline | | | | 275 | 275 |
| Total Uncovered | 0 | 127 | 76 | 275 | 477 |
| Covered and Uncovered | | | | | |
| Total | 252 | 2,186 | 260 | 285 | 2,983 |

3.3. Pipeline services

72. The light regulation determination sought under section 112 of the NGL applies to pipeline services, rather than the pipeline itself. A pipeline service is defined in section 2 of the NGL as:

- (a) a service provided by means of a pipeline, including:
 - a haulage service (such as firm haulage, interruptible haulage, spot haulage and backhaul);
 - a service providing for, or facilitating, the interconnection of pipelines; and
- (b) a service ancillary to the provision of a service referred to in paragraph (a), but does not include the production, sale or purchase of natural gas or processable gas.

73. The services provided by Envestra are set out in section 2 of the approved 2011-2016 Access Arrangement for the Queensland network.⁶ These services include:

- three Haulage Reference Services – separate haulage services are available for domestic, commercial and demand customers. Demand customers are non-domestic customers that consume 10 TJ or more in the most recent metering year;
- three Ancillary Reference Services – these services include special meter reading,⁷ disconnection and reconnection services; and
- Negotiated Services – these are services that are requested by a user that cannot be classified as either a Haulage Reference Service or an Ancillary Reference Service.⁸

74. The Haulage Reference Service includes the associated services of odourisation, provision and maintenance of metering equipment, scheduled meter reading and related services.

3.4. Current consumption

75. The QGDN (excluding the Wide Bay/Burnett network) delivered 15PJ of gas to just over 90,000 end users in 2013/14. A breakdown of the gas consumed in 2013/14 by customer segment is provided in Table 2.

Table 2: Customer Segmentation – 2013/14 Actual Data

| Segment | Customers | Volume Delivered (PJ) | Revenue (\$M) |
|----------------------------------------------|---------------|-----------------------|---------------|
| Residential | 86,941 | 0.7 | 30.0 |
| Commercial (<10TJ) | 4,777 | 1.4 | 25.5 |
| Industrial – Regulated (>10TJ) | 48 | 2.7 | 13.9 |
| Industrial – Negotiated (>10TJ) ^a | 11 | 0.6 | 3.8 |
| Industrial - Unregulated (>10TJ) | 4 | 9.8 | 1.0 |
| Total | 91,781 | 15.2 | 74.1 |

^a These customers have negotiated terms and conditions different to that provided under the standard regulatory terms. These customers are also referred to as “Term Sheet” customers.

76. The residential segment accounts for the largest number of connected customers. Unlike Envestra’s other distribution networks, the non-domestic segment accounts for the majority of revenue recovery.

⁶ A copy of the Queensland Access Arrangement can be obtained from Envestra’s website at: <http://www.envestra.com.au/our-business/regulation/access-arrangements/>

⁷ Meter reads that are in addition to the scheduled meter reads.

⁸ Note that negotiated services are not regulated.

This primarily reflects the low penetration rates and average usage of residential customers in Queensland. Further detail on this customer segment and the commercial and industrial segments is provided below.

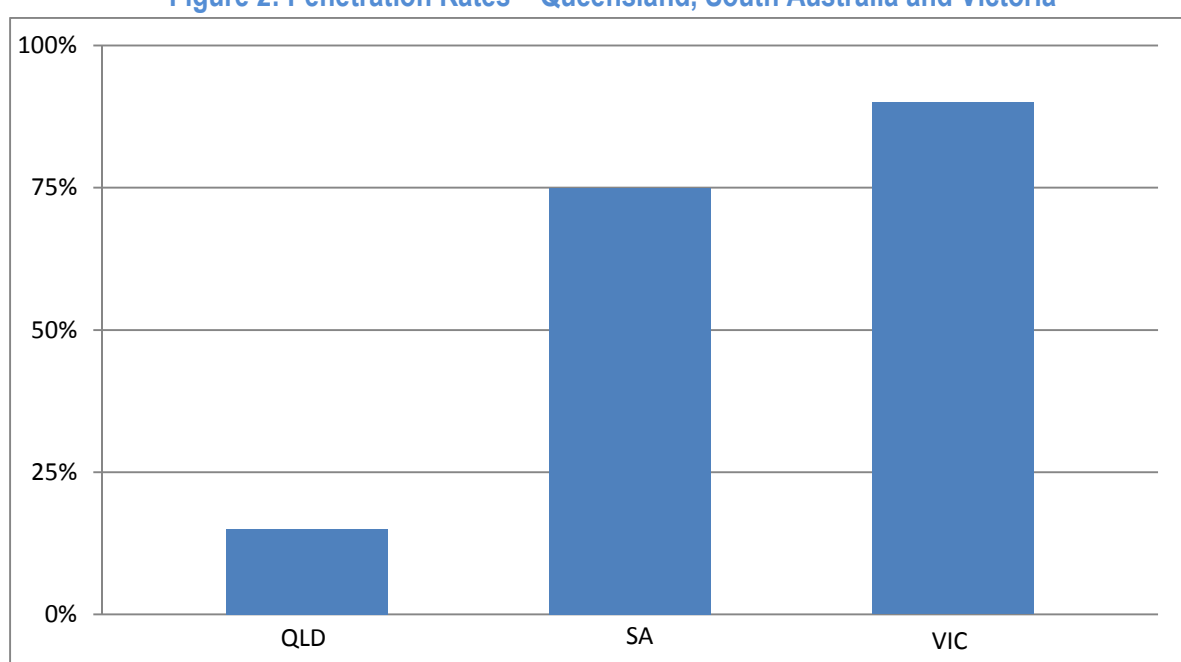
3.4.1. Residential customers

77. This section discusses the penetration rates, average usage and appliance choice of residential customers in Queensland.

Penetration of gas

78. The penetration of gas in the residential segment of the Queensland market is much lower than other jurisdictions. The penetration rate⁹ across the entire QGDN is around 15%, which penetration rate is very low when compared with penetration rates of around 90% in Victoria and 75% in South Australia (see Figure 2).

Figure 2: Penetration Rates – Queensland, South Australia and Victoria



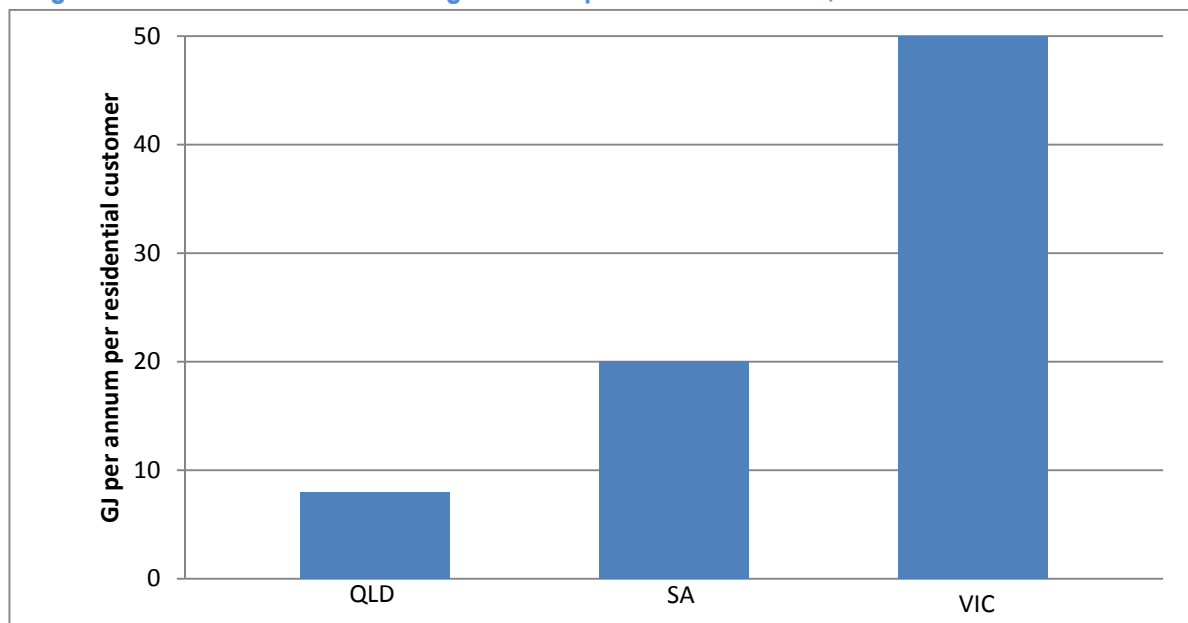
Average consumption

79. In addition to having a relatively low penetration rate, residential customers in Queensland, on average, consumed 8GJ p.a. in 2013/14.¹⁰ Figure 3 shows that this average consumption is also substantially lower than the average consumption of residential customers in Victoria (50GJ p.a.) and South Australia (20GJ p.a.)

⁹ The penetration rate measures the proportion of households that are connected to gas.

¹⁰ In 2012/13 average consumption was around 8.8 GJ p.a.

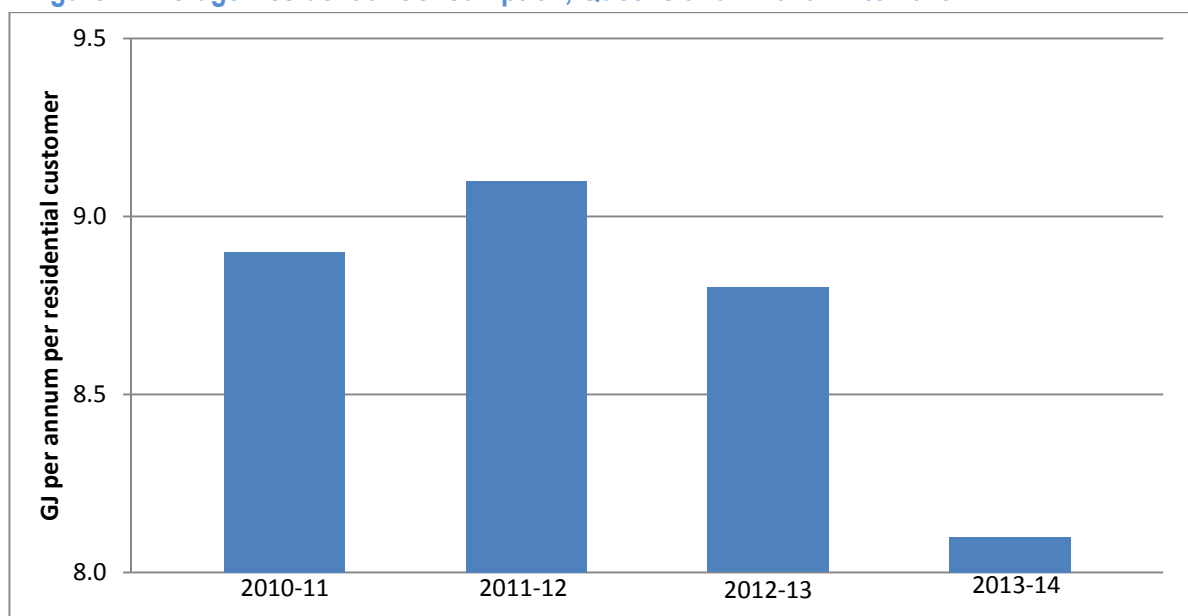
Figure 3:Residential annual average consumption – Queensland, South Australia and Victoria



The lower levels of average consumption observed in Queensland reflects the milder climate in this state, which has a significant influence on appliance use and, in particular, space heating.

80. Of particular concern is the observed downward trend in average residential consumption in Queensland, which has decreased by almost 10% over the four year period to 2013/14 (see Figure 4). This trend decline is attributed to a range of factors, including continuous improvements in energy efficiency (appliance efficiency and building thermal efficiency), customer appliance preferences (electric reverse cycle air conditioning instead of gas space heating) and the significant installation of solar equipment in recent years.

Figure 4:Average Residential Consumption, Queensland – 2010-11 to 2013-14



81. The decline in average consumption also reflects the effect of government policies. For example, Federal Government greenhouse gas abatement policies have generally been geared towards solar electric, or other low use electric solutions (e.g. heat pump hot water systems). Government support

generally comes in the form of a rebate or Small-scale Renewable Energy Scheme (SRES)¹¹ certificates.

