



Use of RCM in Australian gas pipeline regulation

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Executive Summary

Brookfield is the owner of Nova Transportadora do Sudeste S/A (NTS), which in turn owns a portfolio of gas transmission pipelines in Brazil. Currently there is a dispute regarding the regulatory asset value to be applied from 1 January 2026.

NTS's regulator, ANP, is considering including the Recovered Capital Method (RCM) within the Brazilian gas regulatory regime as a valid basis for the setting of asset base values (ANP RAB Proposal) for 6 pipelines directly associated with transmission contracts that will be expiring on 31 December 2025 (Affected Pipelines). Other pipelines may also be affected at a later time.

Synergies has been asked to advise on Australia's regulatory practices in establishing regulatory asset base values for infrastructure assets generally, and in particular, in the context of the application of the RCM approach for Australian gas transmission pipelines.

We have been asked to address the following issues:

When and in what context RCM was applied to gas transporters in Australia?

The Australian Energy Regulator (AER) has explained that the RCM:¹

calculates the depreciated cost of constructing the pipeline, with the depreciation component reflecting the return of capital generated since the pipeline was constructed (i.e. revenue less operating expenditure less the return on capital less net tax liabilities). It is intended to provide service providers and prospective users with greater understanding of the residual value of the asset by showing the capital that has been recovered from users since the pipeline was constructed.

The only context in which the RCM could be applied to set access prices is for pipelines that are subject to arbitration processes for gas transmission pipelines not subject to ongoing price control arrangements administered by the AER. These pipelines, by definition, are not subject to conventional price control processes. Therefore, RCM has no role whatsoever in the setting of a RAB value for conventional regulatory price control purposes. Under the national gas regulatory framework, the RAB for price control purposes cannot fall below the DAC. This reflects the policy intent to preserve investment incentives for gas pipeline infrastructure.

In essence, the arbitration rules call for gas transmission services to be provided on reasonable terms that so far as possible reflect the outcomes of a workably competitive

¹ AER (2017) Financial Reporting Guideline for Non-Scheme Pipelines Explanatory statement, p 4. Attachment A sets out the formula for the application of the RCM approach.

market. The RCM approach is one method that can be applied to determine a cost base for a pipeline transmission provider in the context of an arbitration. However, it is possible that some other approach (ie not one that is cost based) could inform an arbitration outcome. Even where a cost based approach is applied, it need not be the RCM approach. The Australian Energy Regulator (AER) has explicitly acknowledged the limitations of the RCM approach. In its *Explanatory note: Pipeline Information Disclosure Guidelines – October 2023* the AER states:

If, in accordance with Rule 113Z(5) of the NGR, a service provider determines that an asset valuation using the recovered capital method is inconsistent with the asset valuation objective, it must use an alternative asset valuation method that is consistent with the asset valuation objective. We expect the service provider to use an alternative asset valuation method that reflects the approach that would apply if the pipeline was fully regulated.²

Moreover, in one of the two instances of pipelines having RABs set through commercial arbitration, only one applied the RCM method.³ As such, the RCM approach has only been applied once in Australia to an isolated and relatively modest gas transmission pipeline. The use of RCM in any commercial arbitration is subject to a workable competition test. Hence, the RCM can only be used if the outcome of applying it is consistent with that of a workably competitive market as assessed by the arbitrator.

Is there a general / abstract regulation on RCM or it has only been applied on a case-by-case basis when the regulator had to arbitrate a deadlock between transporter and shipper?

The RCM forms part of the provisions in the National Gas Rules relating to commercial arbitrations. The RCM must also be reported annually by non-scheme gas pipelines as part of a pipeline information disclosure regime intended to facilitate access negotiations between pipeline owners and access seekers.

The only examples of the RCM being considered are the two access dispute arbitrations that have occurred in 2018 and 2021. Details of the outcomes of these decisions are limited. However, it appears that the arbitrator adopted the RCM to calculate the RAB for tariff purposes in only one of these cases.

In the other case related to Tasmanian Gas Pipeline (TGP), it applied a modified version of the DAC. Specifically, the arbitrator chose not to apply RCM, instead a modified version of the DAC methodology (**Modified Depreciated Actual Cost**) was adopted. Synergies prepared a report for the arbitrator in this process. Whilst the details of the arbitration

² AER, Pipeline information disclosure guidelines and Price reporting guidelines for Part 18A facilities Prescribed transparency information, October 2023

³ In the dispute between AETV and TGP, a Modified DAC approach was adopted and RCM was not applied.

decision were not made public, it is public knowledge that the TGP was sold in 2011 after 9 years of operation.⁴ We understand that the sale price for the TGP underpinned the initial cost base for the purposes of the Modified Depreciated Actual Cost assessment. The sale price was materially lower than the original construction cost of the pipeline (around 50% lower).

