

Eastern Star Gas Limited

ASX Code: ESG

Monday 17 August 2009

On track for upgrade in certified reserves

Recommendation: BUY – High risk

Snapshot

Last Price	\$1.075
Market Cap.	\$903.4 million
52 Week High	\$1.125
52 Week Low	\$0.19
Sector	Energy

Investment Fundamentals

Cash reserves	\$59.6 million
Shares on issue	840.1 million

Directors

The Hon. John Anderson	Non-executive Chairman
David Casey	Managing Director
Peter Lansom	Executive Director
David King	Non-executive Director
David Archer	Non-executive Director
Alexander Sundich	Non-executive Director

Major Shareholders

Santos	19.99%
Directors & Management	7.3%
Top 20 shareholders	56.0%

Price Chart



Investment highlights

- Dominant position in the Gunnedah Basin with interests in three PELs and completing farm in obligations in three more.
- The Narrabri CSG Project centred on PEL 238 is the focus of ESG's activities in the Gunnedah Basin.
- Certified reserves of 336 PJ 2P and 1,300 PJ 3P have been reported in PEL 238. Current drilling program designed to increase 2P reserves to 1,300 PJ by end 2009.
- Memoranda of Understanding ("MoU") signed for a total of 1,300.PJ at a rate of 70 PJ per annum to deliver gas to two electricity generators in NSW. Options for additional gas markets are being investigated.
- Wilga Park power station could deliver \$20 mn to \$25 mn in revenue once expanded to 40 MW capacity with additional greenhouse gas reduction benefits.
- \$50 million raised through an institutional placement in March 2009 providing ESG with sufficient working capital for the next 12 months of drilling operations.
- Santos acquired a 35% interest in PELs 238, 433 and 434 as well as a 19.99% interest in ESG for a cash consideration of \$476 million.
- Potential value between \$2,000 mn and \$2,400 mn based on expected 2P reserves by end 2009 resulting in recommendation of **BUY – High risk**, as ESG is still in appraisal phase.

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Intersuisse Limited and an associated company, Phillip Capital Pty Ltd are currently retained by Eastern Star Gas. For full disclosure, refer Page 9 of this report under **Important Information**.

Company Overview

Eastern Star Gas Limited is listed on the ASX with a focus on the exploration for and production of coal seam gas (“CSG”) in NSW. Its primary centre of operations is in PEL 238 in the Gunnedah Basin where ESG operates the Narrabri CSG Project. The company is in the process of farming into a series of permits in the northern Gunnedah Basin as well as the Arckaringa Basin in South Australia. Finally, ESG holds an indirect interest in three permits in the Darling Basin in NSW through its 23% shareholding in Orion Petroleum Limited (ASX Code: OPI).

In the Narrabri area, ESG has an interest in and operates the Wilga Park Power station. Until recently, the power station was supplied by gas from the Coonarah conventional gas field alone. However, since the completion of the gas pipeline from the production pilot areas as well as the installation and commissioning of additional generating capacity, ESG is now supplying the power station with additional gas from CSG production pilots.

