Final decision

Gas distribution network service providers

Roll forward model handbook

April 2020

AUSTRALIAN ENERGY REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165
Email: ModelReviews@aer.gov.au
AER Reference: 65293

Version record

Handbook version	Model version	Date	Pages
1	1	April 2020	78

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ATO	Australian Tax Office
capex	capital expenditure
CPI	consumer price index
DMS	data management system
DV	diminishing value
NGL	National Gas Law
NGR	National Gas Rules
PTRM	post-tax revenue model
RFM	roll forward model
RIN	regulatory information notice
SL	straight-line
TAB	tax asset base
WACC	weighted average cost of capital
WARL	weighted average remaining life
year t–1	final year of the previous access arrangement period

1 Introduction

This handbook sets out the Australian Energy Regulator's (AER) roll forward model (RFM) for gas distribution service providers. The RFM is a set of two Microsoft Excel workbooks (each a series of Microsoft Excel spreadsheets) developed in accordance with the requirements of the National Gas Rules (NGR).[1] The main workbook—commonly referred to as 'the RFM'—is where the majority of the calculations for rolling forward the asset base are performed. The second workbook, which is an attachment to the main RFM workbook—referred to as 'the depreciation tracking module'—is used to calculate depreciation schedules for a gas distribution service provider where relevant.[2] We prepare and publish the RFM in accordance with the requirements of the NGR.[3]

1.1 Role of the model

Gas distribution service providers are required to submit a completed RFM to us as part of their access arrangement proposals.[4]

We use the RFM to determine the closing capital base and tax asset base (TAB) for an access arrangement period. The closing capital base (and TAB) value for an access arrangement period becomes the opening capital base (and TAB) to be used for the purposes of making a building block determination for the next access arrangement period.[5] The roll forward of the opening capital base (and TAB) for the next access arrangement period, on a forecast indicative basis, is undertaken in our post-tax revenue model (PTRM) in accordance with the requirements of the NGR.[6]

1.2 Confidentiality

Our obligations regarding confidentiality and the disclosure of information provided to it by a gas distribution service provider are governed by the *Competition and consumer Act 2010 (Cth)*, the National Gas Law (NGL) and the NGR.

1.3 Process for revision

We may amend or replace the RFM from time to time in accordance with rule 75A(3) of the NGR. We will publish a revised version of this handbook to accompany each version of the RFM we amend or replace in the future.

A version number and an effective date of issue will identify each version of this handbook.

---

1 NGR, rr. 75B and 77.

2 The depreciation tracking module uses the year-by-year tracking approach, which tracks the asset classes on a yearly basis. Details for this workbook are presented later in this handbook in sections A, B and C.

3 NGR, r. 75A.

4 NGR, rr. 72(3) and 75A(2).

5 Specifically, the capital base is used to calculate the return on and of capital building blocks. The TAB is used to calculate the corporate income tax building block.

6 NGR, r. 78.

2 The model

2.1 Overview of the RFM

The RFM is used to calculate the total value of assets required by a gas distribution service provider to provide reference services across an access arrangement period. Specifically, the RFM is a set of Microsoft Excel spreadsheets (sheets) combined into one file that perform calculations to derive a closing capital base for the current access arrangement period from a given set of inputs.[7] The RFM has a depreciation tracking module as an attachment, which comprises of a separate set of Microsoft Excel sheets in one file. Figure 1 provides an overview of the RFM process.

The RFM allows the user to vary the inputs in order to assess their impact on the output data and other derived parameters. In Figure 1, each box represents a sheet within the RFM. Sheets are classified as primarily about inputs (left column), calculations (centre column) or outputs (right column). The flow of data is therefore from left to right, and simplified links between the sheets are shown with blue arrows.

To operate the RFM, the user enters all the required data on the **RFM input** sheet—for example, the opening capital base and TAB values, actual capital expenditure (capex) across the access arrangement period, or the actual consumer price index (CPI) rate. These inputs often require reconciliation with previous models (RFM or PTRM) approved for the current access arrangement period, depreciation tracking module for the upcoming access arrangement, or annual information reported by the gas distribution service providers.

The RFM then uses this data to undertake the capital base (and TAB) roll forward, consistent with the requirements of the NGR. Under this approach, the capital base is rolled forward during each year of the current access arrangement period by adding capex (net of disposals and capital contributions[8]), subtracting depreciation and indexing for actual CPI in the **Capital base roll forward** sheet. The required true-up for capital base adjustments (such as for using an estimate of capex) in the final year of the previous access arrangement period is calculated in the **Adjustment for previous period** sheet. The **Total capital base roll forward** sheet then draws the data from the **Capital base roll forward** and **Adjustment for previous period** sheets to bring together the closing capital base for the current access arrangement period.

The roll forward of the TAB is undertaken in a similar, but simpler manner in the **TAB roll forward** sheet. Unlike the capital base, the TAB is not used to derive revenues explicitly and so the final year capex estimate true-up can be accommodated by replacing with actual capex in the relevant year of incurrence.[9]

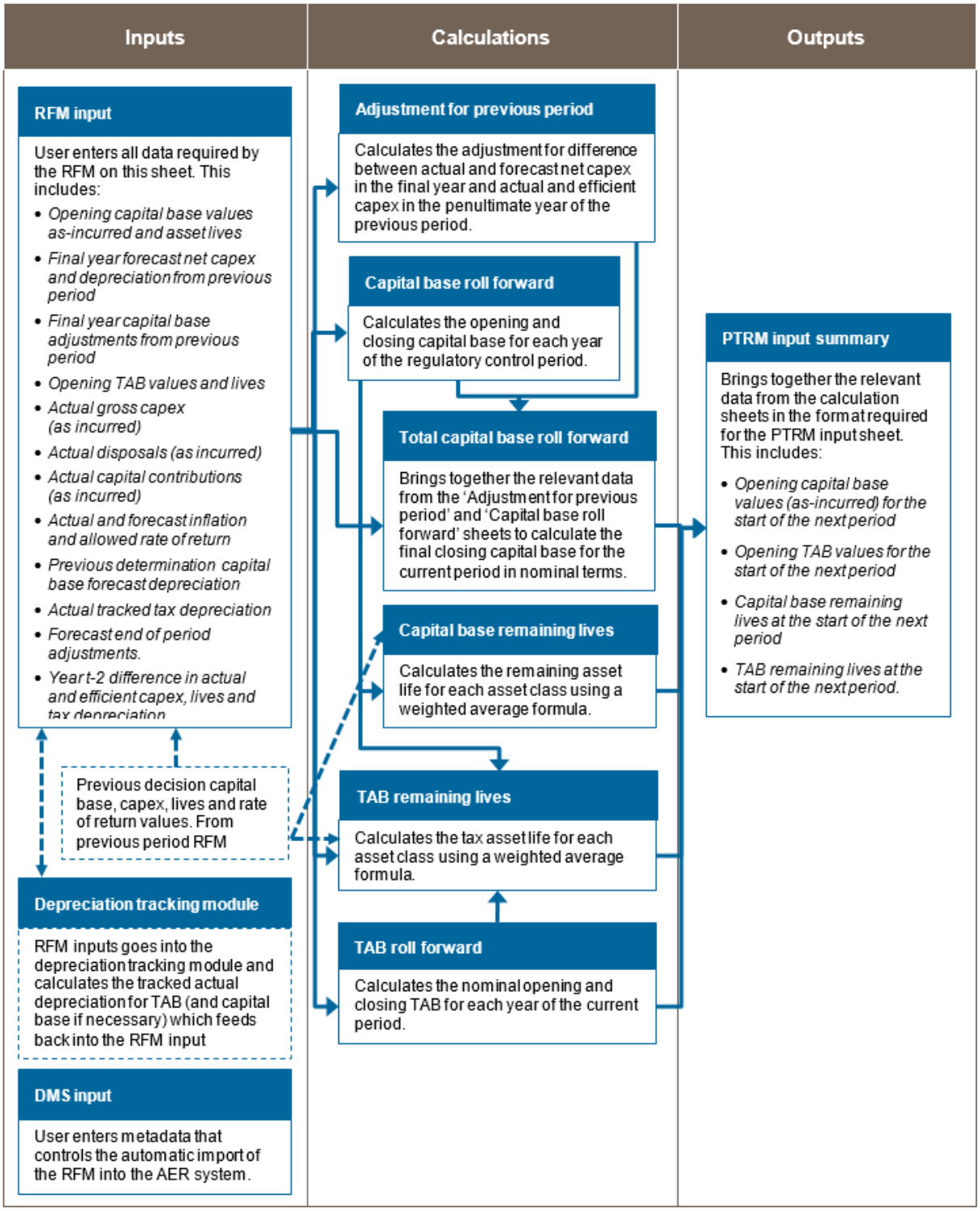
---

7 The set of sheets which constitute the RFM were created in Microsoft Excel 2016. We recommend this or a later version of Microsoft Excel be used in applying these workbooks.

8 These include contributions from customers or government, or gifted assets.

9 Consistent with tax law, the TAB is rolled forward in nominal dollar terms and so there is no indexation required.

Figure 1 Overview of the RFM sheets



The **Capital base remaining lives** and **TAB remaining lives** sheets roll forward the weighted average remaining life (WARL) of each asset class based on actual depreciation of the opening asset value and net capex incurred in each access arrangement period. The weighted average method is one of two approaches in depreciating the opening capital base and TAB, and is the default position in the RFM for calculating the remaining asset lives for input to the PTRM. Some gas distribution service providers adopt the alternative year-by-

year tracking approach to calculating depreciation of the PTRM opening capital base and/or TAB. In such cases, they must use the accompanying depreciation tracking module for this purpose.

Finally, because the outputs of the RFM become inputs to the PTRM, there is a presentation sheet which provides a summary of output data in the format required for feeding into the PTRM.

The user should not alter the names of any sheets or defined name ranges within the RFM. These RFM components are used when automatically importing into our data management system (DMS). If these elements are changed, errors may occur.

2.2 DMS input sheet

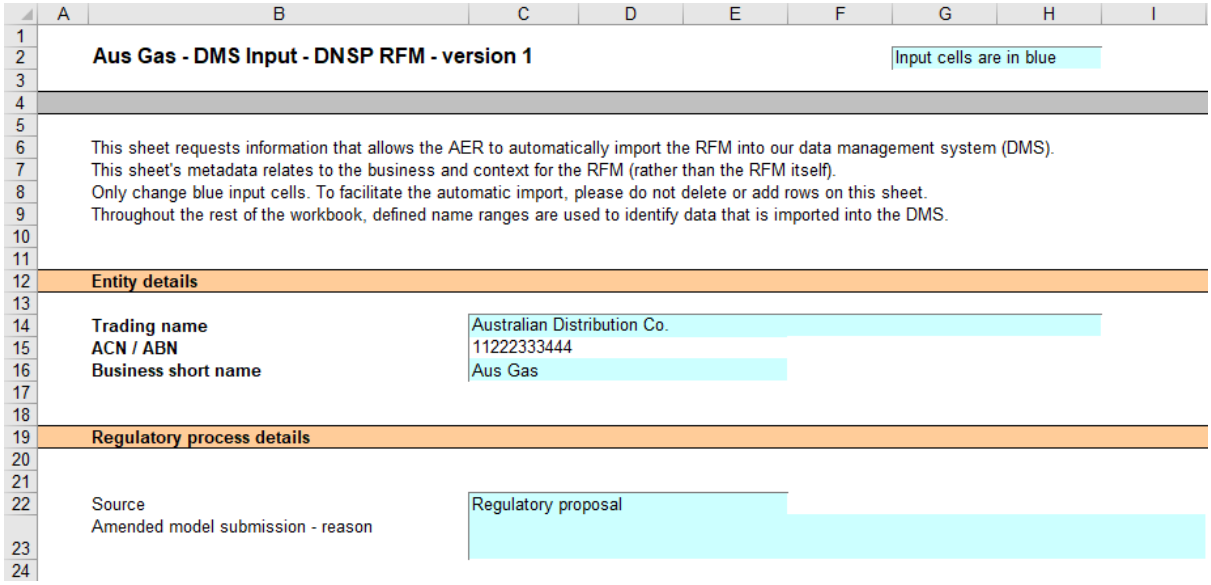
The **DMS input** sheet captures business specific, non-financial information that is required for us to import the RFM into our DMS. To allow this automatic import to take place, the user should not change the layout of this sheet.

Entity details for the relevant business are recorded in rows 14 to 16. These will be stored in the DMS. These inputs also control the headings displayed at the top of other sheets in the RFM.

Context details for the RFM are recorded in the lower section. The stage of the regulatory process is set in cell C22 using a drop down menu.[10] If this is not enough description to uniquely identify the RFM submission, a description should be placed in cell C23 (for example, a resubmission of the proposal RFM with revised data values after an error was corrected).

Figure 2 provides an example of the **DMS input** sheet.

Figure 2 DMS input sheet



10 For example, whether the RFM relates to the regulatory proposal, draft decision, revised proposal or final decision.

2.3 RFM input sheet

The **RFM input** sheet provides for key input variables to be entered in the RFM. They are automatically linked to corresponding cells in other relevant sheets. Values should be entered into each cell with light blue shading. This sheet comprises of the following sections:

- opening capital base and opening TAB (section 2.3.1)
- actual nominal capex—as incurred (section 2.3.2)
- actual nominal asset disposals—as incurred (section 2.3.3)
- actual nominal capital contributions—as incurred (section 2.3.4)
- actual real net capex—as incurred (section 2.3.5)
- lagged inflation option (section 2.3.6)
- inflation and rate of return (section 2.3.7)
- real straight-line capital base depreciation option (section 2.3.8)
- forecast/actual year-by-year real straight-line capital base depreciation (section 2.3.9)
- actual tax depreciation option (section 2.3.10)
- year-by-year tracking actual tax depreciation (section 2.3.11)
- forecast nominal final year asset adjustments. (section 2.3.12)

The input data to be recorded in the RFM must be in a consistent format as the data collected from the gas distribution service provider in accordance with our regulatory information notice (RIN).

The RFM can accommodate input data for up to an 11-year period. This includes the final year of the previous access arrangement period, as well as up to 10 years for the current access arrangement period. Input cells outside of the relevant access arrangement period should be left blank.

The RFM is configured as follows:

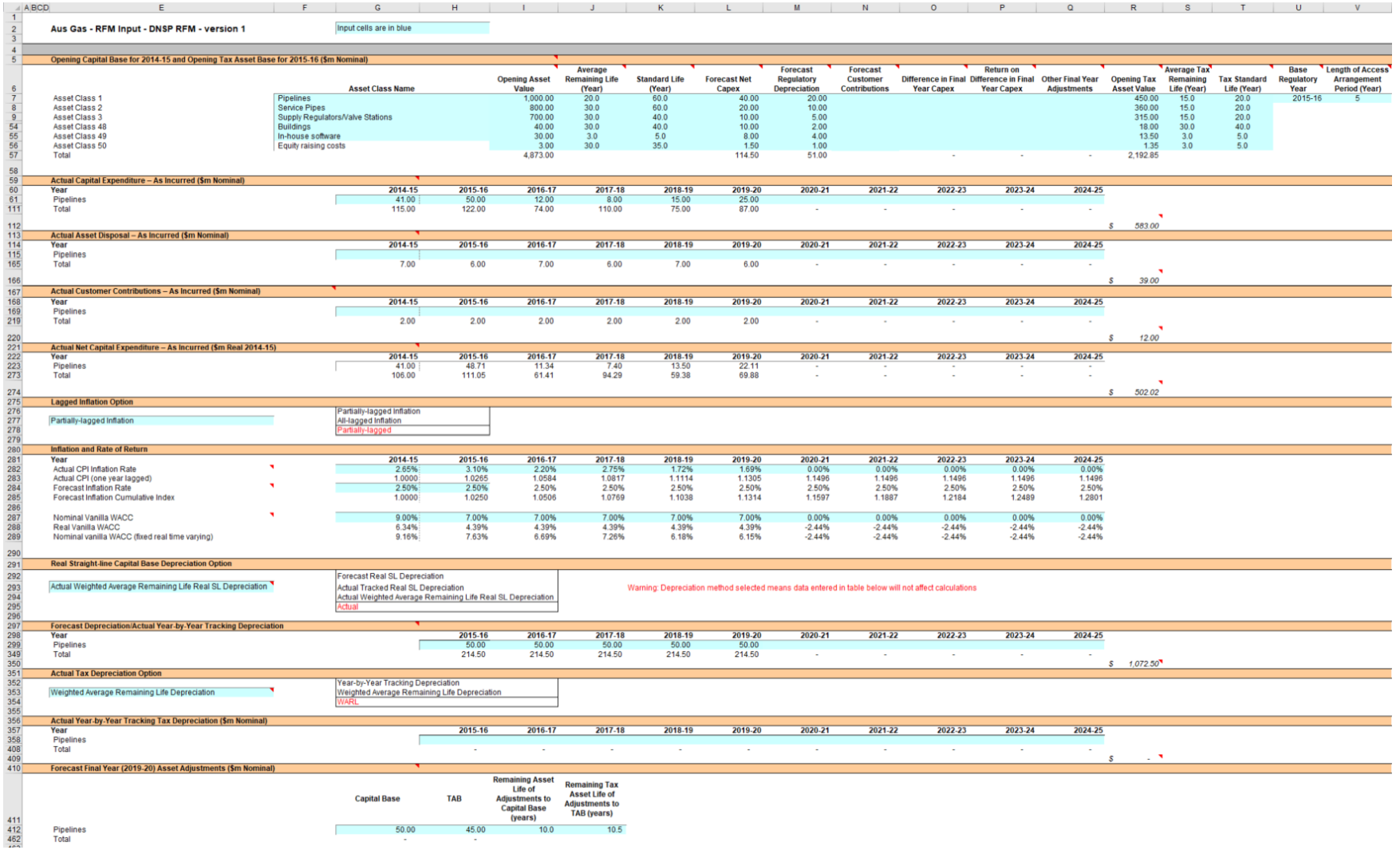
- Uses straight-line (SL) depreciation as the default method for calculating depreciation for regulatory purposes—if gas distribution service providers intend to propose other depreciation profiles, it is recommended that they raise this as part of pre-lodgement discussions.[11]
- Uses either the SL or diminishing value (DV) method for tax depreciation—where DV depreciation applies to the access arrangement period, tax depreciation is calculated in the depreciation tracking module and entered as an input to the RFM. Where DV depreciation does not apply to the access arrangement period, tax depreciation can be calculated using the WARL method within the RFM or using the year-by-year approach in the depreciation tracking module and then entered as an input to the RFM.

11 The depreciation profiles would be subject to satisfying the requirements of rules 88 and 89 of the NGR.

- Recognises capex on a full as incurred approach—this method for recognising capex calculates the return on capital and return of capital (regulatory depreciation) based on as incurred capex; that is, when expenditure is incurred.

Figure 3 provides an example of the **RFM input** sheet.

Figure 3 RFM input sheet



Aus Gas - RFM Input - DNSP RFM - version 1

Input cells are in blue

Opening Capital Base for 2014-15 and Opening Tax Asset Base for 2015-16 ($m Nominal)

	Asset Class Name	Opening Asset Value	Average Remaining Life (Year)	Standard Life (Year)	Forecast Net Capex	Forecast Regulatory Depreciation	Forecast Customer Contributions	Difference in Final Year Capex	Return on Difference in Final Year Capex	Other Final Year Adjustments	Opening Tax Asset Value	Average Tax Remaining Life (Year)	Tax Standard Life (Year)	Base Regulatory Year	Length of Access Arrangement Period (Year)
Asset Class 1	Pipelines	1,000.00	20.0	60.0	40.00	20.00					450.00	15.0	20.0	2015-16	5
Asset Class 2	Service Pipes	800.00	30.0	60.0	20.00	10.00					360.00	15.0	20.0		
Asset Class 3	Supply Regulators/Valve Stations	700.00	30.0	40.0	10.00	5.00					315.00	15.0	20.0		
Asset Class 48	Buildings	40.00	30.0	40.0	10.00	2.00					18.00	30.0	40.0		
Asset Class 49	In-house software	30.00	3.0	5.0	8.00	4.00					13.50	3.0	5.0		
Asset Class 50	Equity raising costs	3.00	30.0	35.0	1.50	1.00					1.35	3.0	5.0		
Total		4,873.00			114.50	51.00		-	-	-	2,192.85				

Actual Capital Expenditure – As Incurred ($m Nominal)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines	41.00	50.00	12.00	8.00	15.00	25.00						
Total	115.00	122.00	74.00	110.00	75.00	87.00	-	-	-	-	-	$ 583.00

Actual Asset Disposal – As Incurred ($m Nominal)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines												
Total	7.00	6.00	7.00	6.00	7.00	6.00	-	-	-	-	-	$ 39.00

Actual Customer Contributions – As Incurred ($m Nominal)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines												
Total	2.00	2.00	2.00	2.00	2.00	2.00	-	-	-	-	-	$ 12.00

Actual Net Capital Expenditure – As Incurred ($m Real 2014-15)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines	41.00	48.71	11.34	7.40	13.50	22.11	-	-	-	-	-	
Total	106.00	111.05	61.41	94.29	59.38	69.88	-	-	-	-	-	$ 502.02

Lagged Inflation Option

Partially-lagged Inflation

Partially-lagged Inflation
All-lagged Inflation
Partially-lagged

Inflation and Rate of Return

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Actual CPI Inflation Rate	2.65%	3.10%	2.20%	2.75%	1.72%	1.69%	0.00%	0.00%	0.00%	0.00%	0.00%
Actual CPI (one year lagged)	1.0000	1.0265	1.0584	1.0817	1.1114	1.1305	1.1496	1.1496	1.1496	1.1496	1.1496
Forecast Inflation Rate	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Forecast Inflation Cumulative Index	1.0000	1.0250	1.0506	1.0769	1.1038	1.1314	1.1597	1.1887	1.2184	1.2489	1.2801
Nominal Vanilla WACC	9.00%	7.00%	7.00%	7.00%	7.00%	7.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Real Vanilla WACC	6.34%	4.39%	4.39%	4.39%	4.39%	4.39%	-2.44%	-2.44%	-2.44%	-2.44%	-2.44%
Nominal vanilla WACC (fixed real time varying)	9.16%	7.63%	6.69%	7.26%	6.18%	6.15%	-2.44%	-2.44%	-2.44%	-2.44%	-2.44%

Real Straight-line Capital Base Depreciation Option

Actual Weighted Average Remaining Life Real SL Depreciation

Forecast Real SL Depreciation
Actual Tracked Real SL Depreciation
Actual Weighted Average Remaining Life Real SL Depreciation
Actual

Warning: Depreciation method selected means data entered in table below will not affect calculations

Forecast Depreciation/Actual Year-by-Year Tracking Depreciation

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines	50.00	50.00	50.00	50.00	50.00						
Total	214.50	214.50	214.50	214.50	214.50	-	-	-	-	-	$ 1,072.50

Actual Tax Depreciation Option

Weighted Average Remaining Life Depreciation

Year-by-Year Tracking Depreciation
Weighted Average Remaining Life Depreciation
WARL

Actual Year-by-Year Tracking Tax Depreciation ($m Nominal)

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Pipelines											
Total	-	-	-	-	-	-	-	-	-	-	$ -

Forecast Final Year (2019-20) Asset Adjustments ($m Nominal)

	Capital Base	TAB	Remaining Asset Life of Adjustments to Capital Base (years)	Remaining Tax Asset Life of Adjustments to TAB (years)
Pipelines	50.00	45.00	10.0	10.5
Total	-	-		

2.3.1 Opening capital base and tax asset base

The opening capital base is the value of assets on which a return will be earned. The opening TAB is used to calculate the depreciation for tax purposes. The **RFM input** sheet requires values for the opening capital base (broken into asset classes in rows 7 to 56) at the start of the final year of the previous access arrangement period.[12] The values for the opening TAB, also broken into asset classes, are required at the start of the first year of the current access arrangement period. The capital base and TAB will differ each year to reflect actual capex, asset disposals, capital contributions (for the capital base), and regulatory depreciation (for the capital base) or tax depreciation (for the TAB).

The recorded input values are linked to subsequent sheets which calculate an annual balance of the capital base and TAB for the current access arrangement period. Notes have been included for various cells with specific comments and explanations about the relevance of the inputs.

Asset class name

The asset classes/names are recorded in column F. It is important that the number of asset classes recorded in the capital base section matches the number of asset classes identified in the capex section. This allows the RFM to model consistent depreciation across the asset classes.

The RFM is configured to accommodate up to 50 asset classes. The number of asset classes used in the RFM will vary between businesses.[13] However, for each business, the number of asset classes used in the RFM must be consistent with that used in the AER's PTRM to allow the closing capital base values determined in the RFM to be used as inputs to the opening capital base values in the PTRM.

Capital base values by asset class derived from the RFM may be aggregated or disaggregated into different classes when forming inputs for the PTRM for the subsequent access arrangement period where this meaningfully improves the accuracy or administrative convenience of asset calculations.

Opening asset value

The opening asset values for each asset class are recorded in column I. These values should be as at the start of the final year of the previous access arrangement period and would be contained in the RFM used for the current access arrangement for the gas distribution service provider. They are linked to the **Capital base roll forward** sheet.

Average remaining life

The remaining lives of each asset class are recorded in column J, based on the economic lives of the assets as at the start of the current access arrangement period. These values

12 The button at the left of row 53 may be pressed to display/hide rows 37 to 52 (asset classes 31 to 46).

13 Asset classes 47 to 49 in the RFM are designed to be used for assets related to 'In-house software' and 'Buildings' while asset class 50 is designed to be used for 'Equity raising costs', consistent with the PTRM.

should be consistent with those contained in the PTRM used in the current access arrangement for the gas distribution service provider. They are linked to the **Capital base roll forward** and **Capital base remaining lives** sheets. These inputs would not be required if the option for depreciating the opening capital base selected in section 2.3.8 is set to year-by-year tracking, in which case 'n/a' is to be recorded into these cells.

Standard life

The standard lives of each asset class are recorded in column K and measure how long the infrastructure would physically last if it had just been built. These values should be consistent with those contained in the PTRM used in the current access arrangement for the gas distribution service provider. They are linked to the **Capital base roll forward** and **Capital base remaining lives** sheets.

Forecast net capex

The forecast net capex values for each asset class are recorded in column L. They are based on the estimates for the final year of the previous access arrangement period (year t−1). These values would be contained in the RFM used for the current access arrangement for the gas distribution service provider. They are linked to the **Adjustment for previous period** and **Capital base roll forward** sheets.

Forecast regulatory depreciation

The forecast regulatory depreciation values for each asset class are recorded in column M. They are based on the estimates made for the final year of the previous access arrangement period. These values would be contained in the RFM used for the current access arrangement for the gas distribution service provider. They are linked to the **Capital base roll forward** sheet.

Forecast capital contributions

The forecast capital contribution values for each asset class are recorded in column N. They are based on the estimates made in the final year of the previous access arrangement period. These values would be contained in the RFM used for the current access arrangement for the gas distribution service provider. They are linked to the **TAB roll forward** sheet.

Difference in final year capex

The difference in final year capex values for each asset class are recorded in column O. They are based on the capex 'true-up' adjustment made to the closing capital base for the previous access arrangement period. These values would be contained in the RFM used for the current access arrangement for the gas distribution service provider. These values are linked to the **Capital base roll forward** sheet.

Return on difference in final year capex

The return on difference in final year capex values for each asset class are recorded in column P. They are based on the accumulated return associated with the final year capex

'true-up' adjustment made to the closing capital base for the previous access arrangement period. These values would be contained in the RFM used for the current access arrangement for the gas distribution service provider. These values are linked to the **Capital base roll forward** sheet.

Other final year adjustments

The other final year adjustment values for each asset class are recorded in column Q. This data may be required for gas distribution service providers which adjusted their closing capital base by removing or adding assets (such as a change in service classification) in the final year of the previous access arrangement period.

The amount of other final year adjustments (if any) would be contained in the RFM used for the current access arrangement for the gas distribution service provider. These values are linked to the **Capital base roll forward** sheet.

Tax asset values—opening tax asset value, average tax remaining life, tax standard life

The RFM includes a mechanism to roll forward tax asset values between access arrangement periods. The **RFM input** sheet requires the tax asset values comprising of the opening tax values, weighted average tax remaining lives and tax standard lives for each asset class. The RFM is configured to calculate tax asset values using actual as incurred capex, including the value of contributed assets, asset disposals and tax depreciation.

For each asset class, the opening tax values at the start of the first year of the current access arrangement period are recorded in column R, the average tax remaining lives are recorded in column S and the tax standard lives are recorded in column T. These values are linked to the **TAB roll forward** sheet to calculate a running balance of the tax asset values for the current access arrangement period.

Tax remaining lives are not required if the option for depreciating the opening TAB selected in section 2.3.10 is set to year-by-year tracking, in which case ‘n/a’ is to be recorded into these cells.

Base regulatory year

The regulatory year for the start of the current access arrangement period is recorded in cell U7.

Length of the current access arrangement period

The number of years in the current access arrangement period is recorded in cell V7.

2.3.2 Actual nominal capital expenditure—as incurred[14]

The actual capex values for the current access arrangement period (including the final year for the previous access arrangement period) are recorded for each year in rows 61 to 110 (by asset class). Generally, capex falls into three broad categories:

- asset augmentation (e.g. works to enlarge a network or to increase the capability of a network)
- asset replacement (e.g. replacing assets that have passed their useful lives)
- non-network asset (e.g. support the business expenditure).

These inputs are assumed to be in middle of the year terms based on nominal dollar terms.

2.3.3 Actual nominal asset disposals—as incurred

The actual asset disposal values for each year are recorded in rows 115 to 164. These inputs are assumed to be in middle of the year terms based on nominal dollar terms.

2.3.4 Actual nominal capital contributions—as incurred

The values of actual assets contributed by other parties over the access arrangement period for each year are recorded in rows 169 to 218. These inputs are assumed to be in middle of the year terms based on nominal dollar terms.

2.3.5 Actual real net capital expenditure—as incurred

This section on actual real net capex does not require inputs to be recorded. For each asset class, actual real net capex values are calculated based on the recorded actual nominal capex values less asset disposal values and contributed assets, and adjusted for actual inflation. The real net capex values are displayed in rows 223 to 272 and form part of the roll forward of the capital base in the **Adjustment for previous period** and **Capital base roll forward** sheets and the TAB in the **TAB roll forward** sheet. These values are assumed to be in middle of the year terms, based on the final year of the previous access arrangement period real dollar terms.

2.3.6 Lagged inflation option

The RFM provides the user an option at cell E277 (drop down function) to select the capital base roll forward to be undertaken using partially-lagged or all-lagged actual inflation, so that either approach can be applied to particular gas distribution service providers where it aligns with their previous historical treatment.

---

[14] Actual capex, asset disposals and capital contributions are assumed to be undertaken evenly over a year and therefore the reported capex values are assumed to be in middle of the year terms. All other input values are assumed to be in end of the year terms. At the time of the final decision, the capex inputs for the final year of the access arrangement period will remain as estimates. These final year estimates will be updated with actuals at the next reset. At the time of the draft decision, typically the inputs for the last two years of the access arrangement period will remain as estimates.

2.3.7 Inflation and rate of return

This section records the actual annual inflation rates (based on the consumer price index) over the current access arrangement period and in the previous access arrangement period (rows 282 and 283). If the partially-lagged approach is selected, actual annual inflation (unlagged) rates are to be recorded at row 282. If the all-lagged approach is selected, actual annual (one-year lagged) inflation rates are to be recorded at row 282. Row 283 uses the actual annual inflation rates at row 282 to calculate the actual inflation (one-year lagged) index.

This section also records the forecast inflation and weighted average cost of capital (WACC) rates used in the final decisions (annually updated where relevant) corresponding to the two access arrangement periods (rows 284 to 289). These parameters are linked to the **Adjustment for previous period** and **Capital base roll forward** sheets.

2.3.8 Real straight-line capital base depreciation option

The RFM provides the user an option at cell E293 (drop down function) to select the capital base roll forward to be undertaken using forecast straight-line depreciation, actual year-by-year tracking depreciation or actual WARL straight-line depreciation. If forecast depreciation or actual year-by-year tracking depreciation is selected, the capital base roll forward calculations will use the depreciation inputs at section 2.3.9. If actual WARL depreciation is selected, the capital base roll forward calculations will use the capital base lives and actual capex to calculate depreciation.

2.3.9 Forecast/actual year-by-year tracking real straight-line capital base depreciation

When the forecast depreciation option is selected, the approved forecast real straight-line depreciation values for each year are recorded at rows 299 to 348.[15] The approved forecast depreciation values would be contained in the PTRM used for the current access arrangement for the gas distribution service provider. These values are linked to the **Capital base roll forward** sheet.

When the actual year-by-year tracking depreciation option is selected, real straight-line depreciation values from the depreciation tracking module for each year are recorded at rows 299 to 348.[16] Where actual WARL straight-line depreciation is selected, there is no need to record any inputs in this section as the RFM will calculate the values in the **Capital base** roll forward sheet.

15 This applies regardless of whether the WARL approach or year-by-year tracking approach is used by the gas distribution service provider.

16 The actual depreciation values in the depreciation tracking module may need to be converted to the correct dollar terms before entering into the RFM.

