APLNG no coverage application

EXPERT REPORT PREPARED FOR APLNG

April 2012

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1 Background

1 Frontier Economics (Frontier) has been requested by Australia Pacific LNG Limited (APLNG), to prepare an expert report for use by APLNG in its application to the National Competition Council (NCC or Council) seeking a 15 year no coverage determination under section 151 of the National Gas Law (NGL) in respect of the proposed APLNG main pipeline. This pipeline is of some 360 km, beginning east of Wandoan at the APLNG Hub, being the junction with the Condabri and Woleebee lateral pipelines, and ends at Curtis Island in the north, and includes the marine crossing of The Narrows at Port Curtis.

2 The effect of a successful application under section 151 is that the pipeline in question is exempted from being a 'covered pipeline' and hence is not subject to economic regulation under the NGL or the National Gas Rules (Rules).

3 The criteria governing whether a no coverage application should succeed are set out in section 15 of the NGL. These are known as the 'pipeline coverage criteria'. If all the criteria are met, the no coverage application must fail.

4 We were initially requested to address the following questions in our expert report:

- Pipeline coverage criterion (b):
  - Question 1 – For the purposes of considering this Application, what approach should be taken to the interpretation of criterion (b)? In addressing this question, please include a consideration of the approach which the Minister took to his Determination dated 15 June 2010 and the Council's approach to the interpretation of criterion (b) in the Final Recommendation.
  - Question 2 – In your opinion, having regard to the materials provided, do you consider that the APLNG Pipeline would likely satisfy criterion (b) based on the approach to criterion (b), which you consider appropriate as detailed in response to Question 1?
- Pipeline coverage criterion (a):
  - Question 3 – In your opinion, having regard to the materials provided to you, do you consider the markets identified at paragraph 6.26 of the NCC's Final

Recommendation on the QCLNG pipeline[1] as appropriate dependent markets for the purposes of considering the application of criterion (a)?

- Question 4 – Having regard to your view of the most relevant dependent markets do you consider that the APLNG Pipeline would (or would not) likely satisfy criterion (a)? Please provide your detailed reasoning.

5 Subsequently, we received further instructions requesting our expert report to apply criterion (b) in two ways:

- First, in accordance with the interpretation contained in the decision of the Full Federal Court in *Pilbara Infrastructure Pty Ltd v Australian Competition Tribunal* [2011] FCAFC 58 (the Fortescue decision or case)
- In the alternative, in accordance with its interpretation prior to the Full Federal Court's decision, namely that the "test is whether for a likely range of reasonably foreseeable demand for the services provided by means of the pipeline, it would be more efficient, in terms of costs and benefits to the community as a whole, for one pipeline to provide those services rather than more than one".

6 As a result, this report is structured as follows:

- Section 2 applies pipeline coverage criterion (b) to the APLNG Pipeline in accordance with both the current and former interpretations of criterion (b)
- Section 3 interprets and applies pipeline coverage criterion (a) to the APLNG Pipeline.

7 In preparing this report, we have relied on:

- Information contained in the commissioning letter from Clayton Utz dated June 2010 (Commissioning Letter)
- Further instructions contained in the letter from Clayton Utz dated 1 June 2011 (Further Instructions Letter)
- Findings of fact made by the NCC in its Final Recommendation on the QCLNG pipeline about the upstream gas production market, the downstream gas sales market and the downstream LNG market

1 NCC, *No coverage determination for the proposed QCLNG Pipeline, Final Recommendation*, May 2010.

- Factual material about the various proposed pipelines between the Surat Basin and Gladstone contained in the QCLNG no coverage application[2]
- Factual information in the Callide Infrastructure Corridor Study[3]
- Factual information on different pipelines available on different websites, as referenced
- Report by OSD Pipelines on the scope for and cost of pipeline looping and expansion[4]
- Public version of a report by RLMS on estimated CSG production by small independent producers in the QCLNG upstream dependent market[5]
- EnergyQuest Energy Quarterly publication dated August 2011

2 QCLNG Pipeline, *Application for 15-year no coverage determination under section 151 of the* National Gas Law.

3 RLMS, *Callide Infrastructure Corridor Study, Investigation Report, Final*, August 2009, available here.

4 OSD Pipelines, *APLNG Pipeline Project, Looping and Expansion Review,* Revision 2, 9 December 2010.

5 RLMS, *Estimated CSG Production by Small Producers in QGC Production Area, Public Version,* 25 November 2009.

2 Pipeline coverage criterion (b)

2.1 Background

8 Under section 154 of the NGL, the NCC must 'give effect' to the pipeline coverage criteria in section 15 of the NGL when making a no coverage recommendation. The Minister is required to do the same when making his decision under section 157. If all of the criteria are met, the no coverage application cannot succeed.

9 Criterion (b) is:

> It would be uneconomic for anyone to develop another pipeline to provide the pipeline services provided by means of the pipeline

10 As noted above, we have been asked to apply criterion (b) in two ways:

- First, in accordance with the interpretation contained in the Fortescue decision
- In the alternative, in accordance with its interpretation prior to the Fortescue decision.

11 This section is structured as follows:

- Section 2.2 considers the interpretation of criterion (b) in accordance with the interpretation contained in the Fortescue decision
- Section 2.3 considers the application of criterion (b) to the APLNG pipeline in accordance with the interpretation contained in the Fortescue decision
- Section 2.4 considers the interpretation of criterion (b) in accordance with the interpretation prior to the Fortescue decision
- Section 2.5 considers the application of criterion (b) to the APLNG pipeline in accordance with the interpretation prior to the Fortescue decision.

2.2 Interpretation of criterion (b) in the Fortescue decision

12 In the Fortescue decision, the Full Federal Court adopted a different interpretation of criterion (b) to the interpretation that had applied previously. The Full Federal Court found that the interpretation of criterion (b) as a natural monopoly test or a net social benefit test was:

> …inconsistent with the intention evident from the text and context of Pt IIIA that access should not be available merely because it would be convenient to some parties, or indeed to society, according to the evaluation of a regulator.[6]

13 The Full Federal Court concluded:

> In our opinion, the intention of the legislature was that, if it is economically feasible for someone in the market place to develop an alternative to the facility in dispute, then criterion (b) will not be satisfied. In such a case, there is no problem in the market place that participants in the market place cannot be expected to solve. This might occasion some wastage of society's resources in some cases, but to say that, is to say no more than that the intention of Parliament to promote economic efficiency did not trump the competing considerations at play in the compromise embodied in s.44H(4)(b) of the Act.[7]

14 This decision effectively makes criterion (b) into a 'privately profitable' test. If it is likely to be profitable for any other party to develop a pipeline that provides the same services as the pipeline in question, then criterion (b) is not satisfied.

2.3 Application of criterion (b) based on Fortescue interpretation

15 This section considers whether, based on the interpretation of criterion (b) in the Fortescue decision, the APLNG Pipeline would likely satisfy criterion (b).

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6 Para 85.

