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Upstream Gas Strategy Overview

Mike Moraza | Group General Manager Upstream Gas | October 2010

Presentation Agenda

- Upstream Gas Strategy Overview
  Mike Moraza, Group General Manager Upstream Gas
- Near Term Field Development Priorities
  Mike Roy, Head Gas Operations

  (Afternoon tea)
- Future Development Priorities
  Andrew Falkner, Head Exploration
- Gas Storage Business Opportunities
  Paul Ashby, General Manager Commercial & Finance
- Summary Q&A panel discussion

  (Drinks, Guest speaker)

Upstream Gas Strategy

Create significant value for AGL shareholders

- Targeting 2,000 PJ (2P) gas reserves for domestic market use
- Creating optionality for natural gas self supply
- Building skills and capabilities in exploration and production
- Management of future volume and price risk
- Future growth platform of high return investments

Gas Reserves Position

Significant growth in AGL's CSG gas reserves

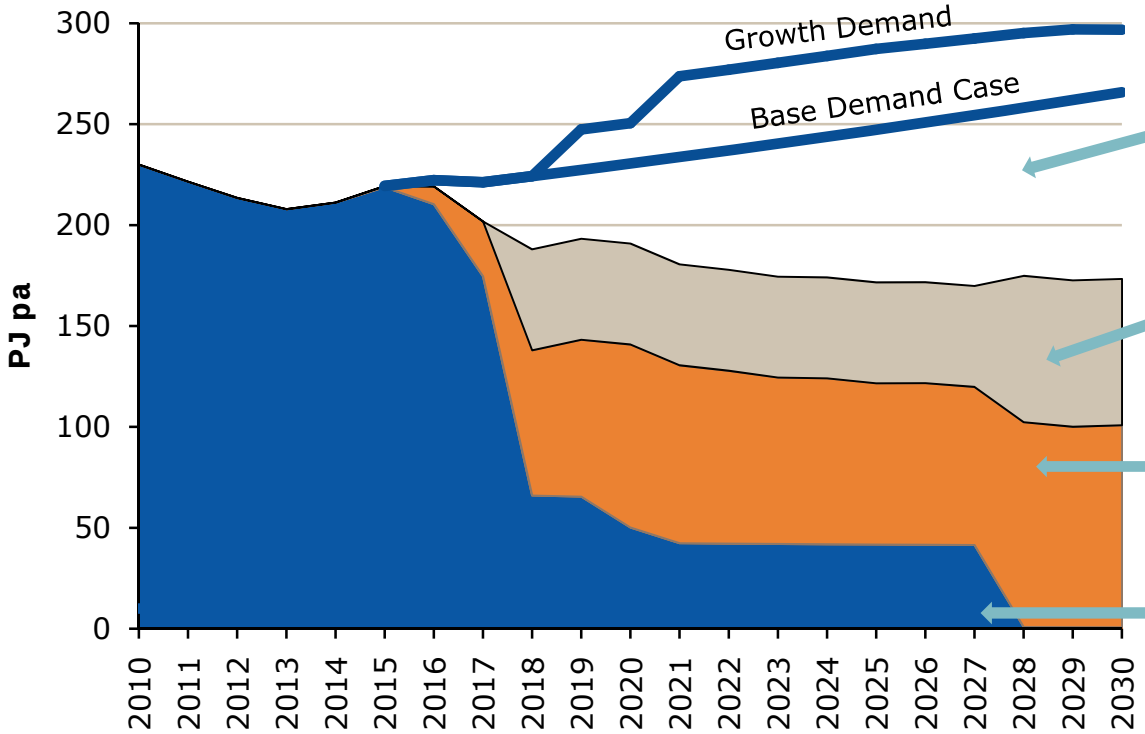
- Initial Hunter gas reserves booked
- 2P reserves at Gloucester increased by 58% at mid-year
- Total 2P CSG reserves entitlement has increased by 31%

AGL share of CSG reserves	As at 30 Sep 10		As at 30 Jun 10		As at 31 Dec 09	
PJ	**2P**	**3P**	**2P**	**3P**	**2P**	**3P**
Gloucester (100%)	**669**	**832**	669	832	423	630
Moranbah (50%)	**499**	**1,020**	501	1,022	506	1,027
Camden (100%)	**153**	**199**	154	201	126	170
Hunter (100%)	**142**	**271**	-	-	-	-
Spring Gully (various, small)	**8**	**10**	8	10	7	9
Sub-Total	**1,471**	**2,332**	1,332	2,065	1,062	1,836
ATP 364P back-in rights (50%)*	**246**	**1,307**	246	1,307	246	1,307
Total	**1,717**	**3,639**	1,578	3,372	1,308	3,143

* Under a 50-year project agreement that commenced in 2000, AGL has no effective exploration rights (or ongoing cost obligations) within exploration tenement ATP 364P as these were assigned to Arrow Energy Limited. However, AGL is entitled to participate up to a 50% interest in any commercial development by contributing its share of past costs. Past costs are anticipated to be less than $0.05/GJ.

AGL's Long Term Gas Supply Strategy

Flexible and competitive



Supply Optionality
- additional equity gas production
- additional gas contracting

New wholesale gas contracts
- contract extensions
- potential new gas suppliers

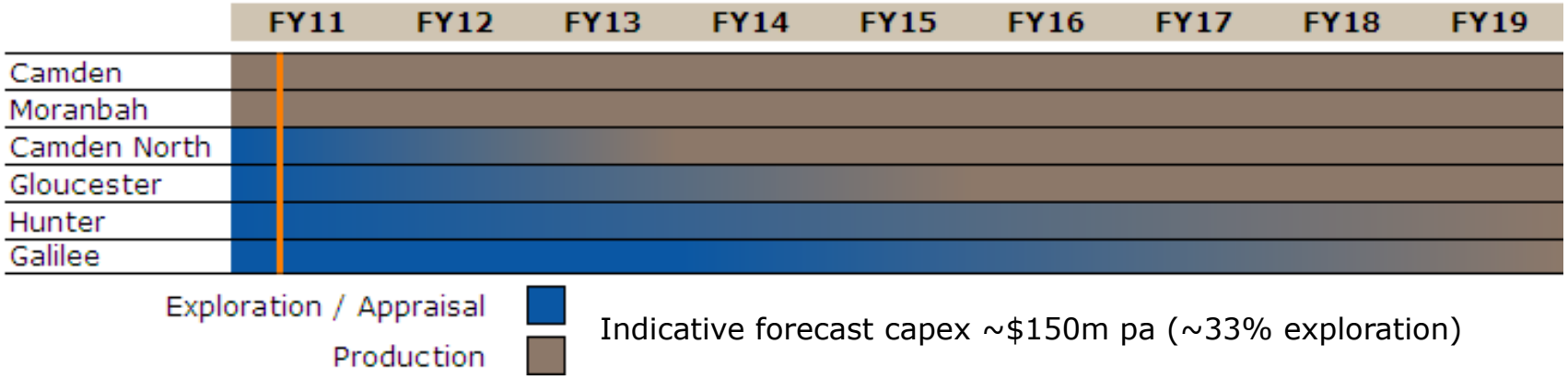
Equity gas projects
- known cost of gas production
- timing and spend to suit portfolio

Existing wholesale gas portfolio
- flexible and competitive contracts
- reliable creditworthy suppliers

Project development schedule

Schedule driven by portfolio and market needs

- allow a realistic exploration and appraisal lead time;
- provide adequate time for reserves certification;
- ensure prudent and measured personnel and investment allocation;
- timing to ensure sales can meet AGL's gas portfolio requirements and growth aspirations.



Indicative forecast capex ~$150m pa (~33% exploration)

Moranbah ATP364P Update

Future growth in the Bowen Basin

- Arrow operated assets
- Gas supplied to Yabulu CCGT, QNI, Dyno Nobel and CRL
- Activities ramping up following Shell/ PetroChina acquisition
- Reserves growth targeted at LNG export project

Value creation drivers

Prudent acquisitions and exploration success drive value creation

- Low risk, targeted exploration driving organic reserves growth
- High level of control in permits and joint ventures
  - mostly 100% owned and/ or operated by AGL
- Gas reserves position close to markets
  - entire NSW gas portfolio is near market
- Investment phased to enhance AGL's EBIT/ FE
- Prudent control of capex and opex costs







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Near-team Field Development Priorities

Mike Roy | Head of Gas Operations | October 2010

Overview - NSW Projects

Camden Gas Project

- In development phase since 2001
- Produced in excess of 25 PJ gas for the Sydney market

Gloucester Gas Project

- Exploration phase is nearing completion
- Final Project Application submitted, awaiting *Conditions of Consent*
- Gas reserves recently upgraded by 58% to 669 PJ (2P)

Camden Gas Project

Camden: Overview

A valuable starting point

Commenced production in May 2001.