82. These forms of government policy support reduce the upfront capital cost of installing electric appliances to be equal to or less than the capital costs associated with a gas appliance. As an example, the Energy Networks Association (ENA) calculates that the cost of a hot water electric heat pump drops by \$1,100 with the assistance of the SRES. This drops the capital cost of the heat pump hot water system to be the same as a gas instantaneous unit¹².
83. There has also been a more overt policy shift away from supporting natural gas in Queensland, with the State Government in February 2013 removing a requirement to replace failed electric storage hot water units with low greenhouse gas intensity hot water units. Under the previous policy, which policy had existed for seven years from March 2006, many customers elected to connect a natural gas hot water unit as it provided the cheapest and fastest form of policy compliance.
84. The Federal Government's continued support of electric appliances and the Queensland Government's removal of the electric storage hot water ban have combined to provide a further disincentive for prospective customers to connect to the QGDN and/or for existing customers to install an additional natural gas appliance. This negatively affects throughput which, in turn, raises the unit cost of transporting gas through the QGDN (thereby providing a further disincentive to use natural gas).
85. The competitive position of natural gas will be further challenged by the expected increase in east coast domestic wholesale gas prices from approximately \$3-\$4 per GJ to \$12-\$14 per GJ by 2020.¹³ This more than three-fold increase in wholesale gas prices will lead to increases in retail gas prices, which in-turn will lead to further reductions to gas demand (and precipitate a further shift to electricity). These effects are expected to be felt more acutely in Queensland given:
 - the close proximity of Queensland's domestic gas market to the LNG export terminals that are being developed in Gladstone; and
 - electricity generation in Queensland is dominated by coal, so electricity prices are relatively impervious to shifts in the price of wholesale gas.
86. There are a range of other current and emerging pressures on the average consumption of residential customers, including:
 - further substantial increases in renewable generation – a high penetration of 'green' electricity reduces the environmental driver for customers to adopt natural gas;
 - emergence of new technologies – including continual technological improvements in distributed generation, battery storage and electric vehicles (which might reduce the unit price of electricity by resulting in a step change in volumes);
 - further increases in the penetration rates of reverse-cycle air-conditioners – which reduces the up-front cost of switching from gas to electricity; and
 - a move to cost reflective electricity network prices – in areas with a peak summer load, such as Queensland, electricity tariffs would increase during peak times in summer and decrease in off-peak times like winter (i.e. during periods of peak (winter) gas demand).

¹¹ Each eligible appliance generates a SRES certificate, which certificate can be surrendered by the owner in exchange for a monetary benefit, usually in the form of a discount to the capital cost of the appliance.

¹² ENA *Response to the Review of the Renewable Energy Target*, 16 May 2014 - Table 1

¹³ AEMO *op. cit.* table 1-1

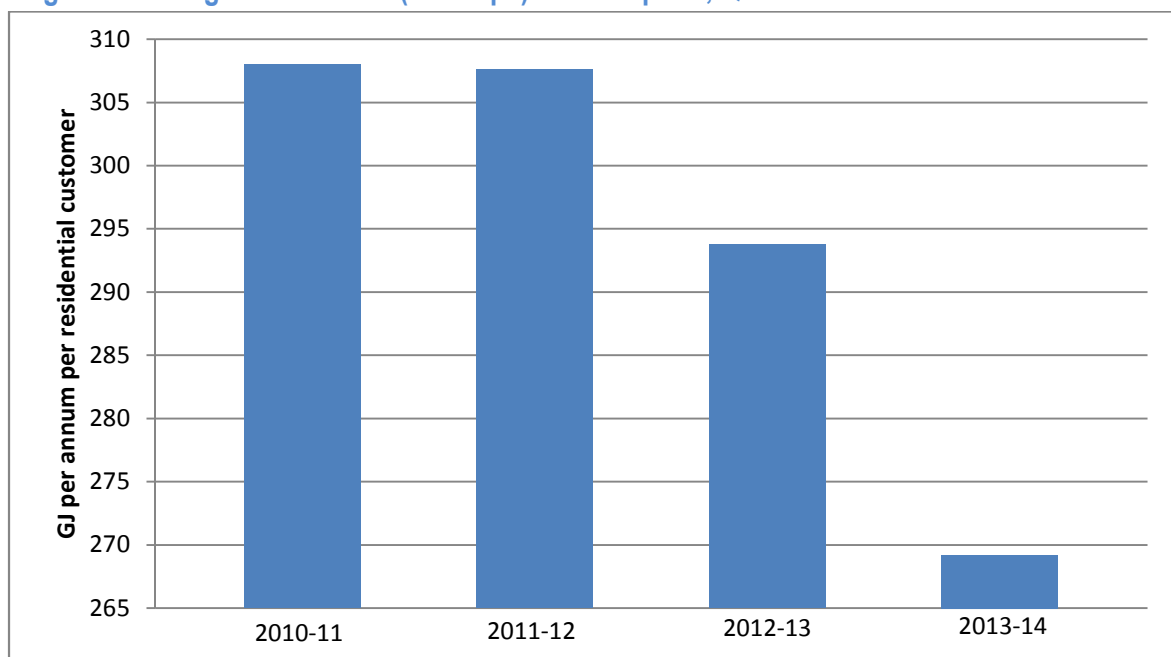
Appliance use

87. The most common gas appliances used by the residential segment in Queensland are cookers and water heaters. Envestra estimates that approximately a third of all residential customers have only a gas cooker. This is an important consideration for Envestra when setting prices because it is far easier for customers to move away from gas when only one appliance needs to be changed (as the time required to recover the depreciated appliance cost is low).
88. Gas consumption for space heating in winter generally underpins the competitive advantage of gas over electricity and LPG. In Queensland however the connection rates for space heating are very low due to the mild winter temperatures in that State compared to other jurisdictions. The resultant low throughput on the network mitigates the price advantage natural gas has over alternate energy sources.
89. Without the need for gas space heating that exists in other markets, Queensland domestic consumers have full discretion as to whether they connect to the gas network or not. Customers with only one appliance can also disconnect from the network relatively easily.

3.4.2. Commercial and industrial customers

90. Commercial (<10TJ p.a.) customers range from small retail premises to light industrial facilities. Consistent with the residential segment, the average consumption of commercial customers has declined by 13% over the four years to 2013/14 (see Figure 5). The drivers of this observed trend decline in average consumption are similar to that explained in the previous section for residential customers.

Figure 5: Average Commercial (<10TJ pa) Consumption, Queensland – 2010-11 to 2013-14



91. There are also several large industrial customers consuming greater than 10 TJ p.a., including hotels, hospitals and large industrial facilities such as plaster board manufacturers and beef processing facilities. This customer segment has been under substantial pressure over the past 10 years due to the ongoing de-industrialisation of the Australian economy. For example, the recent announcement of the shutdown of the BP Refinery will lead to a 66% reduction in throughput on the QGDN.

92. More recently, the impact of the LNG export industry on wholesale gas prices is placing further pressure on the manufacturing sector and large users more generally. For example, Stanwell has recently announced the closure of the Swanbank Generator for three years due to its assessment that it would be more profitable to sell its gas for export rather than use that gas to generate electricity.

3.5. Capacity Utilisation

93. Table 3 sets out peak daily flows across the gate stations serving the QGDN compared with their design capacity.

Table 3: Peak Day Capacity Utilisation

| Gate Station | Average Flow (m ³ /h) | Capacity (m ³ /h) | Average Utilisation (%) |
|--------------------------------|----------------------------------|------------------------------|-------------------------|
| Murarrie ^a | 56,588 | 75,600 | 75% |
| Riverview | 2,019 | 4,100 | 49% |
| Pinkenba Subgate Station | 19,032 | 35,000 | 54% |
| Rockhampton North | 775 | 1,800 | 43% |
| Rockhampton South | 210 | 500 | 42% |
| Gladstone | 187 | 500 | 37% |
| Wide Bay – Yarwun ^b | 664 | 5,000 | 13% |
| Bundaberg ^b | 387 | 1,200 | 32% |
| Maryborough ^b | 734 | 1,800 | 41% |

^a Note with the BP shutdown this will drop significantly ^b Uncovered pipelines

94. There is sufficient gate station capacity to meet the current peak day demand and Envestra expects to meet the projected future daily peak flows without the need to augment gate stations. This will be further facilitated by the closure of the BP refinery in 2015, which will see peak day flow through the Murarrie gate station drop to approximately 25% of available capacity.

4. Retailers and Alternative Sources of Energy

95. This section provides further detail on:

- the retailers currently utilising the QGDN; and
- the alternative sources of energy available to gas consumers.

4.1. Retailers

96. Full gas retail contestability and retail price deregulation were introduced in Queensland in 2007. There has however been limited entry into the Queensland retail gas market since this time, with just two new entrants, AGL and Alinta Energy, currently participating in the market.
97. The Brisbane market is supplied by Origin Energy, AGL and Alinta Energy while the Northern market is supplied by Origin Energy. The proportion of customers and volumes supplied by Origin Energy, AGL and Alinta Energy are set out in Table 4, which shows that Origin Energy accounts for the largest proportion of customers and volumes delivered through the QGDN. Origin Energy and AGL supply gas to all segments of the market while Alinta Energy only serves several large industrial customers.

Table 4: Retailer Breakdown

| | Customers (%) | Volume Delivered (%) |
|---------------|---------------|----------------------|
| Origin Energy | c-i-c | c-i-c |
| AGL | c-i-c | c-i-c |
| Alinta Energy | c-i-c | c-i-c |

98. The limited entry that has occurred since the introduction of full gas retail contestability and gas retail price deregulation is not surprising given:
- the small size of the Queensland retail market - which is estimated to be about 2% of the 670PJ of gas consumed by the eastern Australian gas market;
 - the fixed costs associated with gas supply and transportation - which when coupled with the relatively small size of the market, can place a cap on the number of retailers that can efficiently supply the market; and
 - the development of LNG export facilities in Queensland - which has made it more difficult for retailers and other buyers to secure competitively priced long-term gas supply contracts for Queensland.¹⁴

4.2. Alternative sources of energy

99. The QGDN competes with other fuels for the delivery of energy to end users. Electricity and LPG are the two main alternative energy sources for natural gas end users in Queensland. Gas appliances in the residential and small business segments can be readily substituted with an electric or LPG equivalent at a low cost to customers given the low number of gas appliances used.
100. In the large industrial sector, where natural gas is often used for process heat, industrial customers may be able to use electricity, LPG, diesel or coal as an alternate fuel source. Other options that are available to many of the large industrial customers, particularly new customers or existing customers undergoing significant plant upgrade/renewal, include connecting to either:
- the adjacent transmission pipelines (i.e. either the RBP in Brisbane or the QGP in Rockhampton and Gladstone); or
 - for customers located in the Brisbane region, connecting to the neighbouring Allgas gas distribution network.

4.2.1. Electricity

101. Electricity is a readily available and low cost substitute for all natural gas applications because it can be used for cooking, water and space heating. Moreover, and unlike gas, electricity is not a discretionary fuel and has a 100% penetration rate. Importantly, and unlike in other jurisdictions, natural gas has no clear competitive advantage over electricity in Queensland, which position is expected to worsen given the projected increases in wholesale gas costs.
102. Independent Economics and Frontier Economics were engaged by AEMO to produce projections of wholesale gas costs.¹⁵ The projections suggest wholesale gas prices will increase by 33% by

¹⁴ See for example, Department of Energy and Water Supply, Gas Market Review Queensland, 2012, p.38 and The Australian, Clash looms as supply contracts unsecured, 19 January 2013.

¹⁵ Independent Economics and Frontier Economics *Economic and Energy Market Forecasts* May 2014

2015/16 and remain at that level thereafter.¹⁶ An increase of 33% to the wholesale gas cost translates to an increase of around 10%¹⁷ in retail gas prices for small users (the increases will be higher for larger commercial and industrial users because the wholesale cost of gas accounts for a much larger proportion of their total bill).

103. The weakening competitive position of natural gas in Queensland is a significant concern to Envestra given that gas is a fuel of choice. This issue is compounded in Queensland where mild climatic conditions have limited penetration rates and gas usage. The ability for consumers to switch to alternate energy sources such as electricity is heightened in Queensland given that switching costs are low (as a result of low appliance use) and gas does not have a clear competitive advantage over electricity.