7 Para100.

16 In our view, there is little question that under the Fortescue decision interpretation of criterion (b), the APLNG Pipeline would not satisfy criterion (b). This is because we understand that a number of other proponents are developing their own pipelines to transport CSG between the Surat Basin and Curtis Island near Gladstone. These include the:

- QCLNG project[8]
- Santos-Petronas GLNG project (GLNG)[9]
- Arrow LNG Project (formerly the Shell project)[10].

17 The advanced planning and progress of these projects suggests that it is highly likely to be privately profitable for a number of proponents to develop their own pipelines from the Surat Basin to Curtis Island.

2.4 Interpretation of criterion (b) prior to the Fortescue decision

18 This section interprets and applies criterion (b) of the pipeline coverage criteria in accordance with its interpretation prior to the Fortescue decision. This section:

- Provides Frontier's interpretation of particular aspects of criterion (b) in accordance with its interpretation prior to the Fortescue decision
- Comments on the NCC's interpretation of aspects of criterion (b) in its Final Recommendation on QCLNG's no coverage application
- Comments on the Minister's approach to interpreting criterion (b).

8 http://www.qgc.com.au/01_cms/details.asp?ID=350, accessed 8/7/2011

9 GLNG Gas Transmission Line Fact Sheet, available here.

10 http://www.arrowenergy.com.au/page/Projects/Arrow_LNG_Plant_Project, accessed 8/7/2011

2.4.1 Frontier's interpretation of criterion (b)

19 Prior to the decision of the Full Federal Court in the Fortescue case, criterion (b) was generally regarded as requiring a natural monopoly test. This is because criterion (b) is worded in a similar manner to section 44G(2)(b) in Part IIIA of the *Competition and Consumer Act* 2010 (CCA) (formerly, the *Trade Practices Act* 1974). That section provides that the NCC cannot recommend that a service be declared and consequently open to third party access unless it is satisfied, *inter alia*:

> That it would uneconomical for anyone to develop another facility to provide the service

20 Section 44G(2)(b) sets up what is often described as a 'natural monopoly test'. The question that typically arose under this section was whether duplication of an existing facility to provide a particular service would be efficient. This turns on the strength of economies of scale and scope available in the provision of the service from the facility. If these economies are such that the reasonably foreseeable market demand for the service can be met at lower cost by the (single) facility in existence (plus the cost of any expansions) than by the combination of the existing facility (plus the cost of any expansions) and another facility, then it would be inefficient to build another facility to provide the service.[11] The facility in question could thus be regarded as 'uneconomic to duplicate' and section 44G(b)(2) would be satisfied.

21 Prior to the Fortescue decision, we considered that the meaning of criterion (b) was similar to the meaning of section 44G(b)(2) of the CCA. That is, we considered that the question arising under criterion (b) of whether it would be uneconomic for "anyone to develop another pipeline to provide the pipeline services by means of the pipeline" should be interpreted on the basis that the applicant's proposed pipeline proceeds as proposed – and hence became akin to the existing facility in the interpretation of section 44G(2)(b).

22 Thus, the question would be whether reasonably foreseeable demand for the relevant gas transportation service could be met at lower total cost by:

- using the applicant's proposed pipeline and any potential augmentations to that pipeline **than by**

11 See *In the matter of Fortescue Metals Group Limited* [2010] ACompT 2 (30 June 2010) at paras 850-851.

- using the applicant's pipeline and any potential augmentations to that pipeline together with any additional pipeline(s).

23 There are two main reasons for our view that a natural monopoly interpretation of criterion (b) ought to be applied on the basis that the applicant's proposed pipeline proceeds as proposed. The first reason is based on our reading of the NGL and the second is grounded in concerns about the demands an alternate reading would place on the bodies responsible for processing no coverage applications.

24 Focussing first on the NGL, criterion (b) clearly states that the question is whether it is uneconomic to build another pipeline to provide the pipeline services provided by means of the pipeline. 'The pipeline' in this context must mean the pipeline as proposed, in respect of which a no coverage application has been made. It would not make sense for 'the pipeline' in criterion (b) to refer to some other pipeline because no such pipeline exists or has been proposed.

25 Second, applying criterion (b) on the basis that the applicant's proposed pipeline does not proceed as proposed immediately raises the question of ***which*** pipeline may or may not be economic to duplicate under criterion (b). The only real alternative to the pipeline as proposed must be a hypothetical pipeline conceived on the basis of meeting reasonably foreseeable demand at least cost. Such a pipeline could be described as economically optimal given the foreseeable demand.

26 Our concern with this approach to the natural monopoly interpretation of criterion (b) is that it would effectively place the Council (and the Minister) in the role of central planner for new gas transmission pipelines. Under this approach, the NCC would be required to make a judgement as to the number, type and timing of pipeline(s) at a given location that would be economically optimal. Only those pipelines that were consistent with such an optimal pattern of development would be eligible to succeed in a no coverage determination.

27 In order to determine whether a single hypothetical pipeline would be more efficient than multiple pipelines, it would be necessary to take into account the following variables:

- Forecast demand, by year over the relevant timeframe, for the gas transportation service (in this case, from the Surat Basin to Gladstone)
- Potential transportation capacities of various pipeline, taking into account pipeline diameter, class and pressure and the scope for pipeline compression and looping

- Costs of various capacity pipelines, including the costs of increased pipeline pressure and looping/duplication at or some time following commissioning
- Difficulty and costs of negotiating the sharing of capacity of a large 'socially optimal' pipeline between interested parties.

28 These factors are discussed below. The purpose of this discussion is to illustrate the challenges that would be faced by a centralised institution or party such as the NCC or the Minister seeking to determine the economically efficient pattern of pipeline development for an entire industry. As evident from the following discussion, the challenges faced by even individual investors in determining the optimal pipeline for their own needs are already considerable.

Forecast demand

29 In deciding the appropriate size, capacity, pressure and other characteristics of the pipeline(s) to develop, a party must consider the level, reliability, timing and likelihood of future demand for the transportation service. This may, in turn, be partly dependent on the level, timing and likelihood of the production of CSG from the relevant reservoirs.

30 However, future demand cannot be properly represented by a single variable or sum of numbers. A demand forecast is better described as a schedule or profile that varies by price, reliability, time and in the degree of confidence that can be attached to different aspects of that profile.

31 For example, demand for gas transportation to facilitate LNG exports may be forecast to grow rapidly over time from a low base or it may commence high and grow little. Demand for gas for LNG exports may also be fairly 'reliable' in the sense that it is unlikely to change dramatically in a short space of time. By contrast, gas demand for power generation may be less reliable as it is dependent on patterns of dispatch in the wholesale electricity market. Further, LNG prices may be expected to rise initially and then fall as global supply responds to the initial high prices. Demand growth may also be less certain the further the forecast extends into the future, possibly with step changes to that degree of certainty. All of these factors are important in determining what type of pipeline should be built and when.

