Santos

23 DECEMBER 2022

Narrabri Lateral Pipeline

SCOPING REPORT

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Abbreviations and terms

Abbreviations	Term
ACCC	Australian Competition and Consumer Commission
AEMO	Australian Energy Market Operator
APGA	Australian Pipeline and Gas Association
ARTC	Australian Rail Track Corporation
AS	Australian Standard
BC Act	*Biodiversity Conservation Act 2016*
BDAR	Biodiversity development assessment report
CLM Act	*Contaminated Land Management Act 1997*
CSSI	Critical State significant infrastructure
DPE	NSW Department of Planning and Environment
EIS	Environmental impact statement
EP&A Act	*Environmental Planning and Assessment 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation 1999*
EPL	Environment protection licence
FM Act	*Fisheries Management Act 1994*
HGP	Hunter Gas Pipeline
LGA	Local government area
NGP	Narrabri Gas Project
NPW Act	*National Parks and Wildlife Act 1974*
NSW	New South Wales
NTA	*Native Title Act 1993*
POEO Act	*Protection of the Environment Operations 1997*
PP SEPP	State Environmental Planning Policy (Primary Production) 2021
PS SEPP	State Environmental Planning Policy (Planning Systems) 2021
RAP	Registered aboriginal parties
R&H SEPP	State Environmental Planning Policy (Resilience and Hazards) 2011
Santos	Santos NSW (Eastern) Proprietary Limited
SEARs	Secretary's Environmental Assessment Requirements
SSI	State significant infrastructure
T&I SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
the project	A lateral gas transmission pipeline to link the Narrabri Gas Project and Hunter Gas Pipeline, south of Narrabri, New South Wales

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INTRODUCTION

01

1. Introduction

1.1 Overview

Hunter Gas Pipeline Proprietary Limited (Santos) proposes to develop a lateral gas transmission pipeline to link the Narrabri Gas Project (NGP) and Hunter Gas Pipeline (HGP), south of Narrabri, New South Wales (NSW) (the project). The project would extend for about 50-60 kilometres from the approved NGP gas processing facility at Leewood to the HGP east of Baan Baa. The final length would be dependent on the selection of the alignment. The pipeline would be primarily located underground, with associated aboveground infrastructure including isolation valves, meters, and regulators. The project would provide the 'missing link' for the NGP, enabling gas to be transmitted to the existing NSW natural gas transmission network near Newcastle, NSW, via the HGP.

The project is anticipated to have a capital cost of around $90m, create an estimated 200 jobs during construction, with 1 – 4 ongoing roles anticipated for normal operations. The combined NGP, HGP and Narrabri Lateral Pipeline would involve an initial capital investment of about $1.7 billion and create about 1750 jobs over the duration of construction and approximately 225 ongoing jobs throughout its operation. It would also support the estimated 300,000 manufacturing jobs in NSW that are directly reliant on a secure, safe and competitively priced supply of natural gas. Santos seeks to supply reliable, affordable and cleaner energy to improve the lives of people in Australia and Asia.

The project is described further in Section 2.

1.2 Proponent details

The proponent details for this project are as follows:

Proponent name	Hunter Gas Pipeline Proprietary Limited
Address	Santos Centre, 60 Flinders St, Adelaide SA 5000
ABN	40 108 119 544

1.3 Purpose and structure

The purpose of this scoping report is to provide preliminary information on the project and identify relevant environmental matters and impacts. This report has been prepared with regard to the Department of Planning, Industry and Environment (DPIE) guideline *State significant infrastructure guidelines – preparing a scoping report* (DPIE, 2021a) and the *State Significant Infrastructure Guidelines* (DPIE, 2021b) in support of a request for the Secretary's Environmental Assessment Requirements (SEARs) for the project.

The structure of the remainder of this report is as follows:

– Section 2 – provides a description of the project, the site and surrounds.
– Section 3 – describes the strategic context of the project.
– Section 4 – describes the statutory context of the project.
– Section 5 – identifies the relevant environmental matters and impacts.
– Section 6 – describes stakeholder engagement for the project.
– Section 7 – provides a summary of report findings and conclusion.

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PROJECT DETAILS

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2. Project details

2.1 Overview

Santos proposes to develop a new lateral gas transmission pipeline south of Narrabri, NSW. The project would involve the construction, operation, maintenance and decommissioning of approximately 50-60 kilometres of a gas pipeline and associated infrastructure between the NGP and the HGP in accordance with Australian Standard (AS) 2885 – Pipelines – Gas and Liquid Petroleum. The indicative layout of the project is shown in Figure 2.1. This layout includes corridor options in order to incorporate landowner feedback and environmental considerations, with the connection to the HGP to be determined.

The project would also include the following above-ground infrastructure/facilities:

– Mainline valves, used to shut down the pipeline in emergency or upset conditions
– Scraper stations, used for access to the pipeline for internal cleaning and inspection
– Meter stations, for monitoring of gas flow for commercial purposes
– Pressure let-down facilities
– Communication towers
– Cathodic protection including buried ground beds
– Marker signs that delineate the location of the pipeline
– Temporary construction workforce campsites
– Temporary laydown areas for pipe stockpiling and other materials.

The description of the project within this scoping report is indicative and would likely be refined throughout the environmental assessment and approval process. Ultimate alignment would be determined through the detailed design process following project approval, based upon ongoing liaison with landowners and consideration of environmental, physical and other stakeholder constraints.

2.2 Project site

The project would be located in north-western NSW, about 34 kilometres south of the town of Narrabri within the Narrabri Shire local government area (LGA). The site and surrounds of the project include Bibblewindi, Pilliga East and Jacks Creek State Forests, and the localities of Baan Baa and Boggabri (refer to Figure 2.1).

Regional features include The Pilliga to the west and the Namoi River to the east. The Pilliga is an agglomeration of forested area covering more than 500,000 hectares in north-western NSW around Coonabarabran, Baradine and Narrabri. Nearly half of the Pilliga is allocated to conservation, and is managed under the *National Parks and Wildlife Act 1974*. Major transport infrastructure includes the Newell Highway to the west, and the Kamilaroi Highway and Werris Creek Mungindi Railway to the east. The Newell Highway, which runs in a north-south direction, provides a major interstate freight link between Queensland, NSW, and Victoria. The Kamilaroi Highway connects Narrabri with Gunnedah.

Agriculture is the major land use within the Narrabri Shire LGA. Sixty five percent per cent of the LGA is used for agriculture, split between cropping and grazing. The remainder of the LGA is predominately used for residential purposes and native vegetation in the form of state forests, national parks, nature reserves and conservation areas.

