Sturt Plateau Pipeline

Economic Impact Assessment undertaken for SLR Consulting Pty Ltd

14 August 2024

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Contents

1 Introduction

1.1. Project context and overview

APA SPP Pty Ltd (APA SPP) is proposing to develop the Sturt Plateau Pipeline (SPP or the Project), a 37-kilometre pipeline to support the development of Tamboran Resources' assets in the Beetaloo Basin. The SPP is planned to provide a connection between the Sturt Plateau Compression Facility (SPCF) to the Amadeus Gas Pipeline (AGP).

The Beetaloo Basin is a globally significant gas reserve 500km southeast of Darwin, estimated to contain 500 trillion cubic feet of natural gas. The Northern Territory (NT) and Australian Governments are committed to supporting gas exploration and development in the Basin, as reflected through the *Northern Territory Gas Strategy* and *Beetaloo Strategic Basin Plan.*

The associated entity APA Group Limited (APA Group) is an Australian energy infrastructure owner and operator, with holdings including the 1,658km AGP, and a 15,000km overall portfolio of natural gas pipelines across Australia.

A proposal, such as the SPP, requires referral to the NT Environment Protection Authority (NT EPA) in accordance with the *Environment Protection Act 2019 (EP Act)* if it has the potential to have a significant impact on the environment, or meets a referral trigger. The definition of 'environment' in section 6 of the EP Act includes all aspects of the surroundings of humans including physical, biological, economic, cultural, and social aspects.

APA SPP has engaged SLR Consulting Pty Ltd (SLR) to prepare the appropriate referral documentation to assist with navigation of the approvals process. SLR engaged PricewaterhouseCoopers (PwC) to undertake an Economic Impact Assessment (this Report) of the SPP to assist the NT Government in evaluating the Project and its potential value to the NT economy.

This Report assesses the expected economic impact of the Project, including an estimation of direct and indirect impacts on the NT and Australian economy in both its construction and operating phases. The findings of this Report will be appended to APA SPP's submission to the NT EPA.

1.2. Report structure

This Report has been structured to provide a holistic view of the Project, including an analysis of how the SPP will support the development of related infrastructure, the strategic context and rationale for development of the SPP, and the potential economic impacts as a result of the Project.

This Report is structured as follows:

- **Section 2: Key findings** summarises the results of economic modelling of the potential impact of the construction and operations phases of the Project, as well as a brief overview of additional economic impacts.

- **Section 3: Project details** provides an overview of the Project and its strategic context, operating model, related projects, constraints, and opportunities. This section also provides a high-level overview of risks associated with the Project.

- **Section 4: Methodology and assumptions** presents an overview of the economic impact assessment methodology used for this Report and provides a summary of the assumptions and inputs used for economic modelling, as well as further detail on the staging of the Project.

- **Section 5: Economic impacts** presents the results of economic modelling of the potential impact of the construction and operations phases of the Project, including the impact on output, employment, wages, and salaries and gross value-added for both the NT and Australia.

- **Section 6: Other economic impacts** provides an overview of additional economic impacts not captured in section 4, including potential benefits to regional development and First Nations employment.

2 Key findings

2.1. Purpose and overview

This chapter provides a summary of the expected economic impact associated with the Project, including the:

- impact of construction
- impact of operations
- other economic impacts.

Economic modelling results are presented as various measures of economic activity. These measures include output, employment, wages and salaries, value-added and gross regional product (GRP). An overview of each of these measures is outlined in Table 1, below.

Table 1: Measures of economic activity

Impact	Description
Output	The gross revenue generated by businesses and organisations in a defined region. Gross revenue is also referred to as total sales or total income.
Employment	The number of people employed by businesses and organisations in a defined region. Jobs figures are presented on an annualised, full-time equivalent (FTE) basis. That is, a full-time employed person working for six months represents an FTE of 0.5.
Wages and salaries	The payments to employees for a specific period worked, paid by businesses and organisations in a defined region.
Value-added	The incremental economic value that is added by each industry sector in a defined region. Value-added can be calculated by adding the wages and salaries paid to local employees, the gross operating surplus and taxes on products and production. Value added is also the difference between gross output (see above) and intermediate inputs (e.g., raw materials, semi-finished goods).
Gross state product (GSP)	GSP is a measure of the total economic production of a state economy and is the state equivalent of GDP.

2.2. Impact of construction

Developing the proposed pipeline and related infrastructure would directly benefit the NT and Australia through increased employment and expenditure in the territory and national economy. Using suppliers and construction companies that are based in the NT and nationally, the development would directly support roles in heavy and civil engineering and construction roles over the construction period.

Table 2 summarises the economic impact of the construction phase of the Project in the NT. Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $18.2 million in the NT.

Table 2: Summary of economic impact of the construction phase of the Project in the NT[1]

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$10.4	$5.0	$2.9	**$18.2**	1.5	1.8
Employment – peak gain Yr 1 (jobs)	6	5	4	**15**	1.8	2.5
Wages and salaries, Yrs 1-2 ($m, real 2024)	$2.1	$1.1	$0.6	**$3.9**	1.5	1.8
Value-added, Yrs 1-2 ($m, real 2024)	$4.0	$1.9	$1.7	**$7.6**	1.5	1.9

From a direct increase in output of $10.4 million over the two-year period, it is estimated that the demand for intermediate goods and services would rise by $5.0 million. This represents a Type 1 Output multiplier of 1.5. Type 1 Multipliers only look at business-to-business purchases and represent direct plus indirect effects.[2]

The Type 1 multiplier reflects the scale of engineering and heavy construction required for the complex construction components of the Project. These supply-chain effects include multiple rounds of flow-on effects, as servicing sectors increase their own output and demand for local goods and services in response to the direct change to the economy.

The increases in direct and indirect output during the construction phase would typically correspond to the creation of jobs in the economy and a subsequent increase in the total wages and salaries paid to employees. The proportion of these wages and salaries is spent on consumption and captured in the local economies of the NT. The consumption effects under this scenario are estimated at $2.9 million in the NT.

Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $18.2 million in the NT. This represents a Type 2 Output multiplier of 1.8. Type 2 Multipliers include the impact of household spending and capture the direct, indirect and induced effects of an industry.

Table 3 summarises the economic impact of the construction phase of the Project in Australia. Reflecting the larger portion of direct increase of economic activity across Australia, the Project has a larger economic impact with a total increase in output of $123.3 million overall.

Table 3: Summary of economic impact of the construction phase of the Project in Australia

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$48.3	$43.3	$31.7	**$123.3**	1.9	2.6
Employment – peak gain Yr 2 (jobs)	40	66	56	**162**	2.7	4.1
Wages and salaries, Yrs 1-2 ($m, real 2024)	$9.9	$9.2	$6.5	**$25.7**	1.9	2.6
Value-added, Yrs 1-2 ($m, real 2024)	$18.7	$16.5	$16.0	**$51.2**	1.9	2.7

[1] Given the level of accuracy of input data, all figures in this section have been rounded to one decimal place. This may lead to variances in multiplying 'rounded' inputs and factors.

[2] A Type 1 output multiplier of 1.5 (1.48 rounded to 1 decimal place) means that for every $1 spent on the Project's construction, 48.0 cents of benefit is created in the supply chain.

2.3. Impact of operations

Due to the nature of the Project, ongoing activities are largely limited to maintenance and patrols, and do not require a significant level of expenditure. The initial contract life of the Project is 15 years, with an overall design life of 40 years. The staff required for operational activities are expected to be resourced out of existing APA Group staff responsible for the AGP, with existing offices in Tennant Creek and Katherine. Economic impacts have therefore been modelled as occurring in the NT. Table 4Table 15 summarises the estimated annual impact of the Project's operations in the NT.

Table 4: Summary of economic impact of operations in the NT, per year

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output ($m, real 2024)	$1.00	$0.48	$0.28	**$1.76**	1.5	1.8
Employment – jobs each operating year*	1	1	1	**3**	2.0	3.0
Wages and salaries ($m, real 2024)	$0.21	$0.11	$0.06	**$0.37**	1.5	1.8
Value-added ($m, real 2024)	$0.39	$0.18	$0.16	**$0.73**	1.5	1.9

** Operational activities for the pipeline will be undertaken by 2 existing APA Group employees; these are not included in the economic analysis as they do not represent incremental employment as a result of the Project. Rather, the economic modelling captures the effect of $1m in additional operational expenditure as being 3 FTE across the NT economy, including supply-chain and consumption effects.*

2.4. Other economic impacts

The economic impact analysis presented above only measures employment and contribution outcomes of the Project from input-output modelling. It does not capture the full extent of the benefits of the Project, including wider economic impacts.

The economic impacts that have been quantified were limited to impacts directly attributable to the Project, and not of any upstream or downstream effects of potential related activities such as the linkage to the development of the Tamboran Resources assets. The benefits discussed below should be understood in this context, being only partially attributable to this Project.

- **Overall tax and royalty payments** – the pipeline will enable the extraction of gas from the Beetaloo Basin, and may result in additional royalty payments under the *Petroleum Royalty Act 2023 (NT)*. As alluded to above, any additional royalty payments are only partially attributable to the pipeline, as distinct from separate investment in exploration and extraction by Tamboran Resources. The Project will also generate additional taxation payments to the Australian and NT Governments throughout construction, through company and goods and services taxes, as well as payroll tax and stamp duties at the Territory level.
- **First Nations employment** – the Project will provide an opportunity to increase Indigenous and local employment in the heavy and civil engineering construction sector, as well as in related administrative and professional services. APA SPP will aim to maximise Local Content and Indigenous Participation for the Project. The Project has no set targets, but will aim for 4% Indigenous Participation, that can be achieved through a combination of employment, supply or other participation activities including training.
- **Regional benefits** – the Project is designed to support the development of Tamboran Resources' Beetaloo Basin assets. Gas from the Beetaloo is a strategic component of the Northern Territory Government's industrial development policy through the *Our Territory Gas Strategy*, and in particular through the Middle Arm industrial development which would hold facilities that enable the export of gas, including to the East Coast.

