

### CORPORATE ACTIVITY

#### Santos

**24 FEB:** Santos announced that it had appointed Scott D. Sheffield as a non-executive Director. Mr Sheffield is the Chairman and CEO of Pioneer Natural Resources Company, an American producer of oil and gas from shale with a market cap of some \$30b. Santos also advised that Mike Harding would retire after ten years as a non-executive Director at the company's AGM in May.

#### QGC

**21 FEB:** QGC announced that Mitch Ingram would become its MD effective the 2nd of April. Mr Ingram is currently QGC's Deputy MD and Project Leader of QCLNG and was previously Asset General Manager for QGC owner BG Group's Karachaganak assets in Kazakhstan. Current MD Derek Fisher is retiring after working for QGC and BG for the past sixteen years.

#### WestSide Corporation

**17 FEB:** WestSide Corporation announced the resignation of non-executive Director Nathan Mitchell. After the sale of his family's private drilling company to AJ Lucas in 2008 Mr Mitchell has recently re-entered the Australian drilling market through the reverse listing onto the ASX of Mitchell Services. As a result Mr Mitchell is leaving WestSide's Board to avoid any potential conflicts of interest in tendering services to the company. At the time of his resignation Mr Mitchell retained an interest as a substantial WestSide shareholder.

#### AGL Energy

**12 FEB:** AGL Energy reported that it had agreed to purchase Macquarie Generation from the New South Wales Government for \$1.5b. The deal is subject to approval by the ACCC, which plans to make a ruling on the transaction by the 4th of March. Macquarie Generation's assets are centred on the Hunter Valley and include the 2,640 MW Bayswater and 2,000 MW Liddell coal-fired power stations with associated coal purchase contracts and the 50 MW Hunter Valley Gas Turbines. If the ACCC approves the deal AGL intends to fund the purchase with a \$1.2b renounceable rights issue and \$350m of bank debt.

### LNG

#### GLNG

**21 FEB:** GLNG operator and 30%-owner Santos reported that the project was 75% complete and on track for start-up in 2015. More than 90% of the modules for the first LNG train have been delivered to Curtis Island with the final three of the 82 modules currently being constructed in the Philippines.

The company expects to complete the 420 km gas pipeline linking the Bowen and Surat Basins to the liquefaction plant site on Curtis Island in the next few months having recently completed tunnelling across the Gladstone Harbour Narrows. Santos is also making good progress on field development for the project with the company currently constructing Fairview's largest gas processing hub. The associated water treatment plant has already been completed.

GLNG Liquefaction Plant February 2014



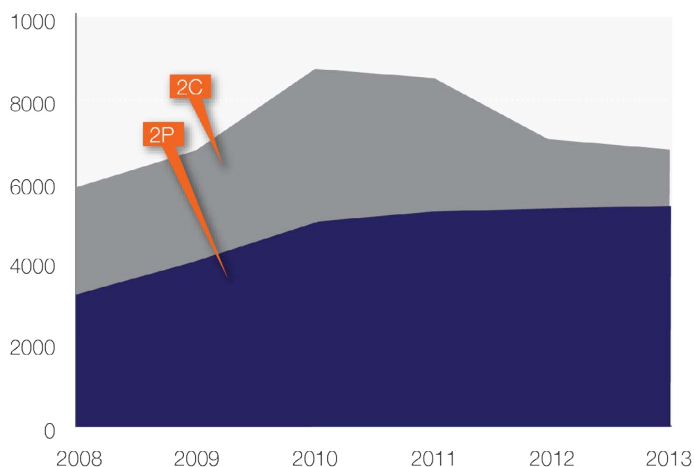
Source: Santos

During 2013 Santos drilled 237 wells in the GLNG project acreage with more than 200 of these development wells. More than 500 new wells have been drilled since the project reached FID in 2011. During 2014 and 15 combined Santos will drill around 300 further wells before ongoing drilling of 200 – 300 wells per year. At Santos’ \$1.35m 2013 average cost for drilling and completing a development well this will contribute some \$270m - \$400m annually to ongoing GLNG operating costs.

Santos reported that well performance at Fairview continued to improve. At the start of February the field had 171 wells producing at an average rate of 1.8 TJ/day. Santos is also encouraged by progress at the Roma field where it expects wells to produce at an average rate of 0.5 TJ/day.

Santos also released its 2013 reserves statement, showing that GLNG’s 2P reserves had increased slightly during the year. A reassessment of reserves at the Roma and Scotia fields delivered a gain of 60 PJ; after allowing for 30 PJ of production total project 2P reserves were up 30 PJ to 5,406 PJ. GLNG’s 2C resources declined more than 15% during 2013, ending the year at 1,374 PJ.

