STATE OF PLAY

CSG-to-LNG

When the Australian executives of CSG producers first dared to dream of selling their reserves to the international market as LNG they were attracted not just by higher prices but also by the excitement. The eastern Australian market was slow and steady and long term contracts with their near to fixed prices were simple and boring. Well now we have arrived in the bright shiny new future. Santos, Origin and BG - the Brits that bought into the dream - have all achieved something magnificent in building three massive projects stretching some 500 kilometres across Queensland, vast new gas fields in the Bowen and Surat linked by mammoth pipelines cutting across the state to the huge liquefaction plants on Curtis Island. The challenge was even greater with all three doing it at the same time. Unfortunately that also pushed costs higher, as did the choices that minimised cooperation, not to mention competition from the mining boom.

And now? Now that it's all built and Queensland's gas is fuelling Asia, now we find out that the link to world markets means the returns are subject to everything from the success of American shale pioneers to Saudi Sheiks in OPEC Boardrooms. Unfortunately for our domestic gas champions, Santos and Origin, just as they should be celebrating their achievements they're forced to try and square massive debt piles with low oil and therefore LNG prices. As shares prices crater they're forced to sell off prime assets or issue mammoth amounts of new shares And so it must be asked – was it all a mistake? Perhaps - but of course it's easy to say that now. And we cheered them on the whole way (or at least until when oil prices started to crash). The truth is there's plenty of credit and blame to go round. Credit to BG, Santos and Origin for getting the projects built with little more difficulty than a budget blow-out or two. Blame for the second two for imperilling their companies with huge debts and limited capacity to pay them down – at least while oil prices stay low. Credit to successive Queensland Governments for supporting the growth of a huge new industry and overseeing the safe execution of three incredibly complicated new projects. And blame too, for following free market principles a little too closely and forgetting to save any gas for the domestic market. The list goes on…

But what we mustn't forget is how much infinitely more exciting the gas industry is today in eastern Australia. And for that we must thank pioneers like Richard Cottee, David Knox, Frank Chapman and Grant King and all their colleagues and fellow workers through QGC, Santos, Origin, Bechtel and hundred of other companies. They gave us the dream.

Small CSG Explorers

With most industry funds, effort and focus on the LNG projects any CSG explorers that didn't get big or get bought during the boom years have been becalmed for the last five years or so. No company outside the LNG exporters has managed to bring a new field into production in that period and many have managed to undertake only sporadic limited exploration and appraisal programs. In New South Wales the situation has been even more difficult with successive government's appeasement of anti-CSG and anti-development protestors. Now that LNG projects are nearing completion and the domestic market is accustoming itself to higher prices some smaller explorers may have more opportunities to grow, at least those with potential projects in Queensland.

Cooper Basin

Increased market demand and the international market linkage have been good for the Cooper Basin conventional gas business. As the basin's reserves continue a slow and gentle decline the increased gas prices have supported continued production and appraisal. There are also strong prospects for the development of further numerous but relatively small wet gas field developments. The Cooper also has longer term prospectivity for unconventional targets. Although Chevron pulling out from the Nappamerri Trough was disappointing there is undoubtedly a huge amount of gas in the various formations within the trough. The question is whether Beach Energy and its next deep-pocketed partner can find a path to economically producing the gas from the great depths and temperatures in which it sits. Also, will Australian governments and the public stomach the development of a massive new gas field with potentially up to 40% CO_2? Perhaps not if the plan is simply to vent it to the atmosphere, doing anything else would make any development even more costly. Tight gas and deep coal gas prospects within the Cooper could have an easier path to development than the Nappamerri albeit at smaller scale. It is still early days however with exploration and appraisal of these two plays just starting to gear up.

Other Unconventional

Australia still looks some way from its first unconventional field development, which could come in any of a number of basins. Apart from the Cooper Basin the Perth, Otway, Beetaloo, Canning and McArthur all have promising unconventional plays. Targets in the Perth and onshore Otway have the advantage of being located within basins with existing conventional fields and infrastructure, providing cost advantages for any developments and easy routes to market. This advantage may allow shale or tight gas fields in the north Perth Basin to be among the first unconventional developments sanctioned in the country. Further to the north in the Canning Basin the Laurel tight gas play is also promising. It will require development at scale to make the required infrastructure links worthwhile but could be a viable project if sweet spots are identified through the vast area of the play. The Canning's other unconventional play, the Goldwyer shale in the southern part of the basin, will take longer to progress. The lack of infrastructure and remoteness of the target area ensures high exploration costs, more difficult to justify in a low oil price environment.

The Northern Territory is becoming the most exciting area for unconventional plays within Australia. Led by the Beetaloo Basin and with the shimmering promise of a pipeline link to eastern markets the Territory is attracting interest from near and far. More should be known about the prospectivity of the Beetaloo soon as Pangaea fraccs its first wells. The giant McArthur Basin to the east has attracted the attention and promised dollars of Aubrey McClendon and finally brought one of US shales' pioneer wildcatters to an Australian play. The American and his company can undoubtedly bring technical expertise and experience to the NT however dealing with Traditional Owners in Arnhem Land and surrounds will call for different skillsets than buying off Texan or Oklahoman ranchers. Also the remoteness and majesty of the land in that part of the world probably needs to be experienced first hand to be understood, you can't just read that off a map.

It looks likely that across the multiple Territory plays a material hydrocarbon resource will be discovered. However it will still be costly and time consuming to move from that point to a full scale development. No company has yet shown what that process would look like. Unconventional gas from the Territory? Yes, but not for a while yet.

And so south to the Amadeus Basin where Richard Cottee is trying to build another gas company. The man who sold QGC and the CSG-to-LNG idea to BG has now taken control of the Territory's producing onshore conventional fields. He's tied the success of Central Petroleum to the construction of the NEGI pipeline and access to eastern markets. After that he can look to the company's longer term unconventional prospects. If the NEGI does go ahead the Amadeus will be an important new source of supply for eastern Australia.

GLNG

GLNG commenced LNG production from its first train on the 24th of September. This came just four and a half years after the project was sanctioned at the start of 2011. The second train of the 7.8 MTPA project should be ready for start-up by the end of this year.

