Draft Decision

Directlink Electricity Transmission Determination 2025 to 2030
(1 July 2025 to 30 June 2030)

Attachment 4
Regulatory depreciation

September 2024

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Amendment record

Version	Date	Pages
1	27 September 2024	10

Contents

4 Regulatory depreciation

Regulatory depreciation is the amount provided so capital investors recover their investment over the economic life of the asset (return of capital). In deciding whether to approve the depreciation schedules submitted by Directlink, we make determinations on the indexation of the regulatory asset base (RAB) and depreciation building blocks for Directlink's 2025–30 regulatory control period (period).[1] The regulatory depreciation amount is the net total of the straight-line depreciation less the indexation of the RAB.

This attachment sets out our draft decision on the regulatory depreciation amount for Directlink's transmission network. It also presents our draft decision on the proposed depreciation schedules, including an assessment of the proposed asset lives used for calculating straight-line depreciation.

4.1 Draft decision

We determine a regulatory depreciation amount of $34.5 million ($ nominal) for Directlink for the 2025–30 period. Directlink proposed a regulatory depreciation amount of $40.9 million ($ nominal).[2] Our draft decision represents a reduction of $6.4 million (15.7%) on the proposed amount.

This reduction is primarily the result of our draft decision on the lower straight-line depreciation for the 2025–30 period compared to Directlink's proposal, due to a lower opening RAB as at 1 July 2025 and a lower forecast capital expenditure (capex), which affects the projected RAB over this period.

Our draft decision forecast straight-line depreciation is $5.1 million lower than the proposal and has been reduced further by the impact of the higher RAB indexation of $1.3 million to result in a $6.4 million reduction to regulatory depreciation. The higher RAB indexation compared to the proposal is largely due to applying a higher expected inflation rate of 2.85% per annum in this draft decision compared to Directlink's proposal of 2.62% per annum. Since RAB indexation is deducted from straight-line depreciation, the higher RAB indexation has also resulted in a lower regulatory depreciation.

For our draft decision on Directlink's regulatory depreciation:

- We accept Directlink's proposed straight-line depreciation method used to calculate the regulatory depreciation amount.

- We accept Directlink's proposed asset classes and standard asset lives, subject to a minor input correction for the 'Buildings' asset class.

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[1]   Under cl. 6A.5.4 of the National Electricity Rules (NER), the annual building block revenue requirement for a Transmission Network Service Provider for each regulatory year of a regulatory control period must be determined using a building blocks approach, under which one of the building blocks is depreciation for that year. The depreciation for each regulatory year must be calculated in accordance with cl. 6A.6.3 of the NER (see cl. 6A.5.4(b)(3)).

[2]   Directlink, *Attachment 09a – PTRM,* January 2024.

- We accept Directlink's proposed remaining asset lives as at 1 July 2025 for depreciating its existing assets, which align with the remaining technical life of Directlink. This approach is the same as that approved in our previous transmission determinations for Directlink (section 4.4.1).

We made determinations on other components of Directlink's proposal which affect the forecast regulatory depreciation—for example, the opening RAB at 1 July 2025 (Attachment 2), expected inflation (Attachment 3), and forecast capex (Attachment 5) including its effect on the projected RAB over the 2025–30 period.[3]

Table 4.1 sets out our draft decision on the annual regulatory depreciation amount for Directlink for the 2025–30 period.

Table 4.1   AER's draft decision on Directlink's forecast depreciation for the 2025–30 period ($ million, nominal)

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Straight-line depreciation	10.2	11.1	11.7	12.2	12.7	57.8
Less: inflation indexation on opening RAB	4.6	4.8	4.7	4.6	4.4	23.2
Regulatory depreciation	**5.5**	**6.2**	**6.9**	**7.6**	**8.2**	**34.5**

Source: AER analysis.

