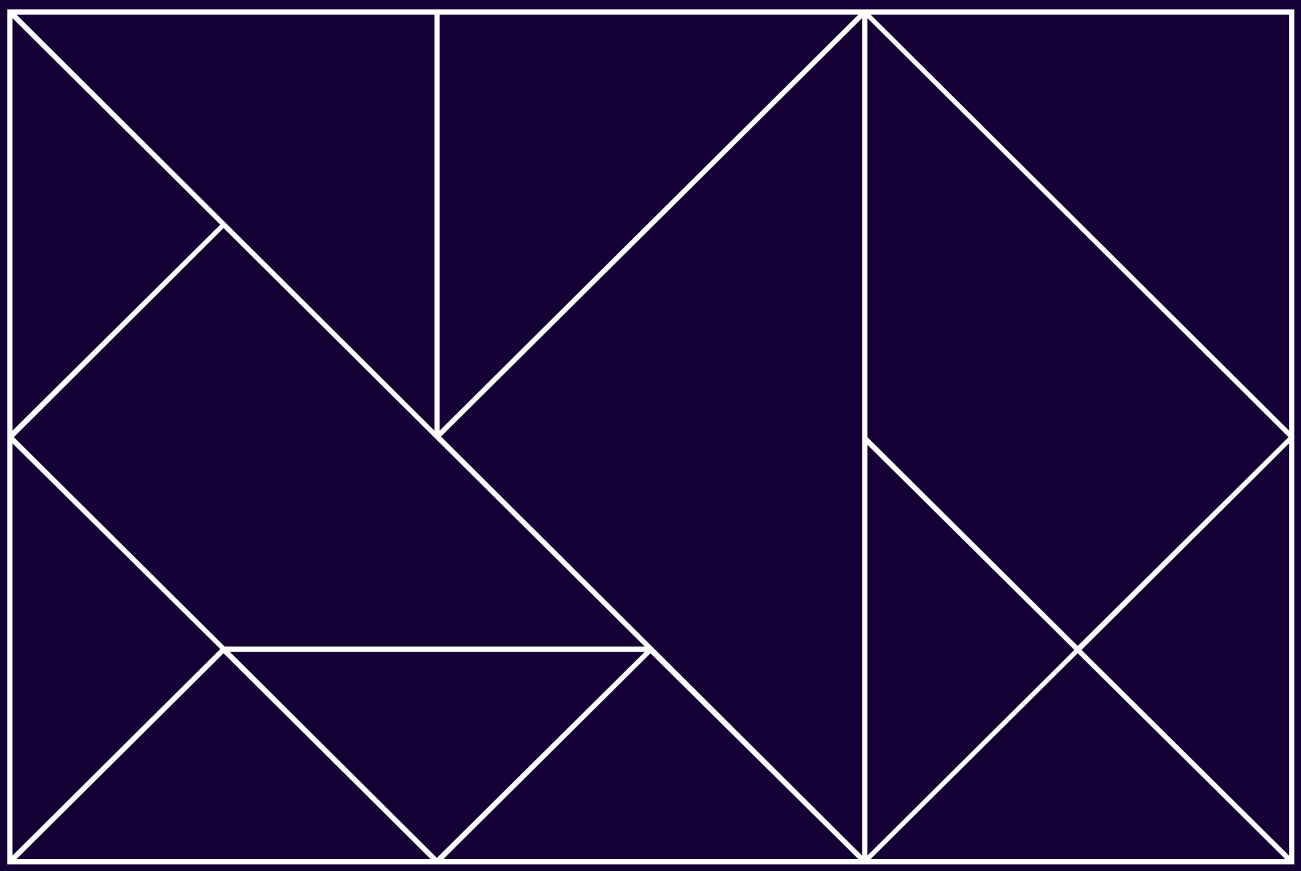
ACIL ALLEN

13 January 2022

Report to APA Group

Roma to Brisbane Pipeline

Update of western haul demand forecasts



About ACIL Allen

ACIL Allen is a leading independent economics, policy and strategy advisory firm, dedicated to helping clients solve complex issues.

Our purpose is to help clients make informed decisions about complex economic and public policy issues.

Our vision is to be Australia's most trusted economics, policy and strategy advisory firm. We are committed and passionate about providing rigorous independent advice that contributes to a better world.

Contents

Figures

Tables

Contents

Executive summary

ACIL Allen prepared a report for APA Group (APA) in June 2021 on demand for future gas transmission services on the Roma to Brisbane Pipeline (RBP) that was submitted to the Australian Energy Regulator (AER) as part of its submission to the 2023 to 2027 regulatory period.

The AER stated in its draft decision that ACIL Allen's forecasts could not be regarded as a 'best case forecast'. The AER provided specific arguments as to why it came to this conclusion. The purpose of this report is to address these concerns with respect to the demand for western haul contracts on the RBP.

ACIL Allen adopted two approaches to estimating the forecasts for FY23 to FY27, which is consistent with our original approach.

1. An assessment of individual shipper contracts on the RBP
2. ACIL Allen gas market modelling.

Original forecasts

ACIL Allen's original forecasts for firm booked capacity for western haul services from FY23 to FY27 is presented below in **Table ES 1**. This table represents the maximum firm capacity booked per year over the next access arrangement period.

Table ES 1 Forecasts for firm booked capacity on western haul services (TJ/day)

	2023	2024	2025	2026	2027
High	100	100	100	100	100
Base	85	80	70	65	65
Low	65	65	50	45	45

Source: ACIL Allen

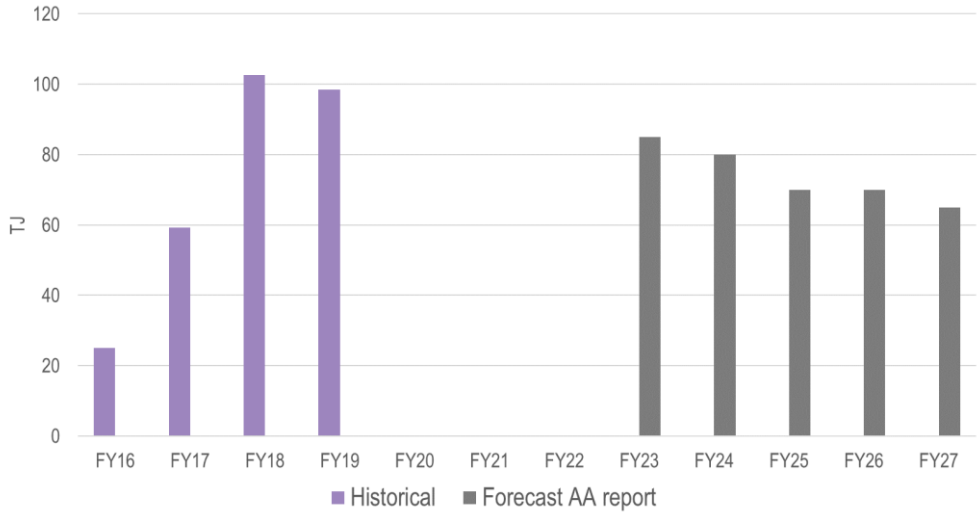
Data used for original analysis

Data that underpinned our original analysis was confidential contract data obtained from APA. This data provided actual contract quantities for individual shippers over the period from FY16 to FY19.

Without data from FY20 to FY22, ACIL Allen had to 'fill' three years of what booked capacity for western haul services might have looked like until the next access arrangement period began in FY23.

Figure ES 1 shows historical booked capacity for western haul services on the RBP, the gap in historical data that ACIL Allen had to essentially forecast in addition to FY23 to FY27, and our original forecasts themselves for the FY23 to FY27 period.

Figure ES 1 Historical and ACIL Allen's original Base Case forecasts for western haul booked capacity



Source: APA Group, ACIL Allen

A key data discrepancy that appears to have caused some confusion is a contract worth 35 TJ per day. It is our understanding that this capacity of 35 TJ per day is an operational, rather than contractual, reservation. Our understanding is that the operational reservation relates to an eastern haul park and loan service and, therefore, is not relevant to the western haul analysis.

This contract appears to be the figure which has led to the confusion between the level of booked capacity on the RBP for western haul services, comparing ACIL Allen and the AER's forecasts.

AER determination on western haul forecasts

This report is being prepared to respond to comments made by the AER in regards to the western haul forecasts[1]. ACIL Allen has provided an initial response to the AER's comments below.

