

# Future Oil & Gas Resources For Australia

What is needed to make the resources economic?

NERA Workshop; 28 April 2016

Stephen Kelemen, Manager Unconventional Resources Growth

**Santos**  
We have the energy.



# NERA WORKSHOP

## Session 2 Agenda

What is needed to make the resources economic?

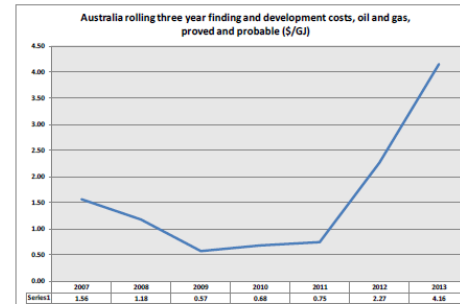


Production per well



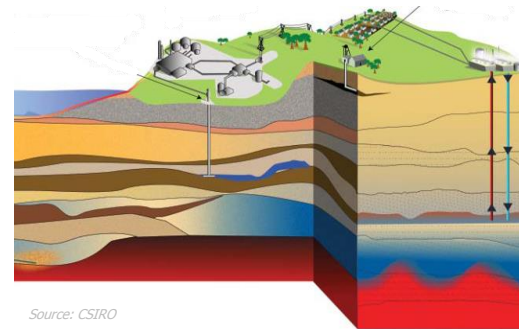
Multi-well Pads

Technology & Innovation



Source: ABS, EnergyQuest

Addressing Increasing Costs



Source: CSIRO

Community / Regulations

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## Production per well

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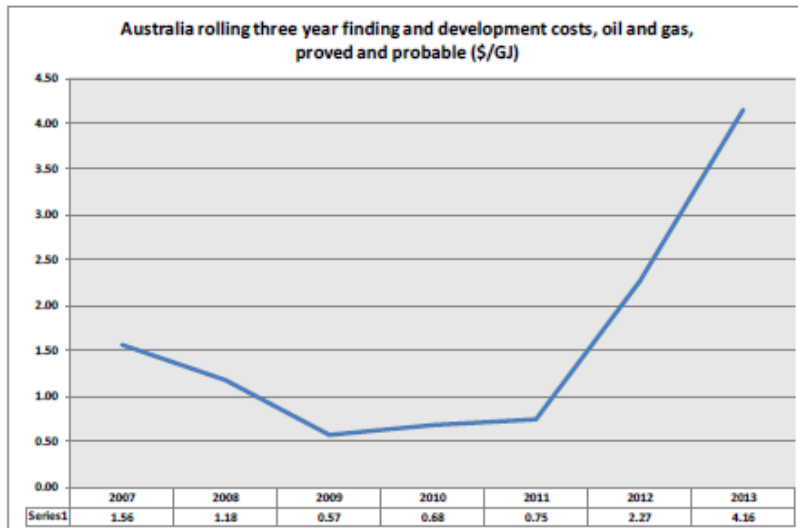
- › Maturing Basins
- › Tighter rock / deeper water
- › Smaller field sizes
- › Leaner composition

.....Optimising technology



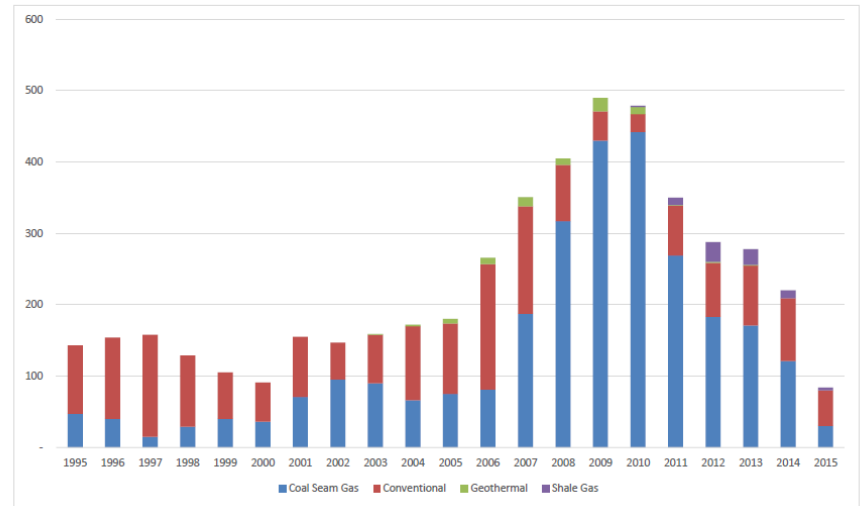
# Need to address increasing Costs

- › Increasing well costs
- › Higher finding costs
- › Decrease in exploration activity