32 To the extent that demand for gas transportation is likely to begin at low levels and increase over time, this will tend to reduce the need to develop a large capacity pipeline(s) immediately relative to a situation in which demand is already high at commencement. Given the capital intensive nature of pipeline development and the positive time value of

money, it may be more economically efficient for a relatively small pipeline or a free-flowing pipeline to be developed in the short term and for (an) additional pipeline(s) or compressors to be added closer to the time when (and if – see below) the higher demand materialises.

33 Similarly, the reliability of gas demand will tend to influence the appropriate operating pressure of a gas pipeline. A high operating pressure enables 'linepack' to be accumulated within the pipeline, which can be used to effectively:

- store gas if demand is suddenly curtailed
- provide gas if supply is suddenly curtailed.

34 Further, the price of gas – and hence the value of gas transportation services – may change over time. If prices are expected to fall, this should mean that transportation services will be worth less (on a per joule km transported basis) in the future than at the present. If prices are expected to rise, then transportation services will be worth more in the future than at present. This will also influence the pattern of pipeline development that is likely to be efficient.

35 Finally, to the extent that future demand for transportation is uncertain, it may be worthwhile to avoid making large sunk investments in capacity until there is greater certainty that the increased demand will eventuate. An exception to this may be where easements or permissible routes for additional pipelines or loops are likely to become unavailable over time as a result of spreading urban development and/or more stringent environmental development regulations.

36 Therefore, determining the economically optimal gas pipeline(s) to develop to meet demand is not simply a matter of estimating the eventual peak future demand for gas transportation and selecting the pipeline that would satisfy that level of demand most cheaply. In light of this complexity, it is unreasonable and inappropriate in our opinion to expect a centralised body such as the NCC or the Minister to successfully identify optimal outcomes on a regular basis. This is the problem at the heart of all central planning approaches to economic decision-making.

Pipeline coverage criterion (b)

Pipeline capacity and cost

37 As well as understanding future demand conditions, the decision over the optimal type, capacity and timing of the pipeline(s) to develop can be extremely complicated. The key factors are as follows:

- Diameter – the larger the diameter of a pipeline, the lower the friction loss per unit of gas transported, resulting in greater flow and a larger transport capacity. Gas pipelines tend to be constructed in certain discrete diameter increments. Common sizes of large-scale pipelines are (in mm): 900, 1050 and 1200. A 1400mm diameter is possible, but is rarely constructed and has never been constructed in Australia.[12] The larger the diameter of a pipeline, the larger the pipeline's cost on a per kilometre basis, other things being equal.
- Pressure – pipeline pressure is relevant in two key ways:
  - First, pressure differentials within a pipeline determine the rate at which gas flows. Gas is compressed as it is injected into a pipeline and the compressed gas moves towards the delivery point, which is at a pressure lower than the compression (input) point. The pressure differential determines the rate at which gas flows. This means that higher pressure increases the transport capacity of the pipeline. 'Inline' compressors at intermediate points on a pipeline increase gas pressure and carrying capacity but impose a capital as well as operating cost.
  - Second, higher operating pressure can provide operational flexibility through the use of 'linepack' to manage differences between upstream injections and downstream withdrawals. The value of linepack is greater the less reliable the rate of gas injections and withdrawals (see above).
- Class – the class of a pipeline refers to the maximum design pressure of a pipeline under different temperatures. Therefore, a higher class pipeline has a higher design pressure capacity for a given temperature. A given class of pipeline can be pressurised to different levels. This means that pipeline pressure and class are related but distinct variables that a pipeline developer needs to decide upon.

12 See NCC Final Recommendation, para 6.82.

- Scope for looping/duplication – decisions over pipeline diameter, pressure and timing can be influenced by the technical and economic scope for pipeline looping or standalone duplication. Looping involves the proponent of the original pipeline developing a second pipeline immediately adjacent to and alongside the original pipeline. This increases the transportation capacity of the proponent's overall pipeline project. Standalone duplication involves the same or a different proponent developing an additional pipeline some distance from the original pipeline. Generally, the dollar cost of building a larger diameter pipeline is less than the dollar cost of building a smaller diameter pipeline and then increasing its capacity by looping or duplication. However, the advantage of looping or standalone duplication over construction of a larger diameter pipeline is that looping and duplication can (subject to technical considerations) be undertaken some time after the commissioning of the original pipeline, thereby enabling a deferral of part of the overall capital costs.
- Timing – the timing of an initial pipeline investment, the addition of inline compressors and looping/duplication can be varied depending on foreseeable demand and the cost structure of different pipeline options. The longer that investment can be deferred, other things being equal, the lower the average present value cost of transportation.

38 Importantly, there are trade-offs between all of these factors. For example, capacity can be increased by increasing diameter and/or compression. For a given required flow rate per day, it is possible to identify the least-cost combination of pipeline diameter and compression.

39 However, when the required flow rate is expected to change over time, then as with forecasting demand, minimising the average cost of gas transportation capacity is more complicated than it appears. It is not simply a matter of choosing the lowest cost for a given flow rate. Rather, it is necessary to minimise the net present value of costs given the forecast profile of demand.

40 This task, like that of assessing demand profiles, is extremely complex. Even well-informed and skilled central planners are not infallible and it would be unreasonable to expect them to be so. For this reason, we believe that the need for and discretion of the NCC and the Minister to evaluate market data and evidence should be minimised. This is a major advantage of our proposed interpretation of criterion (b).

Pipeline coverage criterion (b)

41 Under our interpretation of criterion (b), the NCC and the Minister need to assess whether – given the applicant's proposed pipeline – the development of *any* additional pipeline would be economically worthwhile. This would require them to determine whether, in light of the commissioning of the applicant's proposed pipeline and forecast demand conditions, it would be most efficient to:

- Neither develop any further pipelines nor augment (via compressors or looping) the applicant's pipeline
- Not develop any further pipelines but to augment the applicant's pipeline through additional compression or looping or
- Develop another standalone pipeline in addition, or as an alternative, to augmentation of the applicant's pipeline.

42 It is only if the third option is the most efficient that criterion (b) is not satisfied.

43 In suggesting this framework for interpreting criterion (b), we acknowledge that it requires the NCC and the Minister to formulate views on many of the variables discussed above. That is, the NCC and the Minister would need to formulate views on the timing and profile of forecast demand as well as potential pipeline augmentation and duplication options. Taking these variables into account, and coupled with information about the applicant's proposed pipeline, the NCC and the Minister would need to work out whether it was likely to be efficient to develop another pipeline within a reasonable timeframe.[13] This is consistent with the type of analysis required under Part IIIA.

44 However, while the NCC and the Minister would need to consider a range of factors when applying criterion (b) as we suggest, they are at least not in the position of second-guessing the optimal pattern of pipeline development. For example, they would not need to determine precisely what size, pressure, class, number of compressors and timing of pipeline would be optimal in the absence of the applicant's proposed pipeline.

45 Therefore, we consider that our interpretation of criterion (b) makes far fewer informational and analytical demands of the NCC and the Minister than would be required under an alternative approach.

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13 The importance of undertaking the analysis over the appropriate timeframe is developed further in section 2.5.2.