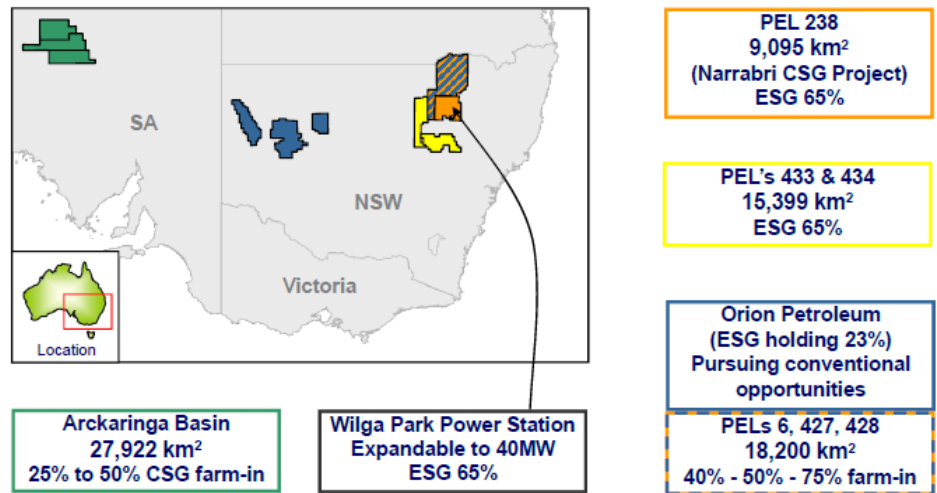


Figure 1: Eastern Star Gas - Exploration Portfolio
Source: Eastern Star Gas Limited

Gunnedah Basin, NSW

The Gunnedah Basin is located in the Northern Inland region of NSW stretching northward from the vicinity of the town of Dubbo to its northern limit defined by the Moree High, some 50 km to the north of Narrabri. The basin is divided into two north/south trending sub-basins separated by a ridge of basement volcanics. The eastern Maules Creek Sub-Basin contains the Early Permian Maules Creek Formation while to the west of the Boggabri Ridge; the Mallaley Sub-Basin contains both the Maules Creek Formation as well as the Late Permian Black Jack Group sediments.

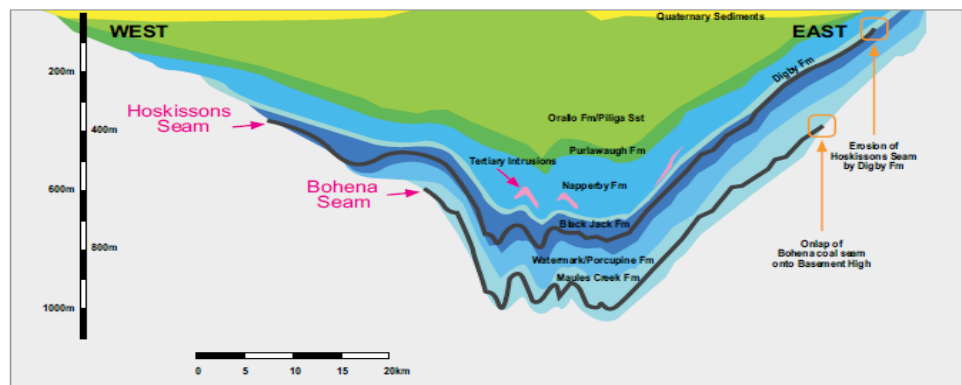


Figure 2: East to West Cross Section of the Mallaley Sub-Basin
Source: Eastern Star Gas Limited

The Maules Creek Formation contains the Bohena and the Namoi coal seams while the Black Jack Group contains the Hoskissons coal seam. Mining of coal occurs in both sub-basins where the coals are found at or close to the surface. Open cut and underground mining techniques are utilised in the region. Exploration for coal seam gas occurs in the western section of the Murrumbidgee Sub-Basin where the target Bohena, Namoi and Hoskissons seams are located too deep for coal mining but prospective for CSG. The area also contains the Coonarah gas field, a conventional sandstone reservoir within the Maules Creek Formation.

ESG has been involved in the Gunnedah Basin since its listing on the ASX in 2001. At present, the company operates three petroleum exploration licences (“PEL”) - PELs 238, 433 and 434 and more recently, commenced a farm in program to earn interests in a further three permits - PELs 6, 427 and 428.

Santos Limited (ASX Code: STO) is the other major permit holder in the Gunnedah Basin and in July 2009 it acquired a 35% interest in PELs 238, 433 and 434 as well as in the Wilga Park Power Station for \$300 million. Santos also purchased a direct 19.99% interest in ESG for \$176 million, for a total outlay of \$476 million.

