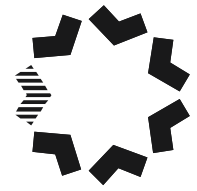


NATIONAL
COMPETITION
COUNCIL



No coverage determination for the proposed QCLNG Pipeline

Application for a 15 year no coverage
determination for the proposed
QCLNG Pipeline



Final recommendation

May 2010

Table of Contents

1 Pipeline classification decision and draft recommendation	3
Initial pipeline classification decision	3
Relevant Minister.....	3
Final recommendation.....	3
2 The application and public consultation	4
Applicant, application and date of application.....	4
Public consultation on the application	4
3 The proposed QCLNG Pipeline and pipeline services	6
4 Initial pipeline classification decision and relevant Minister	7
Pipeline classification decision criterion.....	7
Initial pipeline classification decision	8
The relevant Minister.....	9
5 Making a 15 year no coverage determination	10
6 Consideration against the coverage criteria	12
Coverage criterion (a)	12
Coverage criterion (b)	23
Coverage criterion (c)	30
Coverage criterion (d)	31
Incentive to invest in the QCLNG Project and in the CSG and LNG sectors.....	32
Submission on the draft recommendation by Santos Limited	34
7 References	36
8 Glossary of definitions, abbreviations and units	37
Appendix A Existing and proposed gas pipelines.....	41

1 Pipeline classification decision and draft recommendation

Initial pipeline classification decision

- 1.1 The Council initial pipeline classification decision is that the QCLNG Pipeline comprising the Collection Header and Export Pipeline is a transmission pipeline.
- 1.2 The Council's reasons for its initial pipeline classification decision are set out in section 4 of this report.

Relevant Minister

- 1.3 The relevant Minister is the Commonwealth Minister for Resources Energy and Tourism (Hon. Martin Ferguson).

Final recommendation

- 1.4 The Council is satisfied that the QCLNG Pipeline is a greenfields project involving the construction of a pipeline that will be structurally separate from any existing pipeline.
- 1.5 The Council is required to recommend in favour of a no coverage determination for the QCLNG Pipeline unless it is satisfied that all of the coverage criteria are met. The Council is satisfied that criteria (b) and (c) are met. However, it is not satisfied that criterion (a) is met and relatedly it is not satisfied that criterion (d) is met. As a consequence, the Council's final recommendation to the Commonwealth Minister for Resources Energy and Tourism is that he grant a no coverage determination as sought.
- 1.6 The Council's reasoning for its final recommendation is set out in section 6 of this report.

National Competition Council

3 May 2010

2 The application and public consultation

Applicant, application and date of application

- 2.1 QCLNG Pipeline Pty Ltd (ACN 140 760 612) (**Applicant**), a wholly owned subsidiary of BG Group, applied on 19 January 2010 for a 15-year no coverage determination for its proposed QCLNG Pipeline. The application is available on the Council's website at www.ncc.gov.au.

Public consultation on the application

- 2.2 On 22 January 2010 the Council published a notice in 'The Australian' newspaper advising that it had received the application and calling for written submissions and published the application on its website. In accord with the standard consultative procedure (National Gas Rule 8), the Council provided 15 business days for submissions on the application such that the closing time and date for submissions was 5.00pm on Monday 15 February 2010.
- 2.3 The Council received submissions on the application from the following parties:
- Jemena Limited (**Jemena**)
 - Blue Energy Limited (**Blue Energy**)
 - Energy Users Association of Australia (**EUAA**)
- 2.4 Of these submissions, two were received within the specified period of 15 business days. The EUAA requested additional time for consultation with its members. It provided a draft submission within the 15 day period but replaced this submission on 18 February 2010.
- 2.5 Because this application was the first greenfields incentive matter under the NGL, the Council decided to consider all submissions on the application in making its initial pipeline classification decision and developing its draft recommendation.
- 2.6 In addition to the public submissions the Council held discussions with the Applicant, Arrow Energy Limited (**Arrow Energy**), Blue Energy, APA Group and Queensland Mines and Energy (a unit within the Queensland Department of Employment, Economic Development and Innovation). The Council also engaged Mr Ross Calvert of Ross Calvert Consulting to provide it with technical advice in relation to gas transmission pipelines.
- 2.7 On 23 March 2010 the Council published a draft recommendation that the Commonwealth Minister for Resources Energy and Tourism grant a no coverage determination as sought. The Council received one submission on the draft

recommendation from Santos Limited (**Santos**). The Council met with Santos on 14 April 2010.

3 The proposed QCLNG Pipeline and pipeline services

- 3.1 The application describes the proposed QCLNG Pipeline as a pipeline system comprising the 'Export Pipeline', the 'Collection Header' and 'any augmentations' to expand the capacity of the pipeline following commissioning.
- The Export Pipeline will start at a point in the vicinity of Wandoan, and follow a north easterly route to its end point on Curtis Island.
 - The Collection Header will consist of: the Woleebee Creek Lateral, which will start from a point near the Woleebee Creek Central Processing Plant (CPP) and follow an easterly route to the start point of the Export Pipeline; and the Southern Collection Header, which will start from a point near the Ruby CPP and follow a north westerly route to the start point of the Export Pipeline.
 - The Council has considered the scope of any augmentations to comprise extension to, or expansion of the capacity of the QCLNG Pipeline. This would encompass the compression and looping of the pipeline described in the application.
- 3.2 Further information on the QCLNG Pipeline is available in the application (at chapter 2) and at www.qclng.com.au. The route of the pipeline is shown on the map at Figure A1 (Appendix A).
- 3.3 The QCLNG Pipeline is a greenfields pipeline project. The Council accepts that the project involves the construction of a pipeline that will be structurally separate from any existing pipeline.
- 3.4 The service to be provided by the QCLNG Pipeline will be the transport of gas from areas in the Surat Basin to Curtis Island (Gladstone).
- 3.5 The application states that the Applicant intends to supply a forward haul service to Walloons CSG (an associate of the Applicant) and while having no plans to provide any other service at this time, the Applicant stated that it 'is willing to negotiate with other potential users for services that can be supplied within the technical parameters of the pipeline and the operational requirements of the QCLNG Project' (Application, p. 83).

4 Initial pipeline classification decision and relevant Minister

- 4.1 Where a pipeline the subject of a no coverage application is not an international pipeline (as in the case of the QCLNG Pipeline), the Council must make an initial classification decision classifying the pipeline as a transmission pipeline or distribution pipeline.
- 4.2 As part of the initial classification decision the Council must determine whether the pipeline is also a cross-boundary (transmission or distribution) pipeline. If the Council determines that the pipeline is a cross-boundary distribution pipeline then it must also determine the jurisdiction with which the pipeline is most closely connected.

Pipeline classification decision criterion

- 4.3 The Council must apply the pipeline classification criterion in section 13 of the NGL (see Box 4.1). The criterion requires that pipelines be classified according to whether their primary function is to:
- reticulate gas within a market—in which case the pipeline is a distribution pipeline, or
 - convey gas to a market—in which case it is a transmission pipeline.
- 4.4 In determining the primary function of a pipeline the Council must have regard to the factors set out in section 13(2)(a)-(h) of the NGL (**section 13(2) factors**). These factors do not limit the Council's consideration of the primary function of a pipeline and hence its classification.
- 4.5 The classification question that arises regarding the QCLNG Pipeline is whether it is a transmission pipeline or a distribution pipeline. The pipeline is located entirely within the State of Queensland so the matter of whether the pipeline is a cross boundary pipeline does not arise.

Box 4.1: Pipeline classification criterion (section 13 of the NGL)

- (1) The pipeline classification criterion is whether the primary function of the pipeline is to—
 - (a) reticulate gas within a market (which is the primary function of a distribution pipeline); or
 - (b) convey gas to a market (which is the primary function of a transmission pipeline).
- (2) Without limiting subsection (1), in determining the primary function of the pipeline, regard must also be had to whether the characteristics of the pipeline are those of a transmission pipeline or distribution pipeline having regard to—
 - (a) the characteristics and classification of, as the case requires, an old scheme transmission pipeline or an old scheme distribution pipeline;
 - (b) the characteristics of, as the case requires, a transmission pipeline or a distribution pipeline classified under this Law;
 - (c) the characteristics and classification of pipelines specified in the Rules (if any);
 - (d) the diameter of the pipeline;
 - (e) the pressure at which the pipeline is or will be designed to operate;
 - (f) the number of points at which gas can or will be injected into the pipeline;
 - (g) the extent of the area served or to be served by the pipeline;
 - (h) the pipeline's linear or dendritic configuration.

Initial pipeline classification decision

- 4.6 The Applicant submitted that the QCLNG Pipeline should be classified as a transmission pipeline. The Applicant stated that the primary purpose of the Collection Header is to transport gas from upstream production fields to the start of the Export Pipeline which is used to transport gas to Curtis Island. The Applicant claimed that no part of the pipeline system will be used to reticulate gas within a market.
- 4.7 The Applicant further argued that the characteristics of the QCLNG Pipeline are similar to the characteristics of other pipelines classified as transmission pipelines and presented information on each of the section 13(2) factors.
- 4.8 No other party disputed that either part of the QCLNG Pipeline should be classified as a transmission pipeline.
- 4.9 After considering the section 13(2) factors the Council agrees that the primary purpose of the QCLNG Pipeline is to convey gas from upstream production wells to (1) the proposed QGC liquefied natural gas (LNG) processing plant at Curtis Island for conversion to a form (LNG) capable of being sold in the global market for LNG and (2)

potentially to the domestic gas user market. In considering the section 13(2) factors the Council noted the following.