2.4.2 NCC's approach to criterion (b)

Relevance of the proposed pipeline

46 In its Final Recommendation on QCLNG's no coverage application, the NCC took a different approach to the natural monopoly interpretation of criterion (b) to the approach we have proposed above.

47 In particular, the NCC distinguished the approach that normally applies to an existing pipeline under Part IIIA of the TPA (now CCA) from the approach that ought to apply under the greenfields pipeline application provisions in the NGL.

Where an existing pipeline is concerned, the Commission noted that:

> …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. 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.[14]

48 However, in the case of a greenfields pipeline, the NCC decided against applying criterion (b) on the basis that the proponent's pipeline proceeded as proposed. The NCC noted that the specification and diameter of a pipeline that suits a firm's commercial interests may be different to one that promotes overall economic efficiency. In particular, a pipeline designed to meet foreseeable demand across an entire market is likely to be larger than a pipeline designed to meet the needs of a single proponent.[15]

49 The NCC was concerned that if criterion (b) was interpreted on the basis that the applicant's proposed pipeline proceeds, it would create perverse incentives for investors to deliberately 'undersize' new pipelines from a national interest perspective in order to avoid becoming a covered pipeline under the NGL.

50 Therefore, the NCC considered 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.[16]

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14 Para 6.58.

15 Para 6.59.

16 Para 6.60.

51 Effectively, the NCC's approach involved working out whether any economies of scale or scope were available in the development of gas pipelines generally. If such economies existed and were not exhausted at the forecast level of demand, then a no coverage application could not succeed on the basis of criterion (b).

52 For the reasons examined above, we do not think this is the appropriate approach to a natural monopoly interpretation of criterion (b). The NCC's interpretation places excessive demands on the knowledge and abilities of a centralised body to plan the optimal long term pattern of gas pipelines development.

53 Further, we do not believe that our approach to the natural monopoly interpretation of criterion (b) creates the risk of perverse incentives in the way feared by the NCC.

54 A prospective pipeline developer should have *some* incentives to develop a pipeline that is optimally-sized from the perspective of the entire industry. This is because an optimally-sized pipeline for a given demand offers, by definition, the lowest average transportation costs. So long as the pipeline proponent is able to share the capacity – and costs – of such a pipeline with other parties wishing to transport gas, all parties should be better off than if they each developed their own pipelines.

55 The key circumstance in which a pipeline proponent could deliberately seek to under-size its pipeline is where it is not confident of being able to share the capacity and cost of a larger pipeline easily. This issue is discussed in the next section.

56 Although it is possible to conceive of anti-competitive motivations for a pipeline proponent to under-size its pipeline, the reverse is more likely. Typically, first-moving investors do not seek to foreclose against competitors by building under-sized facilities. Rather, first-movers seeking to deter other investors will have incentives to build larger facilities or facilities that can be cheaply expanded.

57 If anything, we consider that the NCC's interpretation of criterion (b) could produce perverse incentives to the extent that it represents a different approach to that which applies under Part IIIA. A greenfields pipeline proponent seeking to avoid coverage could develop its pipeline without making a no coverage application and then defend against declaration on the basis that it would be economic to develop an additional pipeline given its original pipeline. This would simultaneously circumvent the NCC's 'national interest' approach to criterion (b) and undermine the very purpose of the greenfields pipeline provisions.

Costs of negotiation

58 As alluded to above, the transaction costs of negotiating access with third parties represent a reason a pipeline proponent might not seek to develop the theoretical optimally-sized pipeline. If the costs of negotiating capacity- and cost-sharing arrangements for a larger pipeline are high enough to negate the savings from lower capital and ongoing operating costs provided by a larger pipeline, the proponent will not find it worthwhile to build the larger pipeline. Such transactions costs would not be incurred, or would be incurred to a smaller extent, if there were several pipelines developed by different gas transporters.

59 It is not surprising that capacity negotiation costs tend to be significant. This is because any negotiations prior to a pipeline being developed are likely to be afflicted by information asymmetries between the parties that give rise to hold-out problems and thwart agreement about the choice of pipeline, its timing and how its capacity should be allocated.

60 While the NCC acknowledged the impediments to shared pipeline use in its Final Recommendation on the QCLNG no coverage application, it referred to these impediments as "commercial matters":

> The Council does not contest that [the need to make joint decisions on pipeline use, cost allocation and priority of use and the increased risks from relying on a single piece of infrastructure] 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.[17]

61 We disagree with the NCC. In our opinion, the transactions costs and risks arising from the shared use of infrastructure are highly relevant to a natural monopoly interpretation of criterion (b) because the costs of negotiating and enforcing contracts are real economic costs. If a pipeline developer were to develop a single hypothetically optimal pipeline for many parties to share, any benefits from scale and scope economies would need to be set against the resources consumed in the commercial negotiation process or a process of regulation. Such costs would not be incurred if different parties were to develop their own pipelines.

62 The difficulty faced by the NCC or the Minister in reasonably estimating such negotiation costs provides an additional reason why we consider that the NCC's interpretation of criterion (b) to be inappropriate.

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17 Para 6.79.

2.4.3 Minister's approach to criterion (b)

63 In the Statement of Reasons for his decision on QCLNG's no coverage application, the Minister explicitly rejected the NCC's adoption of a 'broader' view of criterion (b).[18] Having reviewed the NCC's Final Recommendations and the National Gas Objective, the Minister stated that he assessed criterion (b) based on the parameters and specifications of the pipeline proposed by the applicant.

64 When assessed against the proposed capacity provided by the applicant, the Minister noted that the NCC said that it was likely to be "necessary, or at least less costly to develop an additional pipeline".[19] The Minister also noted evidence that a number of other pipelines following a similar path as the QCLNG pipeline had been proposed. As a result, the Minister found that it was not uneconomic for another pipeline to be developed and hence that criterion (b) was not satisfied.

65 The Minister's interpretation of criterion (b) appears to attach weight to both economic efficiency and the commercial viability of developing an additional pipeline. On the one hand, the Minister noted the NCC's finding that, given QCLNG's proposed pipeline, another pipeline was likely to be "necessary or at least less costly". In emphasising least cost outcomes, the Minister appeared to be concerned with the economic efficiency of developing an additional pipeline. On the other hand, by referring to the existence of other specific proposed pipelines, the Minister seems to have interpreted criterion (b) as imposing a test for the commercial viability of duplication. Indeed, the Minister explained that he had:

..weighed up the competing considerations between commercial decisions and the optimal economic scenario that arise when making an assessment of this criterion.[20]

66 To the extent that the Minister considered the commercial viability of duplication in addition to economic efficiency, it is consistent with the present interpretation of criterion (b) established in the Fortescue decision. However, in the context of the interpretation of criterion (b) prior to the Fortescue decision, we submit that the Minister's interpretation of criterion (b) was flawed.

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20 p.4.