2.3.10 Actual tax depreciation option

The RFM provides the user an option at cell E353 (drop down function) to select the TAB roll forward to be undertaken using year-by-year tracking approach or WARL approach for actual tax depreciation purposes.

If actual year-by-year tracking depreciation option is selected, the TAB roll forward calculations will use the depreciation inputs at section 2.3.11 which are calculated in the depreciation tracking module. This will be the case where capex in the access arrangement is subject to the DV method.

If actual WARL depreciation is selected, the TAB roll forward calculations will use the tax lives and actual capex inputs entered in the RFM to calculate tax depreciation using the SL method.

2.3.11 Year-by-year tracking actual tax depreciation

When the actual year-by-year tracking depreciation option is selected, the calculated actual tax depreciation values from the depreciation tracking module are recorded in rows 358 to 407. These values are linked to the **TAB roll forward** sheet. If actual WARL depreciation is selected, there is no need to record any inputs in this section as the RFM will calculate the values in the **TAB roll forward** sheet. This option is only valid for those gas distribution service providers where their capex incurred in the access arrangement period has not yet been subjected to using the DV depreciation method arising from the 2018 tax review changes.

2.3.12 Forecast nominal final year asset adjustments

Some gas distribution service providers may need to adjust their closing capital base and TAB at the end of the current access arrangement period for asset movements (such as a change in service classification). The values for these asset adjustments and associated remaining asset lives are recorded in rows 412 to 461, and are linked to the **Total capital base roll forward** and **TAB roll forward** sheets. These values are assumed to be in nominal end of year terms in the final year of the current access arrangement period.

2.4 Adjustment for previous period sheet

The **Adjustment for previous period** sheet calculates the required true-up of capital base adjustments to be made for the final year of the previous access arrangement period for forecast and actual net capex values.

This adjustment is consistent with the requirements of rule 77(2)(a) of the NGR, which specifies that a reconciliation would include adjustments to remove any benefit or penalty on the returns associated with any difference between the actual and forecast capex values for the final year of the previous access arrangement period.

This sheet calculates the difference between actual and forecast net capex for the final regulatory year of the previous access arrangement period (year t–1), as well as the aggregate compounded return on that difference (rows 11 to 267). This adjustment is made

to the closing capital base at the end of the current access arrangement period in the **Total capital base roll forward** sheet. This two-step process is outlined in Box 1.

Figure 4 provides an example of the **Adjustment for previous period** sheet.

Box 1 Adjusting for actual capex in the final year of the previous access arrangement period (year t–1)

1) **Calculating the difference between actual and forecast net capex**

   Nominal actual net capex (including a half-year nominal vanilla WACC allowance) –

   Nominal forecast net capex (including a half-year nominal vanilla WACC allowance) =

   Nominal difference between actual and forecast net capex.

2) **Calculating the nominal return on the difference and compounding it for each year of the current access arrangement period**

   Nominal difference between actual and forecast net capex × nominal vanilla WACC per annum (compounded)

Notes:

- Nominal forecast net capex = estimated net capex allowed in the final year of the previous access arrangement period.
- Nominal actual net capex = actual net capex incurred during the final year of the previous access arrangement period.
- The nominal return on the difference between actual and forecast net capex is calculated by applying the nominal vanilla WACC (adjusted for actual inflation) applicable to the current access arrangement period (as determined in the current building block determination).
- Each of these adjustments is made to the final closing capital base for the current access arrangement period in the **Total capital base roll forward** sheet.

Figure 4 Adjustment for previous period sheet

Aus Gas - Adjustment For Previous Period - DNSP RFM - version 1

Row	Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
6	Nominal Vanilla WACC (fixed real time varying)		7.63%	6.69%	7.26%	6.18%	6.15%	-2.44%	-2.44%	-2.44%	-2.44%	-2.44%
8	**Nominal Adjustments for Difference Between Forecast and Actual Net Capex**											
10	Nominal Forecast Net Capex (previous regulatory control period)	114.50										
11	*Pipelines*	40.00										
12	*Service Pipes*	20.00										
13	*Supply Regulators/Valve Stations*	10.00										
14	*SCADA*	5.00										
58	*Buildings*	10.00										
59	*in-house software*	8.00										
60	*Equity raising costs*	1.50										
62	Nominal Actual Net Capex	110.75										
63	*Pipelines*	42.84										
64	*Service Pipes*	22.99										
65	*Supply Regulators/Valve Stations*	10.45										
66	*SCADA*	9.40										
67	*Meters*	6.27										
110	*Buildings*	4.18										
111	*in-house software*	2.09										
112	*Equity raising costs*	-										
114	Nominal Difference Between Actual and Forecast Net Capex	-3.75										
115	*Pipelines*	2.84										
116	*Service Pipes*	2.99										
117	*Supply Regulators/Valve Stations*	0.45										
118	*SCADA*	4.40										
162	*Buildings*	-5.82										
163	*in-house software*	-5.91										
164	*Equity raising costs*	-1.50										
166	Compounded Nominal Return on Difference - Net Capex		-0.29	-0.27	-0.31	-0.29	-0.30	-	-	-	-	-
167	*Pipelines*		0.22	0.20	0.24	0.22	0.23	-	-	-	-	-
168	Sub-total			-	-	-	1.10	-	-	-	-	-
169	*Service Pipes*		0.23	0.22	0.25	0.23	0.24	-	-	-	-	-
170	Sub-total			-	-	-	1.16	-	-	-	-	-
171	*Supply Regulators/Valve Stations*		0.03	0.03	0.04	0.03	0.04	-	-	-	-	-
172	Sub-total			-	-	-	0.17	-	-	-	-	-
173	*SCADA*		0.34	0.32	0.37	0.34	0.35	-	-	-	-	-
174	Sub-total			-	-	-	1.71	-	-	-	-	-
261	Buildings		-0.44	-0.42	-0.48	-0.44	-0.47	-	-	-	-	-
262	Sub-total			-	-	-	-2.26	-	-	-	-	-
263	in-house software		-0.45	-0.43	-0.49	-0.45	-0.48	-	-	-	-	-
264	Sub-total			-	-	-	-2.29	-	-	-	-	-
265	Equity raising costs		-0.11	-0.11	-0.12	-0.11	-0.12	-	-	-	-	-
266	Sub-total			-	-	-	-0.58	-	-	-	-	-
267	*Total Return at End of Regulatory Period*			-	-	-	-1.46	-	-	-	-	-

2.4.1 Nominal adjustments for difference between actual and forecast net capex in final year (year t–1)

This section calculates the difference between forecast and actual net capex for the final year of the previous access arrangement period and determines the compounded return on that difference. The process involved is based on that depicted in Box 1.

The nominal forecast net capex values for each asset class in the final year of the previous access arrangement period are displayed in rows 11 to 60. The values are sourced from the **RFM input** sheet. Row 10 displays the sum of the values for each asset class.

The nominal actual net capex values (including a half-year WACC allowance) for each asset class in the final year of the previous access arrangement period are calculated in rows 63 to 112. Given the timing assumption that capex on average takes place halfway through the year, a half-year nominal vanilla WACC is applied to the actual net capex for each asset class to 'gross-up' the actual values.[17] Row 62 displays the sum of the calculations for each asset class.

The differences between the actual and forecast net capex values by asset class are calculated in rows 115 to 164. Row 114 displays the sum of the calculations for each asset class. These values are linked to the **Total capital base roll forward** sheet.

---

17 AER, *Roll forward model: Final decision*, September 2007. See section 4.3.1 which discusses the need for the application of a half-year nominal WACC allowance.

Finally, in rows 167 to 266 a nominal vanilla WACC (row 6) is applied to calculate the nominal return on the difference, which is compounded to the end of the current access arrangement period.[18] The total compounded nominal return at the end of the current access arrangement period is displayed in row 267. These values are linked to the **Total capital base roll forward** sheet.

2.5 Capital base roll forward sheet

The **Capital base roll forward** sheet calculates the nominal closing capital base for each year (which becomes the opening capital base for the following year) of the current access arrangement period. Under rule 77(2) of the NGR, in rolling forward the capital base each year during the current access arrangement period, we must have regard to information such as conforming capex and depreciation. Accordingly, the opening capital base for the first year of the current access arrangement period is rolled forward for:

- conforming actual net capex (as incurred)
- regulatory depreciation values (adjusted for actual inflation).[19]

Depending on which option for depreciation has been selected in the **RFM input** sheet, the capital base roll forward calculations will use either forecast straight-line depreciation, actual year-by-year straight-line depreciation or actual WARL straight-line depreciation. The choice of forecast or actual depreciation must be consistent with that determined in the current access arrangement for the gas distribution service provider. Forecast straight-line depreciation refers to the amounts approved for the current access arrangement period, reflecting forecast capex used for the current building block determination. Actual straight-line depreciation uses the amounts that are calculated based on actual capex incurred during the current access arrangement period.

The process for rolling forward the capital base from year to year over the current access arrangement period, under the full as incurred approach for recognising capex, is set out in Box 2.[20]

Box 2 Rolling forward the capital base in the current access arrangement period

Rolling forward actual net capex and depreciation amounts into the capital base

Opening capital base for year 1 of the current access arrangement period +

Nominal actual net capex for year 1 –

Nominal regulatory depreciation for year 1 =

Closing capital base for year 1 of the current access arrangement period. This becomes:

Opening capital base for year 2 of the current access arrangement period +

Nominal actual net capex for year 2 –

18 The nominal vanilla WACC is based on a fixed real time varying WACC—that is, a fixed real vanilla WACC adjusted for actual inflation.

19 Regulatory depreciation is based on the nominal straight-line depreciation less the inflation applied to the opening capital base.

20 For illustrative purposes this is based on a standard five-year access arrangement period.

Nominal regulatory depreciation for year 2 =

Closing capital base for year 2 of the current access arrangement period. This becomes:

Opening capital base for year 3 of the current access arrangement period

… =

Closing capital base for year 5 of the current access arrangement period =

Interim closing capital base for the current access arrangement period.

Where:

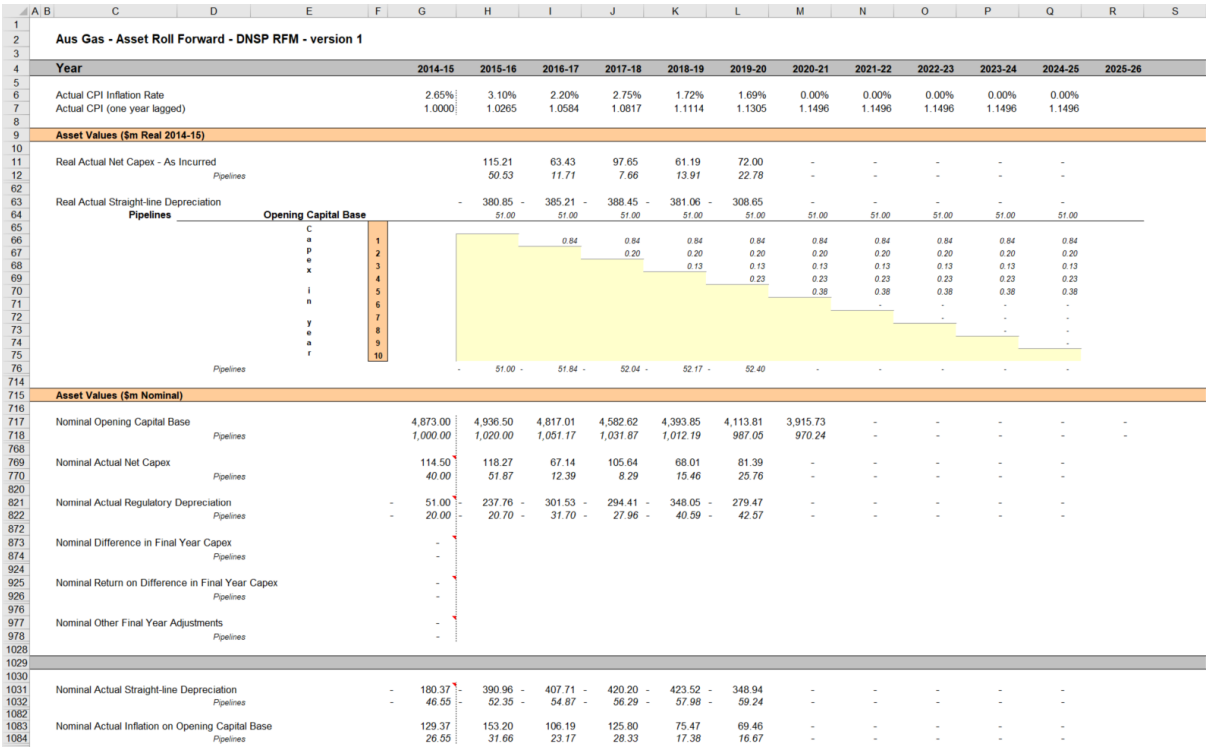
- Opening capital base for year 1 of the current access arrangement period = closing capital base for the final year of the previous access arrangement period.
- Nominal actual net capex = real actual net capex (including half-year nominal vanilla WACC allowance) adjusted for actual inflation.
- Nominal regulatory depreciation = Nominal straight-line depreciation – actual inflation adjustment on the opening capital base.

Notes:

- The interim closing capital base for the current access arrangement period plus the final adjustments for the final year of the current access arrangement period (these adjustments are made in the **Total capital base roll forward** sheet—see Box 3 for a description) becomes the opening capital base for the next access arrangement period.

Figure 5 provides an example of the **Capital base roll forward** sheet.

Figure 5 Capital base roll forward sheet



Aus Gas - Asset Roll Forward - DNSP RFM - version 1

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Actual CPI Inflation Rate	2.65%	3.10%	2.20%	2.75%	1.72%	1.69%	0.00%	0.00%	0.00%	0.00%	0.00%	
Actual CPI (one year lagged)	1.0000	1.0265	1.0584	1.0817	1.1114	1.1305	1.1496	1.1496	1.1496	1.1496	1.1496	
Asset Values ($m Real 2014-15)												
Real Actual Net Capex - As Incurred		115.21	63.43	97.65	61.19	72.00	-	-	-	-	-	
Pipelines		*50.53*	*11.71*	*7.66*	*13.91*	*22.78*	-	-	-	-	-	
Real Actual Straight-line Depreciation	-	380.85 -	385.21 -	388.45 -	381.06 -	308.65	-	-	-	-	-	
Pipelines Opening Capital Base		*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	
Capex in year 1			*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	
Capex in year 2				*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	
Capex in year 3					*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	
Capex in year 4						*0.23*	*0.23*	*0.23*	*0.23*	*0.23*	*0.23*	
Capex in year 5							*0.38*	*0.38*	*0.38*	*0.38*	*0.38*	
Capex in year 6							-	-	-	-	-	
Capex in year 7								-	-	-	-	
Capex in year 8									-	-	-	
Capex in year 9										-	-	
Capex in year 10											-	
Pipelines		- *51.00* -	*51.84* -	*52.04* -	*52.17* -	*52.40*	-	-	-	-	-	
Asset Values ($m Nominal)												
Nominal Opening Capital Base		4,873.00	4,936.50	4,817.01	4,582.62	4,393.85	4,113.81	3,915.73	-	-	-	-
Pipelines		*1,000.00*	*1,020.00*	*1,051.17*	*1,031.87*	*1,012.19*	*987.05*	*970.24*	-	-	-	-
Nominal Actual Net Capex		114.50	118.27	67.14	105.64	68.01	81.39	-	-	-	-	
Pipelines		*40.00*	*51.87*	*12.39*	*8.29*	*15.46*	*25.76*	-	-	-	-	
Nominal Actual Regulatory Depreciation	-	51.00 -	237.76 -	301.53 -	294.41 -	348.05 -	279.47	-	-	-	-	
Pipelines	-	*20.00* -	*20.70* -	*31.70* -	*27.96* -	*40.59* -	*42.57*	-	-	-	-	
Nominal Difference in Final Year Capex		-										
Pipelines		-										
Nominal Return on Difference in Final Year Capex		-										
Pipelines		-										
Nominal Other Final Year Adjustments		-										
Pipelines		-										
Nominal Actual Straight-line Depreciation	-	180.37 -	390.96 -	407.71 -	420.20 -	423.52 -	348.94	-	-	-	-	
Pipelines	-	*46.55* -	*52.35* -	*54.87* -	*56.29* -	*57.98* -	*59.24*	-	-	-	-	
Nominal Actual Inflation on Opening Capital Base		129.37	153.20	106.19	125.80	75.47	69.46	-	-	-	-	
Pipelines		*26.55*	*31.66*	*23.17*	*28.33*	*17.38*	*16.67*	-	-	-	-	

2.5.1 Real asset values

Real asset values are displayed in rows 11 to 713. This comprises:

- real actual net capex
- real straight-line depreciation.

The real actual net capex values (including a half-year nominal vanilla WACC allowance) for each asset class are displayed in rows 12 to 61.[21] Row 11 displays the sum of each asset class values for those rows.

These capex values for the current access arrangement period (sourced from the **RFM input** sheet) are those provided by the gas distribution service provider to us for the purpose of rolling forward its capital base to the end of the current access arrangement period.

The real straight-line depreciation values for each asset class are set out at rows 64 to 713. Row 63 displays the sum of each asset class calculations for those rows. If the forecast depreciation option or the actual year-by-year tracking depreciation option was selected in section 2.3.8, then the depreciation inputs are sourced from the **RFM input** sheet. If the actual WARL depreciation option was selected, then the depreciation values are calculated in the **Capital base roll forward** sheet based on the opening capital base, actual net capex values and asset lives from the **RFM input** sheet.

2.5.2 Nominal asset values

Nominal asset values are displayed in rows 717 to 1133. The nominal opening capital base values for each year are displayed in row 717, based on the sum of each asset class calculations for rows 718 to 767. The nominal opening capital base for the first year of the current access arrangement period (cell H717) is calculated by taking the opening capital base value for the final year of the previous access arrangement period (cell G717), adding forecast net capex value for that year (G769), adding (typically negative) regulatory depreciation value for that year (G821) and adding other capex/asset adjustment values where relevant (cells G873, G925 and G977). These values are all sourced from the **RFM input** sheet.

The nominal opening capital base values for the remaining years of the current access arrangement period are calculated in accordance with Box 2. The nominal actual net capex values for each year (row 769) are equal to the real actual net capex values (row 11) indexed by actual inflation (row 7). The nominal regulatory depreciation values (row 821) are calculated as the net total of the nominal straight-line depreciation (row 1031) and the actual inflation applied to the opening capital base (row 1083).

[21] The half-year nominal vanilla WACC is based on a fixed real time varying WACC—that is, a fixed real vanilla WACC adjusted for actual inflation.

2.6 Total capital base roll forward sheet

The **Total capital base roll forward** sheet brings together the relevant data from the **Adjustment for previous period** and **Capital base roll forward** sheets to calculate the final closing capital base for the current access arrangement period in nominal terms.[22]

In this sheet, row 7 displays the opening capital base values for each year of the current access arrangement period, based on the sum of each asset class calculations for rows 8 to 57. These rows are in turn based on the interim closing capital base for the previous year in row 321. The calculations at rows 8 to 57 reflect the opening capital base values in the **Capital base roll forward** sheet. The nominal actual net capex (row 59), regulatory depreciation (row 111) values and other as incurred capex/asset adjustments that may be required—e.g. difference in final year capex (row 163), return on difference in final year capex (row 215) and other final year adjustments (row 267) are sourced from the **Capital base roll forward** sheet.

Rows 373 to 527 represent the required adjustments to be made for the final year (t–1) of the current access arrangement period and are sourced from the **Adjustment for previous period** and **RFM input** sheets. These adjustments include:

- the difference between actual and forecast net capex for the final year of the previous access arrangement period (and a compounded return on that difference)
- other asset adjustments for the final year of the current access arrangement period.

The process for calculating the final closing capital base for the current access arrangement period is set out in Box 3.

Box 3 Calculating the final closing capital base for the current access arrangement period

Adjustments to be made for the final year of the current access arrangement period to calculate final closing capital base

Interim closing capital base for the current access arrangement period +

For year t–1, the difference between nominal actual net capex and forecast net capex +

Compounded nominal return on that difference for net capex +

Final year asset adjustments (where applicable) =

Closing capital base for the current access arrangement period =

Opening capital base for the first year of the next access arrangement period.

Note:

- The opening capital base for the first year of the next access arrangement period becomes an input into the PTRM for the purposes of determining the return on capital and return of capital (depreciation) for the next access arrangement period.

The closing capital base for the current access arrangement period is shown in row 529. This value becomes the opening capital base for the next access arrangement period and is

22 This sheet has been configured to display the capital base roll forward for an access arrangement period of 2 to 10 years.

used as an input into the PTRM for calculating the allowed return on capital and the return of capital (depreciation) in the next building block determination. A breakdown of the closing capital base values by asset classes are displayed in rows 530 to 579.

Figure 6 provides an example of the **Total capital base roll forward** sheet.

Figure 6 Total capital base roll forward sheet

Aus Gas - Total Asset Roll Forward - DNSP RFM - version 1

Row	Year		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
5	**Asset Values ($m Nominal)**													
7	Nominal Opening Capital Base		4,873.00	4,936.50	4,817.01	4,582.62	4,393.85	4,113.81	-	-	-	-	-	
8		*Pipelines*	*1,000.00*	*1,020.00*	*1,051.17*	*1,031.87*	*1,012.19*	*987.05*	-	-	-	-	-	
59	Nominal Actual Net Capex		114.50	118.27	67.14	105.64	68.01	81.39	-	-	-	-	-	
60		*Pipelines*	*40.00*	*51.87*	*12.39*	*8.29*	*15.46*	*25.76*	-	-	-	-	-	
111	Nominal Actual Regulatory Depreciation		-51.00	-237.76	-301.53	-294.41	-348.05	-279.47	-	-	-	-	-	
112		*Pipelines*	*-20.00*	*-20.70*	*-31.70*	*-27.96*	*-40.59*	*-42.57*	-	-	-	-	-	
163	Nominal Difference in Final Year Capex		-											
164		*Pipelines*	-											
215	Nominal Return on Difference in Final Year Capex		-											
216		*Pipelines*	-											
267	Nominal Other Final Year Adjustments		-											
268		*Pipelines*	-											
319	**Interim Closing Capital Base**													
321	Interim Closing Capital Base		4,936.50	4,817.01	4,582.62	4,393.85	4,113.81	3,915.73	-	-	-	-	-	-
322		*Pipelines*	*1,020.00*	*1,051.17*	*1,031.87*	*1,012.19*	*987.05*	*970.24*	-	-	-	-	-	
373	Difference Between Actual and Forecast Net Capex				-	-	-	-3.75	-	-	-	-	-	
374		*Pipelines*			-	-	-	*2.84*	-	-	-	-	-	
425	Return on Difference - Net Capex				-	-	-	-1.46	-	-	-	-	-	
426		*Pipelines*			-	-	-	*1.10*	-	-	-	-	-	
477	Final Year Asset Adjustments				-	-	-	-	-	-	-	-	-	
478		*Pipelines*			-	-	-	*50.00*	-	-	-	-	-	
529	**Closing Capital Base**				**-**	**-**	**-**	**3,910.52**	**-**	**-**	**-**	**-**	**-**	
530		*Pipelines*			-	-	-	*1,024.18*	-	-	-	-	-	

2.7 TAB roll forward sheet

The **TAB roll forward** sheet calculates the nominal opening TAB values for each year of the current access arrangement period by taking the opening TAB value for the start of the current access arrangement period and adjusting for forecast net capex, which was included in the final year of the previous access arrangement period, with actual net capex for that year.[23] The opening TAB value is then rolled forward for actual net capex and tax depreciation values for each year of the current access arrangement period. Since the calculations are based on actual nominal data the roll forward of the TAB values does not require any adjustments for inflation. Any required adjustments to be made to the TAB for the final year of the current access arrangement period are also applied in this sheet.

The process for rolling forward the TAB from year to year over the current access arrangement period is set out in Box 4.[24]

Box 4 Rolling forward the TAB in the current access arrangement period

Rolling forward actual net capex and depreciation amounts into the TAB

Opening TAB for the first year of the current access arrangement period –

23 For TAB purposes net capex is inclusive of capital contributions (net of disposals).

24 For illustrative purposes this is based on a standard five-year access arrangement period.

Nominal forecast net capex for the final year of the previous period (year t–1) +

Nominal actual net capex for the final year of the period (year t–1) =

Adjusted opening TAB for year 1 of the current access arrangement period.

Adjusted opening TAB for year 1 of the current access arrangement period +

Nominal actual net capex for year 1 –

Nominal actual tax depreciation for year 1 =

Closing TAB for year 1 of the current access arrangement period. This becomes:

Opening TAB for year 2 of the current access arrangement period +

Nominal actual net capex for year 2 –

Nominal actual tax depreciation for year 2 =

Closing TAB for year 2 of the current access arrangement period. This becomes:

Opening TAB for year 3 of the current access arrangement period

… =

Closing TAB for year 4 of the current access arrangement period. This becomes:

Opening TAB for year 5 of the current access arrangement period +

Nominal actual net capex for year 5 –

Nominal actual tax depreciation for year 5 +

Final year asset adjustments (where applicable) =

Closing TAB for year 5 of the current access arrangement period =

Opening TAB for the first year of the next access arrangement period.

Where:

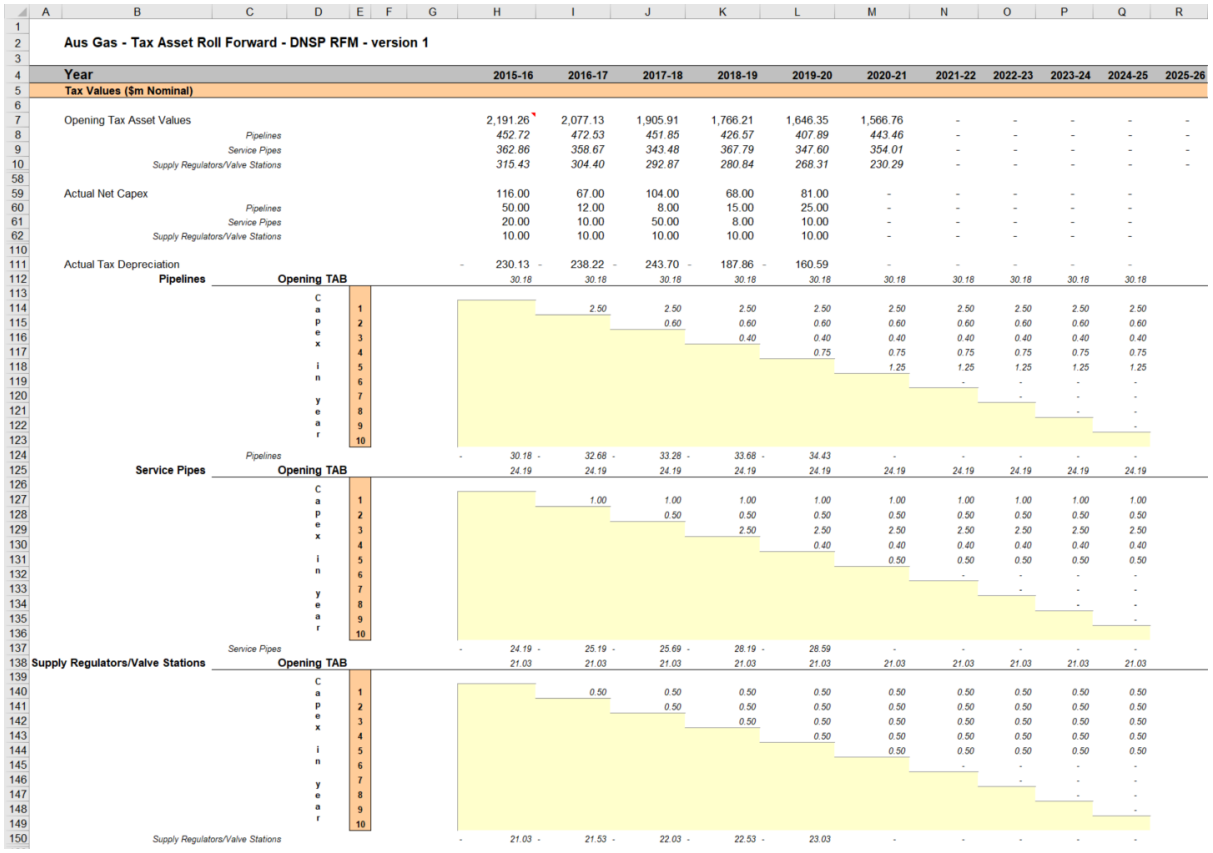
- Nominal actual net capex = nominal actual gross capex – nominal actual asset disposals.

Note:

- The closing TAB for the current access arrangement period becomes the opening TAB for the next access arrangement period.

Figure 7 provides an example of the **TAB roll forward** sheet.

Figure 7 TAB roll forward sheet



Aus Gas - Tax Asset Roll Forward - DNSP RFM - version 1

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Tax Values ($m Nominal)											
Opening Tax Asset Values	2,191.26	2,077.13	1,905.91	1,766.21	1,646.35	1,566.76	-	-	-	-	-
Pipelines	*452.72*	*472.53*	*451.85*	*426.57*	*407.89*	*443.46*	-	-	-	-	-
Service Pipes	*362.86*	*358.67*	*343.48*	*367.79*	*347.60*	*354.01*	-	-	-	-	-
Supply Regulators/Valve Stations	*315.43*	*304.40*	*292.87*	*280.84*	*268.31*	*230.29*	-	-	-	-	-
Actual Net Capex	116.00	67.00	104.00	68.00	81.00	-	-	-	-	-	
Pipelines	50.00	12.00	8.00	15.00	25.00	-	-	-	-	-	
Service Pipes	20.00	10.00	50.00	8.00	10.00	-	-	-	-	-	
Supply Regulators/Valve Stations	10.00	10.00	10.00	10.00	10.00	-	-	-	-	-	
Actual Tax Depreciation	- 230.13	- 238.22	- 243.70	- 187.86	- 160.59	-	-	-	-	-	
Pipelines **Opening TAB**	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	
Capex in year 1		*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	
Capex in year 2			*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	*0.60*	
Capex in year 3				*0.40*	*0.40*	*0.40*	*0.40*	*0.40*	*0.40*	*0.40*	
Capex in year 4					*0.75*	*0.75*	*0.75*	*0.75*	*0.75*	*0.75*	
Capex in year 5						*1.25*	*1.25*	*1.25*	*1.25*	*1.25*	
Capex in year 6							-	-	-	-	
Capex in year 7								-	-	-	
Capex in year 8									-	-	
Capex in year 9										-	
Capex in year 10											
Pipelines	- *30.18*	- *32.68*	- *33.28*	- *33.68*	- *34.43*	-	-	-	-	-	
Service Pipes **Opening TAB**	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	*24.19*	
Capex in year 1		*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	
Capex in year 2			*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 3				*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	*2.50*	
Capex in year 4					*0.40*	*0.40*	*0.40*	*0.40*	*0.40*	*0.40*	
Capex in year 5						*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 6							-	-	-	-	
Capex in year 7								-	-	-	
Capex in year 8									-	-	
Capex in year 9										-	
Capex in year 10											
Service Pipes	- *24.19*	- *25.19*	- *25.69*	- *26.19*	- *26.59*	-	-	-	-	-	
Supply Regulators/Valve Stations **Opening TAB**	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	*21.03*	
Capex in year 1		*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 2			*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 3				*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 4					*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 5						*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	
Capex in year 6							-	-	-	-	
Capex in year 7								-	-	-	
Capex in year 8									-	-	
Capex in year 9										-	
Capex in year 10											
Supply Regulators/Valve Stations	- *21.03*	- *21.53*	- *22.03*	- *22.53*	- *23.03*	-	-	-	-	-	

2.7.1 Opening tax asset values

The opening tax asset value (cells H7 to H57) at the start of the first year of the current access arrangement period is adjusted by removing forecast net capex for the final year of the previous access arrangement period so that actual net capex for that year is included in the TAB. Rows 8 to 57 roll forward the opening TAB values for each asset class by taking the previous year's nominal opening TAB value, then adding nominal actual net capex for the year and subtracting nominal actual tax depreciation for the year.

Based on the sum of each asset class calculations for those rows, the opening TAB value for each year of the current access arrangement period is displayed in row 7. These values are calculated in accordance with Box 4. For a 5 year access arrangement period, the opening TAB value for the next access arrangement period is shown in cell M7. This value is used as an input into the PTRM for calculating the tax depreciation in the next building block determination. A breakdown of the closing TAB values by asset classes are displayed in cells M8 to M57.

2.7.2 Actual net capex

The actual net capex values for each asset class (rows 60 to 109) and each year of the current access arrangement period are calculated by taking nominal actual capex from the **RFM input** sheet (rows 61 to 110) and subtracting nominal actual disposals from the same sheet (rows 115 to 164). Note that the resulting capex used for tax purposes includes the

value of capital contributions. Row 59 displays the sum of the calculations for each asset class (rows 60 to 109).

2.7.3 Actual tax depreciation

The actual tax depreciation values for each asset class (rows 112 to 761) and each year of the current access arrangement period are presented in rows 112 to 761. Depending on which option for tax depreciation has been selected in the **RFM input** sheet, the tax depreciation values will either be calculated based on the nominal opening TAB values, nominal actual net capex values and tax asset lives, in accordance with the straight-line method, or adopt the actual year-by-year tracking depreciation values from the tracking module. Row 111 displays the sum of the calculations for each asset class.