Table ES 2 AER comments and ACIL Allen's response

AER comment	ACIL Allen response
ACIL Allen does not explain why it made specific year-on-year downward adjustments to the High Case to derive the Base Case forecasts. When we asked for an explanation, ACIL Allen provided a qualitative response similar to its explanation in its report. We are concerned that its downward adjustments from recent booked capacity levels have no quantitative basis. For example, there appears to be no reasoning why adjustment has been made from 100 to 85TJ/day in 2023, and not to, for instance, 90 or 60TJ/day.	• The starting point quantity under each case (e.g. base, low and high) was based on ACIL Allen's view of where booked capacity might start at in FY23, based on what we thought would happen from FY16 to FY22 (which includes some years where ACIL did not have contractual data as mentioned above), and how the market could progress in that time (which could be significant based on new supply projects, contracting behaviour by different customer groups, trends in pipeline contracting generally, increased pipeline competition etc.). • In response to the AER's comment, ACIL Allen will begin each case in our updated forecasts at the same booked quantity, instead of differing starting points as originally performed. • The year-on-year forecasts have been developed on individual shipper analysis, whose contracted capacity might change from year-to-year. This explains the incremental changes for all cases over the forecast period.

[1] The AER: Draft Decision - Roma to Brisbane Pipeline Access Arrangement 2022 to 2027, Attachment 12 – Demand, November 2021.

AER comment	ACIL Allen response
Similar to the point above, ACIL Allen does not explain why it made year-on-year adjustments from the Base to the Low Case. The lack of explanation further reduces our confidence in its forecasting approach.	• See comment above.
ACIL Allen did not undertake any sensitivity testing around the key assumption of the additional supply coming online in southern states. This is the critical variable in its Base Case scenario, and any delays in Port Kembla and Narrabri is likely to have a material impact in its forecast.	• ACIL Allen has undertaken sensitivity testing as part of this updated forecast report. These results are presented in Chapter 4.
The GasMark model did not undergo sensitivity testing. That is, ACIL Allen did not test how modelling results would change in response to changes in the inputs and assumptions.	• Sensitivity analysis is only undertaken on developments in supply. The model's intended use is to understand how the overall supply/demand balance could influence pipeline flows, and potentially contracted capacity. Therefore, this is the reason why supply assumptions were the only assumptions tested. • Other assumptions could be tested but this could be an exhaustive process as various other assumptions can be tested.
While ACIL Allen indicates that its demand forecast was based on both the GasMark model as well as a review of historical booked capacity, it has not provided quantitative evidence as to how the two approaches were brought together to derive the forecast.	• This is discussed in further detail in Chapter 4. • ACIL Allen has provided more commentary as to how they work together to produce our forecasts.
The lack of clarity around the forecast was also highlighted by Shell Australia's submission, which noted that there would be benefit in making the model and underlying assumptions available to stakeholders to understand why APTPPL believes there will be subsequent declines in western haul usage.	• The model was not the foundation of the forecasts. • The role of the model is explained further in Chapter 4.

Source: AER report, ACIL Allen

Updated historical contract data

At the time of writing the first report, data on contracted capacity post FY19 was not available to ACIL Allen. This information is now available and is discussed below. The western haul firm booked capacity for the period from FY16 to FY21 is shown in **Table ES 3**.

Table ES 3 Booked Western Haul firm capacity

Heading	FY16	FY17	FY18	FY19	FY20	FY21
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Bookings greater than or equal to 10 TJ/day	0.0	41.8	94.0	93.6	73.1	77.8
Bookings between 5 and 10 TJ/day	25.0	17.4	5.3	0.0	9.0	0.0
Bookings less than or equal to 5 TJ/day	0.0	0.0	3.3	4.9	6.6	7.0
Total firm capacity	25.0	59.3	102.6	98.5	88.7	84.8

Source: APA

A total of 12 shippers booked firm western haul capacity over the period from FY16 to FY21.

As the table shows, booked capacity sharply rose from FY16 to FY18. However, booked capacity has now fallen back to levels around 85 TJ per day.

Revised forecasts for FY23 to FY27

Base Case

Overall western haul booked capacity falls from FY23 levels by 11.5 TJ per day over the forecast period.

The majority of this reduced demand comes from slightly lower booked volumes by the LNG producers.

Very marginal deductions are also for contracts under 3 TJ per day, where the opportunity for trading smaller volumes is weaker with an improving supply/demand balance in the east coast gas market. The projections for the Base Case are summarised in **Table ES 4**.

Table ES 4 Base Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Base Case western haul booked capacity	94	92	89	85	82

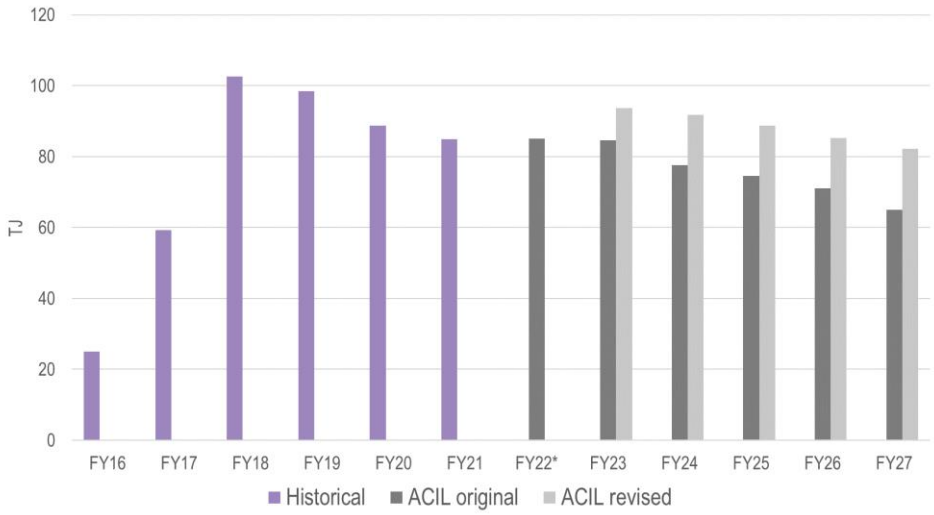
Source: APA contract data, ACIL Allen analysis

The table shows the starting point for FY23 of 93.7 TJ per day and the accumulated reductions to this starting point for the remaining four years of the regulatory period.

The average of total western haul demand under the Base Case is 88 TJ per day. Therefore, this represents a modest decline from the average over the period from FY18 to FY21 of 94 TJ per day.

Our revised forecast and original forecast is compared in **Figure ES 2**.

Figure ES 2 Original vs revised forecasts for RBP western haul



*Note: * FY22 is an estimate*
Source: ACIL Allen

Key drivers and assumptions for Base Case

Demand

East coast gas demand expected to remain relatively flat compared with recent years.

Peak winter demand expected to reach levels forecast by AEMO in their latest GSOO and VGPR reports.

Western haul booked capacity to start FY23 at 93.7 TJ per day (average of FY18 to FY21 historical contracted data).

Net zero emissions targets

No effect on RBP western haul contracting.

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. Has no impact on gas demand in the east coast gas market.

Additional infrastructure or supply investments

It is assumed that expansions to the South West Pipeline (SWP) in Victoria are implemented by FY24 along with the augmentation of the Iona Storage facility.

The Port Kembla LNG import terminal (PKLNG) project is commissioned by winter 2023.

No other significant supply is brought online during this period. However, this supply contributes significantly to meet peak demand in the winter period in the southern states.

Other factors

Pipeline competition is expected to come from the Darling Downs Pipeline in particular with rising pipeline flows evident in recent years as highlighted in our original report.

Pipeline contracting is expected to get shorter with shortening durations and increasing levels of intra-annual contracting. This is something which is occurring more in the gas industry and might mean shippers book smaller volumes for their 'base' annual needs and supplement, if need be, with intra-annual bookings.

Both of these factors are expected to influence how shippers book capacity over the forecast period.

High Case

The impact we expect is for contracts larger than 10 TJ per day which represent the LNG producers and major retailers to decline slightly. Our expectation is that because of delayed investment in southern states and the PKLNG project not going ahead, Queensland CSG will remain important, particularly during the peak winter period. Therefore, we expect relatively minimal impact for western haul contracting over the forecast period.

There is no reduction in contracts less than 10 TJ per day. The demand/supply balance will remain tight and opportunist trades are likely to incentivise some small contracting volumes along the RBP towards Wallumbilla.

The projections for the High Case are summarised in **Table ES 5**. The average western haul demand for the regulatory period is 91 TJ per day. This is a 3 TJ per day reduction on the 94 TJ per day booked average from FY18 to FY21.

Table ES 5 High Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
High Case booked capacity	94	94	93	88	88

Source: APA contract data, ACIL Allen analysis

Key drivers and assumptions for High Case

Demand

East coast gas market and peak Victorian winter demand is as in the Base Case.

Western haul demand in FY23 is 93.7TJ per day.

Net zero emissions targets

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. No impact on east coast gas market.