- The QCLNG Pipeline has no classification status under the NGL.
- The Collection Header and Export Pipeline are long and linear akin to a transmission pipeline.
- The diameter and capacity of the QCLNG Pipeline are larger than the existing largest diameter transmission pipelines in Australia and much larger than the diameter of distribution pipelines.
- The maximum operating pressure of the QCLNG Pipeline of 10.2 MPa is comparable with other transmission pipelines and is much higher than the pressure at which distribution pipelines operate.
- The Export Pipeline conveys gas from the Surat Basin to Curtis Island. The Collection Header conveys gas collected from upstream wells located over a large region of Queensland to the Export Pipeline. However the large region served by the Collection Header is not indicative of a system for reticulating gas in a market.

Decision

4.10 The Council's initial pipeline classification decision is that the QCLNG Pipeline is a transmission pipeline. The QCLNG Pipeline is situated wholly within Queensland.

The relevant Minister

4.11 The Council's initial classification decision determines the relevant Minister to whom it must make the recommendation on the application for no coverage.

4.12 The Council has determined that the proposed pipeline(s) is a transmission pipeline situated wholly within Queensland: therefore the relevant Minister is the designated Minister defined in section 9 of the *National Gas (Queensland) Act 2008* (Qld) as the 'Commonwealth Minister'. The Commonwealth Minister is 'the Minister of the Commonwealth administering the *Australian Energy Market Act 2004* of the Commonwealth'. This is the Commonwealth Minister for Resources Energy and Tourism (Hon. Martin Ferguson).

5 Making a 15 year no coverage determination

- 5.1 Where a person applies for a 15 year no coverage determination the Council is required to make a recommendation to the relevant Minister in respect of that application. The Council's recommendation must be either that the pipeline:
- (a) be exempt from being a covered pipeline for a period of 15 years, or
 - (b) not be exempt from being a covered pipeline for a period of 15 years (NGL section 153(1)).
- 5.2 The effect of a no coverage determination is that a pipeline is exempt from coverage for a period of 15 years from its commissioning (NGL section 158(1)).
- 5.3 In making a no coverage recommendation the Council must give effect to the pipeline coverage criteria (see Box 5.1) and in deciding whether those criteria are satisfied the Council must have regard to the National Gas Objective (see Box 5.2).
- 5.4 Where the Council is satisfied that all of the coverage criteria are met the Council must recommend against making a no coverage determination. If the Council is not satisfied that all the coverage criteria are met it must recommend in favour of making a no coverage determination.
- 5.5 In considering the Council's recommendation and making his or her decision the relevant Minister must consider the same matters and requirements as the Council.
- 5.6 In effect, unless the Council is satisfied that all four coverage criteria are met it must recommend in favour of a no coverage determination, and unless similarly satisfied the Minister must make a no coverage determination.

Box 5.1: The pipeline coverage criteria (section 15 of the NGL)

The pipeline coverage criteria are (**defined terms added**):

- (a) that access (or increased access) to pipeline services provided by means of the pipeline would promote a material increase in competition in at least 1 market (whether or not in Australia), other than the market for the pipeline services provided by means of the pipeline (**criterion (a)**);
- (b) that it would be uneconomic for anyone to develop another pipeline to provide the pipeline services provided by means of the pipeline (**criterion (b)**);
- (c) that access (or increased access) to the pipeline services provided by means of the pipeline can be provided without undue risk to human health or safety (**criterion (c)**);
- (d) that access (or increased access) to the pipeline services provided by means of the pipeline would not be contrary to the public interest (**criterion (d)**).

Box 5.2: The National Gas Objective (section 23 of the NGL)

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

6 Consideration against the coverage criteria

6.1 In the following sections the Council considers each of the coverage criteria in relation to the QCLNG Pipeline having regard to the National Gas Objective.

Coverage criterion (a)

6.2 Coverage criterion (a) addresses whether access (or increased access) to the pipeline services provided by means of the pipeline would promote a material increase in competition in at least one market other than the market for the pipeline service (referred to as a 'dependent market').

6.3 The issue is whether access would improve the opportunities and environment for competition in dependent markets so as to promote materially more competitive outcomes. The assessment is concerned with the process of competition, rather than the particular commercial interests or pursuits of any party. If a dependent market is already effectively competitive then it would be unlikely that access would improve the competitive environment such that criterion (a) is satisfied.

6.4 In assessing whether criterion (a) is satisfied, the Council:

- identifies the relevant dependent (upstream or downstream) markets
- considers whether the identified dependent market(s) is separate from the market for the pipeline service, and
- assesses whether access (or increased access) would be likely to promote a materially more competitive environment in the dependent market(s).

Defining the relevant dependent market

6.5 The first step in applying criterion (a) is to define the market(s) in which competition may be promoted as a result of the QCLNG Pipeline being covered and to determine that this dependent market(s) is separate from the market for the services provided by the QCLNG Pipeline. Typically, the dependent market(s) will either be upstream or downstream from the market for the pipeline service.

6.6 Markets are typically defined according to product, geographic and functional dimensions. The product and geographic boundaries of a market are defined in terms of the substitutability among products and substitutability among products over a particular geographic area.

Applicant and other views on the relevant dependent markets

6.7 In summary, the Applicant submitted that there are three dependent markets being:

-
- an upstream market for the production and sale of gas in southern Queensland delineated by the region of gas production and sales served by the QCLNG Pipeline; that is, gas producers and sellers within particular gas fields or within scope of feasible interconnection with the QCLNG Pipeline (**upstream gas production market**)
 - a downstream market for sale of gas in Gladstone, Rockhampton and the Wide Bay area (or alternatively, a market in Southern Queensland) involving transactions between gas sellers and domestic¹ users of gas (**downstream domestic gas sales market**) and
 - a downstream global market for the production and sale of LNG involving transactions between producers and sellers of LNG and users of LNG (**downstream LNG market**).

6.8 The Applicant considered that the product dimension of the upstream gas production market and the downstream gas sales market encompasses both coal seam gas (**CSG**) and conventional natural gas, noting that while there are differences between the two, CSG with limited processing is sufficiently similar in composition to conventional natural gas to be sold in competition to natural gas and transported through natural gas transmission and distribution pipelines.

6.9 The Applicant identified a range of active competitors of different sizes involved in the upstream gas production (some vertically integrated into downstream activities such as distribution or proposed LNG production). It defined the geographic boundaries of the upstream gas production market to be the upstream regions from which gas producers could physically access downstream markets using the QCLNG Pipeline.

6.10 The Applicant also identified a range of domestic users of gas operating in a downstream gas sales market, including large industrial users (such as gas fired power stations and alumina refineries), smaller industrial users and households (served by reticulated distribution systems). The Applicant defined the geographic dimension of this market in terms of the downstream regions where there is customer demand capable (either directly or via interconnection) of being served or potentially served by the QCLNG Pipeline, and potentially any other pipelines running from the Surat Basin to Gladstone. The Applicant considered that it might be appropriate to adopt an alternative, broader geographic dimension of the downstream gas sales market—involving a gas sales market encompassing the whole of the state of Queensland—on the basis of potential backhaul on the QCLNG Pipeline and interconnection possibilities.

6.11 The Applicant considered the downstream LNG market to be functionally distinct from the downstream gas sales market, noting that activity in relation to the

¹ The term 'domestic' refers here to all sales/use of gas within Australia.

production and sale of LNG is global so distinct from the production and sale of gas domestically. While gas is an input to LNG production, LNG unlike gas is able to be shipped internationally to customer markets. The Applicant also advised that there is negligible domestic demand for LNG.

- 6.12 Blue Energy, a junior exploration company working to develop CSG tenements in a range of areas including the Surat Basin, submitted that there are three relevant dependent markets in which it considered access would promote competition: the market for the wholesale supply of CSG in the Surat Basin and/or Surat and Bowen regions for LNG production, a 'tenements market' for the sale of CSG exploration permits or interests in permits, and a market for the toll manufacture of CSG. In particular, Blue Energy distinguished between gas produced for LNG production for export and for domestic use, submitting that access to the QCLNG Pipeline would allow it and other small producers of CSG to sell their gas for LNG production for which prices are higher.
- 6.13 The EUAA considered competition effects in an upstream gas production market and a downstream gas user market in the Gladstone, Rockhampton and Wide Bay areas.

The Council's view on the relevant dependent markets

- 6.14 The most likely markets in which competition may be promoted by access to the QCLNG Pipeline are the gas markets upstream and downstream of the QCLNG Pipeline.

Upstream market(s)

- 6.15 Natural gas consists mainly of methane with two forms produced in Australia—conventional natural gas and CSG. In southern and eastern Australia most conventional natural gas is produced in the Gippsland Basin in Victoria and Cooper and Eromanga basins in central Australia. CSG is produced in Queensland (Surat and Bowen basins) and in New South Wales. In 2008-09 CSG accounted for 90 per cent and 100 per cent of Queensland and New South Wales gas production respectively (AEMO 2009 p. 2-6). CSG accounted for around 10 per cent of total gas consumed in Australia and 80 per cent of gas consumed in Queensland in 2007-08 (Geoscience Australia and ABARE 2010).
- 6.16 The Council agrees with the Applicant that the two forms of natural gas are sufficiently close substitutes so as to be regarded as being in the same gas production market. In any case, most gas produced in Queensland is CSG so the effect of any distinction for the purpose of considering competition effects is likely to be immaterial.
- 6.17 The Council considers that the geographic boundary of the upstream gas production market is delineated by the producers served or potentially served by the QCLNG

Pipeline: that is producers in the Surat Basin within the scope of feasible interconnection with the pipeline. The Council acknowledges that with the recent QSN Link the geographic boundary of the upstream gas production market might be considered to extend more broadly, encompassing gas producers connected to the Moomba hub. However if coverage criterion (a) is not satisfied for the upstream gas production market centred on the geographic area within the scope of feasible interconnection to the QCLNG Pipeline then it will also not be satisfied for a broader geographic gas production market where there is extensive transmission interconnection.

