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action.®

ASX statement

13 December 2010

Attached is a presentation to be made this afternoon by AGL's Group General Manager Upstream Gas, Mike Moraza, to Citibank.



Paul McWilliams

Company Secretary



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The CSG Opportunity

Mike Moraza | December 2010 | AGL External

Coal seam gas in
Australia.



Coal seam gas (CSG)

- › Naturally occurring methane associated with coal
- › Generally 600-1,000m below ground
- › Minimal processing and is sold as natural gas
- › Abundant in eastern Australia:
 - » 81% of 2P gas reserves;
 - » 31% of gas sales, >90% of Queensland sales
- › ~3,000 drilled QLD CSG wells, estimated to grow to 25,000-30,000 wells over the next 20-30 years¹

1: see QLD govt website



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CSG – the economic benefit

- › Industry sources have estimated Australia's total in-ground CSG resources to be 150-250 trillion cubic feet
- › One trillion cubic feet of gas is considered to be enough to power a city of a million people for 20 years¹
- › Size of the resources + ever-increasing global energy demand = proposed development of a number of LNG export plants
- › Projects expected to generate
 - » 18,000 jobs
 - » Around \$1 billion additional state revenues each year²

1 : see appea website

2: see appea website

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CSG and the environment

- › Gas-fired power stations emit 50-70% less greenhouse gas emissions than existing coal-burning plants¹
- › Electricity generated from coal
 - › Australia (85%), China (80%), India (70%) ¹;
 - › LNG exports – a substitute for coal fired generation

1 : see appea website

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AGL's CSG projects

- > Camden
 - » Commenced 2001;
 - » 65 kilometres south-west of Sydney;
 - » Produces 6% of NSW's gas requirement
- > 3 CSG exploration projects:
 - » Hunter region;
 - » Gloucester basin;
 - » Galilee basin



Enclosed Camden Well

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Water management.



CSG and water

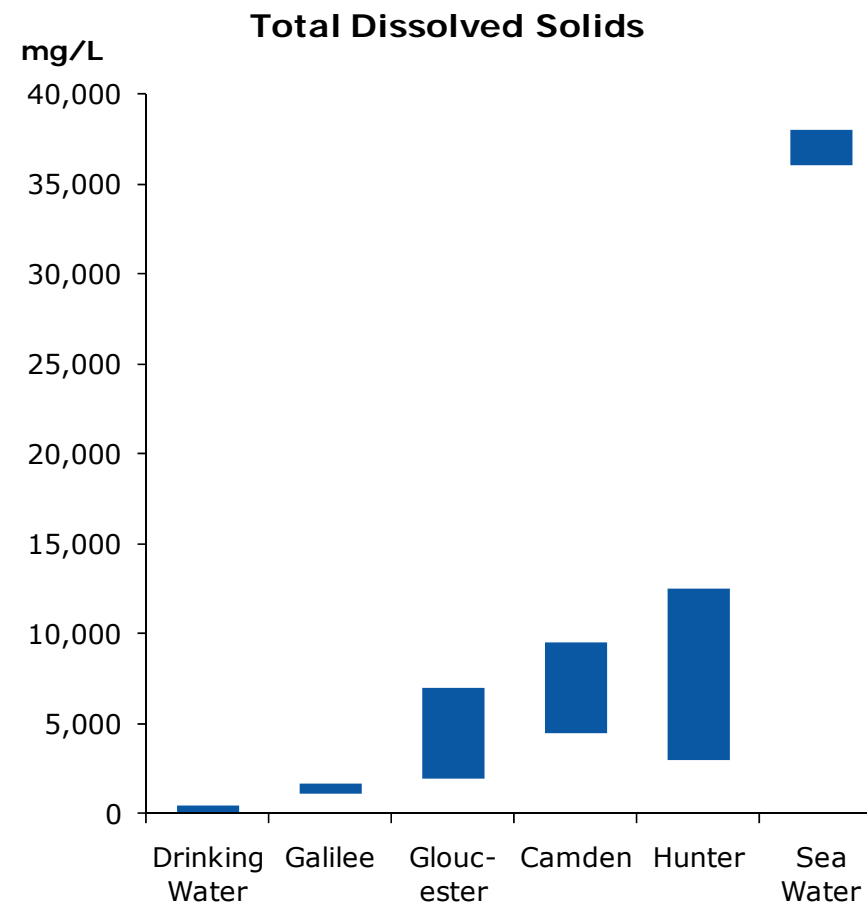
- > Highly regulated industry - at state and federal levels
- > Both the industry and AGL need to take a proactive and precautionary approach
- > AGL's CSG operations are managed so as to:
 - » Protect beneficial uses of shallow aquifers
 - » Minimise our footprint and fit with primary land use
- > AGL is undertaking research and is expanding its monitoring programs