Loading of first cargo from QCLNG Train 2

Source: Santos GLNG

Armour Energy

After a couple of years of forced inactivity while it sought farm-in partners for its extensive northern Australian acreage Armour Energy has been very busy in the last couple of months, at least in the boardroom. The company finally found a well-funded partner for its NT acreage, announcing a US$100m farm-in by Aubrey McClendon's American Enterprise Partners (AEP) on the 20th of August. It then received an unsolicited takeover offer of $0.12 per share from privately held WestSide Corporation on the 31st of August, conditional on scrapping the farm-in deal, and valuing the company at $37m. Just two days later Armour announced the purchase of Origin Energy's Roma shelf assets for $13m, diversifying away from its unconventional focus and potentially opening up a far quicker path to production. With these two deals negotiated and the company's share price still well down on its 2012 $0.50 IPO issue price it was unsurprising when the company rejected WestSide's bid on the 9th of September. It then concluded an upsized US$130m ($185m) farm-in deal with AEP two days later, now waiting for shareholder approval before definitive implementation. On the 22nd of September WestSide responded, if Armour's shareholders approve the AEP deal it will withdraw its offer. These events are covered in further details through this newsletter.

CORPORATE ACTIVITY

Origin Energy

30 SEP: Origin Energy launched a $2.5b rights issue and announced plans to preserve $2.2b of cash during FY2016 and FY2017. This will include a $1b reduction in capital expenditure and working capital, a cut in the dividend and $0.8b of asset sales. The measures will strengthen the company's balance sheet and should allow net debt to fall below $9b in FY2017, down from the current level of $10.3b and with a final $1.8b call for APLNG still to come. With the company's debt levels high low oil prices have severely reduced projected returns from APLNG as the project nears start-up. This has generated significant negative sentiment towards the company and its shares are down by more than half over the past year. They were halted at $6.03 prior to the announcement of the raising, giving the company a market cap of $6.66b.

Origin will issue new shares at $4.00 in the fully-underwritten raising, structured as a 4-for-7 pro-rata renounceable entitlement offer with Origin's shares on issue set to climb from 1.11b to 1.75b. The $2.5b of cash that will be raised will all be used to pay down bank debt with a cut in the planned dividend for FY2016 and FY2017 to $0.20 from last year's $0.50 to save the company $420m. Assets that may be sold to raise the targeted $800m include non-operated interests in the Cooper and Perth Basins, wind assets or infrastructure such as gas pipelines.

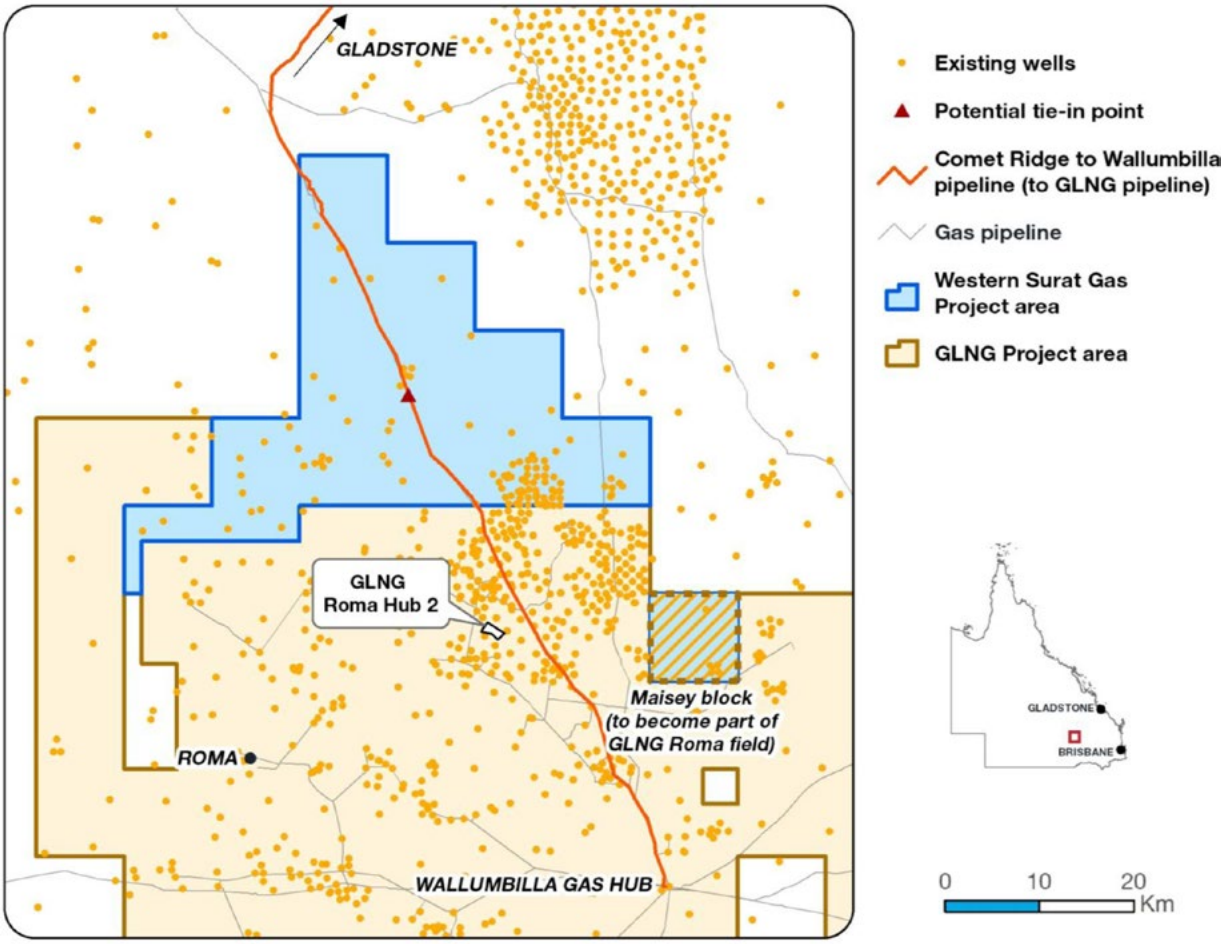
The measures should allow Origin to service its debt even without cash income from APLNG. Origin expects the first cargo from the project to be delivered in November with the first cargo from the development's second train to follow six months later. The company is still forecasting that its 37.5% share of the project will deliver underlying EBITDA of $110m-$230m during FY2016, assuming an oil price of US$54/bbl and exchange rate of AUD/USD $0.73, however this will produce a loss of $170m-$220m at the underlying NPAT level due to various accounting provisions. In FY2017 Origin expects underlying EBITDA of $1.9b-$2.1b from an oil price of US$59/bbl at the same exchange rate putting the company back on a firmer footing if the assumptions hold and allowing further reductions in debt.