Additional infrastructure or supply investments

It is assumed that the Iona expansion and the SWP augmentation are delayed until 2025 and the PKLNG project is not commissioned during the regulatory period.

Other factors

A key factor which we believe would sustain higher levels of contracting in comparison to the Base Case is further development of Wallumbilla (which is likely if little development in supply is made from the southern states). In a case where this occurs, we expect that this might sustain higher levels of capacity being booked on the RBP as shippers capitalise on arbitrage opportunities in the market.

Low Case

Demand is reduced from FY23 levels by 20 TJ per day over the forecast period.

The major implication is that demand for western haul capacity drops across all customer groups, including smaller shippers with contracts less than 10 TJ per day.

The projections for the High Case are summarised in **Table ES 6**. The average western haul demand for the regulatory period is 84 TJ per day.

Table ES 6 Low Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Low Case booked capacity	94	89	85	78	75

Source: APA contract data, ACIL Allen analysis

Key drivers and assumptions for Low Case

Demand

Demand is as in the Base Case.

Net zero emissions targets

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. No impact on east coast gas demand.

Additional infrastructure or supply investments

As is the Base Case plus supply plus supply from Narrabri is brought online from 2024.

Other factors

Increased competition on other pipelines occurs to a greater degree. We expect this could occur in the future and not be just due to increased competition from existing pipelines (e.g. Darling Downs).

A real possibility is some upstream development and pipeline development occurring in the Bowen Basin with supply being transported down to Wallumbilla via a new pipeline or a large capacity bi-directional Queensland Gas Pipeline. This could arguably mean less booked western haul capacity on the RBP later on in the next access arrangement period.

Gas market modelling

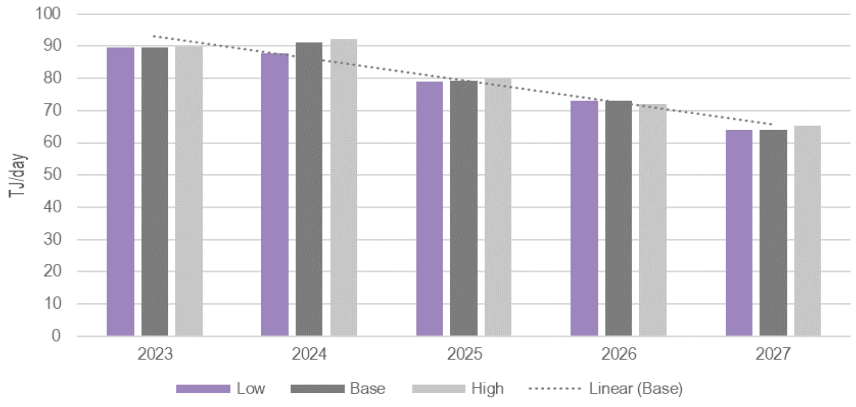
GasMark modelling was undertaken to understand the general trends the market might expect to see across the next access arrangement period and how this might affect pipeline flows from Queensland to the southern states, including flows along the RBP to Wallumbilla.

An important note to make is that GasMark does not measure contracted capacity. The model provides forecasts of pipeline flows. ACIL Allen will utilise GasMark to understand how the market may play out and how any results from the model on pipeline flows may impact booked capacity. It is simply a sense check on whether our assessment of individual shipper forecasts stack up when considering how the overall market might play out.

For example, contracted capacity as assessed above in the Base Case declines over the forecast period. This is for various reasons including our assessment of how new supply developments in southern states might impact the supply/demand balance. ACIL Allen has modelled these supply developments to understand how they impact the market. This is then assessed together with our individual shipper forecasts where we believe an altered demand/supply balance will affect how much shippers book.

Figure ES 3 below presents the modelling undertaken for all three cases.

Figure ES 3 Peak average winter flows on the RBP to Wallumbilla (western haul)



Source: ACIL Allen

The modelling clearly shows that a steady decline is expected in peak average winter flows on the RBP to Wallumbilla. However, the reduction is not generally expected to occur until 2025, after both PKLNG and the expansion of the SWP and Iona storage facility have been developed.

ACIL Allen's expectation is that while flows are forecast to decline, we do not expect booked capacity to drop to this degree. There is typically a lag between changes in booked capacity on a pipeline and any sustained trend change in pipeline flows. As the modelling does show a general decline, ACIL Allen expects booked capacity to fall marginally over time, but not as significantly as

what GasMark is expecting with pipeline flows. This is also due to the fact that although average winter peak flows are falling, peak day flows could still be high.

1 Introduction

ACIL Allen prepared a report for APA Group (APA) in June 2021 on demand for future gas transmission services on the Roma to Brisbane Pipeline (RBP) that was submitted to the Australian Energy Regulator (AER) as part of its submission to the 2023 to 2027 regulatory period.

For that report our methodology was based on a specific individual shipper analysis supported by our model of the east coast gas market, GasMark, plus an assessment of how overall market conditions in the gas market was changing and how this could affect pipeline contracting. The AER stated in its draft decision that ACIL Allen's forecasts could not be regarded as a 'best case forecast'. The AER provided specific arguments as to why it came to this conclusion. The purpose of this report is to address these concerns with respect to the demand for western haul contracts on the RBP.

ACIL Allen adopted two approaches to estimating the forecasts for 2023 to 2027, which is consistent with our original approach.

1. An assessment of individual shipper contracts on the RBP
2. ACIL Allen gas market modelling

To summarise briefly, the western haul forecasts were primarily estimated using an assessment of individual shippers who have contracts on the RBP. Supporting this, gas market modelling was utilised to understand how the general trend in the market may affect how individual shippers may contract capacity.

Our approach is summarised in more detail in Chapter 4.

This report's structure is as follows:

Chapter 2 – A brief overview of our original forecasts and our methodology

Chapter 3 – An updated historical analysis of western haul contracted demand

Chapter 4 – ACIL Allen's updated forecasts for the next regulatory period, taking into account updated data and the AER's comments on ACIL Allen's original forecasts.

.

2 ACIL Allen's original forecasts

2.1 Summary of original forecasts

ACIL Allen's original forecasts for firm booked capacity for western haul services from FY2023 to FY2027 is presented below in **Table 2.1**. This table represents the maximum capacity booked per year over the next access arrangement period. It is expected that greater levels of firm capacity will be booked on shorter term contracts compared with longer term contracts traditionally seen in previous years.

Table 2.1 Forecasts for firm booked capacity on western haul services (TJ/day)

	2023	2024	2025	2026	2027
High	100	100	100	100	100
Base	85	80	70	65	65
Low	65	65	50	45	45

Source: ACIL Allen

ACIL Allen's Base Case forecasts demand for the western haul service to fall compared to current booked capacity the RBP as seen in FY2018 and FY2019. However, demand is still expected to remain at relatively high levels, underpinned by a number of key drivers. The key drivers of demand over the next access arrangement period in the Base Case are likely to be:

- Deeper spot market development at Wallumbilla
- Peak seasonal southern demand
- Operational flexibility and supply security.

Our Base Case does forecast booked capacity for generally fall over the next access arrangement period in line with our modelling results. The main reason for this decline is attributed to the declining levels of supply needed in southern Australia as a result of some key supply sources coming online (Port Kembla and Narrabri).

2.2 Forecast methodology

ACIL Allen provided demand forecasts in two forms for western haul services in our original report. The western haul forecasts were based primarily on an assessment of individual shippers. The gas market modelling was used to understand how the general trend in the market may affect how individual shippers may contract capacity.

1. **RBP western haul modelled gas flows** – provides estimates on modelled gas pipeline flows in a westerly direction along the RBP over the next access arrangement period. These modelled flows will provide insights into the market forces that will underpin western haul

services and generally gas flowing across the transmission network to meet demand. However, this modelling will not take into account some of the other key drivers of demand, particularly non-market factors that are related to security of supply/operational flexibility and some short term trading opportunities. This tool supports the exercise below (in 2) and provides indications on how the pipeline might flow. The model does not provide any indication on how much capacity on a pipeline is booked.

2. **Estimates of RBP western haul firm-capacity bookings** – these estimates are ACIL Allen's estimates for how much firm capacity is likely to be booked for western haul services over the next access arrangement period by individual shippers. These estimates will take into account the modelled flows, but will primarily focus on what market factors and reasons previously mentioned influence how much capacity RBP shippers contract on the western haul service.

2.2.1 Data used for the analysis

Data that underpinned our analysis was confidential contract data obtained from APA. This data provided actual contract quantities for individual shippers over the period from FY16 to FY19. Our original report summarised the data in the following form.

