APA
Australia's energy infrastructure partner

Forecast demand and utilisation of pipeline services

Amadeus Gas Pipeline: 2026–31 Access Arrangement Revision Proposal

30 June 2025

Contents

1. Introduction

The Amadeus Gas Pipeline (AGP) is a transmission pipeline that extends approximately 1,600 km from the gas fields in the Amadeus Basin in central Australia to Darwin[1]. The AGP transports natural gas to Darwin, Alice Springs and regional centres, principally to fuel electricity generation.

The AGP is a covered pipeline under the access regime of the National Gas Law (NGL) and National Gas Rules (NGR) and is required to submit a revised access arrangement proposal to the AER on 30 June 2025.

To the extent practicable, the access arrangement information for a full access arrangement proposal is to include:

— information on transmission pipeline usage over the earlier access arrangement period including:
  - the minimum, maximum and average demand for each receipt or delivery point;
  - user numbers for each receipt or delivery point; and
— forecasts of pipeline capacity and capacity utilisation over the access arrangement period, and the bases on which those forecasts have been derived.

The required information and forecasts are included in the access arrangement information as part of the AGP Access Arrangement revision proposal submitted to the AER on 30 June 2025.

The peak and annual demand forecasts by receipt point have also been provided in the regulatory template (N1. Demand) in the Workbook *AGP 2026-31 – Reset RIN – Workbook 1 – Forecast*.

This document explains in more detail how the forecasts of capacity and capacity utilisation have been derived and the assumptions underpinning these forecasts.

In the following sections, Amadeus:

— highlights the current configuration of the AGP including the changes to AGP operations during the earlier access arrangement period;
— summarises its forecasting methodology including the key assumptions made;
— reviews the implications of the modelled changes in gas flow on the capacity of the AGP;
— explains the available capacity for both firm and interruptible pipeline services on the AGP; and
— forecasts the average demand at each receipt point over the access arrangement period 2026--27 to 2030-31.

[1] Specifically, AGP is the gas transmission pipelines specified in pipeline licences PL 4 and PL 18 issued under Part III of the Energy Pipelines Act 1981 (NT)

2. Configuration during earlier access arrangement period

The AGP mainline has a length of 1,514 km; with 986 km of 14 in. pipe and 528 km of 12 in. pipe (diameter change occurs at Mataranka) and a maximum allowable operating pressure (MAOP) of 9,650 kPa.

The AGP pipeline system also includes the APA-owned laterals; the Mereenie Lateral, Katherine Lateral and Tennant Creek Lateral.

Although it was originally designed to transport gas from the Amadeus Basin fields northwards to Darwin, the APG is now bi-directional and connects with the Northern Gas Pipeline (NGP) at Warrego, near Tennant Creek.

Gas can flow north from the Amadeus Basin to the NGP while flowing south from Ban Ban Springs to the NGP.

The connection of the NGP has allowed for gas supplies in excess of the needs of Northern Territory users to be delivered to the NGP and flow into Queensland and the East Coast gas market via other pipelines.

2.1. Receipt points

The AGP currently has four receipt points on the pipeline. The major supply points being at:

- Ban Ban Springs - where gas is received from Wadeye via the Bonaparte Gas Pipeline (BPG). There is a custody transfer meter station and regulating station at Ban Ban Springs which regulates the pressure into the AGP,
- Palm Valley - the original supply point for the AGP, and
- Mereenie - the major supply point from the south where a 116 km lateral brings the gas from Mereenie to Tyler Pass.

There is also a supply point at the Darwin City Gate where the Wickham Point Pipeline (WPP) connects with the AGP. This is a delivery point with gas flowing from the AGP through the WPP to the Weddell Power Station. However, gas can also flow from Wickham Point (the LNG producers) directly to the Weddell Power Station and into the AGP[2] as an additional gas supply.[3]

[2] Gas from LNG operations can be delivered from the Wickham Point Pipeline into the AGP, but the facility is intended only to provide emergency supplies of gas for Darwin power generation in the event of disruption of other gas supplies.
[3] NGP reversal also allows for emergency gas to be received into AGP from the NGP. This is not a normal operational case and is expected to only be utilised in emergencies when gas producers are unable to supply gas into the AGP.

2.2. Delivery points

The AGP currently transports gas to 12 delivery points on the pipeline.

Demand in the Northern Territory is principally for power generation with delivery points at the Channel Island Power Station (310 MW), the WPP for transportation to the Weddell Power Station (129 MW) and the smaller stations at Pine Creek (26.6 MW) and Katherine (34.7 MW). These power stations supply electricity into the Darwin–Katherine transmission system.

Gas is also delivered to:

- the Darwin distribution system and Townend Road delivery point which connect a small number of commercial and light industrial end-users;
- Daly Waters and Tanami Road to supply major mining customers;
- small power stations serving remote communities at Elliot and Tennant Creek;
- the connection to the NGP at Warrego; and
- the Palm Valley to Alice Springs Pipeline which transports gas to Alice Springs to supply power generation and a small distribution system.

The average demands at these delivery points over the current Access Arrangement period are shown in Table 2-1 with the major delivery points being the NGP offtake at Warrego and Channel Island in Darwin. However, the table highlights a significant reduction in total annual demand for AGP gas deliveries over the earlier access arrangement period. Specifically due to:

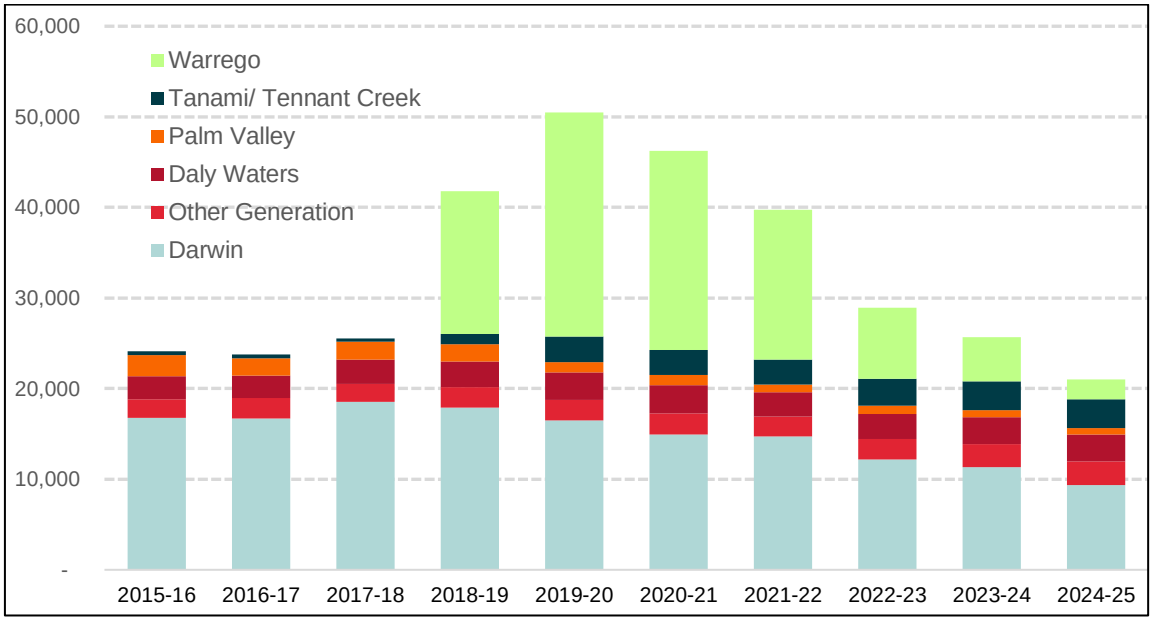
- the closure of the NGP during 2024 and subsequent lack of demand at Warrego; and
- the reduction in demand at the Darwin City Gate with the Weddell Power Station procuring a greater proportion of its gas directly from Wickham Point rather than through the AGP.

Table 2-1: Average annual demand by delivery point and pipeline segment (TJ/day)

	2021–22	2022–23	2023–24	2024–25e
Darwin Channel Island	27.1	25.6	25.2	24.4
Darwin Distribution system	0.1	0.1	0.1	0.3
Darwin City Gate (into the WPP)	13.1	7.6	5.4	1.4
Darwin Townend Road	0.2	0.2	0.2	0.2
Darwin	**40.4**	**33.4**	**30.9**	**26.3**
Pine Creek	5.6	5.0	5.4	5.5
Katherine	0.3	1.0	1.6	2.1
Daly Waters	7.4	7.6	8.1	8.2
Elliot	0.1	0.1	0.1	0.1
Ban Ban Springs – Warrego	**13.3**	**13.7**	**15.2**	**16.0**
Warrego (NGP)	**45.5**	**21.4**	**13.4**	**8.1**
Tennant Creek	0.9	1.1	1.2	1.3
Tanami Road	6.5	7.1	7.6	8.1
Palm Valley (Alice Springs)	2.3	2.5	2.1	1.6
Mereenie/ Palm Valley – Warrego	**9.7**	**10.7**	**10.8**	**11.1**
Total	**108.9**	**79.2**	**70.2**	**61.5**

These changes are also clearly demonstrated when examining the total annual gas throughput over the last 10 years as shown in Figure 2-1.

Figure 2-1: Annual throughput delivery point (TJs)



2.3. Current configuration

Figure 2-2 and 2.3 highlight the changing gas flows on the AGP since the connection of the NGP.

It allowed for gas, in excess of the requirement of end-users in the Northern Territory, to be delivered into the NGP and flow into Queensland.

For the first 4 years after it began operation in 2019, over 40 per cent of the gas flowing in the AGP was delivered into the NGP. Gas flowed north from Ban Ban Springs to supply demand in Darwin including into the WPP. Gas also flowed south from Ban Ban Springs to the NGP, whilst meeting the requirements of end-users along that segment of the AGP.

Gas from Meerenie and Palm Valley flowed north from the Amadeus Basin to end-users situated below Warrego with additional supplies being delivered to Warrego and flowing into the NGP.

Following the closure of the NGP in early 2024, AGP reverted to being a northern flowing pipeline as shown in Figure 2.3.

The other significant change in 2023-24 and 2024-25 was due to the limited gas supplies, deliveries to the Darwin City Gate were largely curtailed as the Weddell Power Station was procuring a large proportion of its gas directly from the LNG producers, rather than through the AGP.

Instead, there were significant gas inflows to the AGP at the Darwin City Gate to assist with supplying gas to other Darwin power generators.

