

nbn public BBM Handbook

June 2022



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Note: *This document is a Handbook provided in relation to the public version of the building block model (BBM) provided by **nbn** to the ACCC in connection with **nbn**'s SAU Variation lodged in March 2022 and shows data related to 'Core Regulated Services' as defined in the SAU Variation. The information in this Handbook and the BBM is provided solely for the purpose of assisting the ACCC in its assessment of **nbn**'s SAU Variation and should not be relied on for any other purpose. Any forecast values or indicative estimates in this Handbook or the BBM reflect **nbn**'s views and assumptions based on its most recent Integrated Operating Plan (as at August 2021), which included a considered assessment of economic and operating conditions at the time they were made. Any forecasts or indicative estimates are inherently uncertain and subject to a range of risks such that actual performance may differ materially from those forecasts or indicative estimates. Forecasts relating to the period from FY22 to FY25 were previously signed off by **nbn**'s Board and Shareholders. Any values relating to the period from FY26 onwards are indicative estimates prepared for accounting valuation purposes only and do not reflect an operational forecast – they have not been approved by **nbn**'s Board or Shareholders and do not include the full potential capex requirements (or specific operational timing) to meet future customer demand and network lifecycle requirements over time. The public version of the BBM to which this Handbook relates allows the user to edit the content to produce different outputs. **nbn** does not endorse any such different inputs or outputs; such different values should not be relied upon as representing or reflecting **nbn**'s position.*



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1 Introduction

1.1.1 The role of the BBM

The LTRCM model currently set out in the SAU was developed to ensure that details of **nbn**'s ABBRR, RAB and ICRA were transparent during the Initial Regulatory Period when **nbn** was focused on building out its networks and migrating users to its network. The operation of the LTRCM means that actual expenditures on all **nbn** networks (including MTM networks) have been included in the LTRCM model, and the RAB and ICRA values determined annually by the ACCC include the totality of **nbn**'s prudently incurred costs.

The Initial Regulatory Period has effect until 30 June 2023. In the Subsequent Regulatory Period **nbn** proposes to use a Building Block Model (BBM). This BBM will reflect **nbn**'s efficient and prudent costs – including the RAB as calculated under the Module 1 LTRCM provisions. The BBM implements the building block economic regulation approach to determine an ABBRR and also undertakes calculations regarding **nbn**'s recovery of ICRA, consistent with the methodology proposed in **nbn**'s SAU Variation.

Due to confidentiality concerns, **nbn** has developed a public facing BBM and a confidential version of the BBM. The public facing version consists of only the Core Regulated components of the BBM.

1.1.2 How this Handbook fits with other documents, including the SAU and the Cost Allocation Manual

The BBM reflects the calculations in the variation to the SAU lodged by **nbn** on 29 March 2022 and the principles in the Cost Allocation Manual (CAM). This Handbook documents, at a high level for instructive purposes only, how the BBM has implemented the calculations from the SAU variation and the principles in the CAM. To the extent the SAU variation, BBM and CAM are inconsistent with this Handbook, the former documents take precedence. This document will be updated as necessary by **nbn**, so it aligns with the latest version of the BBM and CAM. This document is for users of the BBM.

nbn has prepared a BBM to support its SAU variation. The current SAU does not require cost allocation between services or product components. The confidential BBM includes cost allocation, in particular between **nbn**'s Core Regulated Services and its Competitive Services. **nbn** has also created a public version of the BBM which only includes the Core Regulated Services. The BBM includes illustrative forecasts beyond FY25 and a user interface ('Dashboard') which allows the user to modify the values for Core Regulated capex, opex, customers, WACC and CPI and see how this affects Core Regulated revenue and revenue per premise connected per month. This Handbook refers to the public version of the BBM. The public BBM calculates a Core Services RAB Portion, Core Services ABBRR, and Core Services ICRA.

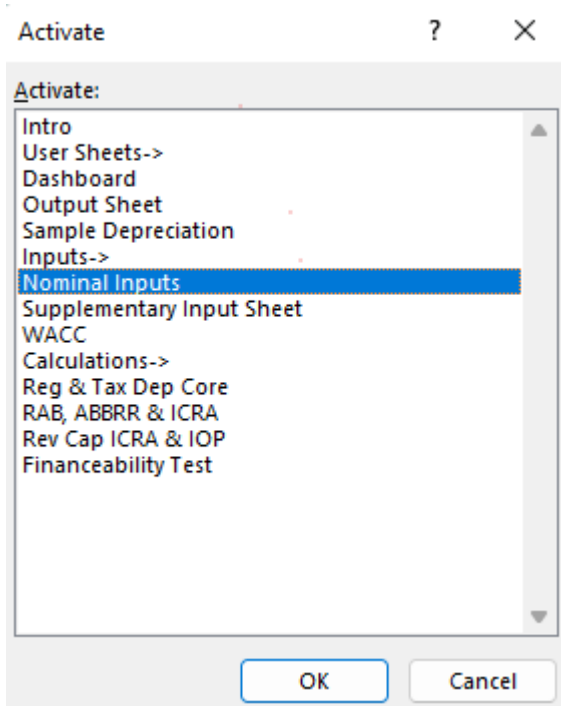
The confidential allocation between Core Regulated Services and Competitive Services has required further breakdowns of ABBRR elements including Core Regulated and Competitive capex, depreciation, opex and asset disposals, and a revised tax calculation applicable to Core Regulated Services only. To perform this cost allocation between Core Regulated Services and Competitive Services, costs are allocated to between Core Regulated Services and Competitive Services. The CAM documents how **nbn** has allocated costs to Core Regulated and Competitive Services (using the cost allocation principles proposed in the SAU variation). The allocation of costs between Core Regulated Services and Competitive Services is not available in the public facing BBM, rather only the post allocated values in respect of Core Regulated Services are included in the model. Section 6 of this Handbook contains further information on **nbn**'s approach to allocations.



