



7 July 2015

Mr Rod Sims
Chairman
Australia Competition and Consumer Commission

By email: gas.inquiry@accc.gov.au

Public Submission to East Coast Gas Inquiry Issues Paper

Dear Mr Sims

Origin Energy Limited (Origin) welcomes the opportunity to contribute to the Australian Competition and Consumer Commission (ACCC) Inquiry into the East Coast Gas Market. Origin's interest in this area stems from being an integrated energy company with diverse operations spanning the energy supply chain from gas exploration and production to power generation and energy retailing. In Australia, Origin has approximately 4.3 million retail customer accounts and operates over 6,000 MW of generation capacity including coal, wind, and gas-fired plant. Origin is a leading producer of gas on the east coast of Australia, with owned and equity interests in producing assets across Queensland, Victoria and South Australia.

The east coast gas market is in transition

It has been well documented that the east coast gas market is currently undergoing a transformative period with the recent commencement of LNG exports, and an anticipated threefold increase in demand by 2017. Historically, domestic gas prices have been well below those observed internationally. However at least in the short term, it is unlikely that these historical lows will be maintained. As lower cost conventional reserves decline, supply is now more dependent on less accessible and more costly resources.

Notwithstanding the increase in demand, there are sufficient gas reserves and resources to meet the needs of domestic customers and for the export industry. Whilst the supply/demand balance is tightening the market is diverse with multiple fields and strong interconnections. Still, the minimisation of supply side risks through timely development of resources, and the removal of regulatory impediments, remains crucial.

Often overlooked when examining the impact of LNG exports on the east coast, is the symbiotic relationship between domestic and export supply. Despite being blessed with vast reserves, the relatively small size of the east coast market means that the large scale development of resources such as coal seam gas (CSG) solely to supply domestic demand would be uneconomic. Such development is only made possible by accessing the requisite volumes (and prices) available through international markets. This in turn makes gas available for domestic supply. It should be remembered that it was not that long ago there was contemplation of building a pipeline from PNG to the east coast, to supplement declining lower cost conventional gas reserves. The scale of the CSG/LNG developments is also expected to drive innovation and efficiency in gas exploration and production with ensuing benefits for the east coast market.

Origin supports sound regulation and continued incremental improvement in the gas market

There have been a number of recent reviews aimed at examining the new market dynamics. Whilst to some extent this is understandable, particularly in an environment where prices are higher than

historical norms, market forces should be allowed to work. There should not be a rush to equate an increase in price to inefficiency. Overseas experience (e.g. the shale gas evolution in the US) shows that price increases encourage supply, which may ultimately have a dampening effect on the initial increases.

Origin notes the current transitional period is occurring at a time when some legacy supply contracts are coming to an end, with the negotiation of new contracts under a changing pricing landscape, and greater market uncertainty, likely to require some adjustment.

With the above in mind, we note the concerns expressed by some gas users around challenges in securing gas supply on what they consider to be reasonable terms. For our part, Origin remains an active participant domestically and we continue to buy and sell large volumes of gas, with ongoing negotiations with a number of large industrial customers for gas supply. A number of recently announced supply agreements indicate that commercial negotiations can continue to drive positive outcomes for both buyers and sellers of gas.

The current ACCC Inquiry process has the potential to clarify any ongoing concerns around market efficiency, but Origin's view is that the east coast market is competitive. Governments continue to have a crucial role in encouraging gas development through transparent and fact based regulatory supervision. In some cases, however, government policy and regulation has impeded, rather than encouraged gas exploration and production.

Origin supports the current market mechanisms whilst acknowledging that the industry will need to continue to evolve over time through incremental improvements:

- We support the Australian Energy Market Commission's (AEMC) current review of the facilitated markets (short term trading markets, Victorian gas market) and pipeline capacity arrangements, which is aimed at improving efficiency through increased transparency and greater simplicity. We submit that the outcomes of this process, (as well as the effectiveness of any adopted policy proposals), be fully considered before additional measures aimed at addressing similar issues are pursued.
- With regard to pipeline trading Origin supports efforts in minimising transaction costs so as to facilitate the trading of secondary capacity. As a holder of primary capacity we have every incentive (given sunk costs) to make this capacity available where it is not being used.
- We support the continued development of supply hubs as a means of facilitating market liquidity - trade volumes at the Wallumbilla hub have been greater than anticipated and industry is currently considering the merits of an additional hub at Moomba.

If you wish to discuss any of these issues further please contact Steve Reid at steve.reid@originenergy.com.au or on 02 9503 5111.

Yours Sincerely



Greg Jarvis
General Manager Wholesale and Trading

1. Summary of Key Points

LNG exports and domestic supply

- Notwithstanding the tightening supply/demand balance there are a number of indicators that suggest that there will be sufficient gas supply to satisfy both domestic customers and LNG demand. These include: the vastness of the underlying resources base in the east coast; increasing pipeline connectivity; structural shift in the electricity sector; and customer driven supply side initiatives.
- Still, the management of supply side risks through a sound regulatory framework and the timely development of resources will be crucial to market stability.

Domestic gas prices

- Historically east coast gas prices have been below international levels, however the increasing cost of production along with stronger demand with the advent of LNG exports is likely to mean that prices are unlikely to remain at these historical levels at least in the short term.
- Prices will continue to be driven by competitive forces – i.e. the prevailing supply/demand dynamic.

There is evidence of robust competition in an integrated east coast market

- Origin's view is that there is one integrated east coast gas market, which is reinforced by the ever increasing level of interconnection between supply basins.
- It is important that higher prices are not equated to a sign of inefficiency as there are a number of indicators that supports Origin's view that the market is competitive. These include robust inter-basin competition facilitated by pipeline connectivity; and the emergence of a broader cross section of industry participants both in gas production and reserves development.
- Integrated businesses such as Origin continue to have a strong presence in the supply of gas to domestic users, despite having an interest in LNG exports.

Domestic gas supply contracts

- Whilst noting the concerns in the Issues Paper around the difficulties experienced by some users in securing contracts, Origin continues to provide quotes to all prospective buyers that engage with us and has entered into many supply contracts with domestic customers.
- In Origin's view there has been no material change in non-price terms and conditions since the commencement of the east coast LNG projects. Where a buyer's request for flexibility regarding the terms and conditions of supply contracts results in added risks and costs to a producer; this is likely to be factored into the overall price. This has always been the case and is independent of the current dynamics.

Transmission pipelines

- Origin strongly supports pipeline capacity trading. The underwriting of pipeline capacity represents a significant sunk cost which means there is an economic incentive to on sell any available capacity when it is not being used.
- There are a number of options available for capacity trades including novations and bare transfers as well as substitute products such as swaps. Pipeline companies also offer 'as available and interruptible services.
- The fact that there is physical capacity on a pipeline does not necessarily mean there is capacity available for trade as shippers need to balance fluctuations in demand often across both the gas and electricity markets.