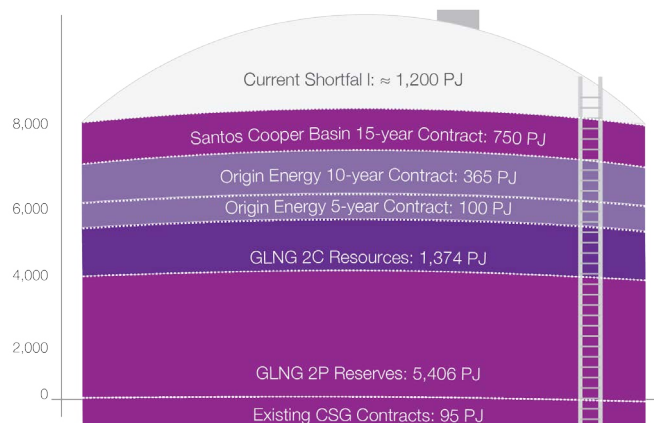
### GLNG 2P Reserves + 2C Resources as at 31 December 2013



Source: Santos

Since the project’s sanction in 2011 Santos has been unable to grow GLNG reserves and resources to meet the circa 9,200 PJ requirements of operating a 7.8 MTPA LNG export facility for a standard twenty-year project life. As with BG Group’s neighbouring QCLNG project GLNG has signed a number of third party gas supply agreements to supplement CSG production from its own fields. These include a 750 PJ contract with Santos for supply from the Cooper Basin and 465 PJ of supply agreements with Origin Energy. Even with these gas purchases GLNG is currently looking at a gas reserves supply shortfall when the project starts producing LNG. This can be seen on the following graphic, which also shows the almost 100 PJ of legacy CSG supply contracts that GLNG must fulfil.

### GLNG Gas Supply Shortfall



Source: Santos, RLMS, RLMS estimates.

With a number of years to secure new gas sources or supplies before the gas shortfall becomes an issue it is highly likely that Santos will operate GLNG for its entire project life, and possibly beyond. Santos has significant conventional reserves in the Cooper and Gippsland/Otway Basins as well as Queensland CSG reserves outside GLNG and at its Narrabri Project in NSW. Although much of the conventional gas is committed to existing contracts there may be some scope for further supply to GLNG at a later stage. As far as Narrabri is concerned the problems with its development are as much political as technical and Santos may end up committing some or all of the Narrabri gas to the NSW market to build support for the project. However the field may

Santos is also inevitably a big player in Cooper Basin unconventional exploration and in the longer term may be able to supply GLNG with gas from shale, tight gas or deep CSG resources.

### Santos Eastern Australia 2P Reserves as at 31 December 2013 in PJ:

Conventional	
Cooper Basin	1,108
Gippsland/Otway Basins	341
Denison Trough	37
<b>Total Conventional</b>	<b>1,486</b>
CSG	
GLNG	1,622
Non-GLNG Queensland	425
Gunnedah	1,141
<b>Total CSG</b>	<b>3,188</b>
<b>Total Eastern Australia</b>	<b>4,674</b>

Source: Santos and RLMS estimates

While new gas supply sources are likely for GLNG they will not be accessible for some time and the project is almost sure to be low on gas for the key ramp-up phase from start-up of the first train in 2015. Santos is now reporting that it will ramp Train 1 up over three to six months with Train 2 to start-up six to nine months after the first. The second train will ramp-up far more slowly with Santos expecting the process to take two to three years, lowering the potential profitability of GLNG during that period.

## QCLNG

**5 FEB:** BG Group reported that it expected to produce the first LNG from the QCLNG project in the fourth quarter of 2014. The first liquefaction train will then begin ramping up with first LNG from the second train timed to follow six months later. Between 2014 and 2016 when the project is ramping up BG expects to source 10% - 20% of gas supplies from third parties, subsequently when QCLNG is operating at plateau 5% of the feed will be third party gas. BG has already signed agreements for gas purchases from APLNG and Origin Energy with the company reporting that it will sign further agreements if it finds attractive sources of supply.

BG CEO Chris Finlayson said that subsidiary QGC had drilled the planned number of production wells and that average gas production per well was as expected however well dewatering was taking longer than expected. This caused the requirement for third party gas.

QGC is pursuing a number of exploration plays in Australia that may lead to QCLNG supply. During 2014 the company will be drilling wells targeting deep gas sands in the Bowen Basin and step-out CSG wells in the Surat Basin as well as participating in REM Shale wells to be drilled by Drillsearch Energy in the Queensland section of the Cooper Basin's Nappamerri Trough.

## APPROVALS

### Santos

**21 FEB:** Santos announced that the NSW Government had designated the company's Narrabri Gas Project a Strategic Energy Project. The two parties have signed an MOU providing for the government to coordinate assessment of the project by its various agencies and ensure the approvals process occurs within a timely manner. Santos will submit an EIS for the project in June this year with a final decision on whether to approve the project's development to be made by the Planning Assessment Commission by the 23rd of January 2015.

After a series of policy changes restricting CSG development across the state the government's sign of support for Narrabri field development may be an indication it is starting to respond to a tightening gas market. Santos' plans for development of Narrabri target initial production of 100 TJ/day (36.5 PJ/year) with a potential later doubling of capacity. The company is currently undertaking a 16 well appraisal program at the field.

## GAS MARKET

### AGL Energy

**26 FEB:** AGL Energy reported that it would benefit from the tight Eastern Australian gas market in the next few years. The company has negotiated contracts to sell 59 PJ of gas to Queensland LNG exporters and wholesale customers in FY2015, 55 PJ in FY2016 and 40 PJ in FY2017. This is up from 18 PJ of sales to these customers in the current financial year and less than 5 PJ in FY2013. The sales across the next three years will provide AGL with a margin of at least \$3.40/

GJ, additionally the company is in negotiations that may lead to up to 50 PJ of further gas sales across this period at even higher margins. Recent contracts into this market have been executed by AGL at a price of around \$10/GJ. Most of the gas that AGL is selling is from supply agreements made with QGC when acting as a white night to prevent an attempted takeover by Santos at the end of 2006.

Longer term AGL will need to secure further sources of gas supply to satisfy its domestic and industrial customers in southern states. The company has focussed its upstream gas division on developing NSW CSG fields and has been hit hard by the New South Wales Governments' introduction of anti-CSG legislation in the state.