Receipt points
Major deilvery points

Figure 2-2: Gas flow from 2019 to 2023

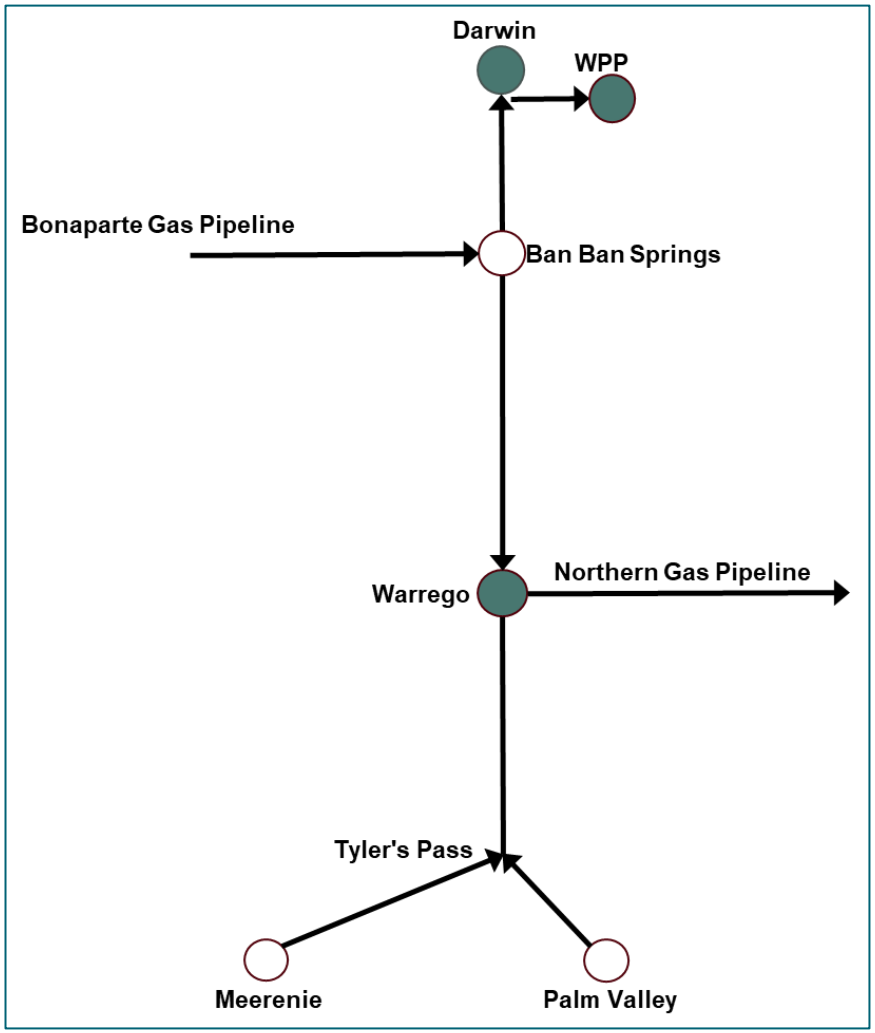
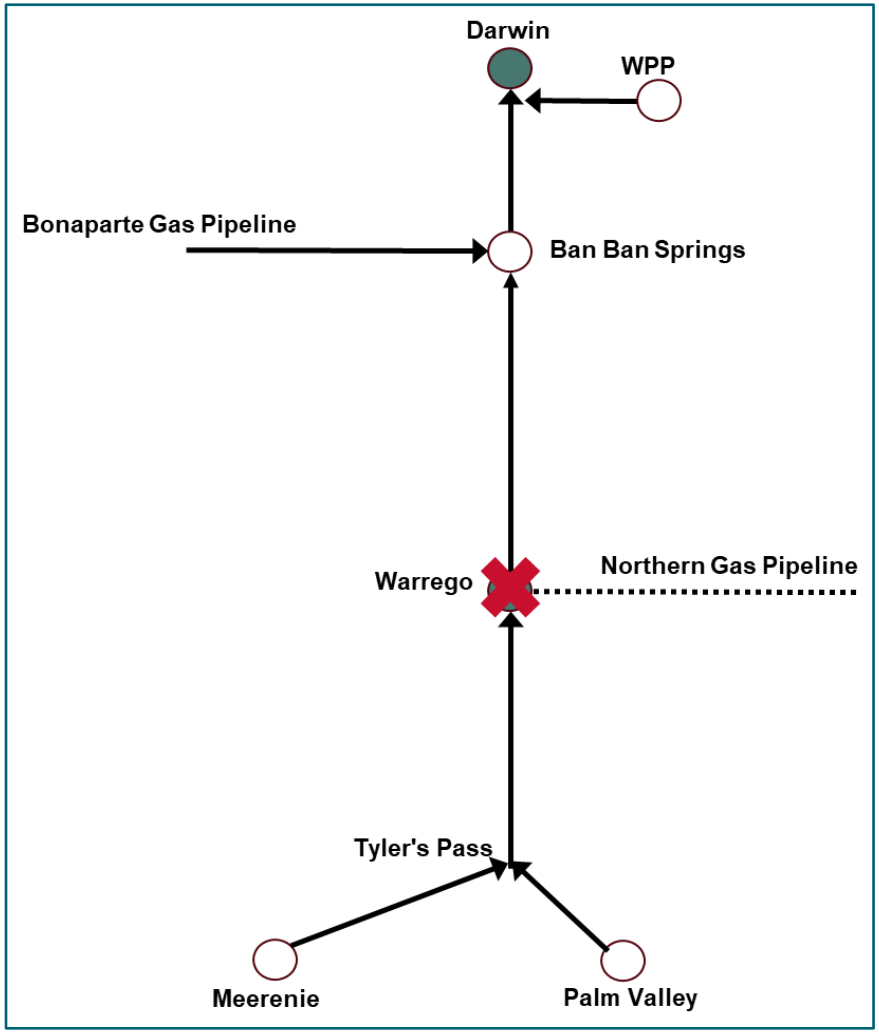


Figure 2-3: Gas flows from early 2024 to early 2025



3. Forecast methodology and key assumptions

There is considerable uncertainty around future demand and utilisation of AGP pipeline services. This is largely due to the lack of clarity around gas supplies at current receipt points and the location, timing and volumes of any additional gas supplies, such as from the Beetaloo Basin.

However, local demand for gas volumes in the Northern Territory has not changed markedly and the requirements for capacity and the use of that capacity to transport gas are relatively stable. These can be forecast with some confidence.

The Amadeus forecast of pipeline capacity, demand and pipeline utlisation for the AGP is largely based on trends in demand and volumes over the current access arrangement period and any changes to the configuration of the AGP which will impact future gas flows.

The key inputs used are:

— the historical demand data reported in worksheet N1. *Demand of the Regulatory Reporting Statement – Historical Information 2010-11 to 2024-25*; and

— the trends in monthly data over the period, sourced from Amadeus's customer information systems.

Complex modelling and calibration have not been required to produce the forecasts as they:

— are derived directly from contractual and historical data;

— do not apply any weather normalisation when forecasting demand; and

— take account of seasonal patterns by using time series extending over more than 12 months.

Amadeus's forecasting of pipeline capacity considers any changes to the configuration of the AGP which will impact on gas flow. The nameplate capacity is modelled using typical peak demands as the basis for load distribution and the NGP offtake point at Warrego is considered the point on the pipeline where capacity is determined.

The forecasts have been discussed with the AGP Stakeholder Reference Group, but no independent verification has been sought.