Access to processing facilities

- Similar to the issues around pipeline capacity trading, owners of processing facilities have a commercial incentive to offer third party access where there is any underutilised plant capacity.

Availability of market information and trading liquidity

- Initiatives aimed at promoting transparency and information will assist in continued market development so long as they add value, and the benefits outweigh the costs.

- The bespoke nature of gas supply contracts makes the establishment of a single reference price challenging. Origin supports the establishment of a survey based gas price index that could assist in enhancing transparency.

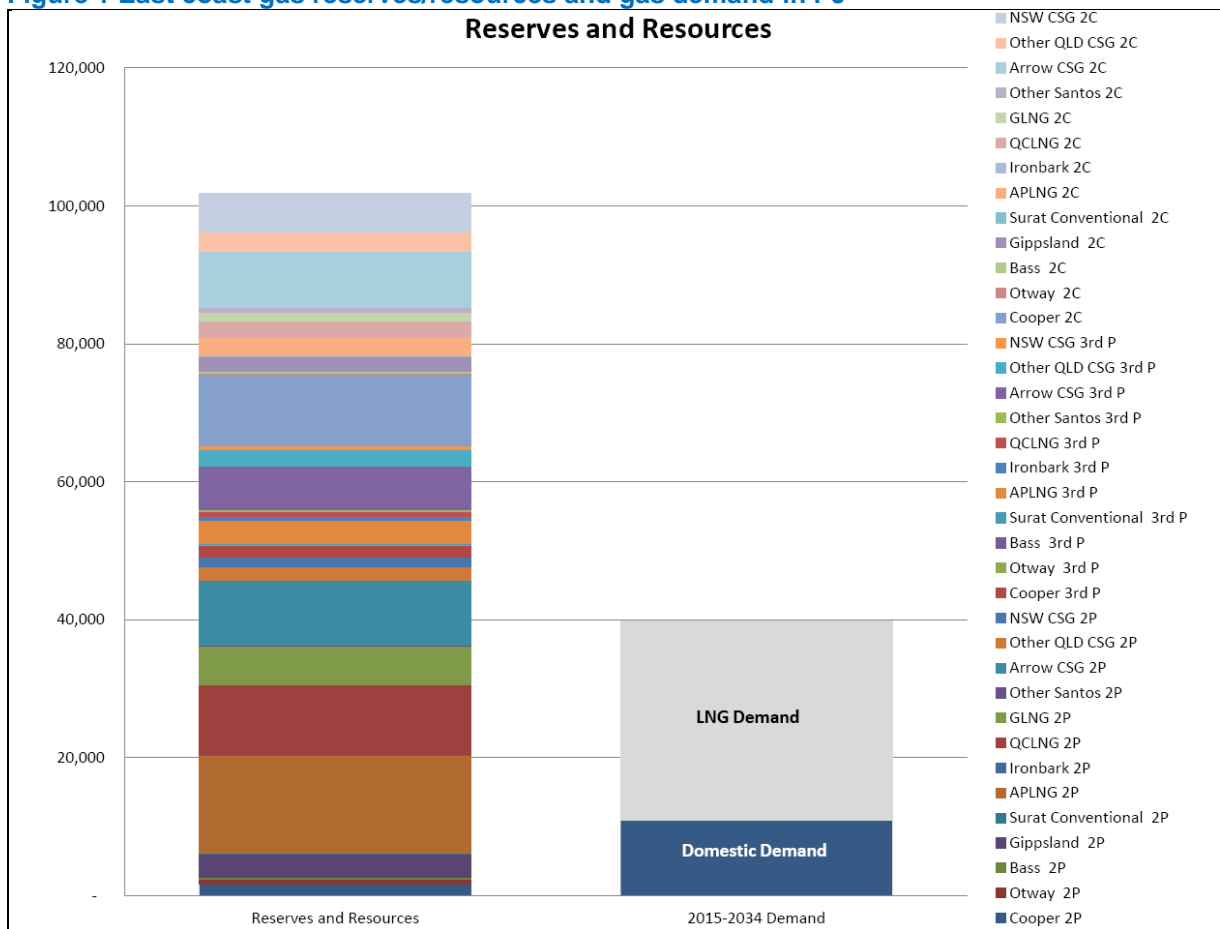
2. LNG exports and the domestic gas market

Most observers agree that the commencement of east coast LNG exports will (at least in the short term) result in a tightening of the domestic market given the anticipated tripling in demand. It should be noted, however, there are a number of indicators that suggest that the market will clear and that there will be sufficient gas supply to satisfy both domestic customers and LNG demand.

2.1 The east coast has an abundance of gas reserves and resources

As seen in Figure 1 there are approximately 102, 000PJ of reserves and resources on the east coast. To put this in perspective east coast gas demand to 2035 (inclusive of LNG) is expected to be 40, 000 PJ. Notwithstanding any inherent uncertainty when looking at an extended time horizon, the vastness of the gas resource base clearly indicates that the market is capable of meeting the needs of domestic consumers, and LNG exports. This in our view is a crucial starting point in any discussion around supply adequacy.

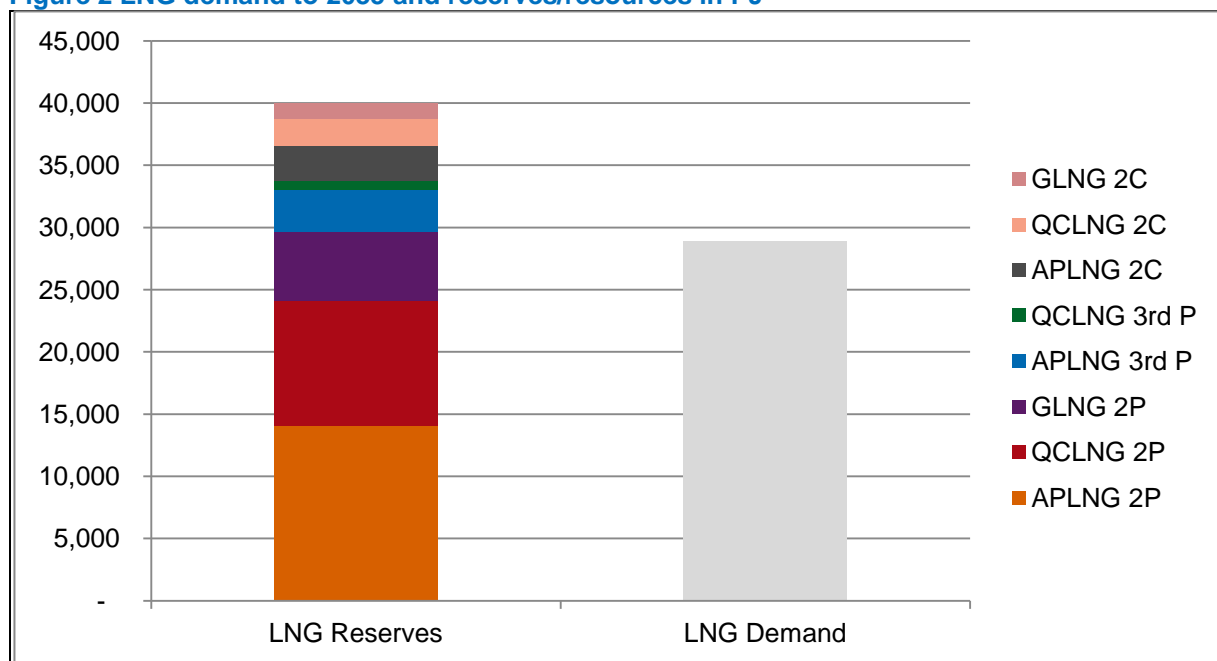
Figure 1 East coast gas reserves/resources and gas demand in PJ



Source: Energy Quest data

The three LNG projects have also reportedly largely secured sufficient 2P reserves and third party contracts to meet their contractual obligations (See Figure 2).