2.8 Capital base remaining lives sheet

The **Capital base remaining lives** sheet calculates the average capital base remaining lives of each asset class using a weighted average method. If the actual WARL depreciation option is selected in section 2.3.8, the weighted average remaining lives at the end of the current access arrangement period for the capital base are used as inputs to the PTRM for the next access arrangement period to calculate the depreciation schedules. The sheet is set up to accommodate asset life tracking over four five-year periods, however the calculations can be expanded to cover more if required.[25]

For the years in the current access arrangement period, the input cells include formula references to the appropriate cells from the **RFM input** sheet. For previous access arrangement periods, the **Capital base remaining lives** sheet will also require inputs obtained from the RFMs for decisions relating to previous periods.[26] The process for updating this data is set out in Box 5.

Box 5 Input process required for updating capital base remaining life calculations

As a first step, the first regulatory year in cell C8 is entered. This input will be the same as the year entered in the same cell in the **Capital base remaining lives** sheet of the previous RFM. Once the year is entered, the input cells for the current access arrangement period will reference the inputs from the **RFM input** sheet. These values include:

- CPI
- nominal vanilla WACC (fixed real time varying)
- value of net addition (capex)
- standard asset life
- value of final year asset adjustments
- remaining life of final year asset adjustments.

The input cells for the earlier access arrangement periods must be replaced with the actual values

25 The 'Add extra year to calculation' button included on this sheet runs a macro to extend the capital base and TAB remaining life calculations for each asset class for a further year.

26 The input cells for the previous access arrangements periods will display an 'enter input' prompt.

approved in the RFMs for those decisions.

These values can be copied from the previous decision RFM's **Capital base remaining lives** sheet for each year of the preceding periods.

The process for calculating the weighted average remaining lives for the capital base is set out in Box 6.[27] A similar process applies for calculating the weighted average remaining lives for the TAB.

Box 6 Calculating the capital base weighted average remaining asset lives

Calculating the capital base weighted average remaining asset lives by asset class

Opening capital base for start year –

Total real actual depreciation on opening capital base

= Closing value of opening capital base.

Real actual net capex for year 1 –

Total real actual depreciation on net capex for year 1

= Closing capital value of net capex for year 1.

... *For each year of actual capex…*

Value of final year capital base adjustments –

Total real actual depreciation on capital base adjustments

= Closing value of capital base adjustments

Sum of closing capital values

= Total closing capital value for the asset class.

Opening capital base average remaining life – number of years of depreciation applied to opening capital base

= Closing average remaining life of opening capital base

Asset class capital base standard life – number of years of depreciation applied to capex for year 1

= Closing average capital base remaining life of capex for year 1

… *For each year of actual capex…*

Capital base adjustments average remaining life – number of years of depreciation applied to capital base adjustments

= Closing average remaining life of capital base adjustments.

Closing value of opening capital base ÷ Total closing capital value for the asset class × Closing average remaining life of opening capital base +

27 For assets that do not depreciate, there is no remaining life, and the user should input the remaining life as "n/a". Note that although it is possible to enter "n/a" for some years of capex and a numerical value for others, this is conceptually invalid and should not be done.

Closing capital value of net capex for year 1 ÷ Total closing capital value for the asset class × Closing average capital base remaining life of capex for year 1 +

… For each year of actual capex … +

Closing value of capital base adjustments ÷ Total closing capital value for the asset class × Closing average remaining life of capital base adjustments

= **Weighted average remaining life for the capital base asset class.**

Where:

- Opening capital base for start year = closing capital base for the final year of the access arrangement period preceding first use of the RFM.
- Total real actual depreciation on opening capital base = the sum of the real actual depreciation on opening capital base calculated for the access arrangement period.
- Real actual net capex = real actual net capex (including half-year nominal vanilla WACC allowance)
- Total real actual depreciation on net capex = the sum of the real actual depreciation on net capex calculated for the access arrangement period
- The opening capital base average remaining life is that used for the building block determination where the RFM is first used.
- The asset class capital base standard life is that used for the current building block determination.

Note: The calculation of the TAB weighted average remaining lives by asset class follows the same process, with:

- opening TAB replacing opening capital base
- total actual depreciation on opening TAB replacing total real actual depreciation on opening capital base
- actual net capex (excluding half-year nominal vanilla WACC) replacing real actual net capex (including half-year nominal vanilla WACC)
- final year TAB adjustments replacing final year capital base adjustments
- total actual depreciation on net capex replacing total real actual depreciation on net capex
- opening TAB average remaining life replacing opening capital base average remaining life and
- asset class TAB standard life replacing asset class capital base standard life, and
- TAB adjustments average remaining life replacing capital base adjustments average remaining life.

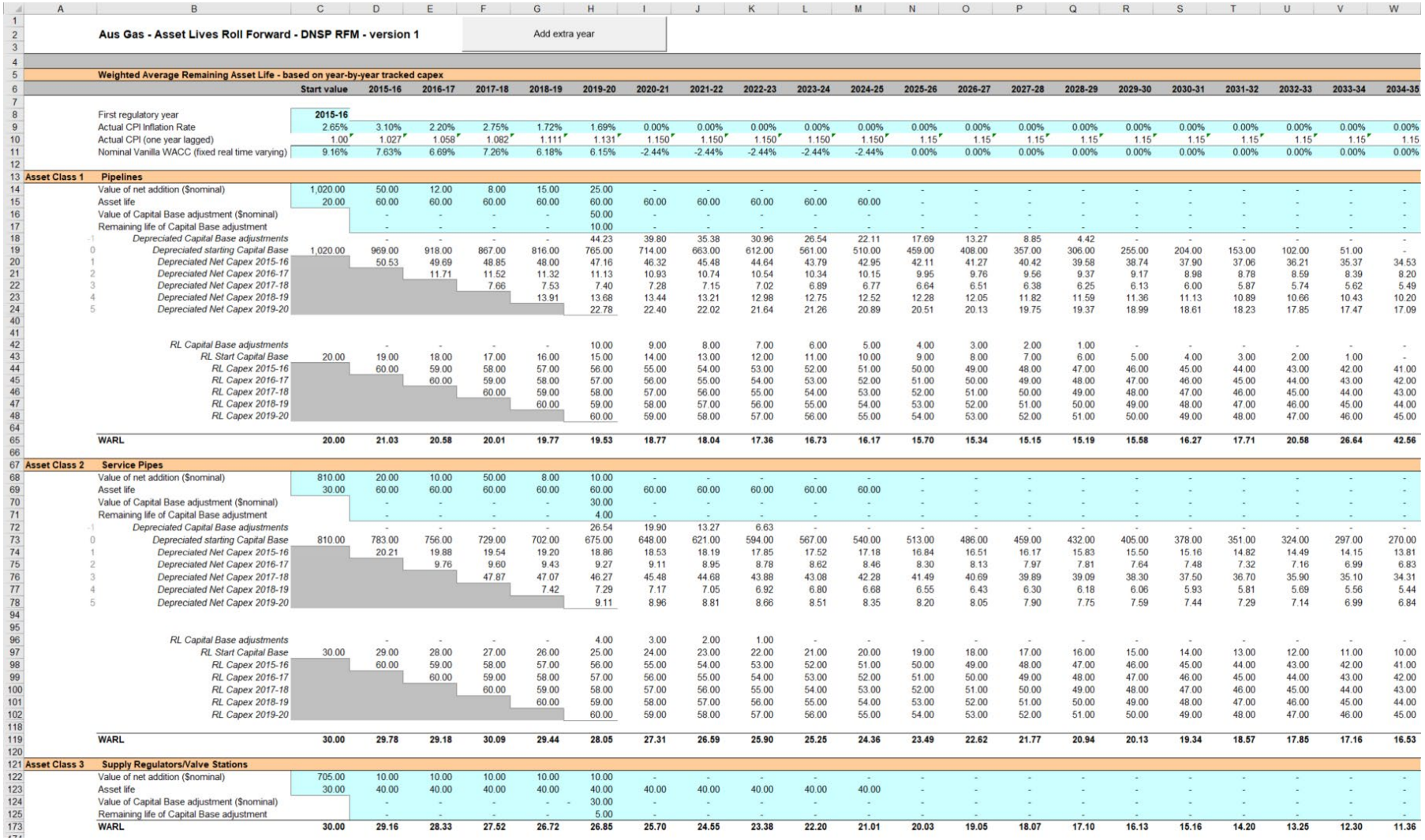
In calculating the weighted average remaining lives for each asset class, first the actual depreciated capital (or asset) value and remaining life of each capital stream is calculated for each year.[28] For asset class 1 these calculations in real dollar terms are set out in rows 18 to 39 and 42 to 63 respectively. For each year, the remaining life of each capital stream is then weighted by its associated closing capital value as a proportion of the total closing capital value of the asset class. The result is the weighted average remaining life for the

28 A capital stream represents the opening asset value, each individual year of capex, and each asset adjustment for each asset class.

asset class as a whole. For asset class 1, this value is shown in row 65. The weighted average remaining lives for the other asset classes in the capital base are calculated and shown at rows 119 to 2711.

Figure 8 provides an example of the **Capital base remaining lives** sheet.

Figure 8 Capital base remaining lives sheet



Aus Gas - Asset Lives Roll Forward - DNSP RFM - version 1

Add extra year

Weighted Average Remaining Asset Life - based on year-by-year tracked capex

		Start value	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
	First regulatory year	2015-16																				
	Actual CPI Inflation Rate	2.65%	3.10%	2.20%	2.75%	1.72%	1.69%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Actual CPI (one year lagged)	1.00	1.027	1.058	1.082	1.111	1.131	1.150	1.150	1.150	1.150	1.150	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
	Nominal Vanilla WACC (fixed real time varying)	9.16%	7.63%	6.69%	7.26%	6.18%	6.15%	-2.44%	-2.44%	-2.44%	-2.44%	-2.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Asset Class 1	Pipelines																					
	Value of net addition ($nominal)	1,020.00	50.00	12.00	8.00	15.00	25.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asset life	20.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-	-
	Value of Capital Base adjustment ($nominal)		-	-	-	-	50.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Remaining life of Capital Base adjustment		-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-1	*Depreciated Capital Base adjustments*		-	-	-	-	44.23	39.80	35.38	30.96	26.54	22.11	17.69	13.27	8.85	4.42	-	-	-	-	-	-	-
0	*Depreciated starting Capital Base*	1,020.00	969.00	918.00	867.00	816.00	765.00	714.00	663.00	612.00	561.00	510.00	459.00	408.00	357.00	306.00	255.00	204.00	153.00	102.00	51.00	-
1	*Depreciated Net Capex 2015-16*		50.53	49.69	48.85	48.00	47.16	46.32	45.48	44.64	43.79	42.95	42.11	41.27	40.42	39.58	38.74	37.90	37.06	36.21	35.37	34.53
2	*Depreciated Net Capex 2016-17*			11.71	11.52	11.32	11.13	10.93	10.74	10.54	10.34	10.15	9.95	9.76	9.56	9.37	9.17	8.98	8.78	8.59	8.39	8.20
3	*Depreciated Net Capex 2017-18*				7.66	7.53	7.40	7.28	7.15	7.02	6.89	6.77	6.64	6.51	6.38	6.25	6.13	6.00	5.87	5.74	5.62	5.49
4	*Depreciated Net Capex 2018-19*					13.91	13.68	13.44	13.21	12.98	12.75	12.52	12.28	12.05	11.82	11.59	11.36	11.13	10.89	10.66	10.43	10.20
5	*Depreciated Net Capex 2019-20*						22.78	22.40	22.02	21.64	21.26	20.89	20.51	20.13	19.75	19.37	18.99	18.61	18.23	17.85	17.47	17.09
	RL Capital Base adjustments		-	-	-	-	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	-	-	-	-	-	-
	RL Start Capital Base	20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	-
	RL Capex 2015-16		60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00	42.00	41.00
	RL Capex 2016-17			60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00	42.00
	RL Capex 2017-18				60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00
	RL Capex 2018-19					60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00
	RL Capex 2019-20						60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00
	WARL	**20.00**	**21.03**	**20.58**	**20.01**	**19.77**	**19.53**	**18.77**	**18.04**	**17.36**	**16.73**	**16.17**	**15.70**	**15.34**	**15.15**	**15.19**	**15.58**	**16.27**	**17.71**	**20.58**	**26.64**	**42.56**
Asset Class 2	Service Pipes																					
	Value of net addition ($nominal)	810.00	20.00	10.00	50.00	8.00	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asset life	30.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-	-
	Value of Capital Base adjustment ($nominal)		-	-	-	-	30.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Remaining life of Capital Base adjustment		-	-	-	-	4.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-1	*Depreciated Capital Base adjustments*		-	-	-	-	26.54	19.90	13.27	6.63	-	-	-	-	-	-	-	-	-	-	-	-	-
0	*Depreciated starting Capital Base*	810.00	783.00	756.00	729.00	702.00	675.00	648.00	621.00	594.00	567.00	540.00	513.00	486.00	459.00	432.00	405.00	378.00	351.00	324.00	297.00	270.00
1	*Depreciated Net Capex 2015-16*		20.21	19.88	19.54	19.20	18.86	18.53	18.19	17.85	17.52	17.18	16.84	16.51	16.17	15.83	15.50	15.16	14.82	14.49	14.15	13.81
2	*Depreciated Net Capex 2016-17*			9.76	9.60	9.43	9.27	9.11	8.95	8.78	8.62	8.46	8.30	8.13	7.97	7.81	7.64	7.48	7.32	7.16	6.99	6.83
3	*Depreciated Net Capex 2017-18*				47.87	47.07	46.27	45.48	44.68	43.88	43.08	42.28	41.49	40.69	39.89	39.09	38.30	37.50	36.70	35.90	35.10	34.31
4	*Depreciated Net Capex 2018-19*					7.42	7.29	7.17	7.05	6.92	6.80	6.68	6.55	6.43	6.30	6.18	6.06	5.93	5.81	5.69	5.56	5.44
5	*Depreciated Net Capex 2019-20*						9.11	8.96	8.81	8.66	8.51	8.35	8.20	8.05	7.90	7.75	7.59	7.44	7.29	7.14	6.99	6.84
	RL Capital Base adjustments		-	-	-	-	4.00	3.00	2.00	1.00	-	-	-	-	-	-	-	-	-	-	-	-
	RL Start Capital Base	30.00	29.00	28.00	27.00	26.00	25.00	24.00	23.00	22.00	21.00	20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00
	RL Capex 2015-16		60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00	42.00	41.00
	RL Capex 2016-17			60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00	42.00
	RL Capex 2017-18				60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00	43.00
	RL Capex 2018-19					60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00	44.00
	RL Capex 2019-20						60.00	59.00	58.00	57.00	56.00	55.00	54.00	53.00	52.00	51.00	50.00	49.00	48.00	47.00	46.00	45.00
	WARL	**30.00**	**29.78**	**29.18**	**30.09**	**29.44**	**28.05**	**27.31**	**26.59**	**25.90**	**25.25**	**24.36**	**23.49**	**22.62**	**21.77**	**20.94**	**20.13**	**19.34**	**18.57**	**17.85**	**17.16**	**16.53**
Asset Class 3	Supply Regulators/Valve Stations																					
	Value of net addition ($nominal)	705.00	10.00	10.00	10.00	10.00	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Asset life	30.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	-	-	-	-	-	-	-	-	-	-
	Value of Capital Base adjustment ($nominal)		-	-	-	-	30.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Remaining life of Capital Base adjustment		-	-	-	-	5.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	WARL	**30.00**	**29.16**	**28.33**	**27.52**	**26.72**	**26.85**	**25.70**	**24.55**	**23.38**	**22.20**	**21.01**	**20.03**	**19.05**	**18.07**	**17.10**	**16.13**	**15.16**	**14.20**	**13.25**	**12.30**	**11.36**

2.9 TAB remaining lives sheet

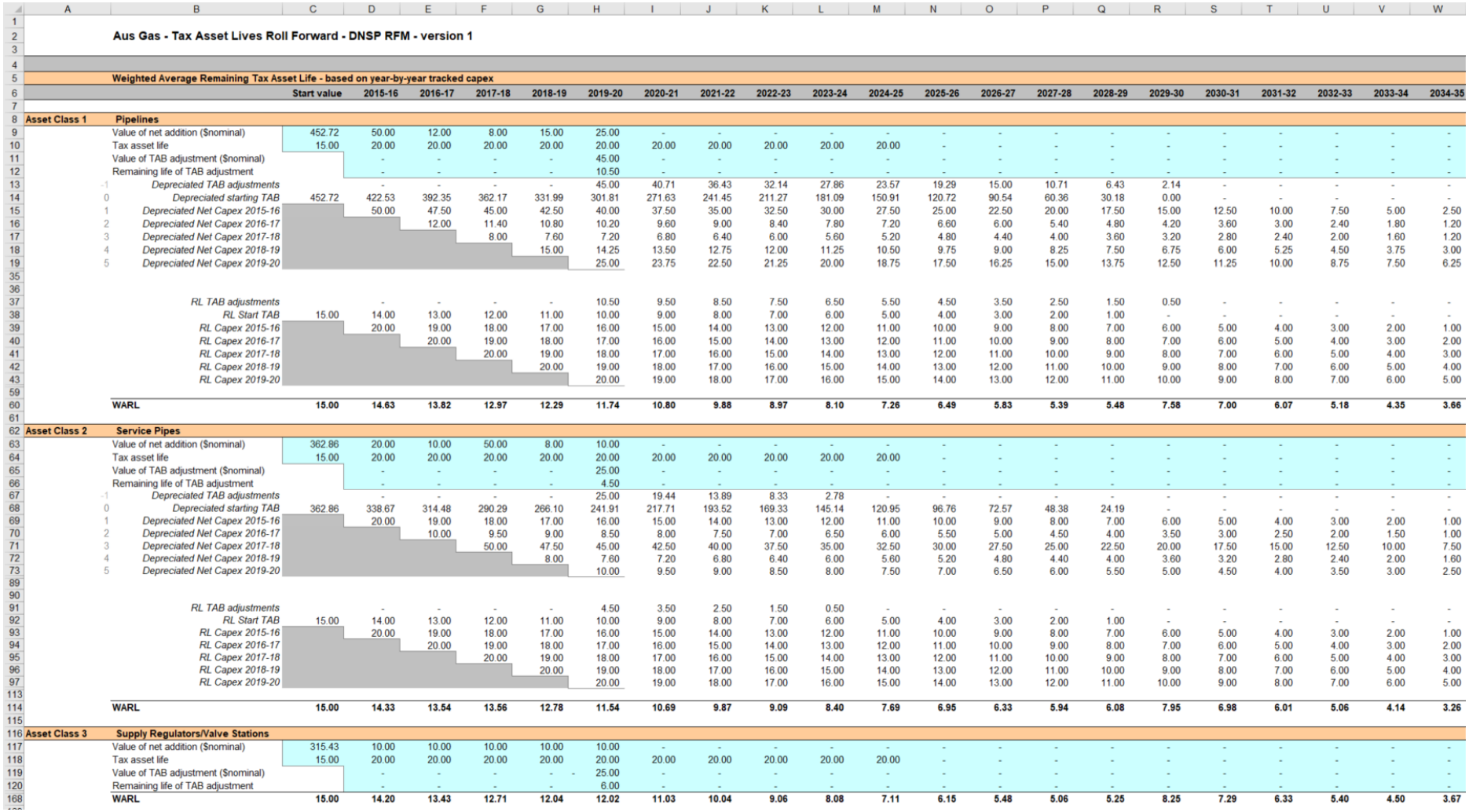
The **TAB remaining lives** sheet calculates the average TAB remaining lives of each asset class using a weighted average method. The process for calculating the remaining asset lives for the TAB is broadly the same as described in Box 6. However, all calculations are performed in nominal dollar terms, and actual net capex is gross capex less disposals (but including capital contributions) and does not include the half-year nominal vanilla WACC allowance. If the actual WARL depreciation option is selected in section 2.3.10, the weighted average remaining lives at the end of the current access arrangement period for the TAB are used as inputs to the PTRM for the next access arrangement period to calculate the tax depreciation schedules for the purposes of tax analysis in the building block determination.

For the years in the current access arrangement period, the input cells include formula references to the appropriate cells from the **RFM input** sheet. For previous access arrangement periods the same update process as described in Box 5 is required for the **TAB remaining lives** sheet.[29] The weighted average remaining lives for the asset classes in the TAB are calculated and shown at rows 60 to 2706.

Figure 9 provides an example of the **TAB remaining lives** sheet.

29 The input cells for the previous access arrangement periods will display an 'enter input' prompt.

Figure 9 TAB remaining lives sheet



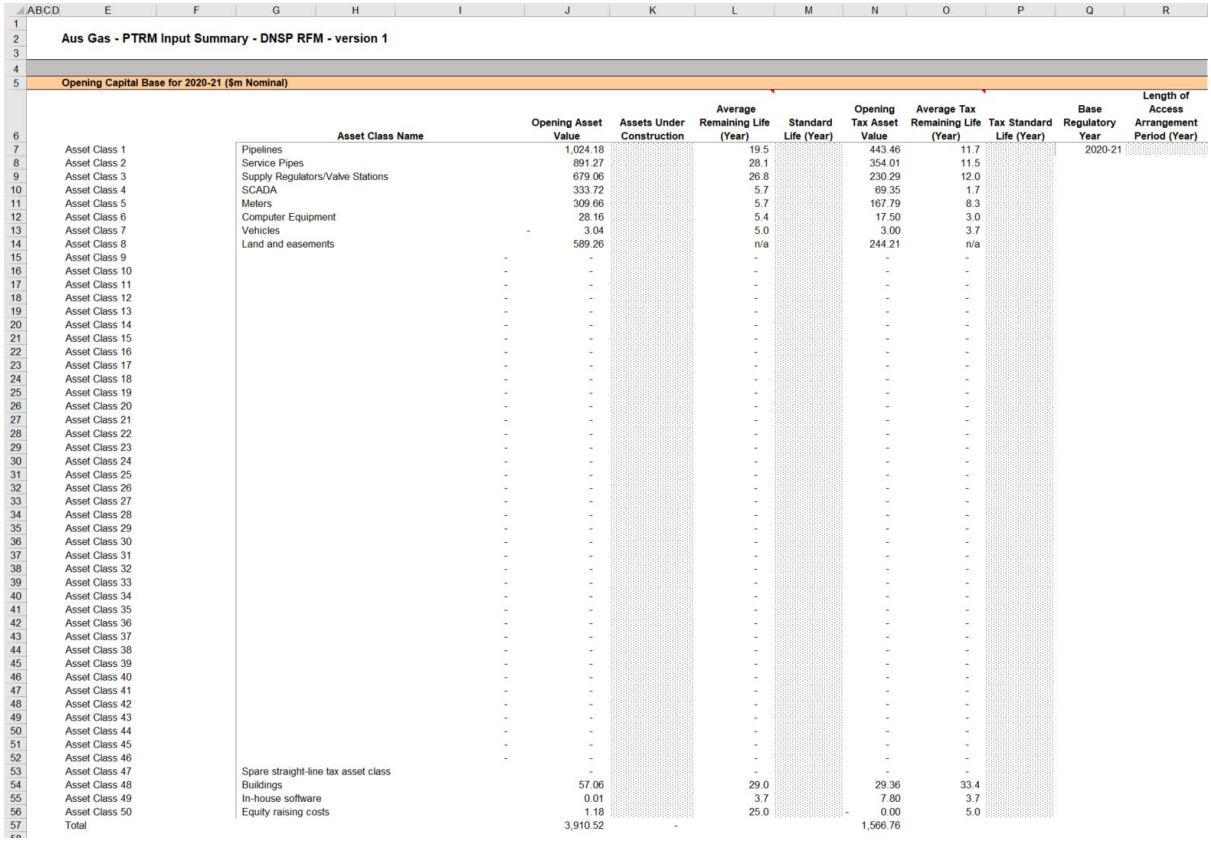
		Aus Gas - Tax Asset Lives Roll Forward - DNSP RFM - version 1																				
		Weighted Average Remaining Tax Asset Life - based on year-by-year tracked capex																				
			Start value	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
Asset Class 1		Pipelines																				
		Value of net addition ($nominal)	452.72	50.00	12.00	8.00	15.00	25.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Tax asset life	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	-	-	-	-	-	-	-	-	-
		Value of TAB adjustment ($nominal)		-	-	-	-	45.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Remaining life of TAB adjustment		-	-	-	-	10.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-1	*Depreciated TAB adjustments*		-	-	-	-	45.00	40.71	36.43	32.14	27.86	23.57	19.29	15.00	10.71	6.43	2.14	-	-	-	-	-
	0	*Depreciated starting TAB*	452.72	422.53	392.35	362.17	331.99	301.81	271.63	241.45	211.27	181.09	150.91	120.72	90.54	60.36	30.18	0.00	-	-	-	-	-
	1	*Depreciated Net Capex 2015-16*		50.00	47.50	45.00	42.50	40.00	37.50	35.00	32.50	30.00	27.50	25.00	22.50	20.00	17.50	15.00	12.50	10.00	7.50	5.00	2.50
	2	*Depreciated Net Capex 2016-17*			12.00	11.40	10.80	10.20	9.60	9.00	8.40	7.80	7.20	6.60	6.00	5.40	4.80	4.20	3.60	3.00	2.40	1.80	1.20
	3	*Depreciated Net Capex 2017-18*				8.00	7.60	7.20	6.80	6.40	6.00	5.60	5.20	4.80	4.40	4.00	3.60	3.20	2.80	2.40	2.00	1.60	1.20
	4	*Depreciated Net Capex 2018-19*					15.00	14.25	13.50	12.75	12.00	11.25	10.50	9.75	9.00	8.25	7.50	6.75	6.00	5.25	4.50	3.75	3.00
	5	*Depreciated Net Capex 2019-20*						25.00	23.75	22.50	21.25	20.00	18.75	17.50	16.25	15.00	13.75	12.50	11.25	10.00	8.75	7.50	6.25
		RL TAB adjustments		-	-	-	-	10.50	9.50	8.50	7.50	6.50	5.50	4.50	3.50	2.50	1.50	0.50	-	-	-	-	-
		RL Start TAB	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	-	-	-	-	-	-
		RL Capex 2015-16		20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00
		RL Capex 2016-17			20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00
		RL Capex 2017-18				20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00
		RL Capex 2018-19					20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00
		RL Capex 2019-20						20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00
		WARL	**15.00**	**14.63**	**13.82**	**12.97**	**12.29**	**11.74**	**10.80**	**9.88**	**8.97**	**8.10**	**7.26**	**6.49**	**5.83**	**5.39**	**5.48**	**7.58**	**7.00**	**6.07**	**5.18**	**4.35**	**3.66**
Asset Class 2		Service Pipes																				
		Value of net addition ($nominal)	362.86	20.00	10.00	50.00	8.00	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Tax asset life	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	-	-	-	-	-	-	-	-	-
		Value of TAB adjustment ($nominal)		-	-	-	-	25.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Remaining life of TAB adjustment		-	-	-	-	4.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-1	*Depreciated TAB adjustments*		-	-	-	-	25.00	19.44	13.89	8.33	2.78	-	-	-	-	-	-	-	-	-	-	-
	0	*Depreciated starting TAB*	362.86	338.67	314.48	290.29	266.10	241.91	217.71	193.52	169.33	145.14	120.95	96.76	72.57	48.38	24.19	-	-	-	-	-	-
	1	*Depreciated Net Capex 2015-16*		20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00
	2	*Depreciated Net Capex 2016-17*			10.00	9.50	9.00	8.50	8.00	7.50	7.00	6.50	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00
	3	*Depreciated Net Capex 2017-18*				50.00	47.50	45.00	42.50	40.00	37.50	35.00	32.50	30.00	27.50	25.00	22.50	20.00	17.50	15.00	12.50	10.00	7.50
	4	*Depreciated Net Capex 2018-19*					8.00	7.60	7.20	6.80	6.40	6.00	5.60	5.20	4.80	4.40	4.00	3.60	3.20	2.80	2.40	2.00	1.60
	5	*Depreciated Net Capex 2019-20*						10.00	9.50	9.00	8.50	8.00	7.50	7.00	6.50	6.00	5.50	5.00	4.50	4.00	3.50	3.00	2.50
		RL TAB adjustments		-	-	-	-	4.50	3.50	2.50	1.50	0.50	-	-	-	-	-	-	-	-	-	-	-
		RL Start TAB	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00	-	-	-	-	-	-
		RL Capex 2015-16		20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00	1.00
		RL Capex 2016-17			20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00	2.00
		RL Capex 2017-18				20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00	3.00
		RL Capex 2018-19					20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00	4.00
		RL Capex 2019-20						20.00	19.00	18.00	17.00	16.00	15.00	14.00	13.00	12.00	11.00	10.00	9.00	8.00	7.00	6.00	5.00
		WARL	**15.00**	**14.33**	**13.54**	**13.56**	**12.78**	**11.54**	**10.69**	**9.87**	**9.09**	**8.40**	**7.69**	**6.95**	**6.33**	**5.94**	**6.08**	**7.95**	**6.98**	**6.01**	**5.06**	**4.14**	**3.26**
Asset Class 3		Supply Regulators/Valve Stations																				
		Value of net addition ($nominal)	315.43	10.00	10.00	10.00	10.00	10.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Tax asset life	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	-	-	-	-	-	-	-	-	-
		Value of TAB adjustment ($nominal)		-	-	-	-	25.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Remaining life of TAB adjustment		-	-	-	-	6.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		WARL	**15.00**	**14.20**	**13.43**	**12.71**	**12.04**	**12.02**	**11.03**	**10.04**	**9.06**	**8.08**	**7.11**	**6.15**	**5.48**	**5.06**	**5.25**	**8.25**	**7.29**	**6.33**	**5.40**	**4.50**	**3.67**

2.10 PTRM input summary sheet

The **PTRM input summary** sheet outlines the opening capital base values (column J) and the opening TAB values (column N) for the next access arrangement period. These values are set out by asset classes in rows 7 to 56, based on the closing capital base and TAB values as calculated in the RFM. The average remaining lives for regulatory and tax purposes, and the base regulatory year for the start of the next access arrangement period are also displayed in columns L, O and Q respectively. All values are outputs from the RFM that need to be entered into the **PTRM input** sheet of the PTRM for the next access arrangement period. The information from the **PTRM input summary** sheet is sourced from the **RFM input**, **Total capital base roll forward**, **TAB roll forward**, **Capital base remaining lives** and **TAB remaining lives** sheets.[30]

Figure 10 provides an example of the **PTRM input summary** sheet.

Figure 10 PTRM input summary sheet



Aus Gas - PTRM Input Summary - DNSP RFM - version 1

Opening Capital Base for 2020-21 ($m Nominal)

	Asset Class Name	Opening Asset Value	Assets Under Construction	Average Remaining Life (Year)	Standard Life (Year)	Opening Tax Asset Value	Average Tax Remaining Life (Year)	Tax Standard Life (Year)	Base Regulatory Year	Length of Access Arrangement Period (Year)
Asset Class 1	Pipelines	1,024.18		19.5		443.46	11.7		2020-21	
Asset Class 2	Service Pipes	891.27		28.1		354.01	11.5			
Asset Class 3	Supply Regulators/Valve Stations	679.06		26.8		230.29	12.0			
Asset Class 4	SCADA	333.72		5.7		69.35	1.7			
Asset Class 5	Meters	309.66		5.7		167.79	8.3			
Asset Class 6	Computer Equipment	28.16		5.4		17.50	3.0			
Asset Class 7	Vehicles	- 3.04		5.0		3.00	3.7			
Asset Class 8	Land and easements	589.26		n/a		244.21	n/a			
Asset Class 9		-		-		-	-			
Asset Class 10		-		-		-	-			
Asset Class 11		-		-		-	-			
Asset Class 12		-		-		-	-			
Asset Class 13		-		-		-	-			
Asset Class 14		-		-		-	-			
Asset Class 15		-		-		-	-			
Asset Class 16		-		-		-	-			
Asset Class 17		-		-		-	-			
Asset Class 18		-		-		-	-			
Asset Class 19		-		-		-	-			
Asset Class 20		-		-		-	-			
Asset Class 21		-		-		-	-			
Asset Class 22		-		-		-	-			
Asset Class 23		-		-		-	-			
Asset Class 24		-		-		-	-			
Asset Class 25		-		-		-	-			
Asset Class 26		-		-		-	-			
Asset Class 27		-		-		-	-			
Asset Class 28		-		-		-	-			
Asset Class 29		-		-		-	-			
Asset Class 30		-		-		-	-			
Asset Class 31		-		-		-	-			
Asset Class 32		-		-		-	-			
Asset Class 33		-		-		-	-			
Asset Class 34		-		-		-	-			
Asset Class 35		-		-		-	-			
Asset Class 36		-		-		-	-			
Asset Class 37		-		-		-	-			
Asset Class 38		-		-		-	-			
Asset Class 39		-		-		-	-			
Asset Class 40		-		-		-	-			
Asset Class 41		-		-		-	-			
Asset Class 42		-		-		-	-			
Asset Class 43		-		-		-	-			
Asset Class 44		-		-		-	-			
Asset Class 45		-		-		-	-			
Asset Class 46		-		-		-	-			
Asset Class 47	Spare straight-line tax asset class	-		-		-	-			
Asset Class 48	Buildings	57.06		29.0		29.36	33.4			
Asset Class 49	In-house software	0.01		3.7		7.80	3.7			
Asset Class 50	Equity raising costs	1.18		25.0		- 0.00	5.0			
Total		3,910.52	-			1,566.76				

30 Where the capital base value is negative, the remaining life will be set to the lower of the standard asset life for the asset class and the access arrangement period length. Similarly, where the capital base value is positive but the calculated remaining life is zero, the remaining life will be set to the lower of the standard life for the asset class and the access arrangement period length.