The project would be developed in the Bibblewindi and Pilliga East State Forests and on privately owned land and road reserves, subject to landowners' consent. The project is split approximately evenly between state forest and private land. The entirety of the project area is under a native title claim by the Gomeroi People.

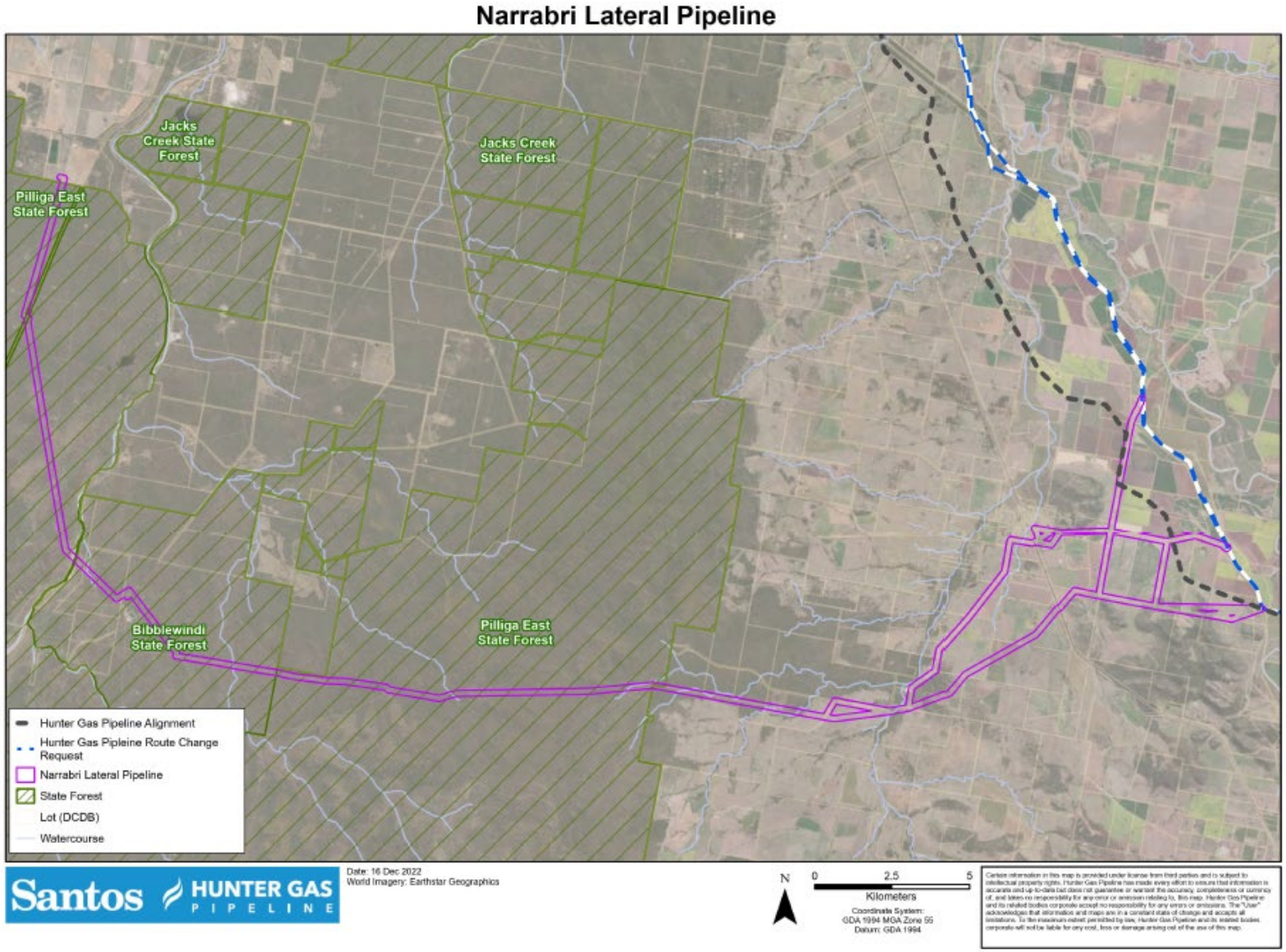

Figure 2.1 Project overview

2.3 Pipeline design

The key characteristics of the proposed pipeline are set out in Table 2-1.

Table 2-1 Proposed pipeline characteristics

Design element	Details
Length	Approximately 50-60 km
Material	Epoxy coated high strength steel
Size range	500-550mm diameter
Minimum depth of cover (based on AS2885 requirements)	– Typically: 900mm (minimum 750mm) – Cropping areas: 1,200mm – Road/rail crossings: 1,200mm
Nominal capacity	Up to 200 terrajoules/day
Easement	Nominally 30m wide. Additional working width may be required at various locations and this would be identified in the EIS
Gas type	Natural gas compliant with AS 4564-2011

The proposed pipeline would be designed and constructed in accordance with the latest version of Australian Standard (AS) AS2885 Pipelines Gas and Liquid Petroleum. This standard covers the design, construction and operation of gas transmission pipelines. AS2885 calls up in excess of 80 Australian, American and European standards in accordance with which the pipeline and facilities must be designed. Typically, a gas pipeline of this type would have a design life in excess of forty (40) years.

2.4 Construction

2.4.1 Pipeline installation

Pipeline construction would be carried out in a linear progression. Typical pipeline construction activities include:

- Installation of temporary construction work camps and pipe laydown areas. Preferred sites for these locations would be identified in the EIS.
- Survey of the pipeline easement.
- Installation of temporary boundary fences and gates for construction access (where required).
- Installation of construction access tracks (where required). Where available, existing tracks and public roads would be utilised and additional vegetation clearing will be minimised whenever practicable.
- Installation and maintenance of erosion and sediment controls.
- Clearing of vegetation and grading of pipeline easement and ancillary workspaces to prepare a safe construction working area.
- Establishment of temporary work areas for equipment, pipe delivery and storage, and borrow pits.
- Stringing of pipeline segments along the easement, and where required, bending to match changes in elevation or direction.
- Welding pipe segments together.
- Non-destructive testing of pipeline welds.
- Excavation of trench to lay the pipeline. Trenching would be carried out by trenching machine, rock saws or excavator, and may involve rock hammers or blasting in hard rock.
- Separation and stockpiling of topsoil and subsoil to protect and preserve topsoil and to ensure the local soil profile is reinstated during backfill and rehabilitation.

