Responsible Development of Australia’s Onshore Natural Gas Resources

James Baulderstone
Vice President Eastern Australia
Responsible onshore gas development

Putting the debate in context

Over 87% of eastern Australia’s 2P Reserves are held in coal seams
› <3% conventional gas resources
› New gas supplies are needed to meet demand

Natural gas industry revitalising regional communities
› Reversing the migration of youth away from regional areas
› Creating high paying skilled jobs and local business opportunities

A successful 60 year partnership with landholders and communities
› Over 700 agreements with landholders
› Delivering lasting benefits to the wider community

Trust, respect and understanding
› Understanding our impacts on agriculture
› Countering the deliberate distribution of misinformation
Australia’s natural gas resources are geographically divided

Sufficient gas resources to meet domestic and export needs

West Australia

- Conventional: 159 tcf
- Unconventional: 298 tcf
- Total: 457 tcf

East Australia

- Conventional: 8 tcf
- Unconventional: 120 tcf
- Coal bed methane: 235 tcf
- Total: 363 tcf

West Australia has an abundance of conventional gas resources

East Australia has <3% conventional gas resources remaining

1. Total demonstrated resources

Source: BREE 2012 Gas Resource Assessment
Eastern Australia 2P reserves

Coal seam gas is essential to secure east coast gas supply

Australia’s 2P Reserves

- ~88,000 PJ
- ~1,000 PJ
- ~50,000 PJ

East coast 2P Reserves

- ~43,500 PJ
- ~6,500 PJ

» Over 87% of 2P reserves reside in coal seams
» <10 years of conventional gas supply remaining
» Stopping CSG development would send shockwaves through Queensland's economy, and severely impact business in NSW

Source: EnergyQuest February 2014 Quarterly, as at December 2013
Natural gas industry revitalising regional communities
Local jobs, investment, taxes, royalties and community contributions

Onshore gas industry is delivering tremendous community benefits

- $15 million to indigenous communities
- $100 million in NT royalties
- $2 billion in SA royalties
- $14 billion invested in the Cooper
- $850 million annually in QLD royalties
- $25 billion to QLD companies
Making a difference

Supporting Aboriginal employment in Mereenie expansion
A tale of two towns

Coal seam gas breathing life back into regional communities

Roma

Narrabri
A tale of two towns

Coal seam gas breathing life back into regional communities

**Population growth**

<table>
<thead>
<tr>
<th></th>
<th>Roma area</th>
<th>Narrabri</th>
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<tbody>
<tr>
<td>2001</td>
<td>12,383</td>
<td>13,078</td>
</tr>
<tr>
<td>2012</td>
<td>13,562</td>
<td>12,303</td>
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**Reversing youth migration from regions**

- Roma population increased by **9%**
- Roma average age 32 years - Narrabri 39 years

**Local economy ($M)**

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<thead>
<tr>
<th></th>
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<th>Narrabri</th>
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<tbody>
<tr>
<td>2006/2007</td>
<td>850</td>
<td>590</td>
</tr>
<tr>
<td>2010/2011</td>
<td>1,864</td>
<td>730</td>
</tr>
</tbody>
</table>

**Creating high-paying skilled jobs**

- Roma area economy grew by **120%**
- Roma average weekly household incomes **$1,400** - 36% higher than Narrabri

**Unemployment rate (%)**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>2010/2011</td>
<td>2.8</td>
<td>5.4</td>
</tr>
<tr>
<td>2006/2007</td>
<td>2.2</td>
<td>5.5</td>
</tr>
</tbody>
</table>

- Unemployment in Roma is **2%**, compared over 5% for Narrabri

**Source:** Maranoa regional council, Narrabri Shire Council, Department of Employment, ABS
Santos’ strong track record
Santos’ strong track record