Middle Arm is designed to attract a range of future-oriented industries, including advanced manufacturing, critical minerals, renewables, and low emissions fuels. The precinct is expected to feature CCUS as a mitigator for any emissions-intensive activities at Middle Arm. As a part of the precinct, the NT government has provided Tamboran Resources with exclusivity over 420 acres for a proposed LNG development – Northern Territory LNG (NTLNG).

- **Impact to neighbouring businesses** – the planned Middle Arm sustainable development industrial precinct[3] has the potential to catalyse Darwin's growth as an advanced manufacturing and energy transition technologies hub. While the Project is not directly related to the Middle Arm development, as outlined above gas from the Beetaloo is a strategic component of the *Our Territory Gas Strategy*, of which the Middle Arm precinct is a key lever. The potential agglomeration benefits from co-location will support the competitiveness of the NT economy and deliver economic opportunities to businesses in the region.

- **Value of exports to the NT and Australian economies** – the Project is designed to support the development of Tamboran Resources' Beetaloo Basin assets. Future projects based on these assets beyond this pipeline will support export through the Middle Arm precinct and into the East Coast and international LNG gas markets, including to key Australian trading partners in East Asia, being Japan, China, Taiwan, and South Korea.

[3] NT Government (2024), *Middle Arm Sustainable Development Precinct,* https://middlearmprecinct.nt.gov.au/__data/assets/pdf_file/0010/1263727/the-precinct-project-overview.pdf

3 Project details

3.1. Purpose and overview

This chapter provides overview of the Project, including the specifications of the pipeline, project constraints and opportunities, timing and project planning. It also discusses the potential economic benefits and disbenefits that are expected to be influenced by the Project from a strategic perspective.

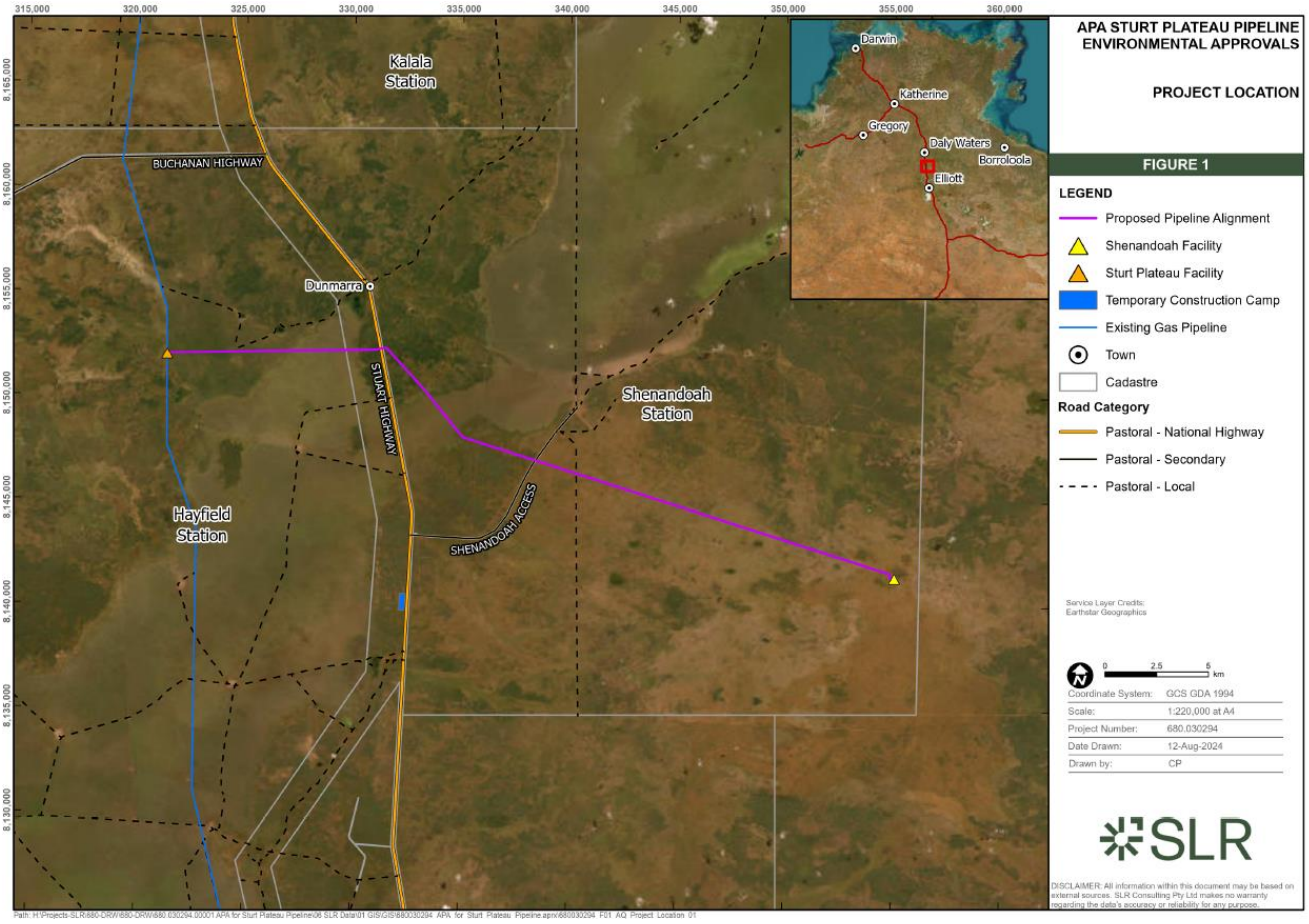
3.2. Project overview

APA SPP is proposing to construct the SPP with the aim of connecting Tamboran Resources' gas development in the southern Beetaloo Basin to the existing AGP, a 1,658km pipeline that extends from the Amadeus Basin in the south of the Northern Territory to Darwin.

3.2.1. Project specifications

The Project proposes to construct an approximately 37km pipeline to connect Tamboran Resources' gas development in the Beetaloo Basin to the Amadeus Gas Pipeline. The proposed pipeline lies in the Roper Gulf LGA, crossing the Stuart Highway south of the Carpentaria Highway, and is located approximately 80km north of Elliott. Figure 1 shows the proposed alignment of the pipeline and its connection to the existing AGP.

Figure 1: Proposed alignment for the Sturt Plateau Pipeline



Source: Provided by SLR

The Project will involve the construction, operation and maintenance of:

- a buried, medium diameter (DN300), gas transmission pipeline (up to 9.6 MPaG) of approximately 37 km in length
- surface facilities including, a receipt station (Shenandoah facility) and a delivery station (Sturt Plateau facility).

The proposed pipeline would be approximately 37 km in length and buried to a minimum of 750 mm, with a 30m wide construction Right of Way. The pipeline will typically be constructed from 18 metre individual pipe lengths. Construction is proposed to begin in Q3 2025 with operations commencing in late 2025 or early 2026.

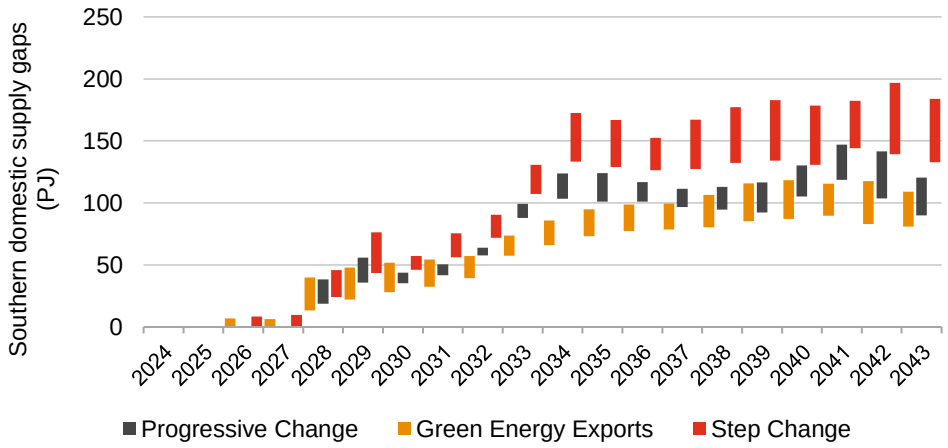
3.2.2. Strategic context

In 2021-22, gas provided 27% of Australia's energy needs, and made up about 90% of the NT's electricity generation.[4] The Australian Energy Market Operator's *2024 Gas Statement of Opportunities (GSOO)*[5] projects that gas will continue to be a part of Australia's energy needs as it transitions to net zero emissions. While gas consumption by residential, commercial and industrial consumers is forecast to decline, relatively faster declines in production in southern Australia signals a potential risk of shortfall on peak demand days from 2025. The GSOO also forecasts that annual supply gaps will require new sources of supply from 2028.

Figure 2 shows the range of domestic annual supply gaps forecast in southern regions in three AEMO scenarios. Annual shortfalls of up to 50PJ are projected by the end of the decade, with a wide divergence in scenarios from 2033 based on a number of factors including the rate of transition in residential and commercial buildings.