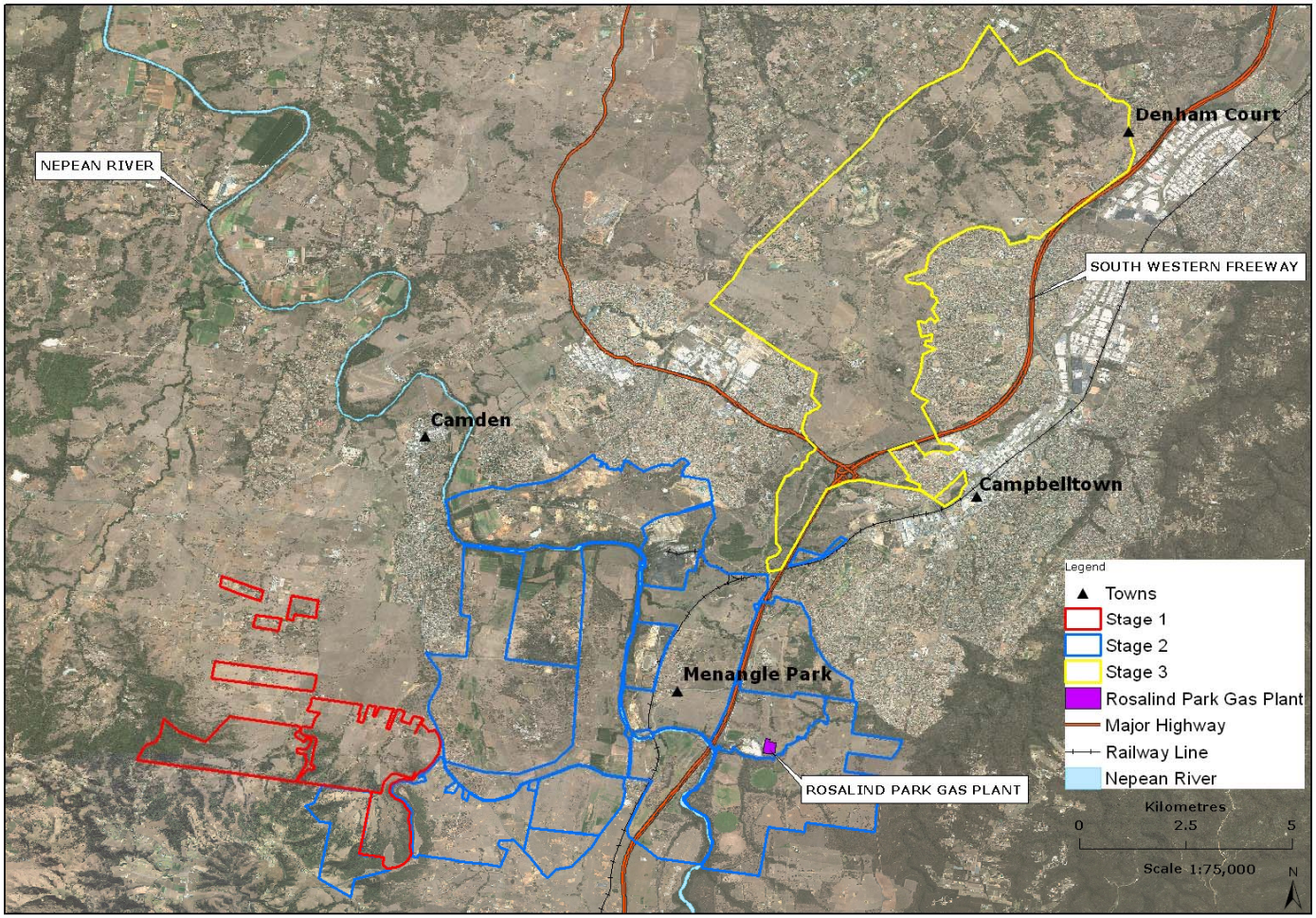
- Strategic position – next to one of largest gas markets in Australia
  - Located in a semi-urban area
  - Successfully co-existing with land owners and local councils
  - Strong level of community engagement and support
- Geology and reservoir risks well understood
- Over 100 wells drilled
  - 77 wells connected and producing
  - 57 wells - vertical fractured
  - 20 wells - horizontal wells
- 120 km of low pressure gas pipeline network installed
- Gas reserves 154 PJ (2P) as at 30 June 2010

Camden: Overview

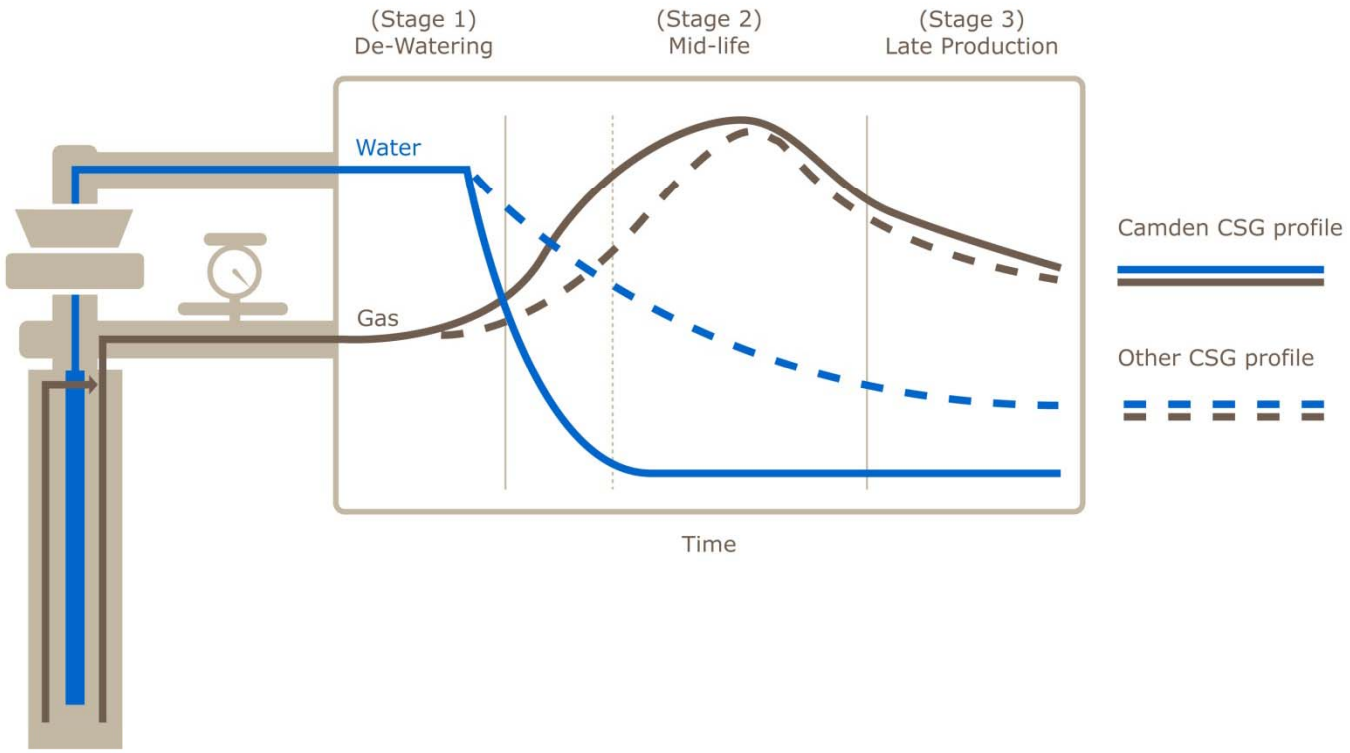
Potential to expand production.

- Rosalind Park gas plant
  - Currently producing ~ 17 TJ/d
  - Existing configuration can expand to ~ 27 TJ/d
- Second coal seam now being targeted (Balgownie)
- Modification to gas plant configuration with infield nodal compression will increase production to ~ 39 TJ/d
  - Would represent ~11% of NSW annual gas consumption

Camden: Development plan



Camden: Well production profile



- Water is pumped to decrease pressure for producing gas
- Water production at Camden is about one tenth that of some Qld CSG assets

Camden: Development priorities

Focussing on production expansion

- Continuous drilling program, drilling horizontal wells
  - 3 to 5 weeks per well depending on single or dual lateral
- Additional core and stratigraphical wells completed September 2010
  - Gas composition, perm testing and gas content confirmed
- 2 well production pilot drilling at Camden North planned
  - Horizontal wells to test Bulli and Balgownie coal seams
- Planned infield nodal compression to bring gas in from Camden North
  - Expected to boost production to ~ 39 TJ/d

Camden: Horizontal drilling

Accessing potentially stranded reserves

- Dewatering of horizontal wells without the vertical intersect has proved challenging
- Completion techniques deployed that reduce technical risks
- Major advantages:
  - Reduced land access
  - Reduced capex
  - More reserves captured per well

