

# nbn Special Access Undertaking Variation 2022 – Supporting submission

## Part E: Calculation of nbn's Regulated Revenue Requirement

November 2022

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# Structure of Submission

This Submission describes the proposed material changes to the SAU and explains why this comprehensive package of regulatory obligations and constraints meets the relevant statutory criteria by which such an SAU variation must be assessed. The Submission also describes the specific commitments proposed in respect of the First Regulatory Cycle (FY24 to FY26). Detailed information can be found in the following chapters:

<b>Executive summary and key narratives</b>	Introduction	Part A chapter 1
	Summary of how the Variation addresses ACCC and industry feedback	Part A chapter 2
	State of competition	Part A chapter 3
	Demand for higher speeds will continue to grow	Part A chapter 4
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<b>Pricing and price constructs</b>	Pricing structure and levels	Part B chapter 7
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	Carry over Module 1 commitments	Part C chapter 12
<b>ACCC roles and powers</b>	Replacement Module provisions	Part D chapter 13
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	Regulatory Asset Base and <b>nbn's</b> cost allocation approach	Part E chapter 17
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<b>Efficiency of nbn's Expenditure and Demand Forecasts</b>	Cost pass-through mechanism	Part F chapter 19
	Expenditure assessment framework	Part F chapter 20
	<b>nbn's</b> Replacement Module Application (FY24-26)	Part F chapter 21
	Expenditure forecasts	Part F Appendix A
	Demand forecasts	Part F Appendix B
<b>Statutory assessment</b>	The Variation satisfies the Statutory Criteria	Part G chapter 22
	Statutory role of the ACCC	Part G chapter 23
<b>Guide to the SAU and other background materials</b>	Overview of the SAU	Part H chapter 24
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# 16 Recovery of initial costs

## 16.1 Overview of ICRA

The existing SAU framework establishes an initial cost recovery account (**ICRA**) in accordance with the long-term revenue constraint methodology (**LTRCM**). The ICRA mechanism provides **nbn** the opportunity, but not the guarantee, to recover the prudent costs it was not able to recover in the initial years of the roll-out of the new network. The ICRA calculated under the LTRCM is estimated to stand at approximately \$44 billion at the end of the 2022-2023 financial year.<sup>1</sup> On current projections under both the current and varied SAU, **nbn** expects to be able to start drawing down ICRA in FY29-30.

**nbn** considers that it can secure its financial stability and sustainability by focusing on forward-looking objectives, aiming to strike an appropriate balance between **nbn**'s legitimate business interests, providing incentives for ongoing efficient investment, and providing certainty to RSPs and consumers that **nbn** will face binding regulatory and pricing constraints over the remaining term of the SAU. This balance is best achieved by focusing on the need to achieve and maintain a stand-alone investment-grade credit rating with a stable outlook, and achieve cashflows necessary to continue to invest.

An investment-grade credit rating, in turn, requires a reasonable return on equity. This is because low-cost and low-risk debt is only available to businesses that can generate sufficient cash surpluses to provide a cushion against risks faced by lenders. The financial ratios required by the credit rating agencies<sup>2</sup> expect a reasonable return on equity. This implies the target gearing ratios cannot be maintained without protecting the opportunity to earn a commercial return on equity. Consistent with this, **nbn** understands its shareholders also wish to ensure that any future investment in **nbn** earns a reasonable rate of return.

Moreover, as a GBE, **nbn** must meet the expectations set out in the longstanding Australian Government policy detailed in the GBE Guidelines.<sup>3</sup> The GBE Guidelines (clause 1.8.c) specify that a GBE is expected to earn at least a commercial rate of return and aim to recover the full cost of the resources employed so as to justify the retention of the assets in the business. **nbn** notes that in regulating other GBEs, such as the Australian Rail Track Corporation (**ARTC**), the ACCC has clearly recognised the legitimacy of the commercial objectives and the need to treat such entities on a stand-alone basis.

To be consistent with its shareholders' forward-looking financial objectives, **nbn** proposes the following set of changes to the ICRA mechanism for the remainder of the SAU:

- On 1 July 2023, the ICRA will be adjusted by approximately \$31.5 billion, resulting in a remaining total ICRA of \$12.5 billion (in FY23 dollars). Sections 16.2 and 16.3 discuss the adjustment of ICRA. The ICRA will be 'crystallised' into two separate amounts: a Module 2 amount being the opening ICRA amount of \$1.1 billion in FY23 dollars for the Module 2 period and a Module 3 amount of \$11.4 billion in FY23 dollars being the amount that **nbn** will have the opportunity to recover in full over the period FY33-40.

<sup>1</sup> The ICRA value of \$44 billion is an estimate based on a risk-free rate of 4.5%, being an average of the prevailing and long-term risk-free rate estimates used in **nbn**'s proposed WACC for the First Regulatory Cycle. This risk-free rate is higher than the 1.7% included in the BBM for FY23, which was not updated from the March Variation and gives rise to a lower ICRA value.

<sup>2</sup> These include Standard & Poor's, Fitch, and Moody's

<sup>3</sup> Department of Finance, "Commonwealth Government Business Enterprises – Governance and Oversight Guidelines," *Resource Management Guide no. 129*, January 2019.



- In line with the current SAU, the Variation will provide an opportunity, but not a guarantee, of recovery for **nbn**.
- **nbn** will not add to the total real value of ICRA after 30 June 2023.
- The ICRA will account for inflation to maintain its real value.
- **nbn** will recover the ICRA in a way that is transparent, predictable and constrained, and will be subject to ACCC oversight. The recovery of the ICRA is discussed further in section 16.4.
- The Module 2 ICRA amount will expire on 30 June 2032, and the Module 3 ICRA amount on 30 June 2040.

## 16.2 Adjusting the ICRA

### 16.2.1 Stakeholder concerns about the amount of ICRA held by nbn

The ACCC has voiced concerns about the size of **nbn**'s ICRA, as well as the period over which **nbn** will be able to recover it.<sup>4</sup> In the ACCC-convened working groups in the latter half of 2021, the ACCC expressed that it considered reforms to the current arrangements for the ICRA were required because they permitted annual revenues significantly above what it considers **nbn** will require over the course of the SAU. The ACCC's desired outcomes for the Variation include that **nbn** end-users are protected from price shocks and from prices that are higher than necessary in later years. The ACCC has been concerned that without reform, the ICRA has the potential to impede this outcome.

RSPs have also submitted a number of concerns with the existing ICRA methodology. For example, Telstra submitted that the ICRA embodied **nbn**'s "*historical inefficient costs*" and suggested that **nbn** should be required to exclude these sunk costs.<sup>5</sup> Optus suggested that the ICRA should only be recovered to the extent that its recovery leads to "*dynamic efficiency and ongoing competition and consumer benefit*".<sup>6</sup>

**nbn** does not agree with the economic analysis underlying the arguments proffered by RSPs. First, **nbn** has had, and continues to have, regulatory oversight by the ACCC of its costs, as well as many strong incentives to keep costs low, including competitive pressures, revenue sufficiency risk, parliamentary oversight and the GBE Guidelines. These incentives mean that it would be incorrect to assume that the ICRA is a sum of past inefficient costs. Rather, the ICRA arises out of the timing mismatch between the initial outlay in developing a nationwide network based on new technology and delivering future-proofed capabilities, and the revenue which will flow once these capabilities are fully utilised by the market. The ICRA is also not a sunk cost in the sense used in economic theory because decisions about its recovery have material impacts on **nbn**'s future ability to raise capital, both debt and equity. The cost of debt **nbn** will be able to secure from debt markets will be affected by the amount of ICRA it is able to draw down in the future. Second, to the extent that an arbitrary adjustment of the ICRA will lower prices for customers, it will be as a consequence of transferring value from **nbn**'s shareholder investor. There is no economic efficiency justification for this transfer of value from investors to **nbn** customers.

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<sup>4</sup> ACCC, *Proposed Variation to the NBN Co Special Access Undertaking: Consultation Paper*, May 2022.

<sup>5</sup> Telstra Corporation Limited, *Response to NBN Co's Discussion Paper on Proposed Changes to the SAU*, 9 September 2022.