2.11 Inputs working sheet

The **Inputs working** sheet allows the user to show the worked calculations for some of the inputs in the **RFM input** sheet.

A common adjustment made by gas distribution service providers is the adjustment to gross capex for movements in capitalised provisions. Therefore, we have set up the **Inputs working** sheet to show this adjustment to gross capex for capitalised provisions. In the case where a gas distribution service provider requires making this adjustment to its gross capex, it can be done so in the **Inputs working** sheet and links the adjusted gross capex in the **Inputs working** sheet to the input section for gross capex in the **RFM input** sheet.

The user can also use the **Inputs working** sheet to show calculations for other inputs in the **RFM input** sheet—for example the worked calculations for the final year adjustments section inputs. The user can add this below the section for the adjustments for capitalised provisions.

Alternatively, if the user does not require any adjustments for capitalised provisions and/or wants to add other workings more prominently it can remove the capitalised provisions adjustment calculations from this sheet. We have included a 'Clear Sheet' button at the top of the sheet allowing the user to initiate a macro which deletes the calculations provided.

Figure 11 provides an example of the **Inputs working** sheet.

Figure 11 Inputs working sheet

Aus Gas - Inputs Working - DNSP RFM - version 1

Clear Sheet

Actual Capital Expenditure – As Incurred: before movements in capitalised provisions ($m Nominal)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Pipelines	42.00	51.00	14.00	9.00	16.00	26.00					
Service Pipes	23.00	21.00	11.00	51.25	9.00	11.00					
Supply Regulators/Valve Stations	11.00	12.00	11.00	11.00	11.00	11.00					
SCADA	10.25	10.00	10.00	11.00	10.00	10.00					
Meters	9.25	10.00	9.00	9.00	9.00	9.00					
Computer Equipment	8.00	8.25	8.00	8.00	8.00	9.00					
Vehicles	7.00	7.25	7.00	7.00	8.00	7.00					
Land and easements	6.00	6.00	6.00	6.00	6.00	6.00					
Buildings	5.00	5.25	5.00	5.00	6.00	5.00					
in-house software	4.00	4.00	4.00	4.00	4.00	4.00					
Equity raising costs	-	-	-	-	-	-					
Total	115.00	122.00	74.00	110.00	75.00	87.00	-	-	-	-	-

Movements in capitalised provisions ($m Nominal)

Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Pipelines	- 1.00	- 1.00	- 2.00	- 1.00	- 1.00	- 1.00					
Service Pipes	- 1.00	- 1.00	- 1.00	- 1.25	- 1.00	- 1.00					
Supply Regulators/Valve Stations	- 1.00	- 2.00	- 1.00	- 1.00	- 1.00	- 1.00					
SCADA	- 1.25	- 1.00	- 1.00	- 2.00	- 1.00	- 1.00					
Meters	- 1.25	- 2.00	- 1.00	- 1.00	- 1.00	- 1.00					
Computer Equipment	- 1.00	- 1.25	- 1.00	- 1.00	- 1.00	- 2.00					
Vehicles	- 1.00	- 1.25	- 1.00	- 1.00	- 2.00	- 1.00					
Land and easements	- 1.00	- 1.00	- 1.00	- 1.00	- 1.00	- 1.00					
Buildings	- 1.00	- 1.25	- 1.00	- 1.00	- 2.00	- 1.00					
in-house software	- 1.00	- 1.00	- 1.00	- 1.00	- 1.00	- 1.00					
Equity raising costs											
Total	115.00	122.00	74.00	110.00	75.00	87.00	-	-	-	-	-

Actual Capital Expenditure – As Incurred: after movements in capitalised provisions ($m Nominal)

Year	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Pipelines	41.00	50.00	12.00	8.00	15.00	25.00					
Service Pipes	22.00	20.00	10.00	50.00	8.00	10.00					
Supply Regulators/Valve Stations	10.00	10.00	10.00	10.00	10.00	10.00					
SCADA	9.00	9.00	9.00	9.00	9.00	9.00					
Meters	8.00	8.00	8.00	8.00	8.00	8.00					
Computer Equipment	7.00	7.00	7.00	7.00	7.00	7.00					
Vehicles	6.00	6.00	6.00	6.00	6.00	6.00					
Land and easements	5.00	5.00	5.00	5.00	5.00	5.00					
Buildings	4.00	4.00	4.00	4.00	4.00	4.00					
in-house software	3.00	3.00	3.00	3.00	3.00	3.00					
Equity raising costs	-	-	-	-	-	-					
Total	115.00	122.00	74.00	110.00	75.00	87.00	-	-	-	-	-

A The depreciation tracking module

A.1 Overview of the depreciation tracking module

The depreciation tracking module (tracking module) is used to calculate depreciation schedules of the capital base and TAB for each asset class across the relevant lives of the assets. Specifically, the tracking module is an attachment to the RFM—comprising a separate set of Microsoft Excel sheets in one file—that performs calculations to derive:[31]

- forecast capital base and TAB depreciation schedules for the next access arrangement period
- actual capital base and TAB depreciation schedules for the current access arrangement period.

The tracking module allows the user to vary the inputs to assess their impact on the output data and other derived parameters. Figure 12 provides an overview of this process.

In this figure, each box with a dark blue header represents a sheet within the tracking module. Sheets are classified as primarily about inputs (left column), calculations (centre column) or outputs (right column). The flow of data is therefore from left to right, and simplified links between the sheets are shown with blue arrows. The figure also shows the RFM and post-tax revenue model (PTRM) in light blue headers and the outputs from the tracking module that serve as inputs to the RFM and PTRM.

The user should not alter the names of any sheets or defined name ranges within the tracking module. These components are used in the depreciation formulae and macros included in the module. If these elements are changed, errors may occur.

A.1.1 Capital base depreciation tracking

To operate the tracking module for capital base depreciation, enter the inputs in the **Capital base input** sheet (section B.1)—for example, the starting capital base[32], actual capex, capital base adjustments, capital base asset lives, or actual CPI rate. These inputs can be sourced from the accompanying RFM for the current access arrangement period.

The tracking module then uses this data to calculate the depreciation schedules for each asset class—disaggregated by the starting capital base, each year of capex, capital base adjustments, and t–1 capex true-ups. Under this approach, these asset values are converted into the base dollar terms of the tracking module to determine the depreciation profiles of each disaggregated component in the **Capital base tracking** sheet (section B.2).[33]

---

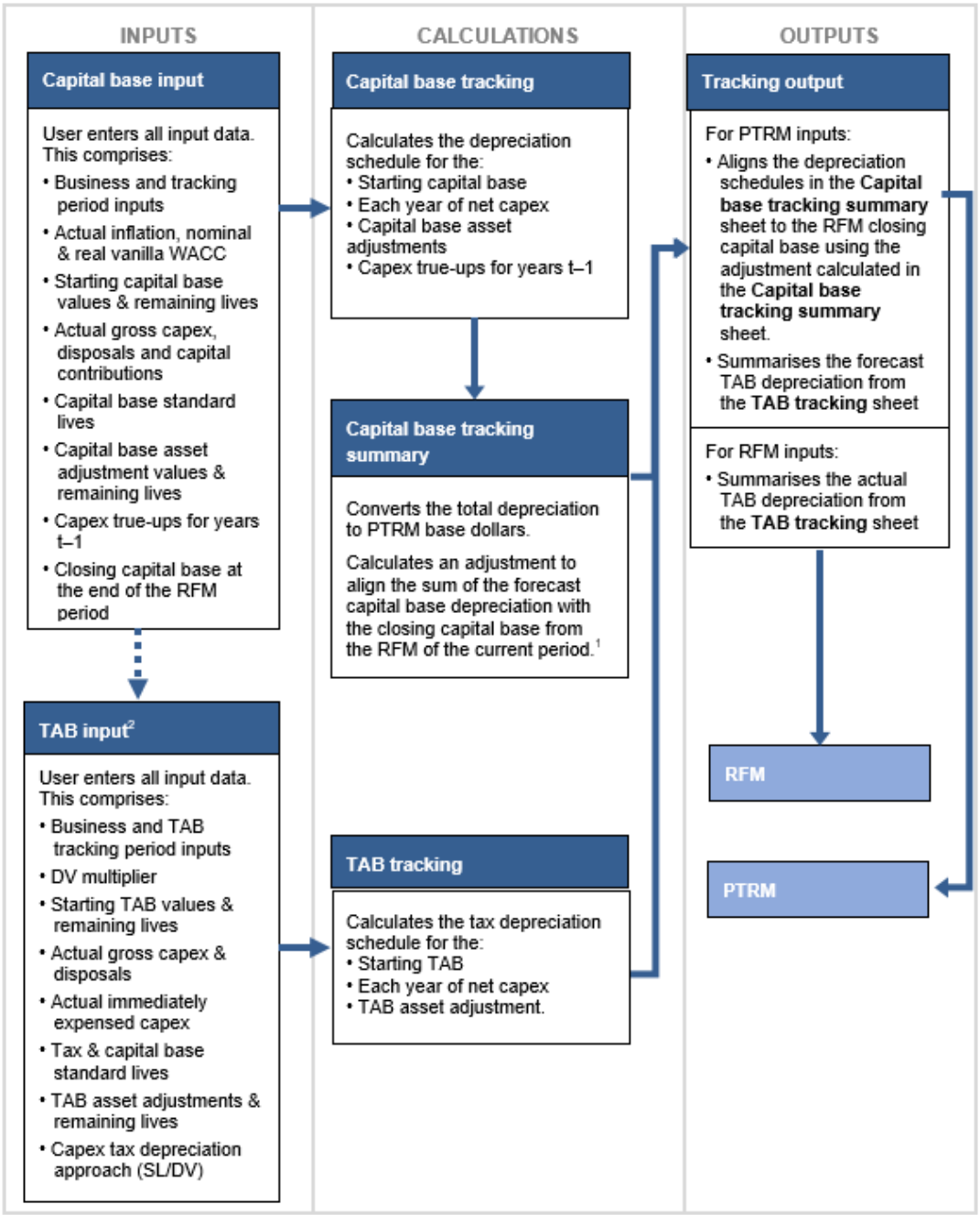
31 The set of Microsoft Excel sheets which constitute the tracking module were created in Microsoft Excel 2016. We recommend this or a later version of Microsoft Excel be used in applying these spreadsheets.

32 This input is only required for the first period that a business begins year-by-year tracking.

33 The base dollar terms of the tracking module are the end of year dollar terms for the year before the first year of trackedcapex. For example, if a gas distribution service provider begins tracking capex from 2015–16, these dollar terms will be 2014–15 dollar terms.

The **Capital base tracking summary** (section B.3) sheet converts the total depreciation for each asset class from the **Capital base tracking** sheet to PTRM base dollar terms.[34]

Figure 12 Overview of the tracking module sheets



1. In the case of reopeners, the adjustment will align to the adjusted closing capital base.
2. By default, some of the input sections in the **TAB input** sheet will reference the corresponding sections in the **Capital base input** sheet. These inputs comprise business and tracking period inputs, gross capex and disposals and capital base standard lives and capital base adjustment remaining lives. Where only TAB depreciation tracking is required—or where capital base and TAB depreciation tracking start in different years—the default formulae in input cells of the **TAB input** sheet should be overwritten with the correct values.

34 The PTRM base dollar terms refers to the input terms of the PTRM for which the tracking module will provide the forecast capital base depreciation. It is therefore at end of year dollar terms of the current access arrangement period (in relation to RFM), or at the start of the next access arrangement period (in relation to PTRM).

Finally, because the capital base depreciation outputs of the tracking module become inputs to the PTRM, the **Tracking output** sheet (section B.4) calculates the forecast capital base depreciation for each asset class in respect of the next access arrangement period. This sheet provides the data that serve as inputs to the PTRM in the required format.[35]

A.1.2 TAB depreciation tracking

To operate the tracking module for TAB depreciation, enter the inputs in the **TAB input** sheet (section C.1)—for example, the starting TAB, actual capex, immediate expensing, TAB adjustments, tax asset lives, or depreciation approach (SL/DV). These inputs can be sourced from the accompanying RFM.[36]

The tracking module then uses this data to calculate the TAB depreciation schedules for each asset class—broken down further by the starting TAB, each year of capex (adjusted for immediate expensing), and TAB adjustments. The depreciation schedule of each disaggregated component is then calculated in the **TAB tracking** sheet (section C.2).[37]

Finally, because the outputs of the tracking module become inputs to the PTRM and RFM, the **Tracking output** sheet (section C.3) summarises the calculated TAB depreciation by asset class in the format required for feeding into the models. For each asset class it provides:

- total forecast tax depreciation for the next access arrangement period which serves as an input to the PTRM
- total actual tax depreciation for the current access arrangement period, which serves as an input to the RFM.

35 The tracking module can also be used to derive actual capital base depreciation to be used as an input to the RFM.

36 By default, some of the input sections in the **TAB input** sheet will reference the corresponding sections in the **Capital base input** sheet. These inputs comprise business and access arrangement period data, gross capex, disposals, capital base standard lives and asset adjustment remaining lives. Where the tracking module is used for both capital base and TAB depreciation, the default formulae in the **TAB input** sheet will reference the correct values in the **Capital base input** sheet and can be retained. Where only TAB depreciation tracking is required, the default formulae in the input cells of the **TAB input** sheet should be overwritten with the correct values.

37 For each asset class, the total calculated depreciation includes the impact of immediate expensing.

B Capital base depreciation tracking

B.1 Capital base input sheet

The **Capital base input** sheet provides for key input variables for capital base tracking to be entered in the tracking module. They are automatically linked to corresponding cells in other relevant sheets. Values should be entered into each cell with light blue shading. This sheet comprises the following sections:

- general information
- starting capital base and actual gross capex—as incurred
- actual asset disposals—as incurred
- actual capital contributions—as incurred
- capital base lives
- asset adjustments – capital base
- asset adjustment remaining life – capital base
- adjustment for year t–1 capex[38]
- RFM closing capital base
- RFM closing capital base – adjusted for mid-period reopeners.[39]

Unlike the RFM and the PTRM, the tracking module retains inputs and calculations across multiple access arrangement periods. For the first access arrangement period when tracking commences, the user enters the required inputs for that period. For each subsequent reset the user updates the tracking module by adding the inputs relevant to the new access arrangement period. Notes have been included for various cells with specific comments and explanations about the relevance of the inputs.

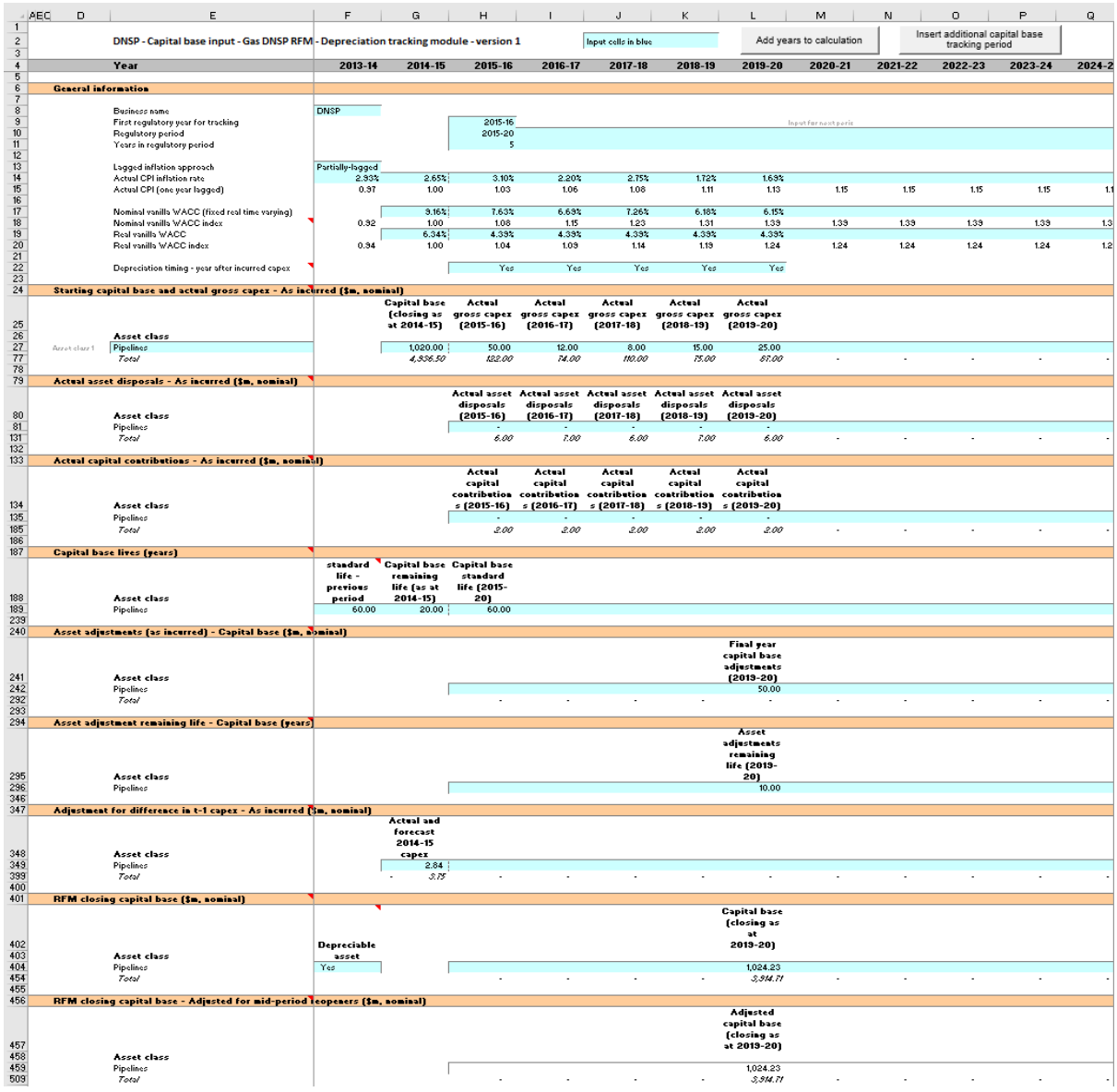
This sheet also contains two buttons that initiate macros that are used to expand the calculations of the tracking module—inserting additional access arrangement periods for continuing the tracking calculations, and extending the number of years for calculating depreciation. Details of these macros are discussed in sections B.5 and B.6.

Figure 13 provides an example of the **Capital base input** sheet.

38 The term 'year t–1' refers to the final year of the previous access arrangement period.

39 Reopeners includes contingent projects and cost pass throughs.

Figure 13 Capital base input sheet



DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1

Input cells in blue | Add years to calculation | Insert additional capital base tracking period

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-2
General information												
Business name	DNSP											
First regulatory year for tracking			2015-16									
Regulatory period			2015-20									
Years in regulatory period			5									
Lagged inflation approach	Partially-lagged											
Actual CPI inflation rate	2.33%	2.65%	3.10%	2.20%	2.75%	1.72%	1.63%					
Actual CPI (one year lagged)	0.37	1.00	1.03	1.06	1.08	1.11	1.13	1.15	1.15	1.15	1.15	1.1
Nominal vanilla WACC (fixed real time varying)		9.16%	7.63%	6.69%	7.26%	6.18%	6.15%					
Nominal vanilla WACC index	0.92	1.00	1.08	1.15	1.23	1.31	1.39	1.39	1.39	1.39	1.39	1.3
Real vanilla WACC		6.34%	4.33%	4.33%	4.33%	4.33%	4.33%					
Real vanilla WACC index	0.94	1.00	1.04	1.09	1.14	1.19	1.24	1.24	1.24	1.24	1.24	1.2
Depreciation timing - year after incurred capex			Yes	Yes	Yes	Yes	Yes					
Starting capital base and actual gross capex - As incurred ($m, nominal)												
Asset class		Capital base (closing as at 2014-15)	Actual gross capex (2015-16)	Actual gross capex (2016-17)	Actual gross capex (2017-18)	Actual gross capex (2018-19)	Actual gross capex (2019-20)					
Pipelines		1,020.00	50.00	12.00	8.00	15.00	25.00					
Total		*4,936.50*	*132.00*	*14.00*	*110.00*	*75.00*	*87.00*	-	-	-	-	-
Actual asset disposals - As incurred ($m, nominal)												
Asset class			Actual asset disposals (2015-16)	Actual asset disposals (2016-17)	Actual asset disposals (2017-18)	Actual asset disposals (2018-19)	Actual asset disposals (2019-20)					
Pipelines			-	-	-	-	-					
Total			*6.00*	*7.00*	*6.00*	*7.00*	*6.00*	-	-	-	-	-
Actual capital contributions - As incurred ($m, nominal)												
Asset class			Actual capital contributions (2015-16)	Actual capital contributions (2016-17)	Actual capital contributions (2017-18)	Actual capital contributions (2018-19)	Actual capital contributions (2019-20)					
Pipelines			-	-	-	-	-					
Total			*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	-	-	-	-	-
Capital base lives (years)												
Asset class	standard life - previous period	Capital base remaining life (as at 2014-15)	Capital base standard life (2015-20)									
Pipelines	60.00	20.00	60.00									
Asset adjustments (as incurred) - Capital base ($m, nominal)												
Asset class							Final year capital base adjustments (2019-20)					
Pipelines							50.00					
Total			-	-	-	-	-	-	-	-	-	-
Asset adjustment remaining life - Capital base (years)												
Asset class							Asset adjustments remaining life (2019-20)					
Pipelines							10.00					
Adjustment for difference in t-1 capex - As incurred ($m, nominal)												
Asset class		Actual and forecast 2014-15 capex										
Pipelines		2.84										
Total		*3.75*	-	-	-	-	-	-	-	-	-	-
RFM closing capital base ($m, nominal)												
Asset class	Depreciable asset						Capital base (closing as at 2019-20)					
Pipelines	Yes						1,024.23					
Total			-	-	-	-	*3,914.71*	-	-	-	-	-
RFM closing capital base - Adjusted for mid-period reopeners ($m, nominal)												
Asset class							Adjusted capital base (closing as at 2019-20)					
Pipelines							1,024.23					
Total			-	-	-	-	*3,914.71*	-	-	-	-	-

B.1.1 General information

The **Capital base input** sheet captures some general information required to set up the tracking module, and calculate values consistently. The recorded input values are linked to subsequent sheets which calculate depreciation in consistent dollar terms and apply the correct return where relevant. Notes have been included for various cells with specific comments and explanations about the relevance/source of the inputs.

Business and tracking period inputs

The business name and applicable depreciation tracking for an access arrangement period (including start and length) are recorded in rows 8 to 11. This allows the tracking module to begin tracking at the correct point in time—first regulatory year for tracking—and applies capex true-ups and adjustments in the correct year—based on the length of an access arrangement period.

The tracking module template is configured to initially accommodate capital base depreciation tracking for a single period of 5 years in length.[40] This can be expanded using the macro buttons (discussed below). For subsequent periods of capital base depreciation tracking, the user initiates the macro to expand the calculations (section B.5), and enters the access arrangement period inputs—years and length—in the relevant column.[41]

Inflation and rate of return

Actual annual inflation rates—based on the consumer price index (CPI)—over the relevant years of capital base depreciation tracking are recorded in rows 14 to 15. It also provides the user an option at cell F13 (drop down function) to select whether the capital base roll forward is undertaken using the partially-lagged or all-lagged approach to actual inflation.[42] The selected approach has to align with the approach applied in the accompanying RFM.

This section also records the weighted average cost of capital (WACC) rates used in the building block determinations corresponding to the relevant years of capital base depreciation tracking in rows 17 to 20. These parameters are linked to the **Capital base tracking** and **Capital base tracking summary** sheets.

Depreciation timing option

The tracking module provides the user an option in row 22 (drop down function) to select whether depreciation of capex starts the year after the capex is incurred, or mid-way through the year capex is incurred. The AER standard approach is to begin depreciation of capex the year after it is incurred (and apply a half-year nominal vanilla WACC allowance to capex before depreciating). The tracking module also includes an alternative calculation to align with a legacy jurisdictional difference in capex depreciation that may also apply.[43] This option begins depreciating capex mid-way through the year that capex is incurred, and does not apply the half-year nominal vanilla WACC allowance to capex.

If 'Yes' is selected, the capex values and depreciation schedules calculated in section B.2 will reflect the AER standard approach, beginning the year after capex is incurred and including a half-year WACC allowance. If 'No' is selected, the capex values (section B.2.1) will not include the half-year WACC allowance and the depreciation schedules (section B.2.2) will begin mid-way through the year capex is incurred.

---

40 Where the first access arrangement period of capital base depreciation tracking is longer than 5 years, the in-built macros (section B.5) can also be used to add the required number of additional years to the first period.

41 For example, where an access arrangement period is for 2020–25, details of this period should be entered in the column for 2020–21. The tracking module has been configured to provide a prompt (row 9) to assist with entering the relevant years and length for future access arrangement periods in the correct column.

42 See section 2.3.6.

43 This approach is applicable to Jemena Gas Networks for capex prior to moving to the AER standard approach.

B.1.2 Starting capital base and actual gross capex – as incurred

The starting capital base comprises of the values as at the first year of capital base tracking. It is the regulatory value of the historical assets at the start of capital base depreciation tracking that will be depreciated as one group. The actual gross capex is adjusted for asset disposals and capital contributions to calculate the net capex to be depreciated. The **Capital base input** sheet requires values for the starting capital base (disaggregated by asset classes in rows 27 to 76) at the start of depreciation tracking. The values for the actual gross capex—also disaggregated by asset classes—are required for each year of capital base depreciation tracking.

The recorded input values are linked to the **Capital base tracking** sheet which calculates net capex and tracks the depreciation of the starting capital base and net capex.

Asset class name

The asset classes/names are recorded in column E. It is important that the asset classes recorded in the tracking module match the asset classes identified in the accompanying RFM. This allows the tracking module to link with the RFM and output depreciation profiles in a consistent format for input to the RFM and PTRM, where relevant.

Consistent with the RFM and PTRM, the tracking module is configured to accommodate up to 50 asset classes.[44] The number of asset classes used in the tracking module will vary between businesses. However, for each business, the number of asset classes used in the tracking module must be consistent with that used in the RFM and PTRM to allow the depreciation schedules determined in the tracking module to be used as inputs to the RFM and PTRM, where relevant.

Starting capital base

The starting capital base values for each asset class are recorded in column G. The starting capital base is the closing value of the final year for the previous access arrangement period. This is the same value as the opening capital base at the start of the current access arrangement period where capital base depreciation tracking commences. These asset values can be sourced from the **Total capital base roll forward** sheet of the accompanying RFM or the **PTRM input** sheet of the relevant PTRM. These values are linked to the depreciation calculations in the **Capital base tracking** sheet.

Actual gross capex – as incurred

The actual gross capex values for each year of capital base depreciation tracking are recorded in column H and beyond. Actual gross capex inputs can be sourced from the **RFM input** sheet of the accompanying RFM. These inputs (by asset class in rows 27 to 76) are recognised on an as incurred basis and are assumed to be in middle of the year terms

44 The asset class names are also referenced in the **TAB input** sheet by default. Asset classes 47 to 50 are listed as those for which the straight-line (SL) method of tax depreciation will apply in the access arrangement periods subsequent to the 2018 tax review. These are for assets related to 'In-house software', 'Buildings' and 'Equity raising costs'.

based on nominal dollar terms. These values are linked to the depreciation calculations in the **Capital base tracking** sheet.

Consistent with the RFM, at the time the final decision is made these inputs for the final year of the current access arrangement period will typically remain as estimates.[45] These final year estimates will be overwritten with actuals at the next reset.

B.1.3 Actual asset disposals – as incurred

The actual asset disposals (recorded in rows 81 to 130) are assumed to be in middle of the year terms based on nominal dollar terms. Actual asset disposals can be sourced from the **RFM input** sheet of the accompanying RFM.[46] These values are linked to the depreciation calculations in the **Capital base tracking** sheet.

Consistent with the RFM, at the time the final decision is made these inputs for the final year of the current access arrangement period will typically remain as estimates.[47] These final year estimates will be overwritten with actuals at the next reset.

B.1.4 Actual capital contributions – as incurred

The values of actual assets contributed by other parties over the access arrangement period for each year are recorded in rows 135 to 184.These inputs are assumed to be in middle of the year terms based on nominal dollar terms. Actual capital contributions can be sourced from the **RFM input** sheet of the accompanying RFM.[48] These values are linked to the depreciation calculations in the **Capital base tracking** sheet.

Consistent with the RFM, at the time the final decision is made these inputs for the final year of the current access arrangement period will typically remain as estimates.[49] These final year estimates will be overwritten with actuals at the next reset.

B.1.5 Capital base lives

The capital base standard lives and remaining lives are recorded in rows 189 to 238. These inputs can be sourced from the **RFM input** sheet of the accompanying RFM. They are linked to the depreciation calculations in the **Capital base tracking** sheet.

---

45 At the draft decision stage, typically the last two years of the current access arrangement period will remain as estimates. This is also consistent with the RFM.

46 Consistent with the RFM, at the time the final decision is made these inputs for the final year of the access arrangement period will typically remain as estimates. These final year estimates will be updated with actuals at the next reset.

47 At the draft decision stage, typically the last two years of the current access arrangement period will remain as estimates. This is also consistent with the RFM.

48 Consistent with the RFM, at the time the final decision is made these inputs for the final year of the access arrangement period will typically remain as estimates. These final year estimates will be updated with actuals at the next reset.

49 At the draft decision stage, typically the last two years of the current access arrangement period will remain as estimates. This is also consistent with the RFM.

Capital base remaining lives

The capital base remaining lives of each asset class are recorded in column G and reflect the economic lives of the tracking module's starting capital base (section B.1.2). These values should be consistent with those contained in the RFM for the relevant period of depreciation tracking. These inputs are referenced in the **Capital base tracking** sheet to calculate the depreciation of the starting capital base values.

Capital base standard lives

The capital base standard lives measure how long the infrastructure would physically last if it had just been built. The capital base standard lives for each asset class are recorded in rows 189 to 238 for each access arrangement period tracked in the relevant column.[50]

The standard lives recorded in column F relate to those for the period preceding the first access arrangement period when tracking commenced. These standard lives are used to calculate the depreciation of any true-ups for capex prior to the first access arrangement period for tracking (section B.1.8).

The standard lives recorded in column H relate to the standard lives for the first access arrangement period when tracking commenced. Standard lives for subsequent access arrangement periods of capital base depreciation tracking are recorded in the relevant column for those periods (section B.5.1).

These values should be consistent with those contained in the PTRM used in the relevant building block determination for the gas distribution service provider. They are referenced in the **Capital base tracking** sheet to calculate the depreciation of each year of net capex, and any adjustments for the true-up of capex in year t–1 of the previous access arrangement period.

B.1.6 Asset adjustments (as incurred) – capital base

The input section for asset adjustments is primarily for recording final year asset adjustments at the end of the current access arrangement period. This data may be required where the gas distribution service provider has adjusted its closing capital base by removing or adding assets (such as for a change in service classification) in the final year of the access arrangement period.

The final year asset adjustments are recorded in rows 242 to 291, and these inputs can be sourced from the **RFM input** sheet of the accompanying RFM.

The user can also record capital base asset adjustments in one or more years within an access arrangement period for depreciation tracking rather than at the end of the period.[51] Where inputs are recorded for within period asset adjustments (i.e. reflecting mid-period

50 For example, where an access arrangement period is for 2020–25, the capital base standard lives applicable to this period should be entered in the column for 2020–21. The tracking module has been configured to provide a heading prompt (row 186) to assist with entering the relevant inputs for future access arrangement periods in the correct column.

51 We consider that these within-period adjustments would be allowed in the case of reopeners such as a contingent project determination where capital base adjustments occur within the period.

reopeners such as contingent projects or pass throughs that affect the capital base), these values are referenced in the **Capital base input** sheet for RFM closing capital base – adjusted for mid-period reopeners (section B.1.10). The asset adjustments are referenced and used for calculating depreciation in the **Capital base tracking** sheet.

B.1.7 Asset adjustments remaining life – capital base

The asset adjustment remaining lives reflect the economic lives of the asset adjustments (section B.1.6). The remaining lives are recorded in rows 296 to 345 in the same columns as the associated asset adjustments, and these inputs can be sourced from the **RFM input** sheet of the accompanying RFM. The asset adjustments remaining lives are referenced in the **Capital base tracking** sheet.

B.1.8 Adjustment for difference in year t–1 capex – as incurred

The adjustment for the difference in year t–1 capex are recorded in rows 349 to 398 in the relevant column for year t–1 and refers to the difference between actual and estimated net capex for that year.[52]

Adjustment for the difference in year t–1 capex can be sourced from the 'Nominal difference between actual and forecast net capex' section in the **Adjustment for previous period** sheet of the accompanying RFM. These inputs are assumed to be in end of the year terms based on nominal dollar terms.

