



**DRAFT DECISION**  
**Roma to Brisbane Gas Pipeline**  
**Access Arrangement**  
**2017 to 2022**

**Attachment 9 – Efficiency**  
**carryover mechanism**

July 2017

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## Note

This attachment forms part of the AER's draft decision on the access arrangement for the Roma to Brisbane Gas Pipeline for 2017–22. It should be read with all other parts of the draft decision.

The draft decision includes the following documents:

### Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

Attachment 12 - Non-tariff components

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## Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CPI	consumer price index
DRP	debt risk premium
ECM	(Opex) Efficiency Carryover Mechanism
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	Value of Imputation Credits
MRP	market risk premium
NGL	National Gas Law
NGO	national gas objective
NGR	National Gas Rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RBA	Reserve Bank of Australia
RFM	roll forward model
RIN	regulatory information notice
RPP	revenue and pricing principles
SLCAPM	Sharpe-Lintner capital asset pricing model
STTM	Short Term Trading Market
TAB	Tax asset base
UAFG	Unaccounted for gas
WACC	weighted average cost of capital
WPI	Wage Price Index

## 9 Efficiency carryover mechanism

An efficiency carryover mechanism provides an additional incentive for service providers to pursue efficiency improvements in operating expenditure (opex). It is often used in incentive regulation.

To encourage a service provider to become more efficient, it is allowed to keep any difference between its approved opex forecast and its actual opex in an access arrangement period. This is supplemented by the efficiency carryover mechanism, which provides that the service provider, over a longer period, benefits from efficiency gains and is penalised for any efficiency losses. In total these rewards and penalties work together to provide a continuous incentive for a service provider to pursue efficiency gains over the access arrangement period. The efficiency carryover mechanism also discourages a service provider from inflating its opex in the expected base year for the following access arrangement period, because this could lead to a higher opex forecast in that period.

Consumers benefit from any efficiency gains made by the service provider as we base our next opex forecast (for the next access arrangement period) on the service provider's lower revealed opex. This is how efficiency improvements are shared between consumers and the business.

An efficiency carryover mechanism did not apply to APT Petroleum Pipelines Limited (APTPPL) during the 2012–17 access arrangement period. APTPPL did not propose to apply an efficiency carryover mechanism to its opex in the 2017–22 access arrangement period.

### 9.1 Draft decision

Our draft decision is to apply an efficiency carryover mechanism to APTPPL in the 2017–22 access arrangement period.

Our decision to apply an efficiency carryover mechanism to APTPPL is consistent with our approach for other regulated service providers.<sup>1</sup> The efficiency carryover mechanism is an important component of our top-down, revealed cost forecasting approach for opex. This is explained further in section 9.4.

Table 9.1 sets out our draft decision on the approved opex forecast we will use to calculate efficiency gains in the 2017–22 regulatory control period, subject to further adjustments allowed by the efficiency carryover mechanism.<sup>2</sup>

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<sup>1</sup> For example, AER - *Final decision Amadeus Gas Pipeline Access Arrangement - Attachment 9 - Efficiency carryover mechanism* - May 2016.

<sup>2</sup> The approved opex forecast excludes debt raising costs.

**Table 9.1 Approved forecast opex for the efficiency carryover mechanism (\$ million, 2016–17)**

	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22
Approved forecast opex	14.1	14.1	14.3	14.3	14.2	14.1	14.1

Source: APTPPL, *Roma to Brisbane Pipeline 2016–21, proposed opex model*, September 2016.

Note: Excludes debt raising costs. Numbers may not add up due to rounding.

## 9.2 APTPPL's proposal

APTPPL did not propose any incentive mechanism for the Roma to Brisbane Gas Pipeline (RBP), beyond the incentives implicit in the regulatory regime.

In its Access Arrangement Revision Proposal, APTPPL stated:<sup>3</sup>

APTPPL faces incentives to reduce costs and increase demand over the access arrangement period compared with the forecast on which the access arrangement is based, as total revenue will not be adjusted to reflect differences between forecast and actual gas demand and/or business costs.