Senex Energy

24 SEP: Senex Energy announced a transaction with GLNG that provides the company with support to bring its Western Surat Gas Project (WSGP) into production. The smaller company will sell the Santos-led project a 77 km^2 tenement area holding 2P reserves of 131 PJ for $42m, providing funds to progress the WSGP. With the Maisey Block surrounded on three sides by GLNG's Roma Field and not contiguous with the main area of the WSGP the sale is sensible for both parties. Senex has also agreed to sell gas from its field development to GLNG over a twenty-year term, with the contract ramping-up to production levels of 35-50 TJ/day (12.8-18.3 PJ/year). The gas will be priced in US dollars at a linkage to the JCC oil price and Senex may also sell up to 15% of its production to the domestic market. The company will deliver the gas into GLNG's Comet Ridge to Wallumbilla Pipeline within its project area and could even use GLNG gas processing and water treatment infrastructure for its own production. After the sale of the Maisey block the WSGP will have 313 PJ with Senex also operating and owning a 45% interest in the Don Juan Project immediately to the west of the field and with further gross 2P reserves of 101 PJ.

The WSGP was originally discovered and pioneered by Sunshine Gas as the Lacerta CSG Field. After Sunshine was bought by QGC the field languished with little attention while BG Group developed QGC's Central Walloon fields for supply to QCLNG. Senex acquired the field in 2014 when it swapped minority interests in PL 171 and ATP 574 for the asset. With GLNG also to provide Senex with production data from the 250 – 300 wells drilled in the Roma field to the south Lacerta finally looks poised for development. Senex will test production at the already drilled Glenora Pilot within the field next year, with gas and water to be processed through GLNG infrastructure. The company aims to sanction a development of the WSGP in 2017 and with the cost of a 35-50 TJ/day project expected to be several hundred million dollars.

Western Surat Gas Project



Source: Senex Energy

Federal Government

20 SEP: New Australian Prime Minister Malcolm Turnbull announced the appointment of his Cabinet following his victory over Tony Abbott in the Liberal Party leadership stoush. Josh Frydenberg was promoted from Assistant Treasurer in the previous Cabinet to Minister for Resources, Energy and Northern Australia. Former Resources Minister Ian Macfarlane was relegated to the backbench.

Drillsearch Energy

18 SEP: Drillsearch Energy advised that it had appointed Walter Simpson as its CEO. Mr Simpson, who has been acting-CEO since former MD and CEO Brad Lingo departed the company at the start of July, joined Drillsearch as COO in March this year. Previously he had been Operations/Technical and Commercial Director for QGC after filling a number of international roles for BG Group, including head of BG India for three years. With Mr Simpson's appointment restricted to CEO and not being extended to MD he will not be given a seat in the company's Boardroom. Drillsearch Chairman Jim McKerlie is likely to oversee his strategy changing the company from a singular focus on the Cooper Basin to enter other Australian, or near Australia, basins.

Shell/BG Group

17 SEP: The ACCC advised that it has some concerns with Shell's proposed takeover of BG Group and called for industry views and submissions. The commission's concerns relate to combining BG's QGC assets with Shell's half interest in Arrow Energy and its large undeveloped gas reserves. The ACCC believes this could see the reserves developed primarily or purely for export through QCLNG rather than satisfying demand in the domestic market. With Arrow's Bowen Basin fields centred on Moranbah representing the largest undeveloped gas reserves in eastern Australia tying them to QCLNG would remove a potential substantial source of supply from the domestic market. However, if Shell is forced to sell its Arrow interest to push trough its takeover of BG the most likely buyer is the owner of the other half of Arrow, PetroChina. The Chinese company is just as likely as Shell to prioritise development for LNG export if it judges the returns to be higher. The ACCC called for submission on the issue by the 8th of October with its final decision on the takeover to be released on the 12th of November.

Beach Energy

16 SEP: Beach Energy announced the resignation of MD Robert Cole due for family reasons. Mr Cole only began his tenure at Beach during March and was poised to give the company a more Australian-centric focus after presiding over a strategic review with that recommendation. He will remain in the company's Boardroom as a non-executive Director. Neil Gibbins will continue as Beach's acting CEO until a new MD is found.

Lakes Oil

9 SEP: Armour Energy's attempt to change the management of Lakes Oil were defeated at a general meeting of the company. Resolutions proposed by Armour to remove Lakes' Executive Chairman Rob Annells and non-executive Director Barney Berold and to elect Roland Sleeman to the Board were all defeated. Andrew Davis and Chris Tonkin were both elected as non-executive Directors, as proposed by Gina Rinehart's Timeview Enterprises. With both Armour and Timeview holding 19.9% interests in Lakes the latter company's opposition to Armour's proposed changes was crucial in ensuring their defeat. Amour considers Lakes to be poorly managed, with a lack of transparency and strategic failures. The company has invested significant funds in both Lakes' shares and direct project interests with little outcome, primarily as a result of the onshore drilling moratoriums from successive Victorian governments.