The adjustment for year t–1 capex is referenced and used for calculating depreciation in the **Capital base tracking** sheet.

B.1.9 RFM closing capital base

The RFM closing capital base values are recorded in rows 404 to 453 in the relevant column for the final year of the current access arrangement period.[53] The inputs refer to the closing capital base values calculated in the accompanying RFM for the final year of the current access arrangement period.

These inputs can be sourced from the **PTRM input** sheet of the RFM and are linked to the RFM closing capital base adjusted values (section B.1.10). They are used to calculate the capital base depreciation schedules for each asset class in the **Tracking output** sheet.[54]

---

52 For example, where an access arrangement period is for 2020–25, the adjustment to year t–1 capex applicable to this period should be entered in the column for 2019–20. The tracking module has been configured to provide a heading prompt (row 346) to assist with entering the relevant inputs for future access arrangement periods in the correct column.

53 For example, where an access arrangement period is for 2020–25, the RFM closing capital base should be entered in the column for 2024–25. The tracking module has been configured to provide a heading prompt (row 400) to assist with entering the relevant inputs for future access arrangement periods in the correct column.

54 The RFM closing capital base is equivalent to the PTRM opening capital base. Rule 89(1)(d) of the NGR requires that the sum of the real value of the depreciation that is attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the capital base for the relevant distribution system.

The input cells in column F each contain a ‘yes/no’ switch for each asset class to indicate whether or the asset class is depreciable. These inputs are referenced in the **Tracking output** sheet.

B.1.10 RFM closing capital base (adjusted for mid-period reopeners)

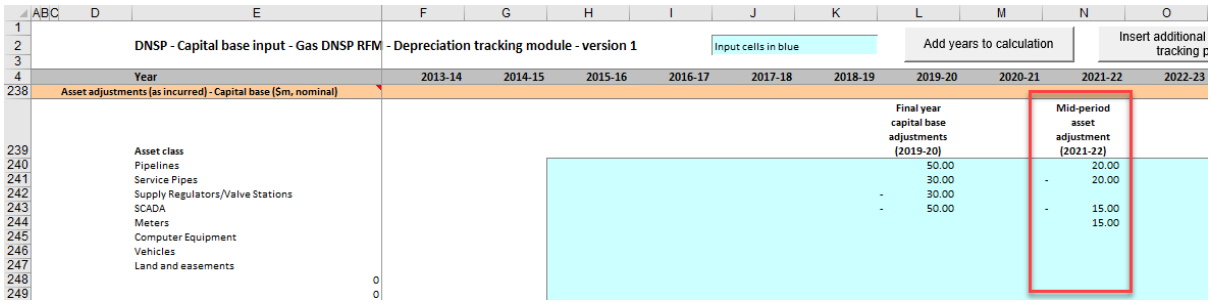
This section on RFM closing capital base adjusted values does not require inputs to be recorded. For each asset class, the adjusted closing capital base is calculated where capital base adjustments (section B.1.6) are recorded in one or more years within a period rather than at the end of the period. The RFM closing capital base values (adjusted for mid-period reopeners) are displayed in rows 457 to 506.

If no mid-period asset adjustments are recorded, the values in the RFM closing capital base adjusted section will be equal to the RFM closing capital base values (section B.1.9).

Where mid-period asset adjustments are recorded, the RFM closing capital base adjusted values are required to correctly align the forecast capital base depreciation schedule with the asset values included in the capital base. This is consistent with the requirements of rule 89(1)(d) of the NGR.

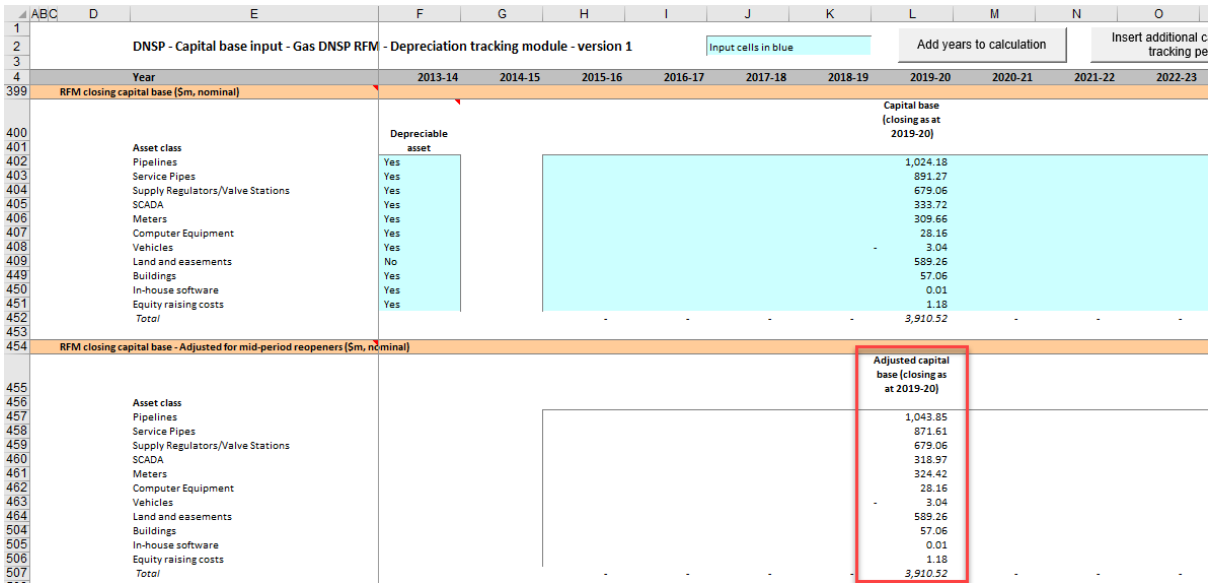
Figure 14 shows the recorded mid-period asset adjustments and Figure 15 shows the resulting RFM closing capital base adjusted values.

Figure 14 Capital base input sheet—capital base adjustments made within the access arrangement period



		E	F	G	H	I	J	K	L	M	N	O
1												
2		DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1					Input cells in blue		Add years to calculation		Insert additional tracking p	
3												
4		Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
238		Asset adjustments (as incurred) - Capital base ($m, nominal)										
									Final year capital base adjustments (2019-20)		Mid-period asset adjustment (2021-22)	
239		Asset class										
240		Pipelines							50.00		20.00	
241		Service Pipes							30.00		- 20.00	
242		Supply Regulators/Valve Stations							- 30.00			
243		SCADA							- 50.00		- 15.00	
244		Meters									15.00	
245		Computer Equipment										
246		Vehicles										
247		Land and easements										
248		0										
249		0										

Figure 15 Capital base input sheet—RFM closing capital base adjusted values



DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1

Input cells in blue | Add years to calculation | Insert additional c tracking pe

	Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
399	**RFM closing capital base ($m, nominal)**										
400		Depreciable asset						Capital base (closing as at 2019-20)			
401	**Asset class**										
402	Pipelines	Yes						1,024.18			
403	Service Pipes	Yes						891.27			
404	Supply Regulators/Valve Stations	Yes						679.06			
405	SCADA	Yes						333.72			
406	Meters	Yes						309.66			
407	Computer Equipment	Yes						28.16			
408	Vehicles	Yes						- 3.04			
409	Land and easements	No						589.26			
449	Buildings	Yes						57.06			
450	In-house software	Yes						0.01			
451	Equity raising costs	Yes						1.18			
452	*Total*			-	-	-	-	*3,910.52*	-	-	-
453											
454	**RFM closing capital base - Adjusted for mid-period reopeners ($m, nominal)**										
455								Adjusted capital base (closing as at 2019-20)			
456	**Asset class**										
457	Pipelines							1,043.85			
458	Service Pipes							871.61			
459	Supply Regulators/Valve Stations							679.06			
460	SCADA							318.97			
461	Meters							324.42			
462	Computer Equipment							28.16			
463	Vehicles							- 3.04			
464	Land and easements							589.26			
504	Buildings							57.06			
505	In-house software							0.01			
506	Equity raising costs							1.18			
507	*Total*			-	-	-	-	*3,910.52*	-	-	-

B.2 Capital base tracking sheet

The **Capital base tracking** sheet calculates the real straight-line depreciation schedules for each asset class (in tracking module base dollar terms).[55] For each asset class the depreciation schedule is disaggregated into separate capital base tracking components for:

- the starting capital base
- each year of tracked capex
- adjustments to year t–1 capex
- other capital base adjustments.

Figure 16 provides an example of the **Capital base tracking** sheet.

55 The base dollar terms of the tracking module are the end of year dollar terms for the year before the first year of tracked capex. For example, if a gas distribution service provider begins tracking capex from 2015–16, these dollar terms will be 2014–15 dollar terms.

Figure 16 Capital base tracking sheet

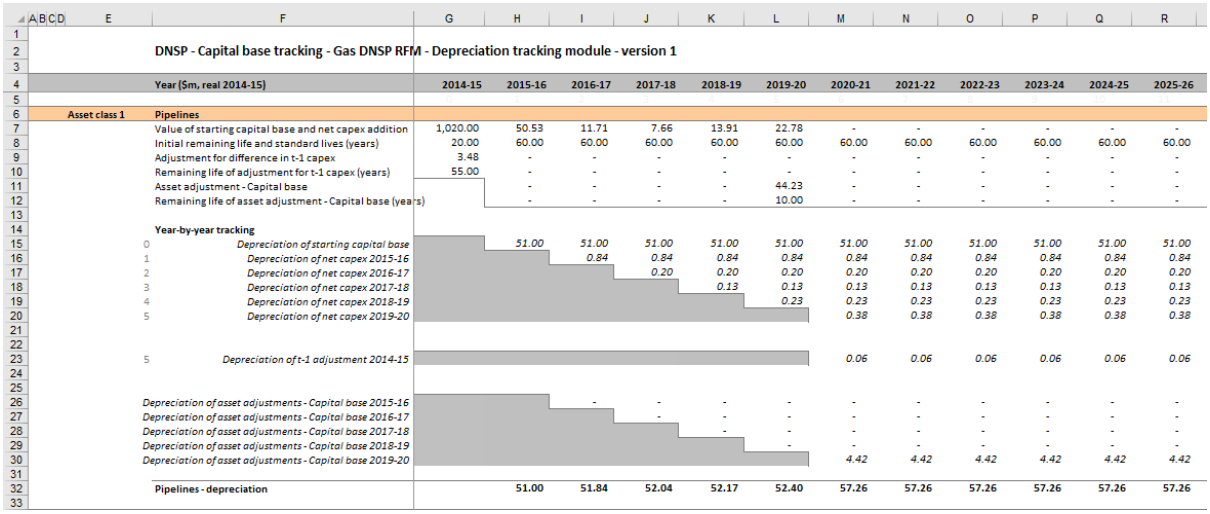
		DNSP - Capital base tracking - Gas DNSP RFM - Depreciation tracking module - version 1											
		Year ($m, real 2014-15)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23		
	Asset class 1	Pipelines											
		Value of starting capital base and net capex addition	1,020.00	50.53	11.71	7.66	13.91	22.78	-	-	-		
		Initial remaining life and standard lives (years)	20.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00		
		Adjustment for difference in t-1 capex	3.48	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	55.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	44.23	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-		
		Year-by-year tracking											
0		*Depreciation of starting capital base*		*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*		
1		*Depreciation of net capex 2015-16*			*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*		
2		*Depreciation of net capex 2016-17*				*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*		
3		*Depreciation of net capex 2017-18*					*0.13*	*0.13*	*0.13*	*0.13*	*0.13*		
4		*Depreciation of net capex 2018-19*						*0.23*	*0.23*	*0.23*	*0.23*		
5		*Depreciation of net capex 2019-20*							*0.38*	*0.38*	*0.38*		
5		*Depreciation of t-1 adjustment 2014-15*							*0.06*	*0.06*	*0.06*		
		Depreciation of asset adjustments - Capital base 2015-16			-	-	-	-	-	-	-		
		Depreciation of asset adjustments - Capital base 2016-17				-	-	-	-	-	-		
		Depreciation of asset adjustments - Capital base 2017-18					-	-	-	-	-		
		Depreciation of asset adjustments - Capital base 2018-19						-	-	-	-		
		Depreciation of asset adjustments - Capital base 2019-20							*4.42*	*4.42*	*4.42*		
		Pipelines - depreciation		**51.00**	**51.84**	**52.04**	**52.17**	**52.40**	**57.26**	**57.26**	**57.26**		
	Asset class 2	Service Pipes											
		Value of starting capital base and net capex addition	810.00	20.21	9.76	47.87	7.42	9.11	-	-	-		
		Initial remaining life and standard lives (years)	30.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00		
		Adjustment for difference in t-1 capex	3.67	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	55.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	26.54	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	4.00	-	-	-		
		Year-by-year tracking											
		Service Pipes - depreciation		**27.00**	**27.34**	**27.50**	**28.30**	**28.42**	**35.27**	**35.27**	**35.27**		
	Asset class 3	Supply Regulators/Valve Stations											
		Value of starting capital base and net capex addition	705.00	10.11	9.76	9.57	9.27	9.11	-	-	-		
		Initial remaining life and standard lives (years)	30.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
		Adjustment for difference in t-1 capex	0.55	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	35.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	- 26.54	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	5.00	-	-	-		
		Year-by-year tracking											
		Supply Regulators/Valve Stations - depreciation		**23.50**	**23.75**	**24.00**	**24.24**	**24.47**	**19.40**	**19.40**	**19.40**		
	Asset class 4	SCADA											
		Value of starting capital base and net capex addition	602.00	9.10	8.78	8.62	8.34	8.20	-	-	-		
		Initial remaining life and standard lives (years)	10.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00		
		Adjustment for difference in t-1 capex	5.41	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	10.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	- 44.23	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	7.00	-	-	-		
		Year-by-year tracking											
		SCADA - depreciation		**60.20**	**60.81**	**61.39**	**61.97**	**62.52**	**57.29**	**57.29**	**57.29**		
	Asset class 5	Meters											
		Value of starting capital base and net capex addition	502.00	6.06	5.86	5.74	5.56	5.47	-	-	-		
		Initial remaining life and standard lives (years)	10.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00		
		Adjustment for difference in t-1 capex	1.56	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	10.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	-	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	-	-	-	-		
		Year-by-year tracking											
		Meters - depreciation		**50.20**	**50.60**	**50.99**	**51.38**	**51.75**	**52.27**	**52.27**	**52.27**		
	Asset class 6	Computer Equipment											
		Value of starting capital base and net capex addition	402.00	7.07	6.83	6.70	6.49	6.38	-	-	-		
		Initial remaining life and standard lives (years)	5.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
		Adjustment for difference in t-1 capex	2.84	-	-	-	-	-	-	-	-		
		Remaining life of adjustment for t-1 capex (years)	2.00	-	-	-	-	-	-	-	-		
		Asset adjustment - Capital base		-	-	-	-	-	-	-	-		
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	-	-	-	-		
		Year-by-year tracking											
		Computer Equipment - depreciation		**80.40**	**81.41**	**82.39**	**83.34**	**84.27**	**6.20**	**6.20**	**4.78**		

The **Capital base tracking** sheet comprises 50 sections—one for each asset class. The data for Asset class 1 is shown in Figure 17 and comprises:

- data derived from the **Capital base input** sheet in rows 7 to 12 (cells within the bordered section)

- calculations for year-by-year real straight-line depreciation of capital base tracking components in rows 15 to 32.[56]

Figure 17 Capital base tracking sheet—Asset class 1



DNSP - Capital base tracking - Gas DNSP RFM - Depreciation tracking module - version 1

			2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
		Year ($m, real 2014-15)												
Asset class 1		Pipelines												
		Value of starting capital base and net capex addition	1,020.00	50.53	11.71	7.66	13.91	22.78	-	-	-	-	-	-
		Initial remaining life and standard lives (years)	20.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
		Adjustment for difference in t-1 capex	3.48	-	-	-	-	-	-	-	-	-	-	-
		Remaining life of adjustment for t-1 capex (years)	55.00	-	-	-	-	-	-	-	-	-	-	-
		Asset adjustment - Capital base		-	-	-	-	44.23	-	-	-	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-	-	-	-
		Year-by-year tracking												
	0	Depreciation of starting capital base		51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00
	1	Depreciation of net capex 2015-16			0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
	2	Depreciation of net capex 2016-17				0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
	3	Depreciation of net capex 2017-18					0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
	4	Depreciation of net capex 2018-19						0.23	0.23	0.23	0.23	0.23	0.23	0.23
	5	Depreciation of net capex 2019-20							0.38	0.38	0.38	0.38	0.38	0.38
	5	Depreciation of t-1 adjustment 2014-15							0.06	0.06	0.06	0.06	0.06	0.06
		Depreciation of asset adjustments - Capital base 2015-16		-	-	-	-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2016-17			-	-	-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2017-18				-	-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2018-19					-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2019-20							4.42	4.42	4.42	4.42	4.42	4.42
		Pipelines - depreciation		51.00	51.84	52.04	52.17	52.40	57.26	57.26	57.26	57.26	57.26	57.26

B.2.1 Data derived from Capital base input sheet

For each asset class, the bordered section contains data derived from the inputs entered in the **Capital base input** sheet. This section references the starting capital base, and calculates the net capex, asset adjustment and capex true-up values in end of year terms in real base dollar terms (dollar terms are listed in cell F4) for the tracking module.[57] It also references and calculates the relevant standard and remaining lives for each component from the **Capital base input** sheet.

For Asset class 1, the starting capital base value and associated remaining life are displayed in cells G7 and G8 respectively. Net capex and associated standard lives are displayed in rows 7 and 8 in columns H and beyond. Adjustments to year t–1 capex and their remaining lives are displayed in rows 9 and 10. Asset adjustments and the relevant remaining lives are displayed in rows 11 and 12. For each asset class presented, the relative order and location of these values are the same.

Starting capital base and remaining life

The starting capital base asset value is in end of year terms in real base dollar terms for the tracking module. This should be consistent with the nominal value entered in the **Capital base input** sheet. The remaining life displayed is the life which applies to the starting capital base.

---

56 By default, the **Capital base tracking** sheet accommodates a single access arrangement period of depreciation tracking. This can be expanded to include additional periods as required (section B.5.2).

57 The tracking module base dollar terms are listed in cell F4. They are the end of year dollar terms for the year before the first year of tracked capex. For example, if a gas distribution service provider begins tracking capex from 2015–16, the **Capital base tracking** sheet will display the depreciation calculations in real 2014–15 dollar terms. The **Capital base tracking** sheet then continues displaying the data in real 2014–15 dollar terms even when subsequent access arrangement periods' capex are added to the tracking module.

Net capex and standard lives

The net capex values are calculated based on the recorded actual nominal capex less asset disposals and capital contributions. If 'Yes' is selected for the depreciation timing option (section B.1.1), then the AER standard approach is applied, and the net capex values are converted to display in end of year terms in real base dollar terms for the tracking module.[58] If 'No' is selected, then no conversion is applied to the selected year's net capex.

The standard lives are listed for each year of capex and are the same for each year within an access arrangement period.

Adjustments for the difference in year t–1 capex and remaining life

The adjustments for the difference in year t–1 capex are converted to display in end of year terms in real base dollar terms for the tracking module.[59] For the initial access arrangement period when tracking commences, this value comprises the difference between actual and estimated year t–1 capex and a return on that difference. For subsequent access arrangement periods of depreciation tracking it comprises only the return on difference.[60]

The remaining life displayed is the life which applies to the adjustment when the value enters the capital base.[61]

Asset adjustment and remaining life

Where a gas distribution service provider has other asset adjustments (for example, end of period movements due to a change in service classification) these values are converted to display in end of year terms in real base dollar terms for the tracking module. The remaining life displayed is the life which applies to the asset adjustment.

B.2.2 Capital base depreciation schedules

For each asset class, the depreciation schedules—disaggregated by capital base components—are calculated in real base dollar terms for the tracking module. These values are displayed in the cells below the data derived from the **Capital base input** sheet.

If 'Yes' is selected for the depreciation timing option (section B.1.1), then the AER standard approach is applied, and capex depreciation schedules begin the year after capex is incurred. If 'No' is selected, the depreciation schedules begin mid-way through the year in which capex is incurred.

---

58 The net capex in the **Capital base tracking** sheet is converted by applying CPI and a half-year WACC to the nominal mid-year inputs in the **Capital base input** sheet.

59 The adjustment for the difference in year t–1 capex in the **Capital base tracking** sheet is converted by applying CPI to the nominal end-of-year inputs in the **Capital base input** sheet.

60 This is because for the subsequent access arrangement periods of depreciation tracking the difference in year t–1 capex is already captured by the inputs on the **RFM input** sheet when updating the previous estimate of gross capex with actual capex incurred.

61 It is equal to the standard life for the relevant year of capex less the time taken for the adjustment to enter the capital base. For a typical five year access arrangement period this equates to the standard life less 5 years for a year t–1 adjustment.

For Asset class 1, the values are displayed in rows 15 to 32 (Figure 17). The depreciation schedules relate to:

- the starting capital base (row 15)
- actual net capex (rows 16 to 20)
- adjustments to year t–1 capex (row 23)
- other asset adjustments (rows 26 to 30)
- total asset class depreciation (row 32).

For each asset class presented, the relative order and location of these values are the same. The depreciation is calculated on a straight-line basis and begins in the year after the asset enters the capital base.

Details on adding the depreciation rows required for an additional period of capital base tracking are discussed in section B.5.

The calculated total depreciation amounts in the **Capital base tracking** sheet are referenced in the **Capital base tracking summary** sheet and the **Tracking output** sheet.

B.3 Capital base tracking summary sheet

The **Capital base tracking summary** sheet converts the total forecast depreciation for the next access arrangement period (by asset class) from tracking module base dollar terms to PTRM base dollar terms.[62] The forecast depreciation schedules are contained in columns H to CJ for each asset class.

The **Capital base tracking summary** sheet also calculates an adjustment to ensure the depreciation schedules are in accordance with the requirements of the NGR.[63] For each asset class, the adjustment is displayed in percentage terms in column E and is equal to the RFM closing capital base (column D) divided by total forecast depreciation (column G). This adjustment is referenced in the **Tracking output** sheet.

Figure 18 provides an example of the **Capital base tracking summary** sheet.

62 The PTRM base dollar terms refers to the start of year 1 for the next access arrangement period real dollar terms for input to the PTRM for which the tracking module will provide the forecast capital base depreciation. It is therefore equivalent to end of year real dollar terms for the final year of the current access arrangement period.

63 Rule 89(1)(d) of the NGR requires that the sum of the real value of the depreciation that is attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the capital base for the relevant distribution system.

Figure 18 Capital base tracking summary sheet

DNSP - Capital base tracking summary - Gas DNSP RFM - Depreciation tracking module - version 1

Capital base tracking summary table ($m, 2019-20)

Row	Year	Capital base (RFM)	Adjustment required		Total	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
8	Forecast capital base depreciation	3,910.52			3,358.82	251.08	258.37	260.45	258.45	249.21	127.85	126.81	132.92	132.92	132.92	127.92
9	Pipelines	1,043.85	100.93%	9.58	1,034.27	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	64.75	59.75
10	Service Pipes	871.61	96.85%	-28.31	899.92	39.89	39.89	39.89	39.89	32.39	32.39	32.39	32.39	32.39	32.39	32.39
11	Supply Regulators/Valve Stations	679.06	98.97%	-7.04	686.10	21.94	21.94	21.94	21.94	21.94	27.94	27.94	27.94	27.94	27.94	27.94
12	SCADA	318.97	94.26%	-19.44	338.40	64.33	64.33	64.33	64.33	64.33	-3.72	-3.72	3.42	3.42	3.42	3.42
13	Meters	324.42	103.47%	10.89	313.53	58.99	58.99	58.99	58.99	58.99	2.23	2.23	2.23	2.23	2.23	2.23
14	Computer Equipment	28.16	93.96%	-1.81	29.97	6.05	6.05	6.05	4.91	3.80	2.08	1.03	-	-	-	-
15	Vehicles	-3.04	131.98%	-0.74	-2.30	-1.66	-1.89	0.63	0.42	0.21	-	-	-	-	-	-
16	Land and easements	589.26	100.00%	589.26	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
37	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
39	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
53	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
54	-	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
55	Spare straight-line tax asset class	-	100.00%	-	-	-	-	-	-	-	-	-	-	-	-	-
56	Buildings	57.06	98.98%	-0.59	57.65	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12	2.12
57	In-house software	0.01	16.45%	-0.07	0.08	-5.39	2.13	1.69	1.04	0.62	-	-	-	-	-	-
58	Equity raising costs	1.18	97.25%	-0.03	1.21	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06

B.4 Tracking output sheet – capital base

The **Tracking output** sheet outlines the capital base (and TAB) depreciation outputs from the tracking module in the format required to be used as inputs to the PTRM and RFM, where relevant.

For capital base depreciation tracking, the **Tracking output** sheet displays the capital base aligned forecast depreciation values for the next access arrangement period for each asset class in rows 8 to 57. The values for the capital base aligned forecast depreciation are displayed in PTRM base dollar terms and reference the values in the **Capital base tracking summary** sheet.[64]

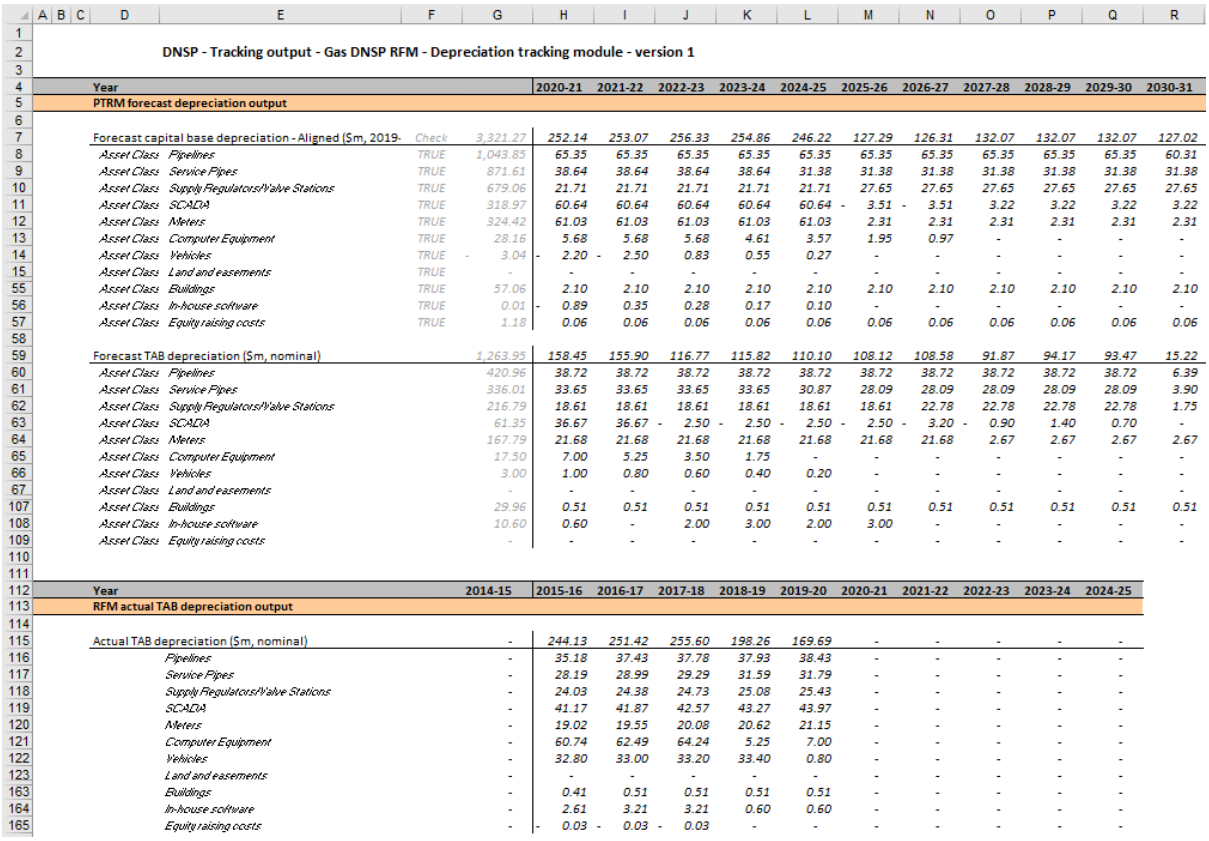
For each asset class, the total forecast capital base depreciation for each year displayed in the **Capital base tracking summary** sheet is multiplied by the adjustment calculated in

64 The PTRM base dollar terms refers to the start of year 1 for the next access arrangement period real dollar terms for input to the PTRM for which the tracking module will provide the forecast capital base depreciation. It is therefore equivalent to end of year real dollar terms for the final year of the current access arrangement period.

column E of that same sheet. This adjustment ensures that for each asset class the sum of the forecast depreciation equals the RFM closing capital base value consistent with the requirements of the NGR.[65] A check on this adjustment is performed in column F.

Figure 19 provides an example of the **Tracking output** sheet. Details of the TAB tracking depreciation outputs are discussed in section C.3.

Figure 19 Tracking output sheet



DNSP - Tracking output - Gas DNSP RFM - Depreciation tracking module - version 1

Year				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PTRM forecast depreciation output														
Forecast capital base depreciation - Aligned ($m, 2019-		Check	3,321.27	252.14	253.07	256.33	254.86	246.22	127.29	126.31	132.07	132.07	132.07	127.02
Asset Class	Pipelines	TRUE	1,043.85	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	60.31
Asset Class	Service Pipes	TRUE	871.61	38.64	38.64	38.64	38.64	31.38	31.38	31.38	31.38	31.38	31.38	31.38
Asset Class	Supply Regulators/Valve Stations	TRUE	679.06	21.71	21.71	21.71	21.71	21.71	27.65	27.65	27.65	27.65	27.65	27.65
Asset Class	SCADA	TRUE	318.97	60.64	60.64	60.64	60.64	60.64	-3.51	-3.51	3.22	3.22	3.22	3.22
Asset Class	Meters	TRUE	324.42	61.03	61.03	61.03	61.03	61.03	2.31	2.31	2.31	2.31	2.31	2.31
Asset Class	Computer Equipment	TRUE	28.16	5.68	5.68	5.68	4.61	3.57	1.95	0.97	-	-	-	-
Asset Class	Vehicles	TRUE	-3.04	-2.20	-2.50	0.83	0.55	0.27	-	-	-	-	-	-
Asset Class	Land and easements	TRUE	-	-	-	-	-	-	-	-	-	-	-	-
Asset Class	Buildings	TRUE	57.06	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Asset Class	In-house software	TRUE	0.01	-0.89	0.35	0.28	0.17	0.10	-	-	-	-	-	-
Asset Class	Equity raising costs	TRUE	1.18	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Forecast TAB depreciation ($m, nominal)			1,263.95	158.45	155.90	116.77	115.82	110.10	108.12	108.58	91.87	94.17	93.47	15.22
Asset Class	Pipelines		420.96	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	6.39
Asset Class	Service Pipes		336.01	33.65	33.65	33.65	33.65	30.87	28.09	28.09	28.09	28.09	28.09	3.90
Asset Class	Supply Regulators/Valve Stations		216.79	18.61	18.61	18.61	18.61	18.61	18.61	22.78	22.78	22.78	22.78	1.75
Asset Class	SCADA		61.35	36.67	-36.67	-2.50	-2.50	-2.50	-2.50	-3.20	-0.90	-1.40	-0.70	-
Asset Class	Meters		167.79	21.68	21.68	21.68	21.68	21.68	21.68	21.68	2.67	2.67	2.67	2.67
Asset Class	Computer Equipment		17.50	7.00	5.25	3.50	1.75	-	-	-	-	-	-	-
Asset Class	Vehicles		3.00	1.00	0.80	0.60	0.40	0.20	-	-	-	-	-	-
Asset Class	Land and easements		-	-	-	-	-	-	-	-	-	-	-	-
Asset Class	Buildings		29.96	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Asset Class	In-house software		10.60	0.60	-	2.00	3.00	2.00	3.00	-	-	-	-	-
Asset Class	Equity raising costs		-	-	-	-	-	-	-	-	-	-	-	-

Year		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
RFM actual TAB depreciation output												
Actual TAB depreciation ($m, nominal)		-	244.13	251.42	255.60	198.26	169.69	-	-	-	-	-
	Pipelines	-	35.18	37.43	37.78	37.93	38.43	-	-	-	-	-
	Service Pipes	-	28.19	28.99	29.29	31.59	31.79	-	-	-	-	-
	Supply Regulators/Valve Stations	-	24.03	24.38	24.73	25.08	25.43	-	-	-	-	-
	SCADA	-	41.17	41.87	42.57	43.27	43.97	-	-	-	-	-
	Meters	-	19.02	19.55	20.08	20.62	21.15	-	-	-	-	-
	Computer Equipment	-	60.74	62.49	64.24	5.25	7.00	-	-	-	-	-
	Vehicles	-	32.80	33.00	33.20	33.40	0.80	-	-	-	-	-
	Land and easements	-	-	-	-	-	-	-	-	-	-	-
	Buildings	-	0.41	0.51	0.51	0.51	0.51	-	-	-	-	-
	In-house software	-	2.61	3.21	3.21	0.60	0.60	-	-	-	-	-
	Equity raising costs	-	-0.03	-0.03	0.03	-	-	-	-	-	-	-

B.5 Adding capital base tracking periods to module

The tracking module template is set up by default to accommodate a single five year access arrangement period of capital base depreciation tracking. For subsequent resets, the tracking module must be expanded to accommodate capex for new access arrangement periods as part of continuing the depreciation tracking approach. In order to include additional periods of capital base depreciation tracking, the user must utilise the in-built macros to expand the calculations in the tracking module.[66]

To include additional periods for capital base tracking, the user is required to:

65 Rule 89(1)(d) of the NGR requires that the sum of the real value of the depreciation that is attributable to any asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the capital base for the relevant distribution system.