4.2 Directlink's proposal

For the 2025–30 period, Directlink proposed a total forecast regulatory depreciation amount of $40.9 million ($ nominal). To calculate the depreciation amount, Directlink proposed to use:[4]

- the straight-line depreciation method employed in the AER's post-tax revenue model (PTRM)

- the closing RAB value at 30 June 2025 derived from the AER's roll forward model (RFM)

- the forecast capex for the 2025–30 period proposed by Directlink

- an expected inflation rate of 2.62% per annum for the 2025–30 period

- the same asset classes as those approved in our 2020–25 transmission determination for Directlink

- remaining asset life at 1 July 2025 that aligns with the remaining technical life of Directlink, as approved in our 2020–25 transmission determination for Directlink

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[3]   Capex enters the RAB net of forecast disposals. It includes equity raising costs (where relevant) and the half-year weighted average cost of capital (WACC) to account for the timing assumptions in the PTRM. Our draft decision on the RAB (Attachment 2) also reflects our updates to the WACC for the 2025–30 period.

[4]   Directlink, *Attachment 09b – Roll Forward Model*, January 2024.

Directlink, *Attachment 09a – PTRM*, January 2024.

- standard asset lives, which align with the remaining technical life of Directlink, for depreciating its forecast capex for the 2025–30 period. This approach is also consistent with that approved in our 2020–25 transmission determination for Directlink.[5]

Table 4.2 sets out Directlink's proposed regulatory depreciation amount for the 2025–30 period.

Table 4.2   Directlink's proposed regulatory depreciation for the 2025–30 period ($ million, nominal)

	2025–26	2026–27	2027–28	2028–29	2029–30	Total
Straight-line depreciation	10.2	11.6	14.0	13.4	13.6	62.9
Less: inflation indexation on opening RAB	4.3	4.5	4.5	4.4	4.2	21.9
Regulatory depreciation	**5.9**	**7.1**	**9.5**	**9.0**	**9.4**	**40.9**

Source: Directlink, *Attachment 09a – PTRM*, January 2024.

4.3 Assessment approach

We must determine the regulatory depreciation amount as part of determining a transmission network service provider's (TNSP's) annual building block revenue requirement.[6] The calculation of depreciation for each regulatory year is governed by the value of assets included in the RAB as at the beginning of the regulatory year, and by the depreciation schedules.[7]

4.3.1 Approach to determining depreciation

Our standard approach to calculating depreciation is to employ the straight-line method set out in the PTRM. Regulatory practice has been to assign a standard asset life to each category of assets that represents the economic or technical life of the asset or asset class.[8] We must consider whether the proposed depreciation schedules conform to the following key requirements:

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[5]   Directlink's proposed standard asset life for its 'Buildings' asset class is zero, which we establish below was an unintended input error. This proposed standard asset life of zero does not reflect the remaining asset life of Directlink.

[6]   NER, cll. 6A.5.4(a)(3) and 6A.5.4(b)(3).

[7]   NER, cl. 6A.6.3(a).

[8]   This is the standard practice for the AER, as well as other jurisdictional regulators. See for example:

IPART, *Cost building block model template – RAB & tax inputs – Table 2*, February 2023;

ERAWA, *Final decision on proposed revisions to the access arrangement for the Western Power Network 2022/23 – 2026/27 – Target Revenue Model,* March 2023.

AER, *Final decision: Electricity transmission network service providers – Post-tax revenue model handbook*, April 2021, p. 15.

- the schedules must depreciate using a profile that reflects the nature of the assets or category of assets over the economic life of that asset or category of assets[9] (apart from in certain specified circumstances)[10]

- the sum of the real value of the depreciation that is attributable to any asset or category of assets over the economic life of that asset or category of assets must be equivalent to the value at which that asset or category of assets was first included in the RAB for the relevant transmission system.[11]

To the extent that the depreciation schedules nominated in a TNSP's revenue proposal do not conform with the above requirements, we must determine the depreciation schedules for calculating the depreciation for each regulatory year.[12]

The regulatory depreciation amount is an output of the PTRM. We therefore assessed Directlink's proposed regulatory depreciation amount by analysing the proposed inputs to the PTRM for calculating that amount. The key inputs include:

- the opening RAB at 1 July 2025

- the forecast net capex in the 2025–30 period[13]

- the expected inflation rate for the above period

- the standard asset life for each asset class—used for calculating the depreciation of new assets associated with forecast net capex in the above period

- the remaining asset life for each asset class—used for calculating the depreciation of existing assets as at 1 July 2025.

Our draft decision on Directlink's regulatory depreciation amount reflects our determinations on the opening RAB as at 1 July 2025, expected inflation rate and forecast capex (the first three building block components in the above list).[14] Our determinations on these components of Directlink's proposal are discussed in Attachments 2, 3 and 5 respectively.