<sup>6</sup> Optus, *Discussion Paper on Proposed Changes to nbn SAU Variation*, September 2022.



## 16.2.2 Adjusting the ICRA in response to market conditions

As a practical matter, **nbn** recognises that the recovery of all accumulated losses is unlikely to be possible given market constraints, and certainly not over the remaining life of the SAU. Full recovery of the accumulated ICRA is also not necessary to achieve the forward-looking financial objectives of **nbn** as a financially stable and sustainable GBE. The Ministers for Finance and Communications have set out in letters both to the ACCC and to **nbn** that the Government is encouraging **nbn** to “develop a proposal that reflects a reset in the process and looks forward to the necessary and appropriate returns to support the business”.<sup>7</sup>

**nbn** considers that the ICRA can be adjusted as long as such adjustment does not interfere with the legitimate objectives of:

- **nbn** operating as a commercial entity, having the opportunity to earn commercial returns on equity, thereby, all things being equal, not undermining the enterprise value of **nbn**; and
- enabling **nbn** to operate in a competitively neutral manner – i.e., to efficiently finance all necessary investment without recourse to explicit or implicit Government guarantees.

To meet these objectives, given **nbn**'s existing debt obligations, **nbn** needs sufficient revenue over and above the ABBRR to achieve and maintain a stand-alone investment-grade credit rating with a stable outlook, while not being deprived of the opportunity to generate commercial equity returns. The required amount of ICRA is the present value of this additional forecast revenue.

More broadly, the recovery of such additional revenue is in the long-term interests of end users of **nbn**'s services. The medium-term financial stability and sustainability associated with attaining the stand-alone investment grade credit rating with a stable outlook will support **nbn** undertaking necessary investment in the network over time. The stable investment outlook for **nbn** will in turn support competition in downstream services and provide a secure environment for investment in those downstream services.

## 16.3 Calculating the required ICRA

There are a number of reasonable economic methodologies that could be used to calculate how much of the ICRA **nbn** should have the opportunity to recover over time. Within each methodology there are many assumptions, including long-range economic forecasts and WACC outputs. Given the complexity of these factors, it is possible to come up with a wide range of potential estimates.

Considering this, there are three key elements to determining an appropriate ICRA:

1. identifying relevant objective methodologies to be relied on;
2. identifying realistic assumptions to be used for each methodology; and
3. identifying a reasonable point within the range of estimates.

The methodologies will be discussed later in this chapter. With respect to assumptions, **nbn** wishes to emphasise that the overriding requirement is that any inputs or assumptions used in the calculation of the ICRA must be consistent with the inputs and assumptions used elsewhere in the SAU. **nbn** has identified a number of key consistency requirements:

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<sup>7</sup> Letter to Ms Cass-Gottlieb, ACCC Chair from The Hon Michelle Rowland MP dated 22 July 2022 and letter to Ms McKenzie, NBN Co Limited Chair from The Hon Michelle Rowland MP and The Hon Katy Gallagher dated 22 July 2022:

<https://www.accc.gov.au/system/files/Letter%20from%20the%20Minister%20for%20Communications.pdf>.



- **WACC:** nbn's assumptions on debt costs and benchmark credit ratings must be the same in the calculation of the ICRA and the calculation of the WACC. For example, if the WACC formula assumes that nbn's benchmark cost of debt is that of a BBB-rated entity from FY23 onwards, then the ICRA needs to be calculated such as to enable this credit rating to be secured from the same date. Additionally, where a WACC is used in the calculation of the ICRA, it should be the same as that used in the calculation of the ABBRR. That said, as a practical matter, nbn acknowledges that it currently does not have a stand-alone investment grade credit rating, but the impact of this on the cost of debt may be somewhat ameliorated by its status as a GBE. Hence, a reasonable glide-path towards securing a stand-alone investment grade rating would be consistent with achieving the key financial objectives.
- **Shareholder's investment goals:** The Commonwealth Government's GBE Guidelines require the GBE to target an optimal capital structure which requires a stand-alone target credit rating of BBB, appropriate options for funding capital expenditure (including via retained earnings or debt) and capital expenditure which meets a hurdle rate of return, consistent with the GBE's WACC. Consistent with these requirements, the calculation of the ICRA needs to be consistent with the expectation that both future debt and any further required equity must be able to be arranged on a fully commercial basis. Similarly, any calculation of the ICRA requirement must not rely on implicit or explicit future Government support or guarantee of nbn debt.
- **Forecasts:** Forecasts for variables such as benchmark interest rates or inflation must be consistent throughout the SAU.

### 16.3.1 Methods of calculating the ICRA

nbn has identified two methods for calculating the required ICRA that it considers methodologically robust and consistent with the rest of the SAU. These are the benchmark method and the credit score method. These methods are discussed in detail in the Castalia ICRA Report.<sup>8</sup> Sections 4.1 and 4.2 of that Report provide an overview of these two methods and section 4.3 discusses the results.

#### Benchmark method

The benchmark method calculates the amount of excess debt a benchmark firm would need to repay at the time of the crystallisation of the ICRA (1 July 2023) to reach a benchmark capital structure. The benchmark capital structure – proposed by nbn and to be reviewed by the ACCC – is set to be broadly consistent with a stand-alone investment-grade credit rating. In the calculation of the WACC, nbn assumes a 36.7% debt-to-RAB ratio is an efficient benchmark. Given this benchmark capital structure, a benchmark stand-alone firm must at all times, on average, have debt that is equal to 36.7% of the RAB in that time period. Any debt in excess of this amount would cause the benchmark firm's credit rating to fall below investment-grade. In effect, this is equivalent to the firm funding all its capex 36.7% from debt, and 63.3% from equity.

The benchmark method calculates ICRA as the excess debt at the time of the crystallisation of the ICRA. From that date on, future ABBRR revenue would be sufficient to enable full return on, and of, the benchmark debt and equity. Additional revenue through the draw-down of ICRA is necessary to repay the excess debt.

In other words, the excess is the difference between the total debt and 36.7% of RAB. There are two ways to estimate the total debt on the crystallisation date. First, it is possible to consider the actual nbn debt on that date, and to calculate the difference between the actual debt and the 36.7% of RAB benchmark debt. However, given

<sup>8</sup> Castalia, *Economic effects of ICRA*, December 2022 – An expert report authored by Castalia Strategic Advisors which considers the economic justification for adjusting the ICRA and the basis for calculating the required ICRA (**Castalia ICRA Report**).





the previous support provided to **nbn** by the Government both in the form of equity and related party debt, it is possible to argue that the actual debt is somewhat arbitrary.

An alternative is to simulate the implied debt that would have been incurred if all capex in **nbn** was financed through the same consistent proportion of debt and equity from the start. In addition, given the fact that past revenue was not sufficient to service debt, the cost to service that debt also needs to be capitalised. **nbn** uses RBA data on average bond yields for BBB-rated non-financial firms to create a cost of debt.

The financial market would allow a hypothetical stand-alone firm with an investment-grade credit rating to accumulate excess debt for a period of time as long as there was a clear and credible pathway to repaying that excess debt and returning to the benchmark capital structure within a period acceptable to the market. For a business with a regulated revenue ceiling, such a credible pathway must involve the ability to earn revenue above the ceiling consistent with the amounts required to repay excess debt.

Hence, to be consistent with the requirements of competitive neutrality and the GBE Guidelines, **nbn** should be afforded the opportunity to act as a benchmark commercial firm and recover through the ICRA the amount of excess debt a benchmark firm would need to repay from additional revenue in order to retain its benchmark credit rating. **nbn** notes that the amount of the ICRA to be crystallised needs to be grossed up for tax, since principal repayments are not tax deductible, and the excess debt has to be repaid from post-tax income.

To make the same point in another way, if the benchmark firm (or indeed **nbn**) were forced to pay down its excess debt through lowering future return on and of equity, rather than relying on additional revenue from the draw-down of sufficient ICRA, the value of its equity would, all things being equal, be reduced. This means the debt/equity ratio would no longer be in line with the credit rating requirements, and hence the benchmark capital structure could not be maintained and the WACC assumptions would become inconsistent.