Camden: Horizontal drilling

Dedicated rig secured

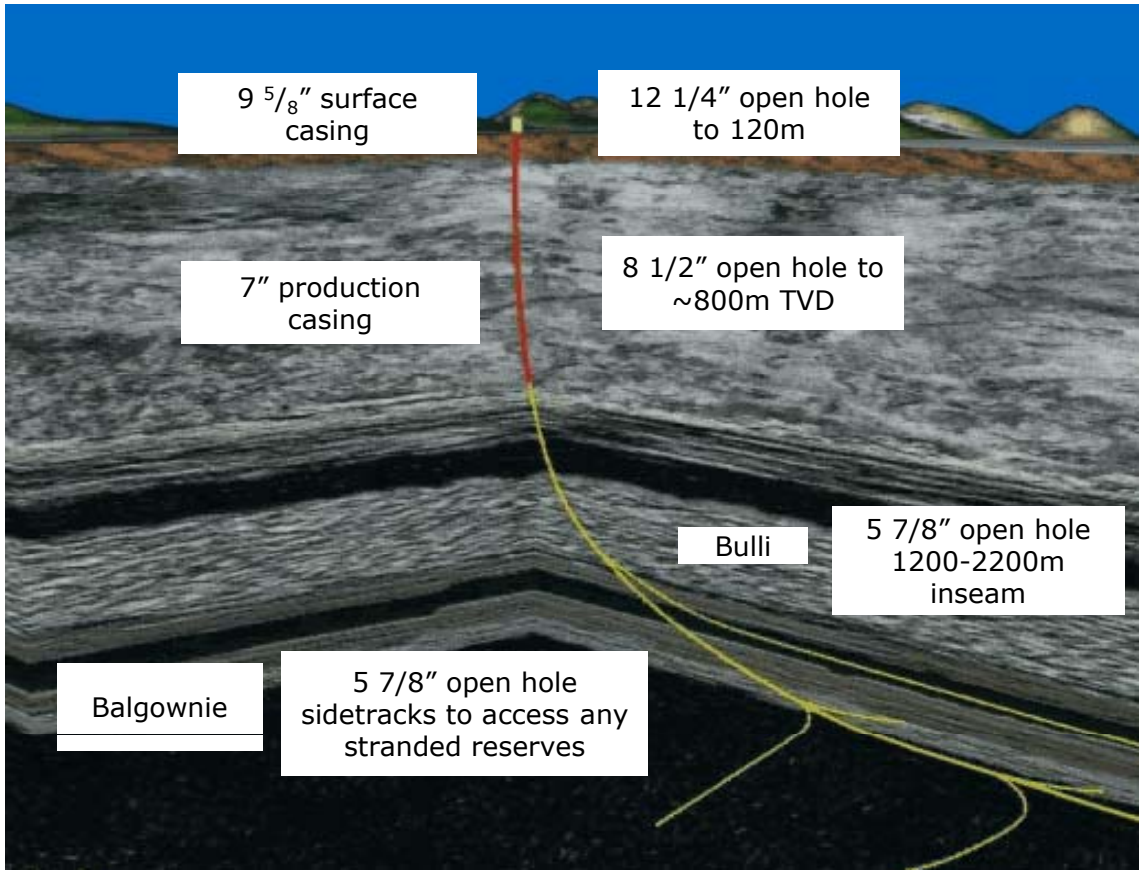
- 20 wells now drilled horizontally without the requirement for a vertical intersect well.
  - 1400 to 2100m in-seam
  - Targeting 2 seams from the one build well when the 2nd seam is greater than 2m in net thickness
  - Multiple wells from a single pad (as many as 6 wells from one pad)

Camden: Horizontal drilling

Enhanced drilling techniques for semi rural and populated areas

Camden: Horizontal drilling

Wells designed to maximise gas recovery



AGL Well Design

Hole size 12 $^{1}/_{4}$, casing size 9 $^{5}/_{8}$"

Hole size 8 $^{1}/_{2}$", casing size 7"

Open hole 5 $^{7}/_{8}$" inseam sections through target coal seams

Camden: Gas production facility

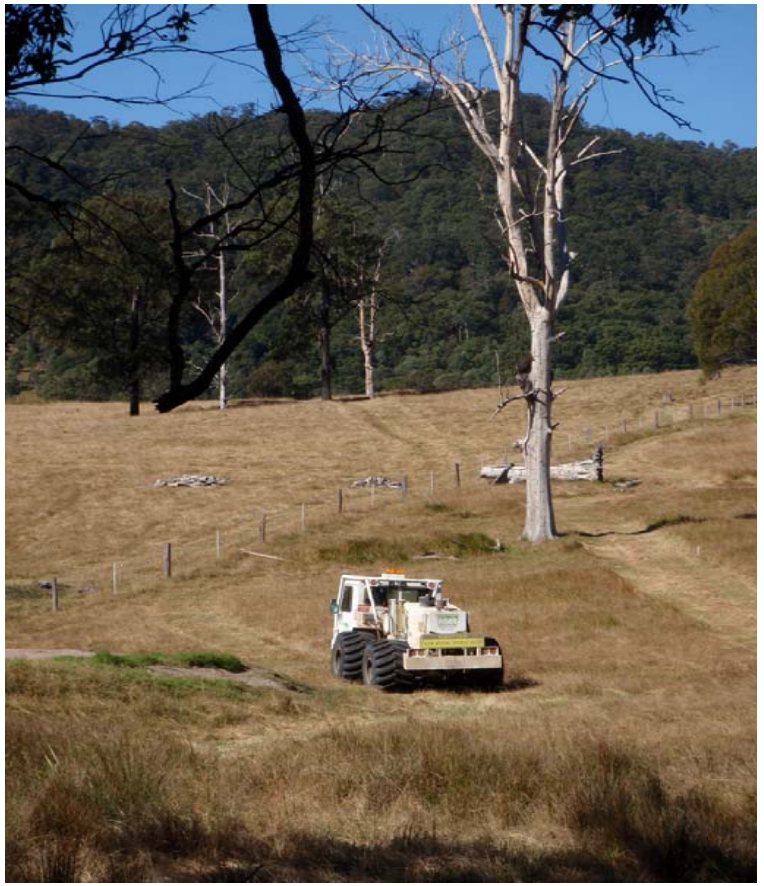
Site selection minimises visual impact and noise on local community

Gloucester Gas Project

Gloucester: Overview

Developing a commercially viable project.

- Exploration activity in 2010:
  - Five cored wells;
  - Three stratigraphic wells;
  - 2D seismic acquisition (72 km);
  - 3D seismic acquisition (50 km^2).
- 12 Production test wells drilled and tested
- Substantial increase in 2P reserves
  - 669 PJ up from 423 PJ (+58%).



Gloucester: Development priorities

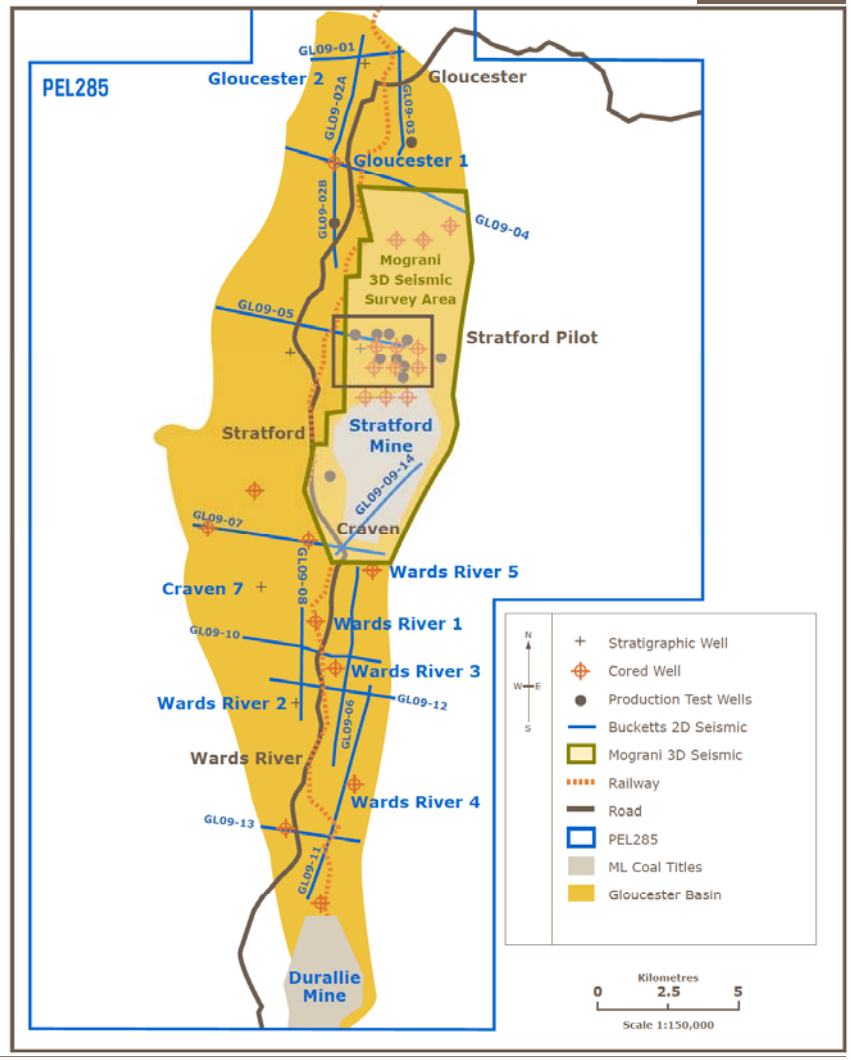
Focus on expanding reserves and securing project approval