Information provided by APA indicates that:

- Total booked capacity (aggregate of individual contracts) on the western haul route has been:
  - FY2016 – 25 TJ per day
  - FY2017 – 59 TJ per day
  - FY2018 – 103 TJ per day
  - FY2019 – 98 TJ per day
- Shippers have varied from LNG export proponents, other CSG producers, retailers to industrial gas consumers.
- Most of the contracts are for short term periods during the year in which the capacity is booked.

Data for FY20, FY21 and FY22

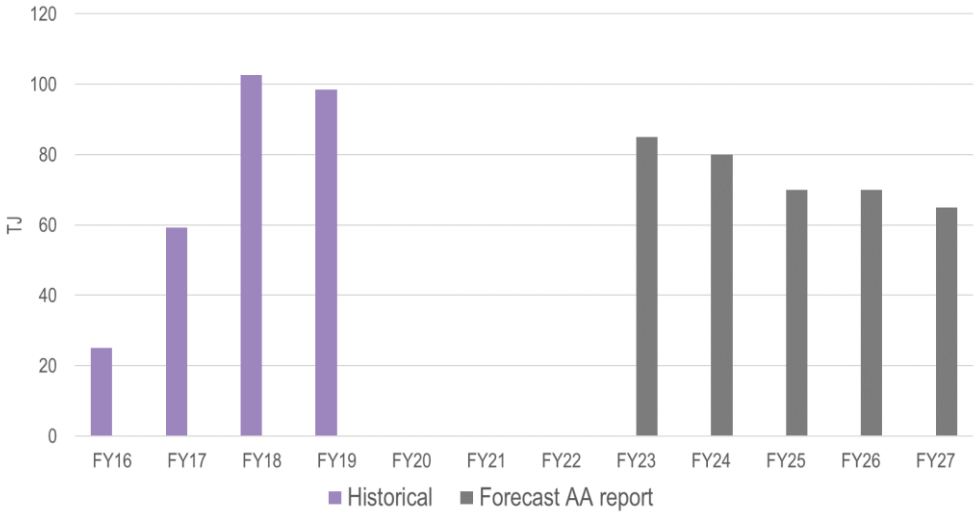
As mentioned above, ACIL Allen had data up until the end of FY19 to review historical contract quantities. This data was important in understanding how booked capacity for western haul services had been trending since the inception of the route.

Without data from FY20 to FY22, ACIL Allen had to 'fill' three years of what booked capacity for western haul services might look like until the next access arrangement period began in FY23. **Figure 2.1** shows historical booked capacity for western haul services on the RBP, the gap in historical data that ACIL Allen had to essentially forecast in addition to FY23 to FY27, and our forecasts themselves for the FY23 to FY27 period.

What the figure shows is that ACIL Allen expected booked capacity to remain around 90-100 TJ per day from FY20 to FY22, a small decline from levels in FY18 and FY19. From FY23, we forecasted booked capacity to slowly decline from a starting point of 85 TJ per day.

As presented in Chapter 3, our forecasts for FY20 to FY22 appear to have tracked relatively closely what has happened based on updated data provided by APA for this exercise.

Figure 2.1 Historical vs ACIL Allen Base Case forecasts for western haul booked capacity



Source: APA Group, ACIL Allen

Data discrepancy

A key data discrepancy that appears to have caused some confusion is a contract worth 35 TJ per day. The AER noted in its response to APA's Access Arrangement Proposal that[2],

> *"We note that APTPPL submits that when reviewing the historical series, 35TJ/day should be excluded over 2019 and 2021. It states that the reserved capacity is not contracted on the RBP but related to services on another pipeline, the South West Queensland Pipeline (SWQP).*
>
> *Based on the information before us, we are not satisfied that the 35TJ/day reservation capacity should be excluded between the 2019–2021 period. At this stage, it appears that the reserved capacity is similar to the current booked transportation service offered on the RBP. That is, APTPPL cannot access or sell the reserved capacity without permission. Excluding the reserved capacity would allow APTPPL to recover more than its efficient costs, which is inconsistent with ss24(2) of the National Gas Law (NGL)."*

It is our understanding that this capacity of 35 TJ per day is an operational, rather than contractual, reservation. Our understanding is that the operational reservation relates to an eastern haul park and loan service and, therefore, is not relevant to the western haul analysis.

This contract appears to be the figure which has led to the confusion between the level of booked capacity on the RBP for western haul services, comparing ACIL Allen and the AER's forecasts.

It is our view that this matter is being addressed between APA and the AER.

[2] The AER: Draft Decision - Roma to Brisbane Pipeline Access Arrangement 2022 to 2027, Attachment 12 – Demand, November 2021.

2.3 AER determination on western haul forecasts

This report is being prepared to respond to comments made by the AER in regards to the western haul forecasts[3]. ACIL Allen has provided an initial response to the AER's comments below. Our report addresses these concerns in our updated forecasts chapter (Chapter 4).

Table 2.2 AER comments and ACIL Allen's response

AER comment	ACIL Allen response
ACIL Allen does not explain why it made specific year-on-year downward adjustments to the High Case to derive the Base Case forecasts. When we asked for an explanation, ACIL Allen provided a qualitative response similar to its explanation in its report. We are concerned that its downward adjustments from recent booked capacity levels have no quantitative basis. For example, there appears to be no reasoning why adjustment has been made from 100 to 85TJ/day in 2023, and not to, for instance, 90 or 60TJ/day.	• The starting point quantity under each case (e.g. base, low and high) was based on ACIL Allen's view of where booked capacity might start at in FY23, based on what we thought would happen from FY16 to FY22 (which includes some years where ACIL did not have contractual data as mentioned above), and how the market could progress in that time (which could be significant based on new supply projects, contracting behaviour by different customer groups, trends in pipeline contracting generally, increased pipeline competition etc.). • In response to the AER's comment, ACIL Allen will begin each case in our updated forecasts at the same booked quantity, instead of differing starting points as originally performed. • The year-on-year forecasts have been developed on individual shipper analysis, whose contracted capacity might change from year-to-year. This explains the incremental changes for all cases over the forecast period.
Similar to the point above, ACIL Allen does not explain why it made year-on-year adjustments from the Base to the Low Case. The lack of explanation further reduces our confidence in its forecasting approach.	• See comment above.
ACIL Allen did not undertake any sensitivity testing around the key assumption of the additional supply coming online in southern states. This is the critical variable in its Base Case scenario, and any delays in Port Kembla and Narrabri is likely to have a material impact in its forecast.	• ACIL Allen has undertaken sensitivity testing as part of this updated forecast report. These results are presented in Chapter 4.
The GasMark model did not undergo sensitivity testing. That is, ACIL Allen did not test how modelling results would change in response to changes in the inputs and assumptions.	• Sensitivity analysis is only undertaken on developments in supply. The model's intended use is to understand how the overall supply/demand balance could influence pipeline flows. Therefore, this is the reason why supply assumptions were the only assumptions tested. • Other assumptions could be tested but this could be an exhaustive process as various other assumptions can be tested.
While ACIL Allen indicates that its demand forecast was based on both the GasMark model as well as a review of historical booked capacity, it has not provided quantitative evidence as to how the two approaches were brought together to derive the forecast.	• This is discussed in further detail in Chapter 4. • ACIL Allen has provided more commentary as to how they work together to produce our forecasts.
The lack of clarity around the forecast was also highlighted by Shell Australia's submission, which noted that there would be benefit in making the model and underlying assumptions available to stakeholders to understand why APTPPL believes there will be subsequent declines in western haul usage.	• The model was not the foundation of the forecasts. • The role of the model is explained further in Chapter 4.

Source: AER report, ACIL Allen

[3] The AER: Draft Decision - Roma to Brisbane Pipeline Access Arrangement 2022 to 2027, Attachment 12 – Demand, November 2021.

Historical analysis: Western haul demand – FY18 to FY22

3

3.1 Introduction

This chapter examines updated historical booked (or contracted) capacity data to assist in understanding what contracted levels have been in recent years and estimating the opening demand for the FY23 regulatory period.

As discussed in our report dated 21 June 2021, western haul demand is driven by several factors including:

- Development of the Wallumbilla Gas Supply Hub
- Demand from southern states particularly in the winter months when heating demand creates peak demand periods particularly in Victoria.
- Pipeline competition
- Security and reliability of supply
- Short term trading opportunities
- Operational flexibility.

At the time of writing the first report, data on contracted capacity post FY19 was not available to ACIL Allen. This information is now available and is discussed below.

3.2 Firm booked capacity FY16 to FY21

Western haul firm booked capacity for the period from FY16 to FY21 is shown in **Table 3.1**.