In all scenarios and options assessed, AEMO projects that significant new supply would be required from northern regions including the NT to support both forecast LNG export demand and domestic consumption. The 2024 GSOO indicates that approximately 7,000PJ for additional northern gas above what has been committed and anticipated will be required in the period to 2043, likely requiring further exploration and development.

Figure 2: Range of domestic annual supply gaps forecast in southern regions based on existing, and anticipated developments, all scenarios, 2023-43 (PJ)



[4] Australian Government (2024), *Future Gas Strategy*, https://www.industry.gov.au/sites/default/files/2024-05/future-gas-strategy.pdf

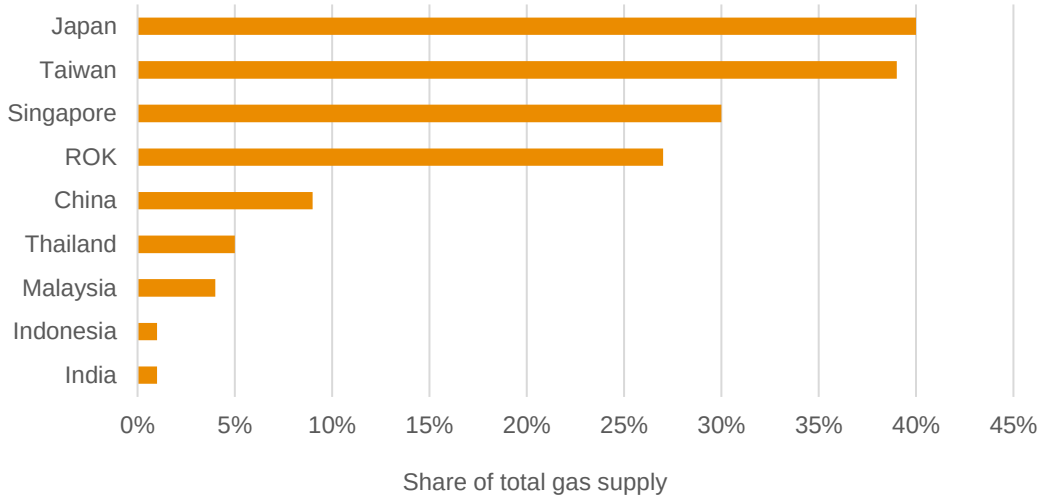
[5] Australian Energy Market Operator (AEMO) (2024), *Gas Statement of Opportunities,* https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/gsoo/2024/aemo-2024-gas-statement-of-opportunities-gsoo-report.pdf?la=en

Source: (AEMO) (2024), *Gas Statement of Opportunities*

The Commonwealth Government's *Future Gas Strategy* sets out the Government's policy on the role of gas in the energy transition. The Strategy recognises that while residential and commercial consumption of gas will fall, demand from hard-to-abate industries will still need to be met. At the same time, continued investment in the development of gas will be required to maintain affordability for residential and commercial users through the transition.

The Strategy also recognises a commitment to maintaining Australia's LNG export industry. Australian LNG makes up about 20% of the global LNG trade, with Australia exporting 81Mt of LNG in 2022-23.[6] Figure 3 shows Australia's share of total gas supply to a number of key trading partners, including Japan, China, Taiwan, and South Korea.

Figure 3: Australian LNG as share of total gas supply, selected economies, 2022



Source: Department of Industry, Science and Resources (2024), *Future Gas Strategy*

The *Northern Territory Gas Strategy* sets out the NT Government's vision for the NT's gas industry, including an expansion of Darwin's LNG export hub, establishment of gas-based processing and manufacturing, and growth in the NT's service and supply industry.

The Strategy highlights the Beetaloo Sub-basin as a globally significant gas reserve, significance also recognized through the Australian Government's *Beetaloo Strategic Basin Plan*. Through the Strategy and Plan, the NT and Australian Governments jointly commit to funding to support exploration and deliver infrastructure upgrades required to support gas development in the Basin.

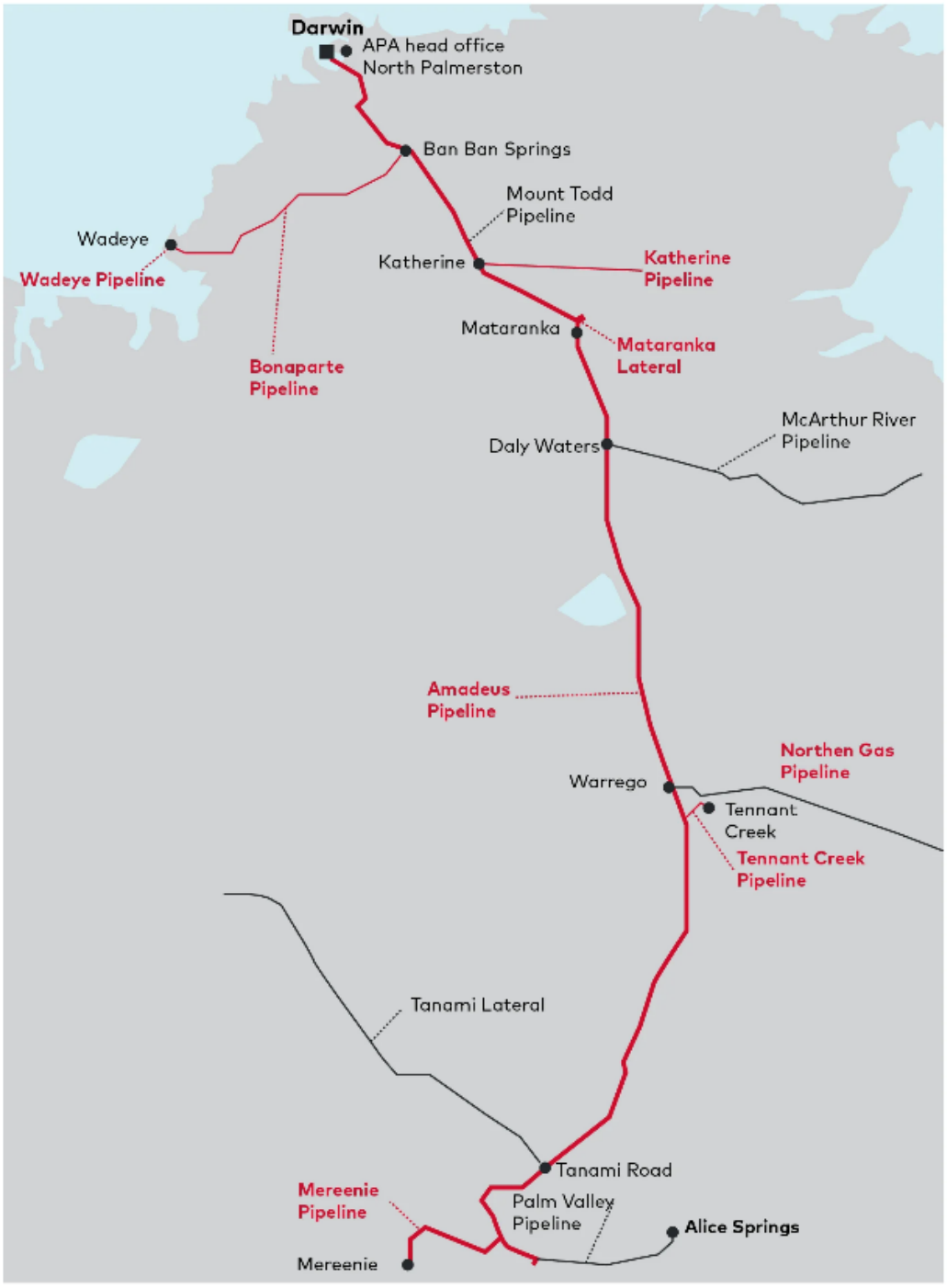
3.2.3. Overview of major gas infrastructure in the NT

The NT hosts 17 major gas pipelines, many of which connect to the 1,658km AGP.[7] Commissioned in 1986, the AGP transports gas to Darwin, Katherine, and other locations to fuel electricity generation. Figure 4 outlines the proposed location of the pipeline.

[6] Department of Industry, Science and Resources (2024), *Future Gas Strategy*, https://www.industry.gov.au/sites/default/files/2024-05/future-gas-strategy.pdf

[7] AEMC (2024), *Gas pipeline register,* https://www.aemc.gov.au/energy-system/gas/gas-pipeline-register

Figure 4: Alignment of the Amadeus Gas Pipeline



Source: APA Group (2019), *Amadeus Gas Pipeline 2021-26 Access Arrangement*

Table 5 provides an overview of gas distribution and transmission pipelines in the NT.