66 Where the first access arrangement period of capital base depreciation tracking is longer than 5 years, the in-built macros can also be used to add the required number of additional years to the first period.

- update the **Capital base input** sheet with the relevant capex, asset adjustments, inflation etc. This includes updating the estimated capex in the final year of the previous access arrangement period (year t–1) with actual capex
- initiate the 'Insert additional capital base tracking period' macro—by pressing the button on the **Capital base input** sheet. This will add in the required rows into the **Capital base tracking** sheet to calculate depreciation for the new period of capex.

This process is then repeated for each new period of capital base depreciation tracking required.

B.5.1 Updating the Capital base input sheet for a new access arrangement period

To update the **Capital base input** sheet for a new access arrangement period of capital base depreciation tracking, the user must add the required inputs for the 'Regulatory period' and 'Years in regulatory period'. These are to be entered in the column relating to the first year of the new period.

A note 'input for next period' appears in row 9 above the required input cells for the new period. This is shown in Figure 20.

Figure 20 Capital base input sheet—Update for new access arrangement period

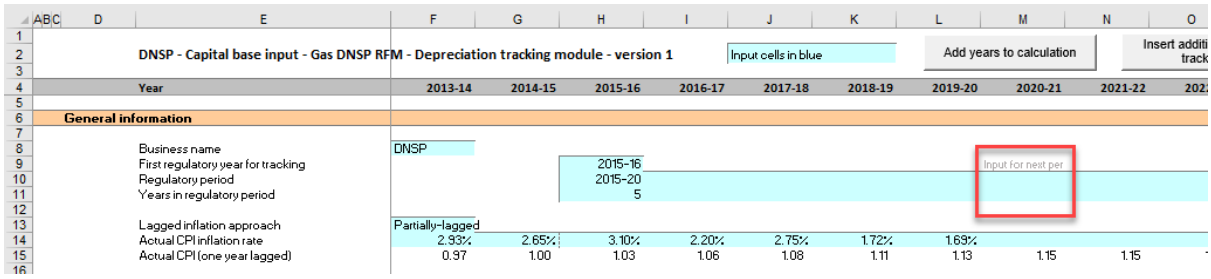
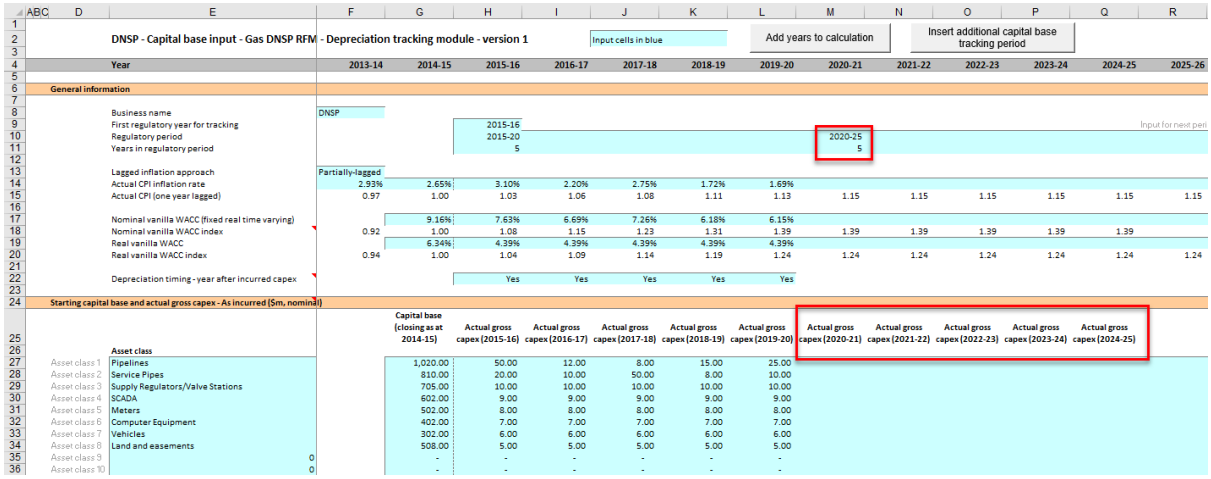


Figure 21 shows how a user must enter the input data in these cells for a new period. In this case the period is 2020–25, and is 5 years after the initial (2015–20) period for which capital base depreciation tracking had commenced. Once the inputs are entered, the labels for the additional years of capex required appear in row 25.

Figure 21 Capital base input sheet—Access arrangement period added and labels for capex



DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1

Input cells in blue | Add years to calculation | Insert additional capital base tracking period

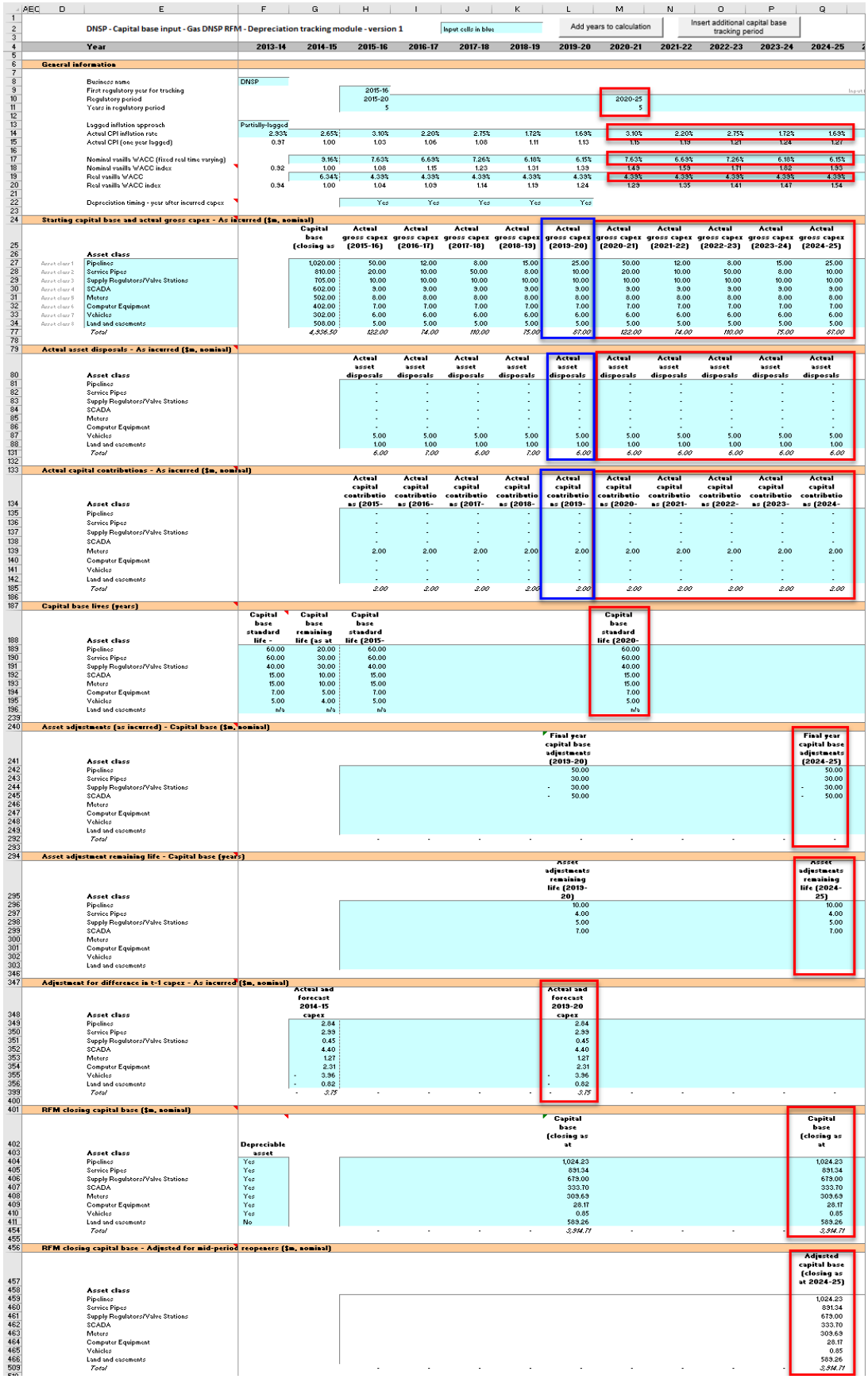
Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
General information													
Business name	DNSP												
First regulatory year for tracking			2015-16										
Regulatory period			2015-20					2020-25					
Years in regulatory period			5					5					
Lagged inflation approach	Partially-lagged												
Actual CPI inflation rate	2.93%	2.65%	3.10%	2.20%	2.75%	1.72%	1.69%						
Actual CPI (one year lagged)	0.97	1.00	1.03	1.06	1.08	1.11	1.13	1.15	1.15	1.15	1.15	1.15	1.15
Nominal vanilla WACC (fixed real time varying)		9.16%	7.63%	6.69%	7.26%	6.18%	6.15%						
Nominal vanilla WACC index	0.92	1.00	1.08	1.15	1.23	1.31	1.39	1.39	1.39	1.39	1.39	1.39	
Real vanilla WACC		6.34%	4.39%	4.39%	4.39%	4.39%	4.39%						
Real vanilla WACC index	0.94	1.00	1.04	1.09	1.14	1.19	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Depreciation timing - year after incurred capex			Yes	Yes	Yes	Yes	Yes						
Starting capital base and actual gross capex - As incurred ($m, nominal)													

Asset class		Capital base (closing as at 2014-15)	Actual gross capex (2015-16)	Actual gross capex (2016-17)	Actual gross capex (2017-18)	Actual gross capex (2018-19)	Actual gross capex (2019-20)	Actual gross capex (2020-21)	Actual gross capex (2021-22)	Actual gross capex (2022-23)	Actual gross capex (2023-24)	Actual gross capex (2024-25)
Asset class 1	Pipelines	1,020.00	50.00	12.00	8.00	15.00	25.00					
Asset class 2	Service Pipes	810.00	20.00	10.00	50.00	8.00	10.00					
Asset class 3	Supply Regulators/Valve Stations	705.00	10.00	10.00	10.00	10.00	10.00					
Asset class 4	SCADA	602.00	9.00	9.00	9.00	9.00	9.00					
Asset class 5	Meters	502.00	8.00	8.00	8.00	8.00	8.00					
Asset class 6	Computer Equipment	402.00	7.00	7.00	7.00	7.00	7.00					
Asset class 7	Vehicles	302.00	6.00	6.00	6.00	6.00	6.00					
Asset class 8	Land and easements	508.00	5.00	5.00	5.00	5.00	5.00					
Asset class 9	0	-	-	-	-	-	-					
Asset class 10	0	-	-	-	-	-	-					

The user must then enter all of the required inputs for the years in the new access arrangement period that has been added. Figure 22 highlights the required new inputs for the example above, where the 2020–25 access arrangement period is added to the tracking module. The new inputs required are:

- CPI and WACC for the 5 years (2020–25)
- actual gross capex, disposals and capital contributions for 6 years (2019–25)
- standard lives for the 2020–25 access arrangement period
- any capital base asset adjustments and associated remaining lives for the 2020–25 access arrangement period
- true-up for actual capex incurred in year t–1 (2019–20)
- the RFM closing capital base for 2024–25.

Figure 22 Capital base input sheet—updated with new inputs for added period



DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1

Input cells in blue

Add years to calculation

Insert additional capital base tracking period

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
General information												
Business name	DNSP											
First regulatory year for tracking			2015-16									
Regulatory period			2015-20					2020-25				
Years in regulatory period			5					5				
Lagged inflation approach	Partially-lagged											
Actual CPI inflation rate	2.93%	2.65%	3.10%	2.20%	2.75%	1.72%	1.63%	3.10%	2.20%	2.75%	1.72%	1.63%
Actual CPI (one year lagged)	0.37	1.00	1.03	1.06	1.08	1.11	1.13	1.15	1.19	1.21	1.24	1.27
Nominal vanilla WACC (fixed real time varying)		9.16%	7.63%	6.63%	7.26%	6.18%	6.15%	7.63%	6.63%	7.26%	6.18%	6.15%
Nominal vanilla WACC index	0.92	1.00	1.08	1.15	1.23	1.31	1.39	1.49	1.59	1.71	1.82	1.93
Real vanilla WACC		6.34%	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%	4.39%
Real vanilla WACC index	0.94	1.00	1.04	1.09	1.14	1.19	1.24	1.29	1.35	1.41	1.47	1.54
Depreciation timing - year after incurred capex			Yes	Yes	Yes	Yes	Yes					
Starting capital base and actual gross capex - As incurred ($m, nominal)												
Asset class	Capital base (closing as	Actual gross capex (2015-16)	Actual gross capex (2016-17)	Actual gross capex (2017-18)	Actual gross capex (2018-19)	Actual gross capex (2019-20)	Actual gross capex (2020-21)	Actual gross capex (2021-22)	Actual gross capex (2022-23)	Actual gross capex (2023-24)	Actual gross capex (2024-25)	
Asset class 1 Pipelines	1,020.00	50.00	12.00	8.00	15.00	25.00	50.00	12.00	8.00	15.00	25.00	
Asset class 2 Service Pipes	810.00	20.00	10.00	50.00	8.00	10.00	20.00	10.00	50.00	8.00	10.00	
Asset class 3 Supply Regulators/Valve Stations	705.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Asset class 4 SCADA	602.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
Asset class 5 Meters	502.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	
Asset class 6 Computer Equipment	402.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Asset class 7 Vehicles	302.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
Asset class 8 Land and easements	508.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Total	*4,936.50*	*132.00*	*74.00*	*110.00*	*75.00*	*81.00*	*132.00*	*74.00*	*110.00*	*75.00*	*81.00*	
Actual asset disposals - As incurred ($m, nominal)												
Asset class		Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	Actual asset disposals	
Pipelines		-	-	-	-	-	-	-	-	-	-	
Service Pipes		-	-	-	-	-	-	-	-	-	-	
Supply Regulators/Valve Stations		-	-	-	-	-	-	-	-	-	-	
SCADA		-	-	-	-	-	-	-	-	-	-	
Meters		-	-	-	-	-	-	-	-	-	-	
Computer Equipment		-	-	-	-	-	-	-	-	-	-	
Vehicles		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
Land and easements		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Total		*6.00*	*7.00*	*6.00*	*7.00*	*6.00*	*6.00*	*6.00*	*6.00*	*6.00*	*6.00*	
Actual capital contributions - As incurred ($m, nominal)												
Asset class		Actual capital contributions (2015-	Actual capital contributions (2016-	Actual capital contributions (2017-	Actual capital contributions (2018-	Actual capital contributions (2019-	Actual capital contributions (2020-	Actual capital contributions (2021-	Actual capital contributions (2022-	Actual capital contributions (2023-	Actual capital contributions (2024-	
Pipelines		-	-	-	-	-	-	-	-	-	-	
Service Pipes		-	-	-	-	-	-	-	-	-	-	
Supply Regulators/Valve Stations		-	-	-	-	-	-	-	-	-	-	
SCADA		-	-	-	-	-	-	-	-	-	-	
Meters		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
Computer Equipment		-	-	-	-	-	-	-	-	-	-	
Vehicles		-	-	-	-	-	-	-	-	-	-	
Land and easements		-	-	-	-	-	-	-	-	-	-	
Total		*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	*2.00*	
Capital base lives (years)												
Asset class	Capital base standard life -	Capital base remaining life (as at	Capital base standard life (2015-					Capital base standard life (2020-				
Pipelines	60.00	20.00	60.00					60.00				
Service Pipes	60.00	30.00	60.00					60.00				
Supply Regulators/Valve Stations	40.00	30.00	40.00					40.00				
SCADA	15.00	10.00	15.00					15.00				
Meters	15.00	10.00	15.00					15.00				
Computer Equipment	7.00	5.00	7.00					7.00				
Vehicles	5.00	4.00	5.00					5.00				
Land and easements	n/a	n/a	n/a					n/a				
Asset adjustments (as incurred) - Capital base ($m, nominal)												
Asset class							Final year capital base adjustments (2019-20)					Final year capital base adjustments (2024-25)
Pipelines							50.00					50.00
Service Pipes							30.00					30.00
Supply Regulators/Valve Stations							- 30.00					- 30.00
SCADA							- 50.00					- 50.00
Meters												
Computer Equipment												
Vehicles												
Land and easements												
Total	-	-	-	-	-	-	-	-	-	-	-	-
Asset adjustment remaining life - Capital base (years)												
Asset class							Asset adjustments remaining life (2019-20)					Asset adjustments remaining life (2024-25)
Pipelines							10.00					10.00
Service Pipes							4.00					4.00
Supply Regulators/Valve Stations							5.00					5.00
SCADA							7.00					7.00
Meters												
Computer Equipment												
Vehicles												
Land and easements												
Adjustment for difference in t-1 capex - As incurred ($m, nominal)												
Asset class		Actual and forecast 2014-15 capex					Actual and forecast 2019-20 capex					
Pipelines		2.84					2.84					
Service Pipes		2.39					2.39					
Supply Regulators/Valve Stations		0.45					0.45					
SCADA		4.40					4.40					
Meters		1.27					1.27					
Computer Equipment		2.31					2.31					
Vehicles		- 3.36					- 3.36					
Land and easements		- 0.82					- 0.82					
Total		- *3.75*	-	-	-	-	- *3.75*	-	-	-	-	-
RFM closing capital base ($m, nominal)												
Asset class	Depreciable asset						Capital base (closing as at					Capital base (closing as at
Pipelines	Yes						1,024.23					1,024.23
Service Pipes	Yes						891.34					891.34
Supply Regulators/Valve Stations	Yes						679.00					679.00
SCADA	Yes						333.70					333.70
Meters	Yes						303.69					303.69
Computer Equipment	Yes						28.17					28.17
Vehicles	Yes						0.85					0.85
Land and easements	No						583.26					583.26
Total		-	-	-	-	-	*3,914.71*	-	-	-	-	*3,914.71*
RFM closing capital base - Adjusted for mid-period reopeners ($m, nominal)												
Asset class												Adjusted capital base (closing as at 2024-25)
Pipelines												1,024.23
Service Pipes												891.34
Supply Regulators/Valve Stations												679.00
SCADA												333.70
Meters												303.69
Computer Equipment												28.17
Vehicles												0.85
Land and easements												583.26
Total		-	-	-	-	-	-	-	-	-	-	*3,914.71*

B.5.2 Updating capital base tracking sheet for new access arrangement period

To update the **Capital base tracking** sheet for an additional access arrangement period of capital base depreciation tracking, the user must initiate the 'Insert additional capital base tracking period' macro by pressing the button on the **Capital base input** sheet (step 1).

After initiating the macro, the user is prompted to enter the number of years in the additional period for tracking—typically 5 years (step 2).

Figure 23 and Figure 24 show the steps for adding an extra five year access arrangement period.

Figure 23 'Insert additional capital base tracking period' macro—step 1

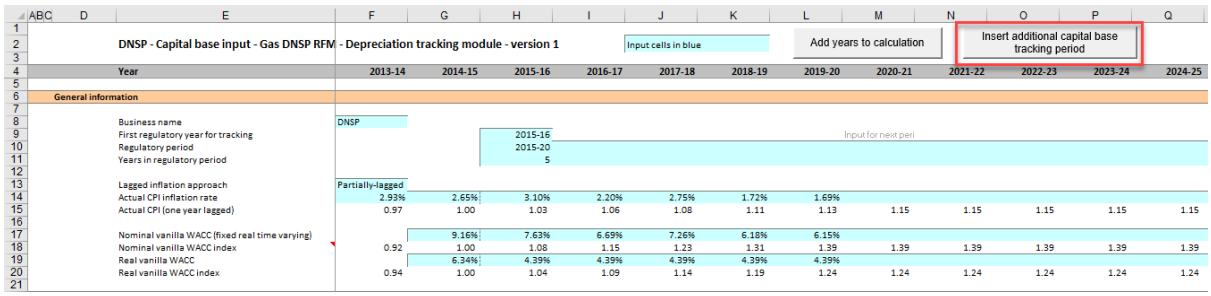
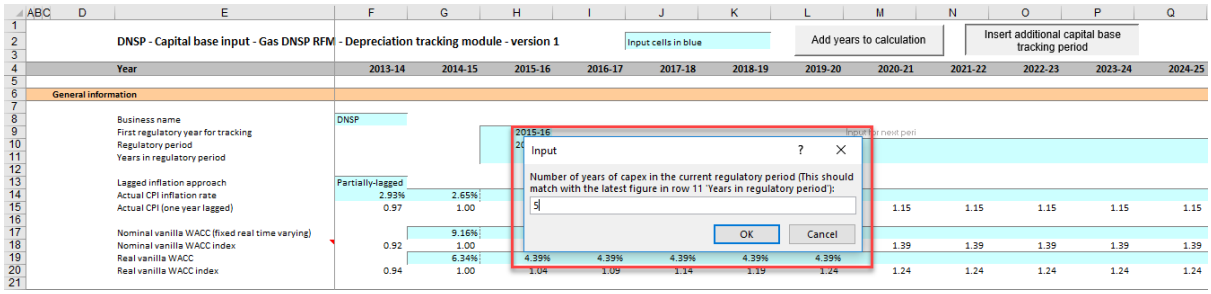


Figure 24 'Insert additional capital base tracking period' macro—step 2



Running the macro may take a few minutes. The progress of the macro is displayed in the status bar (bottom left corner) as it steps through the process of updating the tracking module.

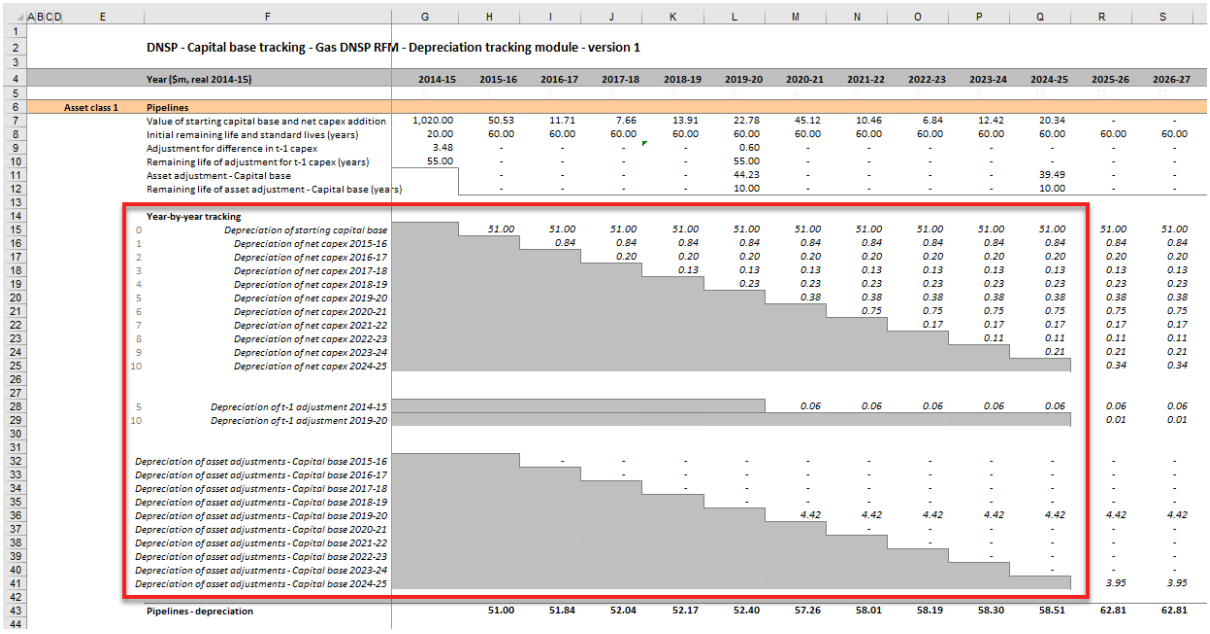
When completed, the **Capital base tracking** sheet should include the following calculations (for a typical five year access arrangement period):[67]

- five additional rows of net capex depreciation
- an additional row for the depreciation of year t–1 capex adjustments
- five additional rows for the depreciation of asset adjustments.

67 The number of rows added for capex and for asset adjustments will be equal to the number of years added.

Figure 25 shows the updated **Capital base tracking** sheet layout after the macro has been completed for an extra five year access arrangement period of capital base depreciation tracking.

Figure 25 Capital base tracking sheet: macro complete



DNSP - Capital base tracking - Gas DNSP RFM - Depreciation tracking module - version 1

			2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
		Year (Sm, real 2014-15)													
Asset class 1		Pipelines													
		Value of starting capital base and net capex addition	1,020.00	50.53	11.71	7.66	13.91	22.78	45.12	10.46	6.84	12.42	20.34	-	-
		Initial remaining life and standard lives (years)	20.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
		Adjustment for difference in t-1 capex	3.48	-	-	-	-	0.60	-	-	-	-	-	-	-
		Remaining life of adjustment for t-1 capex (years)	55.00	-	-	-	-	55.00	-	-	-	-	-	-	-
		Asset adjustment - Capital base		-	-	-	-	44.23	-	-	-	-	39.49	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-	-	10.00	-	-
		Year-by-year tracking													
	0	*Depreciation of starting capital base*		*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*	*51.00*
	1	*Depreciation of net capex 2015-16*		*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*	*0.84*
	2	*Depreciation of net capex 2016-17*			*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*	*0.20*
	3	*Depreciation of net capex 2017-18*				*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*	*0.13*
	4	*Depreciation of net capex 2018-19*						*0.23*	*0.23*	*0.23*	*0.23*	*0.23*	*0.23*	*0.23*	*0.23*
	5	*Depreciation of net capex 2019-20*							*0.38*	*0.38*	*0.38*	*0.38*	*0.38*	*0.38*	*0.38*
	6	*Depreciation of net capex 2020-21*								*0.75*	*0.75*	*0.75*	*0.75*	*0.75*	*0.75*
	7	*Depreciation of net capex 2021-22*									*0.17*	*0.17*	*0.17*	*0.17*	*0.17*
	8	*Depreciation of net capex 2022-23*										*0.11*	*0.11*	*0.11*	*0.11*
	9	*Depreciation of net capex 2023-24*											*0.21*	*0.21*	*0.21*
	10	*Depreciation of net capex 2024-25*												*0.34*	*0.34*
	5	*Depreciation of t-1 adjustment 2014-15*							*0.06*	*0.06*	*0.06*	*0.06*	*0.06*	*0.06*	*0.06*
	10	*Depreciation of t-1 adjustment 2019-20*												*0.01*	*0.01*
		Depreciation of asset adjustments - Capital base 2015-16		-											
		Depreciation of asset adjustments - Capital base 2016-17			-										
		Depreciation of asset adjustments - Capital base 2017-18				-									
		Depreciation of asset adjustments - Capital base 2018-19					-								
		Depreciation of asset adjustments - Capital base 2019-20							*4.42*	*4.42*	*4.42*	*4.42*	*4.42*	*4.42*	*4.42*
		Depreciation of asset adjustments - Capital base 2020-21								-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2021-22									-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2022-23										-	-	-	-
		Depreciation of asset adjustments - Capital base 2023-24											-	-	-
		Depreciation of asset adjustments - Capital base 2024-25												*3.95*	*3.95*
		Pipelines - depreciation		**51.00**	**51.84**	**52.04**	**52.17**	**52.40**	**57.26**	**58.01**	**58.19**	**58.30**	**58.51**	**62.81**	**62.81**

B.6 Increasing the number of years (columns) in tracking module

By default the tracking module includes 86 years of depreciation calculations. This accommodates 5 years of capex with a maximum standard asset life of 80 years. For the correct depreciation schedules to be calculated in the tracking module, it is important that the value of each asset (or adjustment) is fully depreciated by the end of its standard life in the tracking module.[68]

Figure 26 provides an example where some years of capex have not fully depreciated in the final year of calculation available in the tracking module. In this case additional years of calculation are required.

68 The capital base alignment adjustment step adjusts the forecast depreciation profile such that the sum of the depreciation is equal to the RFM closing capital base. Therefore, if an asset class is not showing its full depreciation in the tracking module (i.e. the year columns have not been extended sufficiently), this capital base adjustment (and resulting depreciation schedule) will be inaccurate.

Figure 26 Capital base tracking sheet—asset not fully depreciated in final year of calculation

			BP	BQ	BR	BS	BT	BU
		DNSP - Capital base tracking - Gas DNSP RFM						
		Year ($m, real 2014-15)	**2075-76**	**2076-77**	**2077-78**	**2078-79**	**2079-80**	**2080-81**
		Asset class 1 Pipelines						
		Value of starting capital base and net capex addi						
		Initial remaining life and standard lives (years)						
		Adjustment for difference in t-1 capex						
		Remaining life of adjustment for t-1 capex (years)						
		Asset adjustment - Capital base						
		Remaining life of asset adjustment - Capital base						
		Year-by-year tracking						
	0	*Depreciation of starting capital base*	-	-	-	-	-	-
	1	*Depreciation of net capex 2015-16*	0.84	-	-	-	-	-
	2	*Depreciation of net capex 2016-17*	0.20	0.20	-	-	-	-
	3	*Depreciation of net capex 2017-18*	0.13	0.13	0.13	-	-	-
	4	*Depreciation of net capex 2018-19*	0.23	0.23	0.23	0.23	-	-
	5	*Depreciation of net capex 2019-20*	0.38	0.38	0.38	0.38	0.38	-
	6	*Depreciation of net capex 2020-21*	0.75	0.75	0.75	0.75	0.75	0.75
	7	*Depreciation of net capex 2021-22*	0.17	0.17	0.17	0.17	0.17	0.17
	8	*Depreciation of net capex 2022-23*	0.11	0.11	0.11	0.11	0.11	0.11
	9	*Depreciation of net capex 2023-24*	0.21	0.21	0.21	0.21	0.21	0.21
	10	*Depreciation of net capex 2024-25*	0.34	0.34	0.34	0.34	0.34	0.34
	5	Depreciation of t-1 adjustment 2014-15	-	-	-	-	-	-
	10	Depreciation of t-1 adjustment 2019-20	0.01	0.01	0.01	0.01	0.01	-
		Depreciation of asset adjustments - Capital base 2015-16	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2016-17	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2017-18	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2018-19	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2019-20	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2020-21	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2021-22	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2022-23	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2023-24	-	-	-	-	-	-
		Depreciation of asset adjustments - Capital base 2024-25	-	-	-	-	-	-
		Pipelines - depreciation	**3.37**	**2.53**	**2.34**	**2.21**	**1.98**	**1.59**

To increase the number of years for calculating depreciation in the tracking module, the user must initiate the 'Add years to calculation' macro using the button in the **Capital base input** sheet as shown in Figure 27 (step 1).