The RCM approach has no role whatsoever in the setting of the RAB for conventional price control purposes.

Has the Australian regulator recently decided to withdraw or somehow reduce the application of RCM? If so, please share any insights on the context / motivation

Synergies does not consider that the AER (or the rule maker, the Australian Energy Market Commission) has decided to withdraw or somehow reduce the application of RCM. However, what is more relevant is the very limited scope for the application of the RCM approach.

⁴ Palisade acquires Tasmanian Gas Pipeline, accessed from <https://www.palisadegroup.com/palisade-acquires-tasmanian-gas-pipeline/>

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1. Introduction

Brookfield is the owner of Nova Transportadora do Sudeste S/A (**NTS**), which in turn owns a portfolio of gas transmission pipelines in Brazil. Currently there is a dispute regarding the regulatory asset value to be applied from 1 January 2026.

NTS's regulator, ANP, is considering including the Recovery Capital Method (**RCM**) within the Brazilian gas regulatory regime as a valid basis for the setting of asset values (**ANP RAB Proposal**) for 6 pipelines directly associated with transmission contracts that will be expiring on 31 December 2025 (**Affected Pipelines**). Other pipelines may also be affected at a later time.

Synergies has been asked to advise on Australia's regulatory practices in establishing regulatory asset bases on infrastructure assets generally, and in particular, in the context of the application of the RCM approach for Australian gas transmission pipelines.

We have been asked to address the following issues:

- When and in what context RCM was applied to gas transporters in Australia?
- Is there a general / abstract regulation on RCM or it has only been applied on a case-by-case basis when the regulator had to arbitrate a deadlock between transporter and shipper?
- Changes in Australian National Gas Laws relating to RCM? If so, set out any insights on the context and motivation for these changes.

In addressing these issues, this report is set out as follows:

- Section 2 set out the context for this report
- Section 3 discusses RCM application in Australian gas regulation (Question 1)
- Section 4 sets the role, theory and application of RCM (Question 2)
- Section 5 sets out recent changes in gas regulations (Question 3).

This report has been compiled under very tight time constraints and we reserve the right to clarify aspects of the material contained in this report at a later time.

2. Context

NTS is one of the 3 major gas transporters in Brazil. NTS transports natural gas through more than 2,000 kilometres of pipelines with transport contractual capacity of 158.2 million m³ of gas per day. NTS pipelines link the states of Rio de Janeiro, Minas Gerais and São Paulo (responsible for approximately 50% of gas consumption in Brazil) with the Bolivia-Brazil pipeline, GNL terminals and gas processing plants.

We understand that current regulation provides that the regulatory asset base (**RAB**) valuation would fall in between the values derived from the application of the following methodologies:

- net book value; and
- replacement cost.

We understand that the regulation arrangements that applied at the time the Legacy GTAs were executed required the tariffs being merely communicated to the regulator. As such, Synergies assumes that there is no current approved RAB value. Further, we understand the regulatory model sets out that:

- legacy GTAs are preserved over the course of their term, and
- after legacy GTAs' expire, gas transmission providers are remunerated through a "revenue cap" model, with highly regulated tariffs and a 'virtual' regulatory account to accommodate revenues collected above or below the revenue cap.

The impact of the ANP's RAB proposal would be to set or reset the RAB value for the Affected Pipelines using a RCM approach that would result in RAB values that do not produce outcomes consistent with workably competitive markets.

This is in contrast to previous decisions; specifically in 2019/2020 and 2023 the ANP concluded that the RAB valuation for similarly affected pipelines should only consider formal regulatory documents / decisions and prospective returns (rather than potential past returns). This has a strong theoretical foundation and is consistent with decision making principles applied by regulators in Australia.

3. RCM application in Australia

3.1 Question

The purpose of this section is to address the following question:

When and in what context is RCM applied to gas transporters in Australia?