Table 5: NT Distribution and Transmission Pipelines[8]

Title	State	Type	Owner
Owen Springs Lateral Extension	NT	Transmission	Power and Water Corporation
Tanami Pipeline	NT	Transmission	AGIG Tanami Pty Ltd
Joint Defence Facility Pine Gap Service Line	NT	Transmission	Australian Gas Networks
Bayu Undan to Darwin LNG Pipeline	NT	Transmission	ConocoPhilips Pipeline Australia Pty Ltd
DLNG to PWC Pipeline	NT	Transmission	ConocoPhilips Pipeline Australia Pty Ltd
Wickham Point Pipeline, Weddell Lateral and WPP Inpex Lateral	NT	Transmission	Ell Pipelines (WPP) Pty Ltd *(APA part ownership)*
Mt Todd Lateral	NT	Transmission	APA Group
Mataranka Lateral	NT	Transmission	APA Group
Elliot Lateral	NT	Transmission	APA Group
Darwin Distribution System	NT	Distribution	APA Group
McArthur River Pipeline	NT	Transmission	Power and Water Corporation
Northern Gas Pipeline	NT, QLD	Transmission	Jemena
Darwin city gate to Berrimah Pipeline	NT	Transmission	APA Group
Bonaparte Gas Pipeline and Wadeye Lateral	NT	Transmission	Ell: Energy Infrastructure Investment
Palm Valley to Alice Springs Pipeline	NT	Transmission	Australian Gas Networks
Alice Springs Distribution Network	NT	Distribution	Australian Gas Networks
Amadeus Gas Pipeline	NT	Transmission	APA Group

Source: AEMC (2024), *Gas pipeline register*

[8] Ibid 2

APA Group own stakes in two transmission pipelines in the NT, the AGP and Bonaparte Gas Pipelines (BGP); and one distribution pipeline, the Darwin Distribution System (DDS).[9]

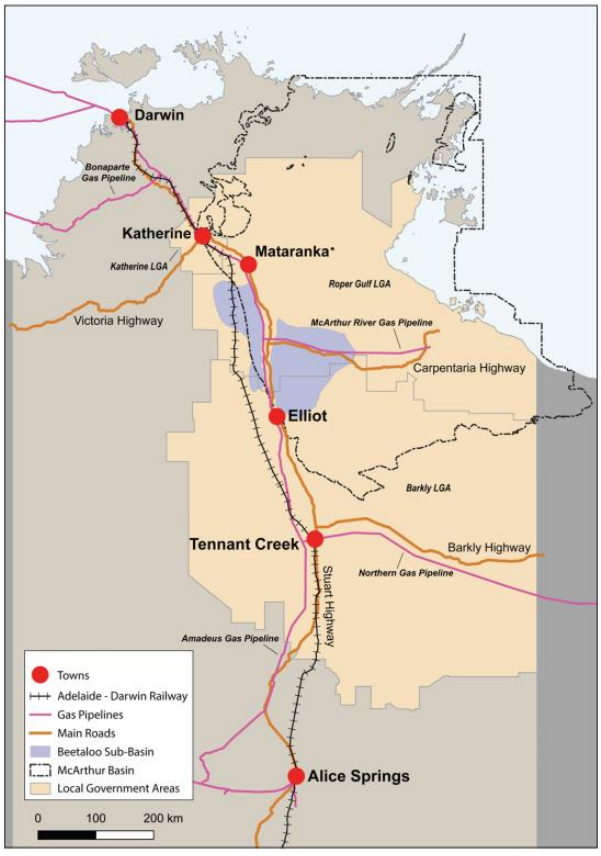
The proposed 37km SPP will connect Tamboran Resources' early development sites including a proposed 40 million cubic feet per day (mmcf/d) SPCF and the AGP.

In addition to these transmission and distribution pipelines, the NT hosts an LNG export terminal at Darwin Port, which holds the 3.7mn t/yr Darwin LNG and 8.9mn t/yr Ichthys LNG plants. The territory government is seeking to expand Darwin's LNG export hub, including the consideration of large-scale Carbon Capture Utilisation and Storage (CCUS) technologies.

3.2.4. The Beetaloo Sub-Basin

The Beetaloo sub-basin is a gas reserve approximately 500km southeast of Darwin in the NT, which is estimated to hold over 200,000PJ of gas. Exploration results also show the presence of liquids-rich gas and potential oil resources. Beetaloo covers 28,000km^2 of land, and sits within the larger 180,000km^2 McArthur Basin which covers the majority of the north-east of the NT.[10] Figure 5 provides an overview of the Beetaloo Sub-Basin within the McArthur Basin.

Figure 5: Beetaloo Sub-Basin within the McArthur Basin



Source: Department of Industry, Science, Energy and Resources (2021), *Unlocking the Beetaloo; The Beetaloo Strategic Basin Plan*

[9] AEMC (2024), *Gas pipeline register,* https://www.aemc.gov.au/energy-system/gas/gas-pipeline-register

[10] Australian Government (2021), *Unlocking the Beetaloo – The Beetaloo Strategic Basin Plan*, https://www.industry.gov.au/sites/default/files/January%202021/document/beetaloo-strategic-basin-plan.pdf

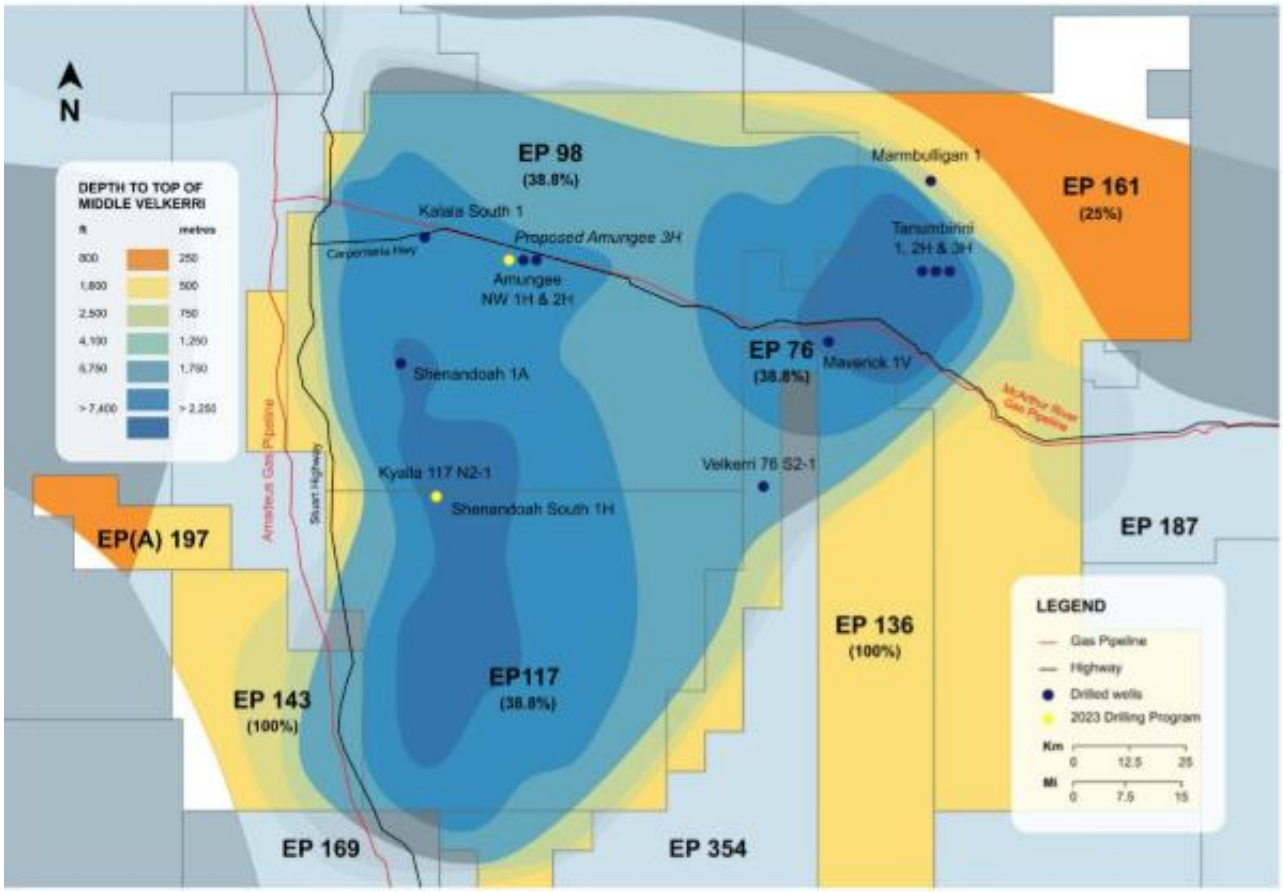
Beetaloo gas is a key part of the development of a territory government-led initiative to support the development of sustainable energy industries in the NT including zero emission renewables, including solar and green hydrogen, lower-emission energy and fuels being blue hydrogen and natural gas, and manufacturing of energy transition enabling products such as batteries.[11]

The remoteness of the area means that new infrastructure investment, such as the SPP, will be required to process gas and transport it to end users, particularly along the east coast.

Tamboran Resources Development Sites

The SPP is designed to support Tamboran Resources' early development sites, connecting proposed pilot development at Shenandoah South to the AGP to enable the commencement of gas sales under an existing gas sales agreement for 36.5PJ (100mmcf/d) of gas.[12] Figure 6 shows the location of Tamboran Resources' assets relative to the Amadeus Gas Pipeline.

Figure 6: Tamboran Resources Beetaloo Basin Asset Locations



Source: Tamboran Resources (2023), *Capital raise to unlock Beetaloo Basin development*

[11] NT Government (2024), *Middle Arm Sustainable Development Precinct*, https://middlearmprecinct.nt.gov.au/__data/assets/pdf_file/0010/1263727/the-precinct-project-overview.pdf

[12] Tamboran Resources (2023), *Capital raise to unlock Beetaloo Basin development,* https://www.tamboran.com/wp-content/uploads/2023/06/230627-Hannam-Partners-Capital-Raise-to-unlock-Betaloo-Basin-Development.pdf

Middle Arm Sustainable Development Precinct

The Middle Arm Sustainable Development Precinct is a collaboration project between the NT and federal governments to invest tens of billions of dollars into clean energy industries such as low emissions hydrocarbon and hydrogen production, carbon capture storage and storage of minerals processing.[13]

As a part of the precinct, the NT government has provided Tamboran Resources with exclusivity over 420 acres for a proposed LNG development – Northern Territory LNG (NTLNG).[14] Figure 7 provides a diagram of the proposed NTLNG facility.