- Project de-risked with comprehensive 3D seismic and exploration program
- Investigate fracture stimulation optimisation for multiple zone completions
- Future Field Development Planning
  - Identify drill rigs for area and technical challenges
  - Fracture stimulation optimisation for multiple zone completions
  - Compressor location and facility designs
  - Pipeline route (96km) clearly defined and land access approved for >70%
- Secure development approval in 2011

Gloucester: Development program

De-risking project development

- Complete 3D seismic interpretation
- Undertake hydrogeology study
- Cooperation agreements with overlapping coal tenure holders
- Develop completion strategy
  - Cased and fracced wells
  - Barefoot underream wells



Gloucester: Vertical drilling and fracturing

Fracture stimulation technology enhances production in multiple coal seams

- About 12 producing coal seams at depths from 200m to 1000m
- Production rates up to 1.4 TJ/d tested

Internal Services Group

Internal Services Group

Developing strategic internal capabilities

- AGL operate an in-house field services function to support field development activities
- An independent service capability is critical given CSG industry growth
- Functions include workover rig, automated pipe handling system, well cementing, water tankers, slick-line
- Delivers a reduction in development capex and opex costs

Summary

Camden

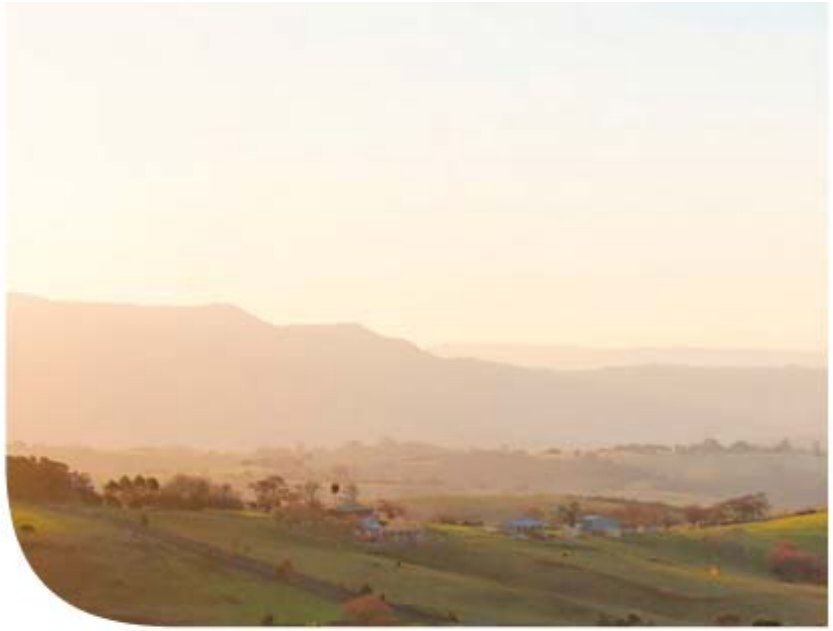
- Operating successfully in a semi-urban area for 10 years in compliance with regulatory conditions and minimal disturbance to the local communities
- Good relationship with local Councils, Landholders and Landcom with active involvement in the Community Consultative Committee
- Strategic location, within the Sydney gas market

Gloucester

- Geology and risks are well understood and technical data from seismic will enable to drill in high production areas
- Excellent community relationship with local AGL employees actively involved in the early development phase of this asset
- Development Consent imminent

Internal Services Group

- Internal capability reduces reliance on service industry and reduces cost



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Future Development Priorities

Andrew Falkner | Head of Exploration | October 2010

Exploration portfolio

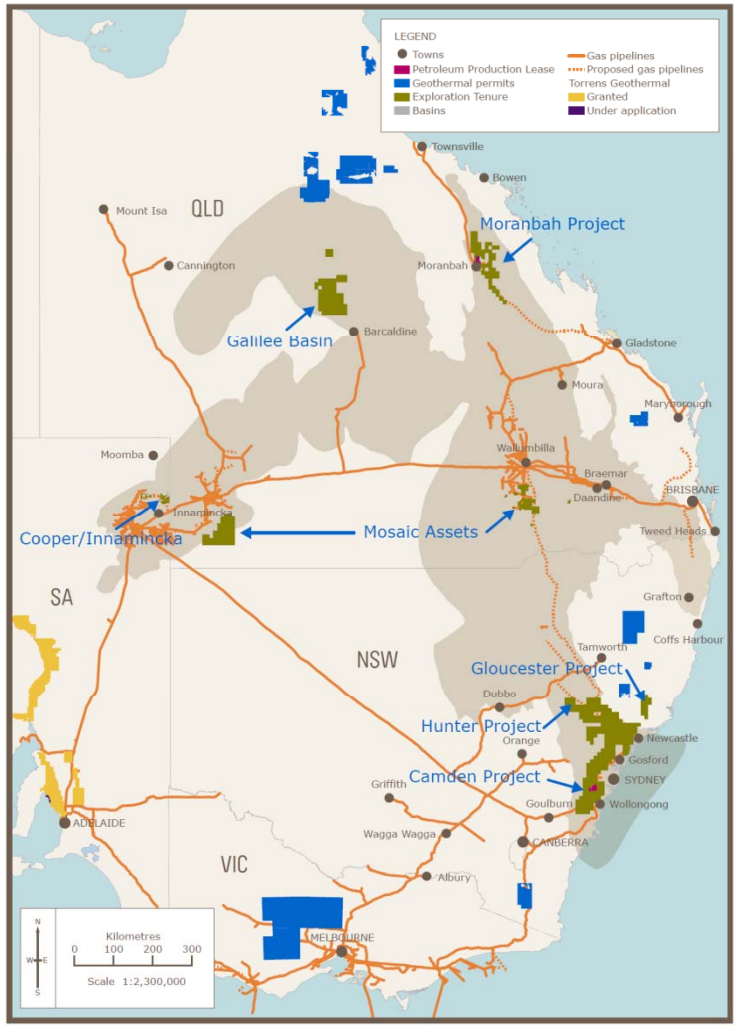
Diverse portfolio of assets

- Coal seam gas (CSG)
- Conventional petroleum
  - Gas
  - Condensate and LPG
  - Crude oil
- Geothermal
  - Hot dry rocks (HDR)
  - Conventional magmatic

Exploration portfolio

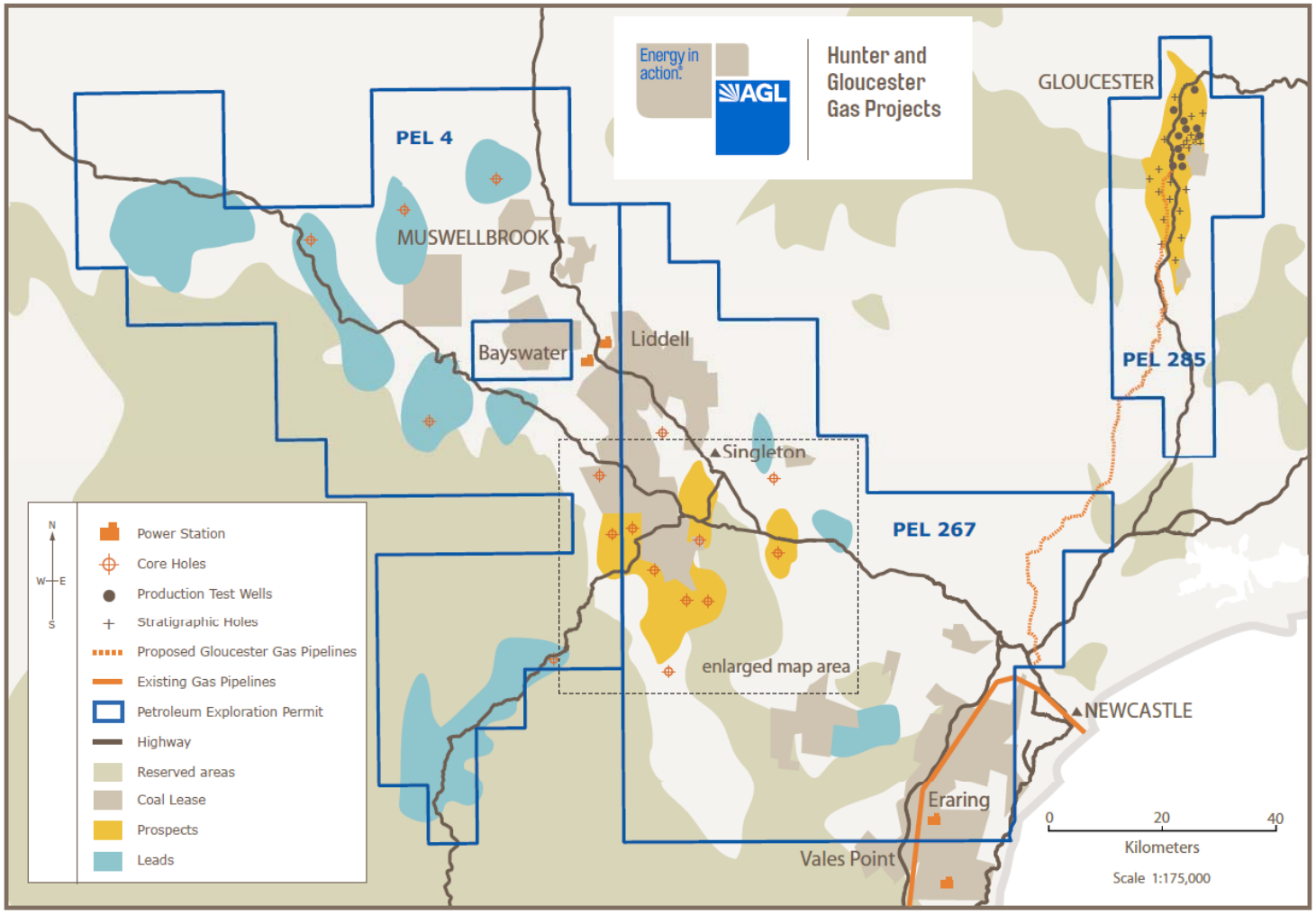
Extensive experience across multiple basins

