

# Narrabri Gas Project State Significant Development Application and Environmental Impact Statement

Presentation to the Narrabri CCC

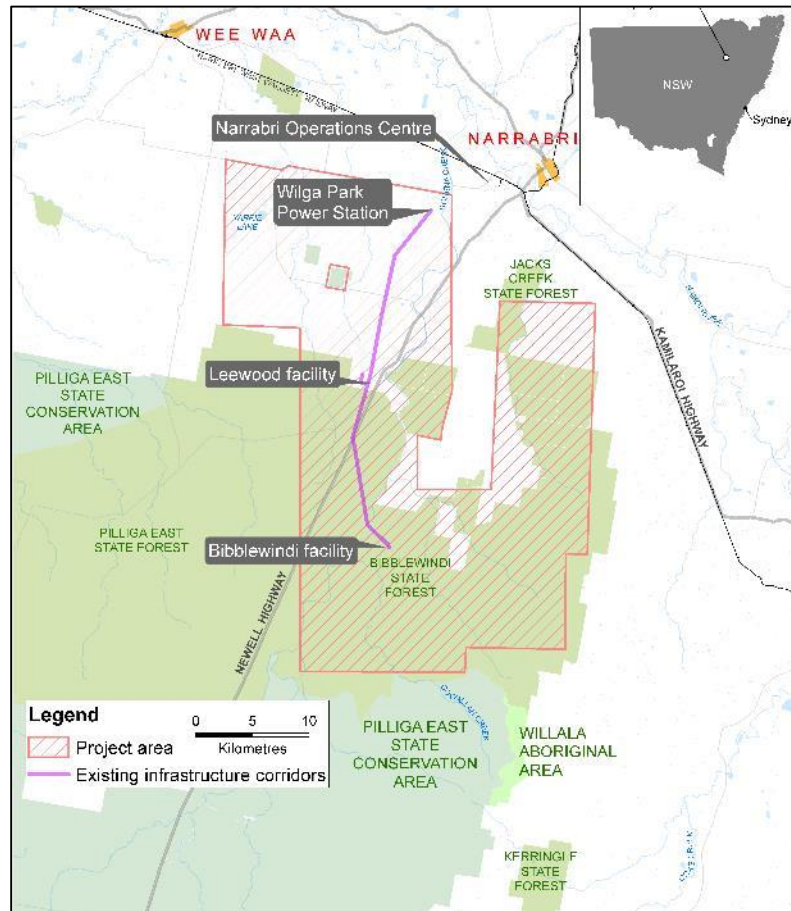
31 January 2017

**Santos**  
We have the energy.



## Proposed Narrabri Gas Project Location

The Narrabri Gas Project area is located fully within the Petroleum Exploration Licence (PEL) 238 and Petroleum Assessment Lease (PAL) 2



Narrabri Gas Project area, NSW

- › Operations located on around 1,000ha or approx. 1% of 95,000ha project area
- › Majority of project area is state forest
- › No national park or nature reserve
- › No mapped Biophysical Strategic Agricultural Land (BSAL) within project area
- › Central gas and water processing facility located outside the Pilliga at the Leewood site
- › Up to 200TJ/day of gas would be made available to the NSW market

## Proposed Narrabri Gas Project Facilities

The project includes wells, an underground gathering pipeline network, gas processing and gas compression



Tintsfield Pilot well

- › Up to 850 wells on a maximum of 425 sites
- › Lateral wells with artificial lift
- › Wellhead separation
- › Separate gas and water gathering pipelines
- › Nodal compression at Bibblewindi
- › Gas and water trunklines connecting Bibblewindi to Leewood
- › Dehydration, CO<sub>2</sub> removal and gas compression
- › Water storage, reverse osmosis and salt crystallisation, irrigation
- › Electricity generation
- › Pipeline tying to Moomba-Sydney pipeline will be constructed by APA Group and subject to a separate approval process

## What is the Narrabri Gas Project SSDA and EIS?

The EIS is the major assessment document for the Narrabri Gas Project

The State Significant Development Application (SSDA) and EIS for the Narrabri Gas Project will be submitted to the NSW Department of Planning and Environment for assessment

- › The EIS is required to:
  - Identify all potential impacts of the Narrabri Gas Project
  - Assess those potential impacts
  - Detail plans and procedures to mitigate and manage potential impacts
- › The EIS is a comprehensive document which:
  - Contains almost 7,000 pages and 45 technical studies
  - Draws on data from over 13,000 hours of on-ground ecological surveys; water monitoring activities dating back to 2010; over 1400 hours of background noise monitoring; and three months of baseline air quality data collection
  - Contains reports, studies and modelling by scientific and environmental experts on areas including water, flora, fauna, soil, noise, air quality, cultural heritage and social impacts
  - Details around 100 commitments which will assist to minimise the impact of the project
- › **The EIS concluded the risks to the environment are minimal and manageable**



Water sampling, Leewood Water Treatment Plant

## Key findings of the EIS



Bibblewindi Pilot well

The EIS concluded the Project can proceed safely with minimal and manageable risk to the environment