3.1. Key assumptions

Key assumptions behind the demand forecasts for the AGP are:

— local demand is not expected to change significantly[4] (previously ~80TJ/d peak) but the delivery of gas to the Daly Waters delivery point is expected to end prior to the access arrangement period;

— the use of firm transportation service for the transportation of gas for power generation under pre-existing agreements will continue;

— the NGP is assumed to be in operation for the access arrangement period and pre-existing agreements for the firm transportation of gas to Warrego, for delivery to the NGP and transportation into the East Coast gas market will continue;

— the capacity available for firm transportation service will remain fully contracted and the interruptible transportation service is available to be utilised for the transportation of gas to Warrego for delivery into the NGP; and

— a new receipt point will commence operation with the Sturt Plateau Pipeline (SPP) connected to the AGP[5] for the access arrangement period.

[4] New gas users are considering connection to the AGP, but it is unlikely to take place during the Access Arrangement period
[5] There is also the potential for Daly Waters to become a receipt point during the access arrangement period.

3.2. No pipeline expansion

Prospective users and others have expressed interest in additional transportation service on the AGP however, this interest has not yet translated into the long-term commitments for capacity that are necessary to support pipeline expansion.

The temporary closure of the NGP and uncertainty regarding gas supplies has made any such commitment unlikely before the proposed access arrangement period.

Therefore, this access arrangement revision proposal does not include any expansion of capacity of the AGP during the period.

With no expansion planned, the capital and operating expenditure on the AGP is largely the fixed costs of maintaining the existing capacity. In this situation, the costs of providing the pipeline service are not dependent on the volume of gas transported and delivered.

The demand forecasts provided in the access arrangement revision proposal are therefore not a driver of the capital and operating expenditure forecasts provided by Amadeus.

3.3. Day-ahead auction

A derogation currently exists in the Northern Territory whereby no capacity on a gas transportation facility, wholly or partly in the Northern Territory, can be made available for purchase through the day-ahead auction (DAA) provisions of Part 25 of the NGR.

The capacity which can be used to provide an interruptible service on the AGP is the contracted but un-nominated capacity of existing users of firm service transportation services. This is the capacity that could be accessed under the DAA.

If the DAA provisions were in effect, the auctioned contracted but un-nominated capacity would be scheduled before any AGP interruptible service so it is unlikely any users would contract for an interruptible service rather than to access the DAA.

Amadeus has assumed that the derogation remains in place for the 2026-31 Access Arrangement Revision Proposal.

4. Pipeline Capacity

The nameplate capacity of the AGP is modelled by using typical peak demands as the basis for forecast load distribution.

The NGP offtake point at Warrego has become the point on the pipeline where nameplate capacity is determined. The delivery to NGP, sourced from both Wadeye and Mereenie is increased until constraints such as supply source MAOP, delivery point minimum contractual pressure, operational minimum pressures at regulating stations or the capacity of the NGP are breached.

4.1. Ban Ban Springs injection point

The Bonaparte Gas Pipeline[6] (BGP) transports gas from the Blacktip field in Joseph Bonaparte Gulf to the AGP. The BGP operates without compression, and has a maximum capacity of 108.0 TJ/d. However, when supplying through the Ban Ban Springs regulating station into the AGP, the BGP capacity is reduced to 104TJ/d. This is caused by station pressure losses as well as a high load factor for demand flows to the north, particularly at Channel Island Power Station.

The maximum capacity achievable from Wadeye is therefore 104 TJ/d. That capacity is currently fully contracted to BGP users.

4.1.1. Ban Ban Springs to Warrego

Gas received into the AGP at Ban Ban Springs can flow south, with the maximum capacity for southward flows determined by the receipt point pressure at Ban Ban Springs. The capacity of the NGP is sustained with AGP gas deliveries to Warrego at pressures above 5,000 kPa. The maximum capacity for southbound gas flows from Ban Ban Springs to the NGP interconnection at Warrego is therefore 50.4 TJ/d.

Gas flowing southwards from Ban Ban Springs is also used to meet the requirements of end-users[7] at:

- Pine Creek: - gas is delivered into power generation for supply of electricity to the local township and into the NT northern electricity transmission network, which extends from Darwin to south of Katherine;
- Katherine: - gas is delivered into power generation for supply of electricity to Katherine and into the NT northern electricity network; and
- Elliot: - gas is delivered into power generation for supply of electricity to the local township.

4.1.2. Ban Ban Springs to Darwin

The AGP has a maximum capacity of 91 TJ/d between Ban Ban Springs and Darwin. There are no compressors on the AGP north of Warrego, and the maximum capacity is set by the pressure of the gas received from the BGP.

The available north bound gas is therefore dependent on the actual demand southbound. As highlighted above, the capacity of the BGP into Ban Ban Springs is 104TJ/d and gas flowing south is limited to 50.4TJ/d. Therefore, when the southbound flow is at its limit , the remaining BGP capacity only allows for 53.6 TJ/d to flow north. Achieving a 91 TJ/d maximum capacity would depend on gas flowing south towards Warrego being limited.

[6] The BGP interconnect the AGP but is neither owned nor operated by Amadeus.
[7] The McArthur River mine expects to procure alternative gas supplies from 2026 and will no longer require AGP's gas transportation delivery at Daly Waters.

4.2. Sturt Plateau Pipeline injection point

There is a new AGP receipt point planned to be located at Durham. This will commence operation at the beginning of 2027 when gas from the Beetaloo Basin will be transported to the AGP via the Sturt Plateau Pipeline (SPP).

It is currently forecast to provide 40TJ/d of gas into the AGP although this has the potential to increase.

Gas received at this receipt point is expected to flow south towards Warrego and the NGP but can also flow north to end-users and Darwin if required.

4.3. Mereenie/Palm Valley injection points

The capacity of Mereenie supply into the AGP is inversely related to Warrego pressures at the NGP offtake i.e. the higher pressures at Warrego, the lower the capacity to flow from Mereenie.

Gas flow modelling has shown that with the maximum pressure differential of 4,650 kPa between Tyler's Pass (9650 kPa) and Warrego (6000 kPa at Warrego), the maximum capacity of the AGP to transport gas north from Palm Valley and Mereenie to Warrego is approximately 61 TJ/d.[8]

However, the Mereenie plant capacity is 58 TJ/d therefore if no gas is receipted from Palm Valley, the pipeline capacity is limited to 58 TJ/d.