2.5 Application of criterion (b) prior to the Fortescue decision

67 As noted above, the question arising from the application of a natural monopoly interpretation of criterion (b) is whether, in light of the commissioning of the applicant's proposed pipeline and forecast demand conditions, it would be most efficient to:

- Neither develop any further pipelines nor augment (via compressors or looping) the applicant's pipeline
- Not develop any further pipelines but to augment the applicant's pipeline through additional compression or looping or
- Develop another standalone pipeline.

68 The first step in answering the above question is to ascertain the profile of demand for CSG transportation from the Surat Basin to Gladstone.

2.5.1 Demand profile

69 In the NCC's Final Recommendation on the QCLNG application, the NCC referred[21] to the findings of the MMA report to the Queensland Department of Infrastructure and Planning.[22] The NCC noted that the MMA report described a 'feasible' growth scenario for the Queensland LNG industry of about 28 mtpa of LNG production by 2021. The NCC calculated this was equivalent to about 4819 TJ/day of gas. In addition, the NCC accepted QCLNG's submission that domestic demand in the wider Gladstone area (incorporating Rockhampton and the Wide Bay area) was about 181 TJ/day. The NCC therefore agreed that the sum of LNG and domestic demand for gas was 5000 TJ/day by 2021. According to the NCC, 5000 TJ/day is approximately 1876 PJ/annum.[23]

70 We are instructed that the initial free-flowing capacity of the APLNG pipeline is 1560 TJ/day. This means that it would be necessary to augment the APLNG pipeline in some way or develop another standalone pipeline to meet the demand for gas transportation from the Surat Basin to Gladstone. It is unlikely to be efficient to allow such large quantities of demand for gas transportation to be left unserved.

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21 NCC Final Recommendation, paras 6.63-6.64.

22 MMA, *Queensland LNG Industry Viability and Economic Impact Study, Final Report to Queensland Department of Infrastructure and Planning*, 1 May 2009.

23 NCC Final Recommendation, para 6.66.

2.5.2 Augmentation of the pipeline

71 The next step is to determine whether the APLNG pipeline, as proposed, could meet the requirement for CSG transportation from the Surat Basin to Gladstone with some form of augmentation.

72 There are two ways in which the capacity of the APLNG could be augmented – through the addition of compressors or by looping.

Augmentation through the addition of compressors

73 We are instructed that the APLNG pipeline would be potentially capable of transporting 3350 TJ/day if augmented by four 40 MW compressors.

74 This implies that in the absence of looping, at some point in time prior to 2021, the APLNG pipeline would not be capable of transporting the entire quantity of CSG demand between the Surat Basin and Gladstone. Merely augmenting the pipeline with compressors would not enable the pipeline to meet the ultimate 2021 demand for CSG transportation.

75 However, this does not imply that it would be efficient to loop the pipeline or construct an additional standalone pipeline within the timeframe of the analysis required under criterion (b).

76 Whether a pipeline exhibits natural monopoly characteristics needs to be considered in an appropriate timeframe. This is especially the case in an environment where demand for transportation services is growing rapidly. What may be uneconomical to duplicate now will not necessarily be uneconomical to duplicate at some point in the future.

77 In the Fortescue matter, the Australian Competition Tribunal stated that the future should be taken into account to the extent that it is predictable with some measure of confidence.[24] In that case, the Tribunal had detailed modelling of the capacity of certain rail lines up to 2015, whereas plans beyond that time were much less certain. As a result, the Tribunal assessed the natural monopoly characteristics of the line as at 2015.

78 In the present case, we have been provided with forecasts from MMA for the Queensland LNG industry out to 2021. The NCC referred to these forecasts in its Final Recommendation on the QCLNG application, suggesting that it had reasonable confidence that those forecasts would come to fruition. As noted above, if those forecasts are

24 *In the Matter of Fortescue Meals Group Limited* [2010] ACompT 2, para 853.

accurate, then by 2021, simply adding compressors will not enable the APLNG pipeline to meet CSG transportation demand.

79 However, even over a shorter period, adding compression is unlikely to be sufficient to avoid looping or standalone duplication. According to APLNG, it is already contracted to supply about 8.6 mtpa of LNG from 2015-16.[25] This is equivalent to about 1480 TJ/day, which is close to the free-flowing capacity of the pipeline.

80 Further, as noted above, we understand that:

- QCLNG is expecting to use its pipeline to initially supply two LNG trains with a combined production rate of 8.5 mtpa in 2014, with the ability to expand the site to produce 12 mtpa[26]
- The GLNG project is expected to initially produce 7.8 mtpa of LNG with the potential to expand production to 10 mtpa, and will commence exporting in 2015[27]
- The Arrow Energy LNG project is expected to produce up to 18 mtpa from four LNG trains[28]

In addition, several other LNG projects are in the early planning stages:[29]

- Gladstone LNG Fishermans Landing - a joint venture between LNG Limited and Huanqiu Contracting and Engineering Corporations HQCEC (a wholly owned subsidiary of China national Petroleum Corporation)
- Southern Cross LNG project led by Energy World Corporation and Impel
- Sun LNG led by Sojitz Corporation

81 Altogether, even a conservative assessment suggests that LNG production in the Gladstone area from CSG sourced from the Surat Basin will reach 32 mtpa (about eight trains) by about 2017. This is equivalent to about 2200 PJ/annum or about 6000 TJ/day. This is well above the maximum compressed capacity of the APLNG pipeline of about 3350 TJ/day (per our instructions).

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25 http://www.originenergy.com.au/news/files/ASX_Release_APLNG.pdf, accessed 19/4/2012

26 http://www.qgc.com.au/01_cms/details.asp?ID=350, accessed 8/7/2011

27 http://www.glng.com.au/Content.aspx?p=55, accessed 8/7/2011

28 http://www.arrowenergy.com.au/page/Projects/Arrow_LNG_Plant_Project/, accessed 30/3/2012

29 http://www.industry.qld.gov.au/lng/projects-queensland.html, accessed 30/3/2012

82 In this context, it is difficult to see how simply adding compressors to the proposed APLNG pipeline could serve the entire demand for CSG transportation for LNG production even within the first three to four years of the pipeline's commissioning. This means that adding compression to the APLNG pipeline is not likely to be a practicable (let alone efficient) means of avoiding looping or standalone duplication of the pipeline.

Augmentation through looping

83 It may be possible to meet CSG transportation demand over the relevant timeframe most efficiently by looping the APLNG pipeline. If this is the case, then it cannot be said that the pipeline is economical to duplicate in terms of developing another standalone pipeline.

84 To determine whether looping is an efficient means of meeting higher transportation demand, it is necessary to compare the cost of looping with the cost of standalone duplication of the pipeline (ie developing an additional pipeline).

85 Based on the report by OSD Pipelines, we understand that looping the APLNG pipeline would cost at least 17% more than the cost of the original APLNG pipeline.[30] Conversely, construction of a subsequently-developed standalone pipeline, going through a different easement but within the same (Callide Infrastructure) corridor as the original APLNG pipeline would only cost approximately 7% more than the original pipeline.[31]

86 This implies that looping is more costly than the key alternative means of serving growing demand for CSG transportation between the Surat Basin and Gladstone. Consequently, it is economical to develop another pipeline and criterion (b) is not satisfied in relation to the proposed APLNG pipeline.