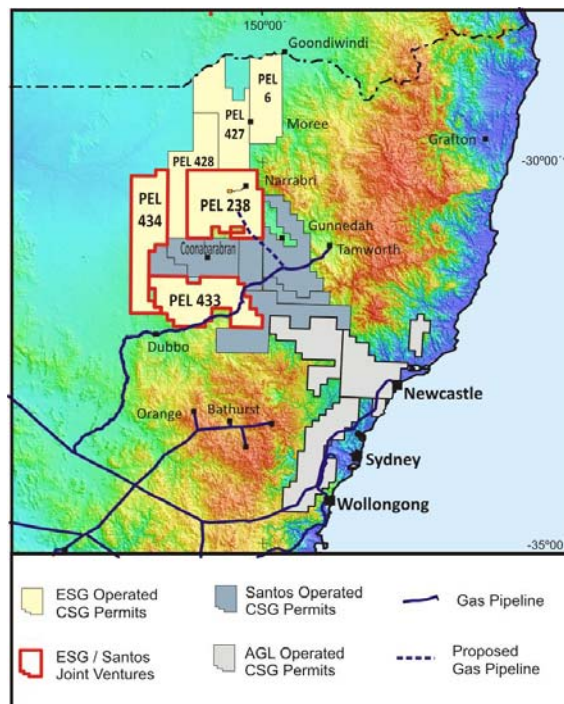


Figure 3: Gunnedah Basin CSG Licenses

Source: Eastern Star Gas Limited

PEL 238 (ESG 65%)

The company’s main asset and the focus of its appraisal activity is PEL 238, covering a total of 9,095 km² including the petroleum production licence (“PPL”) PPL 3 and the petroleum assessment lease (“PAL”) PAL 2. ESG first obtained an interest in the permit in 2001 when it agreed to acquire an interest in the undeveloped Coonarah conventional gas field. ESG subsequently acquired the full 100% interest in the permit, but assigned the CSG rights to Gastar Exploration Inc. In 2003, ESG acquired a 65% interest in the CSG rights and was appointed operator for all exploration and production activities in the permit. In mid 2008, equity interests across all operations in the permit were aligned through the sale of a 35% interest in PPL 3 and the Wilga Power Station to Gastar.

Gas production and electricity generation: Gas production from the Coonarah gas field in PPL 3 commenced in 2004 and has continuously supplied gas to the Wilga Park Power Station since then. However, production from the field has been disappointing and the 10 MW generating capacity was not achieved. In the end, most of the 1 MW generators were removed, leaving 4 x 1 MW generators to handle the declining gas production from the Coonarah gas field.

While conventional gas production had been less than anticipated with a corresponding reduction in revenue from the sale of electricity, the availability of power generating capacity will provide ESG with an avenue to monetise produced gas from the coal seam production pilots already established within PAL 2. In addition, ESG will derive significant environmental benefits through capturing methane that would normally have been vented to the atmosphere. To handle the volume of gas anticipated from the Bohena, Bibblewindi and Dewhurst pilots, ESG commenced a program to expand the Wilga Park power station to a total capacity of 40 MW. The first of the new 3 MW generators has been installed and the generation of electricity has commenced.

During July 2009, ESG completed the installation of a 250mm fibreglass pipeline from PAL 2 to the Wilga Park power station. At the time of writing, gas produced from the Bohena production pilot was being delivered to Wilga Park. As the link from the Bibblewindi 9-spot pilot to Bohena is completed, gas from the 9-spot as well as the two Bibblewindi multi-lateral production pilots will commence to flow to Wilga Park. Once all 40 MW of generating capacity is installed, it is anticipated that total gas requirement will approach 11 TJ/day (4 PJ/annum).

Revenue stream and environmental benefits from use of test gas to generate electricity

Based on the estimated price that ESG receives for power delivered to the NSW electricity grid, we estimate that ESG should generate revenues of between \$20 million and \$25 million per annum from the Wilga Park power station once it is producing at full capacity of 40 MW. While the revenue stream is relatively modest, it will still make a useful contribution in advance of the start of sales into the commercial gas sales agreements and has the additional benefit of reducing greenhouse gas emissions by utilising the gas instead of venting it to the atmosphere.