Metgasco

7 SEP: Metgasco advised that it had launched an action for damages against the NSW Government over the suspension of the Rosella drilling approval. The action was lodged in the Supreme Court, which has already ruled that the government's 2014 suspension of the approval as drilling was about to commence was unlawful. The action follows the failure of attempts by Metgasco and the government to negotiate a compensation settlement. The company also announced that it would acquire 16 km of 2D seismic over the Greater Mackellar structure where Rosella-E01 was to be drilled and that it was planning a new well on the structure. The already permitted seismic program is scheduled for late November and while it will only take four days is likely to generate significant opposition from anti-gas community groups. The activists have launched a sustained bid to have all gas exploration banned from the Northern Rivers region in the Clarence-Moreton Basin.

Armour Energy

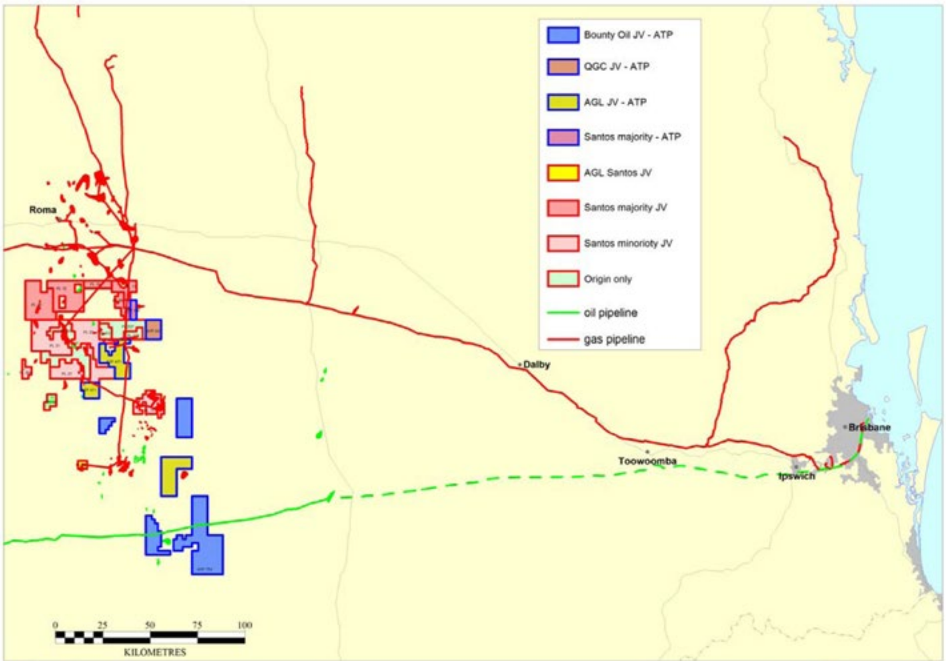
2 SEP: Armour Energy advised that it would buy Origin Energy's Roma Shelf conventional oil and gas interests for \$13m, including a \$10m up-front component. The assets, not currently producing, are centred on the Kincora Gas and LPG Plant, which has been on care-and-maintenance since 2012. The purchase is a significant step outside Armour's northern Australian shale focus, potentially bringing the company into the traditional heartland of Queensland's oil and gas industry. If it can successfully bring the fields back into production Armour should gain a solid revenue stream to fund its operating costs while longer term high-risk shale exploration in the NT is funded by farm-in partner American Enterprise Partners. With Origin now one of Australia's larger gas producers through its APLNG interests the assets concerned are too small to be worthwhile for management or operational focus.

Armour will gain an interest in more than 3,000 km^2 of the western flank of the Taroom Trough in the transaction, becoming operator of 13 production licences and 3 exploration tenements, with non-operated interests in a further 6 PLs and 1 ATP. Net 2C contingent resources for the fields are 23 PJ of gas, 245,000 bbls of condensate, 159,000 bbls of oil and 52,000 tonnes of LPG. The purchase also includes the 7.5 PJ capacity Newstead underground gas storage facility with 2.3 PJ of gas in storage and the 53 km long Kincora to Wallumbilla Pipeline. Armour estimates the replacement cost of the infrastructure included in the purchase is more than \$250m.

Armour will aim to bring Kincora back into production within six to twelve months after completion of the deal, with half of the 76 wells within the fields considered viable for production after workovers. The company will target initial gas production of 7-9 MMscfd (2.6-3.3 bcf/year) and will also be able to start oil production of around 50 bbl/day soon after it gains control of the assets. After it has re-established production Armour plans to use 3D seismic and modern drilling technology to target exploration upside in the acreage.

The purchase will be funded through debt with Armour taking a \$15m short-term loan from its largest shareholder DGR Global. The company will pay Origin \$10m in cash immediately with a further three \$1m payments due over three years after production has re-commenced. Part of the tenements are subject to pre-emptive rights, which if exercised will reduce the purchase price by \$3.5m, but with only a small potential impact on contingent resources.

Origin Energy Roma Shelf Assets



Source: Armour Energy

EXPLORATION AND APPRAISAL

Comet Ridge

22 SEP: Comet Ridge advised that the Mahalo-7 horizontal well is back in production, following a workover to replace the downhole pump in the connected Mahalo-6 vertical well. Field operator Santos is undertaking a slow pressure drawdown through Mahalo-6 and gas flow has been building as water production continues. The horizontal well is the most recent attempt to unlock the potential of Mahalo, where 3P reserves within the Bandanna Coal Formation total 310 PJ, with a further 820 PJ of 2C contingent resources. With Santos and APLNG each holding 30% stakes in Mahalo but understandably focussed on development of their respective LNG projects progress at the project has been frustratingly slow for Comet Ridge.

Galilee Energy

17 SEP: Galilee Energy advised that it has commenced a workover program for the five Glenaras pilot production wells in ATP 529 in the Galilee Basin. The program comes after the company took full ownership of the project at the end of August when it completed the acquisition of previous operator AGL Energy's half share. The workovers will test a new, simpler completion method targeting the uppermost seam of the Betts Creek coal measures, aiming to avoid the excessive water production that has previously affected pilot operations at Glenaras. Galilee has also substantially increased the 2C contingent resources within ATP 529, up from 259 PJ to 2,508 PJ. The new estimate was undertaken by MHA Petroleum Consultants and incorporated the results from eight step out wells drilled since the last assessment, as well as results from the Glenaras Pilot.