**nbn's** total actual debt excluding lease liabilities is estimated to reach \$26.3 billion in FY23. However, this would be only \$19.7 billion based on the benchmark of an efficient firm under the same revenue circumstances as faced by **nbn** and on the assumption that all past capex was financed 36.7% by debt.

At the end of FY23, 36.7% of **nbn's** RAB – the implied efficient debt – is estimated at \$11.2 billion. The table below shows the calculation of excess debt and ICRA under the two assumptions about the total debt at the end of FY23.

To summarise, the excess debt is \$15.1 billion based on **nbn's** expected actual debt and \$8.5 billion based on the benchmark efficient firm's debt. Grossing up for tax, this suggests a value of ICRA at the time of crystallisation of between \$12.1 billion and \$21.6 billion.

**Table E1. Calculation of ICRA**

	Actual debt approach	Simulated benchmark debt approach
A: Debt at the end of FY23	\$26.3 billion	\$19.7 billion
B: Efficient debt level at the end of FY23	\$11.2 billion	\$11.2 billion
C: Excess debt (A – B)	\$15.1 billion	\$8.5 billion
<b>Required ICRA (C ÷ (1 – tax rate))</b>	<b>\$21.6 billion</b>	<b>\$12.1 billion</b>



## Credit score method

The credit score method calculates the additional future revenue **nbn** would need to achieve an investment-grade credit rating, as assessed by a quantitative credit rating model. In the absence of the ICRA, **nbn**'s actual forecast revenue opportunity is expected to equal the IOP forecast up to 30 June 2029 and the ABBRR after that. Hence, under this method **nbn** calculates the yearly revenues in addition to this forecast baseline that **nbn** would need to achieve the credit scores associated with an investment-grade credit rating for the remainder of the SAU.

The credit scores are calculated using the quantitative elements of Moody's credit rating model. Moody's uses a range of financial ratios and applies its proprietary weights to each ratio to allocate scores. A minimum score is required for each credit grade. **nbn** acknowledges that Moody's quantitative method is not determinative, as Moody's also uses a qualitative assessment, while other credit ratings may use somewhat different quantitative metrics. However, undertaking calculations using Moody's quantitative methodology provides a good indication of the amount of ICRA needed to achieve the target credit scores.

**nbn** inputs its expected financial position in each year for the remainder of the SAU into the model, which outputs a credit score for each year. That credit score is then classed into a credit rating. **nbn** then adds notional revenue in addition to its expected financial position such that in each year **nbn** meets the minimum credit score required to attain the target credit rating. Finally, **nbn** calculates the sum of the present values as at 30 June 2023 of those additional revenues as the required crystallised ICRA.

Since an investment-grade credit rating must be consistent with **nbn**'s ability to service market debt, **nbn** assumes that from 30 June 2024, all debt costs are as for a benchmark firm with an equivalent investment-grade credit rating. This is consistent with the fact that all existing Government-provided debt is due to be repaid by **nbn** by 30 June 2024 and is also consistent with the requirements of competitive neutrality and the GBE Guidelines.

**nbn** adds notional revenue to ensure that **nbn** achieves an investment-grade credit rating in each year regardless of whether it expects to be able to recover any ICRA in that year. When **nbn** is not able to recover ICRA, it adds this notional revenue to a separate account that offsets but does not pay down debt. When **nbn** becomes able to recover ICRA, it draws down from this account to pay down debt. The basis for offsetting the debt balance by this account is the assumption that lenders are indifferent to **nbn** receiving the additional notional revenue in that year and **nbn** receiving a regulatory promise to be able to recover that revenue in future years – as long as the present value is equivalent, and the regulatory promise is credible and consistent with market realities.

**nbn** notes that Moody's Baa2 credit rating is equivalent to the BBB rating assumed in the calculation of **nbn**'s WACC. For consistency, **nbn** uses the minimum credit score required for the Baa2 rating in calculating the target financial ratios.

The calculations under the credit rating model are highly sensitive to assumptions about the cost of debt and the glide path towards stand-alone credit rating:

- If **nbn** assumes the cost of debt follows **nbn**'s currently forecast actual cost of debt to FY30 and is set at the same level as the cost of debt in the WACC model after that, the ICRA is estimated to be \$12.1 billion.
- If **nbn** assumes the cost of debt is set at the cost of debt in the WACC model for the entire period after FY23, the ICRA is estimated to be \$16.0 billion.



## 16.3.2 Arriving at the Proposed ICRA Value

The benchmark and credit rating methods produce a broadly similar range of estimates. To avoid spurious accuracy, a reasonable range of the ICRA required to enable **nbn** to meet its legitimate financial objectives on a forward-looking basis is between \$12 billion and \$20 billion. **nbn** has previously indicated that it proposes to set aside the 'unders and overs' in the coming Regulatory Periods, and hence does not seek to recover the expected shortfall incurred prior to FY30.

After careful consideration and evaluation of relevant risks, **nbn** proposes to retain the opportunity to earn an ICRA of \$12.5 billion in FY23 dollars. This involves a substantial concession that **nbn** will not recover over \$31.5 billion of its accumulated losses and is a very conservative estimate of the minimum ICRA opportunity required to meet the overall financial and credit rating objectives of **nbn** as a commercially oriented GBE. **nbn**'s ability to make this concession is premised on this SAU variation being accepted, thereby providing **nbn** the opportunity to sustain and finance our business throughout the remaining term of the SAU.

## 16.4 Recovering the ICRA

The method **nbn** is proposing for the recovery of the ICRA is designed to achieve the key SAU outcomes of protecting end-users against price shocks and maximising pricing certainty for RSPs. **nbn** will seek – at the start of every Regulatory Cycle – to fix the maximum amount of ICRA recoverable in any one year during that cycle. If **nbn** is not able to earn sufficient revenue to recover the full amount allocated during that year, it will forever lose the ability to recover the remaining portion from that year.

**nbn** will crystallise the ICRA into two separate amounts, a Module 2 ICRA and a Module 3 ICRA.

The Module 2 ICRA will be the amount of ICRA recoverable over the Module 2 period, that is, between 1 July 2023 and 30 June 2032. The opening amount of ICRA for Module 2 is \$1.1 billion in FY23 dollars. At the beginning of each Regulatory Cycle, **nbn** will propose a recovery schedule (the amounts of ICRA to be recovered in each year of that cycle) as part of its Replacement Module Application (**RMA**). The ACCC will have the power to then make an RMD which sets the amount of ICRA recoverable for each year of the Regulatory Cycle. The Module 2 ICRA will be set to \$0 on 30 June 2032 regardless of whether it has been recovered or not.

The SAU provides that when making an RMD, the ACCC must take into account the same criteria as when making an access determination, including the long-term interests of end-users, and may take into account any other factors it thinks are relevant. In that context, the ACCC may have regard to various factors when setting the annual portion of ICRA to be included in **nbn**'s annual regulated revenue allowance as part of making an RMD, such as:

- avoiding price shocks for consumers;
- avoiding adverse impacts on competition for the provision of broadband services supplied using **nbn**'s Core Regulated Services; and
- avoiding adverse impacts on the efficient use of, and investment in, the **nbn**<sup>®</sup> network.

The Module 3 ICRA will be the amount of ICRA recoverable between 1 July 2032 and 30 June 2040. Again, in line with the principle of **nbn** being afforded an opportunity, but not a guarantee, of recovering ICRA, the Module 3 ICRA will be set to \$0 on 30 June 2040 regardless of whether it has been recovered or not.

The real value of the Module 3 opening ICRA amount will be \$11.4 billion in FY23 dollars. As with Module 2, **nbn** will propose a recovery schedule at the start of each Regulatory Cycle. The ACCC will have the power to then



make a Replacement Module Determination (**RMD**) (as described above in relation to Module 2) which sets the amount of ICRA recoverable for each year of the Regulatory Cycle. The recovery schedule for each Regulatory Cycle in Module 3 must be set out such that the amount of ICRA recoverable in each year meets the following principles:

- Assuming **nbn** were to fully recover ABBRR and the ICRA set for that year, it would be able to achieve a standalone investment-grade credit rating with a stable outlook.
- **nbn** is granted the opportunity of fully recovering the entire Module 3 ICRA by the end of Module 3.