Exploration and appraisal: Prior to the start of the present appraisal program in March 2008, ESG had completed the Bohena 3-spot and the Bibblewindi 9-spot production pilots in PAL 2. These production pilots were drilled as vertical wells and fracture stimulated as a means of increasing permeability. Production from both commenced in 2006 and the gas production rate is continuing to increase in line with expectations, given the current understanding of the vertical fracture pattern observed in the Early Permian coals

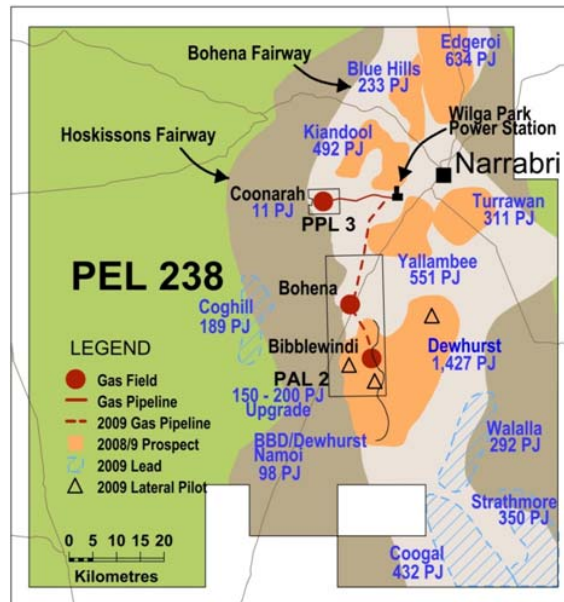


Figure 4: PEL 238 activity map
 Source: Eastern Star Gas Limited

Significant reserves upgrade expected by end 2009`

In March 2008, ESG commenced the drilling of series of core holes with the objective of increasing certified 2P reserves to 1,300 PJ by the end of 2009. Early core data indicated that coal within the Bohena seam did not exhibit the expected cleat fracture system observed in coals in the Surat Basin. Fractures in a cleat

system occur in all three planes that intersect at approximately 90° to each other. Such a system provides multiple pathways for gas to flow from the coal matrix to the well bore. Instead, it was found that the coals in the Bohena seam exhibited a vertical fracture system occurring in one plane only, thus limiting the ability of the gas to migrate to the well bore.

To increase production from coals exhibiting a parallel fracture system, ESG drilled a number of bi-lateral and tri-lateral production pilots. Multi lateral production pilots comprise a number of vertical production wells linked by a system of horizontal wells drilled within the coal seam in a direction that is perpendicular to the plane of the fracture system. This has the effect of connecting a large number of fractures to the production well and increasing the number of pathways by which gas can migrate to the production well. As shown in Figure 5 below:



Figure 5a: Bi-lateral wells, with shield wells **Figure 5b: Tri-lateral well cross section**
 Source: Eastern Star Gas Limited

Well productivity increased from multi-lateral wells

Early indications of productivity from the multi-lateral wells has been very encouraging with the production of water increasing from 150 barrels per day (“bpd”) from a single vertical well to 3,500 bpd for the bi-lateral well system and in excess of 6,000 bpd for the tri-lateral well system. In fact, so successful has been the increase in permeability, that ESG is now modelling that water will be flowing into the bi-lateral well systems from a much larger area than previously thought. As a result, ESG has commenced the drilling of two single lateral “shield” wells, one to the north east and the second to the south west of the bi-lateral well system shown above.

ESG expects the shield wells to assist in the dewatering of the Bohena seam by drawing water from outside the immediate vicinity of the production pilot thus allowing the bi-lateral wells to depressurise the coal within the limit of the production pilot more quickly.

In addition to proving the viability of drilling tri-lateral wells, the West Bibblewindi tri-lateral production pilot has established the Namoi coal seam as a new target for the production of CSG. Significantly, this will have the effect of further increasing CSG reserves and resources, as until the drilling of the tri-lateral well system, this seam was not considered in any previous reserves and resources estimates.