- Crossing drainage lines, roads and rail lines by open cut, boring or horizontal drilling (HDD) techniques (depending on the nature of the crossing and geotechnical conditions).
- Placement of sand or screened trench subsoil (padding and shading) into the trench to protect the pipe coating from external damage.
- Placement of the pipeline into the trench.
- Returning the subsoil and compacting the trench.
- Testing the integrity of the pipeline by filling with water and pressurising to above maximum operating pressure (hydrostatic testing).
- Return topsoil, reinstate the construction site and remove all temporary facilities.

2.4.2 Easement rehabilitation

The objectives of the rehabilitation works will be to:

- Return the easement land to as close as possible to its pre-existing state within a reasonable timeframe.
- Re-establish topsoil cover and stability as soon as possible.
- Re-establish pre-existing topographic contours and drainage patterns.
- Establish erosion control measures (e.g. contours banks, filter strips) in erosion prone areas.
- Re-instatement of vegetation would incorporate plant selection and location so as not to compromise the pipeline operation (e.g trees would not be planted above or near the pipeline alignment, preventing roots from interfering with the pipeline).
- Installation of pipeline marker posts.

All construction and rehabilitation activities will be undertaken in accordance with the Australian Pipeline and Gas Association (APGA) *Code of Environmental Practice, Onshore Pipelines* (2022).

Given the pipeline will be underground, landowners will be able to continue regular land use activities above the pipeline provided they do not undertake excavation activities or erect structures in the pipeline easement. Shallow-rooted vegetation can be re-established across the easement (e.g. grain and cotton crops) although deep rooted vegetation (e.g. mature trees) cannot, due to the potential to damage the pipeline and impede operational access.

2.4.3 Commissioning

Commissioning activities include:

- Instrument calibration
- Hydrostatic testing of the pipeline with water
- Pipeline drying
- Gas filling
- Testing and commissioning of stations and valves

2.4.4 Construction equipment

Typical pipeline construction equipment includes:

- Bulldozers
- Loaders
- Graders
- Side-boom tractors
- Trucks, including water trucks and pipe and equipment movement vehicles
- Padding machines (for sifting subsoil to provide soft material (padding) around the pipeline to reduce the need to import padding material)

- Excavators
- Trenching machines
- Wheel ditching machines including rock saws
- Trenchless excavation equipment (e.g. boring machines and HDD)
- Welding units
- Refuelling and equipment servicing vehicles
- Crew vehicles.

2.4.5 Construction workforce

A workforce of between 150 and 200 personnel is anticipated for the construction phase of the project.

2.4.6 Construction timing

Construction and commissioning of the pipeline is expected to take approximately 6-12 months, including mobilisation, reinstatement and demobilisation.

2.5 Operation

During operation of the pipeline, gas flows and pressures would be monitored from a remotely operated control room. Inspection of the pipeline easement for issues such as erosion, weeds, subsidence, revegetation and third-party activities would be carried out on a regular basis via ground and/or aerial patrols. Other activities would include valve and scraper station maintenance and scheduled internal inspections of the pipeline for integrity monitoring. Regular contact would be maintained with landowners of all properties traversed by the pipeline.

2.6 Decommissioning

Once the pipeline has come to the end of its useful life all surface facilities will be removed. The pipeline will then be decommissioned in accordance with relevant legislation and guidelines including the APGA Code.

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STRATEGIC CONTEXT

03

3. Strategic context

3.1 Strategic need for the project

The project is required to connect the approved NGP to the approved HGP to allow for the transmission of natural gas to the existing NSW natural gas transmission network near Newcastle, NSW.

Within NSW, natural gas is critical for energy security and reliability, and is used in more than one million family homes and around 33,000 businesses. About 500 heavy industrial users consume approximately 75 per cent of the gas supplied to NSW and it is estimated that about 300,000 jobs rely on a safe and secure supply of natural gas.

Currently NSW imports more than 95 per cent of its natural gas from other states, which is at risk of supply shortages and increasing prices, largely due to Australia's evolving energy markets and international market challenges. These market challenges have never been more evident with supply shortfalls in the east coast gas market during the winter months of 2022 and predicted into the future, ongoing supply shortfalls across Europe and growing demand across Asia. The development of domestic gas reserves within NSW, provides a step change in the security, reliability and affordability of natural gas in NSW.

The NSW Government has acknowledged that energy affordability and supply is a key concern to the government and community. It has identified the need to increase gas supply within NSW as a key element in increasing energy security and putting downward pressure on prices, while delivering on emissions reduction targets. In recent years the NSW Government has released a number of policies, plans and strategies to address these concerns.

The ability of the NGP to contribute substantially to the amount of gas available for the NSW market saw it designated as a Strategic Energy Project in the *NSW Gas Plan*[1] by the NSW Government in 2014. This was reinforced in 2021, following the NSW Government's release of the *Future of Gas Statement*[2] which outlines the government's balanced approach to securing gas supplies and working with industries to generate regional jobs and prosperity. The Statement supports the development of the NGP and investments in natural gas pipelines.

The *Electricity Infrastructure Roadmap*[3] is the NSW Government's plan to transform the State's electricity system into one that is reliable, affordable and clean. The Roadmap is enabled by the *Electricity Infrastructure Investment Act 2020* and recognises the need for long-term investment in natural gas as a key enabler for the transition to renewable energy.

AEMO forecasts show there is a risk of a supply shortage in the east coast gas market without investment in additional gas supply from local sources and a gas import terminal (see Figure *3.1*). Supply shortage creates significant disruption for gas users and risk jobs in energy-intensive industries. This was evident during the winter months of 2022 with spot market natural gas prices capped at $40/GJ for a period, with further shortages predicted during the winter months of 2023 and onwards.

Investment in a range of supply sources, including the NGP will work to mitigate the risk to supply disruptions, help push down energy prices and support emissions reduction targets. The Project will support the supply of gas from the NGP into the east coast gas market, which is projected to inject up to 70 petajoules of gas each year across its 25-year life, which represents about half of the gas used in NSW.

The project complements the approach of the NSW Government and recommendations of the ACCC and AEMO as it would provide infrastructure to supply domestic gas relatively close to the demand centre of Sydney, which as the ACCC states would improve the competitive dynamics leading to better pricing outcomes for domestic users.