- 6.18 The Council considered Blue Energy's comments that persistent differences in the prices of gas sold for LNG manufacture and gas sold for domestic use warrant consideration that gas (CSG) production for LNG production and gas production for domestic use are different products and should be considered to be in separate upstream markets.
- 6.19 Available evidence suggests considerable linkage between the price of LNG (adjusted for liquefaction and freight costs) and the price of gas sold domestically. For example, a report by McLennan Magasanik Associates (**MMA**) prepared for the Queensland Government noted that CSG reserves that may previously have been available for domestic contracts are being retained for LNG projects with a consequent 'upward price pressure on the domestic market' (MMA 2009, p. 136) and the EUAA advised that many of its members 'have experienced price shocks as gas producers have withheld reserves and effectively abandoned the domestic market in order to enhance their competitive position in the international LNG market' (EUAA sub, p. 5). There are also projections that domestic gas prices will ease with the production of ramp gas during the period that LNG capacity is being developed.
- 6.20 The Council considers that CSG is sufficiently substitutable between use for domestic purposes and use for LNG manufacture such that domestic and export market outcomes are most likely to be integrated. If high international prices lead gas producers to direct gas to LNG production then the outcome is likely to be reduced quantities of gas for domestic use and consequently higher domestic gas prices (though it is not possible to predict whether prices would achieve parity). The Council therefore confined its analysis to a single upstream gas production market.
- 6.21 The Council accepts that there may be a relevant upstream dependent market for exploration permits or rights to exploit exploration permits in the Surat Basin as Blue Energy argued. However, consideration of competition outcomes in such a market(s) is likely to encompass the same considerations as for an upstream gas production market such that a finding that competition is or is not promoted in the upstream gas production market would also apply to the tenements or exploration rights markets. The Council therefore did not specifically consider the tenements or exploration rights markets.

Downstream market(s)

- 6.22 Downstream domestic users of gas include large industrial users, smaller industrial users and households. Participants in the domestic gas sales market may include gas wholesalers dealing directly with large industrial customers or gas retailers.
- 6.23 The Council considers that the geographic scope of the downstream gas sales market encompasses those regions where there is customer demand capable of being served or potentially served by the QCLNG Pipeline. The geographic spread of this market is most likely the Gladstone / Rockhampton / Wide Bay area which is the area capable of being directly served by the QCLNG Pipeline (and interconnection via the Wide Bay Pipeline and QGP). Considering the scope for current and future interconnection, the downstream gas user market could be more broadly defined geographically as encompassing the Queensland gas user market. However, the Council proposes to confine its consideration to the gas user market in the Gladstone / Rockhampton / Wide Bay area noting that if coverage criterion (a) is not met in relation to this market then it is unlikely to be met for the broader geographic area.
- 6.24 The Council agrees with the Applicant that there is a separate downstream market for LNG. This is a global market. LNG (in its liquefied form) is 1/600th of its volume in a gaseous state and is able to be shipped internationally to customer markets.
- 6.25 The Council does not consider that there is a relevant downstream dependent market for the toll manufacture of LNG as postulated by Blue Energy. The Council doubts that anyone would seek to develop an LNG plant remote from a source of gas without an associated pipeline and gas supply contracts or an LNG plant and pipeline without a secured supply of gas. In this regard, the Council notes advice received from the proponent of the Impel (Southern Cross LNG) Project, which was to comprise an open-access LNG terminal on Curtis Island and an open-access 400 kilometre pipeline to Gladstone, that the project has 'ceased to be a viable project' and that the site allocated to the project is now the subject of resumption (email advice to the Council 20 February 2010).

The relevant dependent markets in summary

- 6.26 The Council considers that the most relevant dependent markets are the:
- upstream gas production market within the scope of feasible interconnection using existing or proposed transmission pipelines with the QCLNG Pipeline
 - downstream gas sales market centred on the Gladstone / Rockhampton / Wide Bay area, and
 - downstream global LNG market.

6.27 These dependent markets are economically separate and economically distinct from the market for the pipeline services to which this application for a no coverage determination relate.

Consideration of competition outcomes

The upstream gas production market

6.28 The Applicant submitted that it will have neither the ability nor incentive to exercise market power to the detriment of competition in the upstream gas production market. It submitted that upstream gas producers (of CSG and conventional natural gas) have multiple alternatives for transporting gas produced in their gas fields to markets in Queensland (and southern states) via existing and proposed pipelines (see Appendix 1, Figures A1 and A2 for maps showing the relevant pipelines). It submitted that upstream producers are able to supply gas to:

- domestic users in Gladstone, Rockhampton and Wide Bay area via the Queensland Gas Pipeline (**QGP**), which runs from Roma (Wallumbilla) via Gladstone to Rockhampton, or, depending on location of the producer, via a combination of backhaul on the Roma (Wallumbilla) to Brisbane Pipeline (**RBP**) and forward haul on the QGP
- domestic users in Southern Queensland (including Brisbane and surrounding areas) via the South West Queensland Pipeline (**SWQP**), which runs from Wallumbilla to Ballera, and the RBP
- domestic gas sales markets in southern states via the SWQP (using the Queensland to South Australia/New South Wales Link (**QSN Link**) and Moomba to Adelaide Pipeline or Moomba to Sydney Pipeline (and potentially the proposed Hunter Gas Pipeline to run from Wallumbilla to Newcastle, and
- (at least potentially) domestic users in the Gladstone, Rockhampton and Wide Bay area using spare capacity on the QCLNG Pipeline or one of up to three further proposed LNG export pipelines (assuming the user meets gas specification requirements and it is economic to do so after considering upstream and downstream tie in costs).

6.29 The Applicant further considered that the larger upstream gas producers (in particular those involved in LNG production) are likely to require their own dedicated gas transmission pipelines so would not see the QCLNG Pipeline as an attractive transport option. The Applicant also considered that smaller gas producers are unlikely to see the QCLNG Pipeline as an attractive commercial option due to the location of their tenements, the costs of tie-in to the QCLNG Pipeline, the lower transportation costs of using other pipelines and the gas specification requirements of the QCLNG Project.

-
- 6.30 Blue Energy submitted, however, that without access to the QCLNG Pipeline, junior gas producers will be denied use of the most efficient means of transporting their CSG for conversion to LNG. Blue Energy argued that this would constrain the development of independent CSG producers in the Surat and Bowen basins whose expansion depends on an ability to transport gas to Gladstone for LNG manufacture (because there is insufficient demand from domestic gas users). Without access to the QCLNG Pipeline Blue Energy considered that junior CSG producers would either have to accept the price they are offered for their gas by the vertically integrated operator of the QCLNG Pipeline or direct their CSG to the lower priced domestic gas market.
- 6.31 Blue Energy also submitted that the QGP (identified by the Applicant as an alternative to the QCLNG Pipeline for transport of gas to Gladstone) was not a viable option for transporting CSG for LNG production because the pipeline carries a mix of gas (so that the gas carried is unlikely to be able to be used in any LNG plant) and because the QGP is capacity constrained and unable to provide the capacity required by Blue Energy or similar producers. Blue Energy also raised concerns about the capacity of the RBP, claiming that even if sales to the domestic gas user market provide a higher return, the RBP has already been expanded both through compression and full looping and could not feasibly provide the capacity required by Blue Energy or similar producers.
- 6.32 Blue Energy further argued that a lack of access to the QCLNG Pipeline would also inhibit the creation of tolling LNG manufacturing plants (without an integrated pipeline) because there would be no way to efficiently deliver gas to such a plant. Blue Energy argued that this would adversely affect competition in the upstream CSG production market (and a separate gas tenements / exploration market): if the QCLNG Pipeline is not covered there would be reduced competition in these market(s) because CSG producers would be prevented from efficiently transporting gas to potential toll manufacturers of LNG. Blue Energy considered that the result would be that the operator of the QCLNG Pipeline would be the only potential purchaser of a junior producer's gas or tenements / exploration permits.
- 6.33 The EUAA disputed the Applicant's argument that access to the QCLNG Pipeline would not promote a material increase in competition in the upstream gas production market. It rejected the Applicant's contention that the QCLNG Pipeline would not be an attractive commercial option for small gas producers on the basis that there is too much uncertainty to conclude unequivocally in this way. Further it considered that in the absence of a no coverage determination, there would be good reason for upstream gas producers that are also Gladstone LNG manufacturers to use the QCLNG Pipeline rather than build their own.
- 6.34 The Council considers that the Applicant's vertical integration into the upstream gas production market provides it with some incentive to refuse access to other upstream gas producers, as recognised by Blue Energy. However, with the existing pipeline

network providing a range of alternative gas transport options and the probability of other transmission pipelines being constructed by proponents of LNG production projects such action is unlikely to be successful (as the Applicant itself recognises).