## NSW Gas Prices

**17 FEB:** AGL Energy made a submission to the New South Wales' Independent Pricing and Regulatory Tribunal calling for a substantial increase in the state's regulated gas tariff. IPART is currently setting the 2015 financial year gas retail price for residential and small business customers that have not signed a market contract with their suppliers. AGL is the largest default gas supplier in the state and called for a 14.7% increase in the tariff, assuming the carbon tax is repealed prior to the price setting, or a 20.3% increase if the carbon tax remains. The annual gas bill of a typical Sydney residential customer using 23 GJ of gas per year is currently \$898 ensuring a substantial cost increase in either case.

AGL cited increasing Eastern Australian wholesale gas market prices as the main driver of the requested price increase. The company's view of the market is that all Queensland CSG is being reserved for LNG export and Cooper Basin gas at Moomba is being sold at LNG netback prices (modelled by the Brattle Group for AGL at \$9.73/GJ). At the same time the possibility of importing cheaper Victorian gas is limited by pipeline capacity constraints that will remain until at least the middle of 2015. Victorian gas prices at Longford are also increasing, up from \$4.70/GJ to \$6-\$7/GJ. IPART will deliver its ruling on the gas price change in June.

## Stanwell Corporation

**5 FEB:** Stanwell Corporation announced that it would shut the 385 MW Swanbank E Power Station for up to three years from October this year in order to on-sell the station's contracted gas supply. In a related move the Queensland Government-owned power generator will return two 350 MW units of the Tarong Power Station to service during the period, the first this year and the second in 2015. Stanwell expects to increase revenue by selling Swanbank's contracted gas supply into a tighter gas market while replacing its base-load electricity output with lower cost coal generation.

Stanwell acquired the 385 MW combined-cycle Swanbank E from CS Energy after a Queensland Government asset reshuffle in 2011. The power station was built in 2002 and is primarily supplied with CSG from the Bowen and Surat Basins, including an 8 PJ/year contract from Santos' Scotia Field expiring in 2017 and 4 PJ/year contracts from Arrow Energy's Kogan North Field and QGC's Berwyndale South, expiring in 2018 and 2016 respectively.