Figure 2 LNG demand to 2035 and reserves/resources in PJ



Source: Energy Quest and Origin data

2.2 Forecasts of supply/demand adequacy are uncertain but still informative

The Australian Energy Market Operator (AEMO) in its most recent forecasting report found that there is unlikely to be a short term (to 2019) supply shortfall for the east coast market due to lower consumption and infrastructure upgrades. This includes in New South Wales where AEMO had previously projected imbalances¹. AEMO did find that there is potential for a supply gap of 214 PJ in Queensland over the medium to long term (2020 to 2034), but this too was lower than previous projections². Origin notes that some industry analysts have been critical of AEMO’s optimistic outlook. In its May 2015 Quarterly Report Energy Quest expressed concerns that AEMO had not fully taken into account the risks associated with developing reserves, and that the extent to which relatively small changes in LNG demand can impact the supply/demand balance have been underestimated³.

As with all modeling, the accuracy of projected outcomes in a highly dynamic environment becomes less certain particularly over longer timeframes. For this reason, the most useful takeaway from AEMO’s forecast and Energy Quest’s critique may not be in determining which party is likely to hold the more plausible view of the future. Rather, both AEMO’s findings and Energy Quest’s more cautious approach are informative:

- In the case of AEMO’s forecast, the underlying observations and assumptions around infrastructure upgrades and demand response capability, demonstrates the innate flexibility in the market, and the avenues available to mitigate against disequilibrium; and

¹ AEMO 2015: Gas Statement of Opportunities, Executive Summary, pg iii

² Ibid, 2013 GSOO forecasted a 1000 PJ shortfall in QLD over the medium to long term

³ Energy Quest 2015: Energy Quarterly May 2015 Report, pg 17, 21

- Energy Quest's concerns highlight the importance of ensuring that supply side risks are appropriately managed and minimised.

We discuss these issues further below.

2.3 Market flexibility will assist in maintaining equilibrium

Enhancements in gas infrastructure will further increase interconnection and gas flows. One of the key drivers for the improvement in AEMO's projected supply demand balance is the upgrades in gas infrastructure, including enhancements to transmission pipelines and storage. These developments as seen in Table 1 will facilitate the movement of gas to where it is most needed, and help ensure a supply side response to any potential shortfall.

Table 1 East Coast Gas Market Infrastructure Upgrades⁴

Infrastructure	Upgrade
VIC-NSW interconnect	Expansion of the Interconnect is scheduled to be completed in 2015, with flows into NSW set to increase from 57 TJ to 118 TJ/day.
Moomba to Sydney Pipeline (MSP)	Recent augmentation will allow for bi-directional flows with gas now capable of flowing from New South Wales to Moomba, facilitating potential supply into to QLD.
Moomba Adelaide Pipeline (MAP)	MAP will now be connected to the SEA Gas Pipeline and will soon have the capability of moving gas from South Australia to Moomba, facilitating potential supply into to Queensland.
South West Queensland Pipeline (SWQP)	SWQP is now fully bi-directional, and APA is seeking expressions of interest for expansion. Flows along SWQP likely to be crucial in meeting LNG demand.
Roma to Brisbane Pipeline (RBP)	RBP now has bi-directional capability, allowing for flows from the east to Wallumbilla
Tasmania Gas Pipeline Storage	Enhance storage facility from 2016 will allow for increased injections into the Victorian DTS
Newcastle LNG storage	1.5 PJ facility is now commissioned, and can assist in meeting NSW peak demand

Plans for a pipeline linking the Northern Territory (NT) with the East Coast are also well underway with four companies now short listed to undertake the construction. The NT government is set to choose a preferred bidder by the end of the year with feasibility studies to select a route to be completed in 2016. As a further boost to the project, the Federal Government has announced a \$5 billion loan facility to promote infrastructure investment across northern Australia, including pipelines⁵.

Emerging trends and demand response will help offset tightness. Changes in the electricity sector along with lower industrial demand are expected to have a dampening effect on market tightness with domestic gas demand set to be approximately 100 PJ per annum lower than the peak level of 700 PJ observed in 2012-13⁶. Much of this is as a result of the forecast decline in gas powered generation (GPG). This is driven by subdued demand for electricity generation; the increasing entry of renewable energy which crowds out GPG; and worsening economics of GPG relative to coal generation with the removal of the carbon price, increasing cost of gas, and lower coal prices. A number of recent events have demonstrated this trend – Stanwell has now taken its Swanbank E gas

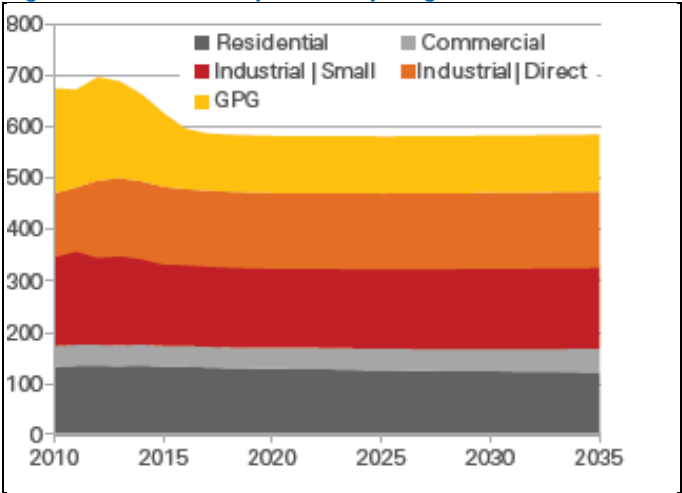
⁴ AEMO 2015: GSOO, pg 6 and Energy Quest 2015: Energy Quarterly Report,

⁵ Energy Quest 2015: Energy Quest May Quarterly Report, pg 57

⁶ Core Energy Group 2014: Energy Australia Gas Outlook 2035, pg 4

plant offline; GDF Suez is set to reduce the capacity of Pelican Point in 2015; and AGL has announced plans to mothball part of its Torrens Island power station in 2017⁷. In its May Quarterly report, Energy Quest estimated that gas use for power generation had declined by 5.1 PJ or 9 percent in the first quarter of 2015.