Table 3.1 Booked Western Haul firm capacity

Heading	FY16	FY17	FY18	FY19	FY20	FY21
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Bookings greater than or equal to 10 TJ/day	0.0	41.8	94.0	93.6	73.1	77.8
Bookings between 5 and 10 TJ/day	25.0	17.4	5.3	0.0	9.0	0.0
Bookings less than or equal to 5 TJ/day	0.0	0.0	3.3	4.9	6.6	7.0
Total firm capacity	25.0	59.3	102.6	98.5	88.7	84.8

Source: APA

A total of 12 shippers booked firm western haul capacity over the period from FY16 to FY21. As the table shows, booked capacity sharply rose from FY16 to FY18. However, booked capacity has now fallen back to levels around 85 TJ per day. The main factors contributing in our view to increasing booked capacity in from FY16 to FY18 include:

- Rising booked capacity driven by operational flexibility and supply security reasons by the LNG joint venture shippers. LNG export projects in Gladstone were commissioned in 2015 and as they ramped up, the RBP western haul service provided flexibility and security to manage supply as these projects ramped up.
- Opportunities to sell low cost 'ramp' gas from the LNG shippers as part of supply coming online to meet the needs of the LNG plants, but also provide additional supply to domestic consumers.
- Demand and supply balance on the east coast which led to increasingly larger volumes of coal seam gas (CSG) needing to be sent south to satisfy peak winter demand
- Continued enhancement of the Wallumbilla hub which incentivised additional routes of supply to transport gas to Wallumbilla for supply onwards to the LNG plants in Gladstone, or transported to domestic consumers (meaning more avenues are available to take gas to Wallumbilla)
- Increased shorter term trading opportunities and pipeline trading mechanisms.

The increase in booked capacity over this period was driven mainly by contracts of the order of 10 TJ per day or above. Contracts between 5 and 10 TJ per day decreased over that period while bookings less than 5 TJ per day only rose marginally.

The subsequent decline in western haul booked capacity over FY18 to FY21 appears to be primarily attributable to the loss of bookings greater than 10 TJ per day from larger shippers. This likely reflects the reduction in gas made available from the LNG projects which were being sold to southern markets as the LNG projects ramped up capacity when they were commissioned. Additionally, the LNG projects now have competing pipelines for gas they send to southern customers, including the Berwyndale to Wallumbilla Pipeline, Darling Downs Pipeline and the Reedy Creek to Wallumbilla Pipeline. Further, emergence of smaller firm forward contracts did not, in all cases, represent a consistent booking reservation over the period. For example, smaller contracts of around 5 TJ per day or less have not appeared to be consistent over the history of the western haul route and are irregular in terms of the capacity volumes being sought.

The decline in firm booked capacity does not appear to have been caused by a decline in demand in the eastern states in the early stages of the COVID pandemic lockdowns as shown in **Table 3.2**. Demand across most states (except for Tasmania) has not fallen significantly in recent years.

Table 3.2 Gas consumption – east coast gas market

	New South Wales	Victoria	Queensland	Tasmania	South Australia
	PJ	PJ	PJ	PJ	PJ
2015-16	156.4	280.9	294.7	12.4	107.4
2016-17	133.7	283.4	307.8	12.6	116.4
2017-18	133.8	291.3	300.6	13.4	127.1
2018-19	131.4	283.9	292.6	10.0	113.8
2019-20	132.9	283.4	311.8	6.8	108.9

Source: ABS, Australian Energy Statistics, 2021 Table C

It is unlikely that the decline of 15.5 per cent in firm western haul booked capacity on the RBP over the FY18 to FY20 period can be attributed to a fall in demand in the southern states.

ACIL Allen assumes that consumption for FY21 will not have declined significantly either. Pipeline flow data from AEMO suggests flows along key pipelines did not decline significantly during this period, suggesting demand was still relatively stable even as the impacts from COVID were still being felt.

3.3 Possible firm forward bookings for FY22

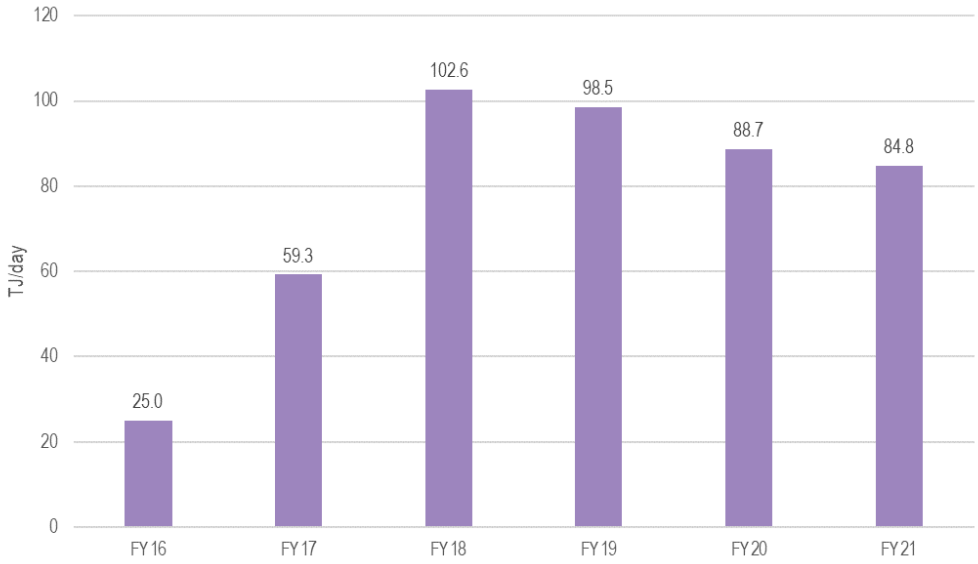
For our original forecasts, ACIL Allen had to estimate what could happen from the end of FY19 to the beginning of FY23, as no data was available. We estimated the total demand in FY20 and FY 21 to be 95 TJ per day, and FY22 to be around 90 TJ per day.

The actual results for FY20 and FY21 were 88 TJ per day and 85 TJ per day respectively, according to updated data from APA. The trend line from FY18 to FY21 is downward sloping as seen in **Figure 3.1**. It is unclear whether this trend will continue at the same pace as occurred in the previous four financial years.

The pattern for loads less than 10TJ per day is likely to be characterised by smaller, more opportunistic loads. Those less than 5 TJ per day are likely to be opportunistic as market conditions emerge over the next six months to 12 months in terms of the supply and demand balance in the east coast market.

The 2021 AEMO GSOO report does not envisage additional problems in supplying peak loads in the winter of FY22. It may therefore be reasonable to assume that the bookings for FY22 will be similar to that of the previous financial year. We do not see any major shift in the behaviour of the LNG projects nor in the requirements of major retailers and industrial users who have been the major users purchasing capacity in the past. It is possible however that some economic recovery in southern states post COVID could result in a slight increase in bookings for the FY22 period.

Figure 3.1 Historical western haul firm service booked capacity



Source: APA contract data

Therefore, it would be reasonable to assume that the demand for 2022 could range between 80 TJ per day to 90 TJ per day in 2022.

Revised projections FY23 to FY27

4

This chapter discusses an approach to establishing an opening figure for western haul firm forward contracting and the trend for the over the regulatory period from 2023 to 2027. We have prepared a Base Case, plus a high and a low sensitivity case.

The Base Case represents what ACIL Allen expects to be most likely case over the forecast period. The High and Low cases are sensitivity cases. The Base Case most importantly represents what we consider to be the strongest likelihood in terms of the volume and timing of additional supply development in the southern states.

4.1 Methodology

ACIL Allen's methodology for our forecasts is generally an update of our original forecasts. Updated data has been provided to ACIL Allen on historical booked capacity on the western haul service by APA. Additionally, ACIL Allen has utilised an updated database of its GasMark model and will run sensitivities to understand how pipeline flows might change under different assumptions.

The chapter will present case by case and firstly present our Base Case view. This view is what ACIL Allen expects to happen on the RBP western haul service over the next access arrangement period.

4.2 ACIL Allen Base Case

4.2.1 Opening throughput booking for western haul firm capacity

As presented in Chapter 2, bookings for western haul firm capacity have declined from 103 TJ per day in FY18 to 85 TJ per day in FY21. The outcome for FY22 is uncertain but is likely to fall between 80 TJ per day and 90 TJ per day as discussed below. The outcome for FY23 is also uncertain and will be driven by the behaviour of the LNG projects as well as the level of economic recovery post COVID, and the demand/supply balance situation in the east coast market.

In our first report we estimated that the demand for western haul services in FY23 would be 85 TJ per day. We still believe that this outcome is possible. However, for the purposes of adopting western haul demand for FY23 consistent with the approach taken by the AER in its response to the demand forecasts, we have adopted the average of historical booked capacity between FY18 and FY21. This equates to 93.7 TJ per day.

This starting point will be used for the Base Case and the high and Low Cases.