Furthermore, gas supplied from Palm Valley causes a reduction in the Mereenie lateral capacity, approximately in the ratio of 2:1 (e.g. a 2 TJ/d increase in Palm Valley gas supply reduces the capacity for Mereenie gas supplies by 1 TJ/d). This is because of the difference in smaller pipe size and longer length of the Mereenie lateral (DN250) compared to the pipeline segment from Palm Valley to Tyler Pass.

Some of the gas received at Palm Valley on the AGP is delivered into the Palm Valley to Alice Springs Pipeline. The remainder is transported north on the AGP to Warrego or onwards if the NGP was not in operation. The gas flowing northward from Palm Valley and Mereenie is also used to meet the requirements of the following end-users:

— Tanami Gas Pipeline: - the Tanami Gas Pipeline interconnects with the AGP at Tanami Road and transports gas to power stations which generate electricity for gold mining operations in the Tanami Desert; and
— Tennant Creek: - gas is delivered into power generation for supply of electricity to the local township and nearby mining operations.

4.4. Nameplate capacity

The nameplate rating of the AGP is its maximum daily capacity to provide firm transportation service under the pipeline's normal operating conditions. The nameplate rating of the AGP in the earlier access arrangement period is 165 TJ/d.

The capacity constraint of 104 TJ/d flowing into the AGP at Ban Ban Springs combined with the maximum capacity for gas transportation north from Tylers Pass to Warrego of 61TJ/d was the basis for this nameplate rating.

Figure 4-1 highlights the assumptions regarding future gas flows on the AGP, including the additional receipt of gas from the SPP.

Amadeus has modelled the impact of these additional gas receipts on the gas flows and capacity constraints on the AGP to determine whether it requires a change to the nameplate capacity.

[8] This is the maximum capacity if all gas were to flow from Mereenie. If gas were supplied from Palm Valley, there would be a reduction in Mereenie lateral capacity: 1.0 TJ/d supplied from Palm Valley would reduce the capacity of the Mereenie lateral by around 0.5 TJ/d (the lateral is longer than the segment of the mainline between Palm Valley and Tyler's Pass and has smaller diameter).

Figure 4-1: Forecast gas flows and capacity for firm transportation service

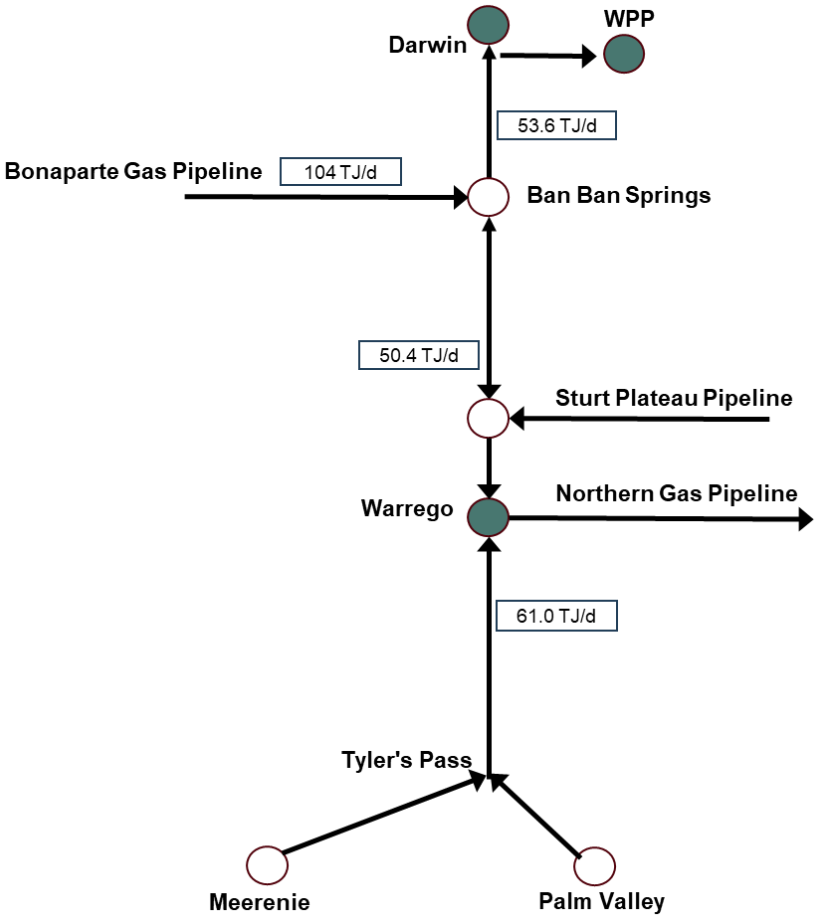


Table 4-1 highlights that irrespective of the source of gas supplies, the capacity of the AGP remains constrained by demand as:

— local demand is largely unchanged at around 75TJ/d with no further gas deliveries at Daly Waters; and

— the deemed capacity of the NGP is 90 TJ/d.[9]

Consequently, the proposed new gas supply of 40 TJ/day injecting into the AGP from the SPP will not increase AGP's nameplate capacity and instead is expected to replace gas transported from Wadeye. Under the assumed operating conditions, including full operation of the NGP, the maximum daily capacity of the AGP to provide firm transportation service remains at 165 TJ/d.

Table 4-1: AGP capacity forecast depending on gas flows (TJ/day)

Scenario	Supply			Demand		Capacity	
	Wadeye	Mer/PV	SPP	Local	NGP	BBS - NGP	Total
Base case	104	61	0	75	90	104	**165**
Scenario 1	64	61	40	75	90	104	**165**

9 https://jemena.com.au/about/newsroom/media-release/2018/northern-gas-pipeline-construction-complete

5. Capacity for pipeline transportation services

In November 2024, the AER approved Amadeus's *Reference Service Proposal for the AGP Access Arrangement for 2026-31*.

As a result, firm and interruptible reference services are offered on the AGP. This section considers what proportion of the AGP nameplate capacity, as determined in section 4.4, is operationally and contractually available to be utilised for the provision of firm and interruptible transportation services.