The development is currently in Concept Select engineering phase, targeting Net Zero Scope 1 and 2 emissions for an initial production of 6.6 MTPA of LNG. Tamboran Resources aims to commence pre-Front End Engineering and Design (FEED) in 2024, with an aim to commence LNG sales from 2030.[15]

Figure 7: Site concept for Tamboran Resources' NTLNG project

Source: Tamboran Resources (2023), *Visiting the Beetaloo*

3.2.5. Risks and potential obstacles to delivery

There are a number of risks and potential obstacles involved with the development of the Project to ensure delivery within the specified timeframe, which will require management and mitigation. Any delays to the Project's delivery schedule will have operational impacts for APA SPP and Tamboran Resources. We include a discussion of some of the main risks and potential obstacles below.

[13] NT Government (2024), *Middle Arm Sustainable Development Precinct,* https://middlearmprecinct.nt.gov.au/__data/assets/pdf_file/0010/1263727/the-precinct-project-overview.pdf

[14] Tamboran Resources (2023), *Visiting the Beetaloo*, https://www.tamboran.com/wp-content/uploads/2023/09/230920-Hannam-Partners-Visiting-the-Beetaloo.pdf

[15] NTLNG (2024), *NTLNG: Fueling a Sustainable Future,* www.ntlng.com

Weather impacts to construction

Sturt Plateau has a dry and monsoonal climate. Significant weather events outside of expected patterns can cause delays to construction timeframes, especially as the region is relatively sparsely supported in terms of infrastructure.

Materials or equipment impacts to construction

Insufficient or difficult to obtain materials and/or equipment required for the construction of the Project, could cause considerable delays to construction timeframes and ultimately to commissioning of the pipeline. While supply chain disruptions have eased following the COVID-19 pandemic, global cross-industry trends to building resiliency contribute to continuing cost and transit time pressures.

Recruitment

A tight labour market can impact APA SPP's ability to obtain the necessary workforce required to deliver the pipeline, which could lead to delays in the proposed delivery schedule. Furthermore, the ability to maintain the pipeline is dependent on having sufficient skilled workers available in the area. Should APA SPP be unable to source an appropriately skilled workforce, it will negatively impact the Project.

Uncertainty in gas supply and demand

There is a risk that gas from the Beetaloo basin may become relatively less competitive due to an unprecedented rise in global LNG supply currently under construction.[16] LNG markets are projected to face a glut in the second half of the decade, with supply in Qatar and the US driving new capacity to export LNG at a lower cost than Australia. There is also uncertainty about long-term demand for LNG in emerging Asian markets.[17] Several companies have undertaken exploration in the Beetaloo in the last few decades. This has not yet resulted in commercial development, with several medium to large sized players selling their stakes in the fields.[18]

Securing approvals

Should there be any delay to project approvals it will have flow on effects for delivery and timing of other stages of the Project. The NT government announced on 1 May 2024 that it will allow fracking in the Beetaloo basin, and granted approvals for 15 new gas wells at Tamboran Resources' Shenandoah South Project in June 2024. The approval followed the results of an inquiry into the gas industry and fracking in the NT from 2018. There is a considerable level of community interest in the development of the Beetaloo basin, both within the territory and external, including environmental and social concerns. This may impact approval processes and timelines.

Feasibility of related infrastructure

Carbon Capture Storage (CCS) technology is a core element of the plans for sustainability in the Beetaloo and Middle Arm projects. There is currently one operating CCS project in Australia, with several proposed.[19] The economics of the technology is yet to be proven.[20]

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[16] IEEFA (2024), *Beetaloo a $10bn pipe dream for gas producers*, https://ieefa.org/sites/default/files/2024-03/Beetaloo%20a%20%2410bn%20pipe%20dream%20for%20gas%20producers_Mar24_0.pdf

[17] IEEFA (2024), *Global LNG Outlook 2024-2028*, https://ieefa.org/resources/global-lng-outlook-2024-2028

[18] Ibid

[19] Geosciences Australia (2024), *Carbon capture and storage*, https://www.ga.gov.au/aecr2024/carbon-capture-and-storage

[20] International Institute for Sustainable Development (2023), *Why the Cost of Carbon Capture and Storage Remains Persistently High*, https://www.iisd.org/articles/deep-dive/why-carbon-capture-storage-cost-remains-high

4 Methodology and assumptions

This chapter provides an overview of the methodology implemented to undertake the economic impact assessment, and the assumptions that underpin it.

4.1. Methodology

This Economic Impact Assessment analyses the economic effects resulting from the SPP; primarily being due to economic activity relating to construction, including labour and materials required in preparatory activities. This assessment was completed through a REMPLAN input-output model utilised to estimate the economic impacts to the NT and Australia in terms of employment and output.

The REMPLAN model requires project specific inputs to measure impacts to the two regions of interest. This includes direct changes in jobs or output ($m) and can be broken down by sector. The economic impact for this Project is comprised of two periods, including construction contribution and operations contribution. The contribution for these phases is described below:

- **Construction contribution:** The corresponding contribution of the direct short term capital investment of the Project to the NT and Australia. This relates to the jobs supported and value added during the construction phase. This impact occurs only over the short term and does not represent a permanent increase to the outputs of the two regions of interest.
- **Operations contribution:** The ongoing contribution of the operations phase of the Project to the economic output, in terms of jobs and value added to the state. This represents the long-term annual expenditure of the facilities, permanent creation of FTEs, and ongoing contribution to Gross Value-Added (GVA) for the NT and Australia.

The total economic contribution of the Project has been assessed through the ‘direct’ and ‘supply-chain’ effects. The consideration of these two effects, and exclusion of the ‘consumption’ effect, ensures the total assessed benefit is a conservative representation of the benefits delivered from the Project. These effects are defined below:

- **Direct:** Effects related to the primary operations of the pipeline. At a high level, this represents the employment impacts and value added of the pipeline.
- **Supply-chain and industrial benefits:** the subsequent flow-on effects related to servicing sectors throughout Australia which increase their own output and demand for goods and services due to the increased purchasing impacts of the pipeline on the regional economy.
- **Consumption:** The increased expenditure derived from the change in salaries and wages because of direct and supply-chain effects. More specifically, this measures the portion of wages and salaries from the increased employment for the Project that is spent on consumption and captured in the local economy.

4.2. Assumptions and key inputs

This Economic Impact Assessment, conducted through the REMPLAN input-output model, requires a range of key inputs for the construction and operations periods. These inputs are discussed and outlined in this section. These assumptions are preliminary and based on the information available at this stage of the Project. As the costs and scope of the proposed pipeline are further developed in subsequent stages, these assumptions should be updated.

4.2.1. Construction phase

The inputs used for this phase of the Project include expenditure on the construction of the pipeline itself, as well as surface facilities to support the operation of the pipeline and temporary facilities required during the construction phase of the Project.

Development of the SPP is expected to cost approximately $57.4 million and will take place over an 18-month period, with a construction period of approximately 6 months. An indicative timeline for the construction phase is provided in Table 6, with pipeline commissioning expected in November or December 2025.

For the purposes of economic modelling, the Project will be modelled as having two project years, with year 1 being FY24/25 and year 2 being FY25/26. While there are some project activities that occurred in Q2 2024, these have been included as part of year 1 for modelling purposes. As shown in Table 6, year 1 activities include pre-construction and development phases.

Table 6: Indicative schedule for construction of the SPP

Element	2024			25			
	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Approvals and Access							
Front End Engineering Design							
Detailed Engineering Completion							
Long-Lead Item procurement							
Site Mobilisation (late July - Late August)							
Construction (late July - November 2025)							
Commissioning (November / December 2025)							

Source: Provided by APA SPP

Pipeline and facilities overview

The preferred pipeline alignment is approximately 37km in length and constructed of high strength steel line pipe. The wall thickness of the pipe will be determined during detailed design, and will comply with the Australian Standard (AS) 2885. Where conditions and the standard require heavier wall sections, such as at road crossings, the pipe wall thickness will be increased accordingly.

The pipeline is expected to be constructed from 18m individual pipe segments, which will be factory coated with fusion bonded epoxy or another material for corrosion protection, except at ends to allow welding.

The pipeline will be buried for its entire length to a minimum depth of 750mm, other than at surface facility locations. At locations where the pipeline is potentially exposed to increased erosional forces, such as watercourse crossings and floodplains, additional protection will be provided by increased depth of cover.

The pipeline will also be buried deeper beneath roads, in particular at the Stuart Highway Crossing. The road crossing will likely be a horizonal bored crossing, which would allow traffic to continue to use the road while the crossing is being installed underneath. The crossing will be constructed using a specialist crew to ensure installation is undertaken in a timely manner and any potential impacts to road users are limited.

The Project will require the construction of surface facilities to support the operation of the pipeline. These will likely comprise the following:

- A receipt station (Shenandoah facility) adjacent to the proposed Tamboran Resources facility
- A delivery station (Sturt Plateau facility) where the proposed pipeline intersects with the existing Amadeus Gas Pipeline (AGP).

All surface facilities will be bounded by security fencing.

Temporary facilities

In addition to these surface facilities, a range of temporary facilities will be required during the construction phase of the project.

Construction workforce will likely be accommodated in a temporary camp during the construction phase, which is expected to house a total of 150 people at its peak. The camp will provide accommodation as well as offices, first aid facilities, kitchen and dining, water and power supply as well as waste and wastewater management facilities. The camp will also include vehicle and plant wash-down facilities for biosecurity purposes.