- › Water available to farmers and the community will be unaffected
- › Drilling can be carried out safely adhering to the *NSW Well Integrity Code of Practice*, which was reviewed by the NSW Chief Scientist and Engineer
- › Significant impacts on threatened and endangered flora and fauna will be avoided
- › Known Aboriginal cultural heritage sites will be protected
- › The Project can coexist with current land uses including agriculture and forestry
- › Social impacts can be managed
- › Substantial economic benefits will be generated including:
  - 1,300 jobs during construction and 200 ongoing positions during operations
  - Around \$1.2 billion in royalties to NSW
  - A regional benefit fund of up to \$120 million to support local community projects, programs and initiatives

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## EIS – Chapters

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The EIS is a comprehensive assessment of the potential impacts of the Project

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### **Part A: Introduction**

- 1 Introduction
- 2 Location and setting
- 3 Strategic context and need
- 4 Legislation and approvals
- 5 Commonwealth requirements

### **Part B: The Project and Consultation**

- 6 Project description
- 7 Produced water management
- 8 Assessment of alternatives

### **Part C: Environmental Assessment**

- 9 Community and stakeholder consultation
- 10 Approach to the impact assessment
- 11 Groundwater
- 12 Surface water
- 13 Hydrology and geomorphology
- 14 Soils and land contamination
- 15 Ecology
- 16 Aquatic ecology
- 17 Property and land use

### **Part C - continued**

- 18 Air quality
- 19 Noise and vibration
- 20 Aboriginal heritage
- 21 Historic heritage
- 22 Traffic and transport
- 23 Landscape and visual
- 24 Greenhouse gas
- 25 Hazard and risk
- 26 Social and Health
- 27 Cumulative impacts
- 28 Waste management
- 29 Cumulative impacts

### **Part D: Commitments and Conclusion**

- 30 Environmental management and monitoring
- 31 Project commitments
- 32 Conclusion
- 33 References

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## EIS – Technical Appendices

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The EIS contains detailed reports on a number of key issues prepared by subject matter experts

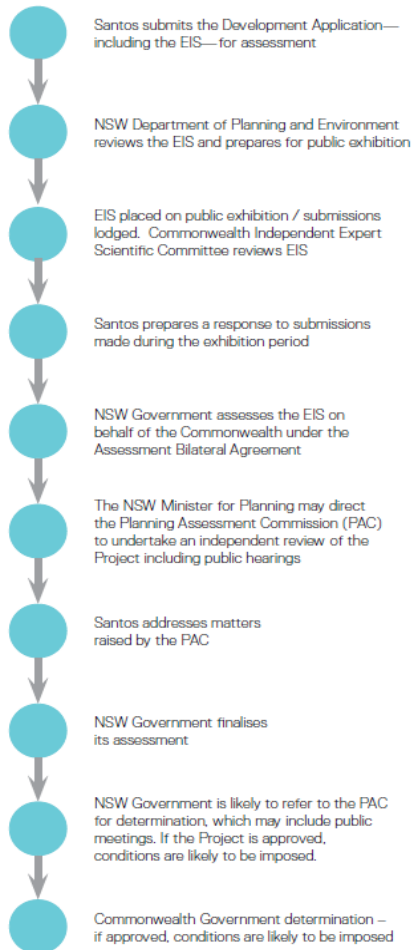
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A	Environmental Assessment Requirements	K	Agricultural Impact Assessment
B	Referral of proposed action	L	Air Quality Impact Assessment
C	Field Development Protocol	M	Noise and Vibration Assessment
D	Stakeholder & community consultation	N1	Aboriginal Cultural Heritage Assessment
E	Drilling waste letter from the EPA	N2	Cultural Heritage Management Plan
F	Groundwater Impact Assessment	O	Historic Heritage Impact Assessment
G1	Managed release study (Bohena Creek)	P	Traffic Impact Assessment
G2	Concept Irrigation Design	Q	Landscape and Visual Impact Assessment
G3	Water Monitoring Plan	R	Greenhouse Gas Assessment
G4	Water Baseline Report	S	Hazard and Risk Assessment
H	Hydrology and Geomorphology	T1	Social Impact Assessment
I1	Interpretive Soils Report	T2	Health Impact Assessment
I2	Biophysical Strategic Agricultural Land Site Verification Certificate	T3	Chemical Risk Assessment
I3	Contaminated Land Assessment	U1	Economic Assessment (Cost Benefit analysis)
J1	Ecological Impact Assessment	U2	Economic Assessment (Macroeconomics analysis)
J2	Biodiversity Assessment Report	V	Rehabilitation Strategy
		W	Decommissioning Report

## Where to from here?

The assessment of the SSDA and EIS will be robust and extensive. It is an established process that allows community input at a number of stages

