

# DUG Conference, Brisbane. Regulatory Spotlight: State Of The States

## South Australia's Fiscal & Regulatory Vision for Oil and Gas

### What do we want?

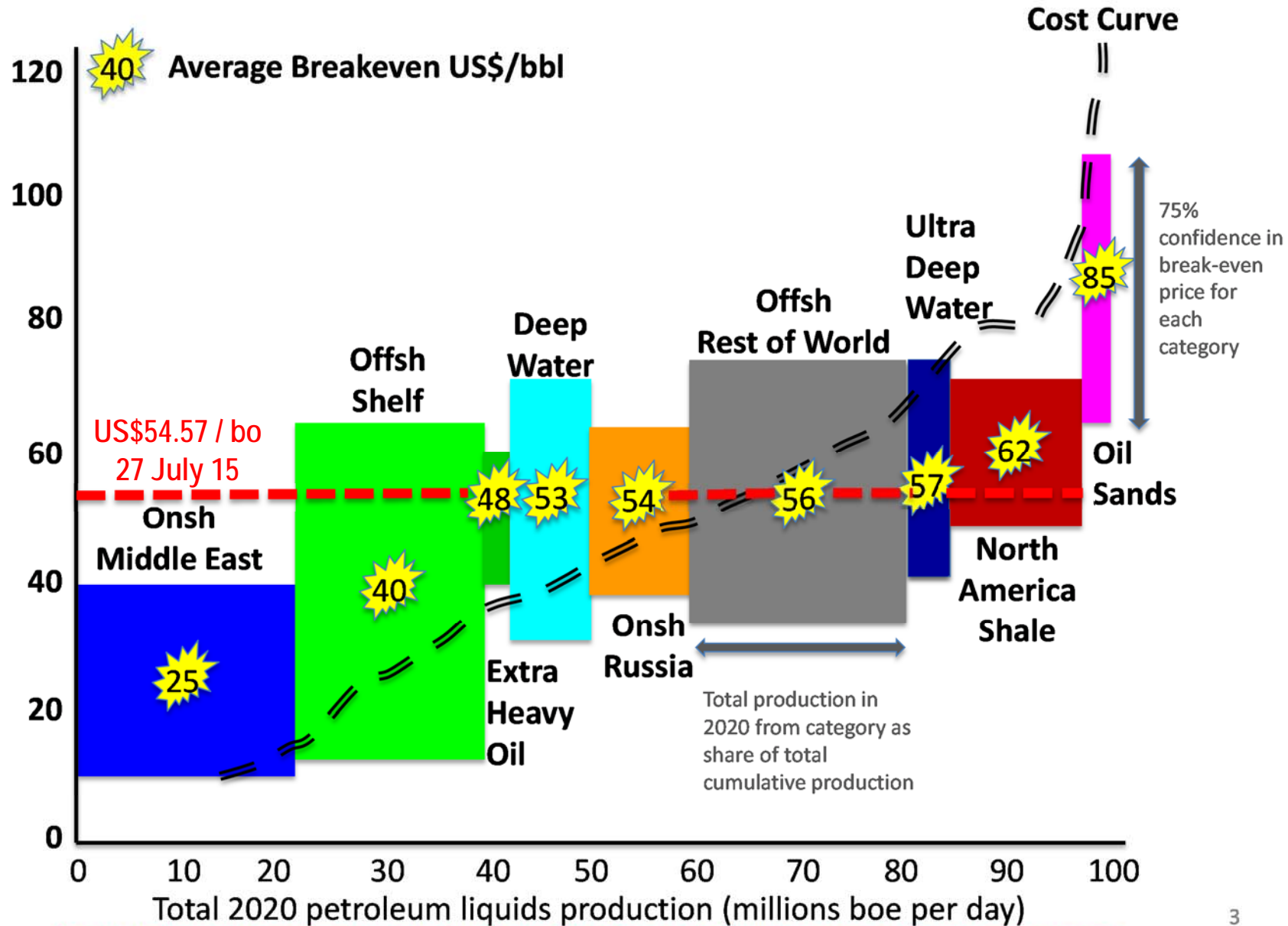
- Risks to natural, social & economic environments reduced to as low as reasonably practical (ALARP) and operations meet community expectations for net outcomes;
- Secure and competitively priced oil and gas;
- Improved balance of trade;
- \$ Billions in environmentally sustainable development projects;
- Thousands of jobs;
- Market competitive royalties for public good; and
- Wider use of gas-based transport fuel.