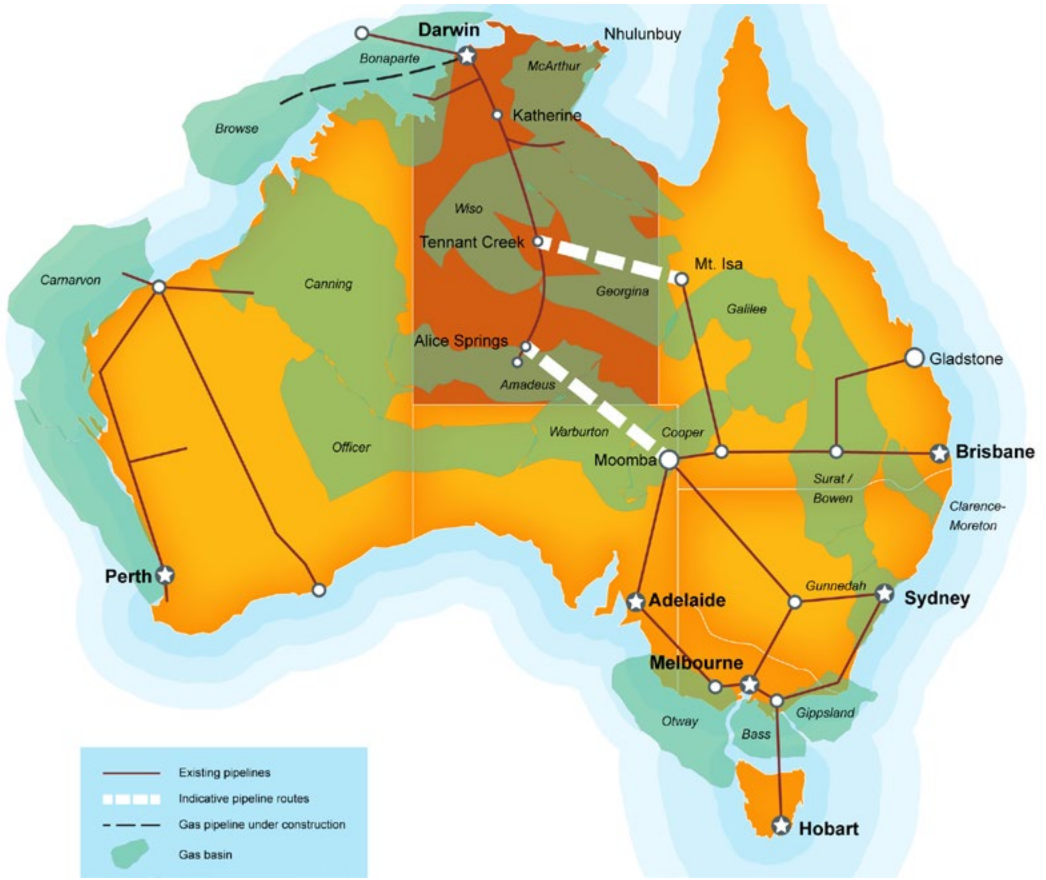
PIPELINES

NEGI

30 SEP: The NT Government received Final Proposals from four companies seeking to build the NEGI pipeline link between the NT and eastern Australia. The government aims to quickly select a preferred proponent from APA Group, DDG Operations (DUET), Pipeline Consortia Partners Australia (China National Petroleum Corporation) and SGSP (Australia) Assets (Jemena). The government wants the NEGI built to allow it to sell surplus gas from its Blacktip supply contract to eastern Australian markets and to spur development of conventional fields in the Amadeus Basin and longer term unconventional gas prospects throughout the Territory.

There are two potential routes for the NEGI being considered, either from the Amadeus to Darwin Pipeline at Tennant Creek to the Carpentaria Pipeline at Mt Isa or from the Amadeus pipeline near Alice Springs to Moomba. Costs for the first option are likely to be significantly lower, with its length of around 600 km half that of the 1,200 km or so for the more southerly route. The Government will have bidders for both routes to choose from with the Chinese consortium proposing to build a link to Moomba while Jemena is opting for a Mt Isa connection. Jemena is confident it can have the pipeline operating by 2018 or 2019 without any up-front cash contribution from the government. With APA owning the Amadeus, Carpentaria, South West Queensland and Moomba to Sydney pipelines the company is likely to be able to present a strong bid for the NEGI project and potentially extend its dominance of Australia's long distance gas pipeline network.

NEGI Route Options



Source: NT Government

RLMS Australia Shale and Tight Gas Report

CORPORATE ACTIVITY

Nation Energy

21 SEP: Nation Energy announced that it had appointed David Siegel as its Chairman and Marc Bruner as its President and CEO, both roles previously held by John Hislop. The news came after Nation entered into farm-in agreements for seven granted exploration tenements in the Beetaloo, Victoria River and Officer Basins held by Paltar Petroleum, the private company owned by Messrs Siegel and Bruner. The companies will endeavour to conclude an agreement by which Nation buys Paltar and all its interests, including the 7 granted tenements plus 29 tenement application areas in the onshore and nearshore NT, through the issuance of shares. If a price is not agreed by the 17th of December this year the purchase price will be 600m Nation shares. Nation trades on the US over-the-counter market and at the end of September had 16m shares on issue and a last traded value of US$0.55 ($0.78).