- 6.35 The existing gas transmission network in eastern and southern Australia (in conjunction with backhaul arrangements depending on the location of tenements) enables gas producers in the Surat Basin to access gas sales markets in several regions. Gas producers can currently access markets in Gladstone, Rockhampton and the Wide Bay area (principally via the QGP and Wide Bay Pipeline), markets in and around Mt Isa via the SWQP and Carpentaria Gas Pipeline, markets in Brisbane and the vicinity of Brisbane via the RBP, and other markets in Queensland and in southern and eastern states via the SWQP and the QSN Link (connecting to Mt Isa via the Carpentaria Gas Pipeline, to Sydney and vicinity via the Moomba to Sydney Pipeline and to Adelaide and vicinity via the Moomba to Adelaide Pipeline System).² Gas producers could also strike long term foundation contracts to underpin the development of new pipelines. In such circumstances, with the likelihood of spare capacity on the QCLNG Pipeline (at least until the QCLNG Project ramps up to four trains) the main outcome of a decision by the Applicant to refuse access would be to lose the opportunity to earn revenue from the sale of pipeline services.
- 6.36 As well as the existing pipeline network and the QCLNG Pipeline, there are a number of proposals for integrated gas transport / LNG production facilities involving the construction of transmission pipelines from the Surat Basin to Gladstone currently scheduled to be commissioned within the next 3-4 years.³ These will potentially offer additional alternatives to the QCLNG Pipeline for transporting gas from the Surat Basin to Gladstone.
- 6.37 The following three pipeline/LNG production projects have been the subject of significant announcements and commercial discussion:⁴
- Arrow Energy proposes to construct a 467 kilometre transmission pipeline from near Dalby in the Surat Basin to transport gas to its proposed LNG plant at Fisherman's Landing at Gladstone and to a proposed Shell Australia LNG plant on Curtis Island at Gladstone.
 - Origin Energy and Conoco-Phillips, under a joint venture arrangement, propose to construct the Australia Pacific LNG Project comprising a 450

² Appendix 1 Figure A2 shows the routes of existing and proposed transmission pipelines in southern and eastern Australia.

³ Appendix 1 Figure A1 shows the routes of the proposed pipelines from the Surat Basin to Gladstone.

⁴ Southern Cross LNG advised the Council on 20 February 2010 that the Southern Cross LNG Project, which was to involve an open access pipeline and open access LNG plant at Gladstone, has ceased to be a viable project.

kilometre transmission pipeline from Walloons gas fields in the Surat Basin to a proposed LNG plant on Curtis Island at Gladstone.

- Santos and Petronas, under a joint venture arrangement, propose to construct the Gladstone LNG Project comprising a 435 kilometre transmission pipeline from a location east of Injune in the Surat Basin to a proposed LNG plant on Curtis Island at Gladstone.

6.38 Further, the Hunter Gas Pipeline Pty Ltd proposes to construct the Hunter Gas Pipeline, a gas transmission pipeline from the Wallumbilla hub in Queensland to Newcastle in New South Wales.

6.39 Given the questions about the capacity of the QGP and the RBP the Council sought advice from the operators of each pipeline to ascertain whether capacity questions might rule out the QGP or RBP as transport alternatives to the QCLNG Pipeline. APA Group, which operates the RBP, advised that it could readily expand the capacity of the pipeline (currently 208 TJ/day) in response to new gas transport contracts. Jemena, which operates the QGP, advised the Council that it has recently completed the Stage 1 expansion of the QGP. This expansion has provided additional capacity to meet the needs of the new Rio Tinto Yarwun Stage 2 Alumina Refinery and Cogeneration project, growth within the existing Gladstone customer base, plus a small amount of spare capacity that is currently available to contract. (While the original design capacity of Stage 1 was 134 TJ/d, the actual capacity of the current QGP configuration as constructed is 142 TJ/d.) Jemena also advised that further expansion stages of the pipeline are possible and will be considered if economic as demand for gas in Gladstone grows.

6.40 In the Council's view, the availability of current and potential future alternatives to the QCLNG Pipeline to upstream gas producers means that the vertically integrated operator of the QCLNG Pipeline is unlikely to have the incentive or ability to materially influence competitive outcomes in the upstream gas production market. Accordingly access to the QCLNG Pipeline is unlikely to promote a material increase in competition in the upstream gas production market.

The downstream gas sales market in the Gladstone / Rockhampton / Wide Bay area

6.41 The Applicant argued that, as for the upstream gas production market, the existence of a network of existing and proposed gas transmission pipelines means that market participants in the downstream gas sales market have multiple (current and future) options to transport gas to their own or their customers' premises in the Gladstone, Rockhampton or Wide Bay areas (or other areas of southern Queensland). The Applicant considered participants in the downstream domestic gas sales market have options (existing and proposed) for acquiring gas from the Surat and Bowen basins (and even the Cooper and Eromanga basins) via:

- the existing or an expanded QGP

-
- the existing or an expanded QGP together with backhaul arrangements on the RBP and/or the SWQP/QSN
 - the proposed Central Queensland Pipeline (**CQP**), which will link the Moranbah gas fields in the Bowen Basin to the Gladstone area
 - (at least potentially) using spare capacity on the QCLNG Pipeline or one of up to three other proposed LNG export pipelines.⁵

6.42 The Applicant considered that the availability of these options mean the operator of the QCLNG Pipeline would have little ability or incentive to exert market power in the downstream gas sales market centred on the Gladstone / Rockhampton / Wide Bay area.

6.43 The EUAA submitted that with the QCLNG Pipeline available, the QGP would not necessarily be the predominant means by which users in the Gladstone / Rockhampton / Wide Bay area will obtain gas and that access to the QCLNG (which it argued would have considerable spare capacity in the foreseeable future) would be a more cost effective means of transporting gas to Gladstone than access to the QGP, which it considered may be close to full capacity once Origin Energy's expansion is complete and the Yarwun cogeneration plant fully commissioned (so would require capital expansion). The advice from Jemena at paragraph [6.39] is that there is a small amount of remaining capacity on the QGP following the commissioning of the Yarwun plant and scope to further enhance the pipeline's capacity.

6.44 The EUAA also submitted that access to the QCLNG Pipeline would place competitive pressure on the QGP (currently the only pipeline delivering gas to Gladstone) to reduce the price of its services. The EUAA submitted that without such competitive pressure, the uncovered and (as it argued) capacity constrained QGP would have little incentive to ensure efficient access prices. The EUAA considered that a lack of access to the QCLNG Pipeline would therefore have ramifications for downstream gas users in the Gladstone/Rockhampton/Wide Bay area and more generally (through back haul from Gladstone) throughout Queensland. (Nonetheless in its comments on criterion (b) the EUAA seemed to accept that additional transport options in the future are likely. It considered for example that the Applicant's statement that competing LNG projects would seek to build their own pipelines to Gladstone rather than use the Applicant's pipeline 'seems quite plausible' given the stated intentions of the various proponents.)

6.45 In the Council's view the current proposals for LNG projects involving a transmission pipeline suggest that there are likely to be other pipelines that potentially offer additional means by which users in the Gladstone / Rockhampton / Wide Bay area may obtain gas, either from the Surat Basin or from the Bowen Basin. There are three proposals (other than the QCLNG Pipeline) involving gas transmission pipelines from

⁵ See Appendix 1 figures A1 and A2.

the Surat Basin to Gladstone (see paragraph [6.36]). There is also a proposal for a transmission pipeline from the Bowen Basin to Gladstone. The CQP, to run from Moranbah to Gladstone, is to be developed by a joint venture involving Arrow Energy and AGL Energy. It is unclear when this pipeline will be constructed. According to Arrow Energy, however, the project is well advanced in all areas with all environmental studies completed, native title and cultural heritage agreements in place and easements obtained for over 70 percent of the route. In September 2008, the Queensland Government awarded the joint venture a 45-year point-to-point gas pipeline licence from Moranbah to Gladstone.⁶

- 6.46 The Council acknowledges that there is uncertainty about whether all proposed pipelines will proceed to development and the timing of pipeline developments. However gas users in the Gladstone / Rockhampton / Wide Bay area will have at least gas supply options via the existing QGP and potentially the QCLNG Pipeline. Were any other proposals to proceed, then there would be additional transport options available to downstream gas users to bypass the QCLNG Pipeline. Under this scenario, as with the upstream gas production market the operator of the QCLNG Pipeline will likely have little incentive or ability to exercise market power in the downstream gas sales market. Accordingly the Council considers that access to the QCLNG Pipeline is unlikely to promote a material increase in competition in the downstream gas sales market in the Gladstone/Rockhampton/Wide Bay area.
- 6.47 At a broader geographic level (either Queensland or eastern and southern Australia), currently existing interconnection of the southern and eastern Australian jurisdictions provides options for participants in southern and eastern Australian gas sales markets to source gas from alternative gas basins such that access to the QCLNG Pipeline is unlikely to promote a material increase in competition in a broader geographic domestic gas sales market.

The downstream LNG market

- 6.48 The Applicant submitted that the downstream LNG market is a competitive global market with competition between major LNG projects occurring within and between countries. It stated that LNG is a global commodity with prices set by world supply and demand, with some regional variations. No party challenged this assessment.
- 6.49 The Applicant accepted that as an entity that is vertically integrated into the downstream LNG market, the incentive to foreclose access to other participants in the downstream LNG market is at least a theoretical possibility. It argued however that it had no practical commercial incentive to do so, noting that its principal objective is to ensure that it has certainty of access to its own pipeline for the

⁶ http://www.arrowenergy.com.au/page/Projects/Australia/Central_Queensland_Pipeline accessed 8 March 2010

purposes of its LNG project in Gladstone and that the LNG market is already effectively competitive.

6.50 The Applicant further argued that even if it could be established that access to the QCLNG Pipeline is critical to the establishment of another LNG manufacturing plant in Gladstone (which it considered is not the case) this would not improve the state of competition in the already competitive global LNG market.

6.51 The Council agrees that the downstream LNG market is already a competitive international market. Australia's key LNG markets are Japan, South Korea, China and Taiwan, with some 79 per cent of Australia's LNG going to Japan (AER 2009, p. 26). Apart from Australia, which was the world's sixth largest exporter in 2008 (AER 2009, p. 27), there are several other exporters of LNG of which the largest are Qatar, Malaysia and Indonesia. Some 18 countries import LNG with a further 17 having import plants under construction or planned (AER 2009, p. 26).