3.2 Brief history

The economic regulatory history of Australia for Australian gas transmission pipelines has gone through five phases:

- The first phase entailed the construction of the first gas pipelines, which involved bespoke arrangements centred around facilitating pipeline development and managing regulatory risk. In general, light-handed regulatory models were applied with no formalised economic regulator in place and no formalised price setting.
- The next phase involved the introduction of national arrangements to the regulation of gas pipelines in 1998.
- The third phase, in 2008, involved reform of national arrangements to provide for a greater range of regulatory approaches to be applied, including separating heavy handed (such as price control through the centralised (ie regulator) setting or approving conventional revenue or price caps to be applied to assets) and light handed forms of regulation. The light handed forms of regulation focused on information disclosure and a negotiate – arbitrate framework rather than other forms of regulation such as price control.
- The fourth phase introduced compulsory arbitration for pipelines under the light handed regulatory model, including complex rules governing the arbitration process in 2017.
- Reform of the compulsory arbitration rules to establish the current model occurred in 2023.

These phases are summarised in turn.

3.2.1 Phase 1 – Bespoke

The first phase commenced in 1969 and involved bespoke arrangements centred around facilitating pipeline development and managing regulatory risk. Often specific legislation underpinned the development of these pipelines. In general light handed regulatory models were applied with no formalised regulator in place and no formalised price setting.

3.2.2 Phase 2 – Introduction of national arrangements

Formal regulation of gas pipelines in Australia commenced in 1998 through the National Gas Pipelines Access Law (**GPAL**) and the National Third Party Access Code for Natural Gas Pipelines (**the Gas Code**). Under this regime not all gas pipelines were regulated.

For pipelines that were regulated under this regime, the regime required the establishment of the Initial Capital Base (**ICB**) for each regulated pipeline. The ICB was to be set in the range between Depreciated Optimised Replacement Cost (**DORC**) and Depreciated Actual Cost (**DAC**).⁵

Many pipelines were approved an ICB value based on the DORC methodology. Some distribution systems had ICB values approved between DORC and DAC values.

The Relevant Regulators for gas distribution systems were the Australian state regulators and for gas transmission pipelines it was the Australian Competition and Consumer Commission.

All gas pipelines at that time were regulated (covered). New pipelines were not regulated. Regulated (covered) pipelines could have their regulated status changed by application to a Commonwealth Minister who acted on the advice of the National Competition Commission (**NCC**). Unregulated pipelines could have applications to be regulated (covered) by shippers or other affected parties under the same process.

3.2.3 Phase 3 – Reform of national arrangements

In 2008, the GPAL and Gas Code were replaced by the National Gas Law (**NGL**) and the National Gas Rules (**NGR**). Under the NGL and NGR, pipelines commissioned before 1998 and not previously regulated were to be set using the provisions of the Gas Code. Pipelines after that date were to have their ICBs set using the DAC⁶ method.

Pipelines were classified as either covered (ie regulated) or non-covered pipelines.

The reform of national regulatory arrangements provided for a greater range of regulatory approaches to be applied, including for covered pipelines separating:

- heavy handed (such as price control through the centralised (ie regulator) setting or approving conventional revenue or price caps to be applied to assets) and
- light handed forms of regulation, which focused on information disclosure rather than heavy handed forms of regulation such as price control, although there was recourse for disaffected shippers to initiate arbitration proceedings, through the AER.

However, under this model, there were several classes of pipeline that were left outside of the regulatory net entirely, these being:

⁵ National Third Party Access Code for Natural Gas Pipelines, clause 8.11

⁶ National Gas Rule Rule 77

- uncovered pipelines – being pipelines that had not been through a formal coverage process necessary to subject them to more invasive regulation. However, access seekers could apply to the Minister / NCC for a determination to make a pipeline covered
- greenfields exemption pipelines – these were new pipelines that had received an exemption from regulation for 15 years and
- single customer pipelines – these pipelines were typically developed by a pipeline company to service a single customer.

Decisions about which pipelines were covered continued to be made by the Commonwealth Minister advised by the NCC. However, decisions about whether a pipeline should have the light or heavy form of regulation were made by the NCC.

There was limited detail on access disputes, mostly focused on safety and capital contributions with the AER as the arbitrator.