- Eastern Australia onshore focus near core markets
- Close to infrastructure
- Sydney, Surat, Bowen, Galilee, Cooper Eromanga Basin permits
- Geothermal permits and 10% stake in TEY



Hunter CSG Project

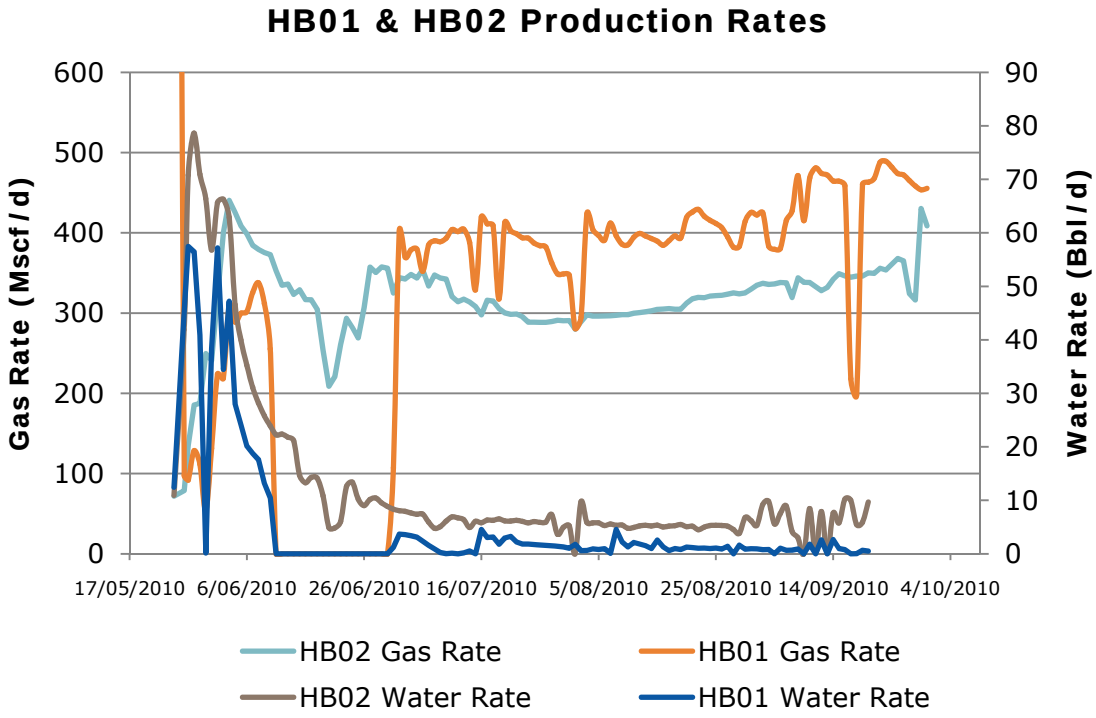
Hunter: Strategically located



Hunter: HB1 & HB2 Pilot production testing

Gas flows confirmed and reserves booked

- Hydrogeological study confirmed aquifer isolation and integrity
- Testing commenced late May
- Gas flow at both wells seen within days of pumping
- Flows from less than half of potential productive zones
- Water rates are low and comparable with Camden



Hunter: Initial reserve assessment

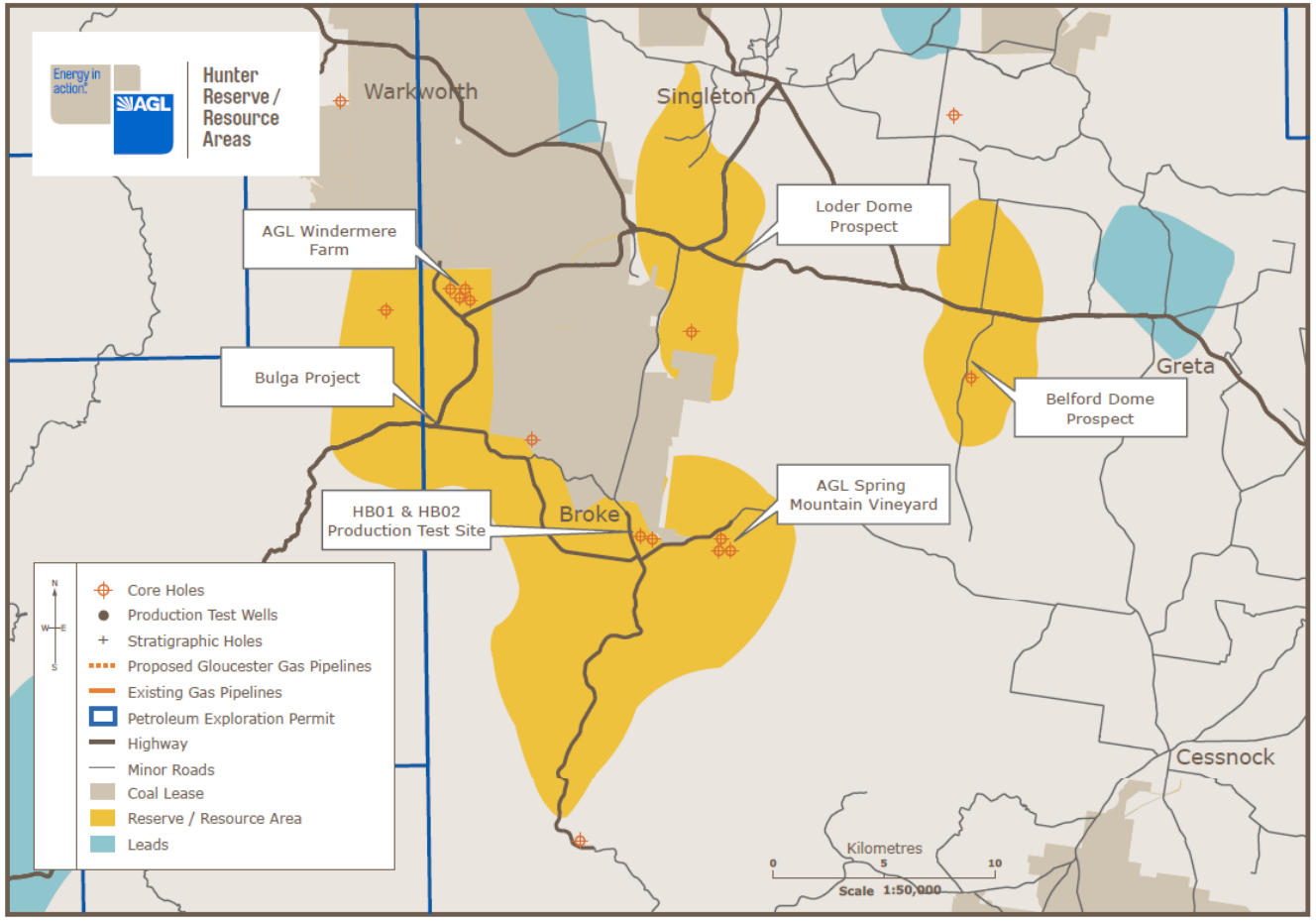
Small footprint delivers encouraging reserves

Bulga gas prospect reserves and resources estimates
(as at 30 September 2010)

- 142 PJ (2P)
- 271 PJ (3P)