6.52 In the Council's view, access to the QCLNG Pipeline will therefore not promote a material increase in competition in the downstream LNG market.

Conclusion on coverage criterion (a)

6.53 The Council is not satisfied that access to the QCLNG Pipeline would promote a material increase in competition in any likely dependent market and therefore cannot be satisfied that coverage criterion (a) is satisfied.

6.54 Accordingly the Council cannot be satisfied that all the coverage criteria are met in relation to the QCLNG Pipeline and must make a recommendation that a no coverage determination be made.

Coverage criterion (b)

6.55 Coverage criterion (b) is concerned with whether 'it would be uneconomic for anyone to develop another pipeline to provide the pipeline services'. This consideration centres on identifying whether a pipeline exhibits 'natural monopoly' characteristics such that it is more efficient (in terms of Australia's national interest) for the service to be provided by a single pipeline rather than more than one pipeline.

6.56 Gas pipelines commonly exhibit natural monopoly characteristics; where substantial fixed costs and low operating costs combine to generate economies of scale and scope. Generally, under these conditions and across a broad range of demand, the cost of constructing and operating one pipeline will be less than the cost of constructing and operating two or more pipelines, such that the development of another pipeline to provide the service would be a wasteful use of society's resources.

-
- 6.57 In the Council's view the National Gas Objective requires that the term 'uneconomic' in criterion (b) be given a broad social (national interest) construction. The parameters and number of pipelines that may be constructed for commercial reasons may differ from those which might be optimal from a social perspective. In these circumstances the number of pipelines constructed for commercial reasons may not be determinative of criterion (b) and the criterion might be satisfied even though based on commercial decisions more than one pipeline is likely to be constructed.
- 6.58 In the context of a no coverage determination—where by definition the Council is considering a pipeline that has not yet been constructed—a further related issue arises. When considering criterion (b) in the context of an existing pipeline the accepted approach is to consider whether the pipeline can meet foreseeable demand and if not to compare the 'economics' of expanding capacity of the pipeline with constructing an additional pipeline.⁷ While the addition of compression and looping are often viable and relatively inexpensive means of expanding the capacity of an existing pipeline, it is impractical to consider the capacity that would result from a larger diameter or higher specification pipeline.
- 6.59 In the case of a greenfield pipeline an issue that arises is whether, or to what extent, consideration of criterion (b) should take the specification of the pipeline as proposed by an applicant for a no coverage determination as a given. Of course companies are free to determine the specification and diameter of pipeline that best suits their commercial objectives but the result of that commercial consideration may not equate with what would be best from a national interest perspective. The issue for the Council is whether it should recommend a no coverage determination in such situations. Recommending in favour of a no coverage determination where a proposed pipeline has less capacity than a larger pipeline which might be constructed appears to run the risk that a proposed pipeline that provides less capacity might not meet criterion (b) (and get a no coverage determination) whereas a larger pipeline which is preferable from a national interest perspective would be found to be uneconomic to duplicate and would not be able to get a no coverage determination.⁸ That outcome appears to provide perverse incentives and to be inconsistent with the National Gas Objective.
- 6.60 When considering criterion (b) in the context of a no coverage determination it appears to the Council that it may be appropriate to address criterion (b) on the basis of whether an optimally sized and specified pipeline could meet foreseeable demand at less cost than more than one pipeline, rather than to confine that consideration to the pipeline proposed by the Applicant.

⁷ *Re Duke Eastern Gas Pipeline Pty Ltd* [2001] ACompT 2, especially at [137]

⁸ A pipeline might of course still gain a no coverage determination on the basis that the Council is not satisfied that one of the other coverage criteria is met.

Foreseeable demand for the service

- 6.61 Demand for the service provided by the QCLNG Pipeline—the transport of gas from the Surat Basin to Gladstone—is generally influenced by: (a) demand for the forward haul of gas for LNG production at Gladstone, and (b) demand for domestic and industrial use of gas in the Gladstone region.
- 6.62 The demand for pipeline services for LNG production at Gladstone is broadly a function of likely future global demand for LNG and the available gas resource. The MMA report (2009) (on which the Applicant has relied in developing its estimate of reasonably foreseeable demand for pipeline services) predicted that global demand for LNG will increase to between 245 and 340 million tonnes per annum (**mtpa**) by 2015 and up to 380 mtpa by 2020.
- 6.63 The MMA Report described a ‘feasible’ growth scenario for the Queensland LNG industry involving LNG production reaching 28 mtpa in 2021, although it qualified this assessment noting possible variations in timing and project scale (MMA 2009, p. 9). The MMA scenario assumes eight LNG trains constructed over the period 2014-2021 (each train producing approximately 3.5 mtpa of LNG) which will require development of gas reserves of 35 200 PJ. The MMA Report considered this level of gas reserve to be readily achievable and that the required resources would be sourced predominantly from the Bowen and Surat basins.
- 6.64 On the basis that each of the eight LNG trains would require approximately 220 PJ of gas per year, the Applicant submitted that likely demand for the services of the QCLNG Pipeline for LNG production would be 1760 PJ/a or 4819 TJ/day of gas.
- 6.65 The Applicant submitted that the main centres of domestic demand that would be potentially served by gas carried through the QCLNG Pipeline are Gladstone, Rockhampton and the Wide Bay area (Bundaberg, Maryborough and Hervey Bay) (Application p. 30). On the basis of modelling undertaken for the Applicant by ACIL Tasman, the Applicant submitted that peak domestic and industrial demand in the Gladstone region will be approximately 66 PJ/a or 181 TJ/day.
- 6.66 Adding demand from LNG producers of 4819 TJ/day to domestic demand in the Gladstone region of 181 TJ/day, the Applicant submitted that reasonably foreseeable peak demand for transport of gas from the Surat Basin to Gladstone over the assessment period for this application will be of the order of 5000 TJ/day or 1876 PJ/a.
- 6.67 Blue Energy considered that reasonably foreseeable demand would be less than this. It argued that because of the high costs of interconnection to the QCLNG Pipeline from distant tenements, demand for use of the QCLNG Pipeline will comprise only the demand from gas producers within a realistic connection distance (Blue Energy sub, p. 8). It also argued, together with the EUAA, that the estimate of foreseeable demand for the use of the QCLNG Pipeline will be lower than the Applicant estimated

if other announced LNG pipelines proceed. The EUAA also noted uncertainty in LNG demand projections, inferring that demand for the services of the QCLNG Pipeline may be lower than estimated by the Applicant.

6.68 The Council does not accept that the estimate of foreseeable demand should be reduced for the reasons advanced by Blue Energy and the EUAA. The relevant demand to be considered in the context of the assessment of criterion (b) is demand for the service of transporting gas from the Surat Basin to Gladstone. This is not confined to estimates of demand for use of any particular pipeline. What is relevant to assessing whether it is uneconomic to develop another pipeline to transport gas from the Surat Basin to Gladstone is establishing whether or not the likely range of demand can be met by the QCLNG Pipeline or another single pipeline. For the purpose that assessment the Council is satisfied that the estimate of foreseeable demand provided by the Applicant is a reasonable one.

The capacity of the QCLNG Pipeline

6.69 The Applicant’s assessment of the capacity that can be achieved on its Export Pipeline at various levels of compression and looping is as set out in the table below (Application p. 45). The Applicant noted that the capacity of the Export Pipeline necessarily limits the capacity of Collection Header; therefore, the capacity of Export Pipeline is equivalent to the achievable capacity of the QCLNG Pipeline as a whole. As advised by the Applicant, the capacity of the QCLNG Pipeline under various augmentation scenarios is summarised in Table 6.1.

Table 6.1: The capacity of the QCLNG Pipeline

Level of augmentation of the QCLNG Pipeline	Capacity (TJ/day)
Free flow capacity of the Export Pipeline	1510
Capacity of the Export Pipeline with a single 28 megawatt compressor	2213
Maximum capacity of the Export Pipeline with compression (four 40 megawatt compressors)	2916
Capacity of the Export Pipeline if fully looped (without compression)	3020
Maximum capacity of the Export Pipeline if fully looped and fully compressed (ie 2 x four 40 megawatt compressors)	5832

Source: Application p. 45

6.70 None of the submissions challenged the Applicant’s estimates of the capacity of the QCLNG Pipeline.

Uneconomic to develop another pipeline?

- 6.71 The Applicant submitted that the QCLNG Pipeline could accommodate all reasonably foreseeable peak demand (of 5000 TJ/day, 1876 PJ/a) provided the pipeline was fully looped and compressed. However it argued that the cost of fully looping the Export Pipeline would be greater than the cost of duplicating the Export Pipeline and that as a result the QCLNG Pipeline is economic to duplicate.
- 6.72 To support its submission the Applicant provided a report from OSD Pipelines estimating the cost of constructing a 42 inch diameter 340 kilometre pipeline (the QCLNG Export Pipeline) and the cost of looping this pipeline (after it is constructed) (Application, Annexure 7). The report estimated that the cost of looping the entire length of the pipeline within the same 40 metre easement would be over 1.2 times the cost of building a duplicate pipeline of the same length along a different route (with a margin of error of plus or minus 35 per cent). The key reason for the higher cost of looping is the additional cost arising from the need to protect the integrity of the existing pipeline while building a loop alongside it. In particular, the costs of clearing/grading and trenching/blasting are significantly higher given the safety precautions required in the proximity of an existing gas pipeline. The OSD Pipelines report concluded that it 'may be more practical and cost effective to construct a parallel pipeline separated by some nominal distance'.
- 6.73 The Council acknowledges that gas pipelines are a sufficiently known and mature technology to allow the kind of broad estimates OSD Pipelines has made as to the relativity of looping and duplication costs.⁹ The Council does not dispute OSD Pipelines' conclusions within the stated assumptions, and considers that the report's calculations are likely to be reasonably accurate within the stated margin of error. While OSD Pipelines' calculations relate to the present, and future changes in areas such as pipeline technology and safety and environmental standards may alter those calculations, the Council accepts that the cost relativity between looping and duplication of the constructed QCLNG Pipeline is likely to remain broadly similar for the foreseeable future.
- 6.74 The Applicant also made reference to the MMA report to further support its case that the appropriate approach in this case is the construction of multiple pipelines. It quoted the following passage in the MMA report, which states among other things that there are few scale economies achievable after a pipeline reaches a size that is capable of serving 2-3 trains.