5.1. Available firm transportation service

Some 145 TJ/d of AGP pipeline capacity is contracted under pre-existing agreements for the provision of firm transportation service.[10] The capacity of the AGP is used to the maximum extent as these users can access this capacity at various AGP receipt points.

Consequently, with no change in the AGP's nameplate capacity of 165 TJ/d, no capacity for the provision of firm reference service is forecast to become available.

5.1.1. Ban Ban Springs to Darwin

Some 65 TJ/d of pipeline capacity is contracted under pre-existing agreements for the provision of firm service transportation into Darwin (to delivery points at Channel Island, Darwin City Gate, Weddell and Townend Road).

Between Ban Ban Springs and Darwin there is therefore potentially 26 TJ/d of capacity available for the provision of firm service. However, capacity for BGP deliveries into the AGP is fully contracted and gas will flow south from Ban Ban Springs to Warrego in the access arrangement period. Therefore, any additional capacity available for firm service between Ban Ban Springs and Darwin is nominally stranded.

5.1.2. Ban Ban Springs to Warrego

Gas in the AGP flowing southwards from Ban Ban Springs gas is also used to meet the requirements of several end-users at:

— Pine Creek;
— Katherine; and
— Elliot.

Users with pre-existing agreements for firm transportation services have rights to maximum capacities at these delivery points totalling 25.8 TJ/d. With a maximum capacity for gas transportation south from Ban Ban Springs of approximately 50.4 TJ/d, the remainder of the capacity available, 24.6 TJ/d, could potentially be used for firm service transportation south to Warrego but this is also constrained as the BGP is fully contracted.

5.1.3. Mereenie/Palm Valley to Warrego

Gas flowing northward in the AGP, from Palm Valley and Mereenie, must be used to meet the requirements of end-users:

— on the Tanami Gas Pipeline; and
— at Tennant Creek[11].

[10] The rights to capacity contracted under pre-existing agreements include rights to capacity at delivery points. The right to capacity at a delivery point is distinct from, and may exceed, the transportation capacity of a pipeline, which is the capability of the pipeline to transport gas between a receipt point and the delivery point.
[11] Gas flowing north from Palm Valley must also meet the requirements of end users on the Palm Valley to Alice Springs Pipeline. This pipeline connects into the AGP approximately 2.9 km from the Palm Valley receipt point. The maximum capacity north of Tyler's Pass is the capacity after gas deliveries into the Palm Valley to Alice Springs Pipeline.

Users with pre-existing agreements for firm transportation services have rights to maximum capacities at these two delivery points totalling 16.1 TJ/d. With a maximum capacity for gas transportation north from Tyler's Pass of approximately 61.0 TJ/d, the capacity remaining for firm transportation north to Warrego is 44.9 TJ/d.

However, users with pre-existing agreements for firm transportation services have contracted capacity at Warrego of 80 TJ/d. This highlights that the capacity for gas transportation to Warrego, south from Ban Ban Springs (24.6 TJ/d), from the SPP and north from Mereenie and Palm Valley (44.9 TJ/d), is fully contracted.

5.1.4. Annual forecast

Effectively, all the capacity which might be used to provide firm service in the AGP is fully contracted by users with pre-existing agreements for firm transportation services. None of these agreements is expected to terminate during the access arrangement period, and Amadeus expects the capacity to remain fully contracted.

With the AGP fully contracted, and expected to remain fully contracted, Amadeus has forecast the demand for capacity for firm service to be 145 TJ/d, in each year of the access arrangement period. This is the aggregate of the capacities which users with pre-existing agreements have for the provision of firm transportation services at pipeline receipt points.

If users with pre-existing agreements make maximum use of the capacity available for firm transportation service at the Ban Ban Springs receipt point (104 TJ/d), they can use up to a maximum of 50.4 TJ/d to transport gas south, to Warrego. If users with pre-existing agreements use 104 TJ/d for transportation from Ban Ban Springs, they have capacity to flow 41.0 TJ/d north, from Palm Valley and Mereenie. Users with pre-existing agreements can therefore transport a maximum of 91.4 TJ/d to Warrego and into the NGP.

As noted above, the capacity of the Northern Gas Pipeline is deemed to be 90 TJ/d.

The aggregate receipt point capacity of 145 TJ/d in pre-existing agreements effectively uses all the capacity available for the provision of firm transportation service in the AGP.

Table 5-1: Firm service capacity forecast 2026–31, TJ/day

	2026–27	2027–28	2028–29	2029–30	2030–31
Firm capacity	145	145	145	145	145

5.2. Available interruptible transportation service

The capacity which can be used to provide the firm transportation service is less than the maximum capacity of the AGP. The difference between the maximum capacity and the capacity for firm transportation service, a quantity of capacity which may or may not be available on a day, is typically offered as less reliable interruptible service.

A lower reliability service can be made available using any unused part of the AGP capacity which has been contracted to users with pre-existing agreements. That capacity can be made available to other users subject to recognition of any rights in the pre-existing agreements for gas to be scheduled ahead of gas scheduled for others.

In view of any scheduling priority which has been accorded to users with pre-existing agreements, some capacity in the AGP is available as a form of interruptible service. It is interruptible because users with pre-existing agreements have higher priority access to pipeline service.

5.2.1. Ban Ban Springs to Darwin

With an average of 40 TJ/d flowing north to Darwin, there is unused contracted capacity of 25 TJ/d in the Ban Ban Springs – Darwin segment of the AGP.

This unused capacity in the Ban Ban Springs – Darwin segment could be used to transport gas sourced from the BGP into Darwin as an interruptible service. However, as noted above (in section 4.2.1), BGP's capacity to deliver gas into the AGP is currently fully contracted. In these circumstances, Amadeus has forecast no use of interruptible service in the Ban Ban Springs – Darwin segment of the AGP during the access arrangement period.

5.2.2. Ban Ban Springs to Warrego

Amadeus has assumed continuation of an average flow of 30 TJ/d south from Ban Ban Springs combined with gas flows of 40 TJ/day flows from the new injection point at the SPP interconnection. With gas deliveries to Pine Creek, Katherine, and Elliot, gas deliveries to Warrego, and into the NGP, are forecast to increase to an average rate of around 64 TJ/d during the access arrangement period.