# 17 Regulatory Asset Base and nbn's cost allocation approach

**nbn's** Regulatory Asset Base (**RAB**) includes the prudent investments made by **nbn** in relation to all its networks. Over the Initial Regulatory Period, capex has been incorporated into the RAB on the basis of actual expenditure incurred in accordance with the prudency requirements in Module 1.

The RAB at the end of the Initial Regulatory Period is rolled forward as the opening RAB value in the Subsequent Regulatory Period, and then rolled forward from one Regulatory Cycle to the next using well-established mechanisms.

To address concerns raised about the potential for **nbn** to cross-subsidise services provided in competitive markets, the Variation introduces a cost allocation approach that identifies the portion of the RAB that is attributable to Core Regulated Services. This portion is referred to as the Core Services RAB Portion. In this manner, **nbn** is able to provide the ACCC and RSPs with reassurance that Core Regulated Service and Competitive Service costs and revenues are kept separate.

Through the Subsequent Regulatory Period (commencing 1 July 2023), a forecast ABBRR and Core Services ABBRR will be determined for each year of a Regulatory Cycle, which include a return on and of the RAB and Core Services RAB Portion (respectively) as they are forecast to be rolled forward during that period. At the end of each Regulatory Cycle, the ACCC will have the ability to perform an ex-post review of the amount of capex to be included in the RAB and Core Services RAB Portion for the purposes of being rolled forward into the next Regulatory Cycle.

## 17.1 Overview of the Regulatory Asset Base

**nbn's** RAB aggregates the actual amount of capex permitted under the SAU incurred on any **nbn** Relevant Assets by **nbn** or any of its related bodies corporate since the commencement of **nbn's** operations. During the Initial Regulatory Period, such capex must satisfy the 'prudent design condition' and the 'prudent cost condition', including by being aligned with a published set of Network Design Rules (as updated over time under the SAU) and being consistent with a set of Procurement Rules as provided to the ACCC (and updated over time under the SAU). The Relevant Assets include **nbn's** fibre, wireless and satellite networks, any other telecommunications networks, network elements, platforms, systems and any other assets owned, controlled or operated by or on behalf of **nbn** or a related body corporate. Thus, **nbn's** investments in the MTM networks have also been included in the RAB since their introduction.

In the Subsequent Regulatory Period the SAU moves to a more standard model of utility regulation, with **nbn** proposing, and the ACCC either accepting or varying, forecasts of **nbn's** proposed expenditures.

Consistent with the proposal for the SAU to differentiate between Core Regulated Services and Competitive Services, the Variation establishes a mechanism for calculating a Core Services RAB Portion, being the portion of the RAB attributable to Core Regulated Services.

The Variation also contains additional efficiency incentives governing the capex that contributes to the RAB, in line with feedback from the ACCC. This includes providing the ACCC with a power to determine, on an ex-post basis, the amount of the capital expenditure to be included in the RAB (and Core Services RAB Portion) and to be rolled forward to the next Regulatory Cycle.

The RAB and Core Services RAB Portion each play a central role within the ABBRR and Core Services ABBRR as they form the basis for calculating the return on capital and return of capital (depreciation) components of the ABBRR described in chapter 18 below.



Consistent with other regulated utility firms, **nbn** has implemented a BBM as a central feature of the SAU framework. Module 1 of the SAU has used a BBM as a key input to the annual LTRCM process, using actual expenditure and revenue, including in relation to the MTM technologies.

As contemplated by the current SAU, this Variation extends the operation of the BBM into the Subsequent Regulatory Period, with a revised approach to the BBM to establish **nbn**'s efficient cost base going forward.

This chapter provides an overview of:

- the classification of Core Regulated Services and Competitive Services;
- the RAB and Core Services RAB Portion roll-forward mechanism as it applies at different stages of the SAU term; and
- Cost Allocation Principles and role of the Cost Allocation Manual (**CAM**).

## 17.2 Classification of Core Regulated Services and Competitive Services

While all of **nbn**'s eligible services are declared and subject to regulation, not all eligible services are subject to the terms of the SAU in the same way. **nbn** proposes that most Core Regulated Services will be covered by the SAU Core Services WAPC. However, there are two kinds of exceptions:

- Services that do not fall within the scope of the NBN Access Service or Ancillary Services: These services will not be subject to the SAU's pricing and product development / withdrawal provisions, although some services, such as Sky Muster Plus, will be accounted for in the Core Services WAPC even though they are not captured by the NBN Access Service.
- Services defined as Competitive Services can be covered by the SAU as they may fall within the scope of the 'NBN Access Service' but will not be subject to the same SAU obligations as Core Regulated Services.

A summary of **nbn**'s proposed classification of Competitive Services and Core Regulated Services under the SAU is outlined in Table E2 below.

**Table E2. Summary of Competitive Services and Core Regulated Services under the SAU**

	Competitive Services	Core Regulated Services
Captured under the NBN Access Service or Ancillary Services service descriptions	<b>nbn</b> <sup>9</sup> Enterprise Ethernet <sup>9</sup>	TC-1, TC-2, TC-4 Ancillary services (NPIS, the Sandpit) Cell site access service
Not captured by the NBN Access Service or Ancillary Services service descriptions	Business Satellite Service (Layer 3) Satellite Mobility for Large Commercial Passenger Aircraft (LCPA) (Layer 3)	Sky Muster Plus (Layer 3) Continuity Services (HFC and Copper – Layer 1) Fibre TV

<sup>9</sup> **nbn**<sup>9</sup> Enterprise Ethernet will continue to be covered by the SAU. However, **nbn**<sup>9</sup> Enterprise Ethernet, as a Competitive Service, will not be covered by the product development and withdrawal processes, the obligation to publish a Tariff List, nor be subject to Maximum Regulated Prices or a WAPC. As such, **nbn** proposes that the price of **nbn**<sup>9</sup> Enterprise Ethernet and other services not included in the Core Services RAB Portion will be agreed commercially with RSPs. **nbn** notes that **nbn**<sup>9</sup> Enterprise Ethernet and other Competitive Services will still be subject to **nbn**'s statutory obligations, including its NDOs and standard access obligations, which together ensure that these services will be provided on a non-discriminatory basis to all RSPs, with transparency of the terms of supply. This is still a greater level of regulation than for the services against which **nbn** competes in the relevant markets. Further, these Competitive Services will continue to be provided on a wholesale-only basis, and in a manner consistent with **nbn**'s line of business restrictions. Sections 17-19 of the NBN Companies Act place restrictions on the services that may be supplied by **nbn**.



New products and services which fall within the scope of an existing Competitive Service or Core Regulated Service will automatically be deemed to be such a Competitive Service or Core Regulated Service (as the case may be). Otherwise, products and services can be re-categorised as described in section 14.4 of Part D of this Submission.

The re-categorisation of products and services will also involve consequential adjustment to various inputs to **nbn**'s WAPC, including, principally, to the Core Services RAB Portion and Core Services ABBRR.

These mechanisms ensure that the differential treatment of Core Regulated Services and Competitive Services remains appropriate over time, having regard to the dynamic market conditions under which **nbn** operates.

### 17.3 RAB and Core Services RAB Portion roll-forward mechanism

Under the Variation there are two key elements of the RAB roll forward mechanism to be considered:

- roll-forward of the RAB and Core Services RAB Portion from the end of the Initial Regulatory Period to the commencement of the Subsequent Regulatory Period (i.e., from 30 June 2023 to 1 July 2023); and
- roll-forward of the RAB and Core Services RAB Portion between Regulatory Cycles within the Subsequent Regulatory Period.

How the roll-forward mechanism applies to each of these transitions is highlighted in Figure E1 and then described below.