Since the commencement of the CSG reserves upgrade program, ESG has drilled in excess of 25 wells of which approximately half were drilled as part of the two multilateral well systems. As a result of the drilling of the coreholes, the known extent of the Bohena Coal seam has been extended to the east of PAL 2 into the Dewhurst area and to the north to Yallambee, Blue Hills and Edgeroi areas.

Drilling in the Dewhurst area has been extremely encouraging with a number of vertical coreholes having been drilled and then cased down to the target Bohena coal seam. The wells were designed as vertical production wells that could be intersected by lateral wells in a future production pilot in the Dewhurst area. To maximise the areal extent of the next reserves certification, ESG is considering locating the Dewhurst pilot adjacent to the most northerly of the Dewhurst coreholes.

In a move away from the Bohena Fairway, ESG drilled Coonarah 9 within PPL 3. The well was successful in establishing the potential of the Hoskissons seam and ESG is now planning a Hoskissons production pilot in the area. A production pilot in the area has the advantage that any gas produced can be delivered to the Wilga Park power station through the existing gas flow lines.

Reserves certification and gas marketing: ESG has released a statement of reserves and resources within PEL 238 that have been independently certified by Netherland Sewell and Associates, representing an increase in 2P reserves of 83% over a 9 month period between December 2007 and September 2008.

Importantly, the amount of 3P reserves has not been increased from the 1,300 PJ announced previously. ESG has elected to cap the amount of reserves it reports to the amount covered by the two existing Gas Sales Memoranda of Understanding with NSW based power companies for the generation of electricity.

Reserves	1P	2P	3P
30/9/2008	21 PJ	336 PJ	1,300 PJ
Contingent Resources	1C	2C	3C
31/12/2008	1,195 PJ	3,053 PJ	6,128 PJ

Table 1: Narrabri Gas Project Gas Reserves and Contingent Resource

Source: Eastern Star Gas Limited

Note: The figures represent 100% project reserves and resources, 65% of which are attributable to ESG.

Multi pronged approach to market development

To progressively move the significant volumes of contingent resources present in PEL 238 into the reserves category, ESG is actively pursuing new opportunities in the domestic and export markets including:

- Increasing regional market demand through the use of CSG for the generation of electricity, such as the expansion of the Wilga Park facility to a total of 40 MW.
- Development of a gas transmission lateral to link into the Central Ranges Gas Pipeline to supply gas to the NSW domestic market. To this end, ESG has signed a Heads of Agreement with APA the owner and operator of the transmission infrastructure between the Central Ranges and Sydney as well as links to the ACT and Victoria.
- Supply of gas to greenfields electricity generation capacity in addition to the 1,300 PJ already committed.
- Development of world scale projects for the production of LNG, methanol or gas-to-liquids for the export as well as the domestic markets. In this regard ESG has held preliminary discussions with the Port of Newcastle Authority on the possibility of establishing an LNG production and export facility in the area.

It should be noted that the four approaches described above are not mutually exclusive and can be pursued concurrently in order to ensure that the full potential of the Narrabri Coal Seam Gas project is realised. Furthermore, as potential markets are developed for CSG in NSW, it is anticipated that the strict approach of limiting reserves to gas covered by signed agreements will be relaxed and the approach taken for CSG in Queensland will be adopted where the likelihood of a market existing is sufficient to enable 3P reserves to be certified.

PEL 433 and PEL 434 (ESG 65%)

Two coreholes were drilled by ESG in the eastern section of PEL 433 in 2007. Analysis of the cores indicated that the target Hoskissons coal seam was poorly developed and had low gas saturations. At present, focus is centred on the western section of PEL 433 and the southern section of PEL 434 where the Hoskissons seam is deeper and where the Maules Creek Formation was encountered by earlier drilling. ESG is planning to acquire seismic and undertake further drilling to investigate the CSG potential of the permits.