2 Model overview

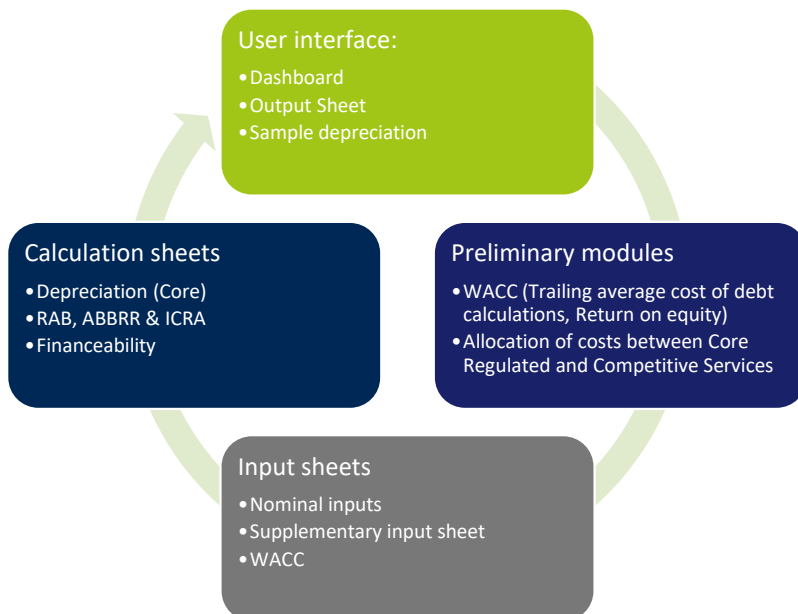
The BBM has been set up with a separation between the dashboard and outputs, inputs, and calculations. The sheets included in the model and the structure of the model can be seen in **Figure 1** and **Figure 2**.

Figure 1: Sheets in the BBM



Source: nbn

Figure 2: BBM structure



Source: nbn

The BBM also introduces WACC inputs, with the WACC calculated outside of the BBM in a separate model.



2.1 Model conventions

nbn has developed a *revised* BBM which is based on the model currently used for the purposes of the LTRCM provisions in Module 1 of the SAU. **nbn** has retained the simplified RAB and ICRA build-up sheets from the LTRCM Spreadsheet 2013-14 for transparency. However, the greatest difference between the revised BBM and current LTRCM model is that the BBM allocates the RAB and ICRA to Competitive and Core Regulated Services. In the public BBM, only Core Regulated Services are visibly modelled with the allocation to Competitive Services occurring outside the public BBM. The BBM also provides the mechanism for modelling the Core Regulated ABBRR and ICRA recovery amounts going forward and more detail on an asset level basis.

The BBM is both a backward- and forward-looking model. Historical inputs are used for the calculations of the ABBRR with forecast capex and opex used to determine the forecast ABBRR. The ABBRR tax allowance is also estimated on a forward-looking basis (note that formula changes are required at the next regulatory period to update the inputs from forecast to actuals – see section 5.2).

The revised BBM has been used to calculate the inputs to the Core Services Revenue Cap for the First Regulatory Cycle, and will inform **nbn**'s pricing decisions.



3 User interface

3.1 Dashboard

The Dashboard allows the user to vary key inputs in the BBM and visualise how this changes model outputs.

Figure 3 shows the orange cells that are able to be adjusted by the user in the BBM. With the exception of WACC these cells are growth rates and are used to grow the base inputs out to 2040. The percentages set the growth on the previous year’s total (i.e., total capex), negative values result in a reduction. The percentages compound so a change in the first year’s percentage will result in a different output total in the following years.

The asset life multiplier allows the user to increase and decrease the asset life of all assets from FY26 onwards. Values above 100% increase the asset lives of all assets, values below 100% reduce the asset lives. This impacts existing capex spent but not yet depreciated, increasing or decreasing the return of capex based on the multiplier.

The percentage of shared costs allocated to Core Services overrides nbn’s allocation methodology. It allows the user to set the proportion of shared costs between core and competitive services. When the percentage is set to 100% all shared costs are allocated to core services, at 0% all shared costs are allocated to competitive services. When the “percentage of shared costs allocated to core” is used, the annual growth rates do not apply to shared costs.

The reset button can be used to return the model to nbn’s baseline forecasts if the user changes any of the orange cells.