[1] http://www.resourcesandenergy.nsw.gov.au/__data/assets/pdf_file/0005/534830/NSW-Gas-Plan.pdf
[2] https://www.nsw.gov.au/regional-nsw/future-of-gas-statement
[3] https://www.energy.nsw.gov.au/nsw-plans-and-progress/major-state-projects/electricity-infrastructure-roadmap

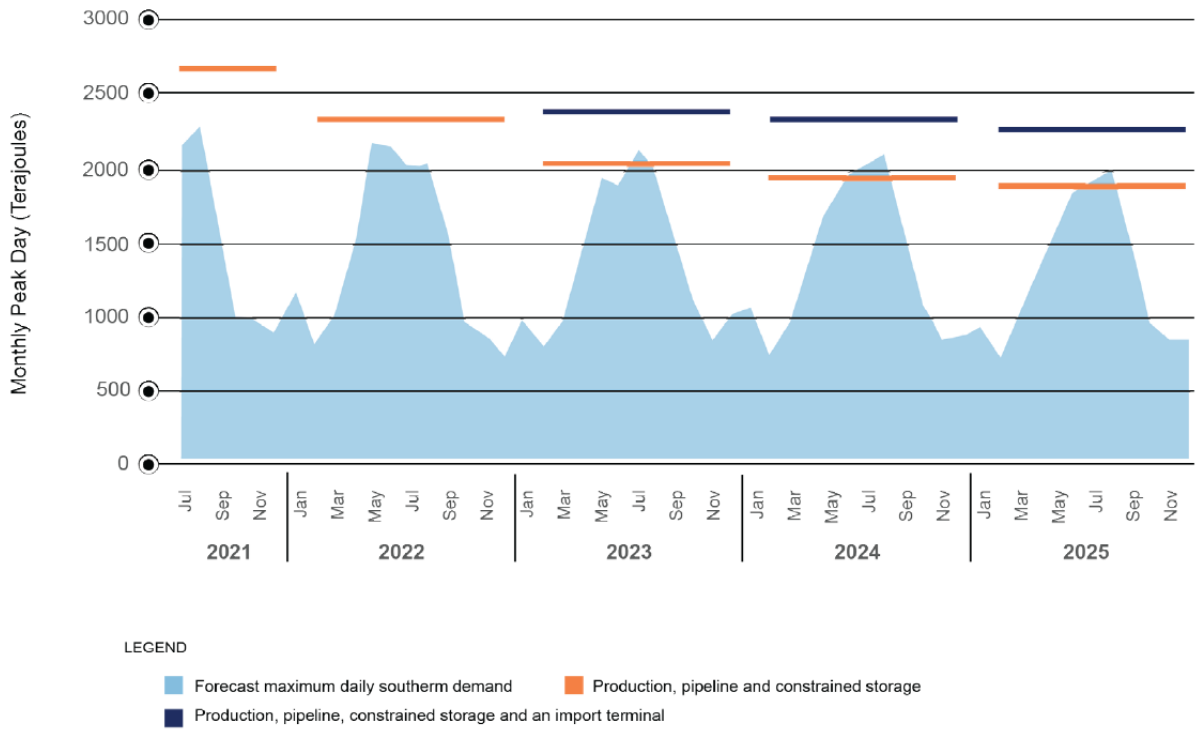

Figure 3.1 Forecast maximum daily southern demand (Source: Future of Gas Statement (NSW Government, 2021))

The NSW Government's *Net Zero Plan Stage 1: 2020-2030*[4], is the foundation for NSW's action on climate change and goal to reach net zero emissions by 2050. The plan aims to enhance the prosperity and quality of life of the people of NSW, while helping the state to deliver a 35 per cent cut in emissions by 2030 compared to 2005 levels. The plan will support a range of initiatives targeting electricity and energy efficiency, electric vehicles, hydrogen, primary industries, coal innovation, organic waste and carbon financing.

To support the NSW Government's *Net Zero Plan Stage 1: 2020-2030*, the *Memorandum of Understanding – NSW Energy Package*[5] was executed in 2020 by the NSW and Commonwealth Governments, which included:

- setting a target to inject an additional 70 petajoules of gas per year into the NSW market, and agreeing to a gas market review if this target is not met by 2022;
- ensuring emissions reduction in the electricity sector stays on track;
- committing to invest $2 billion in reducing emissions in NSW; and
- supporting new generation investment in NSW.

Santos has set an aspiration of net zero emissions by 2040. We are driving change by deploying renewables, implementing energy efficiency projects, investing in technologies like carbon capture and storage and investigating the potential for hydrogen production. We are committed to a lower carbon future and taking practical measures to reduce our emissions, including at Narrabri where our appraisal gas is already being beneficially used for power generation at Wilga Park.

We have seen examples of large economies switching to gas from other fuels to reduce their emissions. In the United Kingdom coal-fired power generation has been phased out over the last two decades with gas now accounting for almost 40 per cent of total power generation. This has resulted in a reduction in CO_2 emissions of 38 per cent compared to 1990 levels. The United States has also achieved large-scale emissions reductions from coal-to-gas switching, which the International Energy Agency (IEA) says is critical

[4] https://www.energy.nsw.gov.au/nsw-plans-and-progress/government-strategies-and-frameworks/reaching-net-zero-emissions/net-zero
[5] https://www.energy.nsw.gov.au/sites/default/files/2022-08/Cth-NSW%20%E2%80%93%20SIGNED%20Energy%20MOU.pdf

to meet global climate goals. The Department of Planning and Environment (DPE) identified the role Narrabri gas could play in reducing emissions as aging coal-fired power stations close in eastern Australia over the coming decades.

The project would assist NSW to achieve greater energy security and economic sustainability by supporting the development of the emerging gas reserves in north-western NSW, reducing reliance on existing interstate sources of supply, while delivering on emissions reduction targets. Specifically, the Project would enable gas produced by the NGP to be delivered into the east coast gas market through connection to the HGP.

Further detailed justification for the NGP can be found within the Environmental Impact Statement (EIS) for that project (Santos, 2015).

A detailed justification for this project will be provided in the EIS, taking into consideration the overall benefits and impacts of the proposed alignment.

3.2 Strategic benefits of the project

The Australian Competition and Consumer Commission (ACCC) stated the importance of additional sources of gas supply to assist in putting downward pressure on prices. The ACCC Australian gas enquiry 2017-2025 found that an increased level and diversity of supply, if located close to demand centres in markets south of Queensland, would improve the competitive dynamics in the south and would likely lead to better pricing outcomes for domestic users.

The project complements this recommendation as it would provide infrastructure to supply domestic gas relatively close to the demand centre of Sydney, which as the ACCC states would improve the competitive dynamics leading to better pricing outcomes for domestic users.