Bowen, Surat and Northern Gunnedah Basin, NSW

PEL 6, PEL 427 and PEL 428 (ESG earning 50%, 50% and 40% respectively)

To further expand its CSG exploration portfolio, ESG has farmed into three permits in the Bowen, Surat and Northern Gunnedah Basins. The first stage of the earn in requires ESG to drill one corehole in each of the permits and to acquire 100 km of

seismic within PEL 6. At the time of this report, ESG had completed the acquisition of the seismic and had drilled a well in each of PELs 427 and 428. ESG is currently planning to drill two coreholes within PEL 6 at the completion of which, its interest in the permit will increase to 75%.

The two wells already drilled targeted the younger Cretaceous Coreena Member coals. Approximately 5 metres of gassy coal was intersected and laboratory testing of the coals is now underway. The two wells to be drilled in PEL 6 will target the older Permian coals that are interpreted to be the lateral extension of the Early Permian coals that are currently being investigated in PEL 238.

Arckaringa Basin, SA

PEL 117, PEL 121 and PEL 122

Farm in terms between ESG and SAPEX Limited (ASX Code: SXP) were agreed for the three permits pursuant to which ESG could earn a 25% interest by drilling one corehole in each of the permits. An additional 25% interest could be earned under Stage 2 of the farm in by ESG drilling and testing a 5-spot production pilot. The farm in process was put on hold following the announcement of a merger between Linc Energy Ltd (ASX Code: LNC) and SAPEX. While the merger has now been completed, the farm in process has not yet recommenced.

Orion Petroleum Limited (ASX Code: OPI)

Due to the different requirements of conventional oil and gas exploration and production, ESG moved all permits prospective for conventional oil and gas exploration into a separate company, Orion Petroleum that was listed on the ASX in late 2007. ESG retains a 23.07% interest in Orion Petroleum.

Relative Valuation Metrics

2008 and 2009 were watershed years for the CSG sector with a number of multinational companies entering the sector through a series of corporate transactions. Billions of dollars were invested in purchasing interests in the emerging CSG to LNG sector. It is likely that the potential size of the gas resource represented by CSG was considered to be too large, for the multinational companies not to have a solid foothold in the sector.

The average of all reported transactions for 2P reserves was \$2.46/GJ while that for 3P reserves was \$0.95/GJ

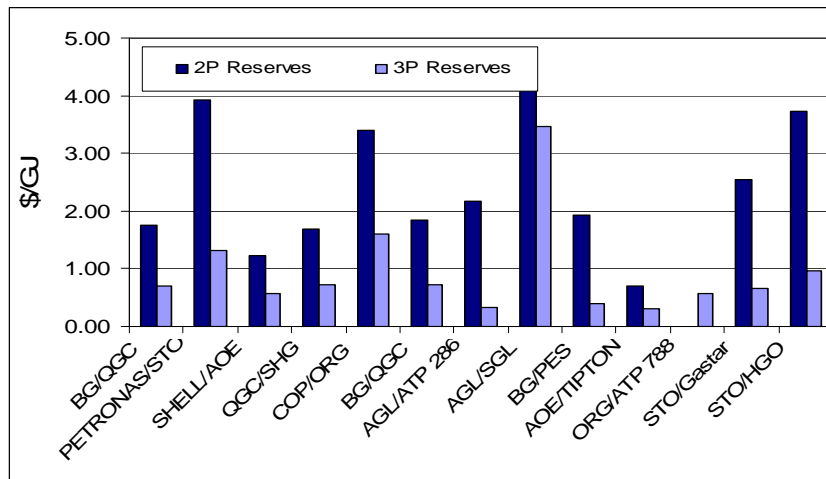


Figure 6: Transaction values for 2P and 3P reserves

In addition to the average of all CSG acquisitions, there are the specific valuation parameters derived from the acquisition by Santos of the 35% interest in the three permits from Gastar for \$300 million and a 19.99% equity interest in ESG from Hillgrove Resources Limited for \$176 million. Based on the combination of the two transactions, the average unit price paid by Santos equates to \$2.87/GJ for 2P reserves and \$0.74/GJ for 3P reserves.