4.2.2. Liquefied Petroleum Gas (LPG)

104. LPG in cylinders and refills are supplied in Queensland by four major LPG cylinder retailers (Elgas, Supagas, Origin Energy and LPGenius), suggesting there is an active market in this fuel.
105. Whilst in many respects LPG can be a direct substitute for natural gas, it cannot be comingled in the same pipe as natural gas because it has different physical characteristics that, in high concentrations, will alter the heating value of the gas. These different physical characteristics mean that natural gas appliances must be converted, or new appliances purchased, in order to use LPG. The cost of conversion has been estimated at approximately \$300 per appliance.
106. The key concern in the Queensland market is not necessarily customers switching to LPG, but choosing to use LPG instead of connecting to the QGDN. This reflects a number of factors, including the lack of heating load in Queensland and the resultant low appliance use of customers. As noted earlier, around a third of customers on the QGDN use a cooker only. These are 'legacy' customers that could otherwise choose LPG if deciding to connect to gas in the current market.
107. Also of concern is that, like electricity, natural gas has negligible (if any) competitive advantage over LPG. As with electricity, and explained earlier in this application, this position is expected to worsen given the projected increases in wholesale gas prices. Unlike the natural gas market, the domestic market for LPG is already exposed to the international market and so local LPG prices already reflect global prices

¹⁶ Ibid. page 158 chart A.15

¹⁷ Assumes wholesale gas costs make up 30% of a residential and small commercial users total gas invoice

Part B – Assessment Against Section 122 of the NGL

5. Effectiveness of light and full regulation

108. The first matter that the NCC is required by section 122(1)(a) of the NGL to consider when making a decision on the form of regulation is the likely effectiveness of full and light regulation in promoting access to the services provided by the pipeline.
109. The critical question posed by this section is whether light regulation would be at least as effective as full regulation in promoting access to pipeline services. If the answer to this question is yes, and the costs of light regulation are lower than full regulation, then it will be appropriate to apply light regulation.
110. Whether or not light regulation will be as effective as full regulation in promoting access will depend on whether the service provider and users (existing or prospective) are able to negotiate effectively under light regulation. That is, will the service provider and users be able to negotiate outcomes that are in the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas. This will in turn depend on:
- the extent of market power of the service provider (form of regulation factors (a)-(c));
 - the countervailing market power that users may have when negotiating with the service provider (form of regulation factor (d));
 - the extent to which users can switch to an alternative energy source (form of regulation factors (e)-(f)); and
 - whether users can access adequate information to negotiate with the service provider on an informed basis (form of regulation factor (g)).
111. The effectiveness of light regulation in promoting access to the QGDN relative to full regulation will also depend on:
- how effective the access dispute provisions are likely to be in resolving an access dispute;
 - how effective other obligations on light regulation service providers are likely to be (e.g. the requirement to publish the price and non-price terms of access and the prohibition on price discrimination); and
 - the cost of implementing light regulation versus full regulation.
112. These issues are explored in further detail in the remainder of this section, which commences with an assessment of the form of regulation factors set out in section 16 of the NGL.

5.1. Form of regulation factors

113. This section addresses the seven form of regulation factors set out in section 16 of the NGL.

5.1.1. Factor (a): *Presence and extent of barriers to entry*

114. Form of regulation factor (a) requires consideration to be given to whether barriers to entry may act as a potential source of market power for Envestra. Barriers to entry refers to a situation where there are certain factors that prevent market entry, including:

- significantly lower costs (referred to as economies of scale) available to the incumbent (or established) firm due to the large (sunk) capital investment required to supply the market; and/or
 - strong consumer preferences for the particular products offered by the incumbent firm.
115. With regard to the first point, the regulatory asset base of the QGDN was valued at around \$390 million as at 30 June 2014. The nature of the large sunk investment means that there are economies of scale available to Envestra, as the owner of the QGDN, which would not be available to a new entrant seeking to replicate part of the network. It is therefore highly unlikely that any party would seek to enter the market given the cost advantage Envestra has.
116. With regard to the second point, and of importance to this application, is that consumers do not have strong preferences for the services provided by the QGDN. Given this, the presence of barriers to entry due to economies of scale should not be interpreted as Envestra having a significant degree of market power. This is because there are a number of other competitive factors that will offset any market power that may otherwise have arose from having barriers to entry.
117. For example, our competitors have offered a substitute fuel in LPG rather than seek to replicate the QGDN. There are relatively low infrastructure costs associated with the supply of LPG to customers. Likewise, new or existing gas consumers can choose to substitute their gas appliance installations for their electric equivalent, where switching costs are low given the low appliance use of existing customers.
118. Finally, industrial customers looking to locate in the Brisbane Region could locate their facilities in either the area serviced by the QGDN, the Allgas gas distribution network or connect directly to the RBP.¹⁸ In relation to the latter, it is worth noting that even if the customer was located in the QGDN distribution area, it could still bypass the QGDN by funding its own pipeline extension to connect to the RBP, in effect duplicating that part of Envestra's distribution network.

5.1.2. Factor (b): Network externalities between gas services provided by the service provider

119. Form of regulation factor (b) requires consideration to be given to whether there are any network externalities (or interdependencies) between the natural gas services provided by Envestra in the QGDN with any other natural gas service provided by Envestra.
120. The manner in which the NCC has previously interpreted this factor is set out in the following extract:¹⁹

...network externalities or interdependencies may be more apparent for gas distribution pipelines. Where strong network externalities or interdependencies and any-to-any supply characteristics operate to strengthen the market power of service providers, a more restrictive form of regulation is likely to be warranted.

*However, this may not necessarily apply in all cases. Market power may not exist in areas where the supply of natural gas has recently been introduced. Further, even in large gas markets, **where rates of connection and/or average usage is low, then the unit cost for the provision of natural gas may be sufficiently high that competition from alternative energy sources provides an effective constraint on market power.** In either*

¹⁸ Large industrial customers in the Northern Region would have the option of connecting directly to the QGP.

¹⁹ NCC, Light regulation of covered pipeline services, July 2011, p 44

situation, as the market power would be low, so the network externalities or interdependence are also likely to be low. [emphasis added]

121. With regard to the above, Envestra notes:

- *Penetration rate and average consumption:* As noted in section 3.4.1, there are very low penetration rates and average consumption across the QGDN, which is in stark contrast to our Victorian and South Australian networks. This reflects the relatively mild climate in Queensland with correspondingly low space heating requirements (any heating requirements are generally met by electric reverse cycle air-conditioning).
- *Competitiveness of alternative energy sources:* The combination of low penetration rates and low average consumption combine to drive up the unit cost for the supply of natural gas in Queensland. It is therefore not surprising that natural gas has no clear competitive advantage over electricity and LPG in Queensland (see section 4.2), or that electricity and LPG play an important role in constraining Envestra's behaviour.

122. In summary, the QGDN is characterised by low penetration, low average consumption and relatively high unit costs of supply, which has led to strong competition from electricity and LPG. This is the exact scenario referred to by the NCC in the above extract. Given this, there is no market power arising from any network externalities relating to the services provided by Envestra across the QGDN.

5.1.3. Factor (c): Network externalities between gas and other services provided by service provider

123. Form of regulation factor (c) requires consideration to be given to whether there are any network externalities between the pipeline services provided by the QGDN and any other services Envestra provides that may provide an additional source of market power.

124. In terms of Envestra's interests in Queensland, Envestra does not own, retail or consume any of the gas that flows through the QGDN. Nor does Envestra have any interests in the transmission pipelines used to supply the QGDN, or the electricity networks in Queensland. Outside of Queensland, Envestra has interests in a number of natural gas distribution networks and small transmission pipelines located in South Australia, Victoria, regional NSW and the Northern Territory.²⁰ These assets are however geographically remote and operationally separate from the QGDN.

125. Given this, there are no network externalities between the services provided by Envestra on the QGDN and any other related services provided by Envestra, including services that are either directly related to gas distribution or in any other dependent market (particularly retail services).

5.1.4. Factor (d): Countervailing market power of users

126. Form of regulation factor (d) requires consideration to be given to the extent to which any market power possessed by Envestra is, or is likely to be, mitigated by any countervailing market power possessed by a user (existing or prospective) of the QGDN. The term countervailing market power

²⁰ Of the distribution networks that Envestra has an interest in:

- the South Australian, Victorian and Albury networks are all subject to full regulation, which means that any market power associated with the ownership of these networks is effectively constrained; and
- the Northern Territory and Wagga Wagga networks are not covered, which is indicative of the fact that Envestra does not have any market power in these markets.

refers to the ability of users to counter any market power a service provider may possess when negotiating the price and non-price terms of access, which will depend on the following types of factors:²¹

- the ability of the user to credibly threaten to bypass the service provider, either by accessing a competing source of supply or by switching to an alternative energy source; or
- where the cost and demand circumstances are such that the service provider would be adversely affected by the failure of users, or a group of users, to take supply.

127. These issues are explored in further detail below for each key user group.

5.1.4.1 Large and concentrated users – retailers

128. As discussed in section 4.1, there are currently three gas retailers operating in the areas supplied by the QGDN: Origin Energy, which accounts for █% of the customer base, AGL, which accounts for █% and Alinta Energy with a small number of large industrial customers. The discussion in this section focuses on Origin Energy and AGL given they supply the majority of the market (each of whom would have sufficient countervailing market power on their own).

129. Envestra submits that both Origin Energy and AGL have sufficient countervailing market power for the following reasons:

- Origin Energy and AGL are both large businesses with a sophisticated understanding of energy markets, with both retailers involved in activities including gas exploration and production, electricity generation, energy retailing and, in Origin Energy's case, LNG export facilities and associated gas pipelines;²²
- Origin Energy and AGL have both owned and/or operated gas distribution and transmission networks and can therefore utilise that knowledge in negotiations (thereby limiting the degree of information asymmetry). Origin Energy was the operator of Envestra's gas distribution network, including the QGDN, prior to APA;
- Origin Energy and AGL are retailers in other markets where Envestra is the gas distributor (including in unregulated markets), thereby providing information on the cost drivers and general direction of price paths for those networks that continue to be subject to full regulation; and
- Origin Energy and AGL are both able to offer alternative energy sources to their customers given they retail both gas and electricity, and in Origin Energy's case, LPG. Critically, Origin Energy and AGL can also facilitate the transition away from gas given each retailer has an appliance installation business and direct communication channels with their customers.

130. Importantly, entering into commercial negotiations is commonplace for businesses such as Origin Energy and AGL (and large users more generally). For example, Envestra notes:

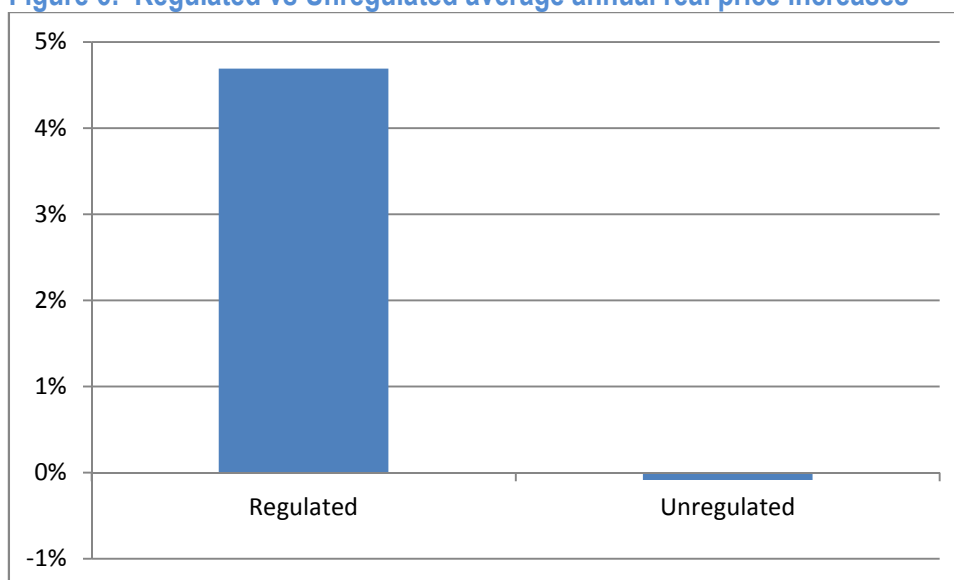
- the current requirement to negotiate separate commercial agreements with retailers and other large users under full regulation (albeit the terms of the commercial agreements are largely consistent with the approved Access Arrangement);

²¹ Some of these points were recognised by the MCE's Expert Panel, See Expert Panel on Energy Access Pricing, Report to the Ministerial Council on Energy, April 2006, p 49.

²² In terms of size, Origin Energy is seven times and AGL is four times larger than Envestra on a market capitalisation basis.

- the requirement to negotiate commercial agreements with retailers and other large users in respect of those networks owned by Envestra that are unregulated (such as in Mildura and Wide-Bay);
 - the requirement for retailers and large users to negotiate price and non-price terms of access for a range of other pipeline services as it affects their business (for example, negotiating terms in respect of pipeline assets to supply LNG export terminals or gas fired generators); and
 - the general requirement for any business, including Envestra and the users of the QGDN, to negotiate contracts with third parties in respect of the multitude of inputs/outputs related to their business.
131. A comparison of recent price changes across Envestra's regulated (covered) and unregulated (uncovered) networks provides an indication of the extent of countervailing market power that currently exists. To this end, evidence of relatively low price outcomes in non-regulated markets would suggest that there is countervailing market power, or alternatively there is a desire to exercise any countervailing power that might exist (and vice versa for high price outcomes).
132. Envestra has covered gas distribution networks that are subject to full regulation in South Australia, Queensland, Victoria and Albury. The Wagga Wagga network was covered up until April 2014 when the NSW Energy Minister revoked coverage of the network (Envestra has included the historic Wagga Wagga price outcomes under full regulation in the comparison). The uncovered gas distribution networks used in this analysis are located in Mildura, the Northern Territory, regional NSW and regional Queensland (including the Wide-Bay Burnett network).
133. Figure 6 compares the average annual price increases across Envestra's regulated and unregulated networks. The average regulated price increases are determined for the regulatory period corresponding to the most recent AER decision for that network. The average unregulated price increases are determined over an equivalent period for each jurisdiction. As this figure shows, prices on unregulated pipelines have fallen in real terms by 0.1%, while prices on regulated pipelines have risen in real terms by 4.7%.