Figure 3: Dashboard user interface

SAU Year:	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Spreadsheet Year:	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40					
June Quarter CPI (annual percentage change) - as per Dictionary	2.375%	2.375%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%	2.500%
Cumulative Inflation Factor - as per Clauses 1E.9.4(b) and (c)	1.201	1.229	1.260	1.291	1.324	1.357	1.391	1.426	1.461	1.498	1.535	1.574	1.613	1.653	1.695	1.737	1.780					
Annual growth rates																						
Core Regulated Capex	7.90%	8.57%	-0.97%	-3.83%	-14.21%	-4.91%	6.34%	1.70%	0.88%	-5.28%	-5.96%	0.70%	2.11%	2.12%	2.12%	2.12%	2.12%					
Customers	1.88%	1.66%	1.42%	1.35%	1.33%	1.30%	1.29%	1.27%	1.27%	1.23%	1.24%	1.21%	1.21%	1.18%	1.18%	1.18%	1.18%					
WACC	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%	7.10%
CPI	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Opex	1.40%	1.60%	1.81%	1.77%	3.54%	0.20%	2.00%	2.02%	2.04%	2.11%	2.24%	2.30%	2.33%	2.36%	2.37%	2.37%	2.37%					
Asset Life Multiplier (increases asset lives from FY26, affects depreciation rates of capex spent before FY26)	100.00%																					
Percentage of Shared costs Allocated to Core (overrides the allocation methodology)	0%																					

The dashboard also includes key outputs in real and nominal terms and a weighted credit rating as shown in

Figure 4.

Figure 4: Dashboard outputs

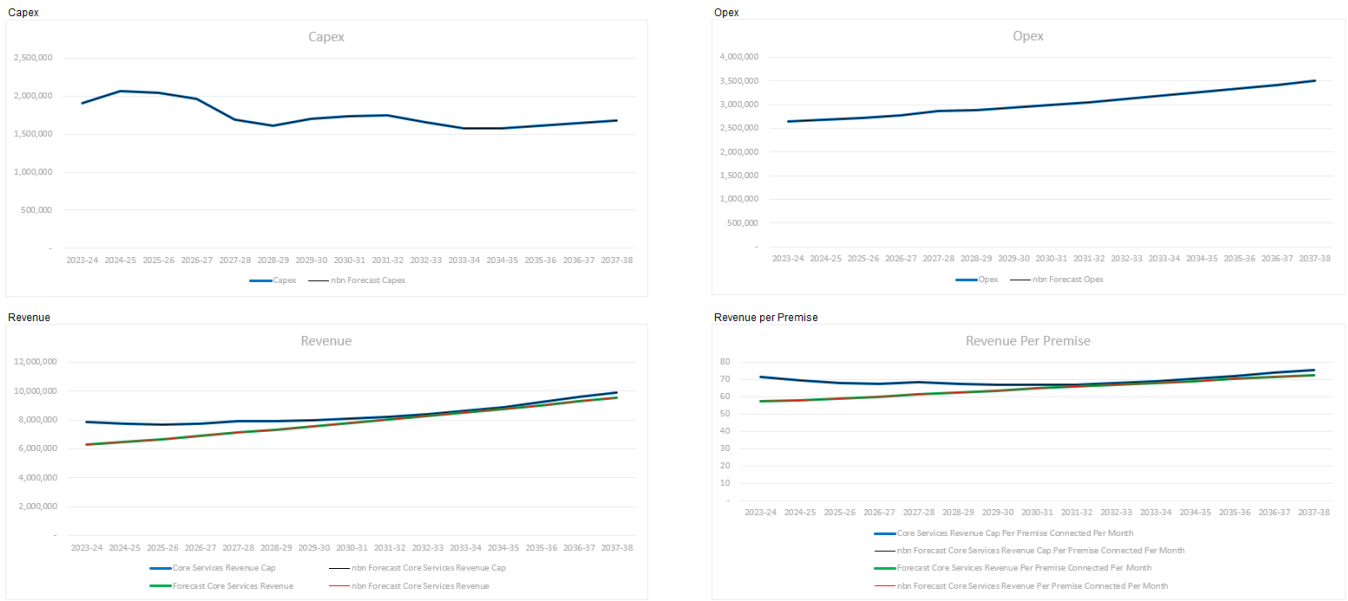
\$ Nominal	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40
Capex	2,504,306	1,765,152	1,904,822	2,068,165	2,048,088	1,969,598	1,689,626	1,606,562	1,708,378	1,737,352	1,752,558	1,660,114	1,571,343	1,582,424	1,615,835	1,650,038	1,685,109
Opex	2,833,790	2,600,833	2,637,286	2,679,369	2,727,957	2,776,162	2,874,547	2,880,219	2,937,842	2,997,273	3,058,356	3,122,869	3,192,952	3,266,514	3,342,740	3,421,573	3,502,576
Core Services Revenue Cap	7,933,707	8,035,962	7,844,044	7,750,121	7,687,982	7,740,150	7,826,509	7,916,756	7,969,405	8,079,208	8,205,622	8,362,071	8,635,844	8,915,739	9,241,501	9,675,525	9,907,727
Forecast Core Services Revenue	5,651,939	5,950,251	6,295,097	6,484,745	6,678,417	6,899,534	7,125,963	7,350,759	7,583,454	7,822,548	8,047,414	8,278,570	8,517,549	8,764,269	9,011,277	9,276,604	9,542,444
Core Services Revenue Cap Per Premise Connected Per Month	75	75	72	70	68	68	68	67	67	67	67	68	69	70	72	74	75
Forecast Core Services Revenue Per Premise Connected Per Month	54	55	57	58	59	60	61	62	64	65	66	67	68	69	70	71	73
Difference between Forecast Core Services Revenue and Core Services Revenue Cap	(2,281,770)	(2,085,731)	(1,548,977)	(1,271,376)	(1,009,265)	(840,822)	(801,446)	(565,998)	(385,952)	(256,660)	(150,208)	(113,502)	(118,295)	(151,452)	(224,244)	(298,921)	(365,283)
\$ Real 14	2,085,874	1,435,976	1,511,804	1,601,410	1,547,183	1,451,601	1,214,888	1,126,988	1,189,181	1,160,010	1,141,623	1,055,029	974,257	957,198	953,588	950,003	946,531
Opex	2,193,512	2,115,914	2,093,141	2,074,874	2,060,777	2,046,041	2,096,979	2,020,446	2,010,603	2,001,246	1,992,224	1,984,633	1,979,680	1,975,992	1,972,684	1,969,957	1,967,409
Core Services Revenue Cap	6,607,469	6,537,384	6,225,600	6,005,676	5,907,495	5,704,522	5,699,381	5,553,530	5,454,110	5,394,397	5,345,173	5,333,294	5,354,357	5,393,069	5,453,776	5,513,070	5,565,205
Forecast Core Services Revenue	4,707,131	4,840,613	4,996,220	5,021,231	5,045,088	5,084,981	5,123,119	5,156,488	5,189,972	5,223,028	5,242,116	5,281,162	5,281,012	5,301,457	5,321,453	5,340,988	5,360,024
Core Services Revenue Cap Per Premise Connected Per Month	63	61	57	54	51	50	49	47	46	45	44	43	43	43	42	42	42
Forecast Core Services Revenue Per Premise Connected Per Month	45	45	45	45	45	44	44	44	44	43	43	43	42	42	41	41	41
Difference between Forecast Core Services Revenue and Core Services Revenue Cap	(1,900,338)	(1,696,771)	(1,229,380)	(984,445)	(762,427)	(619,541)	(576,262)	(397,042)	(284,138)	(171,369)	(103,057)	(72,132)	(73,345)	(91,613)	(132,323)	(172,103)	(205,181)