Figure 27 'Add years to calculation' macro—step 1

			F	G	H	I	J	K	L	M	N	O	P	Q
		DNSP - Capital base input - Gas DNSP RFM - Depreciation tracking module - version 1					Input cells in blue		Add years to calculation			Insert additional capital base tracking period		
		Year	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**	**2023-24**	**2024-25**
		General information												
		Business name	DNSP											
		First regulatory year for tracking			2015-16					Input for next peri				
		Regulatory period			2015-20									
		Years in regulatory period			5									
		Lagged inflation approach	Partially-lagged											
		Actual CPI inflation rate	2.93%	2.65%	3.10%	2.20%	2.75%	1.72%	1.69%					
		Actual CPI (one year lagged)	0.97	1.00	1.03	1.06	1.08	1.11	1.13	1.15	1.15	1.15	1.15	1.15
		Nominal vanilla WACC (fixed real time varying)		9.16%	7.63%	6.69%	7.26%	6.18%	6.15%					
		Nominal vanilla WACC index	0.92	1.00	1.08	1.15	1.23	1.31	1.39	1.39	1.39	1.39	1.39	1.39
		Real vanilla WACC		6.34%	4.39%	4.39%	4.39%	4.39%	4.39%					
		Real vanilla WACC index	0.94	1.00	1.04	1.09	1.14	1.19	1.24	1.24	1.24	1.24	1.24	1.24

After initiating the macro, the user is prompted to enter the number of additional years of calculation required to be added (step 2). As shown in Figure 28, 10 additional years are being added. The macro increases the number of years (columns) in all input and tracking

labelled sheets within the tracking module by the number input by the user.[69] There is an identical button on the **TAB input** sheet that performs the same function (section C.5). Regardless of whether the user runs the macro from the **Capital base input** sheet or the **TAB input** sheet, the outcome will be the same.[70]

Figure 28 'Add years to calculation' macro—step 2

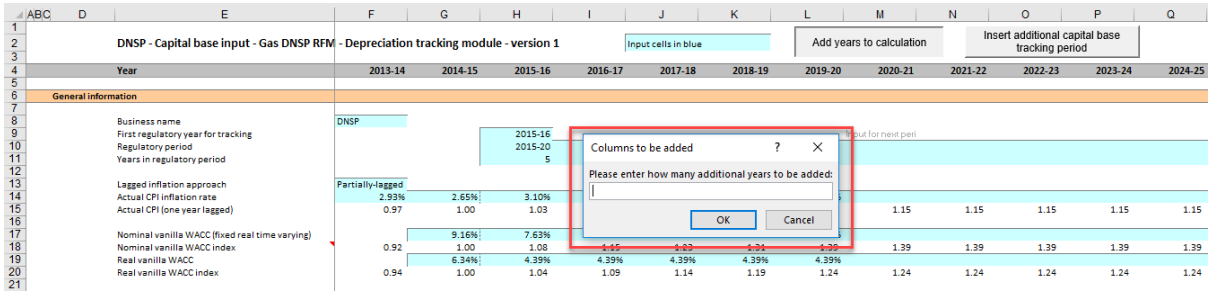
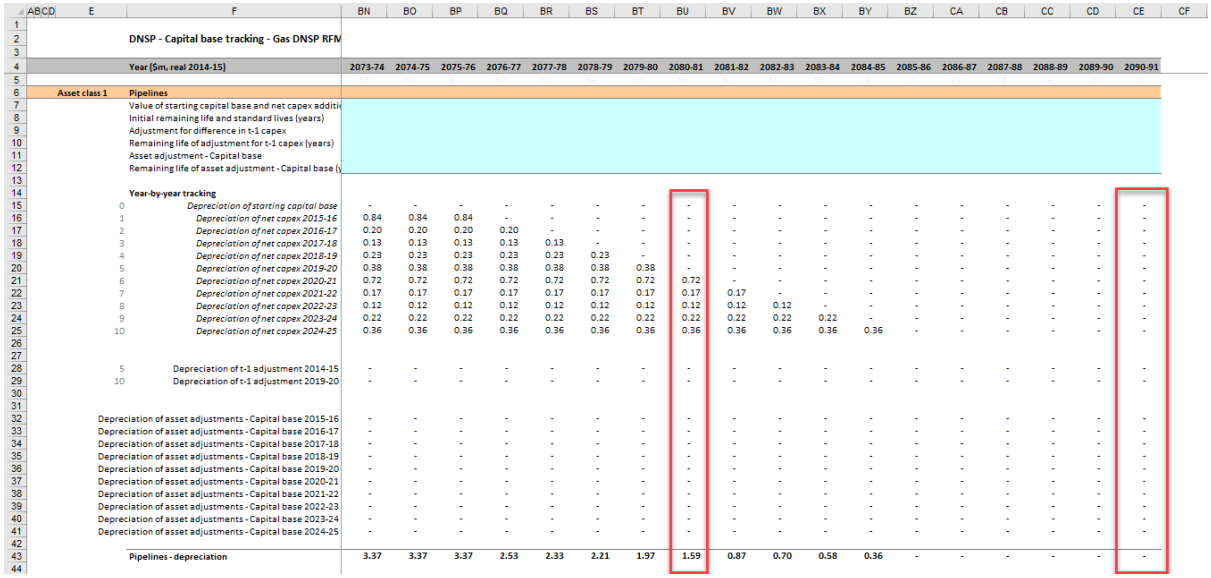


Figure 29 shows the **Capital base tracking** sheet after the macro has been completed. The final year column displayed is now 2090–91 (previously 2080–81) and the value of the asset class is now shown to be fully depreciated before this new final year of calculation.

Figure 29 Capital base tracking sheet: macro completed



69 The 'Add years to calculation' macro effectively copies the formulas in the far right column of each sheet within the tracking module across to the right by a number of columns equal to the number entered by the user when prompted by the macro dialogue box (Figure 28). The macro does this quickly but the same outcome can be achieved by copying the formulas across manually.

70 Note that this is different to the 'Insert additional capital base tracking period' and 'Insert additional TAB tracking period' macros which only modify the sheets for which they are pressed.

C TAB depreciation tracking

C.1 TAB input sheet

The **TAB input** sheet provides for key input variables for TAB tracking to be entered in the tracking module. They are automatically linked to corresponding cells in other relevant sheets. Values should be entered into each cell with light blue shading. This sheet comprises the following sections:

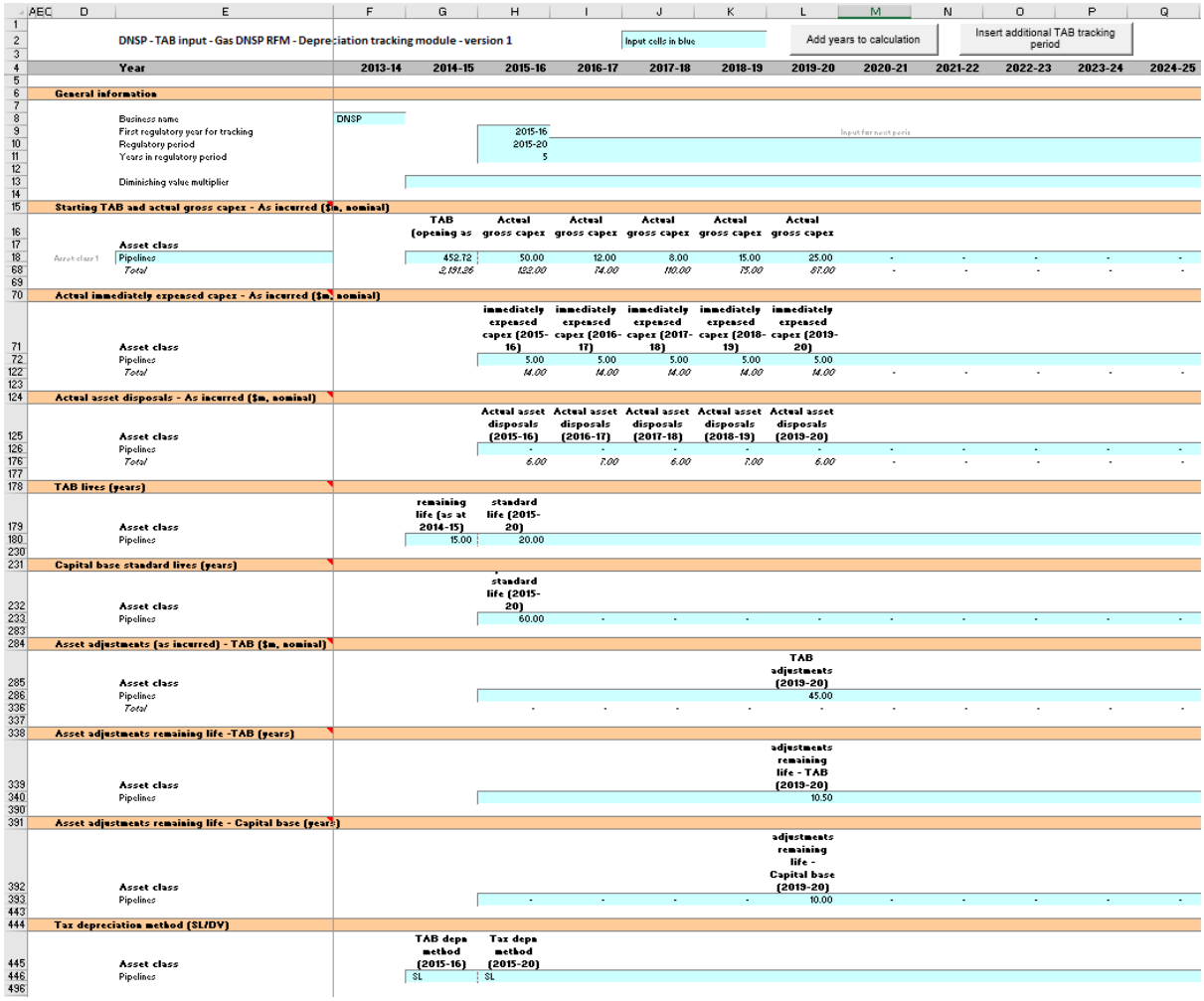
- general information
- starting TAB and actual gross capex – as incurred
- actual immediately expensed capex – as incurred
- actual asset disposals – as incurred
- TAB lives
- capital base standard lives
- asset adjustments (as incurred) – TAB
- asset adjustment remaining life – TAB
- asset adjustment remaining life – capital base
- tax depreciation method – straight-line/diminishing value (SL/DV).

As discussed in section B.1, the tracking module retains inputs and calculations across multiple access arrangement periods. For the first access arrangement period when tracking commences, the user enters the required inputs for that period. For each subsequent reset the user updates the tracking module by adding the inputs relevant to the new access arrangement period for that reset. Notes have been included for various cells with specific comments and explanations about the relevance/source of the inputs.

This sheet also contains two buttons that initiate macros that are used to expand the calculations of the tracking module—inserting additional access arrangement periods for continuing the tracking calculations, and extending the number of years for calculating depreciation. Details of these macros are discussed in sections C.4 and C.5.

Figure 30 provides an example of the **TAB input** sheet.

Figure 30 TAB input sheet



DNSP - TAB input - Gas DNSP RFM - Depreciation tracking module - version 1

Input cells in blue | Add years to calculation | Insert additional TAB tracking period

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
General information												
Business name	DNSP											
First regulatory year for tracking			2015-16									
Regulatory period			2015-20									
Years in regulatory period			5									
Diminishing value multiplier												
Starting TAB and actual gross capex - As incurred ($m, nominal)												
Asset class		TAB (opening as	Actual gross capex	Actual gross capex	Actual gross capex	Actual gross capex	Actual gross capex					
Pipelines		452.72	50.00	12.00	8.00	15.00	25.00	-	-	-	-	-
Total		*2,191.26*	*122.00*	*74.00*	*110.00*	*75.00*	*87.00*	-	-	-	-	-
Actual immediately expensed capex - As incurred ($m, nominal)												
Asset class			immediately expensed capex (2015-16)	immediately expensed capex (2016-17)	immediately expensed capex (2017-18)	immediately expensed capex (2018-19)	immediately expensed capex (2019-20)					
Pipelines			5.00	5.00	5.00	5.00	5.00					
Total			*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	-	-	-	-	-
Actual asset disposals - As incurred ($m, nominal)												
Asset class			Actual asset disposals (2015-16)	Actual asset disposals (2016-17)	Actual asset disposals (2017-18)	Actual asset disposals (2018-19)	Actual asset disposals (2019-20)					
Pipelines			-	-	-	-	-	-	-	-	-	-
Total			*6.00*	*7.00*	*6.00*	*7.00*	*6.00*	-	-	-	-	-
TAB lives (years)												
Asset class		remaining life (as at 2014-15)	standard life (2015-20)									
Pipelines		15.00	20.00									
Capital base standard lives (years)												
Asset class			standard life (2015-20)									
Pipelines			60.00	-	-	-	-	-	-	-	-	-
Asset adjustments (as incurred) - TAB ($m, nominal)												
Asset class							TAB adjustments (2019-20)					
Pipelines							45.00					
Total			-	-	-	-	-	-	-	-	-	-
Asset adjustments remaining life -TAB (years)												
Asset class							adjustments remaining life - TAB (2019-20)					
Pipelines							10.50					
Asset adjustments remaining life - Capital base (years)												
Asset class							adjustments remaining life - Capital base (2019-20)					
Pipelines			-	-	-	-	10.00	-	-	-	-	-
Tax depreciation method (SL/DV)												
Asset class		TAB depn method (2015-16)	Tax depn method (2015-20)									
Pipelines		SL	SL									

TAB inputs linked to Capital base input sheet

By default, some of the inputs sections in the **TAB input** sheet reference the corresponding sections in the **Capital base input** sheet. These inputs comprise of:

- regulatory periods and years
- gross capex and disposals
- capital base standard lives and capital base adjustment remaining lives

Where the tracking module is used for both capital base and TAB depreciation, the default formulae in the **TAB input** sheet will reference the correct values in the **Capital base input** sheet and can be retained. Where only TAB depreciation tracking is required, the default formulae in the input cells of the **TAB input** sheet should be overwritten with the correct values.

C.1.1 General Information

The **TAB input** sheet captures some general information required to set up the tracking module, and calculate values consistently. The recorded input values are linked to

subsequent sheets which calculate depreciation in nominal dollar terms. Notes have been included for various cells with specific comments and explanations about the relevance/source of the inputs.

Business and tracking period inputs

The business name and applicable depreciation tracking for an access arrangement period (including start and length) are recorded in rows 8 to 11.[71] This allows the tracking module to begin tracking at the correct point in time—first regulatory year for tracking—and applies adjustments in the correct year—based on the length of an access arrangement period.

The tracking module template is configured to initially accommodate TAB depreciation tracking for a single period of 5 years.[72] This can be expanded using the macro buttons (discussed below). For subsequent periods of TAB depreciation tracking, the user initiates the macro to expand the calculations (section C.4), and enters the access arrangement period inputs—years and length—in the relevant column.[73]

Diminishing value multiplier

The DV multiplier is recorded in row 13 for each year in which the DV method applies. The multiplier is linked to the **TAB tracking** sheet to calculate the rate to depreciate capex incurred in that regulatory year that is subject to the DV method of tax depreciation.[74]

C.1.2 Starting TAB and actual gross capex – as incurred

The starting TAB comprises of the values as at the first year of TAB tracking. It is the tax value of historical assets at the start of TAB depreciation tracking that will be depreciated as one group. The actual gross capex is adjusted for asset disposals and immediately expensed capex to calculate the net capex to be depreciated. The **TAB input** sheet requires values for the starting TAB (disaggregated by asset classes in rows 18 to 67) at the start of depreciation tracking. The values for the actual gross capex—also disaggregated by asset classes—are required for each year of TAB depreciation tracking.

The recorded input values are linked to the **TAB tracking** sheet which calculates net capex and tracks the depreciation of the starting TAB and net capex.

Asset class name

The asset classes/names are recorded in column E. It is important that the asset classes recorded in the tracking module match the asset classes identified in the accompanying

---

71 By default these inputs reference the **Capital base input** sheet. They can be overwritten where only TAB tracking applies or where otherwise appropriate.

72 Where the first access arrangement period of TAB depreciation tracking is longer than 5 years, the in-built macros (section C.4) can also be used to add the required number of additional years to the first period.

73 For example, where an access arrangement period is for 2020–25, details of this period should be entered in the column for 2020–21. The tracking module has been configured to provide a prompt (row 9) to assist with entering the relevant years and length for future access arrangement periods in the correct column.

74 The DV multiplier is determined by the Australian Tax Office (ATO). In addition to the depreciation of net capex, the DV multiplier input is also required where DV depreciation is applied to the starting TAB.

RFM. This allows the tracking module to link with the RFM and output depreciation profiles in a consistent format for input to the RFM and PTRM, where relevant.

Consistent with the RFM and PTRM, the tracking module is configured to accommodate up to 50 asset classes. The number of asset classes used in the tracking module will vary between businesses. However, for each business, the number of asset classes used in the tracking module must be consistent with that used in the RFM and PTRM to allow the depreciation schedules determined in the tracking module to be used as inputs to the RFM and PTRM where relevant. Asset classes 47 to 50 are those for which the SL method of tax depreciation will apply in the resets subsequent to the 2018 tax review.[75]

Starting TAB

The starting TAB values for each asset class are recorded in column G. The starting TAB is the opening TAB at the start of the current access arrangement period where TAB depreciation tracking commences adjusted for actual capex in the final year (year t–1) of the previous access arrangement period. These asset values can be sourced from the **TAB roll forward** sheet of the accompanying RFM. These values are linked to the calculation of tax depreciation in the **TAB tracking** sheet.

Actual gross capex – as incurred

The actual gross capex values for each year of TAB depreciation tracking are recorded in column H and beyond (by asset class in rows 18 to 67).[76] These values are linked to the depreciation calculations in the **TAB tracking** sheet. Further details for these inputs are set out in section B.1.2.

C.1.3 Actual immediately expensed capex – as incurred

The actual immediately expensed capex values (recorded in rows 72 to 121) are assumed to be in middle of the year terms based on nominal dollar terms. They are recorded for the regulatory year in which the immediate expensing has taken place (or is expected to take place for the final year of the access arrangement period).[77] These values are linked to the calculation of tax depreciation in the **TAB tracking** sheet.

C.1.4 Actual asset disposals – as incurred

Actual asset disposals are recorded in rows 126 to 175.[78] These values are linked to the depreciation calculations in the **TAB tracking** sheet. Further details for these inputs are set out in section B.1.3.

---

75 These are for assets related to 'In-house software', 'Buildings' and 'Equity raising costs'.

76 By default these inputs reference the **Capital base input** sheet. They can be overwritten where only TAB tracking applies or where otherwise appropriate.

77 At the time the final decision is made these inputs for the final year of the access arrangement period will typically remain as estimates. These final year estimates will be updated with actuals at the next reset.

78 By default these inputs reference the **Capital base input** sheet. They can be overwritten where only TAB tracking applies or where otherwise appropriate.

C.1.5 Tax lives

The TAB remaining lives and tax standard lives are recorded in rows 180 to 229. These inputs can be sourced from the **RFM input** sheet of the accompanying RFM. They are linked to the depreciation calculations in the **TAB tracking** sheet.

TAB remaining lives

The TAB remaining lives of each asset class are recorded in column G and reflect the average tax remaining lives of the assets in existence at the start of TAB depreciation tracking. These values should be consistent with those contained in the accompanying RFM. These inputs are referenced in the **TAB tracking** sheet to calculate the depreciation of the starting TAB values.

Tax standard lives

The tax standard lives for the first access arrangement period of commencing TAB depreciation tracking are recorded in column H. Tax standard lives for subsequent access arrangement periods of TAB depreciation tracking are recorded in the relevant column for those periods (section C.4.1). These inputs are referenced in the **TAB tracking** sheet to calculate the depreciation of each year of net capex.

C.1.6 Capital base standard lives

The capital base standard lives measure how long the infrastructure would physically last if it had just been built. Where the DV depreciation method is used to calculate tax depreciation of capex, it results in a residual value that does not reduce to zero. The capital base standard lives are referenced in the **TAB tracking** sheet to determine the year in which the residual asset value for each year of capex is written-off.[79]

The capital base standard lives for the first access arrangement period of when TAB depreciation tracking commenced are recorded in column H. For subsequent access arrangement periods of TAB depreciation tracking they are recorded in the relevant column for those periods (section C.4.1).[80]

C.1.7 Asset adjustments

The input section for asset adjustments is primarily for recording final year asset adjustments at the end of the current access arrangement period. This data may be required where the gas distribution service provider has adjusted its closing TAB by removing or adding assets (such as for a change in service classification) in the final year of the access arrangement period.

---

79 AER, *Final decision amendment - electricity transmission and distribution network service providers post-tax revenue models (version 4)*. April 2019, pp. 13-16.

80 By default these inputs reference the **Capital base input** sheet. They can be overwritten where capital base and TAB are not tracked from the same starting year or where otherwise appropriate.

The final year adjustments are recorded in rows 286 to 335, and these inputs can be sourced from the **RFM input** sheet of the accompanying RFM.

The user can also record TAB adjustments in one or more years within an access arrangement period for depreciation tracking.[81]

The TAB adjustments are referenced and used for calculating depreciation in the **TAB tracking** sheet.

C.1.8 Asset adjustments – TAB remaining lives

The asset adjustment TAB remaining lives are recorded in rows 340 to 389 in the same columns as the associated asset adjustments (section C.1.7).

These inputs can be sourced from the **RFM input** sheet of the accompanying RFM. The asset adjustment TAB remaining lives are referenced in the **TAB tracking** sheet.

C.1.9 Asset adjustments – capital base remaining lives

Where the DV depreciation method is used to calculate tax depreciation of an asset adjustment, it results in a residual value that does not reduce to zero. To determine the year in which the residual value of the asset adjustment is written-off, the associated capital base remaining lives are recorded in rows 393 to 442. The capital base remaining lives are required to be recorded in the same year as the TAB asset adjustment and associated TAB remaining lives. The capital base remaining lives are referenced in the **TAB tracking** sheet.

C.1.10 Tax depreciation method (SL/DV)

The depreciation method used to calculate tax depreciation—SL or DV—is recorded in rows 446 to 495 for each asset class. The method that applies to the starting TAB is recorded in column G.[82] The method that applies to net capex in the first access arrangement period of TAB depreciation tracking is recorded in column H. For subsequent access arrangement periods of TAB depreciation tracking they are recorded in the relevant column for that period (section C.4.1). These inputs are referenced and used for calculating depreciation in the **TAB tracking** sheet.

Consistent with the RFM, asset classes 47 to 50 are listed as those to which the SL method of tax depreciation will apply in access arrangement periods that commence after the 2018 tax review. These are for assets related to ‘In-house software’, ‘Buildings’ and ‘Equity raising costs’. Asset classes 47 to 50 do not require the tax depreciation method inputs to be recorded as they will be SL.

---

81 We consider that these within-period adjustments would be allowed in the case of reopeners such as a contingent project determination where TAB adjustments occur within the period.

82 For the starting TAB, in most cases the switch will be set to ‘SL’.

C.2 TAB tracking sheet

The **TAB tracking** sheet calculates the TAB depreciation schedules for each asset class (in nominal terms). For each asset class the depreciation schedule is disaggregated into separate TAB tracking components for:

- the starting TAB
- each year of tracked capex
- other TAB adjustments.

Figure 31 provides an example of the **TAB tracking** sheet. Figure 6

Figure 31 TAB tracking sheet

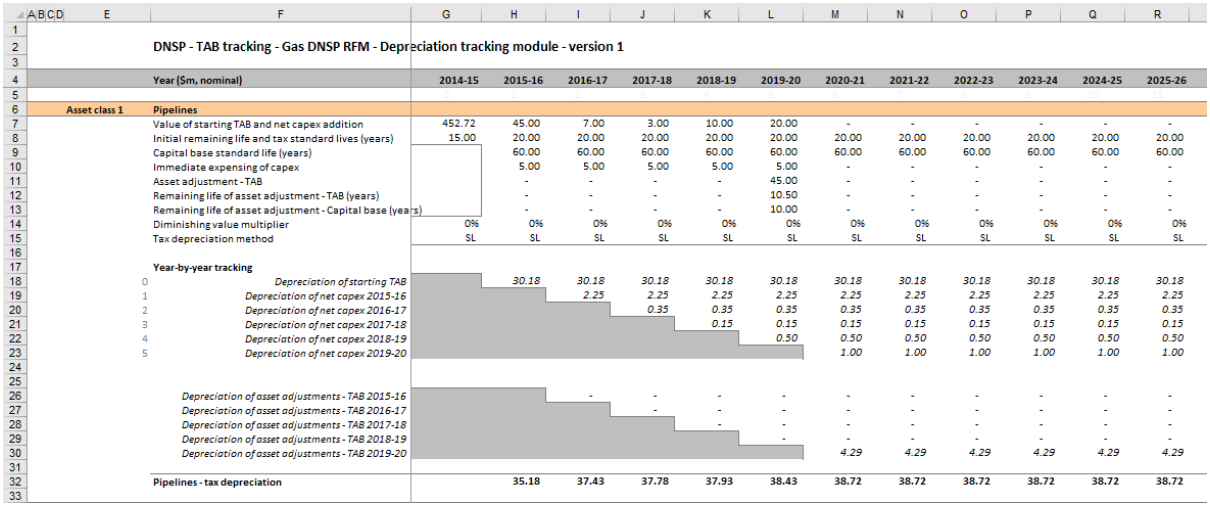
DNSP - TAB tracking - Gas DNSP RFM - Depreciation tracking module - version 1

		Year ($m, nominal)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Asset class 1		Pipelines									
		Value of starting TAB and net capex addition	452.72	45.00	7.00	3.00	10.00	20.00	-	-	-
		Initial remaining life and tax standard lives (years)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
		Capital base standard life (years)		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
		Immediate expensing of capex		5.00	5.00	5.00	5.00	5.00	-	-	-
		Asset adjustment - TAB		-	-	-	-	45.00	-	-	-
		Remaining life of asset adjustment - TAB (years)		-	-	-	-	10.50	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-
		Diminishing value multiplier	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Tax depreciation method	SL	SL	SL	SL	SL	SL	SL	SL	SL
		Year-by-year tracking									
	0	*Depreciation of starting TAB*		*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*
	1	*Depreciation of net capex 2015-16*			*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*
	2	*Depreciation of net capex 2016-17*				*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*
	3	*Depreciation of net capex 2017-18*					*0.15*	*0.15*	*0.15*	*0.15*	*0.15*
	4	*Depreciation of net capex 2018-19*						*0.50*	*0.50*	*0.50*	*0.50*
	5	*Depreciation of net capex 2019-20*							*1.00*	*1.00*	*1.00*
		Depreciation of asset adjustments - TAB 2015-16			-	-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2016-17				-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2017-18					-	-	-	-	-
		Depreciation of asset adjustments - TAB 2018-19						-	-	-	-
		Depreciation of asset adjustments - TAB 2019-20							*4.29*	*4.29*	*4.29*
		Pipelines - tax depreciation		**35.18**	**37.43**	**37.78**	**37.93**	**38.43**	**38.72**	**38.72**	**38.72**
Asset class 2		Service Pipes									
		Value of starting TAB and net capex addition	362.86	16.00	6.00	46.00	4.00	6.00	-	-	-
		Initial remaining life and tax standard lives (years)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
		Capital base standard life (years)		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
		Immediate expensing of capex		4.00	4.00	4.00	4.00	4.00	-	-	-
		Asset adjustment - TAB		-	-	-	-	25.00	-	-	-
		Remaining life of asset adjustment - TAB (years)		-	-	-	-	4.50	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	4.00	-	-	-
		Diminishing value multiplier	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Tax depreciation method	SL	SL	SL	SL	SL	SL	SL	SL	SL
		Year-by-year tracking									
		Service Pipes - tax depreciation		**28.19**	**28.99**	**29.29**	**31.59**	**31.79**	**33.65**	**33.65**	**33.65**
Asset class 3		Supply Regulators/Valve Stations									
		Value of starting TAB and net capex addition	315.43	7.00	7.00	7.00	7.00	7.00	-	-	-
		Initial remaining life and tax standard lives (years)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
		Capital base standard life (years)		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
		Immediate expensing of capex		3.00	3.00	3.00	3.00	3.00	-	-	-
		Asset adjustment - TAB		-	-	-	-	- 25.00	-	-	-
		Remaining life of asset adjustment - TAB (years)		-	-	-	-	6.00	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	5.00	-	-	-
		Diminishing value multiplier	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Tax depreciation method	SL	SL	SL	SL	SL	SL	SL	SL	SL
		Year-by-year tracking									
		Supply Regulators/Valve Stations - tax depreciation		**24.03**	**24.38**	**24.73**	**25.08**	**25.43**	**18.61**	**18.61**	**18.61**
Asset class 4		SCADA									
		Value of starting TAB and net capex addition	274.21	7.00	7.00	7.00	7.00	7.00	-	-	-
		Initial remaining life and tax standard lives (years)	7.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
		Capital base standard life (years)		15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
		Immediate expensing of capex		2.00	2.00	2.00	2.00	2.00	-	-	-
		Asset adjustment - TAB		-	-	-	-	- 45.00	-	-	-
		Remaining life of asset adjustment - TAB (years)		-	-	-	-	7.50	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	7.00	-	-	-
		Diminishing value multiplier	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Tax depreciation method	SL	SL	SL	SL	SL	SL	SL	SL	SL
		Year-by-year tracking									
		SCADA - tax depreciation		**41.17**	**41.87**	**42.57**	**43.27**	**43.97**	**36.67**	**36.67** -	**2.50** -
Asset class 5		Meters									

The **TAB tracking** sheet comprises 50 sections—one for each asset class. The data for Asset class 1 is shown in Figure 32 and comprises:

- data derived from the **TAB input** sheet in rows 7 to 15 (cells within the bordered section)
- calculations for year-by-year depreciation of TAB tracking components in rows 18 to 32.[83]

Figure 32 TAB tracking sheet—Asset class 1



DNSP - TAB tracking - Gas DNSP RFM - Depreciation tracking module - version 1

		Year ($m, nominal)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Asset class 1		Pipelines												
		Value of starting TAB and net capex addition	452.72	45.00	7.00	3.00	10.00	20.00	-	-	-	-	-	-
		Initial remaining life and tax standard lives (years)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
		Capital base standard life (years)		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
		Immediate expensing of capex		5.00	5.00	5.00	5.00	5.00	-	-	-	-	-	-
		Asset adjustment - TAB		-	-	-	-	45.00	-	-	-	-	-	-
		Remaining life of asset adjustment - TAB (years)		-	-	-	-	10.50	-	-	-	-	-	-
		Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-	-	-	-
		Diminishing value multiplier	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Tax depreciation method	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL	SL
		Year-by-year tracking												
	0	*Depreciation of starting TAB*		*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*
	1	*Depreciation of net capex 2015-16*			*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*
	2	*Depreciation of net capex 2016-17*				*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*
	3	*Depreciation of net capex 2017-18*					*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*
	4	*Depreciation of net capex 2018-19*						*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
	5	*Depreciation of net capex 2019-20*							*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
		Depreciation of asset adjustments - TAB 2015-16			-	-	-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2016-17				-	-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2017-18					-	-	-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2018-19						-	-	-	-	-	-	-
		Depreciation of asset adjustments - TAB 2019-20							*4.29*	*4.29*	*4.29*	*4.29*	*4.29*	*4.29*
		Pipelines - tax depreciation		35.18	37.43	37.78	37.93	38.43	38.72	38.72	38.72	38.72	38.72	38.72

C.2.1 Data derived from TAB input sheet

For each asset class, the bordered section contains data derived from the inputs entered in the **TAB input** sheet. This section references the starting TAB, and calculates the net capex and asset adjustments in nominal dollar terms. It also references and calculates the relevant standard and remaining lives from the **TAB input** sheet.

For Asset class 1, the starting TAB value and associated remaining life are displayed in cells G7 and G8 respectively. Net capex and associated tax standard lives are displayed in rows 7 and 8 in columns H and beyond. Capital base standard lives are displayed in row 9.[84] Immediate expensing of capex is shown in row 10. Asset adjustments and the relevant TAB remaining lives are displayed in rows 11 and 12, and their capital base remaining lives are in row 13.[85] The DV multiplier is shown in row 14 and the SL/DV switch is shown in row 15. For each asset class presented, the relative order and location of these values are the same.

Unlike capital base depreciation, there is no need to separately track adjustments for year t–1 capex true-ups.[86]

---

83 By default, the **TAB tracking** sheet accommodates a single access arrangement period of depreciation tracking. This can be expanded to include additional periods as required (section C.4.2).

84 In the case where the TAB depreciation approach of DV is applied to each year of net capex, the capital base standard life is used to calculate when the residual TAB value is written down to zero.

85 In the case where the TAB depreciation approach of DV is applied to the TAB asset adjustments, the capital base remaining life is used to calculate when the residual TAB value is written down to zero.

86 This is because unlike the capital base roll forward, the actual (and efficient) capex for these years enters the TAB as they are incurred.

Starting TAB and remaining life

The starting TAB asset value is in end of year nominal terms, consistent with the nominal values entered in the **TAB input** sheet. The remaining life displayed is the life which applies to the starting TAB.

Net capex, tax standard lives and capital base standard lives

The net capex values are calculated based on the recorded actual nominal capex less asset disposals and immediately expensed capex. The net capex values are displayed in nominal dollar terms. The tax standard lives and the capital base standard lives are listed for each year of capex, and are the same for each year within an access arrangement period.

Immediate expensing of capex

Where a gas distribution service provider has immediately expensed some of its capex, these values are displayed in nominal dollar terms.

Asset adjustment, TAB remaining life and, capital base remaining life

Where a gas distribution service provider has other asset adjustments (for example, end of period movements due to a change in service classification) these values are displayed in nominal dollar terms.[87]

DV multiplier and SL/DV switch

The DV multiplier and SL/DV switch are listed for each year.

C.2.2 TAB depreciation schedules

For each asset class, the depreciation schedules—disaggregated by TAB components—are calculated in nominal dollar terms. These values are displayed in the cells below the data derived from the **TAB input** sheet.

For Asset class 1, the values are displayed in rows 18 to 32 (Figure 32). The depreciation schedules relate to:

- the starting TAB (row 18)
- actual net capex[88] (rows 19 to 23)
- asset adjustments (rows 26 to 30)
- total asset class depreciation (row 32).[89]

For each asset class presented, the relative order and location of these values are the same. The depreciation is calculated on either a straight-line or diminishing value basis depending on which method is selected. Depreciation begins in the year after the asset enters the TAB.

87 In the case where the TAB depreciation approach of DV is applied to the final year TAB adjustment, the capital base remaining life is used to calculate when the residual TAB value is written down to zero.

88 The net capex amounts are after adjustments for immediately expensed capex.

89 The total asset class depreciation includes any amounts for immediate expensing.

Details on adding the depreciation rows required for an extra period of TAB tracking are in section C.4.

The calculated total depreciation amounts in the **TAB tracking** sheet are referenced in the **Tracking output** sheet.