The project would also provide infrastructure to enable additional gas supply to support the increasing need for renewable energy sources on the east coast as NSW transitions from coal fired energy generation. The provision of additional natural gas would support grid stability and supply reliability during the rapid decommissioning of coal fired generators to come.

3.3 Alternatives considered

3.3.1 Do nothing option

If the project is not developed:

– The ability to provide additional gas capacity to meet NSW's future energy needs will be diminished.
– The ability to transport domestically produced gas from emerging resources in Narrabri will be reduced.
– Opportunities for increased competition in the national gas market may not be realised.

3.3.2 Pipeline alignment options

Potential pipeline alignments were developed taking into account the following strategic objectives:

– Environmental, accessibility and stakeholder impacts.
– Operational gas transmission costs.
– Construction costs.
– Ability to connect the NGP to the HGP.

Santos is currently considering a number of pipeline alignment options, including specific options to connect to the HGP (refer to Figure 2.1).

The preferred option would be determined during the environmental assessment, and in consultation with affected landowners.

4. Statutory context

The key requirements of the EP&A Act and the *Environmental Planning and Assessment Regulation 2021* (the EP&A Regulation) in relation to the approval and assessment of the project are summarised in Table 4.1.

Table 4-1 Summary of statutory requirements for the project

Matter	Comment
Land use zoning	The project intersects a number of zones in the Narrabri Local Environmental Plan 2012 including RU3 Forestry, RU1 Primary Production, and RU5 Village.
Power to grant approval	**State Environmental Planning Policy (Planning Systems) 2021** Clause 2.13 of State Environmental Planning Policy (Planning Systems) 2021 (PS SEPP) provides that development specified in Schedule 3 that is permissible without development consent is State significant infrastructure (SSI) for the purposes of the EP&A Act. Clause 5 of Schedule 3 provides that development for the purpose of a pipeline can be declared as SSI if: (a) A licence is required under the *Pipelines Act 1967*, or (b) An application for a licence is made under that Act on or after the commencement of this section, or (c) A licence was granted under that Act before the commencement of this section. A licence for the project under the *Pipelines Act 1967* would be required. The project is accordingly deemed SSI. The project has been declared Critical State Significant Infrastructure (CSSI) in accordance with Section 5.13 of the EP&A Act and Schedule 5 of the PS SEPP. The Minister for Planning is the consent authority, and the project is to be assessed in accordance with the provisions of Division 5.2 of the EP&A Act, including the preparation of an EIS. **State Environmental Planning Policy (Transport and Infrastructure) 2021** Under Division 12A, clause 2.75(1) of State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP), development for the purpose of a pipeline may be carried out by any person without consent on any land if the pipeline is subject to: • A licence under the *Pipelines Act 1967*, or • A licence or authorisation under the *Gas Supply Act 1996*. The project would be subject to a licence under the *Pipelines Act 1967*. The project is accordingly permissible without consent under the T&I SEPP.
Approvals that should be substantially consistent with approved SSI	Any authorisations under certain legislation, identified in Section 5.24 of the EP&A Act, cannot be refused if it is necessary for carrying out an approved SSI project and is to be substantially consistent with the SSI approval. In relation to the project, these authorisations could include: • A consent under section 138 of the *Roads Act 1993* • A licence under the *Pipelines Act 1967*.
Approvals that are not required for approved SSI	An approval under certain other legislation, identified in Section 5.23 of the EP&A Act, is not required for approved SSI. In relation to the project, these authorisations could include: • A permit under section 201, 205 or 219 of the *Fisheries Management Act 1994* • An approval under Part 4 or an excavation permit under section 139 of the *Heritage Act 1977* • A bushfire safety authority under section 100B of the *Rural Fires Act 1997*

Matter	Comment
	• A water use approval under section 89, a water management work approval under section 90 or an activity approval (other than a groundwater interference approval) under section 91 of the *Water Management Act 2000* • An Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*
EPBC Act approval	Biodiversity surveys would be undertaken of the proposed alignment to confirm presence of TECs and identify potential impacts to listed threatened species, ecological communities, and migratory species, and determine the need for an EPBC referral under the EPBC Act.
Other approvals	Potential other approvals include: • State Environmental Planning Policy (Resilience and Hazards) 2021 • State Environmental Planning Policy (Biodiversity and Conservation) 2021 • *Crown Land Management Act 2016*.
Pre-conditions to exercising the power to grant approval	No pre-conditions to granting approval have been identified at this stage of the project. This will be reviewed as part of preparing the EIS.
Mandatory matters for consideration	Section 1.3 and 5.19 of the EP&A Act. In addition, the *Biodiversity Conservation Act 2016* (BC Act) requires that an SSI application is to be accompanied by a biodiversity development assessment report unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values. The environmental impact statement is to include the biodiversity assessment required by the environmental assessment requirements of the Planning Agency Head under the EP&A Act.
Native Title	Obligations under the *Native Title Act 1993*

5. Stakeholder engagement

5.1 Stakeholder identification

Stakeholder identification has been undertaken as part of the community and engagement program. The following key stakeholder groups were identified:

- Australian Government and NSW Government agencies
- Elected representatives (Australian and NSW Governments)
- Narrabri Shire Council
- Traditional owners/RAPs
- Landowners (directly affected, adjacent, nearby and indirectly affected)
- Community and interest groups
- Service and utility providers
- Local media.

5.2 Current and future consultation

Stakeholder engagement for the project would be undertaken in accordance with the following stakeholder engagement objectives:

- Clearly communicate the objectives (including strategic drivers) of the project.
- Proactively engage with identified stakeholders early and often in the EIS.
- Satisfy the engagement requirements identified in the SEARs.
- Effectively and openly consult with stakeholders to inform the EIS.
- Establish rigor to the engagement process through quality systems and protocols that support the community and stakeholder contact and timely follow up.

A Community and Stakeholder Engagement Plan has been developed for the project. The plan will form part of the scoping report lodgement to DPE.

Planned stakeholder engagement activities include meeting with government agencies, key industry stakeholders, community interest groups, and directly impacted landowners.

Santos has undertaken a number of initial consultation and engagement activities through the November to December 2022 period. These include:

- Mailout to all potentially affected landowners including a project factsheet
- Update to the HGP website to include a page on the Narrabri Lateral Pipeline
- Community engagement sessions in Narrabri and Baan Baa

Other stakeholder engagement tools would be used to engage with the community more broadly and would include emails, newsletters, a virtual room and advertised community information sessions.