A successful 60 year partnership with landholders and communities

Building our relationship with landholders

- Santos’ onshore acreage in Australia covers ~200,000km²
- ~5,000 wells over an area the size of Victoria
- Employing around 10,000 people, many from regional communities
- 700 agreements with landholders in SA, NT, Queensland and NSW
- 9 in 10 Queensland landholders would welcome us back on their property*
- Injecting reliable cash-flow direct to farmers
  - Queensland landowner payments to total $5 million in 2014
  - Landowner payment for medium-scale development ~$1 million over project life

*Independent survey conducted 2013

1955 community meeting poster
Santos committed to making a difference

Santos sponsorship in 2013 was $12.6 million, delivering real benefits to the wider community

Direct multi-year investment

- $6m to SA & Queensland cultural institutions including Gallery of Modern Art, Adelaide Zoo, SA Museum, ASO
- $5m to science-based education initiatives
- $3m towards shelter for the homeless
- $2m for community health in Gladstone and Roma
Principles of responsible operation
Responsible operations more vital than ever

Industry must continue to meet and exceed community expectations

Operating safely

Protecting the environment

Treating people with respect

Limiting our footprint

Making a positive difference to communities
Principles of responsible operation

Water must be protected

› Expert water research, monitoring and modelling
› Minimal water use - recycled through irrigation and aquifer recharge

Water use in Namoi Catchment Area

Traditional water use
~400 GL pa

Produced CSG water
~3 GL pa

Source: Murray Darling Basin Commission, Santos modelling

Protecting the environment

Reducing carbon emissions

› Negligible fugitive emissions
› Increased gas use driving US emissions down

Gas reducing CO2 emissions

Source: Energyindepth
Principles of responsible operation

Treating people with respect is the foundation for strong partnerships and long term success

Our Commitments

› Genuinely seek to understand stakeholder concerns and address them in our project design

› Take care to provide clear, accessible, relevant and timely information

› Earn stakeholders trust and confidence in Santos and our processes, decisions and activities

› Providing farmers with a genuine choice to work with us
The path toward community acceptance
So why does the gas debate rage?

Concentrated campaign seeking to scare and misinform

Green groups unconstrained by truth

- Have a stated aim to end fossil fuel use
- Claims that communities overwhelmingly oppose CSG ignores clear evidence of co-existence with hundreds of farmers
- Anti-CSG candidates repeatedly fail to attract votes in local, state and Federal elections
- Grossly exaggerated claims of environmental “contamination” – where no harm has occurred

Need for a balanced, sensible discussion based on facts
The path forward

Increasing the confidence and trust of the communities in which we operate

- Early **communication** and community engagement
- Treating everyone with **respect**
- Committing to our words with **actions**
- **Understanding** the impacts of our activities on agriculture
- Delivering **lasting benefits** and opportunities to the wider community
- **Protecting** valuable water resources and long-term land use

Photo courtesy of Queensland Country Life
The stakes are high

Restricting CSG development will adversely impact energy supply within the near future, affecting everyday Australians

- **Over 5 million homes** and businesses use natural gas
- **45% of manufacturing** rely on natural gas as prime energy source
- **21% NEM generation capacity** provided by natural gas power stations
- Insufficient gas supply will:
  - Push carbon emissions higher as electricity generation goes back to coal
  - Threaten competiveness of manufacturing, risking ~100,000 jobs
  - Adversely impact our standard of living through higher gas prices

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**TURNING UP THE HEAT**

Yearly cost of gas increases in Adelaide. December quarter to December quarter.

<table>
<thead>
<tr>
<th>YEAR ENDING</th>
<th>2012: 17.6%</th>
<th>2011: 8.1%</th>
<th>2010: 5.7%</th>
<th>2009: 3.9%</th>
<th>2008: 9.8%</th>
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Source: ABS

Source: adelaidenow
Disclaimer and important notice

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All references to dollars, cents or $ in this document are to Australian currency, unless otherwise stated. All references to project completion percentages are on a value of work done basis, unless otherwise stated.
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