Norwest Energy

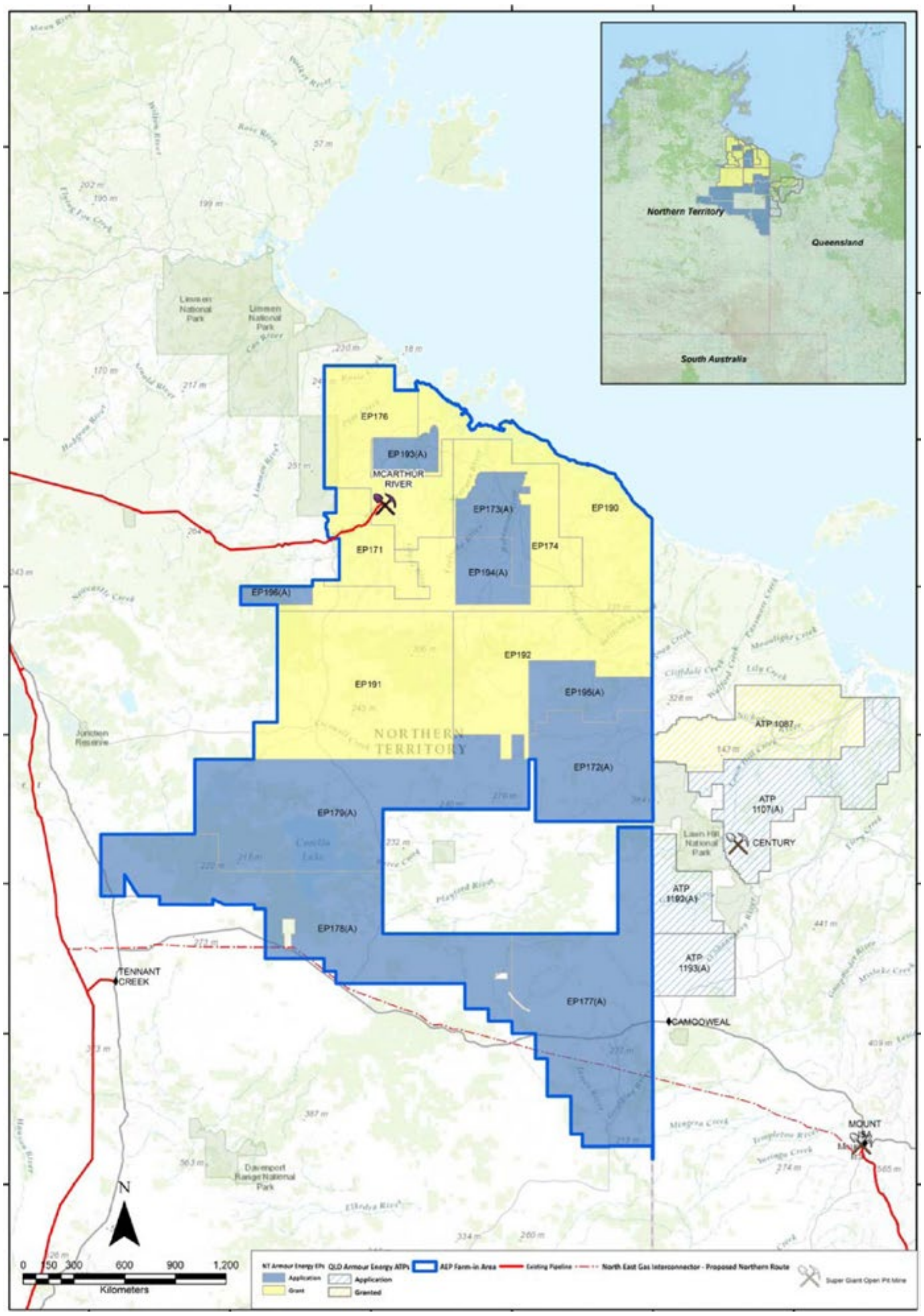
17 SEP: Norwest Energy advised that Executive Director and CEO Peter Munachen would take leave to deal with personal health issues. During the anticipated three month absence John Annand, GM Corporate and Commercial, will be Norwest's acting CEO.

Armour Energy

11 SEP: Armour Energy advised that it had executed definitive agreements for Aubrey McClendon's American Energy Partners (AEP) to farm-in to and assume operatorship of its McArthur Basin acreage. The size of the deal has been increased from its announcement in August and now includes all of Armour's six granted exploration tenements and nine tenements under application within the NT. The total area concerned is 29.3m acres (119,000 km^2) with best estimate prospective resources of 35 tcf, including 30 tcf in unconventional targets and 5 tcf in conventional prospects. The required spend for AEP to earn a 75% interest in the acreage has also increased, from US$100m ($142m) to US$130m ($185m) over five years. Following that spend, for which Armour will be free carried, the American company will assist in providing access to debt funding for further investment on an ownership interest basis.

The deal is subject to FIRB approval and must also be approved by Armour's shareholders. Once the farm-in comes into effect AEP will pay Armour US$13m and will also subscribe for a 9.9% interest in the Australian explorer at $0.20 per share for a total cost of $6.7m, significantly higher than the $0.125 price of its shares at the end of September. A further 30m options will be granted to the American company, which will pay Armour bonuses of up to US$10m when exploration application areas and production licences are granted. AEP is also currently negotiating a farm-in agreement for McArthur Basin acreage held by Empire Energy, potentially allowing it to coordinate exploration and appraisal across the two areas.

Armour Energy – AEP farm-in area



Note: Yellow shading – tenements granted, blue shading – tenements under application.

Source: Armour Energy

Central Petroleum

1 SEP: Central Petroleum announced that it had completed the acquisition of a 50% interest in the Mereenie Field from Santos and assumed operatorship of the asset. Central paid $35m upfront for the stake and will also fully fund an initial $10m work program; a further $10m payment for the deal is due in the middle of 2016. The company's strategy to repay its total debt of around $70m, including the Mereenie consideration, is dependent on selling gas from Mereenie and its other Amadeus Basin fields Palm Valley and Dingo to east coast markets through the proposed NEGI pipeline link. If the NEGI is sanctioned Central will make a further $15m payment to Santos for the Mereenie stake and will fully fund a $55m-$75m program to develop the field for gas sales to the east coast. Central MD Richard Cottee believes he can supply 100 TJ/day of gas from the three fields by 2018-19 (36.5 PJ/year), at a production cost of less than $2/GJ. Central's share price of $0.10 at the end of September values the company's equity at $37m, the share price is likely to be tied to the tenor of news from the NEGI project.