4.2.2 Anticipated western haul firm forward contract trends over the FY23 to FY27 period

Impact of net-zero emission targets for 2030

A key issue that has only been gaining more traction in the gas industry in recent months is the impact of decarbonisation policy. We believe it is important to state our view on whether policy in this area might have an impact on RBP demand or generally the gas market over the next access arrangement period. Australia has adopted a net-zero emissions target for 2050. While achieving this target will have implications for all the jurisdictions in the east coast gas market, the path to net zero emissions in Victoria is particularly important for forecasting western haul flows on the RBP.

The Victorian government established a net-zero emissions target by 2050 with the passing of the *Climate Change Act 2017*. The Act requires the Premier and the Minister for Energy, Environment and Climate Change to set interim targets to keep the State on track to meeting the long-term target. Interim targets have been set as follows:

— 2021 to 2025: reduce emissions by 28-33 per cent relative to 2005 levels by 2025

— 2026 to 2030: reduce emissions by 45-50 per cent relative to 2005 levels by 2030.[4]

To achieve the 2030 target, it is possible that the Victorian government will need to implement policies to reduce consumption of natural gas during the 2023 to 2027 regulatory period. Possible actions could include:

— electrification of a proportion of the heating load in Victoria

— introduction of up to 10 per cent hydrogen into the VTS network

— substituting biogas for natural gas in part of the current natural gas market.

There are many uncertainties that will need to be sorted out before such actions can be undertaken. Any such actions would reduce winter peak demand and annual demand for natural gas in the Victorian Transmission system.

However, ACIL Allen considers that it is unlikely that there would be significant substitution over the FY23 to FY27 period and have based our forecasts on an assumption any substitution would occur after FY27. This is a conservative approach.

For the Base Case, we have assumed that these measures will not be implemented during the FY23 to FY27 regulatory period.

Peak winter demand and supply balance in Victoria and other southern states

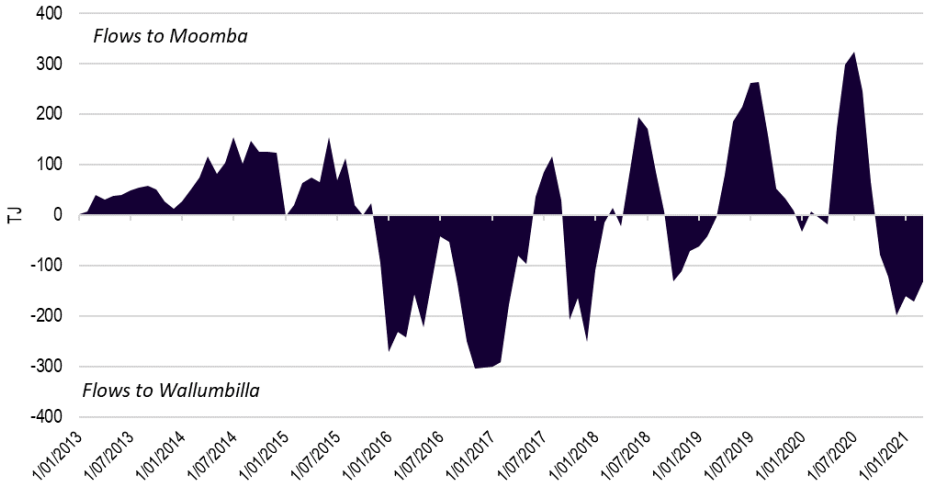
A likely key driver of western haul firm forward contracting on the RBP over the FY23 to FY27 period is seasonal demand in the east coast gas market. Specifically, the need to meet peak winter demand in Victoria (as well as New South Wales and the Australian Capital Territory to some extent) as production from the Gippsland Fields declines, which has been a key reason for increased flows from Queensland to southern states in recent years. The peak winter demand day in Victoria is projected to be 1,263 TJ per day in 2023 (in the 1 in 20 year peak day case). The 2021 GSOO report states that there is a risk of a shortfall in supply of around 100 TJ per day as early as winter 2023 in Victoria to meet this peak day. This is underpinned by the assumption that the Port Kembla LNG terminal (PKLNG) project does not proceed by that time.

The GSOO report also notes that current gas supply arrangements will be insufficient to cover monthly winder demand in addition to the extreme peaks. It concludes however, that provided all committed and anticipated projects are developed, there is expected to be sufficient supply to cover both peak demand conditions and seasonal demand requirements at least until 2029.

[4] Department of Environment, Land, Water and Planning, *Victoria's Climate Change Strategy*, May 2021, p. 6

CSG from Queensland is increasingly becoming important in order to meet southern state demand over the past few years. We expect this to continue and be a key underpinning factor for RBP western haul demand. **Figure 4.1** below shows the flow of gas along the South West Queensland Pipeline which link Wallumbilla in Queensland with the Moomba gas hub in South Australia.

Figure 4.1 Gas flows along the South-West Queensland Pipeline



Source: AEMO Gas Bulletin Board

The western haul route on the RBP is an important avenue for gas producers to supply the Wallumbilla hub with gas that will flow south. Flows along the RBP do show the same seasonality with peak flows in the winter months (most so in Quarter 3). According to AEMO connection point data for the RBP, quarterly average flows peak in Quarter 3 (representing the peak of winter) at around 83 TJ per day.

Table 4.1 Average quarterly flows, 2019 to 2021

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
2019-2021	32.53	55.90	82.54	50.34

Source: AEMO connection point data for the RBP pipeline

There has been commentary recently from APA on the possibility of expanding the South-West Queensland Pipeline (SWQP) and the Moomba to Sydney pipeline to enable supplies to meet peak demand periods. However, because of the peakiness of demand in the southern states, the economics of such expansions may not be the most economic investments in the short term.

Current options under consideration for meeting southern state demand in the short term are located closer to the Victorian market. These options and the additional capacity that they could provide are summarised in **Table 4.2**.

Table 4.2 Projects in plan to address the winter peak demand during the FY23 to FY27 period.

Project	Project description	Current state	Additional capacity for Victorian peak demand periods
Upgrade of the Iona Gas Storage Facility	Additional storage capacity by accessing the Seamer underground gas field.	Regulatory approvals by end of 2021. Project to be completed June 2022.	Project will expand capacity of the Iona storage from 530 TJ per day to 570 TJ per day
Augmentation of the SWP	Additional compression on the SWP to increase its ability to	Project is currently included in APAs plans for the Victorian	Project will increase the capacity of the SWP from 468

Project	Project description	Current state	Additional capacity for Victorian peak demand periods
	accommodate Lochard's expansion capacity of Iona.	Transmission System (VTS) for pre-approval currently before the AER. If approved APA intends to proceed with planning approvals during 2022. Project completion expected by 2024.	TJ per day to 599 TJ per day – an increase of 131 TJ per day, post the completion of the WORM project.
PKLNG + bidirectional flow on East Coast Pipeline	The PKLNG project involves two investments – development of LNG import terminal at Port Kembla with an associated new pipeline to connect with the Eastern Gas Pipeline (EGP) and investment in compression to make the EGP bidirectional.	NSW approval of EIS achieved. Project commissioning could be achieved by 2024.	Up to 292 TJ per day supply for the Victorian market
Golden Beach Storage (not considered in this analysis but could proceed to development within the next two to three years)	Providing up to 12.5 PJ of additional market storage for the Victorian Transmission System (VTS). Located close to Longford with substantial spare pipeline capacity to Melbourne over time as GBJV supply depletes.	Project has completed FEED and EES approvals. Project could be ready by 2024.	Withdrawal capacity projected to be 250 TJ per day.

Source: APA submissions to AER, Lochard Energy, Australian Industrial Energy, Jemena

There are other projects currently being considered to address supply concerns during peak winter periods in Victoria. These include:

- An LNG plant at Geelong linking into the VTS at Lara or Truganina
- An LNG plant in Port Philip Bay
- An LNG plant in Victoria Harbour in South Australia linked to the VTS through an augmentation to the SEAGas Pipeline to make it bi-directional
- Augmentation of the Victoria Northern Interconnector.

While these projects are under consideration, they are not as well advanced as those in **Table 4.2** and are less relevant to meeting peak demand in Victoria during the winter months over the next regulatory period.

The options listed in **Table 4.2** have the potential to provide additional capacity of between 100 and 300 TJ per day for the Victorian market during the winter peak periods by 2024 at the latest. The Iona and SWP project could begin providing additional capacity as early as FY23. Expansion of the SWP is likely to involve additional compression that can be introduced in stages.