Figure 3 Demand Projections by Segment



Source: Core Energy

In the industrial sector, reduced demand is being driven by a combination of weakness in manufacturing, demand response to higher prices and broader economic conditions. In manufacturing, competitive pressures in the oil refining and aluminium sectors have led to business closures which have put downward pressure on gas demand. Additionally, the rationalisation of certain industrial processes has increased the reliance on imports (e.g. clinker imports for cement) and has similarly contributed to demand reductions⁸.

The ability of industrial users to substitute for gas is likely to vary. Where gas is used as a feedstock such as in the plastics, chemicals, and fertiliser industries, substitution may be more difficult. However, similar to the trend observed in the cement industry, the Grattan Institute did note that in some instances a greater reliance on imports could allow for the supplanting of certain gas intensive processes within the production chain. For example with ammonium nitrate for explosives or fertilisers, ammonia could be imported rather than manufactured from domestic gas⁹. In its March report Energy Quest also reported on an article in the Australian Financial Review which discussed Adelaide Brighton’s plan to accelerate alternative energy use in response to higher gas prices. The company plans to reduce its dependence on gas by increasing its use of wood waste as an energy source by 15 percent¹⁰.

For the residential sector the relatively small decreases in gas demand are primarily due to improvements in energy efficiency, the uptake of reverse cycle air conditioning, and the penetration of solar hot water.

⁷ Energy Quest 2015: March Quarterly Report, pg 111
⁸ Core Energy 2014: Eastern Australia Gas Outlook 2035, pg 31
⁹ Grattan Institute 2014: Gas at a Crossroads: Australia’s hard choice, pg 24
¹⁰ Energy Quest 2015: Energy Quarterly March 2015 Report, pg 15-16

Customer driven supply side initiatives shows that the east coast is adjusting to new dynamic.

Alternative commercial models for gas development are developing and gaining momentum in response to the changes in market dynamics. Some users are now underwriting gas developments by partnering with exploration and production companies. Austral Bricks has reportedly signed a 12.5 PJ, 10 year, gas supply option agreement with Strike Energy where Austral will pay Strike an option fee as pre-payment, conditional on Strike's PEL 96 joint venture proceeding. Strike is expected to use the option fee to accelerate the gas field development program. The agreement, (which is based on 2C resources as opposed to the more standard commercially acceptable 2P reserves) is worthy of note for a number of reasons. It demonstrates the industry's ability to adapt to the changing environment with mutually beneficial outcomes for prospective gas producers (who are able to fast track exploration and production of less advanced resources), and users who gain greater certainty around future gas supplies. Strike is understood to be targeting production by 2017 and has also signed similar agreements with Orora Limited (45 PJ in total) and Orica (250 PJ over 20 years).

Sector mechanics suggest that the east coast can adapt to fluctuations in LNG demand.

As highlighted by Energy Quest, small changes in LNG demand have the potential to significantly impact the supply/demand balance. An important starting point in looking at this issue is that the three LNG players reportedly have sufficient supplies to meet their contracted obligations based on their own 2P reserves and third party supply contracts. Still, much depends on the pace of developing these reserves, and the extent to which there are any unforeseen issues that could result in a reserves write down. It is also worth bearing in mind that Arrow has almost 9,000 PJ of uncontracted 2P reserves which could assist in alleviating any potential shortfall in the medium term.

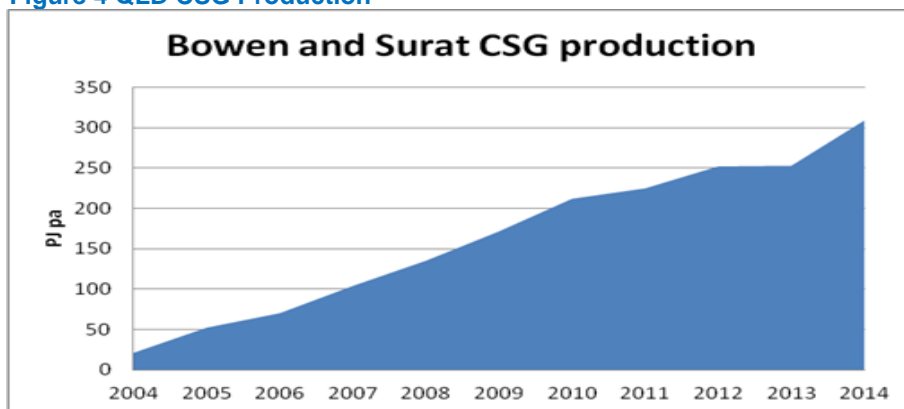
The greater source of uncertainty seems to be around the likelihood for any additional demand as a result of east coast LNG sales on the Asian spot market, and the scope for further contracting. It is therefore worth considering the potential drivers of additional LNG demand, and how any such demand could be met.

The likelihood for increased LNG demand brought on by further contracting or spot market sales is dependent on the expected revenue from these activities. In the short term, the recent fall in the oil price along with lower Asian LNG spot prices combine to create market conditions that do not appear to be conducive to such an increase in demand. LNG players could, however, look to engage in further contracting and spot sales where oil and spot prices are higher. Bearing in mind the extensive resource base on the east coast, the ensuing price signal is likely to encourage greater reserves/resources development which would assist in meeting additional demand. Similarly, given the interconnectivity of the east coast, such a price signal would allow for the movement of gas to where it is most needed, including through even greater pipeline and infrastructure augmentations.

The CSG/LNG industry has also been an important source of gas supply.

The discussions around the domestic impact of LNG have largely focused on the demand side. Often overlooked is the contribution of the CSG/LNG industry to domestic supply. Since 2007, Queensland CSG production has resulted in over 100 PJ per annum of domestic supply (Figure 4). It should also be noted that the LNG projects also have the potential to serve as a peaking service supplying gas to the domestic market at periods of high demand.

Figure 4 QLD CSG Production



Source: Energy Quest data

2.4 Managing and minimising supply side risks will be crucial

Notwithstanding the vastness of the resource base in the east coast, Origin considers that supply side risks should be appropriately managed, with the key being that reserves and resources are developed in a timely manner. It is therefore important that AEMO's outlook for the domestic market not be interpreted as there being no need to continue the development of gas resources with any sense of urgency. The development of gas resources will require the balancing of both practical and economic considerations in that this should be done at a pace that allows for gas supply to meet demand, taking into account that it is likely to be uneconomic to have a large pool of uncontracted 2P reserves sitting idle.

Another supply side risk that will need to be managed is the regulatory impediments to resources development in the east coast with moratoriums in some jurisdictions. In Victoria a ban on onshore development and exploration is currently in place pending a parliamentary committee report. The NSW Government has also applied a ban on CSG exploration licences, and restricted development in certain areas. It is imperative that the regulatory framework allows for the safe and responsible development of Australia's gas resources in line with best practice environmental regulations.