Potential value for ESG of up to \$2,400 million on increase of 2P reserves

Assuming that ESG will achieve its objective of certifying 1,300 PJ of 2P reserves by the end of 2009, the potential value of ESG's 65% interest in the Narrabri Coal Seam Gas Project could be between \$2,000 million and \$2,400 million, compared with the company's current Enterprise Value of \$860 million.

In the event that Netherland Sewell & Associates adopts the approach it uses in certifying reserves in Queensland whereby gas not committed to existing markets, but that has a reasonable expectation that a market will exist is included in the 3P reserves category, the question will arise as to what proportion of the current contingent resource of 6,128 PJ will be counted as 3P reserves. If only 20% of the resource is transferred to 3P, the resulting 3P reserve would be 2,600 PJ with a value for ESG's 65% share of between \$1,200 million and \$1,600 million. If 30% of the resource is transferred, 3P reserves would increase to 3,200 PJ with ESG's 65% share valued at between \$1,500 million and \$1,900 million. While these valuations are less than that derived from 2P reserves, they are still significantly above the current Enterprise Value of the company.

Furthermore, it should be remembered that the current valuations do not assume any contribution to the 3P valuation from the newly established CSG potential of the Namoi coal seam. By the time that ESG is ready to release its revised reserves estimates at the end of 2009 or early 2010, the West Bibblewindi tri-lateral pilot would have established gas flow from the Namoi seam and its resource potential included in the NSA certification.

Summary and Recommendation

Development of CSG reserves came of age in 2008 and 2009 when multinational corporations such as BG Group, ConocoPhillips, Shell and Petronas spend billions of dollars to acquire significant interests in CSG projects in the Surat and Bowen Basins of south east Queensland. As the focus of ESG's CSG activities was and remains in New South Wales, the frenetic corporate activity in the sector passed it by until recently when Santos paid a total of \$476 million to acquire a 35% participating interest in three permits operated by ESG as well as a 19.99% equity interest in ESG itself. Given Santos' CSG production interests in Qld and its JV partnership with Petronas to establish a CSG to LNG project in Gladstone, the expansion of its CSG interests in the Gunnedah Basin of NSW is a significant vote of confidence in the prospectivity of the area.

While Santos is now a 35% JV partner with ESG in PEL 238, PEL 433 and PEL 434, ESG remains operator and retains full decision making ability in the permits. While in the interests of harmony within the JV it is expected that all decisions will be made cooperatively, nevertheless ESG can not be made to pursue a particular strategy with which it does not agree.

The focus of the majority of the drilling and all production pilot activity is in PEL 238, as well as PPL 3 and PAL 2 that it contains. Since March 2008, ESG has drilled in excess of 25 wells and established 2 production pilots that together with the existing 2 production pilots are expected to commence substantial production of gas once the coals have been depressurised to a sufficient degree.

As at the end of 2008, ESG has reported gross reserves for the Narrabri CSG Project of 336 PJ of 2P reserves and 1,300 PJ of 2P reserves. It is significant to note that the 3P reserves, as reported is market constrained. That is only that amount of gas has been included in 3P reserves that is covered by the two MoUs to deliver gas to two separate power generation projects. ESG has a large contingent resource in PEL 238 and could report higher 3P reserves if it included prospective as well as actual markets in its analysis. Given recent developments in the gas market within NSW, this is no longer the impediment it was even 12 months ago.

Based on the average value of all CSG transactions over the last 18 months, as well as the actual price paid by Santos to acquire the additional interests in the Gunnedah Basin, ESG could reach an Enterprise Value of around \$2,000 million if it achieves its target of reaching 2P reserves of 1,300 PJ in PEL 238.

With the significant increase in value that could be achieved, we rate ESG a **BUY – High risk**. The *High risk* rating indicates that ESG is still in the appraisal stage and has not yet commenced commercial production of CSG.

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