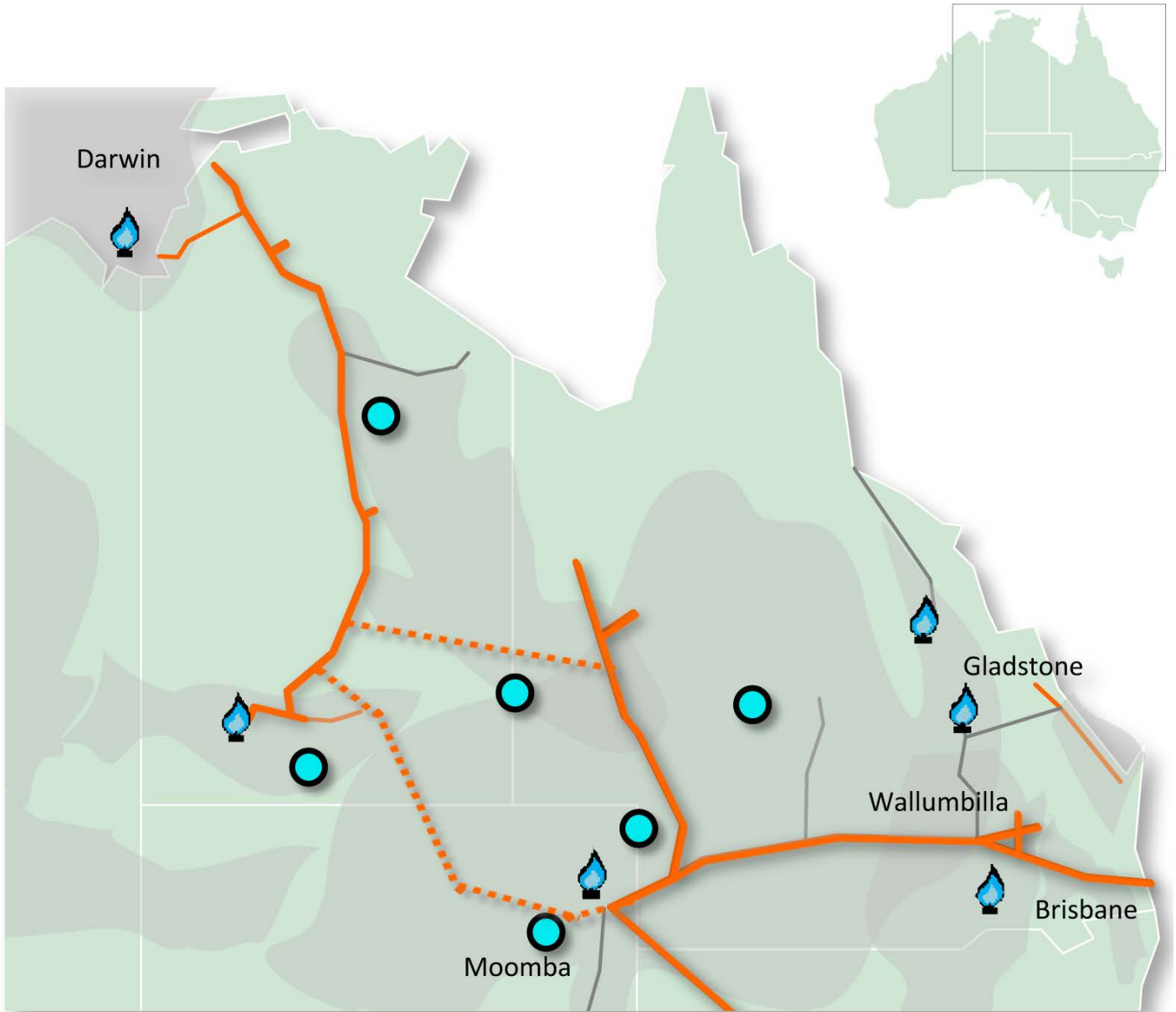


# PIPELINES

## APA Group

**19 FEB:** APA Group reported that it would commence a feasibility study on linking the Northern Territory and Eastern Australian pipeline grids during the current financial year. The company will investigate linking its Amadeus to Darwin Gas Pipeline to either its South West Queensland Pipeline or its Carpentaria Gas Pipeline. The company is expected to spend \$2m on the study, which will investigate route selection, engineering issues and commercial viability. Construction of a pipeline would facilitate the supply of Northern Territory unconventional gas resources to Eastern Australia.

### APA Group Northern Territory Pipeline Route Options



- APA natural gas pipelines (including investments)
- Other natural gas pipelines
- - - Potential pipeline link
- 🔥 Gas production
- Onshore gas exploration
- ☐ Gas resource

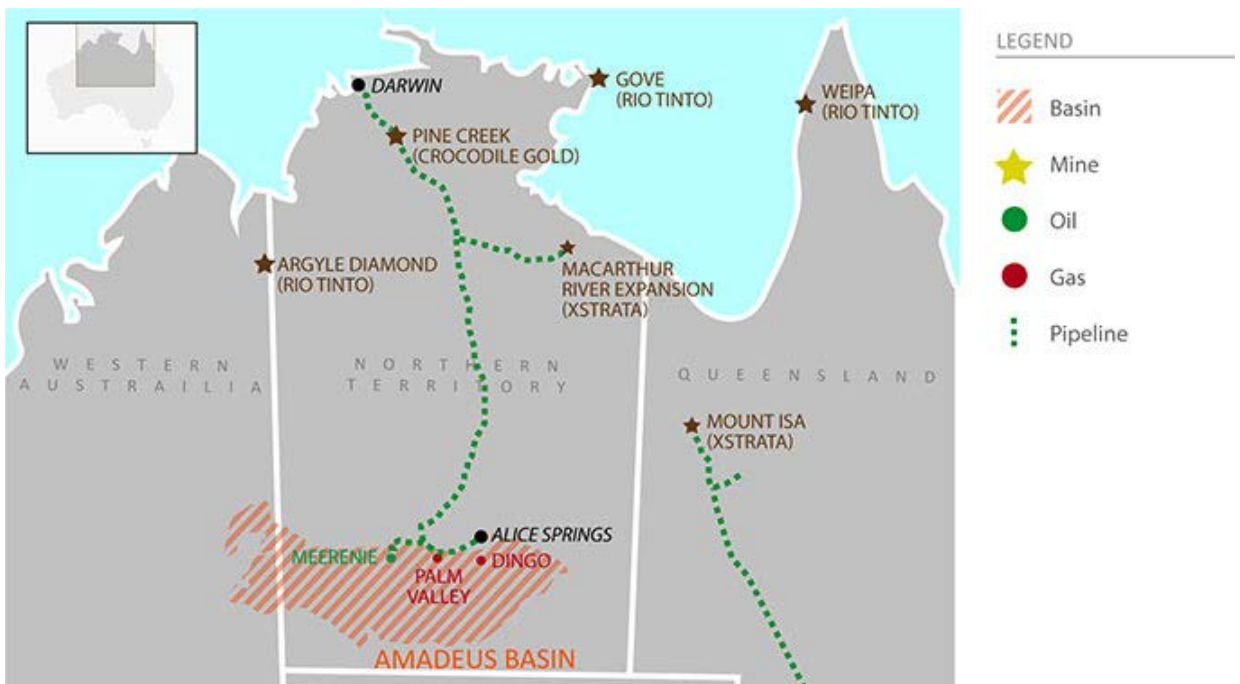
## CORPORATE ACTIVITY

### Armour Energy

**21 FEB:** Armour Energy reported that it had taken measures to reduce the company's administration costs by some \$1.2m a year. At the end of 2013 the company had \$13m in cash with a sizeable Research and Development rebate in the second half of this year. The extent of Armour's exploration and appraisal programs in its Northern Territory, Queensland and Victorian acreage this year will be dependent on its ability to attract new funds. The company will resume flow testing the Egilabria-2 horizontal well in the South Nicholson Basin in northern Queensland once the current wet season ends, expected in April. Positive test results would be timely in assisting Armour's efforts to secure more investment.

Since raising \$75m through its IPO and listing on the ASX in April 2012 Armour has spent \$64m on exploration of its acreage as well as about \$1.2m further per quarter on administration costs. The company's experience shows the high costs of frontier exploration in onshore Australia with Egilabria-2 costing \$13.1m to drill and fracc. With the significant investment required to progress a shale play it highlights the difficulty for a junior explorer without a deep-pocketed partner. Although a junior may plan to self fund initial exploration in the hope of attracting better funding terms down the track it leaves the company at the mercy of results from the drill bit and the fracc spread. Armour advised that it is currently in talks with potential partners for its Northern Territory and Queensland tenements, where it retains full ownership.