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# Context to Fiscal and Regulatory Frameworks

Global liquid petroleum cost curve US\$/bbl



Source: <http://www.rystadenergy.com/AboutUs/NewsCenter/PressReleases/2015-will-be-extraordinarily-tough-for-oil-companies>

# OBJECTIVE: Safe, secure and competitively priced natural gas

**Gas price parity** (per April 2015 LNG and forex and Brent price on 27/7/15)

$\leq$ US7.85 = A\$10.77 per gigajoule (GJ) high-side for LNG in Asia

- A\$1/GJ for LNG vessel shipping
- A\$2 to A\$4/GJ for LNG production in Gladstone, Qld
- A\$2/GJ tariff per 1,000 km gas pipeline Moomba to Gladstone

**A\$3.77 to A\$5.77/GJ** is one benchmark for gas price parity at Moomba's gate

Approx. 15% of Brent oil (~US\$54.57/barrel = A\$75/barrel) for LNG ex-Gladstone

A\$11.25/GJ for LNG ex Gladstone

- A\$1/GJ for LNG vessel shipping (exclude if price is ex-Gladstone)
- A\$2 to A\$4/GJ for creating LNG in Gladstone
- A\$2/GJ tariff per 1,000 km gas pipeline Moomba to Gladstone

**A\$4.25 to A\$7.25/GJ** is gas price parity at Moomba's gate excl'g LNG vessel cost

**Buyers and sellers need to share uncertainty on oil price and forex**

## Comparative advantages delivered from local energy supplies

Longford – Mount Gambier ~A\$0.45/GJ pipeline tariff

Moomba – Mount Gambier ~A\$1.50/GJ pipeline tariff

Katnook to Mount Gambier ~A\$0.06/GJ + add'l security of competing gas supplies

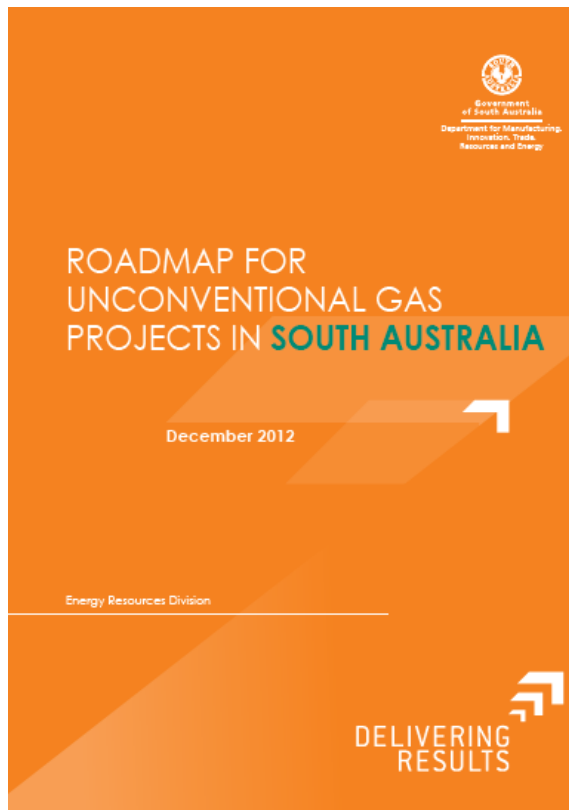
# Roadmap for Unconventional Gas informed by the Roundtable for Oil and Gas Projects



## Conclusions:

Descend cost & ascend productivity curves to survive supply-side competition

Regional sharing of costs mitigates the tyranny of distance for remote operations



Informed by a **Roundtable** of: industry; governments; peak bodies for protecting environments and aboriginal people; research institutions & a few individuals. **Now >700 members**

Now under the auspices of the Roundtable for Oil and Gas Projects with **8 working groups** to inform potentially affected people and enterprises while enabling cooperation amongst competitors.