It is expected that the EIS would be placed on public exhibition for at least the minimum public exhibition period for SSI required under the EP&A Act during which public submissions may be made. Public submissions made during this time would be summarised and responded to in a response to submissions report prior to determination.

5.3 Evaluation

The effectiveness of the communication and engagement program will be assessed by monitoring:

- stakeholder and community sentiment about the project and the engagement program, as part of stakeholder and community interactions and, media coverage
- the reach of the engagement program and participation levels to ensure that the most affected stakeholders are effectively engaged)
- the timeliness of enquiry responses, and
- any issues raised are based on accurate project information.

6. Preliminary environmental assessment

6.1 Potential environmental impacts

A preliminary environmental assessment has been carried out to identify the relevant environmental matters and potential impacts for consideration and the appropriate level of assessment in an EIS. The matters and impacts have been assigned an appropriate level of assessment, generally being either:

– Detailed assessment in EIS.
– Standard assessment in EIS.
– Scoping issue – no further assessment.

The key issues that have been identified for further assessment include the following:

– Amenity – including noise and vibration, and visual impacts during construction and operation.
– Aboriginal cultural heritage / Native Title
– Biodiversity
– Hazards and risks

These key issues, as well as various other issues that have been identified as requiring further environmental assessment are discussed in further detail in Table 6.1.

The proposal may coincide with the delivery of the NGP and the HGP, both to be delivered by Santos, so relevant project management and environmental mitigation measures will be considered as part of project development to coordinate tasks across the three projects and seek to minimise cumulative impacts on the environment and local sensitive receptors.

The DPE (2022) *Cumulative Impact Assessment Guidelines for State Significant Projects* would be considered as part of the preparation of the EIS.

Table 6-1 Potential environmental impacts

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
Access	Access to property	Construction activities within the road reserve would have the potential to temporarily affect access. Impacts would be limited in extent and duration given the relatively isolated location of the pipeline. The project would not be expected to have any impact on property access during operation.	Standard assessment in EIS	– *Roads Act 1993* – *Guide to Traffic Management – Part 3 Transport Study and Analysis Methods* (Austroads 2020)	Yes
	Traffic	Construction activities around roads and railways would have the potential to affect their operation, efficiency and safety. As far as practicable the construction of the project would be carried out in a manner to minimise impacts to roads and railways including the implementation of trenchless construction methods for crossings, if necessary. The construction of the project and to a lesser extent the operation of the project would also generate additional vehicle movements on the road network including mobilisation of the workforce and delivery of construction materials. A detailed transport impact assessment would be carried out during the EIS phase to further define these impacts and identify measures to avoid, mitigate and manage impacts during construction and operation. Santos would consult with Transport for NSW/ARTC to ascertain their requirements for the proposed crossing of the Mungindi railway line and relevant roads and highways.	Standard assessment in EIS	– *Roads Act 1993* – *Guide to Traffic Management – Part 3 Transport Study and Analysis Methods* (Austroads 2020)	Yes
	Parking	The project is not expected to affect offsite parking as it would not intersect any dedicated parking areas. It is expected that construction vehicles would be largely contained to construction sites and corridors.	Standard assessment in EIS	– *Roads Act 1993* – *Guide to Traffic Management – Part 3 Transport Study and Analysis Methods* (Austroads 2020)	Yes
Air	Atmospheric emissions	The emissions to air from the project, particularly during the operation, would have the potential to be classified as greenhouse gases. A greenhouse gas inventory for	Standard assessment in EIS	– *Protection of the Environment Operations Act 1997*	No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		the construction of the project would be prepared to quantify this impact.		– *The Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA 2022)	
	Particulate matter	Construction activities, particularly earthworks, have the potential to generate dust that could affect sensitive receivers such as rural residences in Baan Baa. These impacts would be limited in their extent and duration given the relatively isolated location of the pipeline and the progressive construction of the power transmission line. Particulate matter emissions to air are not anticipated during operation.	Standard assessment in EIS	– *Protection of the Environment Operations Act 1997* – *The Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA 2022).	No
	Gases	The operation of machinery during construction would have the potential to generate emissions from exhausts, however, these emissions would be minimal due to the limited number of plant items in use and would have a negligible impact at sensitive receptors. The project would involve the transmission of natural gas and, as such, there is potential for losses of gas to occur. Losses of gas would occur rarely, if ever, and would be the result of leaks or similar operations issues and would be resolved if detected.	Standard assessment in EIS	– *Protection of the Environment Operations Act 1997* – *The Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (EPA 2022).	No
Amenity	Noise and vibration	The construction of the project would include the use of equipment, vehicles and machinery, clearing and excavation that would generate noise with the potential to affect sensitive receivers such as rural residences in Baan Baa. The operation of the project would also have the potential to generate noise related to movement of maintenance and inspection vehicles however the large separation distance between the pipeline and residential receivers would likely be a mitigating factor. While potential noise and vibration impacts would be expected to be short term during construction and limited during operation, a detailed noise and vibration	Detailed assessment in EIS	– *Protection of the Environment Operations Act 1997* – *NSW Interim Construction Noise Guideline* (DECC 2009) – *NSW Noise Policy for Industry* (EPA 2017) – *NSW Road Noise Policy* (DECCW 2011)	Yes