Construction sequence

Construction of the pipeline will use typical methods for modern gas pipelines. The construction sequence will involve the following key steps:

- Preliminary survey works (including geotechnical surveys, installation of temporary gates in fences)
- Clearing of vegetation and grading the ROW
- Stripping and stockpiling of topsoil
- Delivery of 18 m pipe lengths to the ROW and welding into ‘pipe strings’
- Non-destructive testing (NDT) and coating
- Excavating a trench and any necessary bell holes in which to lay the pipe
- Lowering the pipeline strings into the trench and welding strings together
- Backfilling the trench with excavated material
- Crossing watercourses, roads by open cut trench, horizontal boring or HDD methods
- Installing pipeline markers at fences, road crossings and other locations as required by AS 2885
- Testing the structural integrity of the pipeline by hydrostatic testing
- Installing permanent gates in fences, where required
- Rehabilitating the ROW.

Pipeline testing and commissioning

The pipeline will be pressure tested prior to commissioning to ensure that the pipeline passes strength and leak tests. This is done through a process called hydrostatic testing whereby sections of the pipeline (test sections) are filled with water and then pressurised to a minimum of 1.25 times the maximum allowable operating pressure, for a minimum of 24 hours.

Temporary manifolds are welded to each end of the pipeline test section. The pipeline is then filled with water and pressurised. Pressure is then increased to assess the strength of the pipeline. The pipeline is then subjected to a leak test for a minimum of 24 hours to determine that the pipeline is leak free.

Pipeline commissioning

The pipeline will be commissioned following completion of hydrostatic testing and calliper pigging. Commissioning will proceed sequentially from the point where commissioning gas is available and subsequently on completion of the nominated sections.

Commissioning will be in accordance with a procedure prepared during the detailed design and construction phase of the Project and will involve instrument calibration, gas filling and testing and commissioning of stations and valves.

Local spending

The economic impact analysis should only consider expenditure in the region being assessed, as any impact from expenditure on imported goods or services will be experienced in the seller's country. For this Project, a portion of labour will be sourced locally from the NT, with the remainder from elsewhere in Australia.

In particular, during the active construction phase, an estimated 38 local staff will be required for the services and activities as described in Table 7. This is approximately one quarter of the construction staff required at the project camp, and equivalent to approximately 9 FTE.

Table 7: Indication of peak manning levels for construction service activities sourced within the NT

Activity	Peak Manning
Survey	2
Traffic Control	2
Site Security	2
Crane Hire	2
Freight Services (local)	2
Fabrication - metal	3
Survey	2
Waste Services	1
Water Bore Drilling	4
Line Pipe Haulage	4
Busing	2
Cranage	2
Fuel Supply	2
Traffic Control	2
Waste Services	1
Hire Services - fuel tank, containers, etc	4
Paramedic	1

Source: Provided by APA SPP

The distribution of construction costs for the Project as a whole, by cost category and by geographical attribution is shown below in Table 8. In particular, approximately 18% of the overall construction cost is attributable to the NT, 66% to the rest of Australia and a further 16% internationally.

The bulk of international costs is due to the line pipe supply, reflecting the general trend of steel products typically being manufactured and imported from overseas.

The economic impact of overseas expenditure will be experienced outside of Australia and excluded from this analysis. The economic impact of the Project's construction phase applicable to this analysis relates to the 84%, or approximately $48.3 million of the Project expenditure which will be spent in Australia.

Table 8: Construction costs by cost category and geographical attribution.

Cost category	Value	NT	Rest of Australia	International
Indirect – APA SPP Labour	$7,004,608	0%	100%	0%
Indirect – Materials, services, equipment	$4,834,921	69%	31%	0%
Direct – Line pipe, construction and facilities	$3,885,098	9%	58%	33%
Total	**$57,372,777**	**$10,362,337**	**$37,897,184**	**$9,113,256**
	100%	**18%**	**66%**	**16%**

Source: Provided by APA SPP, PwC analysis

Table 9 provides a summary of the assumptions used as inputs in the REMPLAN model that form the basis of this Economic Impact Assessment. As indicated above, only Project expenditure in Australia will be included in the analysis, totalling to $48.3 million over two years.

Table 9: Economic assessment inputs – construction period

Input	Region	Year 1	Year 2	Total
Pipeline construction ($m, real 2024)	*NT*	*6.1*	*4.2*	***10.4***
	Australia incl. NT	15.5	32.8	**48.3**
	International	9.1	-	**9.1**
Total ($m, real 2024)		**24.6**	**32.8**	**57.4**

Totals may not sum due to rounding

The impacts of the Project across the economic metrics outlined in section 2.1 during the two-year construction period were estimated by modelling the change to output in millions (gross revenue). For example, as shown in Table 9 the change modelled for the NT is $6.1 million in the first year of construction and $4.2 million in the second year of construction. Similarly, the change modelled for Australia is $15.5 million in the first year of construction and $32.8 million in the second year of construction.

4.2.2. Operations phase

The operations phase of the Project is expected to commence with pipeline commissioning expected in November or December 2025. The pipeline is expected to have a capacity of 40TJ per day. The duration of operations will be based on the reserves of the Beetaloo JV, with an initial contract for 15 years and a design life of the pipeline of 40 years.

A limited range of activities will be required to operate the pipeline, primarily comprising of inspections and maintenance activities, which will be conducted on a regular basis by ground and aerial patrols. Aerial patrols are expected to be undertaken monthly, with ground patrols conducted annually. The frequency of inspections may vary depending upon the particular issue being inspected, or in response to specific conditions such as major rainfall events.

These patrols will inspect the easement for issues such as erosion, weeds, subsidence, revegetation and unauthorised third-party activity, and conduct activities including vegetation clearing, weed treatment and erosion rectification. In addition, technicians will monitor control systems and conduct maintenance on other equipment.

4.2.2.1. Estimating impacts during operations

The annual operating expenditure and stay-in-business capital expenditure (SIB CAPEX) for the Project has been estimated by APA SPP at $1 million per annum. This comprises the labour costs associated with the patrol and other activities previously described, as well as other costs associated with maintenance. The labour for these activities will be conducted by APA Group's existing staff operating the AGP, with existing facilities at Tennant Creek and Katherine.

Accordingly, the operating phase expenditure for the Project has been modelled as $1 million of additional economic output in the NT. This estimate applies for each of the operational years of the pipeline, in real terms. The initial contract is for 15 years, with a design life for the pipeline of 40 years. While an estimated 2 FTE will be involved in conducting these patrol and maintenance activities, these staff are part of APA Group's existing workforce. They do not comprise additional employment that can be attributed as an incremental economic impact as a result of the Project, and will not be included as part of the economic impact analysis.

5 Economic impacts

5.1. Purpose and overview

This chapter details the expected economic impact associated with the Project which are quantifiable through an input-output model, including the:

- impact of construction
- impact of operations
- summary of construction and operations impact.

The results of the model are presented as various measures of economic activity. These measures include output, employment, wages and salaries, value-added and gross regional product (GRP). An overview of each of these measures is provided in Section 2, Table 1.

5.2. Impact of construction

The capital expenditure for the pipeline and related infrastructure would directly benefit the NT and Australia through increased employment and expenditure in the territory and national economy. Using suppliers and construction companies that are based in the NT and nationally, the development would directly support roles in heavy and civil engineering and construction roles over the construction period. This section provides an assessment of the economic impact of the construction phase of the Project.[21]

5.2.1. Output

Northern Territory

From a direct increase in output of $10.4 million over the two-year period, it is estimated that the demand for intermediate goods and services would rise by $5.0 million. This represents a Type 1 Output multiplier of 1.5. Type 1 Multipliers only look at business-to-business purchases and represent direct plus indirect effects.[22]

The Type 1 multiplier reflect the scale of engineering and heavy construction required for the complex construction components of the Project. These supply-chain effects include multiple rounds of flow-on effects, as servicing sectors increase their own output and demand for local goods and services in response to the direct change to the economy.

The increases in direct and indirect output during the construction phase would typically correspond to the creation of jobs in the economy and a subsequent increase in the total wages and salaries paid to employees. The proportion of these wages and salaries is spent on consumption and captured in the local economies of the NT. The consumption effects under this scenario are estimated at $2.9 million in the NT.

[21] Given the level of accuracy of input data, all figures in this section have been rounded to one decimal place. This may lead to variances in multiplying 'rounded' inputs and factors.

[22] A Type 1 output multiplier of 1.5 (1.48 rounded to 1 decimal place) means that for every $1 spent on the Project's construction, 48.0 cents of benefit is created in the supply chain.

Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $18.2 million in the NT. This represents a Type 2 Output multiplier of 1.8. Type 2 Multipliers include the impact of household spending and capture the direct, indirect and induced effects of an industry.[23]

Australia

A larger share of the total economic activity generated by the Project comes from Australia as a whole, as opposed to the NT. From a direct increase in output of $48.3 million over the two-year period, it is estimated that the demand for intermediate goods and services would rise by $43.3 million. This represents a Type 1 Output multiplier of 1.9.[24] These supply-chain effects include multiple rounds of flow-on effects, as servicing sectors increase their own output and demand for local goods and services in response to the direct change in economic activity.

The increases in direct and indirect output would typically correspond to the creation of jobs in the economy. Corresponding to this change in employment would be an increase in the total of wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the Australian economy. The consumption effects under this scenario are estimated at $31.7 million.

Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $123.3 million. This represents a Type 2 Output multiplier of 2.6.[25]

5.2.2. Employment

Northern Territory

It is estimated that at a peak level of activity in the NT (year 1), the Project will support an estimated 6 direct jobs. From this direct expansion in employment, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts will support 5 jobs. This represents a Type 1 Employment multiplier of 1.8.[26]

The direct and indirect output and the corresponding jobs in the economy result in additional wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. In the NT, the consumption effects under this scenario are estimated to support 4 jobs in year 1. There is an expansion in overall employment, including all direct, supply-chain and consumption effects, estimated at 15 jobs. This represents a Type 2 Employment multiplier of 2.5.[27]

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[23] A Type 2 output multiplier of 1.8 (1.759 rounded to 1 decimal place) means that for every $1 spent on the Project's construction, 75.9 cents of benefit is created in the supply chain and employees spending their wages.

[24] A Type 1 output multiplier of 1.9 (1.897 rounded to 1 decimal place) means that for every $1 spent on the Project's construction, 89.7 cents of benefit is created in the supply chain.

[25] A Type 2 output multiplier of 2.6 (2.554 rounded to 1 decimal place) means that for every $1 spent Project's construction, $1.5 cents of benefit is created in the supply chain and employees spending their wages.

[26] A Type 1 employment multiplier of 1.8 means that for every job created by construction of the Project, 1 job is created in the supply chain.

[27] A Type 2 employment multiplier of 2.5 means that for every job created by construction of the Project, 1-2 jobs are created in the supply chain and through employees spending their wages.

Australia

During a peak level of activity in Australia (year 2), the Project will support an estimated net of 40 direct jobs. From this direct expansion in employment, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts will support 66 jobs. This represents a Type 1 Employment multiplier of 2.7.

The direct and indirect output and the corresponding jobs in the economy are expected to support the payment of wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the Australian economy. The consumption effects under this scenario are estimated to support 56 jobs in year 2.

Overall, it is expected that the Project will support an estimated 162 jobs, as a result of an expansion in overall employment, including all direct, supply-chain and consumption effects. This represents a Type 2 Employment multiplier of 4.1.

5.2.3. Wages and salaries

Northern Territory

In the NT, direct wages and salaries would increase by $2.1 million. From this direct impact on the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in the net increase in wages and salaries of $1.1 million paid to workers. This represents a Type 1 Wages and Salaries multiplier of 1.5.[28]

The net increase in direct and indirect output, and the additional construction jobs in the economy are expected to correspond to an increase in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. In the NT, the consumption effects are expected to result in an overall increase in wages and salaries by $0.6 million.

Total wages and salaries over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $3.9 million. This represents a Type 2 Wages and Salaries multiplier of 1.8.

Australia

It is estimated that direct wages and salaries would increase by $9.9 million in Australia. From this direct impact on the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in the net increase in wages and salaries of $9.2 million paid to workers. This represents a Type 1 Wages and Salaries multiplier of 1.9.

The net increase in wages and salaries paid to employees is also expected to have consumption effects. A proportion of wages and salaries is typically spent on consumption and a proportion of this expenditure is captured in the Australian economy. The consumption effects under this scenario are expected to result in an overall increase in wages and salaries by $6.5 million.

Total wages and salaries over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $25.7 million. This represents a Type 2 Wages and Salaries multiplier of 2.6.

[28] A Type 1 output multiplier of 1.5 means that for every dollar in wages created by construction of the Project, 51.4 cents of wage increase is created in the supply chain.

5.2.4. Value-added

Northern Territory

The direct value-added is estimated at $4.0 million in the NT. Indirect impacts are estimated to result in a further increase to value-added of $1.9 million. This represents a Type 1 Value-added multiplier of 1.5.

The consumption effects under this scenario are expected to further boost value-added by $1.7 million.

Total value-added over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $7.6 million. This represents a Type 2 Value-added multiplier of 1.9.

Australia

The increase in direct value-added is estimated at $18.7 million. From this direct expansion in the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in a further increase to value-added of $16.5 million. This represents a Type 1 Value-added multiplier of 1.9.

The increase in direct and indirect output and the corresponding boost to jobs in the economy are expected to result in an increase in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the Australian economy. The consumption effects under this scenario are expected to further boost value-added by $16.0 million.

Total value-added over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $51.2 million. This represents a Type 2 Value-added multiplier of 2.7.

5.2.5. Gross State Product and Gross Domestic Product

Gross state product (GSP) is a measure of the total economic production of a state[29] economy and is the state equivalent of GDP. The construction and related activity for the Project will have a direct impact on GSP in the NT. GSP is expected to increase by $4.5 million in the first year and $3.1 million in the second year of the construction phase.

Due to the minor annual operating costs associated with the Project, the impact on GSP in the NT is estimated to be relatively low. GSP is expected to increase by $0.7 million per year.

Given a larger share of the construction and related activity comes from Australia as a whole, the Project will have a larger impact on Gross Domestic Product (GDP). GDP is estimated to increase by $16.4 million in the first year and by $34.8 million in the second year.

5.2.6. Summary of construction impacts

Table 10 summarises the economic impact of the construction phase of the Project in the NT. Jobs were categorised under the *Heavy & Civil Engineering Construction* industry sector and input into REMPLAN using the Australian and New Zealand Standard Industrial Classification (ANZSIC). Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $18.2 million in the NT.

[29] A “state” in this context is economically equivalent to the NT’s constitutional status as a “territory”.

Table 10: Summary of economic impact of the construction phase of the Project in the NT

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$10.4	$5.0	$2.9	$18.2	1.5	1.8
Employment – peak gain Yr 1 (jobs)	6	5	4	15	1.8	2.5
Wages and salaries, Yrs 1-2 ($m, real 2024)	$2.1	$1.1	$0.6	$3.9	1.5	1.8
Value-added, Yrs 1-2 ($m, real 2024)	$4.0	$1.9	$1.7	$7.6	1.5	1.9

Table 11 summarises the economic impact of the construction phase of the Project in Australia. Reflecting the larger portion of direct increase of economic activity across Australia, the Project has a larger economic impact with a total increase in output of $123.3 million overall.

Table 11: Summary of economic impact of the construction phase of the Project in Australia

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$48.3	$43.3	$31.7	**$123.3**	1.9	2.6
Employment – peak gain Yr 2 (jobs)	40	66	56	**162**	2.7	4.1
Wages and salaries, Yrs 1-2 ($m, real 2024)	$9.9	$9.2	$6.5	**$25.7**	1.9	2.6
Value-added, Yrs 1-2 ($m, real 2024)	$18.7	$16.5	$16.0	**$51.2**	1.9	2.7

5.3. Impact of operations

This section provides an assessment of the ongoing economic contribution of the pipeline during its operational phase. Due to the nature of the Project, ongoing activities are largely limited to maintenance and patrols, and do not require a significant level of expenditure. The economic impact of the operations phase is less significant than that of the construction phase.

Economic impacts below are presented for each year that the pipeline is operating. The initial contract life of the Project is 15 years, with an overall design life of 40 years. The staff required for operational activities is expected to be resourced out of existing APA Group staff responsible for the AGP, with existing offices in Tennant Creek and Katherine, and so operational economic impacts are confined to the NT.

5.3.1. Output

Northern Territory

The ongoing economic impact of the Project to the NT economy is represented by the increase in annual output in the economy, attributed to the proposed $1 million spend per year required to support the operations of the SPP. This impact is related to the uplift in economic activity and flow-on effects, as relevant supply-chain

sectors increase their output and demand for local goods and services to support the increase in economic activity.

In the NT, when the SPP is operational, it will generate a forecast direct output of approximately $1 million in real terms per year. From this increase in output, it is estimated that the demand for intermediate goods and services would rise by $0.48 million per year.

This represents a Type 1 Output multiplier of 1.5. The consumption effects under this scenario are estimated at $0.28 million.

Total output, including all direct, supply-chain and consumption effects is estimated to increase by up to $1.76 million. This represents a Type 2 Output multiplier of 1.8.

5.3.2. Employment

Northern Territory

It is estimated that employment would increase across the NT in each year of operations. While an estimated 2 FTE will be involved in conducting patrol and other maintenance activities during operations, these staff are part of APA Group's existing workforce. They do not comprise additional employment that can be attributed as an incremental economic impact as a result of the Project, and will not be included as part of the economic impact analysis.

Economic modelling associates the $1 million of operational and SIB capital expenditure per year with the addition of an equivalent of 3 FTE across the NT economy, representing a Type 2 Employment multiplier of 3.0. This additional employment is driven by the increase in demand for goods and services and flow on supply-chain and consumption effects required in maintenance activities and is not necessarily provided by the Project's demand for employment itself.

5.3.3. Wages and salaries

Northern Territory

It is estimated that direct wages and salaries would increase by $0.21 million per year in the NT. From this direct impact on the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in the increase in wages and salaries of $0.11 million paid to workers. This represents a Type 1 Wages and Salaries multiplier of 1.5.[30]

The net increase in direct and indirect output and the corresponding jobs in the economy are expected to correspond to an increase in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy.

The consumption effects are expected to result in an overall increase in wages and salaries by $0.06 million.

Total wages and salaries over the operational period, including all direct, supply-chain and consumption effects is estimated to increase by up to $0.37 million. This represents a Type 2 Wages and Salaries multiplier of 1.8.

[30] A Type 1 output multiplier of 1.5 means that for every dollar in wages created by construction of the Project, 51.4 cents of wage increase is created in the supply chain.

5.3.4. Value-added

Northern Territory

The direct-value-add is estimated at $0.39 million per year. From this direct expansion in the economy, flow-on supply-chain effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in a further increase to value-added of $0.18 million per year. This represents a Type 1 Value-added multiplier of 1.5.