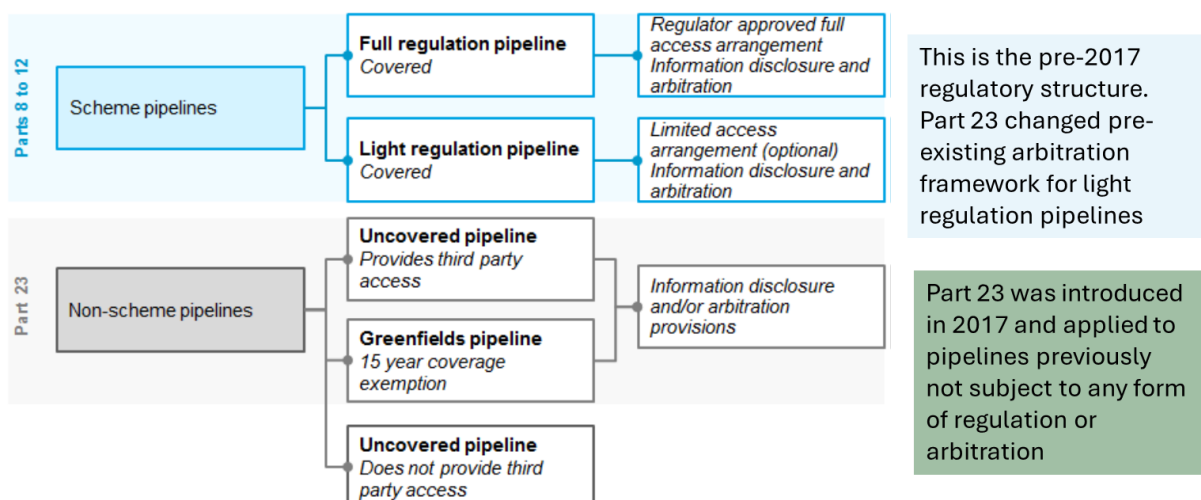
The new NGL and NGR also provided an information disclosure plus negotiate–arbitrate form of regulation.

3.2.4 Phase 4 – Introduction of arbitration machinery for all pipelines

The NGL and NGR evolved to address issues of shippers on unregulated pipelines by providing arbitration machinery for shippers to resolve disputes around the terms of pipeline services. This was effected through the addition of Part 23 (version 33, February 2017), which set out minimum requirements for information disclosure by unregulated pipelines and provided a framework for negotiation and dispute resolution, being a form of negotiate–arbitrate regulation.

Figure 31 summarises the changes that emerged from the introduction of Part 23.

Figure 31: Changes from introduction Part 23



Source: adapted from AEMC

In these amendments the RCM emerged, as part of the arbitration rules for non-scheme pipelines. Attachment A provides a mathematical description of the RCM as applied in the NGR.

Under these reforms, heavy handed regulation is applied to pipelines that had previously had heavy handed regulation.

In contrast, pipelines that had not been regulated, but were subject to Part 23 of the NGR or a lighter handed (negotiate-arbitrate) form of regulation included in the NGL and NGR in 2008, were subject to the lighter handed form of regulation similar to Part 23.

In addition, the AER has the power to make determinations about whether pipelines should be regulated under the heavy handed or light handed regulation.

Decisions about whether pipelines were covered or not, continued to be made by the Commonwealth Minister advised by the NCC, and the NCC continued to make decisions about the light or heavy handed form of regulation.

3.2.5 Phase 5 – Amendment of arbitration machinery

In 2023, the NGL and NGR evolved further however, the fundamental elements relating to arbitration of disputes about the provision of gas transmission services were not affected.⁷

3.3 Focused application of RCM

The application of the concept of RCM (which is discussed in more detail below) can be summarised as follows:

- The RCM approach is a relatively recent development in the Australian regulatory framework.
- The RCM methodology was introduced into the NGR in February 2017, as part of the inclusion of Part 23, which focused on unregulated pipelines (those pipelines not subject to regulatory determination), including arbitration rules for disputes and an annual pipeline information disclosure reporting arrangement.
- The RCM is applied to a particular type of pipeline (known as a non-scheme gas pipeline) which are pipelines that have been historically unregulated for pricing purposes (i.e. and as a consequence have never had a RAB value set). Non-scheme gas pipelines are potentially subject to commercial arbitration proceedings being applied to determine the terms upon which the gas transmission service (s) is to be provided in circumstances in which the parties are unable to reach agreement.
- All non-scheme pipelines must report their RCM values annually as part of the gas pipeline information disclosure regime under the NGR that is administered by the

⁷ Under this regime, all natural gas pipelines are regulated, unless they are not third party access pipelines (that is providing pipeline transmission services exclusively to one party).

AER.