Source: nbn

These outputs are also presented in charts as shown in **Figure 5**. These charts show both the outcomes of any user scenarios entered on the Dashboard sheet as well as nbn’s original baseline forecast BBM parameters.



Figure 5: Dashboard output charts



Source: nbn

3.2 Output sheet

This sheet summarises the outputs of the main calculation sheets as shown in **Figure 6**.

Figure 6: Outputs

Year	Units	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
WACC								
Estimated average annual rate of inflation expectations over the Regulatory Cycle (n)	Percentage factor		1.419%	3.122%	3.549%	1.210%	2.390%	3.016%
(forecast) Cumulative Inflation Factor			0.877	0.905	0.937	0.948	0.971	1.000
Statutory company taxation rate	Percentage		30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Gamma	Number		0.50	0.50	0.50	0.50	0.50	0.50
Core Services								
Nominal Forecast Core Services RAB Portion (start period)	\$'000		-	-	7,609	262,860	688,566	1,565,322
Nominal Forecast Core Services RAB Portion (end period)	\$'000		-	7,609	262,860	688,566	1,565,322	2,901,139
Forecast Real Core Services RAB Portion (start period)	\$'000		-	-	8,411	280,613	726,286	1,612,525
Forecast Real Core Services RAB Portion (end period)	\$'000		-	8,411	280,613	726,286	1,612,525	2,901,139
Nominal Forecast Core Services Capital Expenditure	\$'000		-	7,609	256,271	481,499	1,028,291	1,596,522
Real Forecast Core Services Capital Expenditure	\$'000		-	8,411	273,580	507,876	1,059,300	1,596,522
Real Forecast Core Services Disposals	\$'000		-	-	-	-	-	-
Nominal Forecast Core Services Disposals	\$'000		-	-	-	-	-	-
Real Forecast Core Services Depreciation	\$'000		-	-	1,378	62,204	173,061	307,909
Forecast Nominal Tax Depreciation in connection with the forecast Nominal Core Services RAB Portion	\$'000		-	-	1,246	58,224	163,324	298,338
Forecast nominal regulatory depreciation in connection with the forecast Nominal Core Services RAB Portion	\$'000		-	-	1,020	55,793	151,535	260,705
Nominal Forecast Core Services Operating Expenditure	\$'000		137	82,340	332,579	490,664	773,948	1,215,514
Nominal Forecast Construction in Progress in connection with Core Regulated Services (start period)	\$'000		-	-	33,677	235,893	620,267	1,388,872
Forecast Annual Construction in Progress Allowance (nominal) in connection with Core Regulated Services	\$'000		-	-	2,999	20,579	40,375	98,302
Forecast Core Services Tax Allowance (nominal)	\$'000		-	-	-	-	-	-
Forecast Nominal Core Services ABBRR	\$'000		137	82,340	337,275	589,969	1,010,680	1,685,312
Forecast Real Core Services ABBRR	\$'000		156	91,021	360,055	622,288	1,041,157	1,685,312