## Strategic actions:

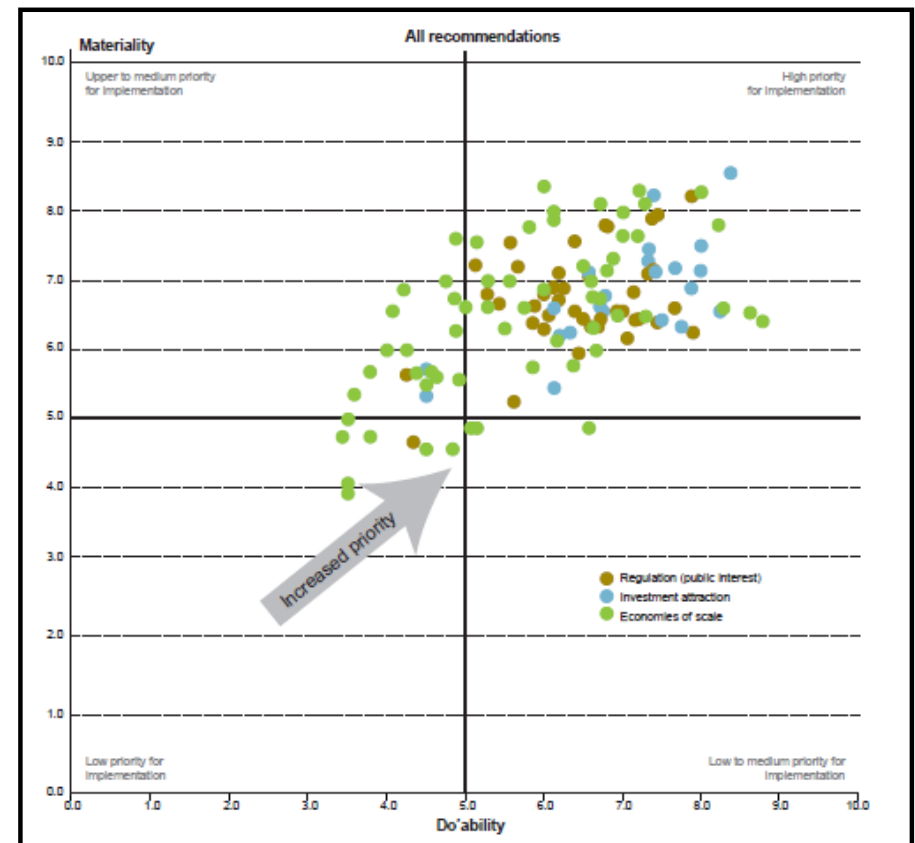
- Demonstrate where the net present value of cooperation (JVs for JVs) exceeds the value of go-it-alone planning / investment;
- Local businesses given a 'heads-up' to use competence to build capacity to compete (local skin in the game)