Application of the RCM in gas pipeline regulation is discussed in section 4 of our report. In section 5 the specific requirements and structure of the RCM approach is addressed.

3.4 No other application of RCM

Regulatory arrangements involving some form of price control in Australia extend to electricity transmission and distribution networks, ports, rail infrastructure providers, bulk water providers and urban water and wastewater providers, as well as gas distribution providers.

To the best of our knowledge Rule 113Z is the only instance where the RCM has been included in Australian economic regulation. In its *Explanatory note: Pipeline Information Disclosure Guidelines – October 2023* the AER states:

In some circumstances, the recovered capital method may produce values that are inconsistent with the asset valuation objective.

We consider that valuation methodologies based on actual historical costs are most suitable and most likely to produce outcomes consistent with workably competitive markets. We generally do not support the use of replacement cost methodologies, as they share a similar limitation to the recovered capital method in that they are highly sensitive to the inputs and assumptions used in their calculation. We also generally do not support valuations based on revenue (such as net present value) which can raise the problem of circularity: as the valuation is dependent on pipeline cashflows, and which in turn is dependent on the valuation of the pipeline.

The asset valuation objective is the requirement that asset values reflect the outcomes of a workably competitive market as stated in 113Z(5)(a). We now expand on this concept.

4. Application of RCM in pipeline regulation

4.1 Question

The purpose of this section is to address the following question:

Is there a general / abstract regulation on RCM or it has only been applied on a case-by-case basis when the regulator had to arbitrate a deadlock between transporter and shipper?

4.2 Summary of RCM role

In the previous section, we explained the limited role of RCM, namely that it is strictly limited to a possible application under the arbitration rules.

RCM has no role whatsoever for informing asset values for heavy handed price regulation, ie. regulation involving a form of price control, whether through the application of price or revenue caps. It is used solely by commercial arbitrators in dealing with disputes between pipeline operators and shippers. The NGR rule 113Z(5)(b) requires an arbitrator to apply the RCM in setting prices, but only if the outcome of applying the RCM would reflect the outcomes of a workably competitive market. That is, neither the pipeline operator nor the AER has any role in application of the RCM, other than annual reporting under the gas pipeline information disclosure regime.

4.3 Description of the RCM approach

In essence, RCM may be used as an asset valuation approach to inform a commercial arbitration in relation to pricing matters in relation to non-Scheme pipelines.

Non-Scheme pipelines are pipelines for which there is **not** a five yearly regulatory review, in which terms of access, including prices, are determined, most commonly with a price cap.

The current non-Scheme pipelines are pipelines that historically were not Covered (i.e. they were not regulated by the AER and for which a regime of information disclosure, structured negotiation and commercial arbitration applied), and pipelines that were Covered, but which were not subject to five yearly regulatory reviews and had a regime of information disclosure, structured negotiation and arbitration by the AER applied

The context in which such decisions are made is provided in Rule **113Z - Non-Scheme pipelines**, the relevant sub-rules provide that:

(2) The following matters are specified:

- (a) the principle that access to pipeline services provided by means of a pipeline must be at prices and on other terms and conditions that, so far as practical, reflect the outcomes of a workably competitive market; and
- (b) the pricing principles; and
- (c) the operational and technical requirements necessary for the safe and reliable operation of the pipeline; and
- (d) the prohibition that applies under section 136A(2) of the *NGL* (if that provision applies in the particular case).

(4) The pricing principles are:

- (a) the price for access to a pipeline service on a non-scheme pipeline should reflect the cost of providing that service, including:
 - (i) a commercial rate of return that is commensurate with the prevailing conditions in the market for funds and reflects the risks the service provider faces in providing the pipeline service; and
 - (ii) the costs the service provider incurs in complying with a *regulatory obligation or requirement*; and
- (b) when applying the principle in paragraph (a) to a pipeline service that when used affects the capacity of the non-scheme pipeline available for other pipeline services and is priced at a premium or a discount to the price for a firm haulage service on the relevant non-scheme pipeline – the premium or discount must:
 - (i) take into account any opportunity cost or benefit to the service provider of providing the pipeline service, having regard to any effect on the cost of providing firm haulage services or the capacity of the non-scheme pipeline; and
 - (ii) be consistent with the price for the pipeline service providing a reasonable contribution to joint and common costs.