30 See p.18.

31 See p.25.

3 Pipeline coverage criterion (a)

3.1 Background

87 Part (a) of the coverage criteria asks whether access to the pipeline services provided by the pipeline would promote a material increase in competition in at least one market other than the market for the pipeline services. In its Final Recommendation on the QCLNG no coverage application, the NCC outlined three steps to determining whether criterion (a) is satisfied:

- Identifying the relevant dependent upstream and/or downstream markets
- Confirming that the identified dependent market(s) is separate from the market for the pipeline services
- Assessing whether access (or increased access) to the pipeline service would be likely to promote a materially more competitive environment in the dependent market(s).

88 We broadly agree with the NCC's interpretation of criterion (a). However, in our opinion, identifying a dependent market and confirming that it is separate from the market for pipelines services is part of the same exercise. A market can only be properly described as being dependent on the market for pipeline services if it is clearly separate – in a product, geographic and/or functional sense – from the market for pipelines services.

89 In our view, it makes sense to establish the boundaries of the market for pipeline services as well as the boundaries of any dependent markets by reference to the activities of the firms participating in the gas supply chain in the central Queensland area.

90 As French J said in *Singapore Airlines Ltd v Taprobane Tours WA Pty Ltd*:[32]

> In any given application, [a market] describes a range of economic activities defined by reference to particular economic functions (eg manufacturing, wholesale or retail sales), the class or classes of products, be they goods or services, which are the subject of those activities and the geographic area within which those activities occur. In its statutory setting the market designation imposes on the activities which it encompasses limits set by the law for the protection of competition. It involves a choice of the relevant range of activity by reference to economic and commercial realities and the policy of the statute.

32 (1991) 33 FCR 158.

91 We interpret this to mean that the boundaries of the various dimensions of a market are influenced by the predominant activities of the firms operating in the market.

92 Therefore, our approach for applying criterion (a) to the present case involves:

- Identifying any (separate) markets upstream and downstream of the relevant market for gas pipeline services, based on the materials and information referred to paragraph 5 above
- Assessing whether access to the pipeline service provided by means of the proposed pipeline would be likely to promote a materially more competitive environment in a dependent market.

93 Section 3.2 focuses on the first of these tasks. Section 3.3 addresses the second task.

3.2 Relevant dependent markets

94 In its Final Recommendation on the QCLNG no coverage application, the NCC found that the relevant dependent markets were as follows:

- 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.

95 If this approach were applied to the APLNG no coverage application, it would lead to the following characterisation of dependent markets:

- Upstream gas production market within the scope of feasible interconnection using existing or proposed transmission pipelines with the APLNG pipeline
- Downstream gas sales market centred on the Gladstone/Rockhampton/Wide Bay area and
- Downstream global LNG market.

96 We broadly agree with this characterisation of the relevant dependent markets in the present case. In the sub-sections below we explain why we believe that the dependent markets described above reflect the appropriate product, geographic and functional dimensions of the relevant dependent markets.

3.2.1 Product dimension of dependent markets

Upstream market

97 We are instructed that the proposed pipeline is primarily designed to transport dehydrated and compressed CSG to an LNG processing facility for the production of LNG for export. We understand from APLNG that the facility is not designed to utilise forms of gas other than CSG. This suggests that the upstream product market is limited to the production of CSG. In any case, we note the NCC's finding in its Final Recommendation on the QCLNG application that most gas produced and likely to be produced in central Queensland is CSG, so the effect of any distinction is likely to be immaterial.[33]

98 Therefore, we consider that the product dimension of the upstream dependent market is based on CSG.

Downstream market

99 Conversely, any downstream market may incorporate products for which CSG represents a reasonably close substitute. Therefore, in addition to CSG processing for LNG exports, we understand that CSG can be used by consumers of natural gas, such as households and many businesses. We also understand that CSG can be used as a fuel by gas-fired power stations. Therefore, natural gas should be considered alongside CSG in any downstream dependent market other than LNG manufacturing.

3.2.2 Geographic dimension of dependent markets

100 We are instructed that the proposed pipeline is designed to transport CSG from APLNG's CSG fields in the Surat Basin to Curtis Island near Gladstone.

Upstream market

101 A producer of CSG does not need to be located at or in the immediate vicinity of the APLNG Hub east of Wandoan in order to seek to use the main APLNG pipeline. A producer some distance from the Hub may find it worthwhile to develop an interconnecting pipeline to the Hub.

102 Therefore, we consider that any upstream dependent market should include CSG producers within the scope of feasible interconnection (in

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33 See para 6.16.

both a technical and economic sense) with the APLNG Hub. Given that APLNG is itself intending to develop high pressure pipelines to the APLNG Hub from as far north as Fairview and as far south as Gilbert Gully, we consider that these areas should fall within the scope of the upstream geographic market.

Downstream market

103 We consider that the market for LNG is global, as evidenced by the large quantities of LNG traded between different countries and accepted by the NCC in its Final Recommendation on the QCLNG no coverage application[34]

104 We also consider that the market for domestic gas sales should include consumers within the scope of feasible interconnection with the APLNG pipeline – as in the NCC's Final Recommendation on the QCLNG no coverage application, this encompasses consumers in Gladstone, Rockhampton and the Wide Bay area.[35]

105 As the NCC noted in its Final Recommendation on the QCLNG no coverage application, adopting a wider geographic market definition for domestic gas sales will only tend to make it harder to satisfy criterion (a) in relation to this downstream dependent market.[36] Therefore, to ensure a conservative application of criterion (a) to this market, we have adopted the narrower geographic market definition of Gladstone, Rockhampton and the Wide Bay area.

3.2.3 Functional dimension of dependent markets

Upstream market

106 We understand from discussions with APLNG staff that some firms in the Surat Basin develop and extract gas without necessarily seeking to transport and sell it to LNG manufacturers or end-use customers. Further, we understand that other companies may be willing to acquire gas from such parties. By contrast, in some other commodity supply activities, such as iron ore, it is rare for a firm to undertake extraction without transport.

107 Therefore, we consider that the NCC's characterisation of the relevant dependent markets in its Final Recommendation on the QCLNG

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34 See para 6.24.

35 See para 6.23.

36 See para 6.23.

application ought to apply to the APLNG application. That is, we believe that that there is a market for upstream CSG production that is economically separate from CSG transportation and supply.

108 Further, in its Final Recommendation on the QCLNG application, the NCC found a single upstream dependent market for gas production, as opposed to separate upstream markets for gas produced for LNG manufacture and gas produced for domestic sale.

109 We agree with the NCC that given the supply-side substitutability between gas production for LNG manufacture and for domestic sale discussed in paragraph 6.19 of the Final Recommendation, it makes sense to consider both types of production activities as occurring within the same upstream market.

110 The NCC also noted the possibility of a separate upstream market for exploration permits or rights to exploit exploration permits.[37] However, the NCC found that the analysis of such a market was likely to encompass the same considerations as for an upstream gas production market.