**Search words: DSD & Unconventional Gas**

# Priorities to foster sustainable, profitable projects - Feedback from Roundtable / Roadmap for Oil & Gas

## Top priorities:

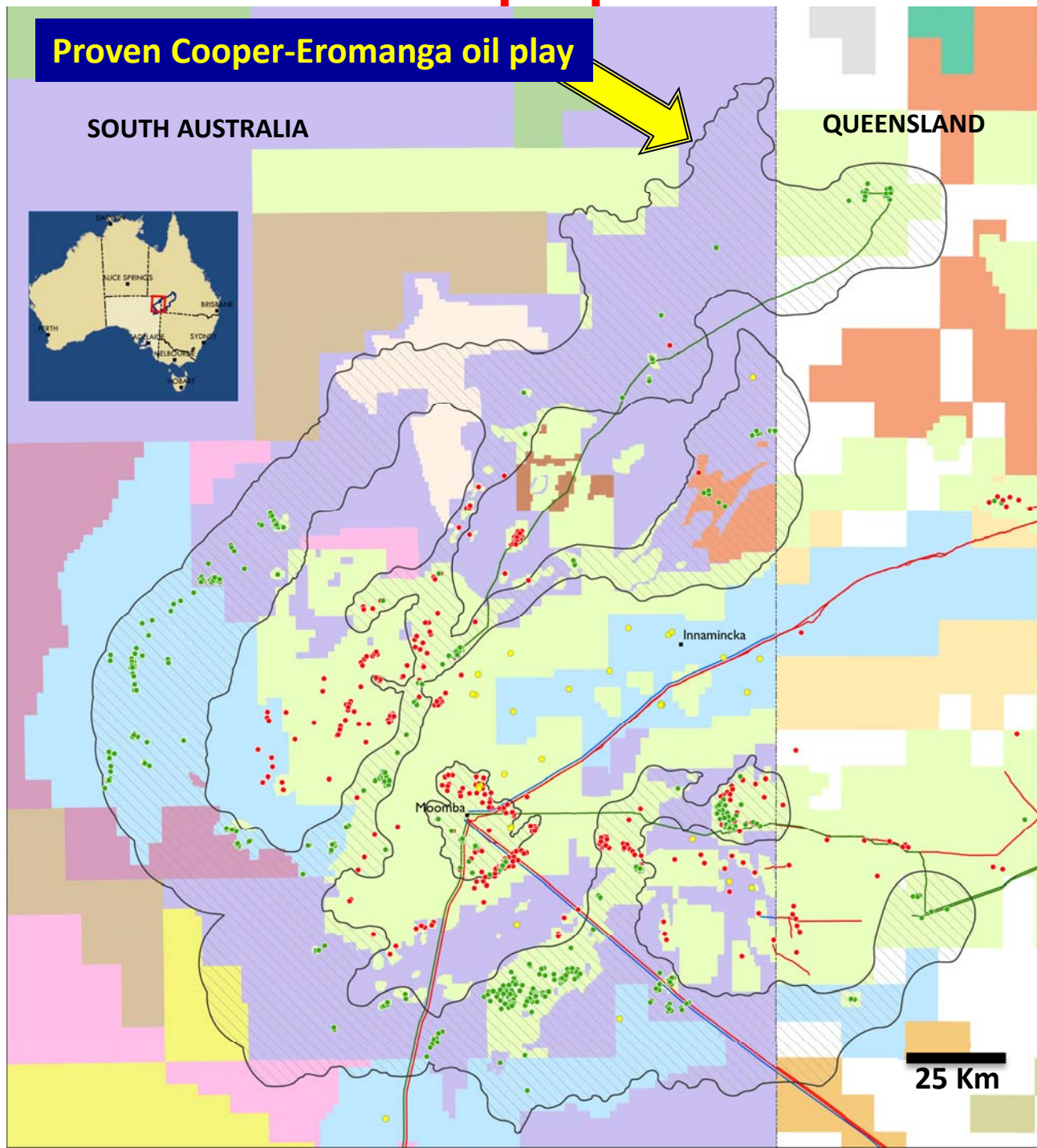
- Legal frameworks provide certainty and simultaneously meet community and investor expectations for outcomes
- Trustworthy, people implement and regulate projects
- Environmental sustainability
- Manage supply-chain risks (people and facilities)
- Bolster understanding of risks, risk management and rewards