### Amadeus Basin



Source: Magellan Petroleum

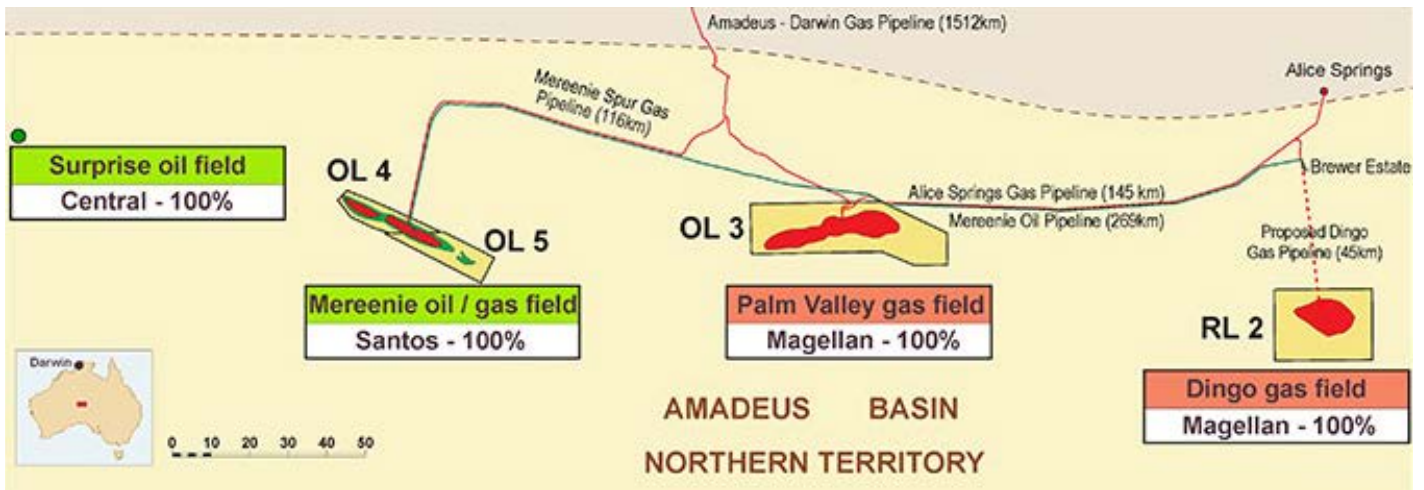
### Central Petroleum

**19 FEB:** Central Petroleum announced that it would purchase the Amadeus Basin assets of Magellan Petroleum, comprising the Palm Valley and Dingo gas fields. Central will pay \$20m cash and 39.5m of its shares for the assets, valuing the deal at \$35m based on its share price prior to the announcement. Following completion of the deal Magellan's President, J. Thomas Wilson, will join the Central Board.

The Palm Valley field has been producing gas since 1983 with Magellan signing a new 1.55 PJ/year GSA for a 17-year term with Santos in 2012. The Dingo Field is currently in development after Magellan signed a 20-year GSA with Power and Water Corporation for a total of 31 PJ of gas; first sales are planned for 2015. The field already has two wells capable of production; development requires construction of a 50 km pipeline to link the field to the Alice Springs Gas Pipeline.

Central will fund the cash costs of the acquisition and Dingo development costs through a new \$50m loan facility from Macquarie Bank, granting the bank 15m \$0.50 options for the loan. Central MD Richard Cottee estimates the company will make a 19% IRR from the deal and also plans to harvest synergies from operating the new assets in conjunction with its nearby Surprise oil field development. The acquisition led to a boost for Central with its shares climbing from \$0.38 prior to the announcement of the deal to \$0.44 on the 28th of February.