Notwithstanding the Commonwealth Government's 'one stop shop' initiative for approvals, Australia's environmental planning and regulatory framework for resource development is still subject to duplication and inconsistency that unnecessarily adds to the cost and time for project development. The Productivity Commission found that the overlap and duplication of similar regulatory processes as "one obvious source of unnecessary burden for proponents of major projects".¹¹

3. Domestic gas prices

3.1 East coast prices are now higher than historical levels

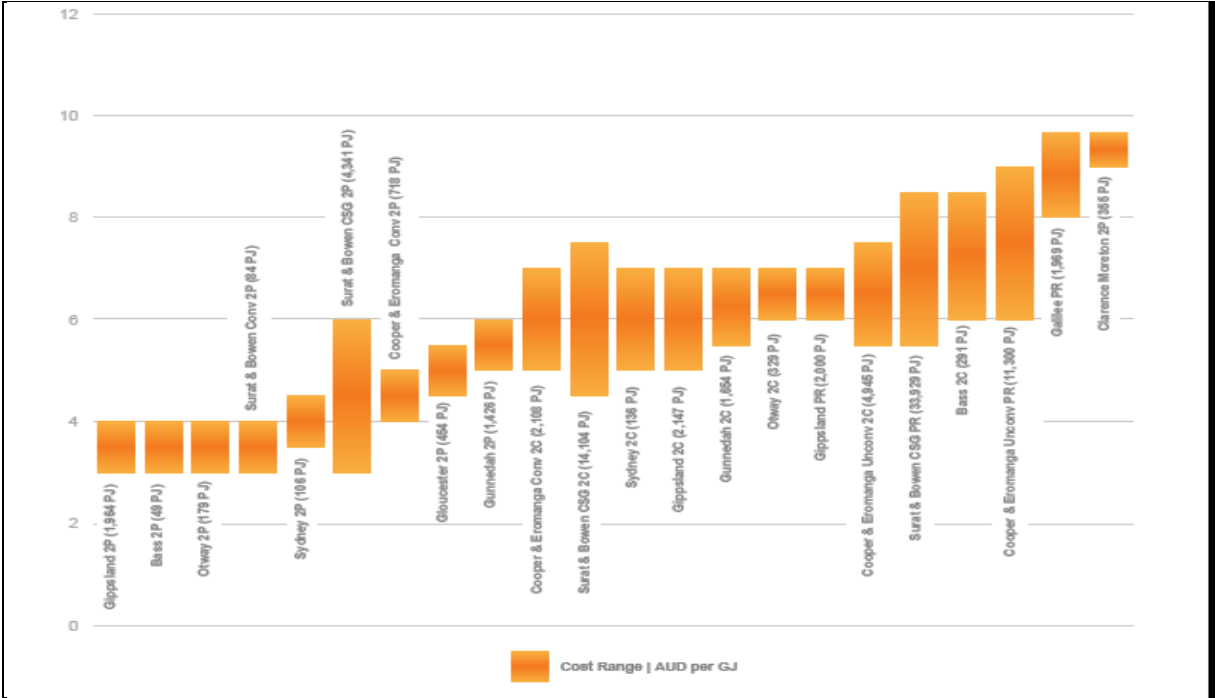
Historically east coast gas prices have been lower than those observed internationally. However the increasing reliance on higher cost resources and a tighter supply/demand balance means that prices are likely to be above historical levels, at least in the short term. There have been a number of studies that have sought to predict future gas prices, each with varying ranges. However, given that costs of production are increasing (Figure 5), and that prices must recover those costs, it is unlikely that future

¹¹ The Productivity Commission 2013: Major Project Development Assessment Processes – Research Report, pg 13

prices will return to historic lows (absent any new developments that reduce production costs). Core Energy noted in a 2014 report that:

*'New sources of supply are being developed at a significantly higher cost than legacy fields. Higher cost of development and operations, and lower well productivity levels are giving rise to materially higher extraction costs'*¹².

Figure 5 Ex-field cost of gas reserves and resources at June 2013



Source: Core Energy

The Issues Paper also notes there has been much discussion as to whether there will be a convergence of domestic gas prices with LNG netback prices. In our view prices will continue to be driven by competitive forces – i.e. the prevailing supply/demand dynamic.

4. There is evidence of robust competition in an integrated east coast market

In any discussion around competition, market definition is crucial, and it is Origin’s view that there is one integrated east coast gas market. This is reinforced by the robust and ever increasing level of interconnection between supply basins. Origin also notes that the ACCC made a number of pertinent observations¹³ in its Public Competition Assessment (PCA) for the APA Groups proposed acquisition of Hastings Diversified Utilities Fund (HDF):

- The eastern Australian gas transmission pipeline system became fully connected in 2009 with the completion of the QSN; and the

¹² Core Energy 2014: Eastern Australia Gas Outlook 2035, pg 81

¹³ ACCC 2013: PCA - APA Group proposed acquisition of HDF, items 46, 47, 49

- Dynamics surrounding gas transmission pricing and pricing incentives in eastern Australia are consistent with the existence of an integrated market for the transmission of gas via one or more pipelines from eastern Australian points of production to eastern Australian points of demand.

Origin considers that those factors support a finding that there is a single integrated East Coast market.

As explained in the previous section, within that market, higher prices are being driven by standard market mechanics – i.e. a tightening supply/demand balance and a higher cost of supply. It is therefore important that higher prices are not equated to a sign of inefficiency or some deficiency in the competitive make up of the market. There are a number of indicators that supports Origin's view that the market is competitive. We discuss some of these below.

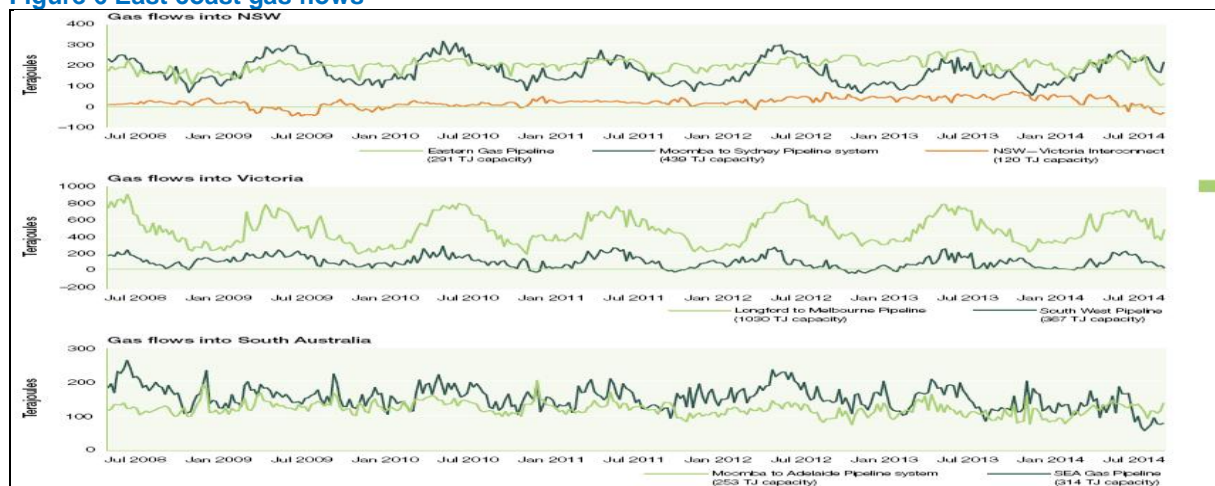
4.1 Interconnection facilitates inter-basin competition within an integrated east coast market

The east coast gas industry operates as a strongly interconnected system, with a diverse range of existing reserves and potential future supplies physically connected to a number of demand hubs and retail markets. In its 2014 State of the Energy Market Report, the Australian Energy Regulator (AER) reported that:

While gas tends to be purchased from the closest possible source to minimize transport costs, pipeline interconnection provides energy customers with greater choice and enhances the competitive environment for gas supply¹⁴.