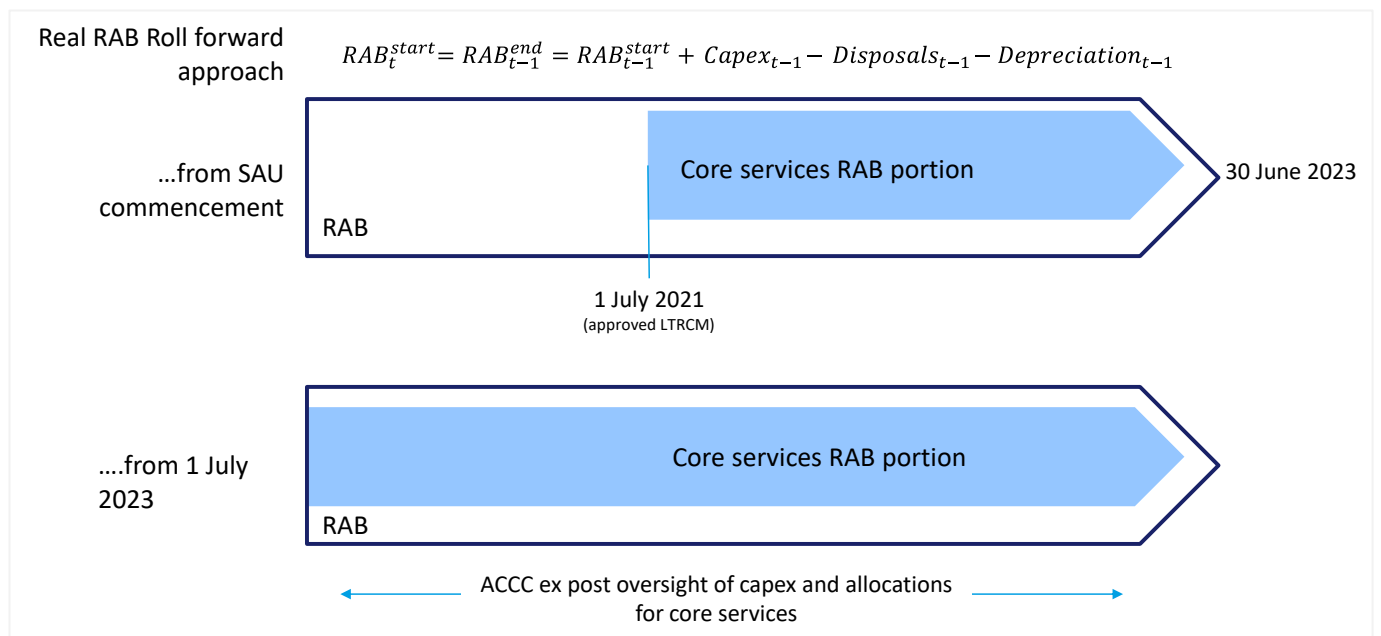


Figure E1. Overview of roll-forward approaches



## 17.3.1 Roll-forward of the RAB and Core Services RAB Portion from the end of the Initial Regulatory Period to the commencement of the Subsequent Regulatory Period

### 17.3.1.1 Roll-forward of the RAB to 1 July 2023

The value of the RAB at the commencement of the Subsequent Regulatory Period (i.e., 1 July 2023) will be equal to the RAB at the end of the Initial Regulatory Period (i.e., 30 June 2023). This reflects the RAB roll-forward mechanism under the existing fixed principle in the current SAU.

### 17.3.1.2 Roll-forward of the Core Services RAB Portion to 1 July 2023

Consistent with the approach to rolling forward the RAB, the Core Services RAB Portion at the commencement of the Subsequent Regulatory Period will be equal to the Core Services RAB Portion at the end of the Initial Regulatory Period. **nbn** recognises that it has not previously calculated (and the ACCC has not previously made an LTRCM Determination in respect of) any portion of the RAB attributable to Core Regulated Services. For this reason, the Variation specifies a methodology for the roll-forward of the Core Services RAB Portion from 30 June 2021 to 1 July 2023:

- a value for the Core Services RAB Portion is initially calculated by applying a cost allocation methodology to the value of the RAB as at 30 June 2021 (where the total value of the RAB is \$25,617.206 million,<sup>10</sup> as specified in the LTRCM Determination for FY21 issued by the ACCC). As at 30 June 2021, the real value of the Core Services RAB Portion is \$25,460.959 million; and
- the Core Services RAB Portion as at 30 June 2021 is then rolled forward for FY22 and FY23 using a methodology consistent with the calculation of the RAB.

This methodology has been designed by **nbn** to be consistent with the existing methodology for calculation and roll-forward of the RAB, including utilising as input the value of the RAB as determined by the ACCC in respect of FY21 during the Initial Regulatory Period. **nbn** considers that this is a reasonable and transparent approach to adopt, given the inclusion of the Core Services RAB Portion as a new feature of the SAU that has not previously been determined by the ACCC.

## 17.3.2 Roll-forward of the RAB and Core Services RAB Portion between Regulatory Cycles

**nbn** proposes that the value of the RAB and Core Services RAB Portion at the start of a Regulatory Cycle (other than the First Regulatory Cycle) will be calculated:

- by applying the standard roll forward methodology (consistent with the existing fixed principles term and condition in the current SAU); and
- subject to an ex-post assessment of capex by the ACCC towards the end of the Regulatory Cycle (as described in section 20.8 of Part F of this Submission).

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<sup>10</sup> See ACCC, *NBN Co – Special Access Undertaking, Long Term Revenue Constraint Methodology 2020-21: Final Determination and Price compliance reporting 2020-21*, 22 June 2022, p. 9: <https://www.accc.gov.au/regulated-infrastructure/telecommunications-and-internet/national-broadband-network-nbn-access-regulation/nbn-co-special-access-undertaking/ltrcm-2020-21>.





The values of the RAB and Core Services RAB Portion for the purposes of the roll-forwards described above are real values. The Variation therefore includes a mechanism for converting calculated RAB and Core Services RAB Portion values into nominal terms. The approach is consistent with how the current SAU distinguishes between the “real” RAB and the inflation-adjusted “nominal” RAB and therefore **nbn** considers it remains a reasonable approach.

### 17.3.3 nbn’s RAB depreciation approach

In the process of developing the March Variation, **nbn** had initially proposed adopting a linear back-loaded depreciation approach for the first and subsequent Regulatory Cycles. This was to address a misalignment between the SAU’s depreciation/allowable revenue profile and IOP revenue projections, resulting in actual revenue being forecast to be significantly below allowed revenue under the Variation for approximately five to six years. However, from discussions in the ACCC working groups convened in the latter half of 2021, it became apparent that the use of a back-loaded depreciation profile was not supported by the ACCC.

In the Variation, **nbn** proposes to adopt a real straight-line depreciation approach, based on the value of actual capital expenditure rolled into each of the RAB and Core Services RAB Portion in Module 2.

The primary support for real straight-line depreciation is its smoothing of annual costs; that is, combining real straight-line depreciation with RAB indexation produces aggregate nominal capital charges (the sum of return on capital and depreciation) that fluctuate less than other approaches. Accordingly, **nbn** considers adopting this approach for Module 2 is appropriate and reasonable.

Rolling forward the RAB using depreciation based on actual capital expenditure rather than forecast capital expenditure provides incentives to **nbn** to deploy capital expenditure efficiently. This is because **nbn** would retain a proportion of the benefit of any capital expenditure underspends (subject to ex-post determination by the ACCC) as outturn depreciation deductions will be lower from the RAB than those in the forecast ABBRR.

## 17.4 Cost allocation between Core Regulated Services and Competitive Services

As outlined in section 17.3, under the Variation **nbn** will ensure the separation of Core Regulated Services and Competitive Services through the maintenance of the current RAB (capturing capex for all services) and identification of a separate Core Services RAB Portion (capturing capex for Core Regulated Services). Section 17.4.1 sets out the principles **nbn** will apply for allocating costs between Core Regulated Services and Competitive Services. These principles support efficient and transparent cost allocation procedures that will lead to outcomes that promote the LTIE.

### 17.4.1 Attribution and allocation principles

The cost attribution and allocation principles defined in the Variation<sup>11</sup> are set out below.

#### Cost Allocation Principles

- Costs that are directly attributable to a Core Regulated Service will be allocated to that Core Regulated Service.
- Costs that are directly attributable to a Competitive Service will be allocated to that Competitive Service.