EXPLORATION AND APPRAISAL

Buru Energy

28 SEP: Buru Energy reported positive initial results after fraccing two wells targeting the Laurel Formation tight gas play in the Canning Basin. Initial flowback from Valhalla North-1 has seen strong flows of gas and condensate while fluid flow to surface from Asgard-1 has included significant amounts of gas. Buru plans to test flows from individual fracc zones in both wells once they have cleaned up further. The wells are located within the Valhalla area of the Canning; Buru had planned to also fracc two wells in the Yulleroo gas province to the west however the company has not yet secured support for the program from the traditional owners in the area. With Buru focussing more on the conventional oil potential of the Canning over the last few years the current fraccing and testing program is the first to target the Laurel tight gas play since 2010 when Yulleroo-2 was tested. Both Valhalla North-1 and Asgard-1 are located in EP 371, part of Mitsubishi Corporation's 50/50 JV with Buru.

Buru also advised that Quadrant Energy had pulled out of a farm-in to four tenements in the coastal region of the Canning Basin. The farm-in was negotiated before Apache Energy sold its Australian assets to Macquarie Capital and Brookfield Asset Management, who rebadged them as Quadrant. The farm-in originally called for Apache to fund $25m of exploration to earn a 50% interest in the tenements; two dry wells targeting oil were drilled as part of the program. With its pull-out from the agreement Quadrant will pay Buru and JV partner Mitsubishi $4.9m each.

Transerv Energy

24 SEP: Transerv Energy reported that the Warro-5ST well at the Warro tight gas field had been drilled to a total vertical depth of 4,327 m. The well intersected some 130 m of net gas pay within the Yarragadee Sandstones without hitting a gas-water contact, indicating that further gas sands may be present below the maximum depth. Transerv will now move to drill Warro-6 before fraccing both wells before the end of this year and conducting extended flow testing. Alcoa's funding of the current appraisal program at the north Perth Basin field will complete its $100m farm-in to earn a 65% interest in Warro.

Pangaea Reources

22 SEP: Pangaea Resources plans to undertake one stage fraccs and flow testing on two wells in its Beetaloo Basin acreage during the current dry season. The company drilled the Birdum Creek-1 and Wyworrie-1 wells in EP 167 earlier this year, part of a four well program. Privately-held Pangaea has the most advanced exploration program in the Beetaloo with US investor Energy & Minerals Group recently taking an initial 18% interest in its five tenements in the basin.

Origin Energy

8 SEP: Origin Energy spudded the second well in a three well program targeting the Middle Velkerri shales of the Beetaloo Basin. This came after the first well, Kalala S-1, was drilled to a total depth of 2,619 m. The well intersected a net 150 m of shale over a 500 m interval with a number of elevated gas shows recorded. Origin and Sasol are farming-in to each earn a 35% interest in Falcon Oil & Gas's Beetaloo acreage, the companies may fund up to $163m of exploration and appraisal over the next four years to earn their stakes.

Drillsearch Energy

3 SEP: Drillsearch Energy advised that operator Santos spudded the Washington-1 well in PEL 570 in the Northern Patchawarra Trough on the 24th of August. The well is the first drilled under Santos' farm-in to appraise tight gas in the Toolachee, Epsilon and Patchawarra Formations in the tenement, with the company to fund $32m of work for a 35% interest. Drillsearch holds 47.5% of PEL 570 with Sundance Energy holding the final 17.5% after its recent purchase of unconventional assets in Australia and Texas from New Standard Energy.

ACREAGE

Baraka Energy & Resources

14 SEP: Baraka Energy & Resources advised that it had applied for renewal of the southern Georgina Basin tenement EP 127 on a 100% ownership basis. The company currently holds a 25% non-operated interest in the tenement and neighbouring EP 128, which it has also applied to renew and take full control of. Baraka's current JV partners in the tenements are Statoil and Petrofrontier Corporation. Both companies are pulling out of the acreage after disappointing results from Statoil's appraisal program of unconventional targets in the southern Georgina.

Empire Oil & Gas

1 SEP: Empire Oil & Gas will sell 60% interests in the two southern Perth Basin tenements EPs 416 and 480 to Pilot Energy. Pilot will pay $0.45m for the interests and will become operator of both permits, considered prospective for conventional gas targets in Permian sandstone formations. Pilot, a small ASX listed explorer with a market cap below $2m, was previously known as Rampart Energy and holds interests in a number of onshore and offshore West Australian tenements. Empire has been selling or reducing its interest in assets outside its key focus area of the north Perth Basin. The company is seeking a well-funded farm-in partner for a planned exploration campaign in the second half of 2016 with both gas and oil targets.

EASTERN AUSTRALIA CSG:

Reserves at 31 December 2014, production second half 2014 Averages

Field	Ownership	State	Basin	Reserves (PJ) 1P	2P	3P	Production (TJ/day)	Tenure
AGL ENERGY								
Camden Gas Project	AGL Energy* 100%	NSW	Sydney	37	41	41	16	PPLs 1, 2, 4, 5; PELs 4, 5
Gloucester Basin Project	AGL Energy* 100%	NSW	Gloucester	98	462	632		PEL 285
Total for AGL Energy including projects operated by others				**210**	**1,760**	**3,350**	**32**	
ARROW ENERGY								
Moranbah Gas Project	Arrow Energy* 50% AGL Energy 50%	Qld	Bowen	160	2,512	5,350	31	
Blackwater	Arrow Energy* 100%	Qld	Bowen					
Comet	Arrow Energy* 100%	Qld	Bowen					
Norwich Park	Arrow Energy* 100%	Qld	Bowen					
Surat Basin Fields	Arrow Energy* 50%-100%	Qld	Surat					
Tipton West JV	Arrow Energy* 100%	Qld	Surat				25	
Kogan North	Arrow Energy* CS Energy 50%	Qld	Surat				7	
Daandine	Arrow Energy* 100%	Qld	Surat				27	
Total for Arrow Energy				**160**	**2,512**	**5,350**	**90**	
BG GROUP								
94% ownership of QCLNG project operator								
Total for BG Group including projects operated by others				**3,096**	**10,326**	**18,876**	**550**	
BLUE ENERGY								
Sapphire Field	Blue Energy* 100%	Qld	Bowen		50	180		ATP 814P
Total for Blue Energy					**50**	**180**		
ERM POWER								
Clarence-Moreton	ERM Power *50% CMR 30%, Red Sky 20%	NSW	Clarence-Moreton		17	159		PEL 457
Total for ERM Power					**9**	**190**		
HARCOURT PETROLEUM								
Mungi/Harcourt	Harcourt*67.1% Mitsui 32.9%	QLD	Bowen	36	448	1,064	3	PL 94Sublease, ATP 56 4P
Timmy	Harcourt*62.9% Mitsui 37.1%	QLD	Bowen		67	175		ATP 602P
Total for Harcout Petroleum				**36**	**515**	**1,239**	**3**	
LANDBRIDGE GROUP								
Meridian	Landbridge* 51% Mitsui 49%	QLD	Bowen	93	680	1,524	8	PL 94, Coal Mining Leases
Paranui	Landbridge* 25.5% Mitsui 24.5% BG 50%	QLD	Bowen			270		ATP 769 W
Tibrook	Landbridge* 25.5% Mitsui 24.5% BG 50%	QLD	Bowen			152		ATP 688P W
Total for Landbridge				**47**	**347**	**885**	**4**	
ORIGIN ENERGY								
37.5% ownership of APLNG and project upstream operator								
Ironbark Project	Origin 100%				256	714		ATP 788P
Total for Origin Energy including projects operated by others				**2,272**	**5,423**	**6,779**	**240**	
SANTOS								
30% ownership of GLNG and project operator								
Narrabri CSG Project	Santos* 80% EnergyAustralia 20%	NSW	Gunnedah	233	971			PEL 238
Total for Santos including projects operated by others				**978**	**2,964**		**33**	
SENEX ENERGY								
Western Surat Project	Senex Energy* 100% - 45%	Qld	Surat		488			ATPs 767, 795, 889, 593, 791
Total for Senex Energy including projects operated by others					**488**			

QUEENSLAND CSG-TO-LNG PROJECTS:

APLNG (AUSTRALIA PACIFIC LNG PROJECT)

Ownership:	Origin Energy 37.5% / ConocoPhillips 37.5% / Sinopec 25%	**Site:**	Laird Point, Curtis Island
Operatorship:	Upstream and pipelines: Origin / LNG: ConocoPhillips	**Customers:**	Sinopec 7.6 MTPA for 20 years, Kansai 1.0 MTPA for 20 years
Status:	Train 1 first LNG Q4 2015 Train 2 first LNG mid 2016	**Reserves:**	1P: 6,059 PJ 2P: 13,778 PJ 3P: 16,174 PJ 2C 2,760 PJ
Size:	2 x 4.5 MTPA LNG trains	**Production:**	640 TJ/day (234 PJ/year)

Major Fields	Ownership	State	Basin	Production (TJ/day)
Spring Gully	APLNG* 96.6% Santos 3.4%	Qld	Bowen	134
Peat	APLNG* 100%	Qld	Bowen	3
Talinga/Orana	APLNG* 100%	Qld	Surat	109
Condabri	APLNG* 100%	Qld	Surat	127
Combabula/ Reedy Creek	APLNG* 100%	Qld	Surat	36

GLNG (GLADSTONE LNG PROJECT)

Ownership:	Santos 30% / PETRONAS 27.5% / Total 27.5% / KOGAS 15%	**Site:**	Hamilton Point West, Curtis Island
Operatorship:	Santos	**Customers:**	PETRONAS and KOGAS both to take 3.5 MTPA for 20 years
Status:	Train 1 ramping-up (first LNG Sep 2015) Train 2 first LNG end 2015	**Reserves:**	1P: 2,245 PJ 2P: 5,603 PJ 2C: 1,202 PJ
Size:	2 x 3.9 MTPA LNG trains (three-train 10 MTPA ultimate potential)	**Production:**	111 TJ/day (40.5 PJ/year)

Major Fields	Ownership	State	Basin	Production (TJ/day)
Fairview	GLNG* 76.07% APLNG 23.93%	Qld	Bowen	76
Scotia	GLNG* 100%	Qld	Bowen	21
Arcadia	GLNG* 100%	Qld	Bowen	
Roma Shelf	GLNG* 100%	Qld	Surat	

QCLNG (QUEENSLAND CURTIS LNG PROJECT)

Ownership:	BG Group 50% Train 1 and 97.5% Train 2 / CNOOC 50% Train 1 / Tokyo Gas 2.5% Train 2	**Site:**	North China Bay, Curtis Island
Operatorship:	QGC (100%-owned subsidiary of BG Group)	**Customers:**	CNOOC 3.6 MTPA from Train 1 for 20 years, Tokyo Gas 1.2 MTPA from Train 2 for 20 years, Chubu Electric up to 20 cargoes over 20 years, BG portfolio supply: up to 1.7 MTPA to Quintero LNG in Chile to 2030, up to 3.0 MTPA to Singapore for 20 years
Status:	Train 1 at plateau (first LNG Dec 2014) Train 2 ramping-up (first LNG July 2015)	**Reserves:**	1P: 3,096 PJ 2P: 10,326 PJ 3P: 18,876 PJ 2C: 13,700 PJ
Size:	2 x 4.25 MTPA LNG trains (three-train 12.75 MTPA ultimate potential)	**Production:**	580 TJ/day (212 PJ/year)

Major Fields	Ownership	State	Basin	Production (TJ/day)
QGC Central Walloons	BG* 59.4%-100%	Qld	Surat	204
Berwyndale South	BG* 100%	Qld	Surat	67
Kenya-Argyle	BG* 59.4% APLNG 40.6%	Qld	Surat	580
Woleebee Creek	BG* 80% Toyota 15% CNOOC 4% Tokyo Gas 1%	Qld	Surat	
Lacerta	BG* 100%	Qld	Surat	
Bellevue	BG* 70.6% APLNG 30.4%	Qld	Surat	39
Paradise Downs	BG* 100%	Qld	Surat	
Lawton	BG* 100%	Qld	Surat	