Figure 6 shows the diversity of gas supply into New South Wales, Victoria and South Australia. NSW has multiple sources of supply including from Queensland and central Australia via the MSP and Victoria along the EGP and Interconnect. In the case of Victoria, whilst the Gippsland Basin remains the primary source of supply, the state also sources gas from the Otway Basin via the South West Pipeline. South Australia sources gas from central Australia and Queensland via the Moomba to Adelaide Pipeline, and from Victoria via the SEA Gas Pipeline¹⁵.

Figure 6 East coast gas flows



Source: AER

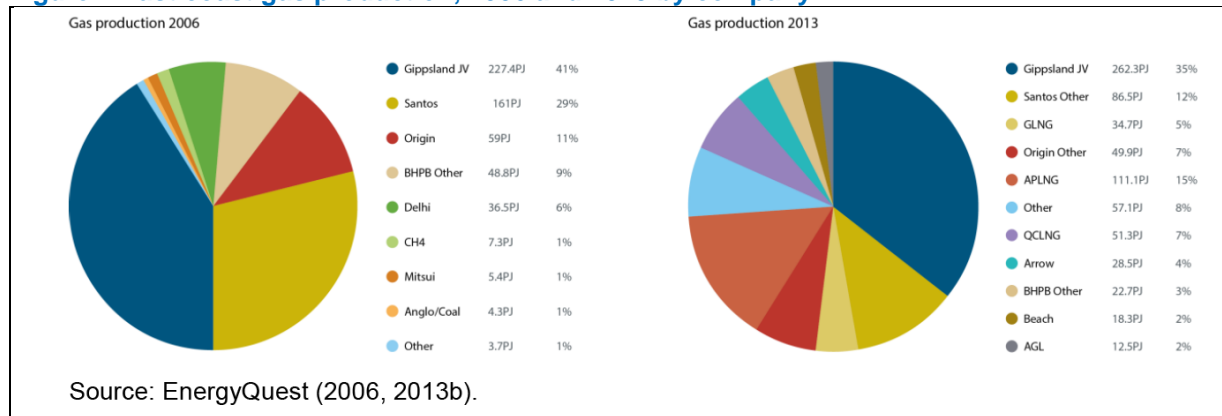
¹⁴ AER 2014: State of the Energy Market Report 2014, pg 96

¹⁵ *Ibid*, pg 98

The CSG/LNG industry has increased the diversity of gas production and reserves. In a 2014 report the Bureau of Resources and Energy Economics (BREE) commented that:

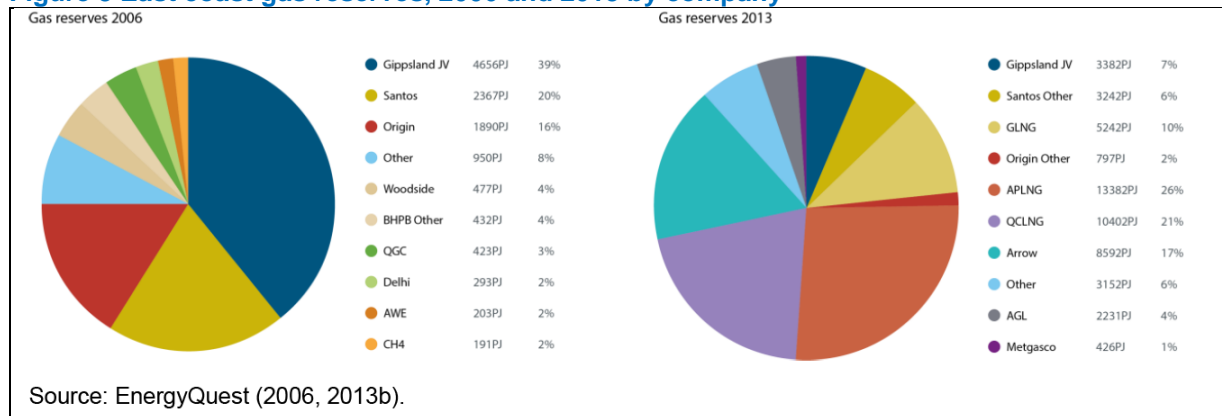
'In 2006, the top three producers (the Gippsland Joint Venture, Santos and Origin Energy) produced nearly 85 per cent of eastern Australia's gas. By 2013, the top three producers accounted for 62 per cent of gas production, and APLNG had become the second largest supplier behind the Gippsland Joint Venture. Overall, the number of companies with production has remained relatively stable at around 20, and there continues to be a larger number of smaller companies involved in exploration that are yet to bring gas resources into production'¹⁶.

Figure 7 East coast gas production, 2006 and 2013 by company



There is also a greater variety from a reserves perspective. In 2006 the Gippsland JV held almost 40 percent of 2P reserves, by 2013 with the emergence of the CSG/LNG industry this had fallen to 7 percent, though the absolute volume had not changed significantly¹⁷.

Figure 8 East coast gas reserves, 2006 and 2013 by company



Vertically integrated players have demonstrated willingness to supply domestically. Origin notes the questions in the Issues Paper around incentives for vertically integrated players to supply