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<sup>11</sup> Variation, cl 2G.6.



- Shared costs (i.e., costs that are not directly attributable to a Core Regulated Service or Competitive Service) will be allocated to reflect causal relationships between supplying services and incurring costs, unless establishing a causal relationship would require undue cost or effort, in which case an alternative suitable allocator will be used.
- All costs will be allocated.
- No cost should be allocated more than once to any service.

**nbn** uses (but does not define in the SAU) the following standard definitions of costs:

- ‘Directly attributable costs’ are costs that are specific to, and can be identified as belonging to, a specific cost category. These costs are directly attributed to the service category (i.e., Core Regulated Services or Competitive Services) to which they relate.
- ‘Shared costs’ are costs that are not specific to one service category, or cannot be directly assigned to a specific service category. These costs are allocated to services (i.e., Core Regulated Services or Competitive Services) through the application of a suitable allocator.

The cost information used by **nbn** during the cost allocation process will be extracted from **nbn**’s core financial systems, which are subject to an independent financial audit each year, which ensures that the cost data is reconcilable, transparent and subject to regular review.

### 17.4.2 Role of the Cost Allocation Manual (CAM)

**nbn** has developed a CAM that provides further detail on how it has attributed and allocated costs between Core Regulated Services and Competitive Services. This manual describes the detailed methodology that **nbn** uses to allocate costs in accordance with the SAU’s Cost Allocation Principles.

The CAM also summarises aspects of the following, to give context to the cost allocation methodology:

- **nbn**’s network and access technologies;
- the categories of products and services supplied by **nbn** (i.e., Core Regulated Services and Competitive Services); and
- the role of cost allocation (including the Cost Allocation Principles and the CAM) under the SAU.

**nbn**’s March Variation did not propose that the ACCC would have a power to approve the SAU CAM, on the basis that the ACCC would not be bound to apply the CAM when making cost allocation decisions under the SAU. In response to feedback, **nbn** now proposes that the ACCC will have the power to review and approve **nbn**’s CAM, or approve a different version of the CAM that incorporates reasonable changes made by the ACCC.

Under the Variation, the ACCC may also issue a formal direction to **nbn** to prepare and submit a revised CAM addressing particular matters.



## 18 WACC

**nbn** proposes to apply a standard methodology for determining an allowed return on capital in Module 2. **nbn** has calculated a WACC for the First Regulatory Cycle using an approach that should give rise to stable and reliable estimates of the market WACC, adopting the Capital Asset Pricing Model (**CAPM**) approach used by IPART and a trailing average approach for the cost of debt.

As set out in **nbn**'s BBM parameters (see section 21.2 of Part F to this Submission), **nbn**'s nominal rate of return for the First Regulatory Cycle will be 7.677% (FY24), 7.716% (FY25) and 7.782% (FY26) using this methodology. **nbn**'s proposed WACC methodology is reasonable, will promote the LTIE and will encourage the economically efficient investment in the **nbn**<sup>®</sup> network.

### 18.1 Proposed principles and method

Under the varied SAU, **nbn** proposes to apply a standard WACC methodology in the Subsequent Regulatory Period (commencing 1 July 2023).

The WACC methodology proposed by **nbn** follows the principles set out in clause 2G.2.4 of the Variation, and applies a first principles analysis (as briefly discussed below and in the Frontier WACC Report<sup>12</sup>) which is commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk to **nbn** in the provision of NBN Access Services, Ancillary Services and Facilities Access Services, while having regard to:

- the objective of producing reliable estimates of the market cost of capital in a wide range of plausible market conditions; and
- the objective of promoting stability in the rate of return over time.

Consistent with the current SAU framework for Module 2, **nbn** proposes the use of a nominal vanilla WACC to determine the allowed rate of return on capital for each forecast year. The vanilla WACC is to be determined according to the following formula:

$$WACC = \text{Return on equity} \times (1 - \text{Gearing}) + \text{Return on debt} \times \text{Gearing}$$

where:

- Return on equity* represents the expected return on equity for the Regulatory Cycle;
- Return on debt* represents the expected return on debt for the relevant year of the Regulatory Cycle; and
- Gearing* is the benchmark proportion of debt in total financing (i.e., the benchmark gearing ratio) for the Regulatory Cycle.

Consistent with standard regulatory practice in Australia, the return on equity, return on debt, and gearing applied in the WACC formula above to determine the allowed rate of return are not based on **nbn**'s actual cost of equity and debt finance or capital structure. Instead, the rate of return is determined by estimating a nominal vanilla WACC commensurate with the efficient financing costs of a benchmark efficient entity with a similar degree of risk as that which applies to NBN Co in providing the NBN Access Service, Ancillary Services and Facilities Access Service.

<sup>12</sup> Frontier, *Return on capital and inflation*, December 2022. A detailed report on **nbn**'s WACC methodology prepared by Frontier Economics (in consultation with **nbn**) (**Frontier WACC Report**).



The product of the vanilla WACC and the RAB delivers a post-tax return on equity capital and a pre-tax return on debt capital. This represents the cash flows required by equity and debt investors, respectively. The revenues required in order for the regulated business to meet its corporate tax obligations are provided through a separate tax building block, rather than through the return on capital allowance.

## Return on equity

The return on equity allowance represents an estimate of the minimum return that equity investors would require in order to:

- commit capital to a benchmark efficient business delivering the regulated services provided by **nbn**; and
- leave that capital invested in the business rather than allocating it to another investment opportunity of comparable risk.

The return on equity cannot be observed because it represents a forward-looking, expected/required return. It must therefore be estimated using financial models. In practice, the most common approach to estimating the required return on equity is the CAPM:

$$\text{Return on equity} = \text{Risk-free rate} + \text{Equity beta} \times \text{Market risk premium}$$

where:

- (a) *Risk-free rate* represents the 'risk-free rate of return'. This is the return that is available to investors on an investment that is completely free of risk. Commonwealth Government bonds are usually assumed to be such a risk-free investment;
- (b) *Market risk premium (MRP)* represents the 'additional return over and above the return on a risk-free asset' that investors would require for investing in the average asset; and
- (c) *Equity beta* represents the 'equity beta', which indicates the extent to which the particular investment has more or less risk than average. For example, an equity beta of 0.7 indicates that the investment is 30% less risky than average, in which case it would require a risk premium that is 30% less than would be required for an investment of average risk.

The CAPM is used extensively in practice.

### *Internally consistent implementation of the CAPM is in the LTIE*

When implementing the CAPM, it is important to ensure that parameters are estimated in an internally consistent manner. In particular, the risk-free rate and MRP parameters can each be estimated as prevailing, forward-looking parameters or as long-run average parameters, and a consistent approach to this must be taken. For example:

- prevailing estimates of the risk-free rate and MRP will produce an estimate of the prevailing, forward-looking return that investors require; and
- long-run average estimates of the risk-free rate and MRP will produce an estimate of the long-run average of the returns that investors might require from time to time.

When parameters are estimated inconsistently, the result is an output that is not economically meaningful. For example, using a prevailing, forward-looking estimate of the risk-free rate and a long-run historical average estimate of the MRP produces an output that has no obvious economic interpretation and produces implausible outcomes over time, as explained in the Frontier WACC Report.



IPART has considered this issue in some detail and has concluded that:<sup>13</sup>

*We consider it would be invalid to combine a current risk-free rate with a historic MRP, because the result of that calculation would not represent the state of the equity market at any point of time. By combining a current estimate of the risk-free rate with a current MRP estimate, we can approximate the current market price of equity. Likewise, by combining a historic estimate of the risk-free rate with a historic MRP estimate, we can approximate the historic average market price of equity. Either of these benchmarks would be a valid point of reference. When we combine the risk-free rates and MRP estimates in this time-consistent way, the current cost of equity is closer to the historic average cost of equity than either of them is to the time-inconsistent sum.*

**nbn** submits that the (internally consistent) IPART approach to estimating the CAPM should be adopted. In summary, this approach involves:

- pairing prevailing, forward-looking estimates of the risk-free rate and MRP to produce a prevailing estimate of the required return on equity;
- pairing long-term average estimates of the risk-free rate and MRP to produce a long-term average estimate of the required return on equity; and
- applying 50% weight to each estimate.