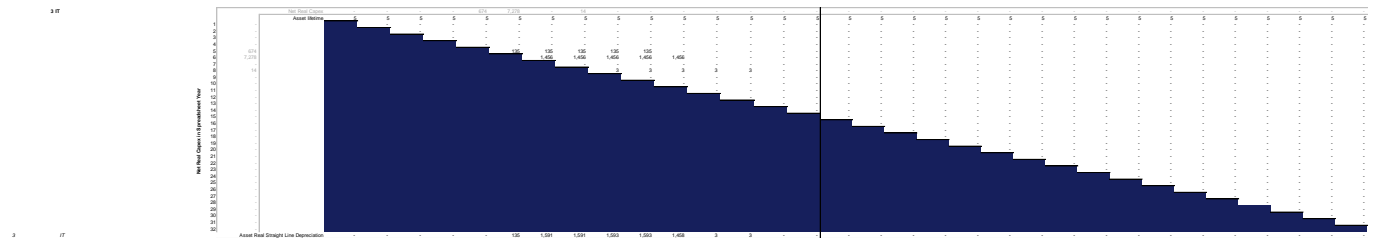
Source: nbn



3.3 Sample depreciation

The public BBM provides an example of the depreciation calculations in the ‘Sample Depreciation’ sheet. The sheet uses 10 example assets and provides the user examples of how the real straight-line depreciation method and nominal tax depreciation method are calculated in the model. An example of this is shown in **Figure 7**.

Figure 7: Sample real straight-line depreciation-



Source: nbn



4 Input sheets

4.1 Nominal inputs

The purpose of the ‘Nominal Inputs’ sheet is to consolidate the main inputs into the BBM.

This sheet contains a mix of actuals up to 2020-21, and forecasts covering 2021-22 and 2022-23, as well as forecasts for the First Regulatory Cycle 2023-24 - 2024-25 and projections out to 2040 in some cases.

4.1.1.1 CPI calculations

The CPI calculations in the ‘Nominal Inputs’ sheet are used throughout the BBM to adjust data for inflation. The calculations and inputs required for the inflation factor are found in the ‘Nominal Inputs’ sheet.

Inflation is calculated using ABS June Quarter CPI (All groups, Weighted Average of Eight Capital Cities) until 2020-21. The inflation forecast is hardcoded from 2021-22. As shown in **Figure 9**, inflation is forecast with a long-term outlook of 2.5% to align with the RBA’s long-term forecast / mid-point of target inflation band. Inflation in 2023-24 and 2024-25 are outputs of the WACC model (see Section 4.1.2 for further information). The inflation factor and the cumulative inflation factor are calculated based on these inputs.

Note that the first financial year in the LTRCM and BBM is 2013-14 (all real data is reported in 2013-14 dollars) as per the SAU. This aligns with the financial year in which the SAU was first accepted.

Figure 8: CPI calculations

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
June Quarter CPI (annual percentage change) - as per Dictionary		1.419%	3.122%	3.549%	1.210%	2.390%	3.016%	1.511%	1.023%
Cumulative Inflation Factor - as per Clauses 1E.9.4(b) and (c)		0.877	0.905	0.937	0.948	0.971	1.000	1.015	1.025
Inflation factor (1+June Quarter CPI)		1.01419	1.03122	1.03549	1.01210	1.02390	1.03016	1.01511	1.01023

Source: nbn

Figure 9: June Quarter CPI input data

2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
2.250%	2.250%	2.375%	2.375%	2.500%	2.500%	2.500%	2.500%	2.500%

Source: nbn

4.1.1.2 Asset lives and model functionality

The asset lives are used in the depreciation calculations (as assets are depreciated over their asset life). Each asset has an asset life reported for each modelling year.

Asset lives are also reported for tax purposes which is used in the nominal tax depreciation calculations. These asset lives are sourced from the asset lives in nbn’s financial accounts. These individual asset lives are not displayed in the public version of the BBM, but users can change the average asset lifetime across all assets using the “Asset Life Multiplier” input on the Dashboard sheet of the Model.



4.1.1.3 Asset additions and subtractions

Capex is recorded on an asset level using actuals up to 2020-21, while forecasts are used from 2021-22 onwards. Disposals are reported by asset up to 2022-23. This is later allocated between Core Regulated and Competitive Services. This allocated data is ultimately used in the depreciation calculations and the RAB. Core Services capex is aggregated in the public version of the BBM.

4.1.1.4 Opex

The model takes a high-level forecast of opex, rather than on an individual asset level. The opex allocations between Core Regulated Services and Competitive Services occur in the confidential BBM. Post-allocated aggregated Core Services opex is included in public version of the BBM.

4.1.1.5 Interest expense

Actual interest expense is reported to 2022-23 as part of the LTRCM and used in the tax calculations up to this point. From 2023-24 onwards, the interest expense is replaced with a regulatory interest expense allowance, as the tax interest within the BBM, calculated as $RAB \times \text{gearing} \times \text{cost of debt}$.