Amadeus has assumed that average flow in the Ban Ban Springs – Warrego segment of the AGP will be approximately equal to the maximum capacity of the segment, and there is no capacity available for interruptible service on that segment.

5.2.3. Mereenie/Palm Valley to Warrego

Gas receipts of 36 TJ/d are expected into the southern part of the AGP. With gas flows to Alice Springs, the Tanami gold mining operations and Tennant Creek averaging around 11 TJ/d, deliveries to Warrego and into the NGP average 25 TJ/d.

With AGP maximum capacity, between Tyler's Pass and Warrego, of 58 TJ/d, and only 25 TJ/d, on average, flowing north from Palm Valley and Mereenie, there is an average unutilised capacity of 33 TJ/d in the Tyler's Pass – Warrego segment of the AGP.

This capacity is potentially available for the provision of an interruptible service using the AGP from 2026–31 as shown in **Error! Reference source not found.**.

5.2.4. Annual forecast

For the setting of proposed reference tariffs, Amadeus has forecast demand for pipeline capacity for the provision of firm service equal to 145 TJ/d. As a result of this demand for firm pipeline capacity, around 33 TJ/d of capacity is available for the provision of interruptible service.

Capacity may be available for this service, but the quantity will vary day by day and this limits the demand for that service as potential end-users are unlikely to be able to adapt their operations to the uncertainty in gas supply.

In the previous access arrangement period, Amadeus allowed for 15 TJ/d of interruptible transportation services but there was no take-up of this service over the period.

Amadeus has little information on possible demand for interruptible service during the access arrangement period so the volume of interruptible service which might be taken up by prospective users is inherently difficult to forecast. Amadeus has chosen to allow for 15 TJ/d for interruptible services as shown in **Error! Reference source not found.**

Table 5-2: Forecast capacity and demand for interruptible service 2026–31, TJ/day

	2026–27	2027–28	2028–29	2029–30	2030–31
Capacity available	33.0	33.0	33.0	33.0	33.0
Demand forecast	**15.0**	**15.0**	**15.0**	**15.0**	**15.0**

6. Forecast gas demand

The forecast average demand for each delivery point is based on an analysis of historic trends in gas volumes and key drivers of demand for each delivery point as well as forecast of expected gas injections into the AGP and resultant gas flow. These flows are shown in the following table.

Table 6-1: Forecast average annual gas flows, TJ/day

	2026–27	2027–28	2028–29	2029–30	2030–31
Receipt points					
Darwin City Gate (WPP)	0.3	0.3	0.3	0.3	0.3
Ban Ban Springs	70.1	70.1	70.1	70.1	70.1
Mereenie	26.8	26.8	26.8	26.8	26.8
Palm Valley	7.4	7.4	7.4	7.4	7.4
SPP	20.0	40.0	40.0	40.0	40.0
Total receipts	**124.7**	**144.7**	**144.7**	**144.7**	**144.7**
Delivery Points					
Darwin Channel Island	24.8	24.6	24.4	24.2	24.1
Darwin distribution system	0.3	0.3	0.3	0.3	0.3
Darwin City Gate (WPP)	15.3	15.3	15.3	15.3	15.3
Darwin Townend Road	0.2	0.2	0.2	0.2	0.2
Darwin Total	**40.6**	**40.4**	**40.2**	**40.0**	**39.9**
Pine Creek	5.4	5.4	5.4	5.4	5.4
Katherine	1.2	1.2	1.2	1.2	1.2
Daly Waters	0.0	0.0	0.0	0.0	0.0
Elliot	0.1	0.1	0.1	0.1	0.1
Warrego	66.2	86.4	86.6	86.8	86.9
Tennant Creek	1.3	1.3	1.3	1.3	1.3
Tanami Road	8.1	8.1	8.1	8.1	8.1
Palm Valley Interconnect	1.6	1.6	1.6	1.6	1.6
Total deliveries	**124.6**	**144.6**	**144.6**	**144.6**	**144.6**

6.1. Ban Ban Springs to Darwin

Total gas flows on the AGP into Darwin (Channel Island, Darwin Distribution System, Wickham Point Pipeline and Townend Road delivery points) averaged over 40 TJ/d in the 5 years to 2022--23. The largest flows are to the large gas-fired power stations at Channel Island and Weddell that generate electricity for the Darwin-Katherine transmission system (northern network).

However, recent constraints on local gas supplies have seen deliveries to Darwin fall to only 25 TJ/d in 2024-25. This large reduction is due to gas supply issues which has seen the Weddell Power Station access gas from the Darwin LNG producers at Wickham Point rather than off the AGP. Amadeus expects that with increased local gas supplies, AGP deliveries to the WPP for the Weddell Power Station will return to average over 15 TJ/d in the access arrangement period.

Gas use in power generation at Channel Island has decreased by around 0.8% annually over the last 4 years. The reduction in the quantity of gas used in electricity generation seems to be associated with the uptake of solar PV generation displacing gas generation. Amadeus has forecast deliveries to Channel Island to continue this rate of decline.

The flows into the City Gate (Darwin distribution system) and Townend Road service a small number of commercial and light industrial end-users of gas and are forecast to remain at current levels.

6.2. Ban Ban Springs to Warrego

The smaller power stations at Pine Creek and Katherine also generate electricity for the northern network.

Gas flow to the delivery points at Pine Creek and Katherine has varied considerably over the last 10 years but the flows are small, and Amadeus has assumed that gas deliveries to Pine Creek and Katherine will continue to be around 6.6 TJ/d during the access arrangement period.

Gas flow to Elliot is also for power generation (but for local electricity supply, and not for supply into the northern network) and has averaged 0.1 TJ/d over the last 10 years to 2023-24. Amadeus has assumed that this will continue to be around 0.1 TJ/d during the access arrangement period.

AGP gas flows to the delivery point at Daly Waters are to service mining operations at McArthur River. Amadeus understands that from 2026, the McArthur River Mine is expected to be supplied by nearby gas producer Empire Energy and will no longer be supplied from the AGP. Amadeus has forecast that gas flows to Daly Waters will end before the access arrangement period.