## 9.3 AER's assessment approach

An efficiency carryover mechanism is a form of incentive mechanism. A full access arrangement may include (and we may require it to include) one or more incentive mechanisms to encourage efficiency in the provision of services by the service provider.<sup>4</sup> An incentive mechanism must be consistent with the revenue and pricing principles.<sup>5</sup>

We consider the following revenue and pricing principle is most relevant for assessing APTPPL's proposal to not apply an efficiency carryover mechanism.<sup>6</sup>

A service provider should be provided with effective incentives in order to promote economic efficiency with respect to reference services the service provider provides. The economic efficiency that should be promoted includes:

- (a) efficient investment in, or in connection with, a pipeline with which the service provider provides reference services
- (b) the efficient provision of pipeline services

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<sup>3</sup> APTPPL, *Roma to Brisbane Gas Pipeline Access Arrangement Information 2017–22*, September 2016, p. 35.

<sup>4</sup> NGR, r. 98(1).

<sup>5</sup> NGR, r. 98(3).

<sup>6</sup> NGL, s. 24(3).

(c) the efficient use of the pipeline.

## 9.4 Reasons for draft decision

Our draft decision is to apply an efficiency carryover mechanism to APTPPL for the 2017–22 access arrangement period.

In reviewing APTPPL's proposal, we have considered whether the existing regulatory regime provides effective incentives to promote economic efficiency in the provision of reference services. Under the existing regime, if APTPPL makes an efficiency improvement and spends less than the approved opex forecast, it retains the benefit of that efficiency gain in all remaining years of the access arrangement period. We have also reviewed whether the regulatory framework and existing operating environment provides a continuous incentive to reduce operating costs.

The efficiency carryover mechanism is an integral component of the base-step-trend (revealed cost) forecasting method we apply to opex (section 7.3. of attachment 7 of this draft decision explains our opex assessment approach). The base-step-trend forecasting method relies on identifying an efficient opex amount in the base year (the 'revealed costs' of the service provider), which we use to develop a total opex forecast. Under this approach, a service provider has an incentive to spend more opex in the expected base year. Also, a service provider has less incentive to reduce opex towards the end of the access arrangement period, where the benefit of any efficiency gains is retained for less time.

In this context, the application of an efficiency carryover mechanism serves two important functions:

- it reduces the incentive for the service provider to inflate its costs in the expected base year in order to increase its opex forecast for the next access arrangement period
- it provides a continuous incentive for the service provider to pursue efficiency improvements across the access arrangement period. This is because the efficiency carryover mechanism allows a service provider to retain efficiency gains for a total of six years, regardless of the year in which they are made.

The application of an efficiency carryover mechanism is consistent with our approach to other regulated service providers for which we use the base-step-trend forecasting method to forecast opex.

In applying the efficiency carryover mechanism to APTPPL in the 2017–22 access arrangement period, we propose:

- excluding any cost categories that are not forecast using a single year revealed cost approach in the access arrangement period commencing in 2022
- adjusting APTPPL's opex forecast to account for any Determined Pass Through Amounts
- adjusting APTPPL's opex forecast to account for any capitalisation policy changes.



## 9.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:

**Revision 9.1:** Amend the Roma to Brisbane Gas Pipeline access arrangement to include the following clause:

### 8 Efficiency Carryover Mechanism

#### 8.1 Efficiency Carryover Mechanism

- (a) An efficiency carryover mechanism will apply to operating expenditure.
- (b) The incentive mechanism will operate in the following way:
  - i. the mechanism carries forward the Service Provider's incremental efficiency gains (or losses) for five Financial Years from the Financial Year those gains (or losses) occur
  - ii. annual carryover amounts accrue in each Financial Year of the subsequent access arrangement period as the summation of the incremental efficiency gains (or losses) in the immediately prior access arrangement period that are carried forward for five years or less into the Financial Year
  - iii. the annual carryover amounts are added to the Service Provider's Total Revenue in each Financial Year of the subsequent access arrangement period. If necessary, the annual efficiency gain (or loss) is carried forward into the access arrangement period commencing 1 July 2022 until it has been retained by the Service Provider for a period of five years.
- (c) To ensure the carryover amount in the first year of an Access Arrangement period is only for incremental efficiency gains made in that year, we will subtract any incremental efficiency gain made in the previous Access Arrangement period after the base year from the difference between actual opex and forecast opex in the first year of the new period.