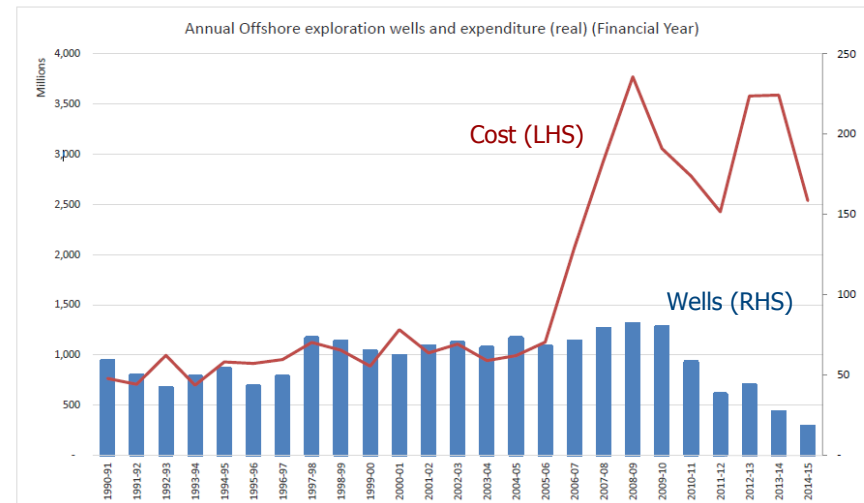
Source: ABS, EnergyQuest

Onshore Exploration wells by Resource  
(inc WA State Waters)



Source: APPEA

Offshore exploration wells



Source: APPEA, ABS



## Technology & Innovation

- › 3D seismic
- › Well stimulation
- › Stress regime
- › Tighter rock - CSG / Shale
- › Deeper water
- › Leaner hydrocarbons - GTL
- › Control / collaboration centres



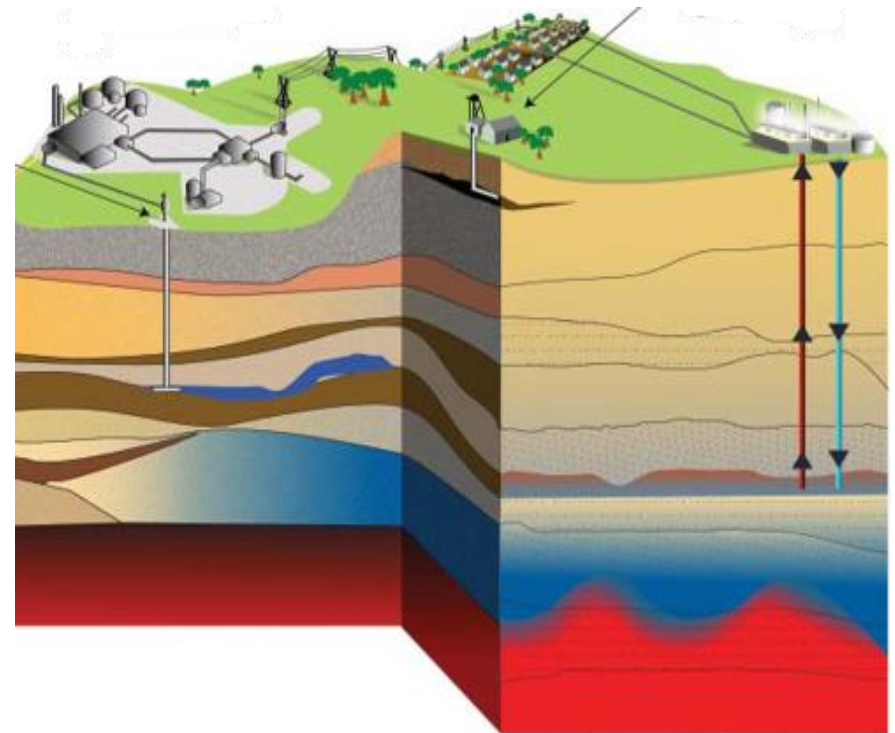
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## Community / Regulation

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Causes delays if not managed properly

- › Misinformation
- › Compensation
- › Regulatory approvals
- › Aquifers
- › Science versus assumption
- › Communication with community



Source: CSIRO

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TV writers have the answers?

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Star Trek 20 years ahead of its time

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Bright ideas and doing something different today ...



... becomes a reality tomorrow

Thank you for your time.