111 We agree with the NCC's position that even if there is a separate upstream dependent market for exploration permits, it is not likely to lead to a different result under criterion (a).

Downstream market

112 In making its Final Recommendation on the QCLNG no coverage application, the NCC described QCLNG's contention that the LNG market was 'functionally distinct' from the market for downstream gas sales on the basis that:

> [A]ctivity in relation to the 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.[38]

113 As a result, the NCC agreed with QCLNG that there are separate markets for domestic gas sales and for LNG.

114 We agree that there are separate downstream dependent markets for LNG manufacture and domestic gas sales at the present time.

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37 Para 6.21.

38 See para 6.11.

3.2.4 Summary of dependent markets

115 Based on the conclusions of the analysis described above, we consider that the relevant dependent markets for considering the application of criterion (a) to the APLNG no coverage application are as follows:

- Upstream market: Exploration and production of CSG within the scope of feasible interconnection to the APLNG Hub, from approximately as far north as Fairview to as far south as Gilbert Gully
- Downstream markets:
  - Domestic gas sales within the scope of feasible interconnection with the APLNG pipeline, encompassing consumers in Gladstone, Rockhampton and the Wide Bay area
  - Worldwide market for LNG.

3.3 Application of criterion (a)

116 The application of criterion (a) to the APLNG pipeline involves considering whether providing access to third parties would be likely to promote a materially more competitive environment in a dependent market.

117 In light of our characterisation of the relevant dependent markets in section 3.2 above and the findings of facts made by the NCC in its Final Recommendation on the QCLNG no coverage application, we do not believe that the proposed APLNG pipeline satisfies criterion (a). We discuss our reasons below in relation to each dependent market in turn.

3.3.1 Upstream CSG exploration and production market

118 The upstream dependent market in this case is very similar to the upstream market accepted by the NCC in its Final Recommendation on the QCLNG application.

119 In its Final Recommendation in that case, the NCC noted the existence of the Queensland Gas Pipeline (QGP) and the Roma to Brisbane Pipeline (RBP) and acknowledged the scope for these pipelines to be augmented in order to serve domestic gas users in the wider Gladstone area.[39]

39 See paras 6.28 and 6.39.

120 Further, as noted above, four major LNG projects at Curtis Island have been proposed that each involve the construction of pipelines from the Surat Basin to Gladstone over the next three to four years. The proponents of these projects are QCLNG itself, APLNG, GLNG and Arrow Energy-Shell. The NCC noted that these proposals "…will potentially offer additional alternatives to the QCLNG Pipeline for transporting gas from the Surat Basin to Gladstone" and had been the subject of significant announcements and commercial discussions.[40]

121 In addition, the QCLNG application described a number of other smaller LNG projects that each involve the development of separate pipelines from the Surat Basin to Gladstone.

122 A check of the websites of the three major proposed LNG projects other than APLNG indicates that they continue to progress towards development.[41]

Recent developments amongst small independent producers

123 As part of the QCLNG no coverage application, QCLNG submitted a report by consultants RLMS that discussed estimated CSG production by small independent producers in the QCLNG upstream dependent market. We have reviewed a public version of that report (RLMS report).[42]

124 RLMS defined an 'area of interest' for its report as lying within 100 km of QGC's existing and proposed gas fields and proposed high pressure gas transmission pipeline and related collection system from near Tara to Curtis Island.[43]

125 Applying a similar approach to the proposed APLNG pipeline, we have considered the status of small independent CSG producers within 100 km of the proposed APLNG Hub, the proposed Woleebee lateral and the proposed Condabri lateral. This area spans approximately from as far north as Fairview to as far south as Gilbert Gully, being the geographic span of the relevant upstream dependent market.

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40 See paras 6.36-6.37.

41 Re **QCLNG**: http://www.qgc.com.au/01_cms/details.asp?ID=5, accessed 30 March 2012.

Re **GLNG**: http://www.glng.com.au/Content.aspx?p=55, accessed 30 March 2012.

Re **Arrow Energy-Shell**: http://www.arrowenergy.com.au/page/Projects/Arrow_LNG_Plant_Project/, accessed 30 March 2012.

42 RLMS, *Estimated CSG Production by Small Producers in QGC Production Area, Public Version,* 25 November 2009.

43 RLMS report, p.7.

126 To examine recent developments within this area, we begin by reviewing the current status of the small independent producers discussed in the RLMS report. We then consider other – and in some cases – more recently-emerged small independent producers not discussed in the RLMS report to assess whether there is a reasonable prospect that such producers would seek gas transportation services from APLNG to the Gladstone area in the foreseeable future.

Independent CSG producers identified in the RLMS report

127 RLMS identified six relevant companies in its defined area of interest for the QCLNG application. These were:[44]

- Blue Energy Limited
- Bow Energy limited
- Icon Energy Limited
- Molopo Australia Limited
- Rawson Resources Limited
- Anglo Coal Australia Limited

128 Of these, the first five were listed on the ASX while Anglo Coal was the Australian subsidiary of a large overseas resources group.

129 RLMS noted that it did not examine several other companies due to those companies associating or being involved in joint ventures with QGC. These companies included A J Lucas Limited, Victoria Petroleum NL and WestSide Corporation Limited. For the purposes of its study, RLMS assumed any gas produced from these tenements would be fully available to QGC.

130 The RLMS report summarised the potential production and reserves of the above identified producers in Table 2 of its report. The key relevant elements of Table 2 of the RLMS report are reproduced in Table 1 below.

44 RLMS report, pp.9-15.

Table 1: Extract of RLMS summary of small independent CSG producers

Company	Estimated GIP (PJ)	Potential recoverable gas (PJ)	Potential gas production (PJ pa)	Comment
Blue Energy	5,871	880 – 1,760	44 – 88	Likely to use RBP
Bow Energy	970	145 – 291	7 – 15	Likely to use QGP
Icon Energy	4,000	600 – 1,200	30 – 60	Likely to use RBP
Molopo	6,300	945 – 1,890	47 – 94	Likely to use QGP
Rawson Resources	n/a	-	-	Area of poor prospectivity

Source: RLMS report, Table 2, p.16.

131 The next section compares the RLMS report with more recent data prepared by EnergyQuest.

Independent producers identified in EnergyQuest Energy Quarterly

132 APLNG provided us with a copy of the EnergyQuest Energy Quarterly publication dated August 2011 (EnergyQuest report).

133 Table 15 (on page 33) in the EnergyQuest report provides the most complete picture in the report of Queensland CSG production and reserves.[45] In this table, production data are provided for the year ended June 2011 and reserves and resources data are provided as at August 2011 according to the standard industry classification of 1P (Proven reserves), 2P (Proven plus Probable reserves), 3P (Proven plus Probable plus Possible reserves) and 2C (best estimate for recoverable resources).[46]

45 We noticed some minor inconsistencies in the report. For example, p.67 of the report states that (1) Production from the WestSide Meridian field was 0.7 PJ for the June quarter 2011 rather than 0.4 PJ in Table 39 on p.60 and (2) Bow has current certified reserves of 238 PJ of 2P and 2,752 PJ of 3P rather than 183 PJ and 2,643 PJ, respectively, in Table 15 on p.33.