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		assessment would be carried out to further define these impacts and identify measures to avoid, mitigate and manage impacts during construction and operation.			
	Visual	The construction of the project would have the potential to create temporary visual impacts at sensitive visual receptors such as residences, roads, and open areas. These impacts would be limited in their extent and duration. Although the pipeline is underground, associated surface infrastructure would have the potential to create visual impacts on the prevailing rural landscape of Baan Baa for surrounding sensitive receptors. As the location of the proposed pipeline would be in sparsely populated areas and there would only be some elements of the development above the ground, it is anticipated that the visual impacts would be minimal, subject to further assessment in the EIS. A detailed visual impact assessment would be carried out including identifying measures to avoid, mitigate and manage the potential impacts during construction and operation.	Detailed assessment in EIS	– *Guidelines for Landscape and Visual Impact Assessment* (United Kingdom Landscape Institute of Environmental Management and Assessment 2013) – *Guidance Note for Landscape and Visual Assessment* (Australian Institute of Landscape Architects 2018)	No
	Odour	The project is not expected to generate odour during standard operations.	Scoping issue – no further assessment		No
Biodiversity	Terrestrial ecology	Potential impacts of the project on ecology would be the impacts of construction, principally clearing, of threatened flora, fauna and ecological communities in varying condition and related secondary impacts such as habitat fragmentation. This would include endangered ecological communities (EEC) listed under the BC Act and the EPBC Act depending on the final pipeline alignment. Opportunities to minimise vegetation clearing will be explored as part of the EIS preparation A biodiversity development assessment report (BDAR) would be prepared as part of the EIS. The BAM calculator will be used to calculate the number and type	Detailed assessment in EIS	– *Biodiversity Conservation Act 2016* – *National Parks and Wildlife Act 1974* – *Biosecurity Act 2015* – *Environment Protection and Biodiversity Conservation Act 1999*	No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		of ecosystem and species credits required to offset residual impacts of the project. Mitigation measures will be proposed to minimise impacts on biodiversity values during construction and operation.			
	Marine ecology	No impacts on marine ecology are likely to be associated with the proposal.	Scoping issue — No further assessment		No
Built environment	Public domain	The proposed alignment would be located on private land, State Forest or within the road reserve of local roads. The proposed alignment is not likely to impact on the public domain of urban settlements.	Scoping issue – no further assessment		No
	Public infrastructure	Construction activities around utility easements would have potential to cause temporary disruption or relocation of utilities. These impacts would be avoided as far as reasonably practicable through the design and construction methodology. The project would not be expected to have any impact on existing utilities during operation.	Standard assessment in EIS		No
	Other built assets	The project is not expected to affect other built assets.	Scoping issue — No further assessment		No
Economic	Natural resource use	The construction of the project would involve the use of resources embodied in construction materials. Opportunities for sourcing local suppliers would be explored as part of project development and contractor engagement.	Standard assessment in EIS		No
	Livelihood	The construction and operation of the project would generate a number of temporary and permanent jobs with the potential to result in improvement to livelihood prospects in the north western slopes region. The project would support manufacturing jobs throughout NSW reliant on a secure and price competitive supply of natural gas. Given the scale of the project it is anticipated that the workforce requirements will be minor. The project is not	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects (DPIE 2021)	No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		expected to limit livelihood prospects in other industries. It would directly supply proposed gas uses at Newcastle.			
	Economy, employment, and business	Potential for a small number of local and regional businesses to participate in procurement opportunities during construction. Some local businesses may also benefit from construction workers spending money at local businesses, such as food outlets located in nearby townships. This is most likely to occur in areas where the non-resident workforce would be accommodated, such as Narrabri. During operation there is potential for a small number of direct employment opportunities for skilled and semi-skilled workers.	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects (DPIE 2021)	
	Opportunity cost	The project is not expected to create significant impacts or otherwise preclude other developments that would create an opportunity cost.	Scoping issue — No further assessment		No
Hazards and risks	Safety	The key safety risks would be associated with the release or combustion of gas during commissioning and operation. A preliminary hazard analysis would be prepared as part of the EIS.	Detailed assessment in EIS	– *State Environmental Planning Policy (Resilience and Hazards) 2021*	No
	Coastal hazards	The project is not located in the coastal zone.	Scoping issue — No further assessment		No
	Flood waters	The project is not located in an area of high flood risk. The Namoi River flood plain is located to the east of where the proposal joins the HGP.	Scoping issue — No further assessment		No
	Bushfire	The uncontrolled loss of gas leading to a fire or explosion, or the ignition of a bushfire may occur during construction or operation of the proposal. The EIS would consider any relevant criteria under Planning for Bushfire Protection (PBP RFS 2019) to reduce the potential bushfire hazard of the proposal.	Standard assessment in EIS	– PBP RFS 2019	NO
	Under-mining	Previous underground mine workings have not been identified in the proposal area.	Standard assessment in EIS	–	No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
	Steep slopes	The project would generally be on relatively flat terrain and involve relatively limited excavation, meaning slope risks would be very limited. Areas that would be excavated for construction would be restored to similar to pre-existing condition, as far as practicable	Scoping issue — No further assessment		No
	Waste	The construction, and to a lesser degree, the operation of the project would have the potential to generate waste materials including excess excavated material, removed vegetation, and general construction waste. All waste generated during the construction and operation of the project would be appropriately classified, transported, and disposed of by suitably licensed waste contractors and at licenced facilities.	Standard assessment in EIS	– *Protection of the Environment Operations Act 1997*	No
	Industrial hazard	The proposal is not located within an industrial area. The EIS would consider any relevant criteria under Hazardous Industry Planning Advisory Paper No 4 Risk Criteria for Land Use Safety Planning (DPIE 2011).	Scoping issue — No further assessment	– Hazardous Industry Planning Advisory Paper No 4 Risk Criteria for Land Use Safety Planning	No
	Contamination	No existing areas of contamination have been identified along the pipeline alignment during preliminary scoping. If contamination is encountered, it would be addressed under the relevant provisions of the CLM Act and the R&H SEPP. Management measures would be identified in the CEMP for encountering unanticipated contamination during construction.	Scoping issue — No further assessment		No
Heritage	Aboriginal cultural / Native Title	The Pilliga, including part of the project area, has cultural significance to Aboriginal people, both for known heritage sites and the heritage value of the natural environment more generally. The project area is understood to contain in the order of 100 known Aboriginal heritage sites and is likely to contain additional unknown Aboriginal heritage sites. Where possible, the project would be developed in a manner that avoids each of those known sites and other sites of high significance if encountered during construction.	Detailed assessment in EIS	– *Native Title Act 1993* *National Parks and Wildlife Act 1974*	No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		An Aboriginal heritage assessment would be carried out as part of the EIS for the proposal. The assessment would include field survey and validation, particularly at the locations of fixed infrastructure. RAPs would also be consulted during the assessment.			
	Historic	There are no items of State or local heritage within proximity to the project area. The project is not expected to cause impacts to items of built heritage. A procedure for unexpected finds will be included in the mitigation measures proposed in the EIS.	Standard assessment in EIS	– Commonwealth *EPBC 1.1 Significant Impact Guidelines – Matters of National Environmental Significance* (Commonwealth of Australia 2013) – Commonwealth *EPBC 1.2 Significant Impact Guidelines – Actions on, or Impacting upon, Commonwealth Land and Actions by Commonwealth Agencies* (Commonwealth of Australia 2013) – *NSW Skeletal Remains: Guidelines for Management of Human Remains* (Heritage Office 1998) – *Criteria for the Assessment of Excavation Directors* (NSW Heritage Council 2011)	No
Land	Stability and/or structure	The project would generally be on relatively flat terrain and involve relatively limited excavation, meaning risks of land stability and/or structure would be low. Where excavation is required to achieve desired grades, standard engineering practices would be implemented to ensure stability is maintained.	Scoping issue — No further assessment		No