Figure 6: Regulated vs Unregulated average annual real price increases



134. The lower unregulated price outcomes that have been achieved supports a conclusion that retailers:
- currently have countervailing market power; and

- are willing to exercise that market power in any negotiations over the price of access to our unregulated networks.

5.1.4.2 Large and concentrated users – large industrial

135. Other large end users (i.e. large industrial customers) are also expected to have countervailing market power. This is particularly the case for new, or existing customers that are undergoing significant expansion, because they can locate in either the area serviced by the QGDN or the neighbouring Allgas distribution network (see section 5.1.1). They can also choose to connect directly to the RBP if located in the Brisbane region or the QGP if located in the Northern Region.
136. The ability to bypass the QGDN means that these users can exert a significant degree of countervailing market power when negotiating access to the QGDN. The size of the large industrial customers is such that any decision to locate on the competing pipelines that are adjacent to the QGDN would have material adverse consequences on the demand, and hence revenue recovered by Envestra. For example, the recent announcement to close the BP Refinery in Queensland will reduce throughput on the QGDN by around 66%.
137. Envestra therefore expects that the larger commercial and industrial users will be able to effectively negotiate price and non-price terms of access to the QGDN. Indeed, the competitive environment surrounding the QGDN means that such negotiations are already commonplace (see Table 2). That aside, and as noted in the previous section, large industrial customers will benefit from the terms negotiated by retailers on behalf of their customers (which terms will be available on our website).

5.1.4.3 Small end-users

138. Small end-users supplied by the QGDN (e.g. residential customers and small commercial customers) also have countervailing market power because all small gas appliances (i.e. hot water, cooktops, ovens, space heaters) are perfectly substitutable by electricity or LPG. This countervailing power is further strengthened by the fact that:
 - natural gas does not have a clear competitive advantage over electricity or LPG (unlike in other states);
 - one third of domestic customers have a cook top only, making it very easy to disconnect from the QGDN altogether (i.e. switching costs for existing customers of the QGDN are low); and
 - retailers have well established communication channels and existing appliance replacement businesses to easily facilitate the switch away from gas.
139. The countervailing power possessed by small end-users is significant and presents a threat to Envestra because this group of customers accounts for the largest proportion of Envestra's revenue in Queensland. Any disconnections would act to increase tariffs (as fixed costs have to be recovered from a smaller customer base), which would further discourage usage and so on (this is commonly referred to as a 'death spiral').
140. Envestra submits that small users therefore have, and are currently exercising, countervailing market power, which is evidenced by the very low penetration rates and average consumption of this customer cohort. That is, small users are either deciding not to connect to the network (reflected by the low network penetration rates) or when they do, installing few appliances (reflected by low the average usage).

5.1.4.4 Summary on countervailing market power

141. Envestra submits that users of the QGDN have countervailing market power, which is reflected in the outcomes achieved either in other unregulated markets or on the QGDN. In particular:
- Retailers are large businesses with a sophisticated understanding of network costs, which is reflected by the relatively low price outcomes that they have negotiated with Envestra on our unregulated networks;
 - Large users have options to bypass the QGDN by connecting to the neighbouring Allgas distribution network, the RBP or the QGP depending on where they are located; and
 - Small users have the ability to not connect to the QGDN or limit the application of natural gas where they do connect, which activity is reflected in the low penetration rates and average usage of customers on the QGDN.
142. Lastly, any commercial negotiations in respect of the services provided by the QGDN would take place against the background of the safeguards provided under the NGL and NGR. This includes:
- the requirement for the service provider of light regulation services to publish the price and non-price terms and conditions of access to those services on its website (NGR 36);
 - the requirement to report to the AER (at least annually) the outcomes of any access negotiations in respect of the QGDN (NGR 37);
 - access to the dispute resolution procedures set out in the NGL, which installs the AER as the independent dispute resolution body (NGL 181); and
 - the ability for a person, other than the service provider, to apply to have full regulation reinstated on the QGDN (NGL 118).
143. Given the current low utilisation of the QGDN, the readily available substitutes for natural gas (electricity and LPG) and the lack of a clear competitive advantage of natural gas, Envestra has a very strong incentive to negotiate in a manner that is consistent with the long term interests of users of the network.

5.1.5. Factor (e): Presence and extent of any substitute in a market for the pipeline service

144. Form of regulation factor (e) requires consideration to be given to whether the presence and extent of any substitutes for the services provided by the QGDN may act as a constraint on the market power that Envestra may otherwise possess.
145. As already discussed, an important feature of the Queensland natural gas supply market is that there are other options available for customers. Within the context of form of regulation factor (e), this relates to the ability for large industrial users to connect to either the Allgas distribution network, the RBP or the QGP depending on their location. This places a strong incentive on Envestra to ensure competitive pricing in order to attract those customers to the QGDN and explains the relatively high prevalence of negotiated outcomes for this customer group.
146. While smaller users have less ability to change location as a result of energy costs, they can choose to use either electricity or LPG instead of natural gas.

5.1.6. Factor (f): Presence and extent of any substitute in market for electricity or gas

147. Form of regulation factor (f) requires consideration to be given to whether there are any other substitutes in a market for electricity or gas (as the case may be), which may act as a constraint on the market power Envestra may otherwise possess.

148. As noted throughout this application, the key substitutes for natural gas are electricity and LPG. In most cases, particularly for smaller users, all natural gas appliances can be substituted by an electric or LPG equivalent, with relatively low switching costs of doing so in Queensland (reflecting that a large proportion of customers have only one or two natural gas appliances). This point was made by the Ministerial Council on Energy's Expert Panel on Energy Access Pricing:²³

Gas and electricity markets also display different characteristics in terms of the price elasticity of demand and the ability of consumers to seek substitutes. Energy services, and in particular electricity services, are generally considered to have relatively inelastic demand. This inelasticity reflects the essential nature of electricity to commercial and industrial activity and to modern domestic life. This is less so for gas which is considered to be a 'fuel of choice'; meaning that it is subject to more competition from substitutes.

While the cost of network services is only part of the final energy price seen by energy consumers, the energy price responsiveness of users can impose some constraints on the exercise of market power in some circumstances.

For gas, it could be said that there is a stronger substitution effect, particularly for locations that do not require space heating in any great extent. Electricity, in general, provides a better substitute for gas than gas does for electricity. Consumers are better able to exercise a choice on the source of their energy supply where there are competing sources of supply to a common area.

149. Two of the observations that the Expert Panel made in this extract, which are directly relevant to the QGDN, are that:

- gas is a 'fuel of choice', meaning it is subject to more competition from substitutes; and
- the substitutability of electricity for gas is likely to be particularly strong in 'locations that do not require space heating in any great extent'.

This is the case on the QGDN, which is clearly evidenced by the low connection penetration rates, low appliance penetration rates and low average consumption levels (and associated lack of any clear competitive advantage of natural gas over electricity and LPG).

150. Similarly, the NCC in commenting on the application of the form of regulation factors (specifically factor b) noted that:

..., even in large gas markets, where rates of connection and/or average usage is low, then the unit cost for the provision of natural gas may be sufficiently high that competition from alternative energy sources provides an effective constraint on market power.

This is the case in Queensland, where the QGDN suffers from low penetration rates and low average consumption. This has led to a relatively high unit cost of natural gas on the QGDN, which in turn has resulted in natural gas not having any clear competitive advantage over competing energy fuels²⁴.

²³ MCE, Expert Panel on Energy Access Pricing: Report to the Ministerial Council on Energy, April 2006, pp 49-50.

²⁴ By comparison, the unit cost of distributing natural gas in Queensland is \$45 per GJ, compared to \$6 per GJ in Victoria and \$28 per GJ in South Australia.

151. Turning specifically to the alternative forms of energy available to end-users, section 4.2 noted that small customers (which account for the largest proportion of the QGDN's customer base) predominantly utilise gas for cooking and/or in hot water units. Both of these appliances are perfectly substitutable by electricity or LPG appliances, both of which are cost competitive against natural gas (unlike in other regions).²⁵ The prices of electricity and LPG therefore act as a significant constraint on natural gas pricing.
152. About one third of the residential customers connected to the QGDN only have a gas cooker. They are therefore able to respond rapidly and at a relatively low cost to any perceived competitiveness concerns of natural gas as they only need to replace one appliance. This ability to readily switch also imposes a constraint on prices.
153. For large industrial customers that utilise gas to generate heat, there are a number of other energy forms that they can use. Apart from electricity and LPG, large industrial customers could use biomass, diesel or coal for heat. As an example, prior to converting to natural gas, AMCOR packaging used coal for generating heat.
154. Large industrial customers also have the option of taking gas from the Allgas network (new or expanding customers) or directly from the RBP/QGP (all customers). Alternatively, large industrial customers could decide to alter their production processes where it becomes more profitable to sell gas for export, as occurred with Stanwell's decision to close its Swanbank Generator. Such factors place a further constraint on natural gas network pricing.
155. In summary:
 - gas is a fuel of choice (as noted by the MCE), meaning that natural gas is subject to competition from substitutes, which is particularly strong given the lack of heating demand on the QGDD;
 - this is reflected by the low penetration rates and average consumption across the QGDN;
 - the switching costs for small customers are low given the low average consumption (and hence low appliance use) of customers;
 - large customers can use either alternative fuels or access the Allgas network, RBP or QGD depending on their location; and
 - natural gas has no clear competitive advantage against its substitutes in Queensland.

5.1.7. Factor (g) Access to information

156. Form of regulation factor (g) is designed to determine whether there would be adequate information available to users (existing or prospective) to enable them to negotiate in an informed manner with Envestra if light regulation were to apply.
157. A point of difference between light and full regulation could be the degree of information disclosure by the service provider. Under full regulation, the service provider is required to prepare detailed Access Arrangement Information (AAI), which contains information on the cost structure of the network, including capital and operating expenditures, asset management plans and demand forecasts. Much of this information is made publicly available.
158. Envestra considers that there will be sufficient information available to access seekers under light regulation to facilitate an informed negotiation about price and non-price terms and conditions of access for the following reasons:

²⁵ Electricity and LPG are currently available to all customers currently connected to the QGDN.

- the QGDN has been subject to full regulation for the past 15 years, so there is a significant amount of information available to access seekers regarding the cost structure of the QGDN, including the underlying pricing models;
 - other gas distribution networks will continue to be subject to full regulation, including Envestra's major networks in Victoria and South Australia, thereby providing current information on changes to industry cost structures and the general direction of price paths;
 - Envestra will be required under light regulation to publish the price and non-price terms and conditions of access on its website, providing visibility to all interested stakeholders (consistent with NGR 36);
 - Envestra will also be required to comply with the facilitation of, and request for, access rules in Part 11 of the NGR and provide information on available capacity;
 - Envestra will be prevented from engaging in price discrimination (unless it is conducive to efficient service provision), so a single price will be developed for each service and applied to all users (consistent with section 36 of the NGL);
 - in relation to non-price terms and conditions, Envestra intends to apply the most recent terms and conditions that have been approved by the AER on its regulated networks to ensure consistency across all of its networks (noting that retailers will need to agree to any change to the current terms and conditions that apply on the QGDN); and
 - Envestra will be required to report to the AER on the outcomes of any access negotiations at least annually. Envestra will also be required to comply with any regulatory information notice and general regulatory information orders the AER issues under section 42 of the NGL.
159. As noted in section 5.1.4, retailers are large businesses with a sophisticated understanding of energy markets. This reflects their involvement in most aspects of the natural gas supply chain, including having previously owned and/or operated gas distribution networks. For example, Origin Energy either owned or operated the QGDN up until it sold those interests to the APA Group in 2007. Moreover, the negotiation required for access to the QGDN is commonplace for businesses such as Origin Energy and AGL (and large users more generally).
160. Envestra intends to provide information where this would assist in a price negotiation process. This matter was raised during our consultation process in the context of the regulatory asset base that would be used by the AER if a dispute arose some years after light regulation commenced. Envestra intends to update the RAB in order to provide a reference point during any price setting process. This matter is discussed further in chapter 8, which addresses the specific matters raised by retailers during the public consultation process.
161. In summary, Envestra submits that the information provisions set out in the NGL and the NGR, coupled with the existing publicly available information sources and the knowledge and experience of the retailers, will provide users (existing and prospective) with sufficient information to enable them to negotiate effectively if the QGDN was subject to light regulation.

5.2. Consideration of Other Matters

162. Section 122(2)(c) of the NGL allows the NCC to "have regard to any other matters it considers relevant". The other matters that Envestra has considered when assessing the effectiveness of light regulation in promoting access to the QGDN are the:
- effectiveness of the dispute resolution provisions set out in the NGL and NGR; and

- effectiveness of the other obligations that Envestra would be subject to under light regulation (e.g. reporting and information disclosure requirements, ring-fencing obligations and the prohibition on price discrimination).