46 See Section 5 of Volume 1 of the Canadian Oil and Gas Evaluation Handbook, reproduction available at: http://www.albertasecurities.com/securitieslaw/Regulatory%20Instruments/5/2232/COGEHs.5DefinitionsofOilandGasResourcesandReserves.pdf, accessed on 22 November 2011. Also see RLMS report, Appendix F, pp.10-11.

134 The key relevant elements of Table 15 of the EnergyQuest report are reproduced below in Table 2.

Table 2: Extract of EnergyQuest summary of small independent CSG producers and reserve-holders

Company	Basin	Production year ended June 2011 (PJ)	1P PJ	2P PJ	3P PJ	2C PJ
Molopo	Bowen	0.8	36	523	1,257	908
WestSide	Bowen	3.1	7	433	935	n/a
Senex (Don Juan)	Surat	-	-	101	198	n/a
Bow Energy	Bowen	-	-	183	2,643	2,521
Blue Energy	Bowen	-	-	-	39	n/a
Icon Energy	Surat	-	-	-	-	1,115
AGL (Galilee Gas Project)	Galilee	-	-	-	-	259
Comet Ridge (Gunn Project Area)	Galilee	-	-	-	-	67

Source: EnergyQuest report, Table 15, p.33.

135 While the figures from the two reports are difficult to compare given the differences in presentation, we note that:

- Westside is a significant small operator that was treated as associated with QGC in the RLMS report. However, in addition to the two tenements it jointly owns with QGC, WestSide also has a 51% share in the Meridian SeamGas fields, with Mitsui E&P Australia Ltd owning the remaining 49%.[47]
- Rawson Resources appears to have had little success in discovering CSG reserves.
- Based on the RLMS report, Blue Energy, Bow Energy, Icon Energy and Molopo are likely to use one or other of the existing gas pipelines (RBP and QGP).

47 See link: http://westsidecorporation.com/Company_Profile/Locations_and_Relationships.aspx, accessed on 22 November 2011.

- Bow Energy has been acquired by Arrow Energy via a Scheme of Arrangement.[48]
- Molopo is in the process of selling its Queensland CSG assets.[49]
- Projects in the Galilee Basin (AGL and Comet Ridge) are such a long distance from the proposed APLNG Hub or pipeline that they could not reasonably fall within the geographic scope of the upstream dependent market.[50]

136 Taken together, this means that the only small independent CSG producers that may potentially seek gas transportation services from one of the four large LNG proponents is limited to:

- WestSide in relation to its Meridian SeamGas project
- Senex in relation to its Don Juan field

137 However, given its existing relationship with QGC, it appears logical that WestSide is most likely to negotiate gas transportation access for its Meridian SeamGas project with QGC, if required.

138 Similarly, we note that the Don Juan field, is which Senex has an interest, is actually majority-owned and operated by Bow Energy.[51] Given the recent acquisition of Bow Energy by Arrow Energy, we consider that Senex is most likely to negotiate gas transportation access with Arrow Energy, if required.

139 Finally, we understand that there are a number of CSG explorers in the vicinity of the APLNG pipeline who are neither in production nor have verified resources or reserves. We consider that these firms do not belong in the relevant upstream market because their operations are either too prospective or too uncertain at the present time. We note that these parties may or may not seek transportation services from APLNG at some point in the future. However, if they do, they will likely have a number of alternatives to APLNG for transporting CSG to Gladstone.

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48 See link: http://www.arrowenergy.com.au/icms_docs/115999_Arrow_completes_Bow_acquisition.pdf, accessed on 2 February 2012.

49 See link: http://clients.weblink.com.au/clients/molopo/article.asp?asx=MPO&view=3368625, accessed on 2 February 2012.

50 See, for example, the map at the following link, which shows the Galilee Basin as well north and west of the APLNG Hub east of Wandoan: http://www.moxy.com.au/Wiki/index.php/Galilee_Basin, accessed on 23 November 2011.

51 See link: http://www.naturalgasasia.com/australias-senex-energy-completes-kato-drilling-3864, accessed on 7 February 2012 and http://www.senexenergy.com.au/175/Permits-and-projects, accessed on 7 February 2012.

140 As such, we have no reason to come to a different view on the application of criterion (a) to the upstream dependent market than the view of the NCC in its Final Recommendation on the QCLNG application.[52] That is, that the availability of current and potential future alternatives to the APLNG pipeline to upstream CSG producers means that the vertically integrated operator of the APLNG pipeline is unlikely to have the incentive or ability to materially influence competitive outcomes in the upstream CSG production market. Accordingly, access to the APLNG pipeline is unlikely to promote a material increase in competition in the upstream CSG production market.

3.3.2 Downstream LNG market

141 The NCC's Final Recommendation on the QCLNG application found that the downstream LNG market is a competitive international market.[53] The NCC noted that Australia is only the sixth largest exporter of LNG in the world. We agree that Australia is a price-taker on the world LNG market.

142 Therefore, even if the provision of access to the APLNG pipeline could lead to an increase in the volume of Australian LNG exports – which is far from clear – it is unlikely to have any effect on the world LNG market.

143 As such, we have no reason to come to a different view on the application of criterion (a) to the downstream LNG market than the NCC did. That is, that access to the APLNG pipeline will not promote a material increase in competition in the downstream LNG market.

3.3.3 Downstream domestic gas sales market

144 The downstream dependent gas sales market we have adopted in this case is identical to the downstream gas sales market adopted by the NCC in its Final Recommendation on the QCLNG no coverage application.[54] That is, domestic gas sales within the scope of feasible interconnection with the APLNG pipeline, encompassing consumers in Gladstone, Rockhampton and the Wide Bay area (through interconnection via the Wide Bay Pipeline and the QGP).

145 The NCC accepted that in addition to the existing QGP and RBP, a number of other CSG-related pipeline projects were planned between

52 NCC Final Recommendation, para 6.40.

53 See para 6.51.

54 See para 6.23.

the Surat Basin and Gladstone. The NCC observed that these pipelines could potentially offer additional means by which consumers in the Gladstone/Rockhampton/Wide Bay area could obtain gas from producers in the Surat (or Bowen) Basin(s).[55]

146 Even if these pipelines did not proceed as planned, the NCC accepted that gas consumers would at least have the option of sourcing gas through the QGP as an alternative to the QCLNG pipeline.

147 Assuming that the QCLNG pipeline is no less likely to proceed than the APLNG pipeline, we suggest that gas consumers in the wider Gladstone area are likely to have at least two alternative sources of gas supply to the APLNG pipeline, and possibly several more.

148 Therefore, we submit that access to the APLNG pipeline is unlikely to promote a material increase in competition in the relevant downstream gas sales market. To the extent that a wider geographic downstream market is adopted, the APLNG pipeline is even less likely to promote a material increase in competition in that market.

55 See para 6.45.

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