### The assessment process



- › Submissions on the EIS will be invited by Department of Planning and Environment during the exhibition period
- › The EIS and information about the document will be easily accessible to the community:
  - EIS document can be viewed at a number of locations including the Santos shopfront and Narrabri Shire Council Chambers
  - Link to EIS on the Dep't of Planning and Environment website and Narrabri Gas Project website
  - Santos will
    - Mail out an EIS fact sheet to Narrabri Shire community
    - Hold a Community Drop-in Information Session
    - Undertake information sessions and presentations to local community groups
  - Opportunities for community input at a number of stages

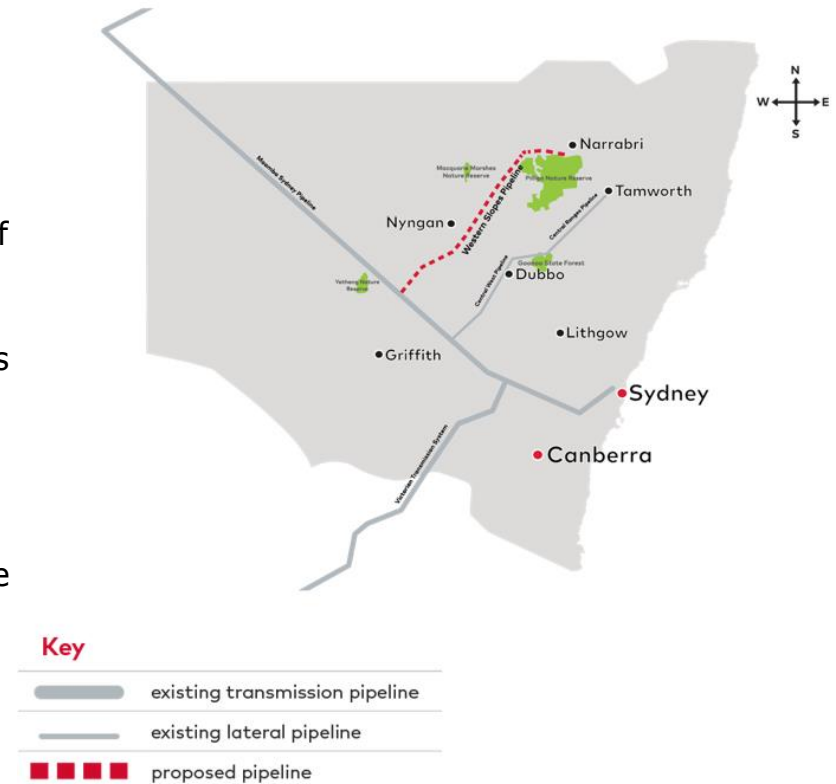


## A pipeline will link the project to the Moomba - Sydney pipeline

The proposed 450km Western Slopes Pipeline will undergo a separate approval process and be constructed and owned by APA Group

- APA is Australia's largest gas infrastructure business
  - Owns and/or operates 15,000km+ of pipeline infrastructure
  - Transports around half of Australia's natural gas across all mainland states and territories
- APA will soon submit a preliminary Environmental Assessment to the State, commencing the assessment process under Part 5.1 of the Environmental Planning and Assessment Act 1979
- Following construction, land is returned as close as possible to its previous productivity, with topsoil and natural drainage patterns re-established
- As the pipeline is buried (generally 900mm) underground, shallow-rooted vegetation can be re-established across the entire pipeline right of way (e.g. cropping)
- No long term impacts would be expected to land uses that rely on cropping and grazing

Western Slopes Pipeline – Proposed Route Map



## Project timeline

Appraisal of resource underway and EIS submitted for assessment

Where we are now



~ 2 years ~ 2 years

20+ years



Approximately 4 years



- Core holes
- Seismic
- Baseline scientific data

- Government assessment
- Appraisal pilots
- Engineering & design
- Final Investment Decision

- Build facilities
- Gas pipeline
- Work camps
- Drilling production wells

- Natural gas production
- Ongoing field development
- Rehabilitation

Community and Stakeholder Engagement

## Narrabri Gas Project

The EIS concluded the Project can proceed safely with minimal and manageable environmental risk



Supply  
natural gas  
to NSW

- › Project could supply up to half of NSW's natural gas needs
- › In NSW around 1 million homes and 33,000 businesses use natural gas
- › The jobs of more than 300,000 workers rely on an affordable supply of natural gas



Delivering  
energy  
safely with  
minimal  
impact

- › Activities in the Pilliga are in areas designated for natural gas development by the NSW Government
- › Detailed biodiversity, water, ecology and emissions studies undertaken
- › Will not drill on private land without landholder consent
- › Best practice drilling will ensure safe production of gas and protection of groundwater



Benefiting  
regional  
communities

- › 1,300 jobs during construction
- › Value-based landholder compensation
- › Estimated \$1.2 billion in royalties to the State
- › Up to \$120 million Regional Community Benefit Fund

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## Further information

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**Santos:**

[www.santos.com.au](http://www.santos.com.au)

**Narrabri Gas Project:**

[www.narrabrigasproject.com.au](http://www.narrabrigasproject.com.au)

**Department of Planning and Environment**

<http://majorprojects.planning.nsw.gov.au>



2016 harvest Tintsville Pilot