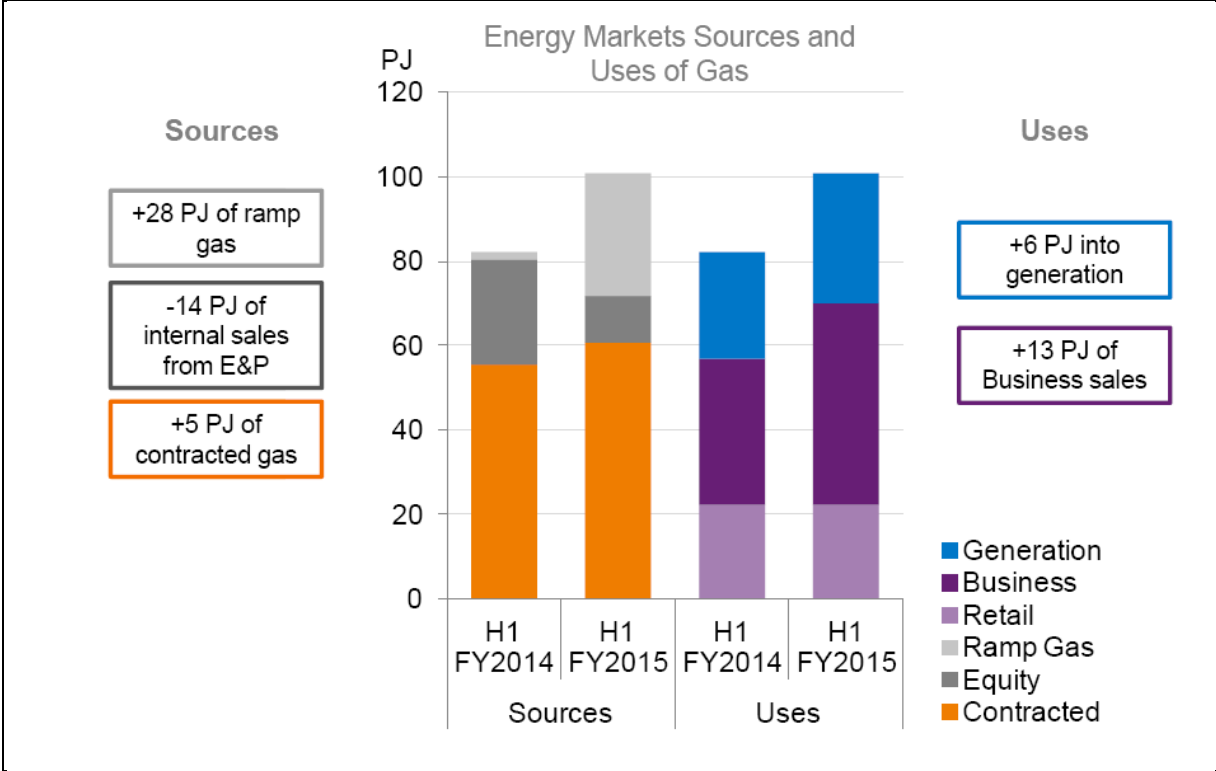
¹⁶ BREE 2014: Eastern Australian Domestic Gas market study, pg 33, 34

¹⁷ *Ibid*, pg 33, 34

domestic customers. As an integrated entity which also has interests in the APLNG¹⁸ joint venture, Origin has, and will continue to have, strong incentives to supply gas domestically. It would be erroneous to presume that Origin's reserves are earmarked for APLNG. Rather, Origin makes commercial decisions in relation to the appropriate sales channels for its reserves, which are made separately from APLNG, both in respect of whether that gas is sold domestically or whether it is sold to an LNG project. In FY 2015 we supplied approximately 100 PJ domestically (including to our own generation) (See Figure 9). It should be noted that sales to the C&I or business sector increased by 13 PJ from the previous year. Origin has also made substantial sales to the two other east coast LNG projects which compete with APLNG¹⁹.

With approximately 259 PJ of 2P reserves our Iron Bark project also provides further scope for future potential domestic sales.

Figure 9 Origin gas sources and uses



5. Domestic gas supply contracts

The Issues Paper discusses concerns expressed by some users regarding difficulties in securing contracts on what they consider to be reasonable terms. In commenting on this issue we can only draw on our experience as a buyer and seller of gas in the market. Origin currently has a number of quotes open with Commercial & Industrial (C&I) customers priced off our general trading book, and we continue to provide quotes to all prospective buyers that engage with us.

¹⁸ Origin has a 37.5 % interest in APLNG
¹⁹ In 2013: Origin entered a gas supply agreement with GLNG to supply 365 PJ over 10 years from 2015, and up to 194 PJ over 5 years from 2016; and with QGC for up to 30 PJ over two years (2014, 2015)

The Issues Paper also highlights concerns around non-price terms and conditions of supply contracts in that some users have expressed that these have become more inflexible, particularly in relation to certain conditions such as take or pay provisions and contract length. Origin's terms and conditions have not materially changed. Where prospective buyers require flexibility Origin continues to look to accommodate these requests subject to agreement by both parties as to appropriate commercial terms. In fact, in response to the competitive nature of the market we continually look to improve our product offerings to customers. An example of this is greater flexibility around take or pay provisions²⁰. In terms of the length of contracts, the average duration of executed C & I contracts has remained consistent over the past three years. Generally, Origin finds C&I customers to be increasingly sophisticated in their negotiations with us, with many now advised by economic consultants.

It is important to recognise that where a buyer's request for flexibility around the terms and conditions of supply contracts results in added risks and costs to a producer; this is likely to be factored into the overall price. This however, has always been the case even before the current transitional period underway in the east coast market. For example, where a customer has a more irregular and unpredictable load profile (thus requiring greater deviations from its maximum daily quantity), this will increase the risk profile for the supplier given that flatter load profiles allow gas producers to more effectively manage their overall portfolio. Some of the additional costs that may be incurred by a supplier in accommodating a buyer's requests for greater flexibility could be attributed to a need to purchase increased storage or additional pipeline capacity. Generally also, as demand increases the costs associated with managing these irregular profiles are likely to increase, as producers will need to balance an increasing set of priorities.

In a report for the Department of Industry, Intelligent Energy Systems (IES) stated that:

*'As costs of extraction go up, IES expect the premium for flexible contract terms to also go up corresponding to the increased costs for storage and the preference for producers to sell flatter profiles.'*²¹

6. Transmission Pipelines

6.1 Pipeline capacity trading

Origin is a primary shipper on a number of pipelines, and our transmission capacity requirements are reflective of our underlying portfolio. Origin strongly supports pipeline capacity trading. The underwriting of pipeline capacity represents a significant sunk cost which means there is an economic incentive to on sell any available capacity when it is not being used. It is possible that in some circumstances a shipper could have a commercial incentive to sell its capacity to another shipper even when it might otherwise have used that capacity, for example if capacity was particularly constrained and its value sufficiently high, and the shipper had other options to manage its own portfolio, such as the discretion not to bid gas fired generation capacity into the electricity market. Market arrangements are sufficiently flexible, and incentives exist for shippers to provide capacity to the market if demand exists.

Origin has, and continues to, trade capacity on a number of pipelines. In some cases this has been through conventional capacity trading arrangements such as novations and bare transfers but it has

²⁰ There is now scope to aggregate volumes across various sites under take or pay arrangements, giving users greater flexibility.

²¹ IES 2013: Study on the Australian Domestic Gas Market, pg 72

also been through more sophisticated arrangements such as delivered products, imbalance transfers and gas swaps.