4.1.1.6 Construction in progress

Construction in progress (CIP) includes a yearly actual and forecast Core Services CIP for a start and end of the period. This data is used in the calculation of the Core Services ABBRR.

4.1.1.7 Revenue

Revenue is reported using Core Services actuals up to 2020-21, and forecasts from 2021-22 onwards. Actual revenues (historic) are used in calculations for the past Core Services ABBRR and ICRA. Core Services forecast revenues are compared to the Core Services forecast calculated ABBRR.

4.1.2 WACC

The WACC module is provided separately, and outputs are pasted into the BBM (note the WACC inputs are not linked to the WACC module to maintain usability of the BBM). The outputs of the WACC are critical to the ABBRR and Annual Construction in Progress Allowance (ACIPA).

4.1.3 Risk-free rate supplement

The 'Supplementary Input Sheet' is a historic sheet where the user can input RBA data to calculate the risk-free rate of interest on a yearly basis. This is ultimately used in the model to determine the nominal rate of return used in Module 1 of the SAU (using the risk-free rate + 3.5%).



5 Calculation sheets

5.1 Depreciation

Depreciation is calculated for the Core Regulated Services in the public version of the BBM for both real straight-line depreciation and the nominal tax depreciation for each asset.

5.2 RAB, ABBRR & ICRA

The RAB, ABBRR & ICRA are calculated in the model for Core Services. The sheet calculates the Core Services RAB roll forward, the Core Services ABBRR and the Core Services ICRA (see **Figure 10**).

Figure 10: RAB, ABBRR & ICRA

Year	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2. Regulatory Asset Base (\$'000 REAL)									
Real RAB (start period) - as per Clause 1D.2.1(a) and (b)	-	-	8,411	280,613	726,286	1,612,525	2,901,139	4,747,166	
Real Capex	-	8,411	273,580	507,876	1,059,300	1,596,522	2,134,603	4,410,983	
Real Disposals	-	-	-	-	-	-	-	-	-
Real Straight Line Depreciation	-	-	1,378	62,204	173,061	307,909	288,575	435,769	
Real RAB (end period) - as per Clause 1D.2.1(b)	-	8,411	280,613	726,286	1,612,525	2,901,139	4,747,166	8,722,380	
3. Regulatory Asset Base (\$'000 NOMINAL)									
Nominal RAB (start period) - as per Clauses 1D.2.1(a) and 1D.2.2	-	-	7,609	262,860	688,566	1,565,322	2,901,139	4,818,889	
Nominal Straight Line Depreciation (as per Clause 1E.9.1(b))	-	-	1,290	58,973	167,995	307,909	292,935	446,880	
Nominal RAB (end period) - as per Clause 1D.2.2	-	7,609	262,860	688,566	1,565,322	2,901,139	4,818,889	8,944,763	
4. ABBRR (\$'000 NOMINAL) - as per Clause 1E.4.1									
Return on capital	-	-	678	22,932	44,821	110,791	210,314	314,255	
Nominal Regulatory Depreciation - as per clause 1E.9.1(c)	-	-	1,020	55,793	151,535	260,705	249,103	397,570	
Nominal Opex	137	82,340	332,579	490,664	773,948	1,215,514	1,591,219	2,259,775	
Net Tax Allowance (as calculated in Table 5 below)	-	-	-	-	-	-	-	-	-
ACIPA - as per Clause 1E.10	-	-	2,999	20,579	40,375	98,302	167,853	227,127	
ABBRR	137	82,340	337,275	589,969	1,010,680	1,685,312	2,218,490	3,198,728	
5. Taxation Calculations (\$'000 NOMINAL) - as per Clause 1E.9.3 (accounting for the treatment of Assets Received for Nil Consideration)									
Nominal Revenue/Core Services Revenue Cap	-	-	-	1,910	16,721	60,958	163,867	421,455	
+ Value of Assets Received for Nil Consideration	-	-	-	-	122,109	67,251	117,429	97,633	
- Nominal Opex	137	82,340	332,579	490,664	773,948	1,215,514	1,591,219	2,259,775	
- Nominal Tax Depreciation	-	-	1,246	58,224	163,324	298,338	287,239	442,178	
- Interest Expense	-	0	0	15	122	1	59	247	
Taxable Profit - as per Clause 1E.9.3	(137)	(82,340)	(333,825)	(546,993)	(798,564)	(1,385,644)	(1,597,221)	(2,183,112)	
Tax Loss Carried Forward - as per Clause 1E.9.3									
Start period	-	(137)	(82,477)	(416,302)	(963,295)	(1,761,859)	(3,147,503)	(4,744,724)	
End period	(137)	(82,477)	(416,302)	(963,295)	(1,761,859)	(3,147,503)	(4,744,724)	(6,927,837)	
Net Tax Allowance - as per Clause 1E.9.3	-	-	-	-	-	-	-	-	-

Source: nbn

The proposed changes to Module 2 in nbn's SAU variation mean there are some formula changes from 2023-24 which are reflected in the model. This primarily occurs in the taxation calculations:

- Source of nominal revenue changes in 2023 from actuals (as per the inputs in nominal inputs) to the calculated ABBRR.
- The interest expense input is no longer used from 2023 in the tax calculations. Instead, interest expense is calculated as RAB x gearing x cost of debt.