Our regulatory models (RFM and PTRM) provide for two approaches for calculating the straight-line depreciation of existing assets:

- The 'weighted average remaining lives' (WARL) approach: This approach calculates the remaining asset life for an asset class by weighting together its remaining asset life at the beginning of the regulatory control period with the new capex added to the asset class during that period. The residual asset values are used as weights to calculate the remaining asset life at the end of that period. The WARL for the asset classes are calculated in our RFM and are inputs to the PTRM. We consider this approach meets

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[9]   NER, cl. 6A.6.3(b)(1).

[10]   NER, cll. 6A.6.3(b)(1) and 6A.6.3(c).

[11]   NER, cl. 6A.6.3(b)(2).

[12]   NER, cl. 6A.6.3(a)(2)(ii).

[13]   Capex enters the RAB net of forecast disposals. It includes equity raising costs (where relevant) and is adjusted for half-year WACC to account for the timing assumptions in the PTRM. Our draft decision on the RAB (Attachment 2) also reflects our updates to the WACC for the 2025–30 period.

[14]   Our final decision will update the opening RAB as at 1 July 2025 for revised estimates of actual capex and inflation.

the requirements for determining depreciation under the National Electricity Rules (NER).

- The 'year-by-year tracking' approach: Under this approach, the capex (in addition to grouping assets by type via asset classes) for each year of the regulatory control period is depreciated separately and tracked on a year-by-year basis over the assigned standard life for the asset class. This approach does not require the assessment of the remaining asset life at each five-yearly regulatory determination. We consider this approach also meets the requirements for determining depreciation under the NER. Our depreciation tracking module in the RFM conducts the detailed calculations required under this approach. The output of this module is then recorded in the PTRM.

However, unlike other TNSPs, Directlink has a finite technical life and it will cease to operate by 2041–42.[15] Therefore, consistent with the 2020–25 transmission determination, Directlink's proposed approach is to align its remaining asset life for its existing assets at the start of each regulatory control period with the remaining technical life of Directlink. For the same reason, Directlink has also proposed to align the standard asset lives with the remaining life of its existing assets for the purpose of depreciating new capex for the 2025–30 period. Our draft decision on Directlink's remaining and standard asset lives is discussed in section 4.4.1.

4.3.2 Interrelationships

The regulatory depreciation amount is a building block component of the annual building block revenue requirement.[16] Higher (or quicker) depreciation leads to higher revenues over the regulatory control period. It also causes the RAB to reduce more quickly (excluding the impact of further capex). This reduces the return on capital amount, although this impact is usually smaller than the increased depreciation amount in the short to medium term.[17]

Ultimately, however, a TNSP can only recover the capex that it incurs on assets once. The depreciation amount reflects how quickly the RAB is being recovered, and it is based on the asset lives used in the depreciation calculation. It also depends on the level of the opening RAB and the forecast capex. Any increase in these factors also increases the depreciation amount.

The RAB has to be maintained in real terms, meaning the RAB must be indexed for expected inflation.[18] The return on capital building block has to be calculated using a nominal rate of return applied to the opening RAB.[19] As noted in Attachment 1, the total annual building block revenue requirement is calculated by adding up the return on capital, depreciation, operating expenditure (opex), tax and revenue adjustments building blocks. Because inflation on the RAB is accounted for in both the return on capital—based on a nominal rate—and the

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15   Directlink, *2025–2030 Directlink Revenue Proposal*, January 2024, pp. 17, 68.

16   The PTRM distinguishes between straight-line depreciation and regulatory depreciation, where regulatory depreciation is the straight-line depreciation less the indexation adjustment.

17   This is generally the case because the reduction in the RAB amount feeds into the higher depreciation building block, whereas the reduced return on capital building block is proportionate to the lower RAB multiplied by the WACC.

18   NER, cll. 6A.4.2(4), 6A.5.4(b)(1) and S6A.2.4(c)(4).

19   AER, *Rate of return instrument*, cll. 1, 3, 36(c), February 2023.

depreciation calculations—based on an indexed RAB—an adjustment must be made to the revenue requirement to prevent compensating twice for inflation.