Bulga, Loder and Belford prospects 2P reserves target

- 450-500 PJ



Hunter: Development program

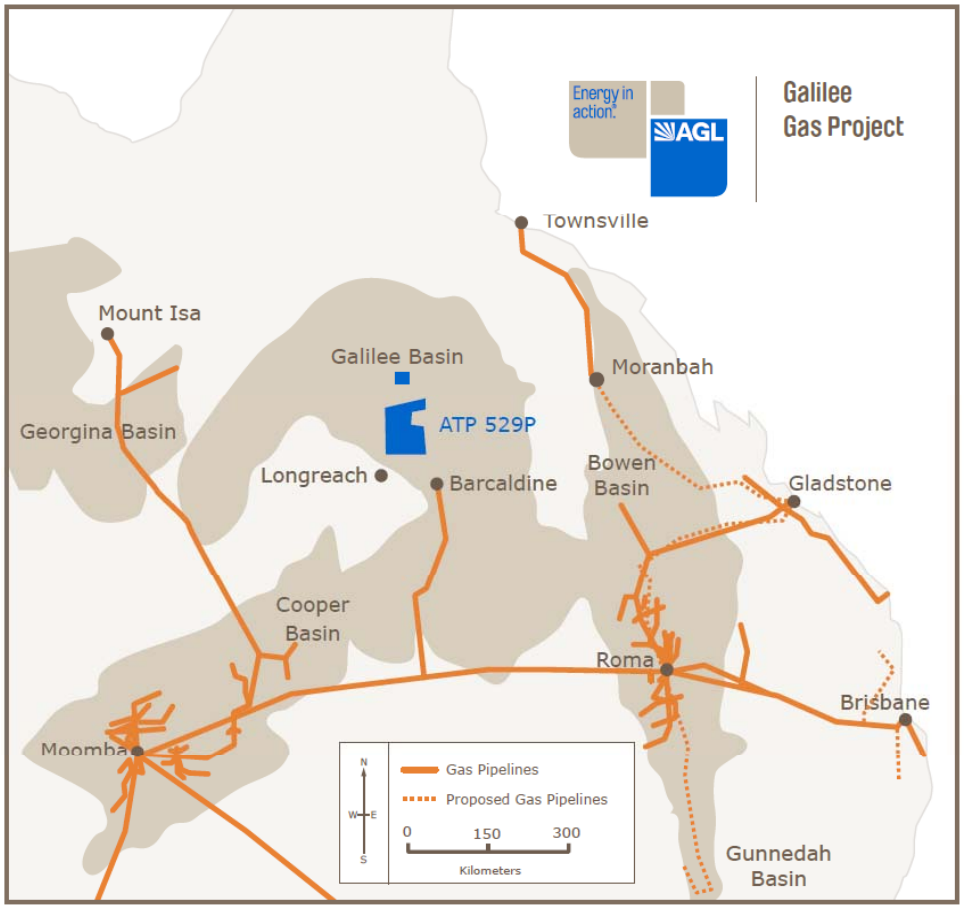
Prove additional reserves and delineate resource

- Continue exploration and appraisal drilling program
- Investigate beneficial use of produced water
- Upgrade reserves
- Hunter field development may comprise a number of smaller *pods* of wells across delineated prospects.

Galilee Project

Galilee: Location and key infrastructure

› Potential access to Mt Isa, Qld coast and southern Australia markets



Galilee: Farm-in program

AGL achievements:

Pilot project well advanced

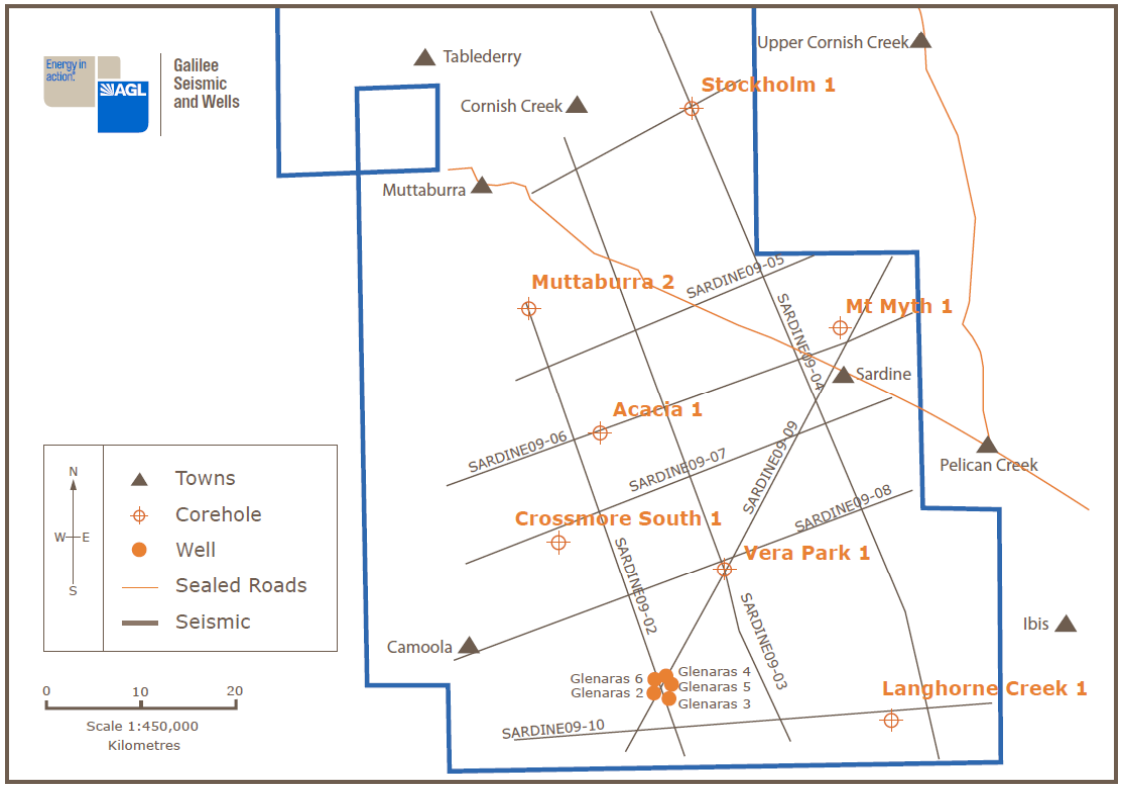
- Drilled, completed and currently testing a 5 spot production pilot at Glenaras
- Commissioned 350 ML holding pond for produced water
- Acquired 540 km of 2D seismic
- Drilled and tested 7 core wells

Galilee: Work program

Pilot design addresses reservoir risk

Galilee resource features:

- High water make from adjacent aquifers;
- High reservoir temperatures;
- Undersaturated reservoirs.
- Glenaras pilot designed to address risks:
- Closely spaced 5 spot wells;
- Upper aquifer section cased;
- 3 fracced and 2 barefoot completions.



Summary

Diverse portfolio of valuable exploration acreage

- Eastern Australia onshore focus near core markets
- Targeted locations close to electricity and gas infrastructure provides access to market
- Experience across multiple oil and gas basins
- Geothermal permits to identify future sources of renewable energy







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Gas Storage Opportunities

Paul Ashby | General Manager Commercial & Finance | October 2010

Strategic rationale

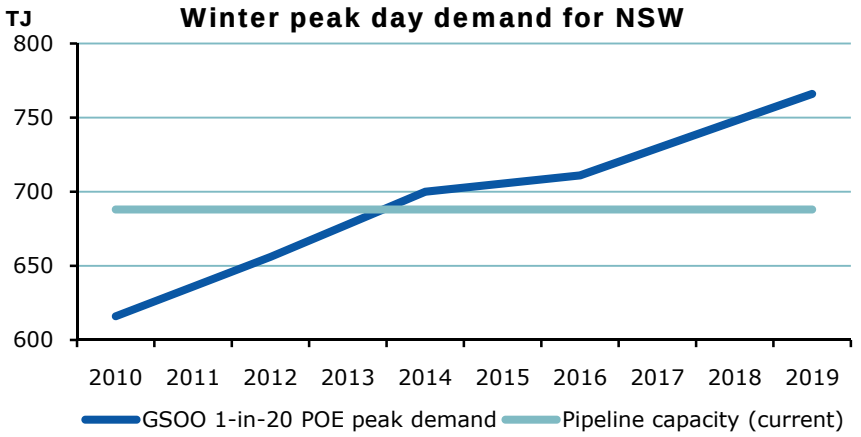
Infrastructure bottlenecks creating a new business opportunity

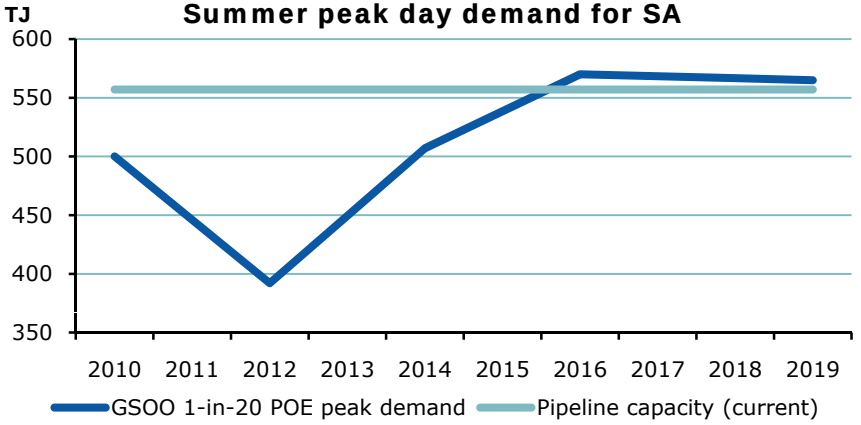
- Infrastructure supply bottlenecks imminent
- Management of peak gas demand (daily and hourly):
  - Peak supply during high demand
  - Supports development of peaking power stations
  - Short Term Trading Market (STTM)
  - Emergency supply
- Supplement AGL's CSG developments
- Diesel substitution for heavy vehicle transport and remote generation

Peak gas demand and supply

NSW pipeline constraints expected by 2014

- AEMO forecasts based on a 1-in-20 probability of exceedence (POE):
  - NSW peak winter gas demand will exceed pipeline capacity by 2014
  - SA peak summer gas demand will exceed pipeline capacity by 2016