There is the potential for the McArthur River Pipeline to become an injection point on the AGP during the access arrangement period, but this has not been assumed at this point.

6.3. Mereenie/Palm Valley to Warrego

Gas receipts from Palm Valley and Mereenie have averaged 38.0 TJ/d over the 5 years to 2023-24 with injections from Palm Valley constant at 9 TJ/d but flows from Meerenie falling from 33 TJ/d in 2019-20 to only 22 TJ/d in 2023-24.

Amadeus is forecasting gas receipts from Meerenie and Palm Valley to average 36 TJ/d over the access arrangement period.

Gas flows from Palm Valley and Mereenie are transported through the AGP for delivery to:

- Alice Springs;
- Tanami gold mining operations;
- Tennant Creek; and onward to
- Warrego.

Gas from the Palm Valley field is delivered into the Palm Valley to Alice Springs Pipeline for transportation to Owen Springs and Alice Springs where it is used for power generation and to

supply approximately 1,100 commercial, light industrial and residential users through a small distribution network.

Flow into the Palm Valley to Alice Springs Pipeline have declined from 5.3 TJ/d in 2018-19 to 2.1 TJ/d in 2023-24. Amadeus understands that Alice Springs has been supplied with additional gas from the Dingo field, which does not flow through the AGP. Amadeus is forecasting that gas deliveries into the Palm Valley to Alice Springs Pipeline will continue at an average of 2.1 TJ/d during the access arrangement period.

Gas deliveries from the AGP into the Tanami Gas Pipeline, at Tanami Road, commenced in February 2019. Gas flows reached an average of 7.6 TJ/d in 2023-24. Amadeus is forecasting that this flow will continue during the access arrangement period but understands gold mining demand is sensitive to variations to the price of gold in international commodity markets.

Gas is also delivered into power generation at Tennant Creek for supply of electricity to the local township and nearby mining operations. Deliveries are forecast to remain at 1.1 TJ/d.

After gas deliveries to these end-users, flows to Warrego are forecast to average 25.5 TJ/d over the access arrangement period.

6.4. Warrego

From 2019 to 2023, over 40 per cent of the gas flowing in the AGP was delivered into the NGP including gas flowing south from Ban Ban Springs and gas flowing north from Meerenie and Palm Valley in the Amadeus Basin. In 2024-25, this fell to 10 per cent with the closure of the NGP for 9 months of that financial year.

With gas receipts from the BGP potentially returning to over 70 TJ/day, gas flows from Ban Ban Springs to Warrego not required to supply local loads are forecast at 23 TJ/day. This combined with additional gas supplies from the SPP of 40 TJ/day, imply a total flow of 63 TJ/d of gas delivery to Warrego, and into the NGP.

The gas delivered from Mereenie and Palm Valley to Warrego is also forecast to average 26 TJ/day. Amadeus has assumed the full utilisation of the NGP with deliveries averaging around 89 TJ/d during the access arrangement period.

This gas is expected to be sourced from a combination of Ban Ban Springs, the SPP and Palm Valley and Mereenie. The final proportions will depend on the future gas supplies of the various parties.

6.5. Forecast demand at each delivery point

Table 6-2 highlights the forecasts for minimum, maximum and average demand at each delivery point from 2026–27 to 2030-31.

The average demand for each delivery point is based on the gas flows that have been assumed in the analysis above.

An analysis of the maximum demand at each delivery point has considered observed historical maximums and the nature of demand at each delivery point (e.g. the demand requirements of the user and whether their demand profile is likely to change over the forecast period). Variations in volumes of gas transported by users are constrained by the maximum daily quantities and imbalance provisions of their gas transportation agreements, and by the daily nomination and scheduling of gas for transportation.

The minimum demand forecasts are also based on the end-user's requirements and historical demand at each delivery point.

Table 6-2: Forecast minimum, maximum and average demands, by delivery point, GJ/day

		2026–27	2027–28	2028–29	2029–30	2030–31
Darwin Channel Island	MIN	13,840	13,840	13,840	13,840	13,840
	MAX	34,570	34,570	34,570	34,570	34,570
	AVG	24,793	24,607	24,422	24,238	24,056
Darwin City Gate (distribution system)	MIN	-	-	-	-	-
	MAX	2,440	2,440	2,440	2,440	2,440
	AVG	330	330	330	330	330
Darwin City Gate (Wickham Point Pipeline)	MIN	-	-	-	-	-
	MAX	42,370	42,370	42,370	42,370	42,370
	AVG	15,314	15,314	15,314	15,314	15,314
Darwin Townend Road	MIN	-	-	-	-	-
	MAX	210	210	210	210	210
	AVG	160	160	160	160	160
Pine Creek	MIN	1,380	1,380	1,380	1,380	1,380
	MAX	6,110	6,110	6,110	6,110	6,110
	AVG	5,423	5,423	5,423	5,423	5,423
Katherine	MIN	-	-	-	-	-
	MAX	7,030	7,030	7,030	7,030	7,030
	AVG	1,226	1,226	1,226	1,226	1,226
Daly Waters	MIN	-	-	-	-	-
	MAX	-	-	-	-	-
	AVG	-	-	-	-	-
Elliot	MIN	-	-	-	-	-
	MAX	180	180	180	180	180
	AVG	130	130	130	130	130
Warrego (NGP)	MIN	-	-	-	-	-
	MAX	90,000	90,000	90,000	90,000	90,000
	AVG	66,212	86,398	86,583	86,766	86,949
Tennant Creek	MIN	710	710	710	710	710
	MAX	1,800	1,800	1,800	1,800	1,800
	AVG	1,330	1,330	1,330	1,330	1,330
Tanami Road	MIN	2,780	2,780	2,780	2,780	2,780
	MAX	11,000	11,000	11,000	11,000	11,000
	AVG	8,130	8,130	8,130	8,130	8,130
Palm Valley Interconnect (Alice Springs)	MIN	350	350	350	350	350
	MAX	8,220	8,220	8,220	8,220	8,220
	AVG	1,600	1,600	1,600	1,600	1,600