The incremental efficiency gain (or loss) for the Financial Year 2017–18 will be calculated as:

$$E_{2017-18} = (F_{2017-18} - A_{2017-18}) - (F_{2016-17} - A_{2016-17}) + (F_{2015-16} - A_{2015-16})$$

where:

$F_{2017-18}$  is the forecast operating expenditure for Financial Year 2017–18

$A_{2017-18}$  is the actual operating expenditure for Financial Year 2017–18.

- (d) The incremental efficiency gain (or loss) for Financial Years 2018–19 to 2020–21 (inclusive) will be calculated as:

$$E_t = (F_t - A_t) - (F_{t-1} - A_{t-1})$$

where:

$E_t$  is the incremental efficiency gain (or loss) in Financial Year t of the Access Arrangement Period

$F_t$  is the forecast operating expenditure in Financial Year t of the Access Arrangement Period

$A_t$  is the actual operating expenditure in Financial Year t of the Access Arrangement Period

$F_{t-1}$  is the forecast operating expenditure in Financial Year t-1 of the Access Arrangement Period

$A_{t-1}$  is the actual operating expenditure in Financial Year t-1 of the Access Arrangement Period.

- (e) The estimated incremental efficiency gain (or loss) for the Financial Year 2021–22 to will be calculated as:

$$E_{2021-22} = (F_{2021-22} - A_{2021-22}^*) - (F_{2020-21} - A_{2020-21})$$

Where  $A_{2021-22}^*$  is to be estimated using the following equation:

$$A_{2021-22}^* = A_{\text{base}} + F_{2021-22} - F_{\text{base}}$$

where:

$A_{2021-22}^*$  is the estimate of operating expenditure for Financial Year 2021–22

$A_{2020-21}$  is the actual operating expenditure for Financial Year 2020–21

$A_{\text{base}}$  is the actual operating expenditure for the Financial Year used to forecast opex for the following period

$F_{2021-22}$  is the forecast operating expenditure for Financial Year 2021–22

$F_{2020-21}$  is the forecast operating expenditure for Financial Year 2020–21

$F_{\text{base}}$  is the forecast operating expenditure for the Financial Year used to forecast opex for the following period.

- (f) The incremental efficiency gains (or losses) are carried over from Financial Year to Financial Year in real dollars to ensure that these gains (or losses) are not eroded by inflation. The price indices used in this calculation are to be consistent with those used to forecast opex for the following Access Arrangement period.
- (g) Increments or decrements from the summation of incremental efficiency gains or losses calculated in accordance with the approved incentive mechanism in the Access Arrangement Period will give rise to an additional ‘building block’ in the calculation of the Total Revenue amounts for each Financial Year of the subsequent access arrangement period.
- (h) The following costs will be excluded from the operation of the efficiency carryover mechanism:

- i. any cost category that is not forecast using a single year revealed cost approach in the access arrangement period following this Access Arrangement Period (intended to commence 1 July 2022); and
  - ii. any cost category that the AER determines, as part of a decision on revisions to apply to this Access Arrangement, to exclude from the operation of the efficiency carryover mechanism because it is satisfied that it would not promote the National Gas Objective.
- (i) The forecast operating expenditure amount for each year of the Applicable Access Arrangement Period will be adjusted to include any Determined Pass Through Amounts or other AER approved expenditure arising from Cost Pass Through Events which apply in respect of that year
  - (j) Where the Service Provider changes its approach to classifying costs as either capital expenditure or operating expenditure during the Access Arrangement Period, the Service Provider will adjust the forecast operating expenditure in the Access Arrangement so that the forecast expenditures are consistent with the capitalisation policy changes.
  - (k) If there is a change in the Service Provider's approach to classifying costs as either capital expenditure or operating expenditure during the access arrangement period, the Service Provider must provide to the AER a detailed description of the change and a calculation of its impact on forecast and actual operating expenditure for the access arrangement period.
  - (l) Where there is an interval of delay the formula in (c) should be adjusted accordingly.