For the purposes of subrule (4)(a):

- (5)(a) the value of any assets used in the provision of the pipeline service must be determined using asset valuation techniques consistent with the objective of facilitating access to pipeline services provided by means of non-scheme pipelines on reasonable terms, which is taken to mean at prices and on other terms and conditions that, so far as practicable, reflect the outcomes of a workably competitive market; and
- (b) unless inconsistent with paragraph (a), the value of any assets used in the provision of the pipeline service is to be calculated as:
 - (i) the cost of construction of the pipeline and pipeline assets incurred before commissioning of the pipeline (including the cost of acquiring easements and other interests in land necessary for the establishment and operation of the pipeline);

plus:

- (ii) the amount of capital expenditure since the commissioning of the pipeline;
- less:
- (iii) the return of capital recovered since the commissioning of the pipeline; and
 - (iv) the value of pipeline assets disposed of since the commissioning of the pipeline.

The legislation does not define return of capital recovered (although the AER set out how to calculate the RCM in its *Explanatory note: Pipeline Information Disclosure Guidelines – October 2023*).

4.4 Commentary on the NGR

In essence, the NGR call for gas transmission services to be provided on reasonable terms that so far as possible reflect the outcomes of a workably competitive market.

RCM is not the only asset valuation approach that can be applied

The RCM approach is one method that can be applied to determine a cost base for a pipeline transmission provider in the context of an arbitration. However, where RCM is assessed by the arbitrator to not be appropriate because it will not result in a workably competitive outcome, other cost or non-cost-based approaches could inform an arbitration outcome. In its *Explanatory note: Pipeline Information Disclosure Guidelines – October 2023* the AER states:

If, in accordance with Rule 113Z(5) of the NGR, a service provider determines that an asset valuation using the recovered capital method is inconsistent with the asset valuation objective, it must use an alternative asset valuation method that is consistent with the asset valuation objective. We expect the service provider to use an alternative asset valuation method that reflects the approach that would apply if the pipeline was fully regulated.⁸

Moreover, in one of the two instances of pipelines having RABs set through arbitration, only one applied the RCM method.⁹

Workable competitive market

Whilst a detailed review of the requirements of a workably competitive market is beyond the scope of this paper, in essence, there is no reason a workably competitive market would

⁸ AER, Pipeline information disclosure guidelines and Price reporting guidelines for Part 18A facilities Prescribed transparency information, October 2023

⁹ In the dispute between AETV and TGP, a Modified DAC approach was adopted and RCM was not applied.

produce an asset value that is based on RCM.

The following observations are relevant in informing the relevance of RCM to informing the outcome that is compatible with what would be expected in a workably competitive market:

- that workably competitive markets are forward looking in nature. This contrasts with the very concept of the RCM, which is inherently a backward looking approach (focusing on past returns).
- the negotiation of foundation contracts by shippers and pipeline transmission providers reflects a process of jointly managing risk, enabling shippers to derive the benefit of a valuable service (ie the availability of natural gas as a fuel source or feedstock). This involves commitment to long term take or pay contracts. However, these contracts do not remove pipeline transmission providers exposure to material risk, including:
 - during the term of the contract, credit risk associated with recovery of take or pay commitments
 - following the end of the contract, a range of recontracting risks associated with the possibility of the emergence of competitive pipeline offerings, demand falling, regulatory change and so on
- it is normally open for shippers to minimise recontracting risk by negotiating longer take or pay terms with pipeline transmission providers (delaying the recontracting risk) or paying a premium to secure an option to recontract with certainty as to the basis upon which ongoing pipeline transmission services would be provided. These arrangements would however expose shippers to longer and more significant commitments
 - in some cases (and generally in Australia), the development of the pipeline itself is a contestable process – meaning that foundation contracts can themselves be the outcome of a workably competitive process.

4.5 Practical application of RCM approach

Since the introduction of commercial arbitration for non-scheme pipelines in 2017, there have been two arbitrations under the NGR. However, the only details about the outcomes of an arbitration that may be disclosed under the NGR are:

- The applicable sector and segment and location of the pipeline
- The parties to the dispute
- The arbitrator
- Dates of the arbitration
- The services for which the arbitration applies

- The assets to which the arbitration applies
- The asset valuation determined
- The valuation methodology applied

Matters of interest regarding the access dispute that are not disclosed include the rate of return, how the asset value is calculated – that is the formula applied – and assets that have been valued. Where another asset valuation methodology (such as DAC or similar methodology) is applied, matters not disclosed include asset lives/ depreciation rates, assets that have been valued, application of inflation.