⁹ The OSD Pipelines report is based on a desktop study, utilising the firm's pipeline costing database. The Council accepts that construction costs cannot be estimated definitively prior to an engineering study being undertaken (and even then are subject to uncertainties and contingencies), but it does not agree with the EUAA that 'until detailed engineering studies have been done, it would be impossible to conclude with any certainty on the relative cost of one pipeline against another' (EUAA Sub p. 8).

Several factors suggest that the capacity requirement [to underpin a QLD LNG industry] will be met most efficiently by a series of replica pipelines using the same route, rather than by one very large capacity pipeline:

- The sequential construction of LNG trains and the likelihood that at most 3 or 4 trains will be committed by the time pipeline design has to be finalised and pipe orders made;
- Significant economies of scale can be achieved by pipelines serving 2-3 trains (450 to 675 PJ/a) with very few further economies to be gained at even greater scales;
- The consequences of pipeline failure are less severe;
- Flexibility to alter the route and design is preserved until further LNG trains and associated gas reserves are committed. (MMA report quoted at Application, p. 42)

6.75 At one level the OSD Pipelines report findings support an argument that the QCLNG Pipeline once constructed is economic to duplicate once demand for pipeline services from the Surat Basin to Gladstone approaches the peak of estimated foreseeable demand. Indeed, the QCLNG Pipeline with full compression will accommodate only the Applicant's demand for pipeline services when the Applicant's LNG plant is fully operational. Similarly the MMA report statement that there are few economies of scale to be gained as pipelines increase in capacity beyond 450 to 675 PJ/a (or approximately 1230 to 1850 TJ/day) suggests that the 42 inch diameter QCLNG Pipeline (which has a free flow capacity of 1500 TJ/day) might be reaching a scale at which further capacity increases would see no further reduction in the unit cost of gas transmission so that the pipeline is economic to duplicate.

6.76 At another level however there may be reason to consider that, given the estimate of foreseeable demand for pipeline services from the Surat Basin to Gladstone, the national interest is served by a single larger pipeline and the assessment of criterion (b) should be undertaken on that basis.

6.77 The OSD Pipelines report investigated the cost of looping an *existing* 42 inch diameter QCLNG Pipeline. The report did not investigate the cost of looping the pipeline at the time that it is constructed, or constructing a larger diameter pipeline. Indeed the OSD Pipelines report found that a significant element of the cost of expanding the QCLNG Pipeline's capacity by looping relates to protecting the integrity of the already constructed pipeline. These costs would not be associated with providing looping at the time of initial construction or constructing a larger pipeline.

6.78 There are several statements in the application that suggest that the primary driver in determining the size of the QCLNG Pipeline was (the Applicant's parent) QGC's commercial imperatives. The Applicant stated that QGC came to the view that this (the QCLNG Pipeline as proposed) 'was the most cost-effective way of meeting QGC's

transportation requirements'. The Applicant also noted that LNG production requires secure, long term supply arrangements for gas transportation services, which it considered could generally be obtained more easily by developing a dedicated pipeline as part of an integrated production process. While recognising that sharing transportation infrastructure with other LNG producers could in certain circumstances realise some efficiencies, the Applicant considered that in practice there are significant impediments to shared use. It pointed for example to the need to co-ordinate issues that mean joint decisions to commit to sharing pipeline infrastructure are difficult. It also identified other matters such as cost allocation and priority of use, as well as the increased risk where multiple parties are dependent on single piece of transportation infrastructure. It would appear that the Applicant sees these types of considerations as driving the development of multiple gas transmission pipelines from the Surat Basin to Gladstone.

6.79 The Council does not contest that these are legitimate commercial matters for consideration: there is a question however of whether the choices made reflect the broader national interest and whether the Council's consideration of criterion (b) should be undertaken on the basis of an Applicant's commercial perspective.

6.80 Elsewhere in the world there are a number of existing and planned gas transmission pipelines that are of larger dimension than the QCLNG Pipeline. Examples of existing and proposed pipelines of which the Council is aware include:

- Yamal, which runs from western Siberia to Germany, has a diameter of approximately 56 inches
- Trans Mediterranean Pipeline, which runs from Algeria to Sicily via Tunisia, has sections that are of approximately 48 inches diameter
- The Nord Stream Pipeline, which is currently being built in the Baltic Sea, will have a diameter of approximately 48 inches.
- Planned pipelines larger than the QCLNG Pipeline include: the Altai Gas Pipeline from western Siberia to northwest China, which will be approximately 56 inches in diameter; the Trans-Saharan Pipeline from Nigeria to Algeria, which will be 48-56 inches in diameter; and the OPAL Pipeline in eastern Germany which will be approximately 55 inches in diameter. [Advice from Ross Calvert Consulting]

6.81 The existence elsewhere of pipelines of larger dimension than the QCLNG Pipeline raises the question of whether a single larger dimension pipeline (with compression and limited looping) may be a more efficient means of providing pipeline services sufficient to accommodate foreseeable demand of 5000 TJ/day. The Council understands for example that the capacity of an equivalent pipeline of diameter of 48 inches would be approximately 40 per cent greater than the capacity of the 42 inch QCLNG Pipeline.

6.82 The Council understands based on an industry ‘rule of thumb’ that pipeline costs tend to be directly proportional to diameter, that the cost of constructing a 48 inch diameter pipeline could be expected to be about 14 per cent greater than the cost of constructing an otherwise identical 42 inch pipeline. The Council understands that it would not be infeasible to construct such a pipeline: it is possible to source larger diameter pipe and appropriately sized valves and pipeline equipment in Australia to build a pipeline larger than the QCLNG Pipeline. The Council acknowledges however that there are no pipelines in Australia of greater diameter than the 42 inches planned for the QCLNG Pipeline so there is likely to be little local experience with building larger pipelines. The Council also recognises the commercial issues that would arise from the construction of a pipeline of greater size than required for a user’s own needs and the problems of coordinating access to the additional capacity.

Conclusion on coverage criterion (b)

6.83 On the basis of the Applicant’s estimates of foreseeable demand and the capacity of the proposed QCLNG Pipeline, at the peak of demand it appears likely that it would be necessary, or at least less costly, to develop an additional pipeline. On that basis and at that point in time criterion (b) would not be satisfied.

6.84 Given the construction of a 42 inch pipeline as planned by the Applicant, it appears to be economical to develop another facility to meet peak demand for the service of transporting gas from the Surat Basin to Gladstone, although at lesser levels of demand it is uneconomic to do so.

6.85 More importantly, however, if criterion (b) is considered on the basis of whether a single pipeline, albeit larger than the Applicant proposes to construct, can meet foreseeable demand at a lesser cost than two or more pipelines then it appears to the Council that this question is appropriately answered in the affirmative and criterion (b) is satisfied.

6.86 The Council considers that in the context of an application for a no coverage determination, having regard to the National Gas Objective, it should adopt a broader view of criterion (b) than that which might appropriately drive an applicant’s commercial decisions. On this basis the Council is satisfied that criterion (b) is met.

Coverage criterion (c)

6.87 Coverage criterion (c) requires consideration of whether access to the pipeline services can be provided without undue risk to health and safety.

Application and submissions

6.88 The Applicant did not consider that access to the services to be provided by means of the QCLNG Pipeline would result in undue risk to human health or safety. Blue Energy

stated that it is not aware that access to the QCLNG would provide undue risk to human health or safety.

The Council's assessment

6.89 The safe use of natural gas transmission pipelines through appropriate operator practice and regulation is well established in Australia. The Council sees no basis to suggest that access to the QCLNG Pipeline would compromise human health or safety.

Conclusion on coverage criterion (c)

6.90 The Council is satisfied that coverage criterion (c) is satisfied.

Coverage criterion (d)

6.91 Coverage criterion (d) requires that access (or increased access) would not be contrary to the public interest. Criterion (d) involves a broad view of the overall costs and benefits of coverage of a pipeline and the consideration of other public interest issues which do not fall within the other coverage criteria. Because criterion (d) is phrased in the negative, a conclusion that access is contrary to the public interest would require that any costs of access outweigh any benefits (including the benefits of increased competition in one or more dependent market where coverage criterion (a) has been satisfied).

Public interest issues

6.92 The Applicant submitted that coverage criteria (a) and (b) are not satisfied with respect to the QCLNG Pipeline (so that access would not provide a net benefit). It further submitted that if the Council were to find that these criteria are met, there are other factors which would mean the cost of access would exceed any benefit such that criterion (d) would not be met. These other factors are:

- access regulation costs that would be incurred (should the QCLNG Project proceed) in the absence of a no coverage determination, and
- reduced incentives to invest in the QCLNG Project and more broadly in Australia's CSG and LNG sector.

6.93 Blue Energy submitted that all other coverage criteria are met, and that in relation to coverage criterion (d) access would promote the development of the CSG sector because it would result in more transmission options becoming available. The Council considers that it has addressed this submission by Blue Energy under coverage criterion (a).