5.2.1. Effectiveness of the access dispute mechanism

163. If the QGDN is subject to light regulation and Envestra and a user (existing or prospective) were unable to reach an agreement about the terms and conditions of access, then the user could have recourse to the access dispute resolution provisions in the NGL and NGR. The dispute resolution procedures install the AER as the relevant dispute resolution body.
164. Envestra considers that this mechanism would afford users a considerable degree of protection given the AER's role as the economic regulator of full regulation pipelines. The AER also has well established and understood methodologies that it uses to determine access prices. Envestra would expect the AER to use those same processes when determining an access dispute.
165. Envestra notes that there have been no access disputes under either full or light regulation pipelines. Likewise, Envestra has never needed to trigger any external dispute resolution processes in respect of its unregulated pipelines. A negotiated outcome has been reached in all instances.
166. It is also worth noting that if the access dispute provisions were triggered, then section 136 of the NGL would confer on all access seekers the right to access the QGDN at the same price established through the arbitration proceedings. The same price and non-price terms must be applied to all access seekers.
167. In Envestra's view it is highly unlikely that the access dispute provisions will be triggered as it has a strong incentive to reach a negotiated outcome. The provisions will, in any event, provide an effective mechanism to deal with disputes that may arise under light regulation.

5.2.2. Effectiveness of other obligations

168. Light regulation will continue to provide effective regulatory oversight of the QGDN. Further to the dispute resolution mechanism, any negotiation for access to the QGDN would take place against the background of the following safeguards provided for under the NGL and NGR:
 - the requirement for the service provider of light regulation services to publish the price and non-price terms and conditions of access to those services on its website (NGR 36);
 - the requirement for Envestra to offer the same price to all access seekers (NGL 136);
 - the requirement to report to the AER (at least annually) the outcomes of any access negotiations in respect of the QGDN (NGR 37);
 - the option for a service provider to submit a limited access arrangement to the AER for approval (NGL 116); and
 - the ability for a person, other than the service provider, to apply to have full regulation reinstated on the QGDN (NGL 118).

5.3. Conclusion on effectiveness of light vs full regulation

169. Envestra considers that light regulation should be applied to the QGDN. Envestra is not in a position to exercise market power in regards to the services provided on the QGDN for a range of reasons, including that:
 - natural gas is a fuel of choice;

- there are readily available substitutes for all natural gas applications, particularly from electricity and LPG;
- the cost of switching away from natural gas to either electricity or LPG is low in the Queensland market (given the small number of installed natural gas appliances);
- the above is problematic given the mild climate in Queensland and associated lack of heating demand (energy choice is largely determined by cooling requirements); and
- natural gas has no clear competitive advantage over either electricity or LPG in the Queensland energy market.

170. A specific assessment against the form of regulation factors is as follows:

- *Factor (a)* - the barriers to entry associated with replicating the QGDN are offset by the fact that consumers do not have a strong preference for natural gas in Queensland (that is, the barriers are offset by consumers choosing electric or LPG appliances);
- *Factor (b)* - there is no market power arising from any network externalities arising from the services provided by Envestra across the QGDN, reflecting that the QGDN is characterised by low penetration, low average consumption and high unit costs of supply which has led to strong competition from electricity and LPG;
- *Factor (c)* - there are no network externalities between the services provided by Envestra on the QGDN and any other related services provided by Envestra, including services that are either directly related to gas distribution or in any other dependent market (particularly retail services);
- *Factor (d)* - users of the QGDN currently have and are exercising countervailing market power, which is reflected in the price outcomes achieved in our unregulated markets, the low penetration rates and average usage on the network. Moreover, negotiations of the type required for access to the QGDN are commonplace for retailers and other large users;
- *Factor (e)* - there is competition in the market for pipeline services given large users can connect to either the neighbouring Allgas distribution network or directly to the RBP or QGP depending on their location. Smaller customers however have less scope to change their location to access competing pipeline services but face relatively insignificant costs to change their energy sources or appliances;
- *Factor (f)* - natural gas is a fuel of choice, meaning there are readily available and competitive energy (electricity and LPG) alternatives for all natural gas applications. The switching costs are relatively low in Queensland reflecting the low average usage of customers;
- *Factor (g)* - there is significant information available to facilitate effective access negotiations.

171. Importantly, any negotiation for access to the QGDN would take place against the background of the safeguards provided under the NGL and NGR, which include:

- the requirement for the service provider of light regulation services to publish the price and non-price terms and conditions of access to those services on its website (NGR 36);
- the requirement to report to the AER (at least annually) the outcomes of any access negotiations in respect of the QGDN (NGR 37);
- access to the dispute resolution procedures set out in the NGL, which installs the AER as the independent dispute resolution body (NGL 181); and
- the ability for a person, other than the service provider, to apply to have full regulation reinstated on the QGDN (NGL 118).

172. For the reasons set out above, Envestra is of the view that light regulation would be as effective as full regulation in terms of promoting access to the QGDN and would result in price and non-price terms and conditions, service quality and access to services being at least as effective under light regulation as would be the case under full regulation.

6. Comparative costs of light and full regulation

173. The second key matter that the NCC is required by section 122(1)(b) of the NGL to consider when deciding whether to make a light regulation determination is the effect of full and light regulation on:
- the likely costs that may be incurred by an efficient service provider;
 - the likely costs that may be incurred by efficient users (existing and prospective); and
 - the likely costs of end users.
174. These issues are explored in further detail in the remainder of this section. This section firstly provides an overview of the different regulatory obligations and likely costs arising under full and light regulation.

6.1. Regulatory obligations and nature of costs under full and light regulation

175. A service provider of a pipeline that is subject to full regulation is required by the regulatory framework set out in the NGL and NGR to:
- prepare and submit a revised Access Arrangement (AA) and Access Arrangement Information (AAI) to the AER at least once every five years. This process typically takes around 2 years, comprising one year for Envestra to consult with key stakeholders and prepare its submission and a further year for the AER to review the revised proposal; and
 - manage the ongoing compliance of the pipeline with the provisions set out in the AA, which includes the cost of preparing annual compliance reports and submitting annual tariff variations.
176. With regard to the first point, the NGR sets out the specific requirements that an AA and AAI must comprise, which includes
- capital expenditure by asset class over the earlier access arrangement period;
 - operating expenditure by asset class over the earlier access arrangement period;
 - usage of the pipeline over the earlier access arrangement period;
 - the value of the capital base, by asset class, at the beginning of the next access arrangement period and how that value was arrived at;
 - the projected capital base over the upcoming access arrangement period including a forecast of conforming capital expenditure and a forecast of depreciation over the upcoming period;
 - a forecast of operating expenditure over the upcoming period;
 - proposed return on equity, return on debt and allowed rate of return as well as the proposed formula used to derive those values;
 - the estimated cost of corporate income tax, including the proposed value of imputation credits,
 - the carryover of any incentive mechanism that applied in the previous regulatory period;
 - the rationale for any incentive mechanism to apply in the upcoming access arrangement;
 - the proposed approach to setting of tariffs, including the methods used to allocate costs and to tariff classes
 - the rationale for the proposed tariff variation mechanism; and
 - the total revenue to be derived from pipeline services for each regulatory year.

177. These factors must be satisfied regardless of the extent of market power that a network might have and/or the size of that network. Most of the costs associated with full regulation are incurred in the preparation of the AA and AAI. These costs are largely borne by the service provider, the AER and key stakeholders who put in submissions to the review process.
178. A service provider of a pipeline that is subject to light regulation, on the other hand, is not required to satisfy the numerous requirements set out under the NGR for full regulation. The key requirements imposed on a service provider of light regulation services are to:
- publish the price and non-price terms and conditions of access on its website; and
 - report periodically to the AER on access negotiations.
- The service provider will also need to invest resources into developing the price and non-price terms of access to the pipeline. The resources devoted to this task are however expected to be materially less than under full regulation, particularly in regards to the supporting independent expert advice that is required to demonstrate compliance with certain aspects of the NGR under full regulation.
179. Most of the costs associated with light regulation are borne by the service provider and to a lesser extent the users in negotiating the terms and conditions of access. It should be noted that a single negotiation on the price and non-price terms of access would be expected given the requirements to publish these conditions of access and to make the same terms available to all users.
180. A cost that service providers may incur under both full and light regulation is access dispute costs. As noted in section 2.2, an access dispute can be triggered by a user, prospective user or service provider if an agreement on the terms and conditions of access to the services provided by the pipeline cannot be reached. The costs that will be incurred if these provisions are triggered will depend on the nature of the dispute and will also depend on whether the matter is resolved through mediation or conciliation, or if it proceeds to an access determination made by the AER.
181. Paragraphs 175-177²⁶ highlight that the regulatory obligations associated with full regulation are far more onerous than those imposed on pipelines that are subject to light regulation. It is not therefore surprising that the costs to the network service provider of complying with these obligations and the cost of regulatory oversight are substantially higher under full regulation than they are under light regulation, which matter is discussed in the following section.

6.2. Likely costs of full regulation

182. As noted in the previous section, the main costs associated with continued full regulation of the QGDN are:
- the costs of preparing a full AA and AAI in accordance with the specific and detailed requirements of the NGR at intervals of at least every five years;
 - the cost of undertaking appeal processes (where applicable); and
 - the ongoing costs of complying with the approved AA.

The next AA and AAI for the QGDN is due to be submitted to the AER on or before 1 July 2015 (and will take effect from 1 July 2016).

²⁶ In addition to these obligations, there are a number of *ad hoc* regulatory tasks that owners of covered pipelines (full and light regulation) carry out, such as responding to proposed laws, rules and guidelines.

183. Envestra can estimate the cost of full regulation with a high degree of certainty given the QGDN has been subject to full regulation for the past 15 years. Envestra also has other gas distribution networks that are (and most likely always will be) subject to full regulation. The costs of administering full regulation for our last three AA review processes, including for the QGDN, are set out in Table 5.

Table 5: Envestra costs for the most recent AAs

| Category | QLD (\$'000s) | SA (\$'000s) | Victoria (\$'000s) |
|------------------------------|------------------|-----------------|-----------------------|
| Consultants | 890 | 1,160 | 730 |
| Legal Fees | 240 | 360 | 370 |
| Internal Labour ^a | 1,500 | 1,500 | 2,800 |
| Sub Total | 2,630 | 3,010 | 3,900 |
| Merits Review ^b | 410 | 410 | n/a |
| Total | 3,040 | 3,420 | 3,900 |

a: Internal labour costs of Envestra and APA Group related to the Access Arrangement reviews over a two year period

b: Legal and Consultant Fees

184. As Table 5 indicates, Envestra spent around \$3 million on the last QGDN AA review process, half of which comprised internal labour costs and half of which comprising external expert (including legal) advice. An estimate of \$3 million in Envestra costs to undertake a full AA review process is therefore considered reasonable given:

- these are the actual costs incurred in the most recent AA review process for the QGDN; and
- these costs are closely comparable to the most recent review processes conducted for South Australia and Victoria, with the latter review completed last year.

185. Envestra considers this cost estimate to be conservative given the AER's new requirement that service providers undertake a robust customer consultation process prior to submitting a revised AA and AAI to the AER for its review/approval. To this end, the AER has noted in its Consumer Engagement Guideline that²⁷:

...service providers must describe how they have engaged with electricity consumers and sought to address any relevant concerns identified as a result of that engagement. These changes to the NER reflect a desire by both rule makers and different levels of government for a much greater emphasis on consumer engagement. The guideline aims to support these initiatives and give guidance on our expectations of consumer engagement...

We intend to apply the guideline to all electricity and gas transmission and distribution network service providers (service providers), who must act in the long term interests of consumers. The guideline states our expectations of how service providers engage with their consumers—that is, their 'end users'.

186. Our review of the consumer engagement activities that have recently been implemented by businesses, including most recently by Jemena Gas Networks in NSW, suggests that significant resources have been devoted to undertaking effective consumer consultation as part of the process

²⁷ AER Consumer Engagement Guideline for Network Service Providers November 2013, p 4

of developing a revised AA proposal. This includes ensuring that the services proposed to be provided by the service provider are consistent with the long term interests of consumers.

187. Envestra estimates that at least an additional \$0.25 million will be incurred in undertaking effective consumer consultation if it were to continue to be subject to full regulation. This is based on our assessment of the requirements of the AER Consumer Engagement Guideline and actions taken by businesses to implement the guideline, which have included the need to inform stakeholders of the regulatory process and key issues, understand consumer preferences and test the willingness of users to pay for any proposed changes to service standards.
188. In addition to the full AA review process, there are also ongoing costs associated with ensuring annual compliance with Access Arrangements such as:
- annual tariff escalation processes, involving preparation of submissions to the AER for tariffs to apply in the following year (including a requirement for independent review of the inputs to the price adjustment process); and
 - annual regulatory reporting, involving preparation of a detailed (and audited) Regulatory Information Notice (RIN) for submission to the AER.