- The ICRA does not accrue from 2023.
- The nominal rate of return is calculated as 1.7%+3.5% for 2021-22 and 2022-23, as per Clause 1E.6.1 in the SAU and the 1.7% is a placeholder value and will be replaced with actuals when known.
- The WACC is the forecast nominal rate of return from 2023.

5.3 Revenue Cap and ICRA drawdown

The BBM calculates the annual drawdown of the ICRA (which is crystallised at the end of FY2023) during Module 2 of the SAU, which is then added to the forecast Core Services ABBRR to determine the forecast annual Core Services Revenue Cap, consistent with the methodology described in the SAU variation.

5.4 Regulatory (benchmark) Financeability Test

The purpose of the financeability test is to assess various output metrics flowing from the model to test against a benchmark Baa2 credit rating.

The inputs for the financeability test are drawn from the BBM. The financeability test is based on Moody's rating scale, with an outcome scale that includes Baa1, Baa2 and Baa3 as per Moody's.

The financeability sheet calculates key financeability ratios and calculates, for each year, a weighted score which is compared against the Moody's outcome rating scale to determine a credit rating. This credit rating can then be compared to the benchmark Baa2 rating.

Figure 11: Regulatory Financeability Test

Year	Target	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	
Revenue of a Benchmark Firm		7,891,576	7,825,400	7,496,544	7,283,795	7,066,344	6,967,266	6,986,241	6,795,909	6,679,884	6,606,381	6,542,525	6,527,690	6,556,902	7,258,456	7,477,937	7,640,323	7,790,945	
Capex of a Benchmark Firm (Core)		2,504,306	1,765,152	1,904,822	2,068,165	2,048,086	1,969,598	1,689,626	1,606,562	1,708,378	1,737,352	1,752,558	1,660,114	1,571,343	1,582,424	1,615,835	1,650,038	1,685,109	
Interest Expense of a Benchmark Firm		545,672	517,328	496,789	483,273	473,561	464,537	450,802	438,056	429,939	424,426	421,302	417,687	412,781	407,989	403,102	398,210	393,613	
EBITDA of a Benchmark Firm		5,257,786	5,224,567	4,899,258	4,604,426	4,338,387	4,191,104	4,111,694	3,915,690	3,742,043	3,609,108	3,484,170	3,404,821	3,362,950	3,991,943	4,135,197	4,218,749	4,288,369	
Debt of a Benchmark Firm		11,136,162	10,557,705	10,138,548	9,862,711	9,654,502	9,480,341	9,200,048	8,939,919	8,774,269	8,561,755	8,598,002	8,524,234	8,424,095	8,266,315	8,228,563	8,126,743	8,032,927	
FCF of a Benchmark Firm		2,207,808	2,942,088	2,457,647	2,052,988	1,816,740	1,756,969	1,971,266	1,871,072	1,603,726	1,447,331	1,310,309	1,327,020	1,378,826	2,001,529	2,116,261	2,170,501	2,209,647	
FFO of a Benchmark Firm		4,712,114	4,707,239	4,362,469	4,121,153	3,864,826	3,726,567	3,660,892	3,477,634	3,312,104	3,184,682	3,062,867	2,987,134	2,950,169	2,941,981	2,969,024	2,991,779	2,999,950	
FFO of a Benchmark Firm Margin	Greater Than	50%	60%	58%	57%	55%	53%	52%	51%	50%	48%	47%	46%	45%	41%	40%	39%	39%	
(EBITDA of a Benchmark Firm-Capex)/Interest of a Benchmark Firm	Greater Than	3	5.05	6.69	5.95	5.25	4.84	4.78	5.37	5.27	4.73	4.41	4.11	4.18	4.34	5.91	6.25	6.45	6.61
FCF of a Benchmark Firm/Debt of a Benchmark Firm	Greater Than	10%	19.83%	27.87%	24.24%	21%	19%	21%	21%	19%	17%	15%	16%	16%	24%	26%	27%	28%	
Debt of a Benchmark Firm/EBITDA of a Benchmark Firm	Less Than	3	2.12	2.02	2.09	2.14	2.23	2.26	2.24	2.28	2.34	2.40	2.47	2.50	2.50	2.09	1.99	1.93	1.87
FFO of a Benchmark Firm Margin	Column Position		4	3	4	4	4	4	4	5	5	5	5	5	5	6	6	6	
(EBITDA of a Benchmark Firm-Capex)/Interest of a Benchmark Firm	Column Position		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
FCF of a Benchmark Firm/Debt of a Benchmark Firm	Column Position		4	3	3	4	4	3	3	4	4	4	4	4	3	3	3	3	
Debt of a Benchmark Firm/EBITDA of a Benchmark Firm	Column Position		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
FFO of a Benchmark Firm Margin	20%		7.6	7.5	8.0	8.5	9.1	9.5	9.8	10.1	10.6	11.0	11.5	11.8	12.0	13.3	13.6	13.8	13.9
(EBITDA of a Benchmark Firm-Capex)/Interest of a Benchmark Firm	15%		6.5	4.8	5.6	6.3	6.7	6.7	6.1	6.2	6.8	7.1	7.4	7.3	7.2	5.6	5.3	5.0	4.9
FCF of a Benchmark Firm/Debt of a Benchmark Firm	5%		7.6	5.1	6.2	7.3	7.9	7.9	7.1	7.2	8.0	8.5	8.9	8.8	8.6	6.3	5.8	5.5	5.2
Debt of a Benchmark Firm/EBITDA of a Benchmark Firm	10%		8.7	8.5	8.7	8.8	9.0	9.0	9.0	9.1	9.2	9.3	9.4	9.5	9.5	8.7	8.5	8.4	8.2
			7.5	6.7	7.2	7.8	8.2	8.4	8.3	8.5	8.9	9.3	9.6	9.7	9.7	9.4	9.3	9.2	9.2
Weighted credit rating		A	A	A	Baa1	Baa1	Baa1	Baa1	Baa1	Baa2	Baa2	Baa3	Baa3	Baa3	Baa2	Baa2	Baa2	Baa2	