Costs of regulation in the absence of a no coverage determination

6.94 The Applicant estimated the cost of regulation on the basis that the QCLNG Pipeline is covered and subject to full regulation. It estimated those costs as follows (Application, Annexure 7):

- preparation of 5 year access arrangement: \$260 000 to \$326 000
- staff, reporting and accounting (per annum): \$181 000 to \$231 000
- other costs (per annum): \$27 000 to \$31 000

6.95 The Applicant's submissions on regulatory costs were not disputed. The Council considers these estimates to be reasonable given the assumptions on which they are based. Applying these estimates over a 15 year period, presuming three access arrangements are required to be completed in the 'coverage counterfactual', the total costs of regulation would be of the order of \$3.9-4.9 million (at 2010 prices).

6.96 Of course, the absence of a no coverage determination does not necessarily imply that the QCLNG Pipeline would be covered or that any coverage would involve full access regulation. If there were a successful coverage application, the period of overlap of the coverage period with the no coverage period that may otherwise have applied may be less than 15 years. On the other hand, the Applicant's estimates do not cover costs it may incur in responding to a coverage application. On balance, the Council considers that the Applicant's figures are reasonable estimates of the order of the costs of regulation that it may face in the absence of a no coverage determination.

Conclusion on coverage criterion (d)

6.97 The extent of any benefit from access depends critically on likely effects on competition in dependent markets (criterion (a)). At paragraph [6.53] the Council found that access to the QCLNG Pipeline would not promote a material increase in competition in any dependent market. In the absence of a material promotion of competition in any market (or any other potential benefits arising from access) and given the costs that would result from coverage of the QCLNG Pipeline, the Council considers that coverage would be contrary to the public interest and coverage criterion (d) is not met.

Incentive to invest in the QCLNG Project and in the CSG and LNG sectors

6.98 Despite its finding that coverage criterion (d) is not met, the Council considers it important to address statements relating to the effect of access upon investment incentives and potentially consequent costs to the public interest.

6.99 The Applicant submitted that '[w]hether or not the pipeline faces the threat of coverage is an important factor in [its final investment decision for the project]'

(Application p. 8). The Applicant further submitted that the Council should consider the impact that the outcome of its Application would have on other proposed LNG projects, submitting that a refusal 'would suggest that the QCLNG Pipeline may satisfy the coverage criteria, which may not only impact upon the business case for the QCLNG Project, but may cast doubt on the viability of other LNG developments' (Application p. 69).

- 6.100 Blue Energy disputed the Applicant's claims, considering there to be little evidence that the decision to proceed with the QCLNG Project will be affected by the exemption from coverage of the pipeline. Blue Energy submitted that the business case for the construction of the QCLNG Project appears to be entirely supported by QGC's anticipated demand, and that 'granting the exemption will have no material effect on QCLNG's investment decision' (Blue Energy Sub, p. 9). Blue Energy further argued that since the business case for the QCLNG Project does not depend on third party access, then regulatory decisions will be irrelevant to the Applicant's ability to achieve a return on its investment in the pipeline.
- 6.101 The EUAA argued that the proponent of the QCLNG Project does not require a no coverage determination to ensure that it has access to pipeline transmission services.
- 6.102 The key purpose of the no coverage regime in the NGL is to improve regulatory certainty for proposed investments that are efficient from a national perspective. In this regard, it is important to distinguish *efficient* investment from investment per se. Any significant infrastructure investment in Australia may create benefits, both private benefits for the investor through its return on the investment, and public interest benefits for Australia associated with the increased economic activity arising from the investment itself and its ongoing operations. But infrastructure investment is undesirable from the view of Australia's public interest if it depends on monopoly power and material constraints on competition in markets dependent on the infrastructure, and the infrastructure owner's market power is unregulated. This principle is encapsulated in the National Gas Objective.
- 6.103 While the Council does not doubt the Applicant's statements that the prospect of a no coverage determination is a significant element in its proceeding to a financial investment decision on the QCLNG Project, the Council does not consider that the prospect of access will discourage efficient investment. Any access arrangement must provide an infrastructure owner with a risk-adjusted commercial return on their investment, while protecting the owners' legitimate interests and prioritising their reasonably anticipated use of the infrastructure.

Submission on the draft recommendation by Santos Limited

6.104 Santos met with the Council on 14 April 2010, subsequently providing a submission in response to the draft recommendation. Santos submitted that it 'does not oppose the QCLNG application' (p. 2) but noted the following matters.

- In the current period there is competition between the various proponents of LNG projects involving the construction of pipelines, and there is possibility that not all of the projects will proceed. In this environment, the availability of a no coverage determination can affect the current state of competition among the proponents and therefore the outcome of the QCLNG application should treat all proponents in a 'competitively neutral' manner.
- The QCLNG application states that construction of the QCLNG Project's LNG plant, pipelines and gas fields is scheduled to conclude in the third quarter of 2013, with plans to commission train 1 of the project in 'late 2013' (Application p. 23). Santos noted that under this schedule the project will be commissioned more than three years after the likely date that any determination is made so the determination would lapse. In such circumstances a determination arising from the current application would have little utility (although the NGL provides for extension of the three year period in a particular case).
- Santos submitted that its own application would be made 'at the appropriate time having regard to its commercial operations' (p. 3). It intends to make an application for a no coverage determination in the second half of 2010. Santos would object to a no coverage application being available to the QCLNG Pipeline were this to adversely affect Santos' own prospects of obtaining a no coverage decision.

6.105 The Applicant advised (in response to the matters raised by Santos) that it anticipates commissioning the QCLNG Pipeline within three years of the likely date of any no coverage determination. The Applicant stated that the estimate in its application as to the timing of the commencement of production of LNG 'is a summary of the status of the QCLNG Project as a whole and does not specifically address the commissioning of the QCLNG Pipeline' and that it 'anticipates that it will be in a position to commission the QCLNG Pipeline within 3 years of the granting of the greenfields pipeline incentive for which it has applied.' The Applicant also noted the provision in the NGL to extend the three year period.

6.106 An entity seeking a no coverage determination for a greenfields pipeline project must make its application when its project is proposed or under construction, but before it is first used for the haulage of natural gas on a commercial basis (commissioned). On the date of the QCLNG application the Applicant proposed to build the QCLNG Pipeline (and continues to do so), and the QCLNG Pipeline has not been

commissioned. Therefore the QCLNG Application addresses the requirements relating to the time at which it may be made. While a no coverage determination ordinarily lapses after three years from the date of its grant, the three year period may be extended by regulation in particular cases. The NGL therefore contemplates situations in which a no coverage determination is made but the relevant pipeline is not commissioned within three years of the determination. In any case the Applicant has indicated it expects to commission the QCLNG Pipeline within three years of the grant of any no coverage determination.

6.107 The Council will consider any future application for a no coverage determination by Santos (or any other entity) on its merits and in light of the best information available at the time. Absent an application the Council is unable to comment on the prospect of the application's success although it considers there is at present no reason why the outcome of the QCLNG Application would affect the likely outcome of any future no coverage application by Santos, or any of the other parties currently proposing to build gas pipelines as part of a Surat Basin CSG to Gladstone LNG project.

7 References

Australian Energy Market Operator (AEMO), 2009, Gas Statement of Opportunities

Australian Energy Regulator (AER), 2009, *State of the Energy Market 2009*, Melbourne

Geoscience Australia and ABARE, 2010, *Australian Energy Resource Assessment*, Canberra

McLennan Magasanik Associates (MMA), 2009, *Queensland LNG Industry Viability and Economic Impact Study*, Final Report to the Queensland Department of Infrastructure and Planning

http://www.arrowenergy.com.au/page/Projects/Australia/Central_Queensland_Pipeline
accessed 8 March 2010

http://www.ga.gov.au/oceans/ea_Browse.jsp accessed 17 March 2010

Tribunal and court decisions

Re Duke Eastern Gas Pipeline Pty Ltd [2001] ACompT 2

Acts and other instruments

Australian Energy Market Act 2004 (Cth)

National Gas Rules 2009

National Gas (South Australia) Act 2008 (SA)

National Gas (Queensland) Act 2008 (Qld)

8 Glossary of definitions, abbreviations and units

Table 8.1: Defined terms and abbreviations

ABARE	Australian Bureau of Agricultural and Resource Economics
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
APA Group	The listed entity trading under the name 'APA Group', consisting of the stapled entities the APT Investment Trust and the Australian Pipeline Trust
Applicant	QCLNG Pipeline Pty Ltd (ACN 140 760 612)
Application	The application under section 151 of the NGL by QCLNG Pty Ltd for a 15 year no coverage determination for the proposed QCLNG Pipeline, received by the Council on 19 January 2010
Arrow Energy	Arrow Energy Limited
BG Group	BG Group plc
Blue Energy	Blue Energy Limited
Bowen Basin	A geological basin in eastern Queensland, about 160 000 km ² , the southern half of which is covered by the Surat Basin (Source: Geoscience Australia (http://www.ga.gov.au/oceans/ea_Browse.jsp))
Carpentaria Gas Pipeline	The gas transmission pipeline from running from Ballera to Mt Isa, operated by APA Group
Collection Header	Part of the QCLNG Pipeline will consist of the Woleebee Creek Lateral and the Southern Collection Header
Conoco-Phillips	ConocoPhillips Australia Pacifica LNG Pty Ltd
Council	National Competition Council
CPP	Central processing plant
CQP	Central Queensland Pipeline (proposed by Arrow Energy and AGL Energy, Moranbah to Gladstone)
criterion (a)	Section 15(a) of the NGL
criterion (b)	Section 15(b) of the NGL
criterion (c)	Section 15(c) of the NGL