# Roundtable for O&G Working Groups

- #1 Training** (Tonsley CoE, Chair Unconventional reservoirs)
- #2 Supply hubs, roads, rail and airstrips for the Cooper-Eromanga basins** (Innamincka airport, depots, Strez. Track)
- #3 Water use in the Cooper-Eromanga basins**
- #4 Minimize redtape for interstate 'wharf to well' corridors to/fro the Cooper-Eromanga basins** (heavy vehicle, wiring)
- #5 Cost-effective, trustworthy GHG detection**
- #6 Suppliers' forum (make locals smart)** (MIPO)
- #7 Use gas for transport and heavy equipment**
- #8 Information (answers to FAQs & fact checking)**

# Top (#1) Roadmap recommendation - Provide fit-for-purpose licences



- Giant gas ('00s of TCF) resource potential in unconventional reservoirs
- 50% post-3D success rate 2002-14 for oil exploration in western flank of Cooper – Eromanga (avg. 2.5 mmbbl find size)
- South Australia Western Flank Oil: 9 operators for 25 companies
- South Australia Cooper Gas 9 operators for 28 companies in SA & Qld

## Operators

	Acer Energy
	Australian Gasfields
	Beach Energy
	Blue Energy
	Bridgeport Energy
	Circumpacific Energy
	Discovery Energy SA
	Drillsearch Energy
	Great Artesian Oil and Gas
	Quasar Energy
	Rawson Resources
	Santos
	SAPEX
	Senex Energy
	Strike Energy
	Terra Nova Energy

	Oil well
	Gas well
	Resource play well
	Western Flank proven oil play
	Gas pipeline
	Gas and liquids pipeline
	Liquids pipeline
	Coongie Lakes control zone - no access

# Vision for Nirvana: Centuries of safe, secure, competitive energy supplies that meet community expectations for net outcomes

## To reach the vision

- Potential risks to social, natural and economic environments are *reduced to as low as reasonably practical (ALARP)*; and meet community expectations for net outcomes **BEFORE IT IS PERSONAL** – before approval sought for land access;
- Affected people and enterprises get timely information describing risks and rewards to enable informed opinions;
- Convene **roundtables** to deliver **roadmaps** for projects to inform: the **PUBLIC, GOVERNMENTS, INVESTORS, AND REGULATORS** and in doing so – enable/attract welcomed oil and gas projects.
- **South Australia's Roadmap for Unconventional Gas (Dec. 2012)**



# Experience and Regulatory Framework in South Australia



Fracture stimulation has been used safely in South Australia since 1969, in both conventional and unconventional wells.



More than 700\* wells have been fracture stimulated in the deep sandstone reservoirs of South Australia's Cooper Basin.



No fracture stimulation allowed outside the Cooper Basin without detailed assessment to inform stakeholders ahead of consultation.

# 45 Years

of fracture stimulation (fracking) in South Australia

# 0

Negative impacts identified



Water resources



Soil



Native vegetation and fauna



Landscape and heritage



Air quality



Health and wellbeing of people and enterprise

South Australia has a **BAN** on all oil, gas, geothermal energy and gas (including greenhouse) gas storage operations **UNTIL** potentially significant risks, risk mitigation strategies and residual risks are established and after **EFFECTIVE CONSULTATION** with potentially affected people, enterprises and organisations under **STATEMENTS OF ENVIRONMENTAL OBJECTIVES (SEOs)** resolve that operations- and region-specific risks are simultaneously reduced to as low as reasonably practical and meet community expectations for net outcomes

Thereafter, SEOs are approved and operators give **NOTICE OF ENTRY (NoE)** with sufficient project details to enable stakeholders to make informed decisions whether or not to object to land access.

Every potentially directly affected person, enterprise and organisation is given **NoE** can be a show-stopper with disputes resolved in court. **~14,500 NoEs since 2000 without a single instance of court proceedings**

# Key Conclusions

1. Huge potential in unconventional reservoirs in the Cooper.
2. Lucrative western flank oil play in the Cooper-Eromanga
3. Huge potential offshore Bight Basin.
4. The Roundtable for Oil & Gas Projects will expedite fit-for-purpose beneficial outcomes



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