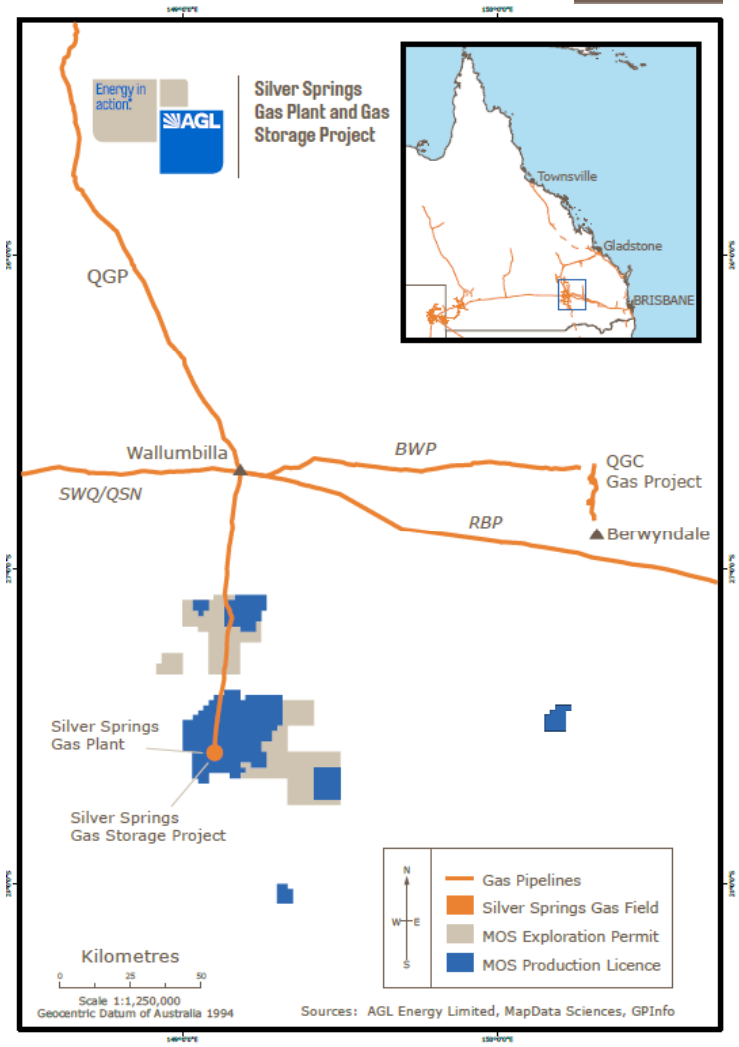


Source: AEMO 2009 Gas Statement of Opportunities

Silver Springs Gas Storage Project

Underground gas storage business opportunity

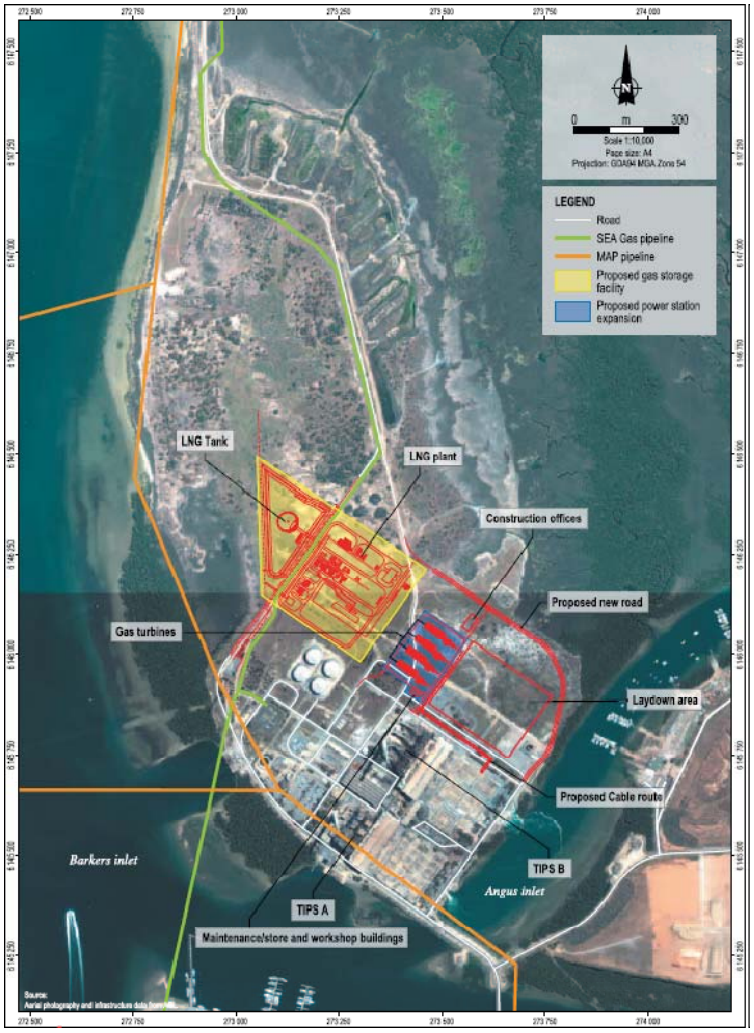
- Mosaic's fields ideally located to Wallumbilla gas hub
- Project well advanced
- Execution utilising in-house expertise
- Underpinned by QGC/BG agreement:
  - 7-year contract
  - Initial storage capacity 35 PJ
  - Operational by mid 2011



Torrens Island Energy Park

Ideal location adjacent to TIPS

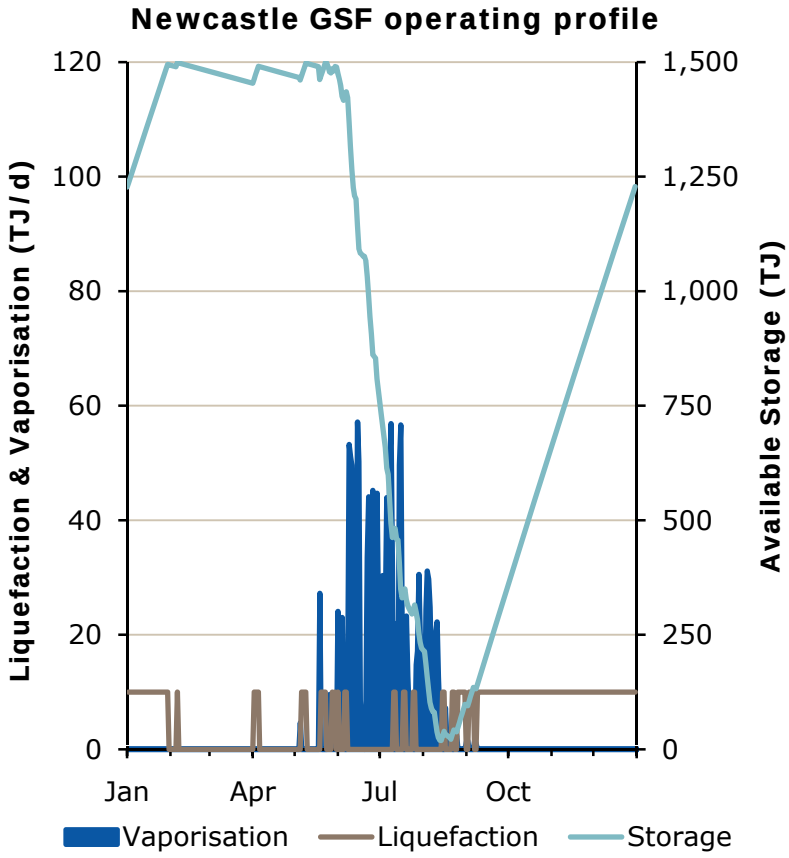
- Scope:
  - LNG gas storage facility
  - ~700 MW gas peaking power generation
- Development Application:
  - Lodged with SA Government
  - Draft conditions received
  - Anticipate consents by end of year