Following feedback from stakeholders, **nbn** has further considered the following changes to the way some return on equity parameters might be estimated:

- Whether the long-run risk-free rate might be estimated as the average over some historical period, rather than taking the long-run estimate published in the Commonwealth Government *Intergenerational Report*.
- Whether all of the forward-looking estimates of the market risk premium should be calibrated to ensure that they are consistent, on average, with the estimate of the long-run average market risk premium.

**nbn** has accepted both of these suggestions, as explained in the Frontier WACC Report.

#### *An estimate of equity beta for a benchmark efficient business is in the LTIE*

**nbn** has estimated the market cost of capital for a benchmark entity that faces a similar degree of risk as that which applies to **nbn** in its provision of high-speed broadband services. When faced with this task, regulators typically follow two steps when estimating beta (and gearing) for a regulated business:

- The first step is to consider the systematic risk profile of the regulated entity.<sup>14</sup> This typically involves identifying the characteristics of the entity's cost and demand structure that determine how much systematic or 'market' risk it is likely to bear. This is sometimes called a 'first principles' analysis.
- The second step is to determine a comparator sample that best represents the likely risks for that firm, taking into account the systematic risk profile of the regulated business, as identified by the first principles analysis.

In practice, it is very challenging to find a large number of comparator firms with very similar risk characteristics to the firm being regulated. As discussed in the Frontier WACC Report, this is also the case with **nbn**. A key challenge in almost all beta estimations is whether to favour a smaller sample of firms that have closer risk characteristics to the regulated entity, or a larger set of comparators (including firms from different sectors and

<sup>13</sup> IPART, *Review of our WACC method*, February 2018, pp. 51-52: [https://www.ipart.nsw.gov.au/sites/default/files/documents/final-report-review-of-our-wacc-method-february-2018\\_0.pdf](https://www.ipart.nsw.gov.au/sites/default/files/documents/final-report-review-of-our-wacc-method-february-2018_0.pdf).

<sup>14</sup> Noting that only systematic risks are compensated for under the CAPM. Non-systematic or business-specific risks are assumed to be diversifiable from the point of view of an investor.



jurisdictions). The smaller the sample of comparators used to estimate gearing and beta, the lower will be the statistical reliability of those estimates. Small samples also tend to produce estimates that vary considerably over time. In order to improve statistical precision, a pragmatic compromise often needs to be made, whereby less comparable peer firms are permitted into the sample.

**nbn** has generally had regard to the following sources relating to first principles risks:

- The ACCC's 2015 assessment of Telstra's supply of fixed line services<sup>15</sup> (which also references earlier ACCC decisions).
- The New Zealand Commerce Commission's 2020 assessment of fibre suppliers' supply of broadband fixed line services in New Zealand.<sup>16</sup>

The ACCC's analysis of risks in the past has generally focused on differences in risk between fixed and mobile services – that is, on the relative risks within a telecommunications sample.<sup>17</sup> Similarly, the Commerce Commission's approach, drawing on a consultant's work, identified risk factors for differentiating within-sample telecommunications firms. The risks identified in these analyses include demand risk (income elasticity), operating leverage, growth opportunities, asset stranding, company size, long-lived investments and market power/competition.<sup>18</sup>

**nbn** considers that the first principles assessments in these cases, although limited, support the view that the risks of a benchmark firm providing services similar to those of **nbn** are best estimated using a sample of telecommunications firms listed on domestic and international share markets.

**nbn** has also had regard to whether it would be necessary for any additional comparators drawn from outside the telecommunications industry. These would need to share very similar risk characteristics to **nbn**, notwithstanding differences in sectoral risks.<sup>19</sup> That is because adding firms with dissimilar risk characteristics to **nbn** would introduce bias into estimates of beta and gearing, rather than improve the estimates of those parameters.

<sup>15</sup> ACCC, *ACCC final access determination for Telstra's fixed line services*, 2015, pp. 78-83.

<sup>16</sup> NZCC, *Fibre input methodologies: Main final decisions – reasons paper*, 13 October 2020, ch. 6.

<sup>17</sup> In 2011, the ACCC stated in *Public inquiry to make final access determinations for the declared fixed line services*, Discussion paper (Public version), April 2011, pp. 91-94, that:

- regulators normally determine the equity beta by basing it on the historical equity betas of a selection of businesses deemed to be close comparators to the regulated business. The ACCC noted in the September 2010 Draft Report that it considered benchmarking with comparable firms was an appropriate method of estimating the equity beta;
- the ACCC used telecommunications firms from selected advanced countries in the OECD as comparable businesses; and
- the systematic risk associated with business lines like mobile communications is likely to be significantly higher than the systematic risk associated with fixed line services.

See: <https://www.accc.gov.au/system/files/Discussion%20paper%20-%20FADs%20for%20fixed%20line%20services%20-%20public%20version.pdf>.

<sup>18</sup> CEPA, *Cost of capital for regulated fibre telecommunication services in New Zealand: Asset beta, leverage and credit rating*, Final Report, 20 May 2019: [https://comcom.govt.nz/data/assets/pdf\\_file/0025/147841/Cambridge-Economic-Policy-Associates-CEPA-Cost-of-capital-for-regulated-fibre-telecommunication-services-in-New-Zealand.-Asset-beta,-leverage-and-credit-rating-21-May-2019.pdf](https://comcom.govt.nz/data/assets/pdf_file/0025/147841/Cambridge-Economic-Policy-Associates-CEPA-Cost-of-capital-for-regulated-fibre-telecommunication-services-in-New-Zealand.-Asset-beta,-leverage-and-credit-rating-21-May-2019.pdf).

<sup>19</sup> Noting, for example, that in the Explanatory Statement to its 2013 Rate of Return Guideline, the AER expressly ruled out consideration of non-energy firms as comparators. For instance, the AER stated at p. 35 that: "Different sectors of the economy are expected to have different characteristics which will lead to different risk profiles. By limiting the benchmark to energy network businesses we are limiting the possibility that risks will be dissimilar due to sectoral differences." The AER maintained this position in its 2018 Rate of Return Instrument and its Draft 2022 Rate of Return Instrument.



**nbn** notes that:

- there are a sufficient number of comparators in the international telecommunications sample to produce statistically reliable results;<sup>20</sup>
- the entities in the international sample are likely to have some firms that face lower systematic risk than **nbn** and others higher, but it is difficult to establish with evidence how to weight particular sub-samples of firms for risk;<sup>21</sup>
- there are some key differences in risks between sectors, which mean that it would be difficult to make accurate adjustments to the estimated betas to account for differences in such risks. For example, **nbn** observes that it (and other firms in the telecommunications sample) sell network access products charged on a monthly basis to households. That is similar to energy or water networks. However, telecommunications providers are subject to risks of end-users opting for lower-priced, lower-speed access products, which is not relevant for energy or water networks (which sell a homogeneous access product); and
- it may be relevant to consider whether the beta estimate is consistent with a first principles analysis of risks compared with firms in other regulated industries.

**nbn** has followed standard estimation procedures for beta, as outlined in the Frontier WACC Report, and below reports results for five- and 10-year, weekly and monthly samples, as well as the mean values across the sample.

**Table E3. Beta estimates**

	November 2012 – October 2022			November 2017 – October 2022		
	Asset Beta Weekly	Asset Beta Monthly	Gearing	Asset Beta Weekly	Asset Beta Monthly	Gearing
Estimate	0.442	0.431	35%	0.410	0.395	38%

**Table E4. Means**

Means from sample	Value
Asset beta	0.42
Gearing	37%
Equity beta	0.66

As explained further in the Frontier WACC Report, in **nbn**'s view, the proposed equity beta is reasonable in the context of equity betas used by other regulators including the AER for electricity networks.

<sup>20</sup> By which **nbn** means adjustments to estimation time periods, frequency of estimation and additions or subtractions of a small number of firms would not materially affect the results.