The relevant details of these arbitrations are set out below.

Tasmanian Gas Pipeline Pty Ltd and AETV Pty Ltd (April 2018).

The first arbitration involved arbitrator’s decision in respect of the TGP. The arbitrator chose not to apply RCM, instead a modified version of the DAC methodology (**Modified Depreciated Actual Cost**) was adopted. Synergies prepared a report for the arbitrator in this process. Whilst the details of the arbitration decision were not made public, it is public knowledge that the TGP was sold in 2011.¹⁰ We understand that the sale price for the TGP underpinned the initial cost base for the purposes of the Modified Depreciated Actual Cost assessment.

In this case, the arbitrator determined that Modified Depreciated Actual Cost better reflected the outcome of a workably competitive market than the application of the RCM approach. As the information that is permitted to be disclosed following an arbitration, how the Modified Depreciated Actual Cost was calculated is not known. Equally, how the assets solely used for the provision of pipeline transportation services (firm forward haul and as available) is also not known.

Carisbrook to Horsham Pipeline (January 2021)

In the case of the Carisbrook to Horsham Pipeline the same arbitrator as for the TGP arbitration adopted the RCM valuation to derive a value of \$25.77 million. Given the pipeline’s length (183km) and small diameter of the pipeline (168km of 200mm and 14km of 100mm) it is likely that the RCM delivers a result that is reconcilable with the DAC. There is not enough publicly available information to accurately estimate what the DAC would have been but applying industry rules of thumb the asset value determined is within a reasonable range of a likely DAC valuation for the pipeline.

In this case, the arbitrator has determined that the RCM would reflect the outcome of a workably competitive market.

¹⁰ Palisade acquires Tasmanian Gas Pipeline, accessed from <https://www.palisadegroup.com/palisade-acquires-tasmanian-gas-pipeline/>

4.6 RCM role for pipelines subject to heavy handed regulation

The ANP RAB Proposal relates to the setting or resetting of the RAB for an existing pipeline for the purpose of the application of formal price control for the Affected Pipeline (either through the application of price or revenue caps). This section explains why RCM has no role whatsoever in a corresponding process in the Australian regulatory system at any stage in either the setting or updating of a RAB valuation. This is because the RCM approach is only be applied in arbitration proceedings relating to non-scheme pipelines.

4.6.1 DAC vs DORC for initial RAB

As identified in section 3.2.2 above, the ICB (or initial RAB) was determined by reference to the DAC, unless they were commissioned before 1998, in which case they were determined as a value between DAC and DORC.

4.6.2 Lock in and roll forward of RAB

Once an initial capital base is established (as described in 3.2.2 and 3.2.3) this value is not open to revision and is “rolled forward” using the typical process as follows:

- Initial (or opening) capital base, plus
- Capital expenditure, plus
- Indexation allowance (to maintain the real value of the pipeline) minus
- Depreciation, minus
- Asset disposals

Regulatory depreciation for both transmission pipelines and distribution systems is calculated on the basis of technical (useful) asset lives. In unusual circumstances there may be shorter economic asset lives, where either:

1. the gas source is limited and is unlikely to be added to, or
2. the gas consumer has a limited life (such as a mine).

In recent years, the AER has allowed accelerated depreciation for long-life pipeline assets to reflect the likely impact of decarbonisation on future gas demand resulting from the energy transition.

4.6.3 Relevance of contracts to regulatory determinations

Contracts, including foundation contracts, are generally not considered for the setting of a RAB at any stage in the regulatory determinations and in no instance can result in the setting of a RAB for price control below the relevant DAC¹¹.

¹¹ Foundation contracts are those necessary to underwrite the initial development of a pipeline. Legacy contracts are contracts that

Moreover, in the event that a pipeline transmission provider and shipper agree to contract on prices, terms and conditions that are different to those determined by the regulator, those terms (say a higher price) will not have any impact on subsequent regulatory determinations.

4.6.4 Protection of legitimate interests of pipeline owners

Underpinning the regulatory environment in Australia is the principle that regulated entities should be able to recover their sunk investment, based on the assessment of the RAB at the inception of economic regulation. In this respect, it is repeated that at the time of the setting of the RAB, revenues from past contracts have had a limited role informing asset valuations and cannot be applied in a way that would result in a RAB falling below the DAC for that pipeline.