## Amadeus Basin Oil and Gas Fields



Source: Magellan Petroleum

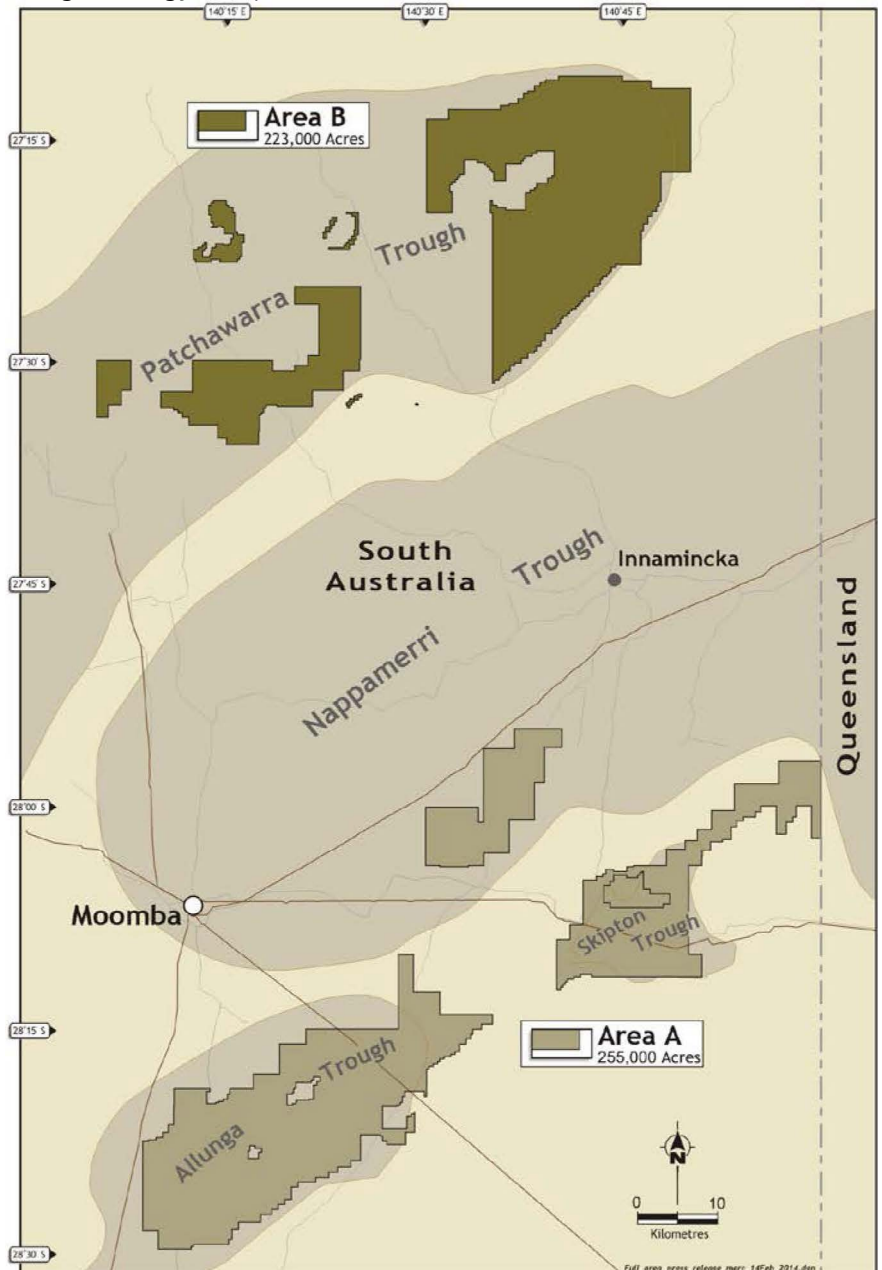
## FARM-INS

### Origin Energy

**24 FEB:** Origin Energy joined the hunt for unconventional resources in the Cooper Basin, announcing an up to \$169m farm-in to acreage held by Senex Energy. The acreage is primarily prospective for tight gas with shale and deep CSG as secondary targets. The agreement covers areas of the Northern and Southern Cooper across a number of sub-features of the basin, including the Patchawarra, Nappamerri, Skipton and Allunga Troughs.

The farm-in agreement is in two stages with the first providing for Origin to fund \$97m of exploration to earn a 40% interest in Area A (parts of PELs 516 and 115) and a 30% interest in Area B (PEL 514 Permian deeps). Senex will be the operator for this stage of work, which will include seismic acquisition and drilling and fracture stimulation programs. Origin may then elect to increase its interest in each area a further 10% by providing \$72m for pilot production programs. At the end of this appraisal Origin would have the right to assume operatorship of the acreage. Additionally Area B, where ASX minnow Planet Gas holds a 20% interest, may be subject to a further \$67m work program during the duration of the farm-in funded as per JV equity ownership. Planet Gas will retain its interest in Area B through the farm-in if it can fund \$8m for each stage of exploration and appraisal.

### Origin Energy Cooper Basin Farm-in



Source: Origin Energy



## Farm-in Details

<b>Area A</b>	1,008 km <sup>2</sup> of PEL 516 and 23 km <sup>2</sup> of PEL 115, currently Senex* 100%
Stage 1	Origin to fund \$65m of work to earn 40% 300 km of 2D seismic, drilling of up to 8 exploration and appraisal wells, fracking and flow testing program
Stage 2	Origin to fund \$40m to move to 50% Five-well pilot appraisal program
<b>Area B</b>	904 km <sup>2</sup> of PEL 514 – Permian deeps only, currently Senex* 80%, Planet Gas 20%
Stage 1	Origin to fund \$32m of work to earn 30%, Planet Gas to fund \$8m to retain 20% 250 km <sup>2</sup> of 3D seismic, drilling of up to 7 exploration and appraisal wells, fracking and flow testing program
Stage 2	Origin to fund \$32m to move to 40%, Planet Gas to fund \$8m to retain 20% Five-well pilot appraisal program Potential further \$67m of exploration funded as per JV equity ownership

Origin and Senex expect to complete the farm-in by the end of June allowing the first wells to be drilled within a year. The farm-in represents an increased focus by Origin on the Cooper Basin's unconventional potential with its only previous interest being through its ownership stake in the SACB JV. The investment that the company is making reflects the growing cost of entry into areas of the Cooper deemed prospective for tight gas, shale and deep CSG.