critterion (d)	Section 15(d) of the NGL
CSG	Coal seam gas
Domestic gas sales/use	Gas sales and use occurring in Australia
EUAA	Energy Users Association of Australia
Export Pipeline	Part of the QCLNG Pipeline that will start in the vicinity of Wandoan and follow a north north easterly route to an end point on Curtis Island
Hunter Gas Pipeline	Gas transmission pipeline proposed by Hunter Gas Pipeline Pty Ltd, from Wallumbilla in Queensland to Newcastle in New South Wales
Impel (Southern Cross LNG) Project	The project proposal named 'Southern Cross LNG Project' to build an open access LNG plant and an associated pipeline (discontinued as discussed in paragraph [6.25])
Jemena	Jemena Limited
LNG	liquefied natural gas
MMA	McLennan Magasanik Associates
National Gas Objective	Section 23 of the NGL
National Gas Rules	Rules relating to the operation of, and promulgated as subordinate legislation to, the NGL
NGL	National Gas Law
Origin Energy	Origin Energy Limited
Petronas	Petroliam Nasional Berhad
RBP	Roma to Brisbane Pipeline (Roma (Wallumbilla) to Brisbane) operated by APA Group
Santos	Santos Limited
section 13(2) factors	The factors set out in section 13(2)(a)-(h) of the NGL for determining the primary function of a pipeline
Surat Basin	An 27 000 km ² area of the Great Artesian Basin in Queensland and northern New South Wales (Source: Application p. 77)
SWQP	South West Queensland Pipeline (Wallumbilla to Ballera) operated by Epic Energy Pty Ltd

QCLNG Pipeline	The proposed pipeline defined in paragraph [3.1] of this recommendation
QCLNG Project	Queensland Curtis LNG Project of QGC, as described in section 2 of the Application
QGC	QGC Pty Ltd
QGP	Queensland Gas Pipeline (Roma (Wallumbilla) via Gladstone to Rockhampton) operated by Jemena
QSN Link	Queensland to South Australia/New South Wales pipeline link operated by Epic Energy Pty Ltd
Queensland Mines and Energy	A unit within the Queensland Department of Employment, Economic Development and Innovation
Walloons CSG	Walloons Coal Seam Gas Company Pty Ltd
Wide Bay Pipeline	Gas pipeline running from Marlborough to Gladstone via Bandaberg, operated by PG&E Gas Transmission Australia Pty Ltd
Woleebee Creek Lateral	Part of the QCLNG Pipeline that will start from a point near the Woleebee CPP and follow an easterly route to the start point of the Export Pipeline

Table 8.2: Units of measurement

MPa	mega Pascal (1 000 Pascals) (pressure)
Mtpa	million tonnes per annum (rate of mass)
PJ	petajoule (1 quadrillion or 10^{15} joules) (energy)
PJ/a	petajoule per annum (rate of energy)
TJ	terajoule (1 trillion or 10^{12} joules) (energy)
TJ/day	terajoule per day (rate of energy)

Table 8.3: Unit conversions

1 000 TJ/day	=	365 PJ/a
1 million tonnes of LNG	=	2.127 million cubic metres of LNG
	=	53 000 TJ of gas
	=	53 PJ of gas

Appendix A Existing and proposed gas pipelines

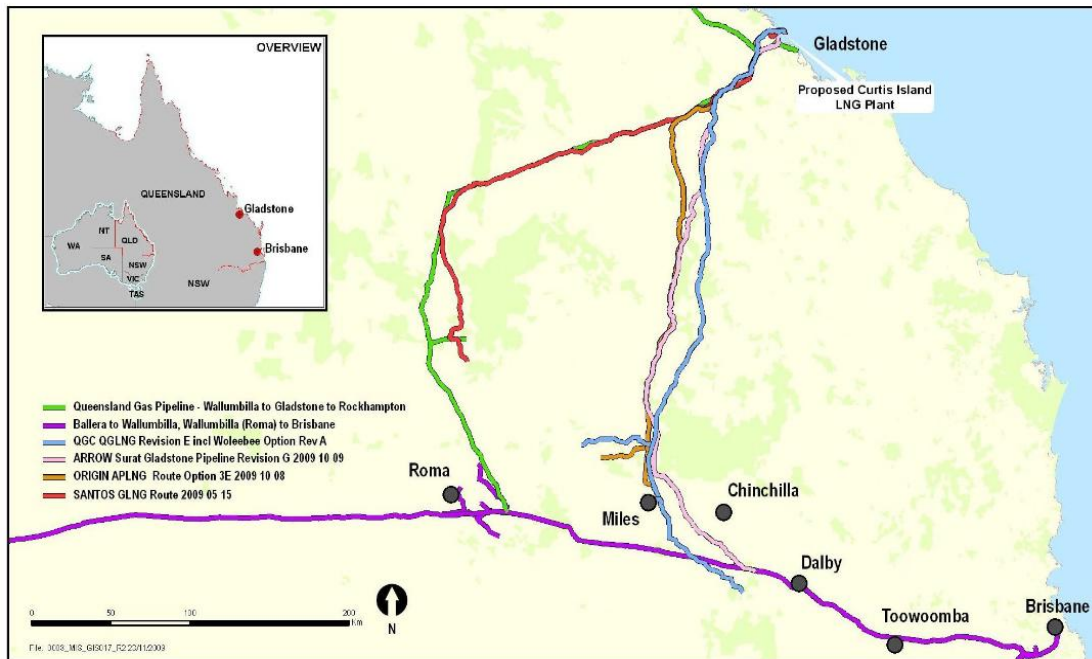


Figure A1: The QCLNG Pipeline and other proposed pipelines in southeast Queensland (with existing RBP, QGP and SWQP)
[Source: Application, p. 24]

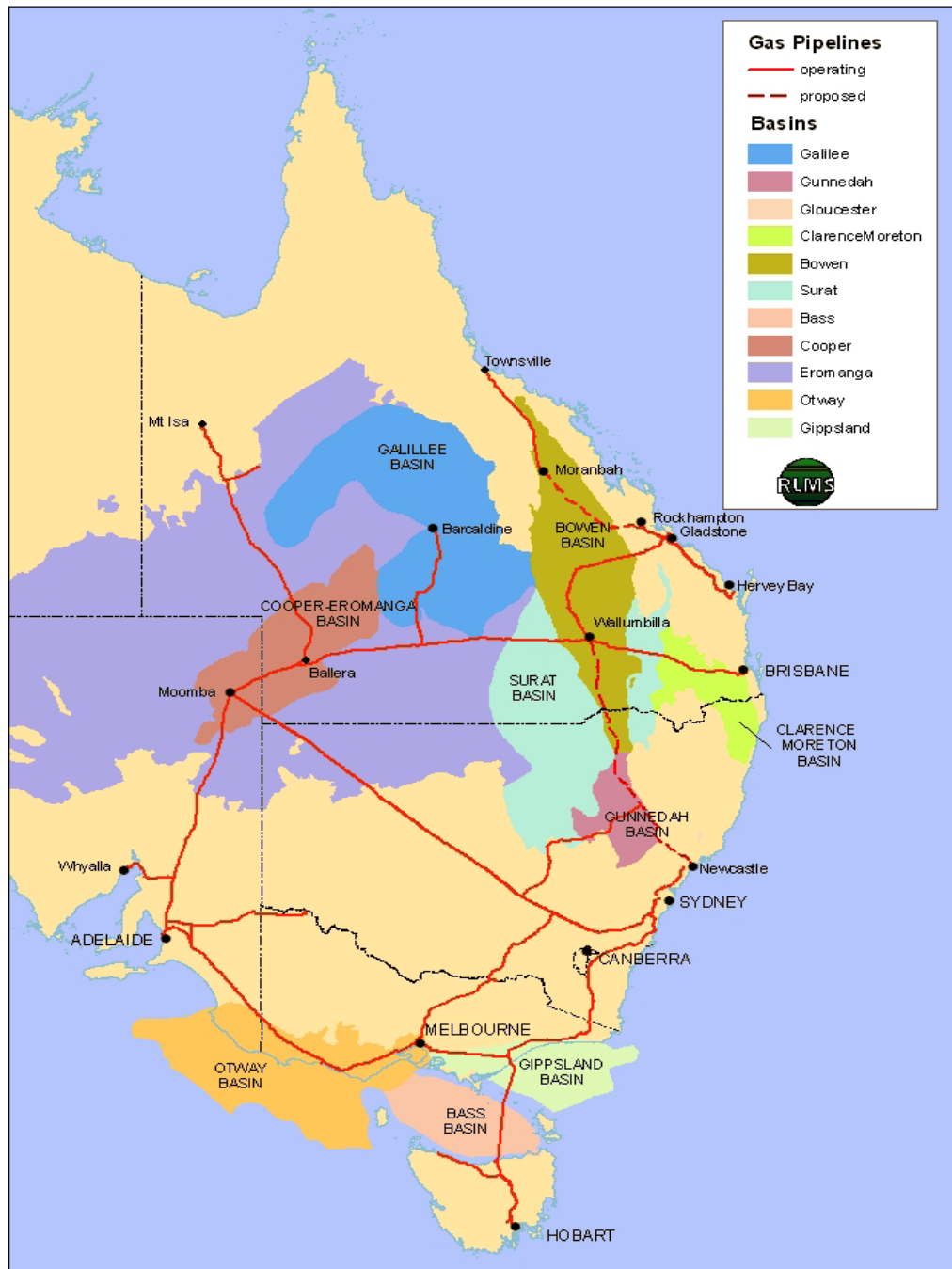


Figure A2: Existing and proposed gas transmission pipelines in eastern and southern Australia

[Source: MMA 2009, p. 47]