The annual cost of these regulatory obligations is approximately \$20,000 per annum, or \$100,000 over the five year regulatory period.

189. The AER also incurs costs in reviewing and approving a full Access Arrangement proposal and monitoring compliance with the NGL, NGR and approved Access Arrangement.
190. For regulators, the AEMC found that the direct costs of a revenue or pricing assessment process ranges from \$0.5 million to \$3.0 million²⁸. Envestra has assumed the AER's expense for the Queensland network will fall in the middle of this range. Envestra has therefore assumed that the AER will incur \$1.75 million in reviewing the Queensland Access Arrangement, most of which will be avoided if a light regulation determination is made.²⁹ In making this assumption Envestra has considered that the AER:
- obtained 15 expert reports to support its Draft Decision and Final Decision in respect of the last access arrangement review for the QGDN; and
 - would have incurred appeal costs similar to that incurred by Envestra.
191. The final cost of full regulation is the cost to stakeholders of participating in a full AA review process. These costs primarily relate to reviewing any submissions/proposals put forward by Envestra, any related AER decisions that are made and participating in any customer consultation processes initiated by either Envestra or the AER. Envestra has conservatively estimated that the costs across all stakeholders will be \$0.1 million.
192. Envestra also notes that there will be additional costs associated with the newly established Energy Consumers Australia, whose primary objectives are to:
- effectively and objectively participate in National Energy Market issues and influence regulatory activities and energy market reform to benefit consumers;

²⁸ AEMC *Review into the use of Total Factor Productivity for the Determination of Prices and Revenues: Perspectives on the Building Block Approach* 30 July 2009 p 10.

²⁹ The cost estimate of \$1.75 million is assumed to include the cost of the newly established AER Consumer Challenge Panel, which costs did not form part of the AEMC review.

- frequently engaging and communicating with consumers and consumer advocates to discuss, support, liaise, collaborate, educate, identify and to receive and provide updates on the National Energy Market and its policies, reforms, issues and general news;
- building national and jurisdictional expertise and capacity through research, knowledge development and consultation to advance the interests of Australian energy consumers, in particular residential and small business energy consumers; and
- undertaking robust research to build knowledge, engage and influence policy development and educate consumers in the energy markets.

Envestra has not however sought to include any additional costs associated with the operation of the ECA in respect of the application of full regulation to the QGDN.

193. In summary, Envestra estimates that the total cost of full regulation is \$5.2 million over a five year regulatory period, comprising \$3.35 million of Envestra costs, \$1.75 million in AER costs and \$0.1 million in stakeholder costs. Envestra notes however that there is less certainty over the estimate of AER and stakeholder costs than there is over the Envestra costs given the latter is largely based on actual incurred costs.

6.3. Likely costs of light regulation

194. Setting aside the costs of publishing information on its website, reporting requirements and complying with ring fencing obligations, which a full regulation pipeline would also be subject to, there are three types of costs that Envestra could incur if it was subject to light regulation, two of which are avoidable:

- i. Negotiation with the access seeker;
- ii. Limited AA – not mandatory; and
- iii. Access Dispute – only triggered if negotiations fail.

6.3.1. Negotiation costs

195. The key cost to Envestra and stakeholders of light regulation will be the cost of negotiating the price and non-price terms of access to the QGDN. Importantly, Envestra and access seekers currently incur costs in negotiating commercial agreements governing access to the QGDN under full regulation, although such agreements tend to mirror the terms of the AER approved AA for a particular period.
196. It can therefore be expected that the cost of negotiating the terms of access to the QGDN will be higher than business as usual costs for both organisations. While there is some uncertainty over this cost, the following factors can be used to inform any cost estimate:
- the cost assumed for stakeholder participation in a full AA review, which costs were estimated at \$0.1 million;
 - the costs incurred by both parties in negotiating terms for our other unregulated networks; and
 - the legislative requirement that the same price and non-price terms are to be applied to all users and to be published on our website.
197. With regard to the first point, stakeholders are active participants in our price review processes. For example, the AER received 4 submissions from Origin Energy and AGL on the QGDN during the

process of making its Final Decision. These retailers also participated in public forums and specific workshops held on terms and conditions of access to the QGDN.

198. The amount included for stakeholder participation under full regulation of \$0.1 million is considered to be appropriate in respect of negotiating the terms and conditions of access, which was the focus of the submissions/participation of retailers during the AA review process. Envestra has included a further amount of \$0.1 million to reflect the costs of negotiating the price aspect of access. By way of example, the total amount of \$0.2 million would allow for 10 days of expert advice (at \$4,000 per day) and 80 days of internal labour (at \$2,000 per day), or similar.
199. Envestra will also incur a similar cost in developing the price and non price terms and engaging in any negotiation with stakeholders over these terms. Envestra has included an additional amount of \$0.2 million to negotiate the terms of access to the QGDN. This level of resourcing reflects our reasonable expectations based on the experience Envestra has had in negotiating the price and non-price terms and conditions of access with users for our uncovered networks.
200. The total negotiation cost of light regulation is therefore expected to be \$0.4 million over a five year period.

6.3.2. Limited AA (not mandatory)

201. Section 116 of the NGL allows, but does not require, a service provider of light regulation pipeline services to submit a limited AA (containing the non-price terms and conditions of access and other prescribed information) to the AER for its approval. In principle, a service provider would only develop a limited AA if it was expected to reduce the costs of negotiating the terms and conditions across multiple access seekers.
202. Envestra and stakeholder costs of developing a limited AA are assumed to be covered in the above negotiation costs. The AER will however incur costs in reviewing and approving the limited AA, which costs are forecast to be \$0.1 million. Using the same assumptions as the previous section, this would allow for 5 days of expert advice and 40 days of internal labour, or similar. The total incremental cost of a limited AA is therefore forecast to be \$0.1 million.

6.3.3. Access disputes

203. In relation to access dispute costs, it is difficult to be definitive about the costs that are likely to arise because, as noted previously, it will depend on how significant the disputed matter is, the number of matters that are under dispute and whether the dispute proceeds all the way to an access determination. This uncertainty also arises given there have been no access disputes to date under either the NGL/NGR or the Gas Code that have proceeded to arbitration.
204. Envestra does not expect the instance of disputes to be significant, and where they do arise, to be resolved between the parties prior to going through the external dispute resolution process. This reflects our experience with our unregulated networks, where there has not been one case in 17 years where the available external dispute resolutions procedures have been required. There is also a very strong incentive for parties to negotiate efficient terms given the characteristics of the Queensland gas market.
205. If a dispute were to arise, Envestra expects that there will be a narrow scope of matters subject to dispute. That is, Envestra does not expect every matter relating to the price and non-price terms of access to be subject to dispute, but instead there might be a confined list of matters that the parties are unable to agree upon. The resolution of the dispute by the AER is also expected to be relatively

expedient given the expectation that the AER will apply the same methodologies to resolving the dispute as that applied under full regulation.

206. Envestra therefore finds it difficult to quantify the cost of access disputes under light regulation given the uncertainty over whether a dispute will arise in the first place, the nature of the dispute and the number of matters subject to dispute. This uncertainty also reflects that there have been no access disputes that have arisen in the past, meaning any forecast cannot be based on actual experience.
207. In the event a dispute arises, Envestra has included an amount of \$0.1 million for itself and each party to the dispute. Again using the same assumptions as earlier, this would allow for 15 days of expert (expected to be legal) advice and 20 days of internal labour, or similar, for each party to the dispute (i.e. Envestra, users and the AER). The total cost of resolving an access dispute, should one occur, is therefore expected to be \$0.3 million.
208. In making this estimate, Envestra has considered the likely operation of section 136 of the NGL, which prohibits price discrimination under light regulation. The practical effect of section 136 would therefore be to confer on all access seekers the right to access the QGDN on the same price and non-price terms and conditions established through the arbitration proceedings. The likelihood of there being more than one arbitration, can therefore be expected to be low.

6.3.4. Summary of light regulation costs

209. Based on the above, Envestra estimates that the likely cost of negotiating the terms of access to the QGDN will be \$0.4 million under light regulation. These costs could increase by \$0.1 million if a decision is made to submit a light AA to the AER for its approval and by a further \$0.3 million should a dispute arise that requires AER resolution. The costs of light regulation are therefore expected to lie within a range of \$0.4 million to \$0.8 million over a five year period.³⁰

6.4. Conclusion on costs of full and light regulation

210. Envestra has estimated the total costs of full regulation at \$5.2 million and the likely costs of light regulation to be between \$0.4 million and \$0.8 million depending on whether a dispute requiring resolution by the AER arises. While there is uncertainty over these costs estimates, they are based on Envestra's experience in participating in full AA review processes and in negotiating terms of access in respect of our unregulated networks.
211. The difference in the expected cost of full and light regulation is therefore \$4.6 million if the mid-point in the range of costs for light regulation is used. This equates to around \$65 per customer for every five year pricing period. This is a significant and unnecessary cost impost given that Envestra has no market power on the QGDN (for the reasons set out in chapter 5). That is, light regulation would be as effective as full regulation in terms of promoting access to the QGDN at a significantly lower cost.
212. If the NCC makes a light regulation determination, Envestra will pass back the avoided cost of full regulation to users. This is consistent with our approach on the Wagga Wagga gas distribution network, where Envestra reduced the tariffs to apply from 1 July 2014 by the amount required to pass back the costs of applying full regulation to the network.

³⁰ There is no requirement under light regulation to set prices for a five year period, or in respect of any period for that matter. These costs could therefore be thought of as the cost per pricing period.

7. Promotion of the NGO

213. The NGO is set out in section 23 of the NGL and is as follows:

"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."

214. In considering whether or not to make a light regulation determination, the NCC is required by section 122(2)(a) of the NGL to consider the NGO. In determining whether or not light regulation is likely to better satisfy the NGO, it is necessary to consider whether light regulation would promote greater efficiency in the provision of services by the QGDN and in upstream or downstream markets. This includes whether:

- prices are consistent with the lowest sustainable cost of providing services in meeting safety and service level requirements (productive efficiency);
- service levels reflect what our customers want and are willing to pay for (allocative efficiency); and
- price and service levels are responsive to changes in market conditions to help ensure natural gas remains a competitive fuel option over the long term (dynamic efficiency).

215. This application has demonstrated that light regulation will be a more efficient form of regulation for the QGDN relative to full regulation:

- *Productive efficiency* (i.e. efficient operation of the QGDN): as noted in section 6.4, the costs of light regulation of the QGDN are forecast to be \$4.6 million lower than the cost of full regulation. This is a significant cost saving that highlights the productive efficiency related benefits associated with light regulation;
- *Allocative efficiency* (i.e. efficient utilisation of, and investment in, the QGDN): as noted in section 5.3, the lack of market power on the QGDN means that the terms of access will be at least the same under light regulation as they would be under full regulation (and consistent with that expected to be delivered by a competitive market). A decision to subject the QGDN to light regulation will therefore continue to promote allocative efficiency. It is worth noting in this context that Envestra's intention to pass on the cost savings associated with light regulation in the form of lower tariffs will result in a greater degree of allocative efficiency than relative to that which currently occurs under full regulation. This is because the tariffs under light regulation will better reflect the efficient cost of providing the service, which will in turn encourage the efficient use of, and investment in, the QGDN; and
- *Dynamic efficiency* (i.e. longer run efficiency and ability to adapt to changing conditions): the productive and allocative efficiencies associated with light regulation can be expected to prevail over the longer run, so the light regulation option should promote a greater degree of dynamic efficiency than full regulation. Furthermore, if the QGDN was subject to full regulation, the price and non-price terms and conditions of access would effectively be locked in for the term of the AA (typically five years). The owner of the QGDN would therefore have limited ability to respond to changed market conditions and user requirements (such as market impact bought on by the LNG export industry on the east coast). The light regulation option, on the other hand, would not impose such constraints and will therefore promote a greater degree of dynamic efficiency than the full regulation option.

216. In keeping with the NGO, these efficiency benefits can be expected to benefit the long term interests of end-users with respect to price, quality, safety, reliability and security of supply of natural gas.

Light regulation will therefore better promote the NGO relative to the continued application of full regulation.

8. Specific Issues Raised by Retailers

217. Origin Energy and AGL provided Envestra with further feedback following our stakeholder meetings. The key issue raised by retailers related to how the price and non-price terms of access will be determined. While this information is not relevant to a consideration of light regulation under the NGL and NGR, consideration of these matters by Envestra provides some further explanation of how light regulation will be applied.