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CSG and water

- > Water is an inevitable by-product of CSG production
- > Produced water volumes
 - » Low in the Sydney-Gunnedah basins (NSW);
 - » Higher in the Bowen-Surat-Galilee basins (QLD)
- > Beneficial reuse options being developed
- > Salinity values for:
 - » Good quality drinking water is less than 500 milligrams per litre (mg/L) (eg Sydney is ~80 mg/L);
 - » Sea water is 36,000-38,000 mg/L;
 - » CSG water is highly variable between basins – typically ranges between 1,000-15,000 mg/L



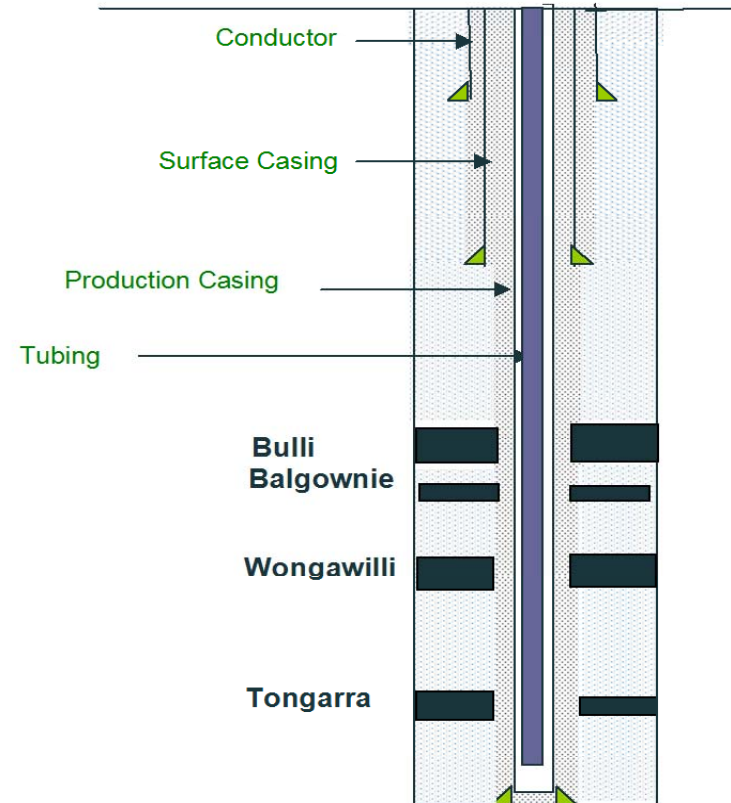
NOTE Water salinity is typically measured as the concentration of total dissolved solids (TDS)

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AGL's CSG operations and water

- > Every CSG well drilled by AGL has steel casing cemented in place, sealing it from any possible connectivity between shallow aquifers and water contained in coal seams
- > Typically, there are 100s of metres of impermeable rock between shallow aquifers and coal seams
- > AGL monitors the integrity of well completions to ensure there is no connection between upper aquifers and deep coal seams
- > No compromised gas well completions have been detected