If one of the projects listed in **Table 4.2** proceeds, the ability of the east coast market to supply Victorian demand during extreme peak winter months over the FY23 to FY27 period is likely to be realised. A likely consequence for the RBP and flows west from Wallumbilla along the SWQP is that there might be less need to transport as much gas from Queensland to meet supply reliability in the southern states as recently has been the case. This then is likely to potentially reduce the demand for western haul services on the RBP for those shippers booking capacity to offer gas to domestic consumers in the southern states during winter.

For the Base Case we have assumed that the SWP and Iona expansion are commissioned over the FY23 and FY24 period and PKLNG commences supply in FY23.

The SWP augmentation will increase the capacity of Iona to supply 131 TJ per day during the peak winter months in Victoria. The introduction of PKLNG will secure both system reliability in Victoria and provide a longer-term supply option for the Victorian market while at the same time making additional gas available for NSW.

Our expectation is that this will marginally reduce demand for western haul services on the RBP over the regulatory period. However, at the same time this will still support RBP western haul contracting but not quite to the degree as has been the case in recent years.

ACIL Allen has not included the Narrabri project in the Base Case for these updated forecasts.

Supply decisions by the LNG projects

The LNG projects are experiencing strong demand and high prices. LNG netback prices at Wallumbilla are projected to average around $34 per GJ in 2022 (likely to drop but represents supply shortages overseas) and $19 per GJ in 2023[5]. If this trend continues and international shortages take time to recover, there will be little commercial incentive for the LNG projects to sell gas into the southern markets above levels in recent years.

We also note that APLNG have confirmed that they will supply the domestic market for Origin Energy. APLNGs main route for shipping gas to Wallumbilla is via the Reedy Creek Pipeline not the RBP. We would expect that APLNG would utilise the 300 TJ per day capacity to supply the domestic market in the first instance from its gas from its Combabula fields as well as Spring Gully, before purchasing extra capacity on the RBP.

However, APLNG also has significant production from its Condamine fields which is located near the RBP. Despite this, it is likely this gas will travel to Wallumbilla via Darling Downs Pipeline rather than the RBP in the first instance.

We expect that GLNG will increasingly direct its gas resources to the LNG plants and require less western haul capacity booking on the RBP as it comes under increasing reserves pressure.

QCLNG is arguably best placed according to its level of reserves and resources to not only supply its LNG plant in Gladstone, but also the domestic market over the forecast period. Our expectation is that QCLNG is likely to keep its western haul contracts similar to current levels over the forecast period.

For the Base Case we have assumed that the level of western haul contracts booked by the LNG producers in FY21 of around 60 TJ per day will continue through to FY23. We expect this to fall by around 10 TJ per day over the forecast period as new supply capacity comes online from the augmentation of the SWP pipeline and Iona storage facilities.

We expect that the full effect of these projects and the commissioning of the PKLNG plant will reduce the need for the LNG producers to send so much gas south as previously.

Western haul contracts below 10 TJ per day

As at the conclusion of FY21, the smaller contracts totalled 7 TJ per day while individual contracts were below 3 TJ per day. The future trend for these contracts will depend on the development of the Wallumbilla trading hub, the use of day ahead and capacity trading markets and the differential between the Wallumbilla LNG net back price and prices in the southern markets. Additionally, other routes exist to take gas to Wallumbilla from fields in the southern Surat Basin.

[5] ACCC, https://www.accc.gov.au/regulated-infrastructure/energy/gas-inquiry-2017-2025/lng-netback-price-series, accessed on 30 December 2021.

In our previous report, we noted that flows along the Darling Downs Pipeline was increasing in recent years. With competitive pricing and flexibility of service, there is a real chance that smaller shippers could book higher volumes on the Darling Downs Pipeline to take gas west to Wallumbilla.

Contracting is also changing and our expectation is that booked capacity on an annual basis could fall in the future. As the market gets deeper and connects in with more supply sources, shippers could be incentivised to book lower volumes of 'base' annual supply and supplement their capacity with more intra-annual capacity. This is something not considered in our forecasts as it would be very difficult to forecast. However, it does fit in with the trend seen in the market of contract duration shortening significantly and shippers utilising other avenues to book capacity on shorter intervals and avoid paying fixed costs for larger amounts of annual capacity.

For the purpose of the Base Case forecast we have assumed that smaller contracts will fall by 3 TJ per day over the forecast period reflecting slightly fewer opportunities to take advantage of price differentials between Queensland and southern states during the winter period. We have been conservative and held the view that there is no meaningful replacement of contracted capacity on the RBP with other pipelines. However, this could occur in meaningful way.

4.2.3 Summary of key assumptions for the Base Case

Demand

East coast gas demand expected to remain relatively flat compared with recent years.

Peak winter demand expected to reach levels forecast by AEMO in their latest GSOO and VGPR reports.

Western haul booked capacity to start FY23 at 93.7 TJ per day (average of FY18 to FY21 historical contracted data).

Net zero emissions targets

No effect on RBP western haul contracting.

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. Has no impact on gas demand in the east coast gas market.

Additional infrastructure or supply investments

It is assumed that expansions to the South West Pipeline in Victoria are implemented by FY24 along with the augmentation of the Iona Storage facility.

The PKLNG project is commissioned by winter 2023.

No other significant supply is brought online during this period. However, this supply contributes significantly to meet peak demand in the winter period in the southern states.

Other factors

Pipeline competition is expected to come from the Darling Downs Pipeline in particular with rising pipeline flows evident in recent years as highlighted in our original report.

Pipeline contracting is expected to get shorter with shortening durations and increasing levels of intra-annual contracting. This is something which is occurring more in the gas industry and might mean shippers book smaller volumes for their 'base' annual needs and supplement, if need be, with intra-annual bookings.

Both of these factors are expected to influence how shippers book capacity over the forecast period.

4.2.4 Summary of trends for the Base Case

The projections for the Base Case are summarised in **Table 4.3**.

The table shows the starting point for FY23 of 93.7 TJ per day and the accumulated reductions to this starting point for the remaining four years of the regulatory period.

The average of total western haul demand under the Base Case is 88 TJ per day. Therefore, this represents a very modest decline from the average over the period from FY18 to FY21 of 94 TJ per day.

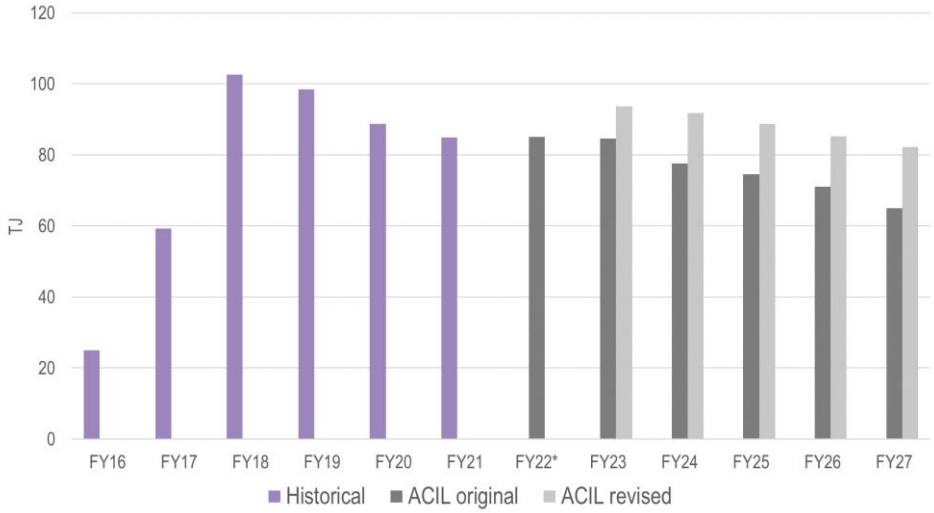
Table 4.3 Base Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Base Case western haul booked capacity	94	92	89	85	82

Source: APA contract data, ACIL Allen analysis

Our revised forecast and original forecast is compared in **Figure 4.2**.

Figure 4.2 Original vs revised forecasts for RBP western haul



*Note: * FY22 is an estimate*
Source: ACIL Allen

4.3 High Case

The following section summarise our assumptions for a High Case. This case represents a case where minimal supply development occurs in southern states.

4.3.1 Key assumptions for the High Case

Demand

East coast gas market and peak Victorian winter demand is as in the Base Case.

Western haul demand in FY23 is 93.7TJ per day.

Net zero emissions targets

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. No impact on east coast gas market.

Additional infrastructure or supply investments

It is assumed that the Iona expansion and the SWP augmentation are delayed until 2025 and the PKLNG project is not commissioned during the regulatory period.

Other factors

A key factor which we believe would sustain higher levels of contracting in comparison to the Base Case is further development of Wallumbilla (which is likely if little development in supply is made from the southern states). In a case where this occurs, we expect that this might sustain higher levels of capacity being booked on the RBP as shippers capitalise on arbitrage opportunities in the market.