The Issues Paper highlights concerns expressed by some participants regarding the current capacity arrangements. A critical starting point in considering these issues is to clearly articulate, and where possible quantify, the materiality of the challenges being experienced in finding and executing capacity trades. Only when the scope of any current challenges is well understood can industry look to identify targeted capacity trading options that respond in a proportionate and efficient way. If for example it is found that the times at which prospective buyers are seeking pipeline capacity coincides with when this capacity is being utilised by existing shippers, this may signal the need for increased investment or greater utilisation of substitute products. Given contractual arrangements reflect peak needs of users, unutilised capacity is most likely to be available outside of peak periods, which may not align with when a capacity seeker requires it. It should be noted that pipeline companies also offer 'as available' and interruptible services to the market where capacity is not being utilised by incumbent shippers. This is a service that Origin also utilises as a means of managing our transportation needs.

An understanding of what is meant by 'available capacity' is also crucial in understanding the extent to which there are issues with the current trading arrangements. For example, the fact that there is physical capacity on a pipeline does not necessarily mean there is capacity available for trade. It is important to bear in mind that shippers underwrite firm capacity to meet their delivery requirements which are often subject to seasonal, daily, and intra-day variations, and as such any definition of 'available capacity' must account for the flexibility needed to manage these variables. For Origin, pipeline capacity is required to maintain portfolio flexibility, which is essential when managing an integrated portfolio. Below are some of the various factors that can cause large swings in pipeline usage:

- Retail demand – e.g. changes in weather can lead to an unexpected increase in gas demand
- Changes in the electricity market – an increase in demand in the electricity market could result in more gas being needed for gas peaking generation
- Management of market exposure - e.g. the need to meet market operator services in the Short Term Trading Markets (STTM) could require increase gas flows
- Changes in demand from large customers

There are currently a number of work streams aimed at examining and improving the efficiency of capacity trading, and Origin continues to contribute to these. The COAG Energy Council has put forward a rule change proposal to the AEMC aimed at enhancing pipeline capacity information as a means of improving transparency around trading. Additionally, as part of its broader review into the facilitated gas market, the AEMC is also exploring broader avenues to improve capacity trading. It is important that these processes are allowed to run their course before any additional recommendations or work programs are initiated in this area.

Origin supports some of the initiatives that have been suggested under the aforementioned work programs, including the development of a voluntary capacity trading platform. This could improve on the current capacity listing services already provided by the APA Group and through AEMO's Trayport system. While these are notable developments, the existence of two different systems is perhaps in itself a complication. A single voluntary platform that covers all pipelines in central location that facilitates the easy identification of suitable capacity trading opportunities would be beneficial to the market. This could be supported by standardised capacity trading products and contracts which could reduce transaction costs.

We are wary, however, of policy makers seeking to draw on the experience of international markets where there are more stringent mandatory arrangements. For example the significant differences between the European, North American and Australian markets means that it may not be appropriate

or possible to apply any international capacity trading regimes to the Australian context. There are often comparisons between the east coast market and the Henry Hub in the United States, however, the depth and liquidity and the vastness of the pipeline network underpinning the Henry Hub, renders such comparisons of limited usefulness. It is also important to recognise that capacity trading regimes in international markets were developed and implemented through a staged approach over a number of years. It would therefore be ill-advised to rush to particular mechanisms observed in international markets without first exploring an incremental change process where proposals are given time to be implemented and tested. The Productivity Commission echoed a similar sentiment in its gas research paper where it stated:

'If mandatory pipeline capacity provisions involve the over-riding of private property rights, there could be substantial costs, including by diminishing incentives for future investment. Importantly, the effect of such provisions in other countries is unlikely to provide clear policy guidance in Australia. Australia's gas markets fundamentally differ from gas markets in the United States and Europe, which are more developed, more liquid and have many more buyers and sellers'.²²

Finally on this issue it is vital to acknowledge that from an investment perspective the current pipeline arrangements have continued to work well with timely upgrades undertaken in response to industry needs, as evidenced by the numerous augmentations outlined in section 2 of this submission. We do not consider that this could be the case if there were major deficiencies in the current regime. Ensuring that the pipeline arrangements continue to facilitate timely investment should therefore also be a key objective when considering this issue.

7. Access to processing facilities

Similar to the issues around pipeline capacity trading, owners of processing facilities have a commercial incentive to offer third party access where there is any underutilised plant capacity. Such arrangements exist in the Cooper Basin where the SA Cooper Basin facility owners provide various forms of facility services to third parties in the area, including liquids transportation and storage from Moomba through to Port Bonython.

The definition of available processing capacity will also be important in determining if there are any issues around third party access to facilities. A seemingly low level of utilisation does not necessarily indicate that capacity is available at a particular point in time. For example as part of contractual arrangements many gas customers require flexibility to change the rate of nominated quantities on a daily or even hourly basis, which often means that a processing plant's capacity needs to be much higher than the average production volume. Additionally, in defining spare capacity another important factor is that processing plants process various impurities, so availability will be dependent on capacity on the relevant processing train.

Origin is cognisant of the comments in the Issues Paper regarding the potential increasing level of importance of the Moomba Processing Hub. The Hub is owned by the SA Unit Joint Venture parties (Santos, Delhi – Beach and Origin. The facility owners are open to negotiations with all third parties, subject to there being sufficient available capacity to meet their needs.

²² Productivity Commission 2015: Examining Barriers to More Efficient Gas Markets Research Paper, pg 120.

8. Availability of market information and trading liquidity

Initiatives aimed at promoting transparency and information will assist in continued market development so long as they actually add value and the benefits outweigh the costs. Greater transparency is not an end in itself and should only be pursued if there is some benefit.

8.1 Price discovery and transparency

There are practical difficulties in developing a single reference price for gas given the bespoke nature of supply contracts. The price of gas in supply contracts not only reflects the value of gas but also encapsulates the flexibility arrangements embodied in the various terms and conditions. This serves to limit the usefulness of price comparisons.

As part of its review process the AEMC is currently exploring options to enhance price transparency in the market. Origin supports both the initiatives under consideration:

- A survey-based gas price index - A key issue that will influence the value of the index is ensuring a sufficient number of participants to allow for adequate price spread and anonymity
- Aggregation of existing publicly available information - This could form a part of the AER's Weekly Gas Market Report as this already gives an overview of average daily prices in the Victorian Declared Wholesale Gas Market (DWGM) and three Short Term Trading Market (STTM) hubs, as well as volume weighted prices for the Wallumbilla gas supply hub.

Additionally, with just over a year since commencement the volume of trades at the Wallumbilla gas supply hub (GSH) has been greater than expected. As a result, AEMO's GSH reference group is considering an ambitious program of future developments including the establishment of a single trading product, and exploring the potential for a GSH at Moomba.

8.2 Enhanced Bulletin Board

Information about the east coast gas market is fragmented across a number of sources. Origin supports improving the Bulletin Board to make it a comprehensive "one-stop shop" source of information. We also support the AEMC's recommendation to increase the scope of the Bulletin Board and improve its useability and functionality:

- Price information from the facilitated markets on a new facilitated markets pricing page;
- Planning and longer term forecasts information on a new long term forecast and planning page; and
- Expanding the scope of capacity listing to include a voluntary listing service for gas, transportation and storage capacity and combining the APA Group and Jemena capacity trading sites into a single site.