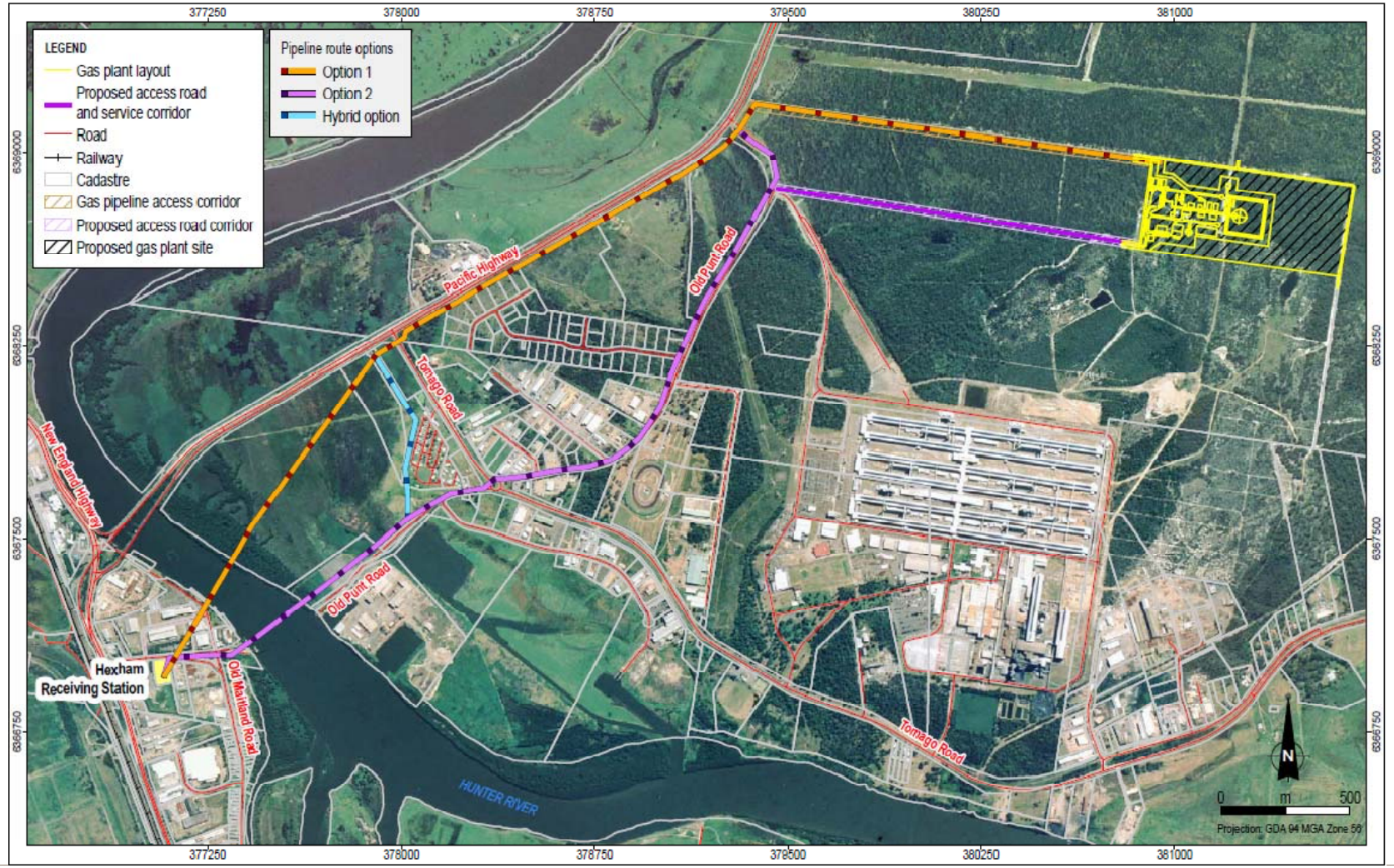
Newcastle Gas Storage Facility (GSF)

Significant potential investment in core market

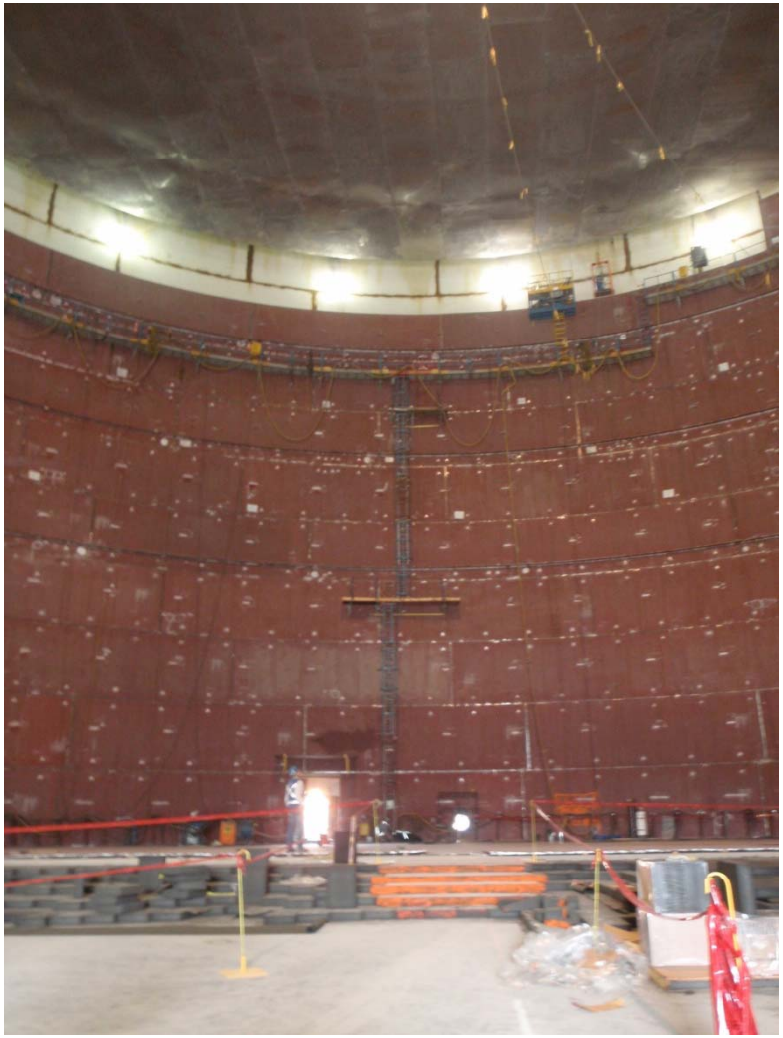
- Scope:
  - Liquefaction rate 10 TJ/d
  - Vaporisation rate 120 TJ/d (5 TJ/h)
  - LNG tank capacity 1.5 PJ
- Capex ~$300m:
  - Fixed price EPC contract
  - Two globally experienced EPC contractors working on competitive bids



Newcastle GSF location



Example: Terasen Gas, Vancouver Island



Shown with the permission of Terasen Gas and CB&I (EPC contractor)

Newcastle GSF value equation

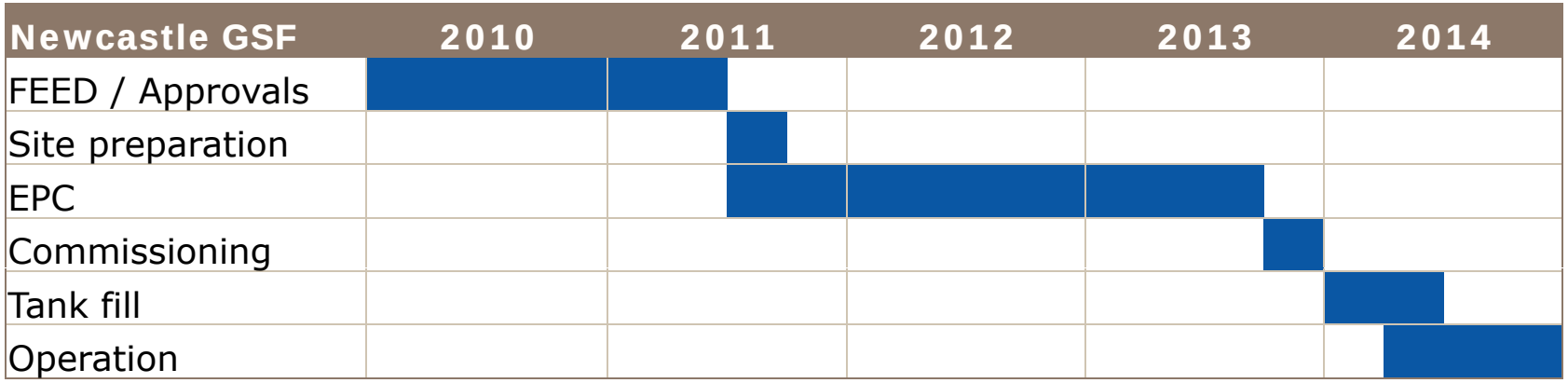
Cost avoidance, risk minimisation and market opportunities

- Examples of avoided costs of standard services (MDQ and haulage):
  - TRU Iona storage: $160-240/GJ pa of MDQ (values 120 TJ/d at $19.2-28.8m pa)
  - Jemena EGP: $1.12/GJ haulage (values 120 TJ/d at $49.1m pa)
- STTM and emergency supply:
  - STTM price cap: $400/GJ (values 1 day's gas injection [120 TJ] at $48m)
    - Price was $390/GJ on 8 October
  - STTM administered market price: $40/GJ (values full tank [1.5 PJ] at $60m)
  - Other cost avoidance and risk management opportunities
- Fast start supply for back up of gas peaking power generation
- Synergy with AGL CSG developments: Gloucester and Hunter
- Diesel fuel substitution market is an emerging business

Newcastle GSF project milestones

Final investment decision subject to government approvals

- Land secured: July 2010
- Project Application on NSW Govt website: October 2010
- Environmental Assessment on exhibition: February 2011
- Investment decision 2Q 2011
- Facility operational: winter 2014



Summary

- Gas storage is a significant new business opportunity for AGL
- Diversify exposure to upstream and pipeline constraints
- Prudentially manage market risk and avoid rising costs
- Support AGL's upstream gas and power generation developments
- Potential first mover advantage in core markets
- Leverage AGL's position as Australia's largest gas supplier