8.1. How will Prices be Set under Light Regulation?

218. As noted earlier, future prices and price paths for access to the QGDN under light regulation will be subject to commercial negotiation between Envestra and retailers.
219. Envestra has not at this stage given detailed consideration to the prices that will apply under either light regulation or full regulation. This reflects that prices in respect of the former will be determined in around one year from now while prices under full regulation will not be set for another two years. There are a range of factors that influence price that can change substantially over this period, making it difficult to predict future price outcomes with any certainty.
220. Our current expectation however is that prices will not increase by more than the CPI over the next five years under light regulation. We are also expecting an initial price reduction, including to pass back to customers the avoided cost of full regulation.
221. In setting future price paths, we are also interested in gaining a greater understanding of the expected impact of wholesale gas cost increases in considering network charges going forward. This reflects our concern over the capacity of the Queensland market to absorb the magnitude of price increases announced by IPART in NSW. There is greater scope for Envestra to consider such issues in setting prices under light regulation.
222. Envestra intends to continue to rely on similar methodologies to set prices under light regulation as it currently applies for full regulation. Envestra indicated during the stakeholder consultation process that it can continue to make certain parameters and pricing methodologies transparent to stakeholders where this would better facilitate an informed negotiation. The example raised in our consultations was periodically updating and publishing the “asset base”.
223. Envestra also re-iterates that it is highly motivated to negotiate efficient price outcomes given the challenging environment for natural gas in Queensland. Envestra has no other incentive but to price natural gas so that it is a competitive energy option in the Queensland market. Importantly, any price negotiation will also take place against the safeguards that will continue to apply under light regulation. In particular, Envestra and users will have access to an independent dispute resolution process that is administered by the AER.

8.2. How will Terms and Conditions be Set under Light Regulation?

224. The terms and conditions of access to the QGDN will also be subject to commercial negotiation.
225. By way of background, Envestra has historically had different terms and conditions applying in different jurisdictions, which arose out of the previous State-based regulatory regimes. With the inception of the AER, Envestra has initiated a process to standardise terms and conditions across all of its networks. This has the advantage of lowering transaction costs to both Envestra and network users. Envestra intends to continue with this approach under light regulation.

226. Envestra therefore intends to apply the most recent AER terms and conditions that are available to the QGDN under light regulation. The default position will however be the terms and conditions that currently apply on the QGDN given retailers/users will need to agree to any changes. If retailers/users have concern over negotiating terms, the NGL provides the option of a light Access Arrangement for AER approval (which would require the AER to approve the terms and conditions of access to the QGDN).

Part C – Summary and Conclusion

9. Summary and conclusion

227. This section of the paper summarises the reasons as to why the NCC should make a light regulation determination in respect of the QGDN.

9.1. Legislative and regulatory framework

228. The key assessment framework for making a light regulation determination is set out in section 122 of the NGL, which requires the NCC to consider:

- (a) the likely effectiveness of full and light regulation in promoting access to the pipeline services that are the subject of the application; and
- (b) the effect of full and light regulation on:
 - (i) the likely costs that may be incurred by an efficient service provider; and
 - (ii) the likely costs that may be incurred by efficient users and prospective users; and
 - (iii) the likely costs of end users.

In considering these matters, the NCC is required to have regard to the NGO, the form of regulation factors and any other matter it considers relevant.

229. The NGO seeks 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. The form of regulation factors are concerned with:

- the extent of market power of the service provider (form of regulation factors (a)-(c));
- the countervailing market power that users may have when negotiating with the service provider (form of regulation factor (d));
- the extent to which users can switch to an alternative energy source (form of regulation factors (e)-(f)); and
- whether users can access adequate information to negotiate with the service provider on an informed basis (form of regulation factor (g)).

9.2. Effectiveness of light and full regulation

230. Part B of this application undertook an assessment of the applicability of light regulation of the QGDN against the form of regulation factors. A summary of this assessment is as follows:

- *Factor (a)* - the barriers to entry associated with replicating the QGDN are offset by the fact that consumers do not have a strong preference for natural gas in Queensland (that is, the barriers are offset by consumers choosing electric or LPG appliances);
- *Factor (b)* - there is no market power from any network externalities arising from the services provided by Envestra across the QGDN, reflecting that the QGDN is characterised by low penetration, low average consumption and high unit costs of supply which has led to strong competition from electricity and LPG;

- *Factor (c)* - there are no network externalities between the services provided by Envestra on the QGDN and any other related services provided by Envestra, including services that are either directly related to gas distribution or in any other dependent market (particularly retail services);
- *Factor (d)* - users of the QGDN currently have, and are exercising countervailing market power, which is reflected in the price outcomes achieved in our unregulated markets, the low penetration rates and average usage of the network. Moreover, negotiations of the type required under light regulation for access to the QGDN are commonplace for retailers and other large users;
- *Factor (e)* - there is competition in the market for pipeline services given large users can connect to either the neighbouring Allgas distribution network or directly to the RBP or QGP depending on their location. Smaller customers however have less scope to change their location to access competing pipeline services;
- *Factor (f)* - natural gas is a fuel of choice, meaning there are readily available and competitively priced energy (electricity and LPG) alternatives for all natural gas applications. The switching costs are relatively low in Queensland reflecting the low average usage of customers; and
- *Factor (g)* - there is significant information available to facilitate effective access negotiations.

231. For the reasons set out above, Envestra is of the view that light regulation would be as effective as full regulation in terms of promoting access to the QGDN. Envestra submits that light regulation would result in price and non-price terms and conditions, service quality and access to services being at least as effective under light regulation as would be the case under full regulation.

9.3. Comparative cost of light and full regulation

232. Envestra has estimated the total costs of full regulation at \$5.2 million and the likely costs of light regulation to be between \$0.4 million and \$0.8 million. The difference in the expected cost of full and light regulation is therefore \$4.6 million if the mid-point in the range of costs for light regulation is used. This equates to around \$65 per customer for every five year pricing period. This is a significant and unnecessary cost impost given that Envestra has no market power on the QGDN (for the reasons set out in chapter 5 and summarised above).

233. Light regulation would therefore be as effective as full regulation in terms of promoting access to the QGDN at a significantly lower cost.

9.4. Promotion of the NGO

234. This application has explained the reasons as to why the NCC should make a light regulation determination for the QGDN. This primarily reflects that Envestra is not in a position to exercise market power in regards to the services provided on the QGDN for a range of reasons, including that:

- natural gas is a fuel of choice;
- there are readily available substitutes for all natural gas applications, particularly from electricity and to a lesser extent LPG;
- the cost of switching away from natural gas to either electricity or LPG is low in the Queensland market (given the small number of installed natural gas appliances);
- the above is problematic given the mild climate in Queensland and associated lack of heating demand (energy choice is largely determined by cooling requirements); and
- natural gas has no clear competitive advantage over either electricity or LPG in the Queensland energy market.

235. The typical Queensland residential consumer uses such a small amount of natural gas at 8 GJ per annum (being 80% less than that used by a Victorian household) that it is impossible to consider Envestra having any market power given their overall use and the ease by which they can switch away from gas.
236. This application has also demonstrated that light regulation will be a more efficient (or less costly) form of regulation for the QGDN relative to full regulation.
237. In summary, light regulation will provide (at least) the same outcomes as full regulation, but at a significantly lower cost. In keeping with the NGO, these efficiency benefits can be expected to benefit the long term interests of end-users with respect to price, quality, safety, reliability and security of supply of natural gas. Light regulation will therefore better promote the NGO relative to the continued application of full regulation.
238. Envestra submits that the NCC should make a light determination in respect of the QGDN.

Attachment A – Stakeholder Presentation

DELIVERING
ENVIRONMENT-FRIENDLY
FUEL

Envestra

SERVICING OVER
1.1 MILLION
HOMES AND BUSINESSES

Exploring the Potential for Light Handed Regulation in Queensland

Confidential



Overview

- Envestra is currently evaluating the merits of light handed regulation of our Queensland network
- Aim of this meeting:
 - Inform stakeholders of review and potential reasons for light handed regulation;
 - Seek stakeholder comment/input prior to making the decision to pursue light handed regulation; and
 - Pending this, will then develop an application to submit to the NCC



The Network

- Approximately 2,500 km of gas mains in two distinct geographic zones
 - Brisbane and Riverview – 2,200 km of mains north of the Brisbane River
 - Northern – 300 km of mains in Gladstone and Rockhampton
- Key metrics:

| | Revenue | Opex | Capex | Customers | Demand (Reg) | Demand (Neg) |
|-----|---------|-------|-------|-----------|--------------|--------------|
| QLD | \$70m | \$20m | \$26m | 90,000 | 5,000TJ | 10,000TJ |

- The network has sufficient capacity to meet current and projected demand
 - Average capacity utilisation of around 70%
- Shutdown of BP Refinery will free up further capacity
 - 66% reduction in throughput
- Current Access Arrangement expires 30 June 2016
 - Revised AA due on or before 1 July 2015



Market for Natural Gas

- Network delivers approximately 15PJ to 90,000 customers

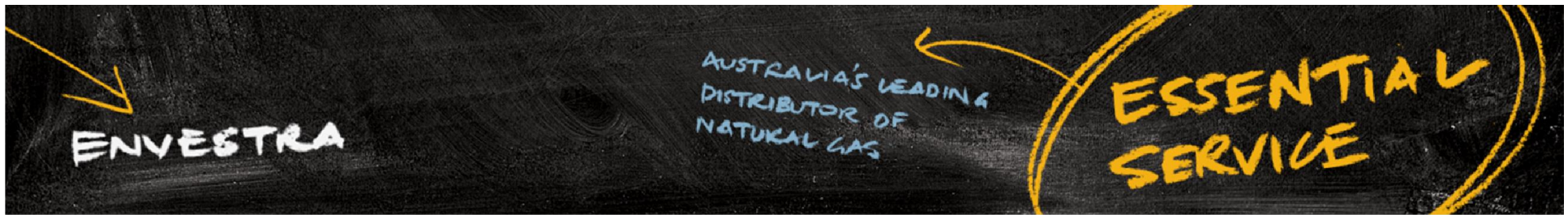
| | Residential | Business (<10TJ) | Industrial (>10TJ) | Negotiated (>10TJ) |
|-------------|-------------|------------------|--------------------|--------------------|
| Customers | 85,300 | 4,700 | 43 | 11 |
| Demand (TJ) | 730 | 1,380 | 3,000 | 10,000 |

- Only 15% of households in the network area with a gas connection
 - Mature market with low penetration
 - Compares with market penetration in Victoria of around 90%
- Average residential load 9 GJ pa
 - One third of customers with cooktop only
 - Near non existent heating load
 - Compares with average consumption of close to 50 GJ pa in Victoria



Market for Natural Gas (continued)

- Full Retail Contestability and Retail Price Deregulation introduced in 2007
- Currently Origin Energy and AGL are the only two active gas retailers in Queensland
 - Both significantly larger than Envestra
- Expected significant wholesale gas cost increases due to LNG exports
 - Already promoting shift away from gas
 - Stanwell's closure of Swanbank Generator for three years
 - More profitable to sell gas for export than generate electricity
- Demonstrates negative impact on domestic gas use of LNG export
- Potential for other gas fired generators to follow



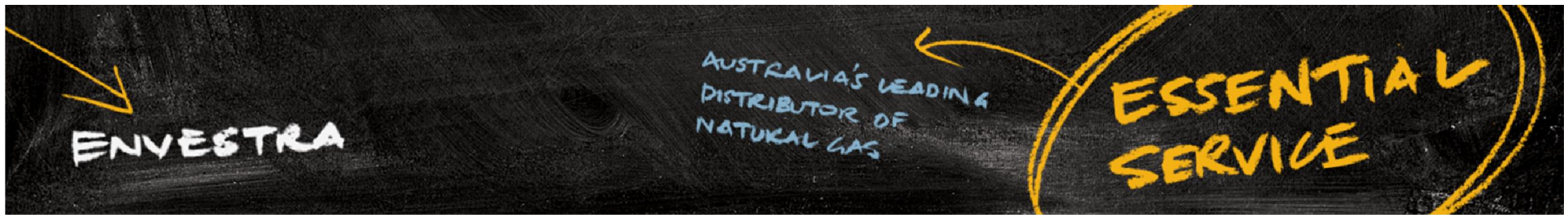
Overview of Legislative Background

- Section 112 of the NGL allows a service provider to apply to the NCC for light handed regulation
- Section 122 of the NGL states that the NCC in deciding on whether to approve a light handed regulation application considers:
 - The effectiveness of full and light regulation to regulate the provision of services; and
 - The relative costs of full and light regulation
- In doing so, the NCC is to have regard to:
 - The National Gas Objective – efficient investment, operation and use of the network that is in the long term interests of consumers;
 - The Form of Regulation Factors – discussed on next slide; and
 - Any other factor the NCC considers relevant
- Principle concern of the NGL is to ensure the form of regulation is proportionate to the degree of market power
- Unlike revocation, light handed regulation still provides for AER oversight