4.6.5 Regulatory commitment

A key objective of economic regulation, including the regulation of gas transmission pipelines, is to encourage an efficient level of investment in regulated infrastructure. For example, a noted commentator of regulatory arrangements in Australia, Dr Darryl Biggar argues economic regulation is a credible vehicle for enabling the recovery of sunk costs, thereby encouraging investment in regulated infrastructure.¹²

Whilst economic regulators are established as independent statutory authorities, regulatory discretion is materially constrained. For example, in energy, the regulator's discretion is constrained by the National Electricity Rules and National Gas Rules. These rules are made by the Australian Energy Market Commission (AEMC), which is an independent entity, and operates independently of the AER.

The AER's regulatory discretion is further constrained by the legal framework in which regulators operate that subjects regulatory decisions to judicial review and to common law requirements, including procedural fairness and the provision of natural justice.

This institutional setting has fostered a regulatory culture in which decision-makers explicitly weigh trade-offs with a view to minimising regulatory uncertainty. There is a clear recognition that regulatory uncertainty raises the cost of capital and compliance, and that these higher costs are ultimately borne by consumers or users through higher prices or reduced service quality.

One of the more credible signals a regulator can provide to all regulated businesses (ie *all* of the businesses it regulates) is to minimise regulatory risk thereby reducing the cost (lower risk meaning lower cost of capital) to an infrastructure provider and enhancing productive

continue from a prior period. Consequently, foundation contracts may be legacy contracts if they are still operative at the time of a determination and legacy contracts may be contracts entered into after the commissioning of a pipeline.

¹² Biggar, Darryl R., *Is Protecting Sunk Investment by Consumers a Key Rationale for Natural Monopoly Regulation?* (January 24, 2008). Available at SSRN: <https://ssrn.com/abstract=1086866> or <http://dx.doi.org/10.2139/ssrn.1086866>

efficiency – both in terms of the cost of capital and the willingness to invest to optimally manage the asset.

Additionally, an important concern in economic regulation and public policy more generally is known as the ‘time-inconsistency’ problem. A ‘time-inconsistency’ arises when a regulatory or policy decision made on an ex ante basis is changed ex post in an unpredictable way and without reasonable supporting information that exposes a party to an uncompensated risk or adverse outcome. This ‘time inconsistency’ can have material adverse impacts on the scope for recovery of sunk costs but also impact adversely on the credibility of the regulatory arrangements more generally.

4.7 Summary

In summary, RCM provides an approach to determine the RAB of a pipeline in an arbitration process, noting that:

- the fundamental principle underpinning the arbitration process is to reach an outcome reflective of what would be expected in a workably competitive market
- if it is determined by the arbitrator that a cost based approach should be applied to determine the outcome reflective of what would be expected in a workably competitive market, RCM represents one form of asset valuation approach that can be applied
- it is not mandatory that RCM be applied in these circumstances
- in the two arbitrations that have occurred, only one applied RCM. A Modified Depreciated Actual Cost methodology was applied in the other arbitration and
- RCM has no role whatsoever in the setting of a RAB for price control purposes. The RAB for price control purposes cannot fall below the DAC.

5. Recent changes to the National Gas Rules

5.1 Question

The purpose of this section is to address the following question:

Has the Australian regulator recently decided to withdraw or somehow reduce the application of RCM? If so, please share any insights on the context / motivations

5.2 Response

Synergies does not consider that the Australian regulator (or the rule maker) has decided to withdraw or somehow reduce the application of RCM. However, what is more relevant is the very limited scope for application of the RCM approach summarised in Section 4.

A Recovered Capital Methodology (RCM)

The Recovered Capital Methodology was explained in the report published by the AER entitled *Pipeline information disclosure guidelines and Price reporting guidelines for Part 18A facilities* published by the AER in October 2023. It is calculated as:

$$\begin{aligned}
 & \text{Value of Capital Base}_t \\
 &= \text{Construction Cost}_0 + \sum_{i=1}^t \text{Capex}_i - \sum_{i=1}^t \text{Return of Capital}_i \\
 & \quad - \sum_{i=1}^t \text{Asset Disposals}_i
 \end{aligned}$$

where

$$\begin{aligned}
 & \sum_{i=1}^t \text{Return of Capital}_i = \\
 & \sum_{i=1}^t \text{Revenue}_i - \left[\sum_{i=1}^t \text{Opex}_i + \sum_{i=1}^t \text{Return on Capital}_i + \sum_{i=1}^t \text{Net Tax Liabilities}_i \right]
 \end{aligned}$$