## RESOURCES

### AWE

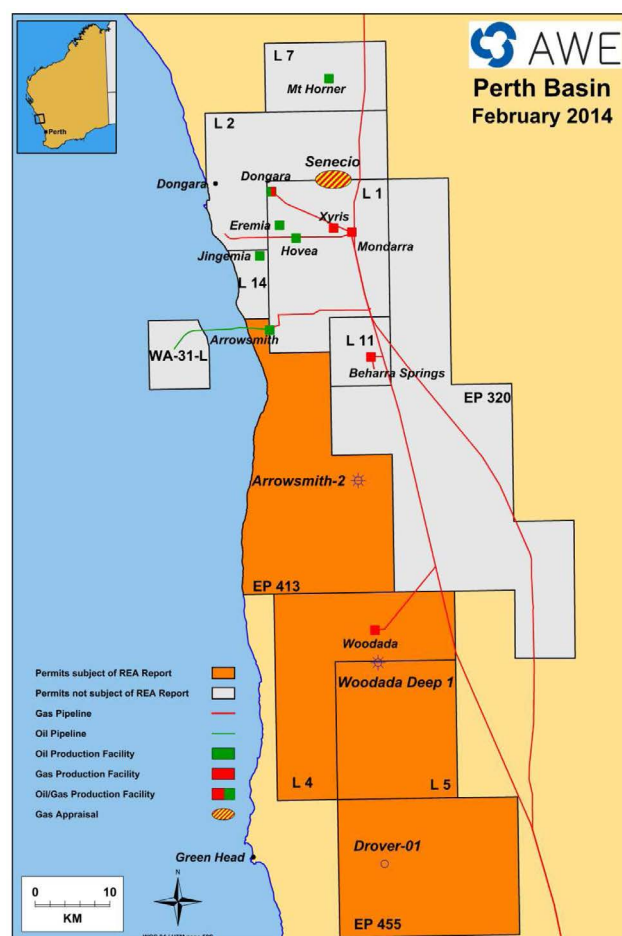
**6 FEB:** AWE reported that four tenements of its Perth Basin acreage contained a gross unconventional prospective resource of 11.1 tcf of gas and 31 mmbbls of liquids, with 9.2 tcf and 14 mmbbls net to the company. The assessment was undertaken for AWE by Resource Evaluation and Advisory practice, a Canadian subsidiary of Deloitte. The estimate covers the Kockatea Shale, Carynginia Shale, Irwin River Coal Measures and High Cliff Sandstone in four of ten AWE Perth Basin tenements that the company has evaluated as being in an unconventional gas play fairway. Production testing on each of the plays has been ongoing in the Arrowsmith-2 well, drilled in one of the four tenements by AWE's JV partner Norwest Energy. AWE plans to continue exploration and appraisal of Perth Basin unconventional targets during 2014, including drilling the Drover-1 well in EP 455 and appraisal drilling of its Senecio tight gas field with the aim of moving it towards production.

### AWE Perth Basin Prospective Resources

Tenement	Ownership	Gross Prospective Gas Resource (tcf)	Gross Prospective NGL Resource (mmbbls)
EP 413	AWE 44.3%, Norwest* 27.9%, Bharat PetroResources 27.8%	2.7	31
EP 455	AWE* 81.5%, Titan Energy 18.5%	2.4	0
L4	AWE* 100%	2.3	0
L5	AWE* 100%	3.8	0
<b>Total</b>		<b>11.1</b>	<b>31</b>

Source: AWE

### AWE Perth Basin Onshore Acreage



Source: AWE

# EASTERN AUSTRALIA CSG:

Reserves at 31 December 2012, production second half 2012 Averages

Field	Ownership	State	Basin	Reserves (PJ)			Production Tenure (TJ/day)	
				1P	2P	3P		
<b>AGL ENERGY</b>								
Camden Gas Project	AGL Energy* 100%	NSW	Sydney		48	48	16 PPLs 1, 2, 4, 5; PELs 2, 4, 5, 267	
Gloucester Basin Project	AGL Energy* 100%	NSW	Gloucester		454	565	PEL 285	
Hunter Gas Project	AGL Energy* 100%	NSW	Sydney				PELs 4,267	
<b>Total for AGL Energy including projects operated by others</b>					<b>1,824</b>	<b>3,447</b>	<b>32</b>	
<b>ARROW ENERGY</b>								
100% ownership of Arrow Energy LNG project								
<b>Total for Arrow Energy</b>					<b>669</b>	<b>9,494</b>	<b>13,970</b>	<b>71</b>
<b>BG GROUP</b>								
94% ownership of QCLNG project operator								
<b>Total for BG Group including projects operated by others</b>					<b>3,096</b>	<b>10,326</b>	<b>18,876</b>	<b>121</b>
<b>BLUE ENERGY</b>								
Sapphire Field	Blue Energy* 100%	Qld	Bowen		50	180	ATP 814P	
<b>Total for Blue Energy</b>					<b>50</b>	<b>180</b>		
<b>ERM POWER</b>								
Clarence-Moreton	ERM Power *50% CMR 30%, Red Sky 20%	NSW	Clarence- Moreton		17	159	PEL 457	
<b>Total for ERM Power</b>					<b>9</b>	<b>190</b>		
<b>HARCOURT PETROLEUM</b>								
Mungi/Harcourt	Harcourt*72% Mitsui 28%	QLD	Bowen	36	448	1,064	3 PL 94, ATP 56 4P	
Lilyvale								
Timmy								Harcourt*62.9% Mitsui 37.1%
<b>Total for Harcourt Petroleum</b>					<b>36</b>	<b>515</b>	<b>1,239</b>	<b>3</b>
<b>METGASCO</b>								
Casino Gas Project	Metgasco 100%	NSW	Clarence- Moreton	3	428	2,542	PEL 13, 16	
<b>Total for Metgasco</b>				<b>3</b>	<b>338</b>	<b>2,055</b>		
<b>ORIGIN ENERGY</b>								
37.5% ownership of APLNG and project upstream operator								
Ironbark Project	Origin 100%				165	881	ATP 788P	
<b>Total for Origin Energy including projects operated by others</b>					<b>5,165</b>	<b>6,919</b>	<b>135</b>	
<b>SANTOS</b>								
30% ownership of GLNG and project operator								
Narrabri CSG Project	Santos* 80% EnergyAustralia 20%	NSW	Gunnedah		1,141		PEL 238	
<b>Total for Santos including projects operated by others</b>					<b>3,061</b>		<b>33</b>	
<b>SENEX ENERGY</b>								
Don Juan CSG Project	Senex Energy* 45%, Arrow Energy 55%	Qld	Surat		101	197	ATP 771P	
<b>Total for Senex Energy including projects operated by others</b>					<b>157</b>	<b>358</b>		
<b>WESTSIDE CORPORATION</b>								
Meridan	Westside* 51% Mitsui 49%	QLD	Bowen	93	680	1,524	8 PL 94, Coal Mining Leases	
Paranui	Westside* 25.5% Mitsui 24.5% BG 50%	QLD	Bowen			270	ATP 769 W	
Tibrook	Westside* 25.5% Mitsui 24.5% BG 50%	QLD	Bowen			152	ATP 688P W	
<b>Total for Westside</b>				<b>47</b>	<b>347</b>	<b>885</b>	<b>4</b>	