Implications

Contracted demand is reduced by 6 TJ per day over the entire forecast period with the commissioning of the SWP augmentation and the expansion of the Iona storage facility being the significant contributors to this decline.

The impact we expect is for contracts larger than 10 TJ per day which represent the LNG producers and major retailers to decline slightly. Our expectation is that because of delayed investment in southern states and the PKLNG project not going ahead, Queensland CSG will remain important, particularly during the peak winter period. Therefore, we expect relatively minimal impact for western haul contracting over the forecast period.

There is no reduction in contracts less than 10 TJ per day. The demand/supply balance will remain tight and opportunist trades are likely to incentivise some small contracting volumes along the RBP towards Wallumbilla.

4.3.2 Summary of trend for the High Case

The projections for the High Case are summarised in **Table 4.4**. The average western haul demand for the regulatory period is 91 TJ per day.

The average capacity booked therefore during the next access arrangement period equates to 91 TJ per day. This is a 3 TJ per day reduction on the 94 TJ per day booked average from FY18 to FY21.

Table 4.4 High Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
High Case booked capacity	94	94	93	88	88

Source: APA contract data, ACIL Allen analysis

4.4 Low Case

The following section summarise our assumptions for a Low Case. This case represents a case where significant supply development occurs in southern states.

4.4.1 Key assumptions

For the Low Case we have assumed the following conditions.

Demand

Demand is as in the Base Case.

Net zero emissions targets

No change to interim targets in Victoria. No substitution of natural base by electricity, hydrogen or biogas over the regulatory period. No impact on east coast gas demand.

Additional infrastructure or supply investments

As is the Base Case plus supply plus supply from Narrabri is brought online from 2024.

Other factors

Increased competition on other pipelines occurs to a greater degree. We expect this could occur in the future and not be just due to increased competition from existing pipelines (e.g. Darling Downs).

A real possibility is some upstream development and pipeline development occurring in the Bowen Basin with supply being transported down to Wallumbilla via a new pipeline or a large capacity bi-directional Queensland Gas Pipeline. This could arguably mean less booked western haul capacity on the RBP later on in the next access arrangement period.

Implications

Contracted demand is reduced by 20 TJ per day over the forecast period.

The result is that demand for western haul capacity drops across all customer groups, including smaller shippers with contracts less than 5 TJ per day.

4.4.2 Summary of trend for the Low Case

The projections for the High Case are summarised in **Table 4.5**. The average western haul demand for the regulatory period is 84 TJ per day.

Table 4.5 Low Case western haul demand forecast

	FY23	FY24	FY25	FY26	FY27
	TJ/day	TJ/day	TJ/day	TJ/day	TJ/day
Low Case booked capacity	94	89	85	78	75

Source: APA contract data, ACIL Allen analysis

4.4.3 Summary

In summary, our revised forecasts see less variation over the next access arrangement period than under our original forecasts. The average booked capacity for the Base Case is 88 TJ per day, compared with 91 TJ per day in the High Case and 84 TJ per day in the Low Case. Again, for reference, the average capacity from FY18 to FY21 was 94 TJ per day.

4.5 GasMark modelling

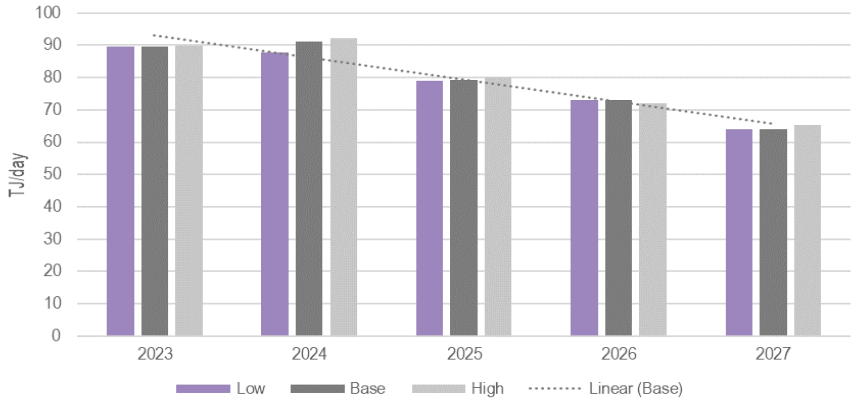
GasMark modelling was undertaken to understand the general trends the market might expect to see across the next access arrangement period and how this might affect pipeline flows from Queensland to the southern states, including flows along the RBP to Wallumbilla.

An important note to make is that GasMark does not measure contracted capacity. The model provides forecasts of pipeline flows. ACIL Allen will utilise GasMark to understand how the market may play out and how any results from the model on pipeline flows may impact booked capacity. It is simply a sense check on whether our assessment of individual shipper forecasts stack up when considering how the overall market might play out.

For example, contracted capacity as assessed above in the Base Case declines over the forecast period. This is for various reasons including our assessment of how new supply developments in southern states might impact the supply/demand balance. ACIL Allen has modelled these supply developments to understand how they impact the market. This is then assessed together with our individual shipper forecasts where we believe an altered demand/supply balance will affect how much shippers book.

Figure 4.3 below presents the modelling undertaken for all three cases.

Figure 4.3 Peak average winter flows on the RBP to Wallumbilla (western haul)



Source: ACIL Allen

The modelling clearly shows that a steady decline is expected in peak average winter flows on the RBP to Wallumbilla. However, the reduction is not generally expected to occur until 2025, after both PKLNG and the expansion of the SWP and Iona storage facility have been developed.

ACIL Allen's expectation is that while flows are forecast to decline, we do not expect booked capacity to drop to this degree. There is typically a lag between changes in booked capacity on a pipeline and any sustained trend change in pipeline flows. As the modelling does show a general decline, ACIL Allen expects booked capacity to fall marginally over time, but not as significantly as what GasMark is expecting with pipeline flows. This is also due to the fact that although average winter peak flows are falling, peak day flows could still be high. We reflect this in our assessment of booked capacity as mentioned above.

Another key result of the modelling is that there is minimal difference between all three cases. This has been reflected in our revised forecasts where the difference between our low, base and High Cases are not as significant as in our original forecasts. This demonstrates that new supply coming online does affect RBP flows, but only to an extent. For example, new supply coming online in the Low Case above and beyond what is in the Base Case, doesn't significantly further impact RBP flows as recorded in the Base Case. This means flows along other pipelines which also service the southern markets do see reductions in flows in addition to the RBP (e.g. Darling Downs Pipeline, Reedy Creek Pipeline etc that service Wallumbilla).

Our overall conclusion from this exercise is that the modelling demonstrates that new supply coming online does reduce pipeline flows to southern markets, including the RBP. This confirms our assessment that some individual shippers might book less capacity on the RBP as less CSG is forecast to be required in southern markets.

However, it also suggests that the western haul route on the RBP will still be important, and will be highly utilised over the next access arrangement period. This is demonstrated in our forecasts where we only see moderate declines on average in contracted capacity, compared to the historical average over FY18 to FY21.

Specific contract assessment A

This appendix details our specific forecasts for individual shippers. Additionally, commentary on how we came to each is provided extensively for the Base Case forecasts and more briefly for the sensitivity cases (high and Low Cases).

A.1 Base Case

Table A.1 Base Case contract analysis

(Confidential)

Note: (Confidential).
Source: ACIL Allen

Comments on specific shippers is provided below for the Base Case.

Table A.2 Specific comments on individual shipper forecasts

(Confidential)

(Confidential)

(Confidential)

(Confidential)

A.2 High Case

Table A.3 High Case contract analysis

(Confidential)

Note: (Confidential)

Source: ACIL Allen

A.2.1 High Case key points

(Confidential)

(Confidential)

A.3 Low Case

Table A.4 Low Case contract analysis

(Confidential)

Note: (Confidential)

Source: ACIL Allen

A.3.1 Low Case key points

(Confidential)

(Confidential)

Melbourne
Suite 4, Level 19; North Tower
80 Collins Street
Melbourne VIC 3000 Australia
+61 3 8650 6000

Sydney
Suite 603, Level 6
309 Kent Street
Sydney NSW 2000 Australia
+61 2 8272 5100

Brisbane
Level 15, 127 Creek Street
Brisbane QLD 4000 Australia
+61 7 3009 8700

Canberra
Level 6, 54 Marcus Clarke Street
Canberra ACT 2601 Australia
+61 2 6103 8200

Perth
Level 12, 28 The Esplanade
Perth WA 6000 Australia
+61 8 9449 9600

Adelaide
167 Flinders Street
Adelaide SA 5000 Australia
+61 8 8122 4965

ACIL Allen Pty Ltd
ABN 68 102 652 148

acilallen.com.au