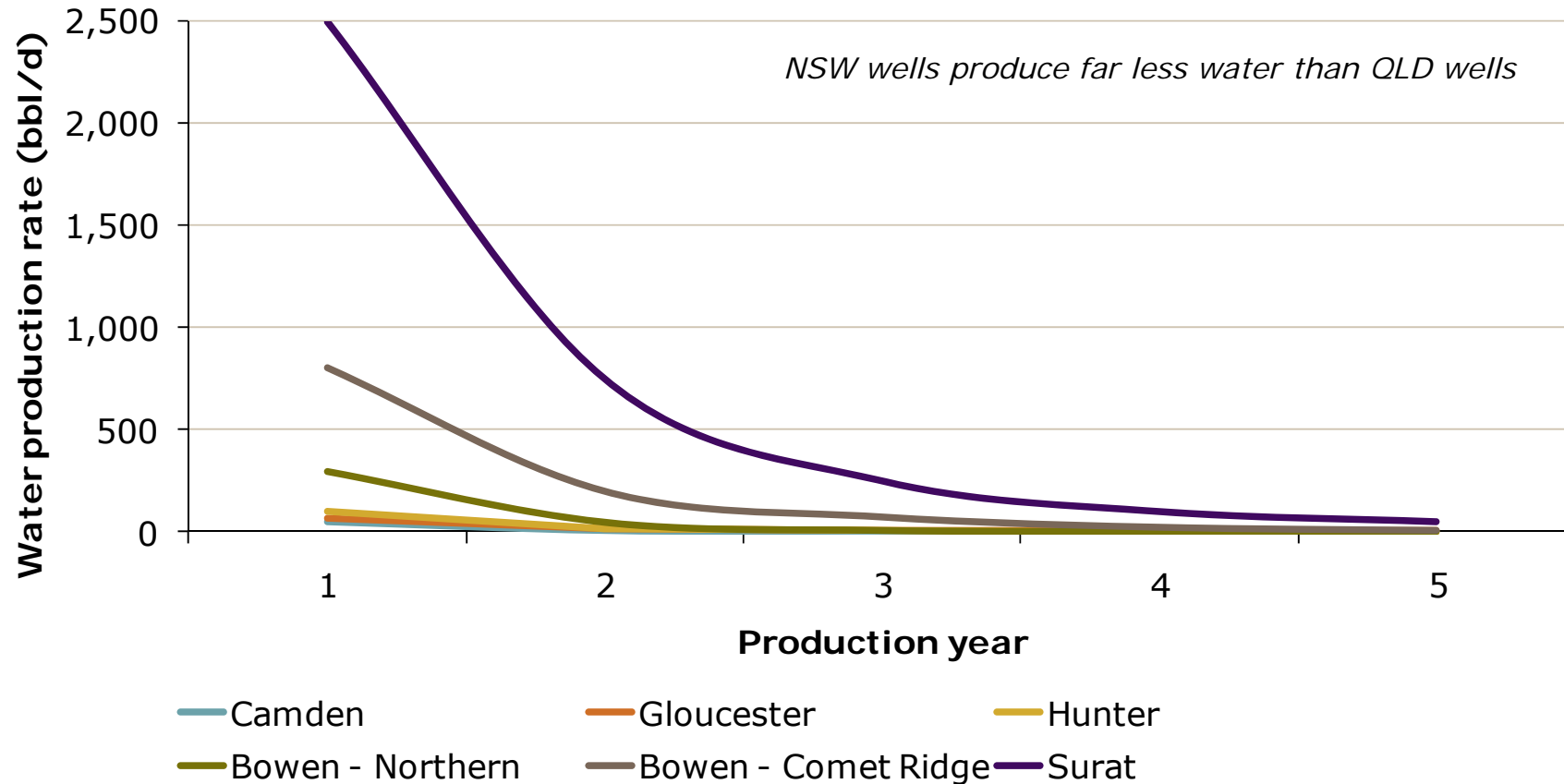


Typical Camden Well

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AGL's CSG operations and water

Dewatering type curves



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AGL's groundwater monitoring programs

- › AGL monitors to ensure there are no adverse impacts on water levels/water quality in shallow aquifers that are used by local water users
- › Different basins/geologies require a tailored approach because of the variable groundwater conditions
- › No adverse water impacts have been detected from tests performed



Case Study: AGL Hunter Gas Project groundwater investigation and monitoring report

Program objectives:

- > Provide more information on groundwater in the Broke area by determining whether the aquifers and deeper coal seams are connected (or not) at various depths;
- > Help the community understand what impacts, if any, there might be on local water supplies and groundwater as a result of gas exploration



Case Study: AGL Hunter Gas Project groundwater investigation and monitoring report

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- › Developed in consultation with members of the Bulga Community Consultative Committee;
- › Endorsed by the peer reviewer (Prof Garry Willgoose from Uni of Newcastle);
- › Methodology:
 - » Drilling and installation of water monitoring bores around gas exploration test wells;
 - » Sampling and analysing groundwater (baseline, during a flow test event and then post flow testing);
 - » Testing the permeability of different sediment and rock layers;
 - » Monitoring water levels and water quality;
 - » Age testing of shallow aquifer and coal seam water; and
 - » Reporting and peer review;
- › Conclusion: Gas exploration activities are considered to have negligible effect on the local productive alluvial and shallow bedrock groundwater supplies in the Broke area