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
	Soil chemistry	The project would involve excavation, stockpiling and backfilling of soil with the potential to affect the pre-existing soil chemistry and profile. Soil impacts are likely to be negligible to minor.	Scoping issue — No further assessment		No
	Capability	Some temporary minor impacts to primary production may be experienced during construction. Following reinstatement, cropping and other shallow root planting may continue to be carried out within the easement.	Standard assessment in EIS		No
	Topography	The project would generally be on relatively flat terrain and involve relatively limited excavation, meaning impacts to topography would be very limited. Areas that would be excavated for construction would be restored to similar to pre-existing condition, as far as practicable.	Scoping issue — No further assessment		No
	Acid sulfate soils	The proposal is not located in an area of identified inland acid sulfate soils.	Scoping issue — No further assessment		No
Social	Cohesion, capital and resilience	The project is not expected to cause impacts that would significantly affect social cohesion, capital and resilience. The social impacts of the project would be assessed in a social impact assessment.	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects	No
	Housing	Construction of the project would require a workforce that may require temporary accommodation in and around Narrabri. This would increase demand for accommodation, which would benefit accommodation providers, but could reduce availability for tourists. The SIA prepared for the Narrabri Gas Project in 2016 (GHD, 2016) identified that the townships of Narrabri and Boggabri host large accommodation camps, each with a capacity for 500 persons. In addition to this, Narrabri Shire also has a number of short-term accommodations facilities including hotels, caravan parks and motels. Notwithstanding this availability, the SIA identified that with future growth opportunities in Narrabri Shire due to the emerging resource industries there has been	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects	Yes

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		increased demand for all types of housing and increased demand for temporary accommodation.			
	Surroundings	The presence of construction activities and associated equipment in the Pilliga State Forest may negatively affect the aesthetic nature of the area for recreation users of the forest. Construction activities may disrupt some recreational users of the State Forest, such as people hunting and birdwatching.	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects	
	Accessibility	Construction activities would include construction within road reserves. This may result in temporary disruptions to the local road network and may impact on residents' access to properties. The construction of the project would generate additional light and heavy vehicle movements on the local road network including mobilisation of the workforce and delivery of construction materials. Due to the rural nature of the local and regional study area, it is not likely that construction traffic would impact on the operation of the road network, or cause any delays to people travelling along those roads. Access and connectivity: The proposed alignment crosses a rail corridor adjacent to Curracabah Road, south of Baan Baa town. This rail corridor is utilised by the North West NSW TrainLink network. Construction activities would be coordinated so as to not disrupt the rail network. Access and connectivity: Where located on private property, access arrangements would be required during construction and operation. This may result in temporary disruptions on residents' access to properties.	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects	
	Social infrastructure and services	A non-resident workforce may increase demand on social infrastructure services and facilities such as emergency services, health services, and recreational facilities. This is most likely to occur in areas where the non-resident workforce would be accommodated, such as Narrabri. The SIA prepared for the NGP in 2016 (GHD, 2016) indicated the majority of social	Standard assessment in EIS	– Social Impact Assessment Guideline for State Significant Projects	

Issue	Sub-issue	Discussion	Scope	Legislation, policy and guidelines	Cumulative impact assessment
		infrastructure services and facilities have sufficient capacity for the current demand and for future growth. The project may slightly increase demand for services, but is likely to be minor and able to be absorbed by most services.			
Water	Water quality	There is the potential for erosion and sedimentation, or accidental spill impacts during construction. Standard environmental management measures would be employed during construction to manage risks to water quality. No impacts on water quality are anticipated during operation.	Standard assessment in EIS	– Australian and New Zealand Guidelines for Fresh & Marine Water Quality 2018	No
	Water availability	Potable water may be required for construction staff and would likely be tanked in. Significant volumes of construction water are not anticipated to be required. Water availability is not anticipated to be at risk during construction or operation because of the proposal.	Scoping issue — No further assessment		No
	Hydrological flows	The proposal is not expected to result in changes to hydrology and geomorphology as the pipeline would be buried.	Standard assessment in EIS	– *Water Management Act 2000*	No

6.2 Cumulative impacts

The potential for cumulative noise, traffic, air quality and other environmental impacts associated with the proposal would be considered as part of the preparation of the EIS. The proposal may coincide with the delivery of the NGP and the HGP, both to be delivered by Santos, so relevant project management and environmental mitigation measures will be considered as part of project development to coordinate tasks across the three projects and seek to minimise cumulative impacts on the environment and local sensitive receptors.

The DPE (2022) *Cumulative Impact Assessment Guidelines for State Significant Projects* would be considered as part of the preparation of the EIS.

7. Conclusion

The purpose of this report is to provide preliminary information on the project and to identify relevant environmental matters and impacts in support of a request for SEARs under the EP&A Act. It has identified several relevant environmental matters and impacts for assessment including the following key issues:

- Amenity — including potential noise impacts and visual impacts.
- Biodiversity
- Aboriginal cultural heritage / Native Title
- Hazards and risks — including potential hazards posed by the transmission of gas.

Other issues for assessment in the EIS would include potential impacts of the project on traffic and access, the community and economic issues.

8. References

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Australian Pipeline and Gas Association 2022, *Code of Environmental Practice, Onshore Pipelines, https://www.apga.org.au/sites/default/files/uploaded-content/field_f_content_file/apga_code_of_environmental_practice_2022.pdf.*

DPE 2011, Hazardous Industry Planning Advisory Paper No 4 Risk Criteria for Land Use Safety Planning, https://www.planning.nsw.gov.au/-/media/Files/DPE/Other/hazardous-industry-planning-advisory-paper-no-4-risk-criteria-for-land-use-safety-planning-2011-01.pdf?la=en

DPIE 2021a, *State significant infrastructure guidelines – preparing a scoping report*

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DPIE 2021c, *Cumulative Impact Assessment Guidelines for State Significant Projects*, https://www.planning.nsw.gov.au/-/media/Files/DPE/Guidelines/Policy-and-legislation/GD1259-RAF-Assessing-Cumulative-Impacts-Guide-final.pdf

GHD 2017, Narrabri Gas Project, Environmental Impact Statement, https://www.planningportal.nsw.gov.au/major-projects/project/10716

GHD 2018, Narrabri Gas Project, Response to Submissions, https://www.planningportal.nsw.gov.au/major-projects/project/10716

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