The consumption effects under this scenario are expected to further boost value-added in the NT economy by $0.16 million per year.

Total value-added over the operational period, including all direct, supply-chain and consumption effects is estimated to increase in the NT by up to $0.73 million per year. This represents a Type 2 Value-added multiplier of 1.9.

5.3.5. Summary

Northern Territory

Table 12 summarises the annual impact of the Project's operations in the NT. Jobs were categorised under the *Heavy & Civil Engineering Construction* industry sector and input into REMPLAN using the ANZSIC.

Table 12: Summary of economic impact of operations in the NT, per year

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output ($m, real 2024)	$1.00	$0.48	$0.28	**$1.76**	1.5	1.8
Employment – jobs each operating year*	1	1	1	**3**	2.0	3.0
Wages and salaries ($m, real 2024)	$0.21	$0.11	$0.06	**$0.37**	1.5	1.8
Value-added ($m, real 2024)	$0.39	$0.18	$0.16	**$0.73**	1.5	1.9

** Operational activities for the pipeline will be undertaken by 2 existing APA Group employees; these are not included in the economic analysis as they do not represent incremental employment as a result of the Project. Rather, the economic modelling captures the effect of $1m in additional operational expenditure as being 3 FTE across the NT economy, including supply-chain and consumption effects.*

5.4. Summary of construction and operations impact

Table 13 summarises the economic impact of the construction phase of the Project in the NT. Total output over the two-year period, including all direct, supply-chain and consumption effects is estimated to increase by up to $18.2 million in the NT.

Table 13: Summary of economic impact of the construction phase of the Project in the NT

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$10.4	$5.0	$2.9	**$18.2**	1.5	1.8
Employment – peak gain Yr 1 (jobs)	6	5	4	**15**	1.8	2.5
Wages and salaries, Yrs 1-2 ($m, real 2024)	$2.1	$1.1	$0.6	**$3.9**	1.5	1.8
Value-added, Yrs 1-2 ($m, real 2024)	$4.0	$1.9	$1.7	**$7.6**	1.5	1.9

Table 14 summarises the economic impact of the construction phase of the Project in Australia. Reflecting the larger portion of direct increase of economic activity across Australia, the Project has a larger economic impact with a total increase in output of $123.3 million overall.

Table 14: Summary of economic impact of the construction phase of the Project in Australia

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output, Yrs 1-2 ($m, real 2024)	$48.3	$43.3	$31.7	**$123.3**	1.9	2.6
Employment – peak gain Yr 2 (jobs)	40	66	56	**162**	2.7	4.1
Wages and salaries, Yrs 1-2 ($m, real 2024)	$9.9	$9.2	$6.5	**$25.7**	1.9	2.6
Value-added, Yrs 1-2 ($m, real 2024)	$18.7	$16.5	$16.0	**$51.2**	1.9	2.7

Table 15 summarises the estimated annual impact of the Project's operations in the NT.

Table 15: Summary of economic impact of operations in the NT, per year

Impact	Direct effect	Supply-chain effect	Consumption effect	Total effect	Type 1 multiplier	Type 2 multiplier
Output ($m, real 2024)	$1.00	$0.48	$0.28	**$1.76**	1.5	1.8
Employment – jobs each operating year*	1	1	1	**3**	2.0	3.0
Wages and salaries ($m, real 2024)	$0.21	$0.11	$0.06	**$0.37**	1.5	1.8
Value-added ($m, real 2024)	$0.39	$0.18	$0.16	**$0.73**	1.5	1.9

** Operational activities for the pipeline will be undertaken by 2 existing APA Group employees; these are not included in the economic analysis as they do not represent incremental employment as a result of the Project. Rather, the economic modelling captures the effect of $1m in additional operational expenditure as being 3 FTE across the NT economy, including supply-chain and consumption effects.*

6 Other economic impacts

This chapter covers economic impacts other than those which have been quantified through the input-output model. It provides an overview of economic impacts of the new pipeline which are less readily quantifiable. These include the role of the pipeline in enabling further works in the Beetaloo basin, which hold strategic significance for the Northern Territory and Australia under the *Our Territory Gas Strategy* and *Future Gas Plan* respectively.

These works hold the potential to catalyse industrial development in Darwin, with the attendant regional development, employment and training benefits, as well as support domestic energy requirements and export commitments. There is a degree of uncertainty to the magnitude of this economic potential, as well as the degree to which these benefits are attributable to the role of the Project.

The economic impacts quantified in the previous chapter were limited to impacts directly attributable to the Project, and not of any upstream or downstream effects of potential related activities. The benefits discussed below should be understood in this context, being only partially attributable to this Project.

6.1. Other economic impacts

The economic impact analysis presented in the previous chapter only measures employment and contribution outcomes of the Project from input-output modelling. It does not capture the full extent of the benefits of the Project, including wider economic impacts.

To ensure these benefits are identified and considered in the assessment of this Project, these benefits have been summarised below in several categories:

6.1.1. Contribution to employment and training

- **First Nations employment** – the Project will provide an opportunity to increase Indigenous and local employment in the heavy and civil engineering construction sector, as well as in related administrative and professional services. The construction industry has seen the largest growth in jobs for First Nations people, increasing by more than one-third in the number of Aboriginal and Torres Strait Islander employees from 2011-2016.[31]

  APA SPP will aim to maximise Local Content and Indigenous Participation for the Project. The Project has no set targets, but will aim for 4% Indigenous Participation, that can be achieved through a combination of employment, supply or other participation activities including training.

  APA Group has a number of initiatives to support strong relationships with First Nations communities, including a First Nations Ranger Program in the Northern Territory and a Reconciliation Action Plan released in October 2023. The RAP recognizes that at just over 1%, the proportion of APA Group's people who are First Nations is much lower than the general rate amongst Australia's population, requiring action.

  This includes a First Nations Workforce Strategy and the establishment of a First Nations Employee Network, which will support the recruitment of First Nations apprentices and technicians, as well ensure that new staff have a sense of community at APA Group and a great chance to succeed.

[31] ABS (2016), *Aboriginal and Torres Strait Islander Census: Industry,* https://www.abs.gov.au/ausstats/abs@.nsf/mediareleasesbytitle/142C08A784A1B5C0CA2581BF001EE22C?OpenDocument

The existing Ranger Program involves collaboration with the Central and Northern Land Councils to engage First Nations rangers to help inspect pipeline corridors including for the Amadeus and Bonaparte gas pipelines. The SPP, connecting to the AGP, will be included in future rounds of inspection.

6.1.2. Contribution to regional development

- **Regional benefits** – the Project is designed to support the development of Tamboran Resources' Beetaloo Basin assets. Gas from the Beetaloo is a strategic component of the Northern Territory Government's industrial development policy through the *Our Territory Gas Strategy*, and in particular through the Middle Arm industrial development which would hold facilities that enable the export of gas, including to the East Coast.

  Middle Arm is designed to attract a range of future-oriented industries, including advanced manufacturing, critical minerals, renewables and low emissions fuels. The precinct is expected to feature CCUS as a mitigator for any emissions intensive activities at Middle Arm. As a part of the precinct, the NT government has provided Tamboran Resources with exclusivity over 420 acres for a proposed LNG development – Northern Territory LNG (NTLNG).

- **Community benefits** – a successful development of an advanced manufacturing and future-oriented industry precinct at Middle Arm would hold benefits to the community in the form of an uplift in professional, engineering and scientific employment opportunities, supporting living standards in Darwin and the wider region. In addition, gas from the Beetaloo would support energy security for the Territory and help insulate the local community from any international variation in gas prices.

- **Contribution to Indigenous communities** – as discussed in the previous section, APA Group has a number of initiatives in place to engage local communities including a First Nations Ranger Program. While this pipeline is of a relatively short length compared to APA Group's existing assets in the Northern Territory, there is potential for an uplift of activity that provides economic opportunities including employment and training for First Nations people which holds flow on effects.

6.1.3. Contribution to the NT and Australian economy

- **Overall tax and royalty payments** – the pipeline will enable the extraction of gas from the Beetaloo Basin, and may result in additional royalty payments under the the *Petroleum Royalty Act 2023 (NT)*. As alluded to above, any additional royalty payments are only partially attributable to the pipeline, as distinct from separate investment in exploration and extraction by Tamboran Resources. The Project will also generate additional taxation payments to the Australian and NT Governments throughout construction, through company and goods and services taxes, as well as payroll tax and stamp duties at the Territory level.

- **Impact to neighbouring businesses** – the Project will support activities at the planned Middle Arm sustainable development industrial precinct,[32] which has the potential to catalyse Darwin's growth as an advanced manufacturing and energy transition technologies hub. While the Project is not directly related to the Middle Arm development, as outlined above gas from the Beetaloo is a strategic component of the *Our Territory Gas Strategy*, of which the Middle Arm precinct is a key lever. The potential agglomeration benefits from co-location will support the competitiveness of the NT economy and deliver economic opportunities to businesses in the region.

[32] NT Government (2024), *Middle Arm Sustainable Development Precinct,* https://middlearmprecinct.nt.gov.au/__data/assets/pdf_file/0010/1263727/the-precinct-project-overview.pdf

- **Value of exports to the NT and Australian economies –** the Project is designed to support the development of Tamboran Resources' Beetaloo Basin assets. Future projects based on these assets beyond this pipeline will support export through the Middle Arm precinct and into the East Coast and international LNG gas markets, including to key Australian trading partners in East Asia, being Japan, China, Taiwan, and South Korea.

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