<sup>21</sup> This was also the view expressed by the Commerce Commission, which stated that: "However, on balance we have concluded that we will give each company in the sample an equal weight for the purpose of calculating the average asset beta. We do not consider the evidence before us is strong enough to justify applying different weightings to the comparators." See Commerce Commission, *Fibre input methodologies: Main final decisions – reasons paper*, 13 October 2020, [6.460]: [https://comcom.govt.nz/data/assets/pdf\\_file/0022/226507/Fibre-Input-Methodologies-Main-final-decisions-reasons-paper-13-October-2020.pdf](https://comcom.govt.nz/data/assets/pdf_file/0022/226507/Fibre-Input-Methodologies-Main-final-decisions-reasons-paper-13-October-2020.pdf).



## Return on debt

The return on debt allowance represents the minimum cost of debt that would be incurred by a benchmark-efficient business delivering the regulated services provided by **nbn**, if it were to manage its debt portfolio in an efficient and prudent manner.

**nbn**'s proposed approach to determining the efficient return on debt allowance involves identifying:

- an efficient and prudent debt management strategy for a benchmark-efficient business with characteristics similar to **nbn**; and
- a cost of debt commensurate with that efficient and prudent debt management strategy.

There is now almost universal consensus between regulators in Australia that an efficient and prudent debt management strategy for regulated infrastructure businesses such as **nbn**, which typically have large debt portfolios, is to stagger the issuance of debt – rather than refinancing the entire debt portfolio at the same time – in order to minimise refinancing risk (i.e., the risk that debt markets are disrupted or closed at the time the business needs to refinance).

In recognition of the efficiency and prudence of a staggered debt issuance policy, nearly all regulators in Australia have now adopted the so-called 'trailing average' approach to setting the return on debt allowance. Under this approach, the regulated business is assumed to:

- issue 10-year fixed-rate debt (which is the most common type and tenor of debt issuance by Australian corporates); and
- refinance 10% of its debt portfolio annually.

At any point in time, the cost of debt faced by a regulated business that followed such a debt management approach would be a 10-year average of the prevailing rates at which the business had refinanced in the current and each of the previous nine years.

## Gearing

**nbn** proposes a benchmark gearing assumption of 37%, consistent with empirical evidence on the gearing of a broad sample of domestic and overseas comparator firms (see Table E4).

## Proposed WACC values

**nbn**'s proposed WACC values for the First Regulatory Cycle are provided in Table E5 (further details on estimation of parameter values are provided in the Frontier WACC Report).

**Table E5. WACC values for First Regulatory Cycle**

Parameter	Current estimate	Long-term estimate	Midpoint estimate
Risk-free rate	3.9%	5.0%	4.5%
Equity beta	0.66	0.66	0.66
Market risk premium	7.9%	6.5%	7.2%
Return on Equity (nominal, post-tax)	9.1%	9.3%	9.2%
Return on Debt (FY24, nominal, pre-tax; incl. allowance for debt raising costs)	5.0%	5.0%	5.0%





Parameter	Current estimate	Long-term estimate	Midpoint estimate
Return on Debt (FY25, nominal, pre-tax; incl. allowance for debt raising costs)	5.1%	5.1%	5.1%
Return on Debt (FY26, nominal, pre-tax; incl. allowance for debt raising costs)	5.3%	5.3%	5.3%
Gearing	37%	37%	37%
Nominal vanilla WACC (FY24)	7.6%	7.8%	<b>7.7%</b>
Nominal vanilla WACC (FY25)	7.6%	7.8%	<b>7.7%</b>
Nominal vanilla WACC (FY26)	7.7%	7.9%	<b>7.8%</b>

## Gamma

Under Australia's tax system, dividends that are paid out of profits that have been taxed in Australia attract franking credits that can be used by resident investors to reduce personal taxes, thereby allowing investors to avoid being taxed twice—once through corporation tax and again through personal tax. The estimate of the value of dividend imputation franking credits is typically referred to as the parameter 'gamma'.

The Variation uses gamma to make a deduction to the building blocks regulatory tax allowance rather than the allowed rate of return on equity. However, since gamma is related closely in concept to the overall return required by equity investors, it is addressed in the varied SAU alongside the rate of return.

For the First Regulatory Cycle, **nbn** has proposed the prevailing AER estimate for gamma of 0.585 as an effective placeholder value (**nbn** will not be in a tax-paying position within the First Regulatory Cycle).

## Inflation forecast methodology

Under the SAU, for the forthcoming Regulatory Cycle, the Real RAB would need to be indexed using actual (i.e., outturn) CPI to compute the Nominal RAB. Furthermore, the Forecast Nominal ABBRR must specify and include a return on capital that is determined using:

- a nominal vanilla WACC; and
- a forecast nominal RAB.

In order to avoid compensating investors twice for inflation (which would occur as a result of applying a nominal WACC to a forecast nominal RAB), the SAU requires the use of forecast nominal regulatory depreciation (determined using a forecast of inflation over the Regulatory Cycle).

To derive the forecast nominal RAB and forecast nominal regulatory depreciation, a forecast of inflation over the regulatory period is required.

**nbn** proposes the following inflation forecasting approach, adopted recently by the QCA:

1. For a five-year Regulatory Cycle, inflation would be forecast by computing the geometric average of five numbers:
  - forecasts for years 1 and 2 would be obtained from the RBA; and
  - the figures for years 3 and 4 would be determined by a linear glidepath to the 'anchor point' estimate in year 5.



2. The 'anchor point' estimate in year 5 would be determined using the following decision rule:
  - if the RBA's two-year-ahead forecast is less than or equal to 2.0%, the anchor point would be set at 2.25%;
  - if the RBA's two-year-ahead forecast is between 2.0% and 3.0%, the anchor point would be set at 2.5%; and
  - if the RBA's two-year-ahead forecast is greater than or equal to 3.0%, the anchor point would be set at 2.75%.
3. For a three-year or four-year Regulatory Cycle, inflation would be forecast by computing the geometric average of the following:
  - forecasts for years 1 and 2 would be obtained from the RBA; and
  - the figure for year 3 (and 4, if relevant) will be determined by a linear interpolation between the year 2 forecast and the year 5 'anchor point' estimate, determined using the approach outlined in the previous dot point.

Further detail on the inflation forecasting approach is set out in the Frontier WACC Report.

### 18.1.1 The proposed WACC approach promotes the LTIE and is consistent with standard regulatory practice

Standard regulatory practice involves setting the allowed rate of return in line with the best estimate of the market cost of capital, for the following reasons:

- investors in all businesses require a return on investment that would be sufficient to compensate them for the opportunity costs and risk they bear when committing capital to the business; and
- the minimum return that a business must pay its investors, in order to attract and retain the capital necessary to finance efficient and prudent investments, is the cost of capital associated with that investment.

Utilising the assumption that an efficient benchmark business would finance itself through a mix of debt and equity capital, determining the best estimate of the market cost of capital involves deriving the best estimate of the WACC.

The AER recently considered the approach to the allowed return on capital that best promotes the long-term interests of consumers and concluded that the allowed return should be set at *“the expected efficient return, consistent with the relevant risks involved in providing regulated network services”*.<sup>22</sup> The AER reinforced the importance of the efficient use of network services for the long-term interests of consumers.

**nbn** supports the conclusion that the allowed rate of return should be set in line with the best possible estimate of the market cost of capital. This is the approach adopted by **nbn** in the Variation, and as a result, **nbn** considers that its WACC methodology and the estimates of WACC in the First Regulatory Cycle are both reasonable and promote the LTIE.

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<sup>22</sup> AER, *Assessing the long-term interests of consumers*, May 2021, p. 12.



## 18.2 Cumulative Inflation Factor calculation correction

Under the Variation, **nbn** proposes to correct an error in the formula under which the Cumulative Inflation Factor (**CIF**) is calculated in Module 1 for the purposes of **nbn**'s revenue controls.<sup>23</sup> This addresses an error in the formula used to calculate the CIF in respect of years prior to the First Financial Year (2013-14). It also clarifies that the first LTRCM Determination made immediately after the Variation is accepted will apply the corrected CIF formula to the values of the RAB, ABBRR and ICRA as though that formula had applied from the SAU commencement date.

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<sup>23</sup> Variation, cl 1E.8.4(c).