For a gas distribution service provider using TAB depreciation tracking for the first time and for which the 2018 tax review changes apply to the RFM, the starting TAB will remain being subject to SL depreciation and net capex[90] will be subject to DV depreciation.[91]

Straight-line method

The formula used to calculate SL tax depreciation for the depreciation of a year of net capex is presented as:[92]

$$D_t = \left(\text{Nominal net capex}_i{}^{93}\right) \div \text{tax standard asset life}^{94}$$

where:

D_t is the tax depreciation in year t

$D_0 = 0$

$t = 1,2,3, \ldots$

$i = \text{year } 0$

Diminishing value method

Where the DV method applies, the depreciation of the starting TAB will typically still be calculated using the SL depreciation method. The formula used to calculate DV tax depreciation for the depreciation of a year of net capex is presented as:[95]

$$D_t = \left(\text{Nominal net capex}_i{}^{96} - \sum_{n=0}^{t-1} D_n\right) \times \text{DV multiplier}^{97} \div \text{tax standard asset life}^{98}$$

90 Net capex allocated to asset classes 47–50 will remain subject to SL depreciation after the tax review findings are implemented, reflecting assets which are exempt from the DV method of tax depreciation.

91 The 2018 tax review changes would apply to the RFM from the second reset following the tax review. For further details on the tax review's effect on depreciation in the RFM (and tracking module) and the PTRM, see AER, *Explanatory statement – Electricity transmission and distribution network service providers - proposed amendments to the roll forward models (distribution - version 3) (transmission - version 4), Appendix A Implementation of tax review depreciation findings–flow chart,* December 2019, p. 25.

92 For the depreciation of TAB asset adjustments, the formula is varied such that the value of the adjustment is used instead of the nominal net capex and the remaining tax life of the asset adjustment is used instead of the tax standard asset life.

93 Net capex is equal to gross capex (section C.1.2) net of disposals (section C.1.4) and immediately expensed capex (section 0).

94 See section C.1.5.

95 For the depreciation of TAB asset adjustments, the formula is varied such that the value of the adjustment is used instead of the nominal net capex and the remaining tax life of the asset adjustment is used instead of the tax standard asset life.

96 Net capex is equal to gross capex (section C.1.2) net of disposals (section C.1.4) and immediately expensed capex

where:

D_t is the tax depreciation in year t

$D_0 = 0$

$t = 1,2,3, \ldots$

$i = \text{year } 0$

Capex recognised for tax purposes is net of disposals and immediately expensed capex, but includes the value of capital contributions. Immediately expensed capex for each regulatory year (section C.1.3) is added to the total tax depreciation of each asset class for that year.[99]

The individual tax depreciation profiles for each asset class can be viewed by expanding the relevant grouped rows.[100] Tax depreciation is calculated separately because asset values and asset lives for tax purposes generally differ from those for regulatory purposes.

For each asset class the yearly total tax depreciation is calculated by summing the depreciation of the starting TAB, net capex and asset adjustments. The total tax depreciation is summarised in the TAB tracking depreciation tables in the **Tracking output** sheet.

C.3 Tracking output sheet – TAB

The **Tracking output** sheet outlines the TAB (and capital base) depreciation outputs from the tracking module in the format required to be used as inputs to the PTRM and RFM, where relevant.

For TAB depreciation tracking, the **Tracking output** sheet displays the forecast tax depreciation values for the next access arrangement period for each asset class in rows 60 to 109 and the actual tax depreciation values for the current access arrangement period for each asset class in rows 116 to 165. The values for the forecast and actual tax depreciation are displayed in nominal dollar terms and reference the values in the **TAB tracking** sheet.

Figure 33 provides an example of the **Tracking output** sheet. Details of the capital base tracking outputs are discussed in section B.4.

(section C.1.3).

97 See section C.1.1.

98 See section C.1.5.

99 For example, using Asset class 1, the immediately expensed capex for the first regulatory year of tracking tax depreciation is added to cell H32 in the **TAB tracking** sheet.

100 The grouped rows for all of the asset classes can be expanded at the same time by pressing the '2' in the top margin to the left of the sheet.

Figure 33 Tracking output sheet

DNSP - Tracking output - Gas DNSP RFM - Depreciation tracking module - version 1

Year				2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31
PTRM forecast depreciation output														
Forecast capital base depreciation - Aligned ($m, 2019-	Check	3,321.27		252.14	253.07	256.33	254.86	246.22	127.29	126.31	132.07	132.07	132.07	127.02
Asset Class	Pipelines	TRUE	1,043.85	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	65.35	60.31
Asset Class	Service Pipes	TRUE	871.61	38.64	38.64	38.64	38.64	31.38	31.38	31.38	31.38	31.38	31.38	31.38
Asset Class	Supply Regulators/Valve Stations	TRUE	679.06	21.71	21.71	21.71	21.71	21.71	27.65	27.65	27.65	27.65	27.65	27.65
Asset Class	SCADA	TRUE	318.97	60.64	60.64	60.64	60.64	60.64	- 3.51	- 3.51	3.22	3.22	3.22	3.22
Asset Class	Meters	TRUE	324.42	61.03	61.03	61.03	61.03	61.03	2.31	2.31	2.31	2.31	2.31	2.31
Asset Class	Computer Equipment	TRUE	28.16	5.68	5.68	5.68	4.61	3.57	1.95	0.97	-	-	-	-
Asset Class	Vehicles	TRUE	- 3.04	- 2.20	- 2.50	0.83	0.55	0.27	-	-	-	-	-	-
Asset Class	Land and easements	TRUE	-	-	-	-	-	-	-	-	-	-	-	-
Asset Class	Buildings	TRUE	57.06	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Asset Class	In-house software	TRUE	0.01	- 0.89	0.35	0.28	0.17	0.10	-	-	-	-	-	-
Asset Class	Equity raising costs	TRUE	1.18	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Forecast TAB depreciation ($m, nominal)			1,263.95	158.45	155.90	116.77	115.82	110.10	108.12	108.58	91.87	94.17	93.47	15.22
Asset Class	Pipelines		420.96	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	38.72	6.39
Asset Class	Service Pipes		336.01	33.65	33.65	33.65	33.65	30.87	28.09	28.09	28.09	28.09	28.09	3.90
Asset Class	Supply Regulators/Valve Stations		216.79	18.61	18.61	18.61	18.61	18.61	18.61	22.78	22.78	22.78	22.78	1.75
Asset Class	SCADA		61.35	36.67	- 2.50	- 2.50	- 2.50	- 2.50	- 2.50	- 3.20	- 0.90	1.40	0.70	-
Asset Class	Meters		167.79	21.68	21.68	21.68	21.68	21.68	21.68	21.68	2.67	2.67	2.67	2.67
Asset Class	Computer Equipment		17.50	7.00	5.25	3.50	1.75	-	-	-	-	-	-	-
Asset Class	Vehicles		3.00	1.00	0.80	0.60	0.40	0.20	-	-	-	-	-	-
Asset Class	Land and easements		-	-	-	-	-	-	-	-	-	-	-	-
Asset Class	Buildings		29.96	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Asset Class	In-house software		10.60	0.60	-	2.00	3.00	2.00	3.00	-	-	-	-	-
Asset Class	Equity raising costs		-	-	-	-	-	-	-	-	-	-	-	-

Year		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
RFM actual TAB depreciation output												
Actual TAB depreciation ($m, nominal)		-	244.13	251.42	255.60	198.26	169.69	-	-	-	-	-
	Pipelines	-	35.18	37.43	37.78	37.93	38.43	-	-	-	-	-
	Service Pipes	-	28.19	28.99	29.29	31.59	31.79	-	-	-	-	-
	Supply Regulators/Valve Stations	-	24.03	24.38	24.73	25.08	25.43	-	-	-	-	-
	SCADA	-	41.17	41.87	42.57	43.27	43.97	-	-	-	-	-
	Meters	-	19.02	19.55	20.08	20.62	21.15	-	-	-	-	-
	Computer Equipment	-	60.74	62.49	64.24	5.25	7.00	-	-	-	-	-
	Vehicles	-	32.80	33.00	33.20	33.40	0.80	-	-	-	-	-
	Land and easements	-	-	-	-	-	-	-	-	-	-	-
	Buildings	-	0.41	0.51	0.51	0.51	0.51	-	-	-	-	-
	In-house software	-	2.61	3.21	3.21	0.60	0.60	-	-	-	-	-
	Equity raising costs	-	- 0.03	- 0.03	- 0.03	-	-	-	-	-	-	-

C.4 Adding TAB tracking periods to module

The tracking module template is set up by default to accommodate a single five year access arrangement period of TAB depreciation tracking. For subsequent resets, the tracking module must be expanded to accommodate capex for new access arrangement periods as part of continuing the depreciation tracking approach. In order to include additional periods of TAB depreciation tracking, the user must utilise the in-built macros to expand the calculations in the tracking module.[101]

To include additional periods for TAB tracking, the user is required to:

- update the **TAB input** sheet with the relevant capex, asset adjustments etc.[102] This includes updating the estimated capex in the final year of the previous access arrangement period (year t–1) with actual capex
- initiate the 'Insert additional TAB tracking period' macro—by pressing the button on the **TAB input** sheet. This will add in the required rows into the **TAB tracking** sheet to calculate depreciation for the new period of capex.

101 Where the first access arrangement period of TAB depreciation tracking is longer than 5 years, the in-built macros can also be used to add the required number of additional years to the first period.

102 In the template tracking module, some of the inputs in the **TAB input** sheet reference similar inputs in the **Capital base input** sheet. So in cases where both capital base and TAB depreciation is tracked then some of the inputs in the **TAB input** sheet will update automatically update. This applies to inputs for access arrangement period and years in period, gross capex, disposals, capital base standard lives and capital base remaining lives for asset adjustments.

This process is then repeated for each new period of TAB depreciation tracking required.

C.4.1 Updating the TAB input sheet for new access arrangement period

To update the **TAB input** sheet for a new access arrangement period of TAB depreciation tracking, the user must add the required inputs for the 'Regulatory period' and 'Years in regulatory period'. These are to be entered in the column relating to the first year of the new period.

A note 'input for next period' appears in row 9 above the required input cells for the new period. This is shown in Figure 34.

Figure 34 TAB input sheet—Update for additional access arrangement period

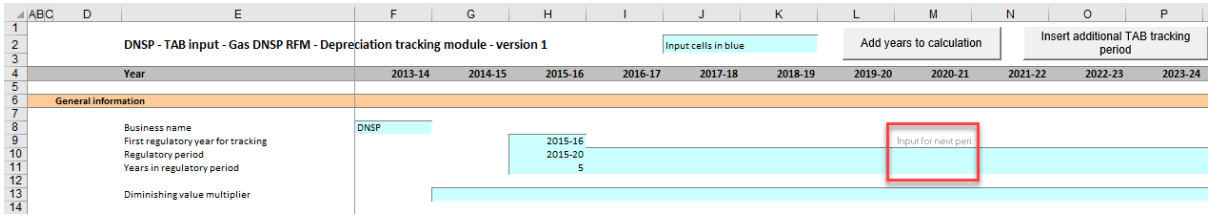
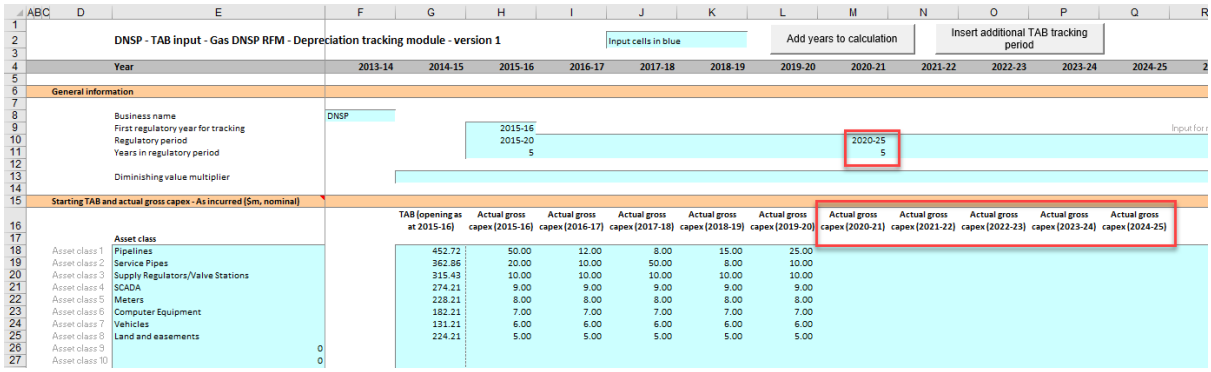


Figure 35 shows how a user must enter the input data in these cells for a new period. In this case the period is 2020–25, and is 5 years after the initial (2015–20) period for which TAB depreciation tracking had commenced. Once the inputs are entered, the labels for the additional years of capex required appear in row 16.

Figure 35 TAB input sheet—Access arrangement period added and labels for gross capex

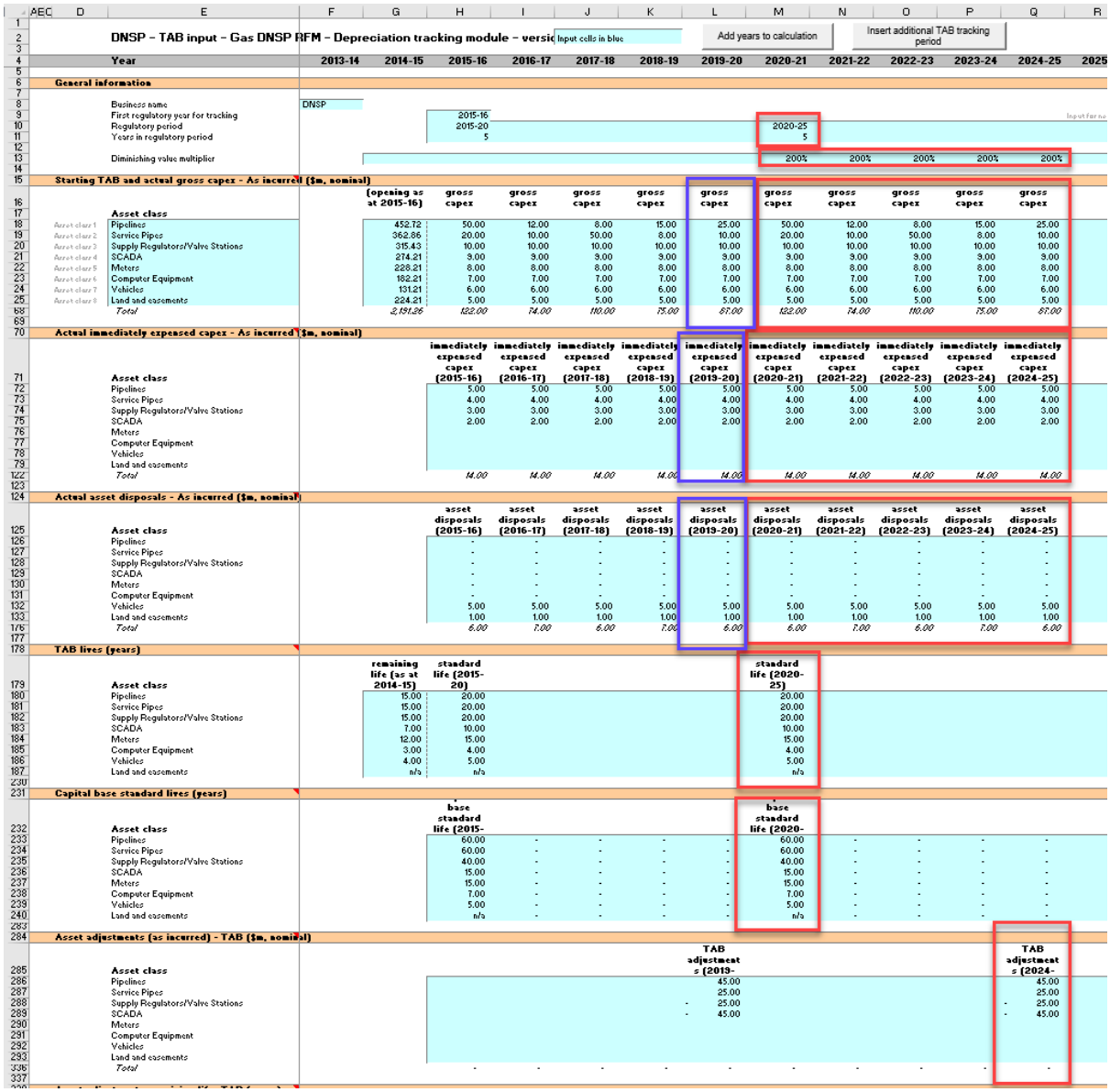


The user must then enter all of the required inputs for the years in the new access arrangement period that has been added. Figure 36 highlights the required new inputs for the example above, where the 2020–25 access arrangement period is added to the tracking module. The new inputs required are:

- the DV multiplier
- actual gross capex and disposals for 6 years (2019–25)

- actual immediate expensing for 5 years (2020–25)[103]
- tax standard lives for the 2020–25 access arrangement period
- any TAB asset adjustments and associated remaining lives[104] for the 2020–25 access arrangement period
- tax depreciation approach (SL/DV).

Figure 36 TAB input sheet—Updated with new inputs – screenshot 1



DNSP – TAB input – Gas DNSP RFM – Depreciation tracking module – versi

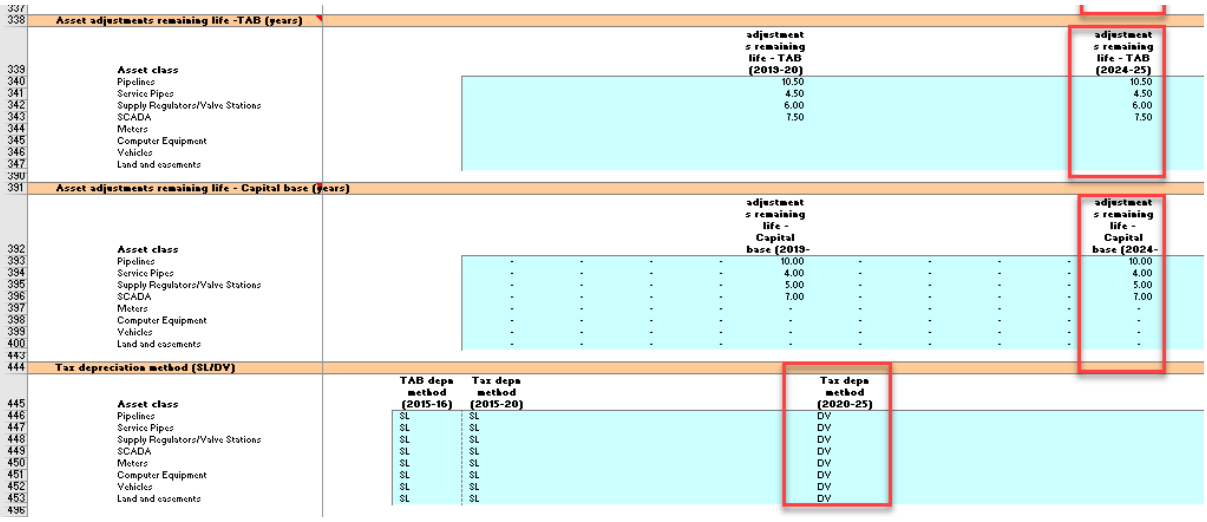
Input cells in blue | Add years to calculation | Insert additional TAB tracking period

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025
General information													
Business name	DNSP												
First regulatory year for tracking			2015-16										
Regulatory period			2015-20					2020-25					
Years in regulatory period			5					5					
Diminishing value multiplier								200%	200%	200%	200%	200%	
Starting TAB and actual gross capex - As incurred ($m, nominal)													
Asset class	(opening as at 2015-16)	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	gross capex	
Pipelines	452.72	50.00	12.00	8.00	15.00	25.00	50.00	12.00	8.00	15.00	25.00		
Service Pipes	362.86	20.00	10.00	50.00	8.00	10.00	20.00	10.00	50.00	8.00	10.00		
Supply Regulators/Valve Stations	315.43	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		
SCADA	274.21	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		
Meters	228.21	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00		
Computer Equipment	182.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
Vehicles	131.21	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00		
Land and easements	224.21	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00		
Total	*2,191.26*	*122.00*	*74.00*	*110.00*	*75.00*	*87.00*	*122.00*	*74.00*	*110.00*	*75.00*	*87.00*		
Actual immediately expensed capex - As incurred ($m, nominal)													
Asset class		immediately expensed capex (2015-16)	immediately expensed capex (2016-17)	immediately expensed capex (2017-18)	immediately expensed capex (2018-19)	immediately expensed capex (2019-20)	immediately expensed capex (2020-21)	immediately expensed capex (2021-22)	immediately expensed capex (2022-23)	immediately expensed capex (2023-24)	immediately expensed capex (2024-25)		
Pipelines		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00		
Service Pipes		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
Supply Regulators/Valve Stations		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00		
SCADA		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00		
Meters													
Computer Equipment													
Vehicles													
Land and easements													
Total		*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*	*14.00*		
Actual asset disposals - As incurred ($m, nominal)													
Asset class		asset disposals (2015-16)	asset disposals (2016-17)	asset disposals (2017-18)	asset disposals (2018-19)	asset disposals (2019-20)	asset disposals (2020-21)	asset disposals (2021-22)	asset disposals (2022-23)	asset disposals (2023-24)	asset disposals (2024-25)		
Pipelines		-	-	-	-	-	-	-	-	-	-		
Service Pipes		-	-	-	-	-	-	-	-	-	-		
Supply Regulators/Valve Stations		-	-	-	-	-	-	-	-	-	-		
SCADA		-	-	-	-	-	-	-	-	-	-		
Meters		-	-	-	-	-	-	-	-	-	-		
Computer Equipment		-	-	-	-	-	-	-	-	-	-		
Vehicles		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00		
Land and easements		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Total		*6.00*	*7.00*	*6.00*	*7.00*	*6.00*	*6.00*	*7.00*	*6.00*	*7.00*	*6.00*		
TAB lives (years)													
Asset class		remaining life (as at 2014-15)	standard life (2015-20)					standard life (2020-25)					
Pipelines		15.00	20.00					20.00					
Service Pipes		15.00	20.00					20.00					
Supply Regulators/Valve Stations		15.00	20.00					20.00					
SCADA		7.00	10.00					10.00					
Meters		12.00	15.00					15.00					
Computer Equipment		3.00	4.00					4.00					
Vehicles		4.00	5.00					5.00					
Land and easements		n/a	n/a					n/a					
Capital base standard lives (years)													
Asset class			base standard life (2015-					base standard life (2020-					
Pipelines			60.00	-	-	-	-	60.00	-	-	-	-	
Service Pipes			60.00	-	-	-	-	60.00	-	-	-	-	
Supply Regulators/Valve Stations			40.00	-	-	-	-	40.00	-	-	-	-	
SCADA			15.00	-	-	-	-	15.00	-	-	-	-	
Meters			15.00	-	-	-	-	15.00	-	-	-	-	
Computer Equipment			7.00	-	-	-	-	7.00	-	-	-	-	
Vehicles			5.00	-	-	-	-	5.00	-	-	-	-	
Land and easements			n/a	-	-	-	-	n/a	-	-	-	-	
Asset adjustments (as incurred) - TAB ($m, nominal)													
Asset class							TAB adjustments (2019-					TAB adjustments (2024-	
Pipelines							45.00					45.00	
Service Pipes							25.00					25.00	
Supply Regulators/Valve Stations							- 25.00					- 25.00	
SCADA							- 45.00					- 45.00	
Meters													
Computer Equipment													
Vehicles													
Land and easements													
Total				-	-	-	-	-	-	-	-	-	

103 For the roll forward of the TAB in the first period subject to the tax review changes, only 5 years will need to be entered because the recognition of immediate expensing starts from year t. For subsequent periods of TAB tracking, year t-1 immediate expensing inputs should be updated for actuals.

104 For both capital base and TAB remaining lives.

Figure 37 TAB input sheet—Updated with new inputs – screenshot 2



C.4.2 Updating the TAB tracking sheet for new access arrangement period

To update the **TAB tracking** sheet for an additional access arrangement period of TAB depreciation tracking, the user must initiate the 'Insert additional TAB tracking period' macro by pressing the button on the **TAB input** sheet (step 1).

After initiating the macro, the user is prompted to enter the number of years in the additional period for tracking—typically 5 years (step 2).

Figure 38 and Figure 39 show the steps for adding an extra five year access arrangement period.

Figure 38 'Insert additional TAB tracking period' macro—Step 1

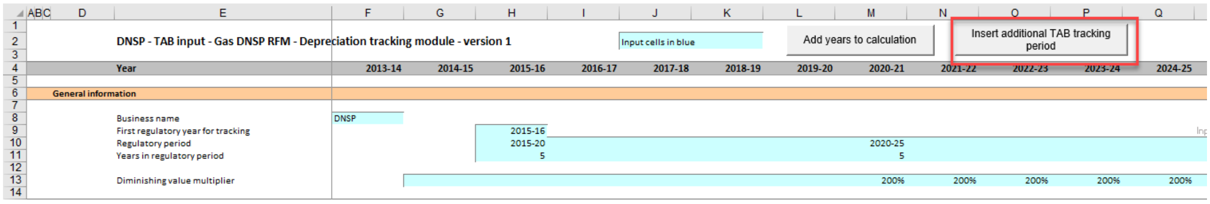
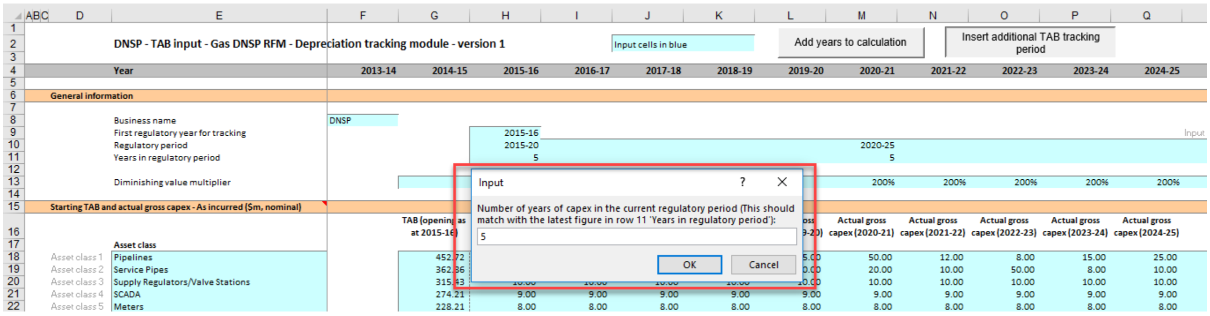


Figure 39 'Insert additional TAB tracking period' macro—Step 2



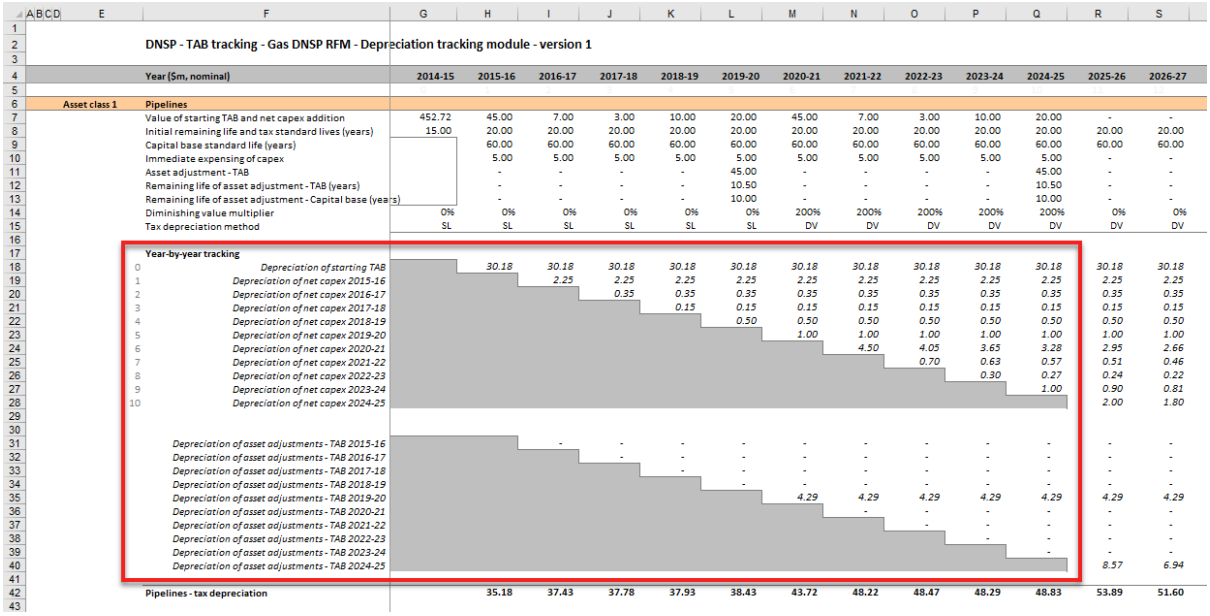
Running the macro may take a few minutes. The progress of the macro is displayed in the status bar (bottom left corner) as it steps through the process of updating the tracking module.

When completed, the **TAB tracking** sheet should include the following calculations (for a typical five year access arrangement period):[105]

- five additional rows of net capex depreciation
- five additional rows for the depreciation of asset adjustments.

Figure 40 shows the updated **TAB tracking** sheet layout after the macro has been completed for an extra five year access arrangement period of TAB depreciation tracking.

Figure 40 TAB tracking sheet after macro has completed



DNSP - TAB tracking - Gas DNSP RFM - Depreciation tracking module - version 1

	Year (Sm, nominal)	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Asset class 1	Pipelines													
	Value of starting TAB and net capex addition	452.72	45.00	7.00	3.00	10.00	20.00	45.00	7.00	3.00	10.00	20.00	-	-
	Initial remaining life and tax standard lives (years)	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
	Capital base standard life (years)		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
	Immediate expensing of capex		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	-	-
	Asset adjustment - TAB		-	-	-	-	45.00	-	-	-	-	45.00	-	-
	Remaining life of asset adjustment - TAB (years)		-	-	-	-	10.50	-	-	-	-	10.50	-	-
	Remaining life of asset adjustment - Capital base (years)		-	-	-	-	10.00	-	-	-	-	10.00	-	-
	Diminishing value multiplier	0%	0%	0%	0%	0%	0%	200%	200%	200%	200%	200%	0%	0%
	Tax depreciation method	SL	SL	SL	SL	SL	SL	DV	DV	DV	DV	DV	DV	DV
	Year-by-year tracking													
0	*Depreciation of starting TAB*		*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*	*30.18*
1	*Depreciation of net capex 2015-16*		*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*	*2.25*
2	*Depreciation of net capex 2016-17*			*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*	*0.35*
3	*Depreciation of net capex 2017-18*				*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*	*0.15*
4	*Depreciation of net capex 2018-19*					*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*	*0.50*
5	*Depreciation of net capex 2019-20*						*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
6	*Depreciation of net capex 2020-21*							*4.50*	*4.05*	*3.65*	*3.28*	*2.95*	*2.66*	
7	*Depreciation of net capex 2021-22*								*0.70*	*0.63*	*0.57*	*0.51*	*0.46*	
8	*Depreciation of net capex 2022-23*									*0.30*	*0.27*	*0.24*	*0.22*	
9	*Depreciation of net capex 2023-24*										*1.00*	*0.90*	*0.81*	
10	*Depreciation of net capex 2024-25*											*2.00*	*1.80*	
	Depreciation of asset adjustments - TAB 2015-16		-	-	-	-	-	-	-	-	-	-	-	
	Depreciation of asset adjustments - TAB 2016-17			-	-	-	-	-	-	-	-	-	-	
	Depreciation of asset adjustments - TAB 2017-18				-	-	-	-	-	-	-	-	-	
	Depreciation of asset adjustments - TAB 2018-19					-	-	-	-	-	-	-	-	
	Depreciation of asset adjustments - TAB 2019-20							*4.29*	*4.29*	*4.29*	*4.29*	*4.29*	*4.29*	*4.29*
	Depreciation of asset adjustments - TAB 2020-21								-	-	-	-	-	-
	Depreciation of asset adjustments - TAB 2021-22									-	-	-	-	-
	Depreciation of asset adjustments - TAB 2022-23										-	-	-	-
	Depreciation of asset adjustments - TAB 2023-24											-	-	-
	Depreciation of asset adjustments - TAB 2024-25												*8.57*	*6.94*
	Pipelines - tax depreciation		35.18	37.43	37.78	37.93	38.43	43.72	48.22	48.47	48.29	48.83	53.89	51.60

C.5 Increasing the number of years (columns) in tracking module

As detailed in section B.6, to increase the number of years for calculating depreciation in the tracking module, the user must initiate the 'Add years to calculation' macro. This macro can be initiated using the button in the **TAB input** sheet (or **Capital base input** sheet). Regardless of whether the user runs the macro from the **TAB input** sheet or the **Capital base input** sheet, the outcome will be the same.[106]

105 The number of rows added for capex and for asset adjustments will be equal to the number of years added.

106 Note that this is different to the 'Insert additional capital base tracking period' and 'Insert additional TAB tracking period' macros which only modify the sheets for which they are pressed.