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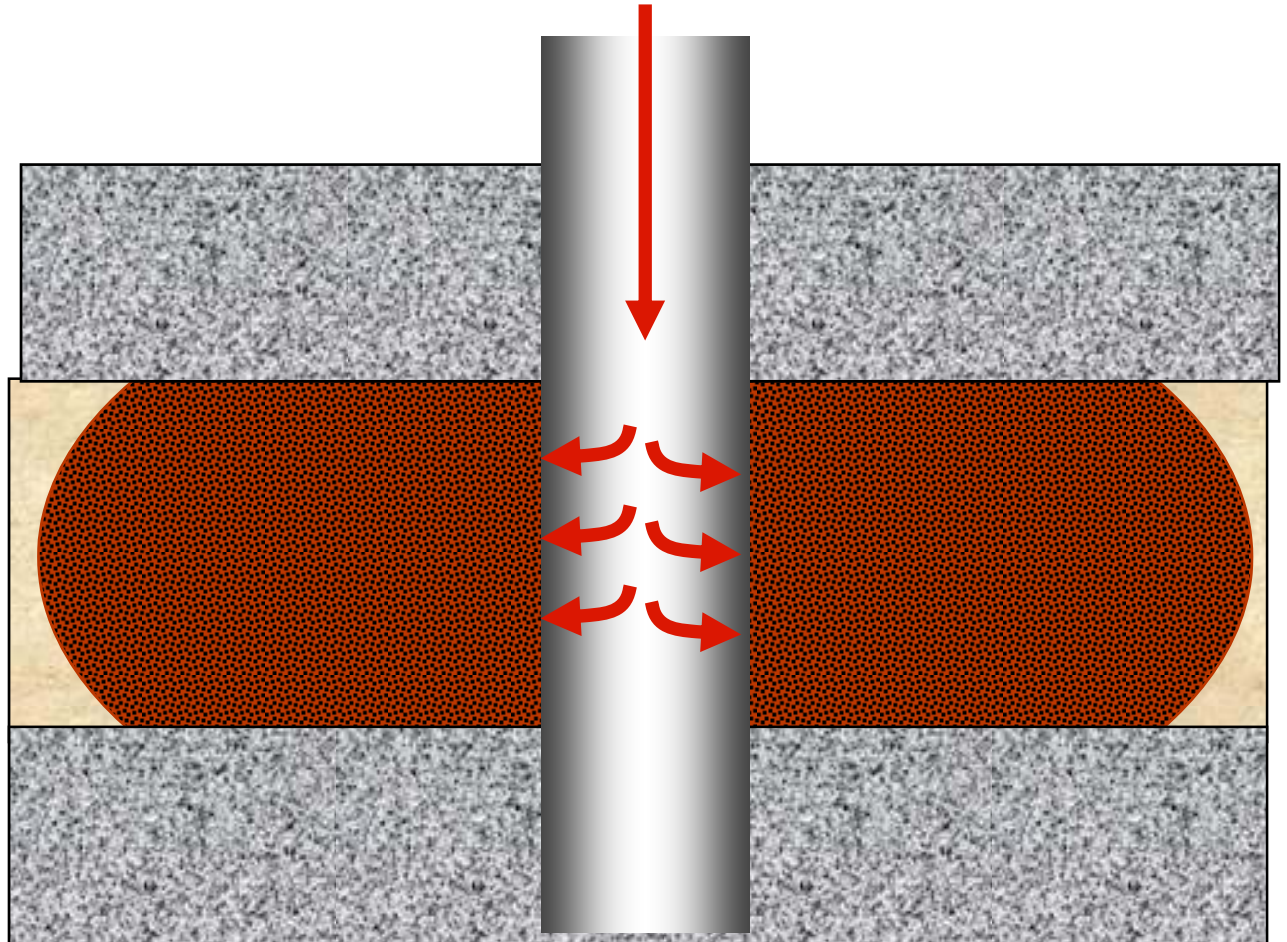


Fracture stimulation and
BTEX.



CSG hydraulic fracture stimulation

- > Technology used to increase the flow of gas
- > The process essentially is:
 - » Fluid is pumped into a formation through perforations
 - » Fracturing occurs on either side of the well
 - » Once fracturing is created sand is pumped in to hold open the 'frac'
 - » End result: a highly conductive flow path for CSG



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CSG fracture fluid additives

- › Water
- › Sand
- › Gelling agents (viscosifiers)
- › Crosslinkers
- › Surfactants (option)
- › Buffers
- › Breakers
- › Microbiocides
- › Nitrogen



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The fracture stimulation industry

- » There have been over 1 million treatments worldwide over the past 60 years
- » Zonal isolation is the key objective (cement, steel casing and proper procedures – which are all regulated by proper agencies)
- » Service companies strive to be good stewards of the environment:
 - » Strong HSE culture;
 - » Independent laboratory testing work underway to provide CSG producers a QA statement on full disclosure of chemicals used – No BTEX;
 - » Operating companies need to ensure they use products that are suitable to the reservoir and to the environment



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What is BTEX?

- » BTEX refers to the group of compounds: benzene, toluene, ethylbenzene, and xylene:
 - » Benzene is a volatile organic compound used in plastics, paints, dyes, and cosmetics;
 - » Toluene is used as a solvent for paints, oils;
 - » Ethylbenzene is mostly used in gasoline, pesticides;
 - » Xylene used in gasoline, solvent in printing, rubber
- » Naturally occurring components of hydrocarbons below ground;
- » Exposure to BTEX over sufficiently long periods may result in harmful effects to human health
- » BTEX chemicals are not used as part of the fracture stimulation process for CSG wells
- » At each of AGL's CSG exploration projects, AGL has a program to monitor groundwater for BTEX and no BTEX has been detected

Future industry
challenges.



Future Industry Challenges

- › Education
- › Increased costs of gas production
- › Increased regulation
- › Managing land use conflict
- › Managing by-products



**Ensign Rig 67 – ADR 200:
automated and silenced to work in a semi urban area**

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