# QUEENSLAND CSG-TO-LNG PROJECTS:

APLNG (AUSTRALIA PACIFIC LNG PROJECT)							
<b>Ownership:</b>	Origin Energy 37.5% / ConocoPhillips 37.5% / Sinopec 25%			<b>Site:</b>	Laird Point, Curtis Island		
<b>Operatorship:</b>	Upstream and pipelines: Origin / LNG: ConocoPhillips			<b>Customers:</b>	Sinopec 7.6 MTPA for 20 years, Kansai 1.0 MTPA for 20 years		
<b>Status:</b>	Train 1 first LNG mid-2015			<b>Reserves:</b>	2P: 13,334 PJ 3P 16,101 PJ 2C: 3,644 PJ		
	Train 2 first LNG Q4-2015						
<b>Size:</b>	2 x 4.5 MTPA LNG trains (four-train 18 MTPA ultimate potential)			<b>Production:</b>	333 TJ/day (121.8 PJ/year)		
Major Fields	Ownership	State	Basin	Reserves (PJ)			Production (TJ/day)
				1P	2P	3P	
Spring Gully	APLNG* 96.6% Santos 3.4%	Qld	Bowen	162	2,31	5,104	129
Peat	APLNG* 100%	Qld	Bowen				9
Talinga/Orana	APLNG* 100%	Qld	Surat				115
ARROW ENERGY (ARROW ENERGY LNG PROJECT)							
<b>Ownership:</b>	Shell 50% / PetroChina 50%			<b>Site:</b>	Boatshed Point, Curtis Island		
<b>Operatorship:</b>	Arrow Energy			<b>Customers:</b>	None announced		
<b>Status:</b>	EIS currently being undertaken			<b>Reserves:</b>	1P: 669 PJ 2P: 9,594 PJ 3P: 14,096 PJ		
<b>Size:</b>	2 x 4 MTPA LNG trains (four-train 16 MTPA ultimate potential)			<b>Production:</b>	71 TJ/day (25.9 PJ/year)		
Major Fields	Ownership	State	Basin	Reserves (PJ)			Production (TJ/day)
				1P	2P	3P	
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
GLNG (GLADSTONE LNG PROJECT)							
<b>Ownership:</b>	Santos 30% / PETRONAS 27.5% / Total 27.5% / KOGAS 15%			<b>Site:</b>	Hamilton Point West, Curtis Island		
<b>Operatorship:</b>	Santos			<b>Customers:</b>	PETRONAS and KOGAS both to take 3.5 MTPA for 20 years		
<b>Status:</b>	FID taken January 2011, first LNG 2015			<b>Reserves:</b>	1P: 1,797 PJ 2P: 5,376 PJ 2C: 1,638 PJ		
<b>Size:</b>	2 x 3.9 MTPA LNG trains (three-train 10 MTPA ultimate potential)			<b>Production:</b>	111 TJ/day (40.5 PJ/year)		
Major Fields	Ownership	State	Basin	Reserves (PJ)			Production (TJ/day)
				1P	2P	3P	
Fairview	GLNG* 76.07% APLNG 23.93%	Qld	Bowen				105
Scotia	GLNG* 100%	Qld	Bowen				21
Arcadia	GLNG* 100%	Qld	Bowen				
Roma Shelf	GLNG* 100%	Qld	Surat				
QCLNG (QUEENSLAND CURTIS LNG PROJECT)							
<b>Ownership:</b>	BG Group 90% Train 1 and 97.5% Train 2 / CNOOC 10% Train 1 / Tokyo Gas 2.5% Train 2			<b>Site:</b>	North China Bay, Curtis Island		
<b>Operatorship:</b>	QGC (100%-owned subsidiary of BG Group)			<b>Customers:</b>	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		
<b>Status:</b>	FID taken October 2010, first LNG 2014, second train to start-up a year later			<b>Reserves:</b>	1P: 3,096 PJ 2P: 10,326 PJ 3P: 18,876 PJ 2C: 13,700 PJ		
<b>Size:</b>	2 x 4.25 MTPA LNG trains (three-train 12.75 MTPA ultimate potential)			<b>Production:</b>	121 TJ/day (44.2 PJ/year)		
Major Fields	Ownership	State	Basin	Reserves (PJ)			Production (TJ/day)
				1P	2P	3P	
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				126
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				7
Paradise Downs	BG* 80% VicPet 20%	Qld	Surat				
Lawton	BG* 70% VicPet 30%	Qld	Surat				