Source: nbn



6 Allocations

Allocations of costs between Core Regulated and Competitive Services are confidential and as such are visible only in the confidential model. The following information in Sections 6.1 and 6.2 is provided for information only, and relates to the methodology used in the confidential version of the BBM.

Competitive Services were introduced at scale in 2019-20 which is when the allocations commence.

6.1 Allocation of opex and capex

As discussed in Section 4.1, opex is provided on a high-level forecast and historic basis (aligned with the LTRCM approach). Revenue is used to allocate the high-level opex between Core Regulated and Competitive Services.

Direct capex to Competitive Services is firstly deducted from total capex. There is no attribution in the model of direct capex to Core Regulated Services, only Competitive Services. This is because direct capex is recorded at a level of detail that allows them to be directly attributed to Competitive Services (i.e., the cost only relates to Competitive Services). The services included in the direct capex are:

- **Proactive programs** (CBD and Polygon): pre-emptive deployment of fibre assets in designated geographical areas with high business concentration with the intention of increasing the efficiency of future demand deployments and meeting the speed of this demand.
 - CBD program: targeting high density enterprise buildings with high fibre count lead-ins to support future upgrades
 - Polygon: regional business hubs including industrial precincts, high streets and other business parks with targeted fibre deployment including distribution and local fibre upgrades
- **On demand programs** (EE): fibre builds at the request of customers for either the supply of EE or TC2 business bundles
 - EE: direct fibre enterprise grade product with specific focus on business market

nbn tracks business deployment programs through deployment partner (DP) management platforms including Appian and Maximo. These platforms record individual deployment events, including design documents, cost estimates, deployment schedules and reconciled billing amounts (i.e., every EE order would be a separate deployment event).

This data is then reflected in nbn's fixed asset register (FAR), which is a collection of capitalised network assets and related transactions within each asset category. The FAR recognises cost when the network asset becomes operational (i.e., in service), whilst the BBM recognises costs as they are incurred. Minor adjustments are made to the FAR to align differences in timing between the two datasets.

This direct attribution is removed from capex in the RAB Inputs tab to leave Core Regulated and shared capex. This ensures there is no direct capex that is carried through to the calculation of the Core Services RAB Portion, Core Services ABBRR, and Core Services ICRA.

Next, costs are directly attributed to core services technologies where asset details in the FAR are sufficient (e.g., code to FTTP, FTTC, etc).

Finally, the remaining shared capex is allocated between Core Regulated and Competitive Services. The Core Regulated capex is used in the public version of the BBM.



6.2 Allocators

A combination of inputs and calculations are used to determine appropriate allocations to attribute costs.

The Cost Allocation Manual (CAM) refers to the reasons and methodology behind the allocations in the BBM.

Simply, the BBM allocates costs that cannot be attributed to each technology – i.e., assets that have shared elements across all technologies (e.g., transit network, transit and distribution fibre). The allocation of costs to technologies is based on the fixed asset class register. Where the asset is reported along with a technology name, 100% of the cost is allocated to that technology (e.g., ‘Network Assets – FTTP – Local Joint’ is fully allocated to FTTP).

Where the asset is not reported against a technology, the residual is allocated based on whether it is shared across all technologies (where traffic flow through gets aggregated) or shared within fixed line technologies (mainly distribution fibre). This allocation is used along with one of the allocators (as appropriate) shown in **Table 1**.

Table 1: Allocators

Category	Asset Examples	Rationale
Premises Passed (Share of network footprint)	TAND, FAN Site Physical Plants. Office equipment and corporate software licenses.	Shared physical and non-network assets costs are not directly driven by number of customers and bandwidth consumed, therefore allocated based on total intended footprint
Premises Connected (Share of active services)	Exchange and transit equipment	Shared network assets sensitive to number of customers connected (i.e., constrained by number of ports)
Provisioned Bandwidth (Share of bandwidth demand)	Distribution Fibre and supporting ducts and pits	Shared network assets sensitive to the total bandwidth demand on the network (i.e., constrained by total throughput)

Source: nbn

In the confidential version of the BBM, a percentage is calculated for each technology under each of these allocators to be applied depending on the selected allocation. This percentage is based on actuals and forecasts from the IOP. The IOP raw data is merged to achieve a share across the technologies.

A revenue allocation is also determined. The yearly percentage allocator is based on the recurring revenue by technology (sourced from the IOP).