TEAM Australia
SOUTH AUSTRALIA

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www.petroleum.dmitre.sa.gov.au
Petroleum tenements

- Cooper CO2013 bid round open
- Otway OT2014 bid round open
- Most prospective acreage currently taken but farm-ins available

Frontier and mature basins, plays include:
- Neoproterozoic-Mesozoic oil
- shale, tight and BC gas
- deep coal seam gas
- coal gasification plays

Work program bidding - **Cooper & Otway**
Frontier onshore basins - over the counter applications at any time

**Average Royalty 6.7%**
**Cooper Basin - background**

- largest onshore O&G producer
- commercial gas discovered 1963, oil in 1978
- >1,800 O&G wells, 29 unconventional gas wells
- large unconventional gas resource targets
- Infrastructure – oil and gas pipelines, gas plant
- No high intensity agriculture (cattle grazing)
- effective activity approval and land access regimes
- sales gas netbacks from LNG exports reported to be AUS$9/GJ. Impacts domestic gas prices.

<table>
<thead>
<tr>
<th>Cumulative Production</th>
<th>5.43 TCF sales gas (1970)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>934 mmbbl oil (1983)</td>
</tr>
<tr>
<td></td>
<td>79.3 mmboe LPG (1984)</td>
</tr>
<tr>
<td></td>
<td>77.5 mmboe condensate (1983)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Production (2012-13)</th>
<th>64.75 BCF sales gas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.7 mmbbl oil</td>
</tr>
<tr>
<td></td>
<td>1.10 mmboe LPG</td>
</tr>
<tr>
<td></td>
<td>1.03 mmboe condensate</td>
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</tbody>
</table>
Cooper Basin bid rounds

CO2012-A – closed April 2013
- Winning bidder announced at APPEA in May 2013
- Sydney based Bridgeport Energy

<table>
<thead>
<tr>
<th>Company</th>
<th>Exploration wells</th>
<th>Seismic Acquisition</th>
<th>Total bid $m</th>
<th>Guaranteed bid $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgeport Energy Ltd</td>
<td>4 wells (guar);</td>
<td>300km^2 3D</td>
<td>24.4</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>4 wells (non-guar)</td>
<td>100km 2D (guar)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CO2013 – bidding opened in October 2013
Bids close on Thursday 29 May 2014

Potential plays
- Western margin oil
- Deep unconventional gas
- Cambro-Ordovician Warburton Basin
- Undrilled structural and stratigraphic traps

Vacant areas can be added to release as additional blocks if explorers express interest by 1 May 2014
2013 Cooper Basin Acreage Release

**CO2013-A** covers 627 sqkm.
1 exploration well (Tawriffic East 1)
876 line kilometres of 2D seismic data.

Potential exists for:
- multiple stacked Eromanga Basin oil plays along the Permian zero edge
- conventional 4 way dip closure and stratigraphic Cooper Basin gas plays
- unconventional Cooper and Warburton basin gas plays

**CO2013-B** covers 3443 square kilometres in the southern Cooper Basin. No wells have been drilled and 315 line kilometres of 2D seismic data have been acquired within the block.

Potential exists for:
- migrated hydrocarbons beyond Permian zero edge
- unconventional plays including deep CSG

Vacant areas can be added to release as additional blocks if explorers express interest by 1 May 2014

**Bids close on Thursday 29 May 2014**
**Cooper Basin - World Class Success**

<table>
<thead>
<tr>
<th></th>
<th>New entrants</th>
<th>Santos JV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration wells drilled</td>
<td>215</td>
<td>43</td>
</tr>
<tr>
<td>Commercial success rate (%)</td>
<td>40</td>
<td>49</td>
</tr>
<tr>
<td>Technical success rate (%)</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>Appraisal &amp; development wells drilled</td>
<td>102</td>
<td>389</td>
</tr>
<tr>
<td>Commercial success rate (%)</td>
<td>93</td>
<td>94</td>
</tr>
</tbody>
</table>

**Discovery ⇒ oil production in months**

**Existing infrastructure minimises up-front CAPEX**

**Productive oil and gas play trends**
SA Oil and Gas Production

SA oil production is the highest of the states and NT and is the only jurisdiction with growing oil production. Driven by new oil discoveries on the western flank of the Cooper

La Nina floods, ‘flood proofing’ Infrastructure now in place.
Otway Basin

**OT2014-A – BIDS CLOSE 24 JULY 2014**
- Southern Otway block
- Late Cretaceous plays: Flaxman-Waarre

**OT2012-A (GRANTED AS PEL 629)**
- Bids closed April, winner announced at APPEA in May.
- Ouro Preto Resources Pty Ltd (subsidiary of UK-based Northern Petroleum).

**VISIT STAND 734 FOR MORE INFORMATION**

<table>
<thead>
<tr>
<th>Company</th>
<th>Explor'n Wells</th>
<th>Seismic</th>
<th>Total bid $m</th>
<th>Guar bid $m</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP Oil &amp; Gas Holdings Ltd</td>
<td>7 (guar)</td>
<td>250 sqkm 3D (guar)</td>
<td>54.6</td>
<td>54.6</td>
</tr>
</tbody>
</table>

- Exploration drilling underway now.
Roadmap for Unconventional Gas

Designed to inform industry strategies, government policies, and regulations to facilitate unconventional gas projects in ways that SA communities welcome.

Available for free download OR via 2014 USB card from Team Australia NAPE stand 1047

5 working groups formed:
- Training hub for deep unconventional gas operations
- Cooper Basin supply hubs, roads and air strips;
- Cooper Basin water use;
- Transport with reduced red tape;
- GHG detection.

Conclusions

- South Australia has huge ‘blue sky’ potential for unconventional gas, but still early days – only 29 wells drilled so far
- Great opportunities to learn from US and to build local supply chain
- Opportunities exist now for explorers, infrastructure developers, service & supply sector
- SA was 1st in Oceania region in 2013 Fraser Institute Global Petroleum Survey, industry said:
  - “Pro-active government (and opposition), stable and attractive fiscal regime, informed and professional regulator, very superior access to essential data.”
  - “South Australia is becoming well-known for rapid approvals and cutting through green and red tape”
- Try our new FREE SA MINING app (via App Store or Google Play)

For more information:
- Visit Team Australia at NAPE – look for the ‘roos at Stand 1047!
- Available for company visits in Houston until 11 Feb
Backup slides
Cooper Basin who’s who

Operators in Cooper Basin
- Ambassador Exploration
- Beach Energy
- Discovery Energy
- Drillsearch Gas
- Holloman Petroleum
- Tellus Resources
- Santos
- SAPEX
- Senex Energy
- Strike Energy
- Terra Nova Energy
- Victoria Oil

Cooper/Eromanga basin acreage

Total Basin Acreage by Production Licence
Cooper Basin unconventional plays

- Huge unconventional resource play in the deep troughs.
- Tight sands, siltstones, shales & deep coals in Composite Gas Resource accumulations.
- Initial unconventional resource estimates are high:
  - Company 2C contingent unconventional gas resources: ~5 TCF
  - EIA potential sales gas (shales): 85 TCF
  - Rough estimate of sales gas in composite play: ~ 175 TCF
- Exploration and appraisal drilling ramping up, pilot projects underway.
Composite Resource Play

Roseneath, Epsilon and Murteree (REM) Shales

Base Patchawarra depth structure map showing unconventional gas wells

Figure sourced from Beach Energy
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Energy Resources Division

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