Form of Regulation Factors

- Section 16 of the NGL sets out 7 form of regulation factors (reproduced at attachment 2 to this presentation)
- The factors consider the following three key issues:
 - The market power of the service provider (s.16(a), (b), (c), (e), (f));
 - The countervailing power of users (s.16(d), (e) and (f)); and
 - The ability of users to access sufficient relevant information (s.16(g))



Market Power

- Envestra has no market power in Queensland, reflecting that:
 - Natural Gas is a fuel of choice
 - There are readily available substitutes, particularly electricity
 - Mild climate in Queensland – heating not a primary concern
 - Natural Gas has negligible (if any) competitive advantage over electricity
 - This position is expected to worsen given projected increases in wholesale gas costs
- This weak market position is reflected by:
 - Low network penetration (only a 15% penetration rate)
 - Low average usage (only 9 GJ pa)
 - Government policy encouraging further shifts away from gas
 - Loss of large industrial loads (for example, BP shutdown will reduce network throughput drop by 66%)



Countervailing Power of Users

- Network users have, and currently exercise, countervailing power
 - Evidenced by low connection penetration and average consumption
 - Larger customers have access to neighbouring APA Allgas network or Roma-Brisbane Pipeline (relatively high prevalence for large customers to be on negotiated tariffs)
- Network users comprise two very large retailers – Origin Energy and AGL
 - Origin Energy is 7x larger and AGL 4x larger than Envestra (by market cap)
 - Both also have a large retail electricity presence in Queensland
 - Origin Energy is a direct competitor given its strong LPG business
 - Origin Energy is involved in LNG export
- Both retailers therefore have alternate offers for their customers and alternate destinations for their gas
- Residential and small business
 - All gas appliances are perfectly substitutable with electric and LPG appliances



Access to relevant information

- Network has been subject to full regulation for the past 15 years
 - Implies there is significant information available to stakeholders regarding the cost structure of the business, including pricing models
- Continued full regulation of other gas distribution networks
 - Indicating general direction of price paths
- If light handed regulation granted, NGR 36 requires price and terms and conditions to be published on Envestra's website
 - Only one set of prices to apply to all retailers
 - Current AER approved terms and conditions will continue to apply - any changes will need to be agreed to by users
 - Envestra seeking to align terms and conditions across all of its networks
- NGR 37 requires the AER to be notified of the outcomes of any access negotiations
- NGL 181 installs the AER is the relevant dispute resolution body



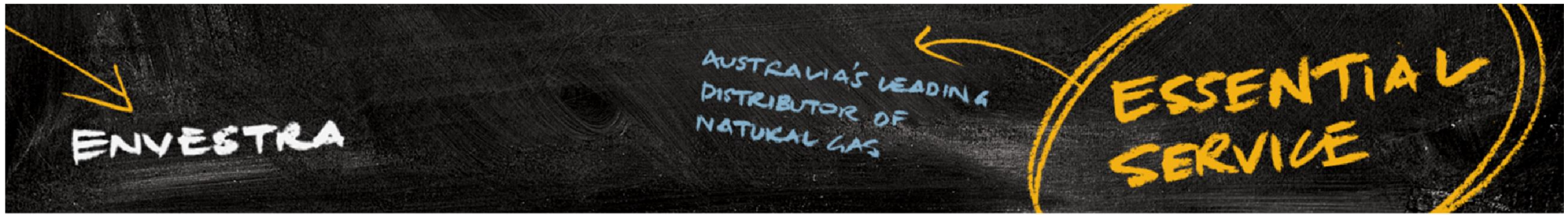
Relative Cost of Light Handed Regulation

- Shift to light handed regulation consistent with the Queensland Government's target to reduce the regulatory burden by 20% by 2018
- Envestra incurred \$3m in regulatory costs to finalise current Access Arrangement in Queensland
 - Expect these costs will be passed back to customers in their entirety under light handed regulation
- Additional on-going compliance costs (e.g. annual price adjustments)
 - Expect such costs to remain under light handed regulation, although minor
- Further costs savings to other stakeholders through eliminating the need for AA review, particularly those of the AER
- Extent of cost savings depend on frequency of disputes arising
 - Not likely to be significant given use of AER approved terms and conditions
 - No dispute requiring independent arbitration has ever arisen on any of our networks



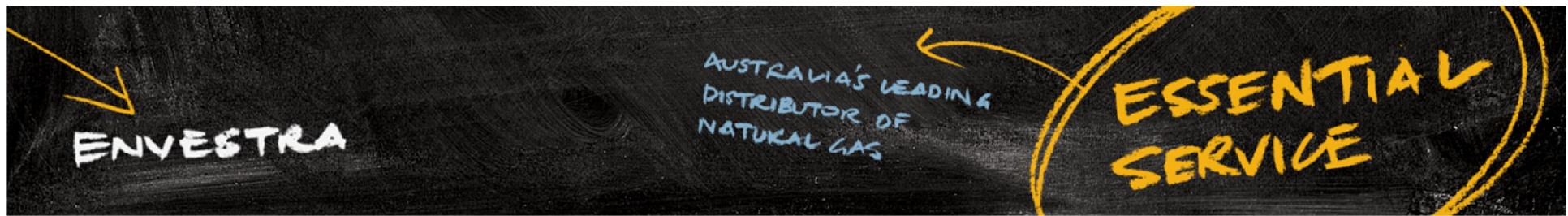
Summary

- Assessment against s. 16 of the NGL suggests strong case for light handed regulation of Queensland network
- Market power is constrained:
 - Readily available substitutes for natural gas, which is a fuel of choice
 - Natural gas does not have a competitive advantage over electricity, which position is expected to worsen
 - Evidence by low penetration and average usage
- Strong countervailing power of users
 - Large customers have effective network bypass options
 - Retailers can offer their customers alternatives with electricity or LPG (noting Origin has strong LPG business in Queensland)
 - Users can also decide to export their gas
- Cost savings from light regulation are significant and will be passed back to consumers

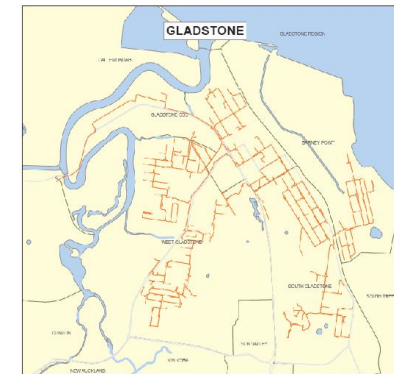
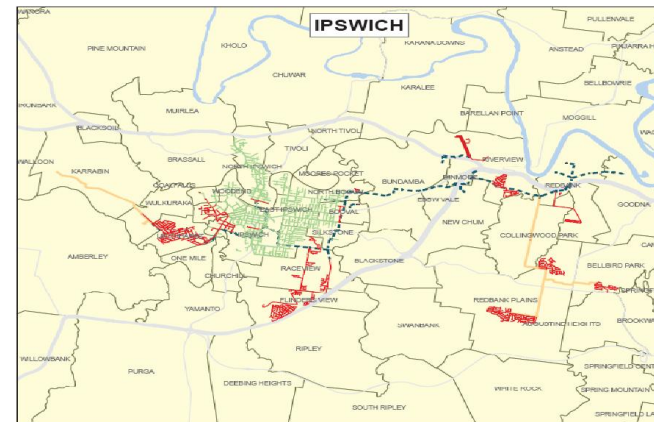
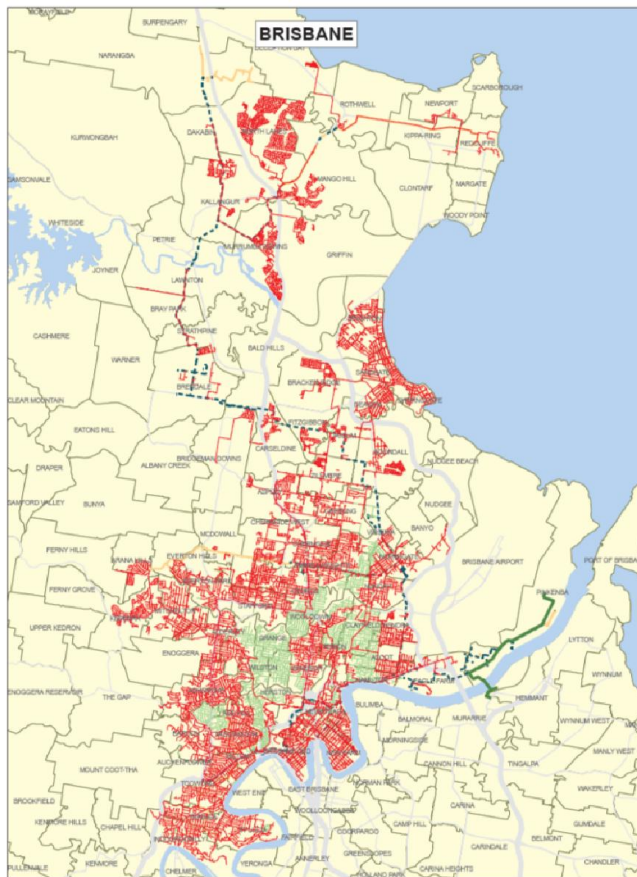


Next Steps

- Seeking the views of key stakeholders on the potential for light handed regulation
 - AER, NCC, Qld Energy Department and Minister's Office, retailers and large users
- Pending this, will develop an application to the NCC (aiming for end of July if we progress)
 - NCC has four months to make its final decision
 - Required to formally consult with the AER
 - NCC makes decision on form of regulation, not minister
 - Different to coverage revocation application



Attachment 1: Maps of Queensland Regulated Network Area





Attachment 2: Section 16 of NGL - Form of Regulation Factors

The form of regulation factors are—

- (a) the presence and extent of any barriers to entry in a market for pipeline services;
- (b) the presence and extent of any network externalities (that is, interdependencies) between a natural gas service provided by a service provider and any other natural gas service provided by the service provider;
- (c) the presence and extent of any network externalities (that is, interdependencies) between a natural gas service provided by a service provider and any other service provided by the service provider in any other market;
- (d) the extent to which any market power possessed by a service provider is, or is likely to be, mitigated by any countervailing market power possessed by a user or prospective user;
- (e) the presence and extent of any substitute, and the elasticity of demand, in a market for a pipeline service in which a service provider provides that service;
- (f) the presence and extent of any substitute for, and the elasticity of demand in a market for, electricity or gas (as the case may be);
- (g) the extent to which there is information available to a prospective user or user, and whether that information is adequate, to enable the prospective user or user to negotiate on an informed basis with a service provider for the provision of a pipeline service to them by the service provider.

Attachment B – NGR Compliance Index

| Clause | National Gas Rule | Submission Location |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 34(1)(b) | Identify the pipeline that provides, or is to provide, the services for which the determination is sought and include a reference to a website at which a description of the pipeline can be inspected | Sections 1.1, 1.7 and 3 |
| 34(1)(c) | Include a description of all pipeline services provided or to be provided by means of the pipeline | Section 3.3 |
| 34(1)(d) | Include the applicant's reasons for asserting that the pipeline services should be light regulation services | Part B |
| 34(1)(e) | Include information, and be accompanied by the documents, on which the applicant relies in support of the application | Entire application |
| 34(2)(a) | The capacity of the pipeline and the extent to which that capacity is currently utilised | Section 3.5 |
| 34(2)(b)(i)-(iii) | For a transmission pipeline, a description of all locations served by the pipeline (i.e. all locations at which receipt or delivery points for natural gas carried by the pipeline exist), a description of all pipelines that currently serve the same locations and a description of all pipelines that currently pass within 100 km of any location served by the pipeline | Not relevant |
| 34(2)(c)(i) | For a distribution pipeline, a description of the geographical area served by the pipeline | Section 3.2 |
| 34(2)(c)(ii) | For a distribution pipeline, a description of the points at which natural gas is, or is to be, injected into the pipeline | Section 3.2 |
| 34(2)(d) | A description of the pipeline services provided, or to be provided, by the pipeline | Section 3.3 |
| 34(2)(e) | An indication of any other sources of energy available to consumers of gas from the pipeline | Section 4.2 |
| 34(2)(f) | The identity of the parties with an interest in the pipeline and the nature and extent of each interest | Section 3.1 |
| 34(2)(g)(i) | A description of any relationship between the owner, operator and controller of the pipeline (or any 2 of them) | Section 3.1 |
| 34(2)(g)(ii) | A description of any relationship between the owner, operator or controller of the pipeline and a user of pipeline services or a supplier or consumer of gas in a location or geographical area served by the pipeline | Section 3.1 |
| 34(2)(g)(iii) | A description of any relationship between the owner, operator or controller of the pipeline and the owner, operator or controller of any other pipeline serving any one or more of the same locations or the same geographical area | Section 3.1 |
| 34(2)(h) | An estimate of the annual cost to the service provider of regulation | Sections 6.2 and 6.3 |
| 34(2)(i) | Any other information the applicant considers relevant to the application of the NGR or the form of regulation factors in the circumstances of the present case | Entire application |

Attachment C – Map