To avoid this double compensation, we make an adjustment by subtracting the annual indexation gain on the RAB from the calculation of total revenue. Our standard approach is to subtract the indexation of the opening RAB—the opening RAB multiplied by the expected inflation for the year—from the RAB depreciation. The net result of this calculation is referred to as regulatory depreciation.[20] Regulatory depreciation is the amount used in the building block calculation of total revenue to ensure that the revenue equation is consistent with the use of a RAB, which is indexed for inflation annually. Figure 4.1 shows where the inflation components are included in the building block costs.

Figure 4.1   Inflation components in revenue building block – example
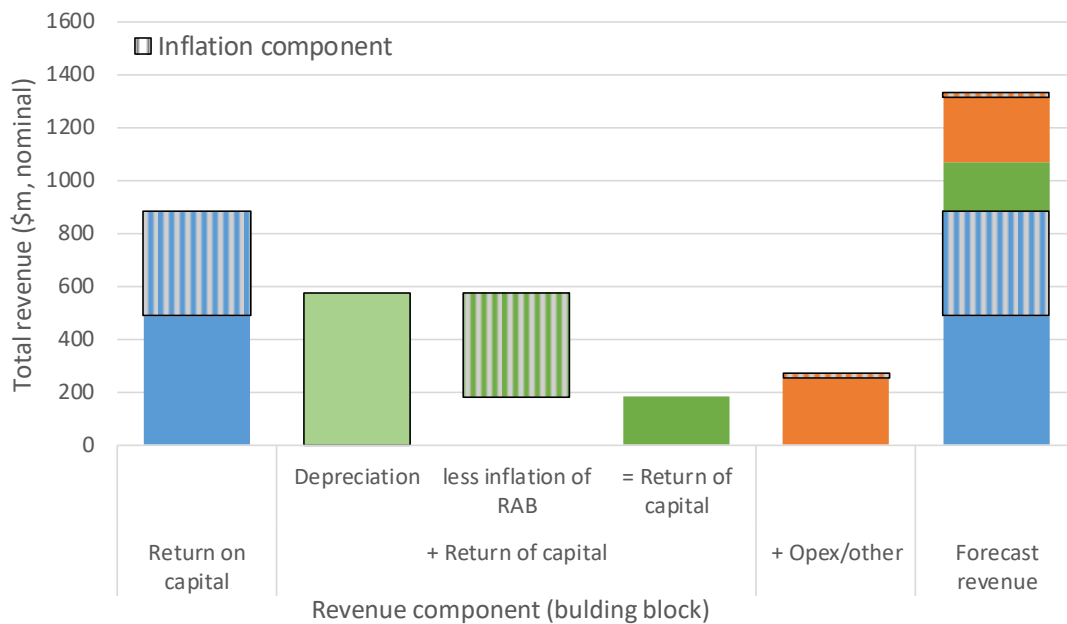
Source: AER analysis.

This approach produces the same total revenue requirement and RAB as if a real rate of return had been used in combination with an indexed RAB. Under an alternative approach where a nominal rate of return was used in combination with an un-indexed (historical cost) RAB, no adjustment to the depreciation calculation of total revenue would be required. This alternative approach produces a different time path of total revenue compared to our standard approach. In particular, overall revenues would be higher early in the asset's life (as a result of more depreciation being returned to the TNSP) and lower in the future—producing a steeper downward sloping profile of total revenue.[21] Under both approaches, the total

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20   If the asset lives are extremely long, such that the RAB depreciation rate is lower than the inflation rate, then negative regulatory depreciation can emerge. The indexation adjustment is greater than the straight-line depreciation in such circumstances.

21   A change of approach from an indexed RAB to an un-indexed RAB would result in an initial step change increase in revenues to preserve net present value (NPV) neutrality.

revenues being recovered are in present value neutral terms—that is, returning the initial cost of the RAB.

Figure 4.2 shows the recovery of revenue under both approaches using a simplified example.[22] Indexation of the RAB and the offsetting adjustment made to depreciation results in a smoother revenue recovery profile over the life of an asset than if the RAB was un-indexed. The indexation of the RAB also reduces price shocks when the asset is replaced at the end of its life.[23]

Figure 4.2   Revenue path example – indexed vs un-indexed RAB ($ nominal)
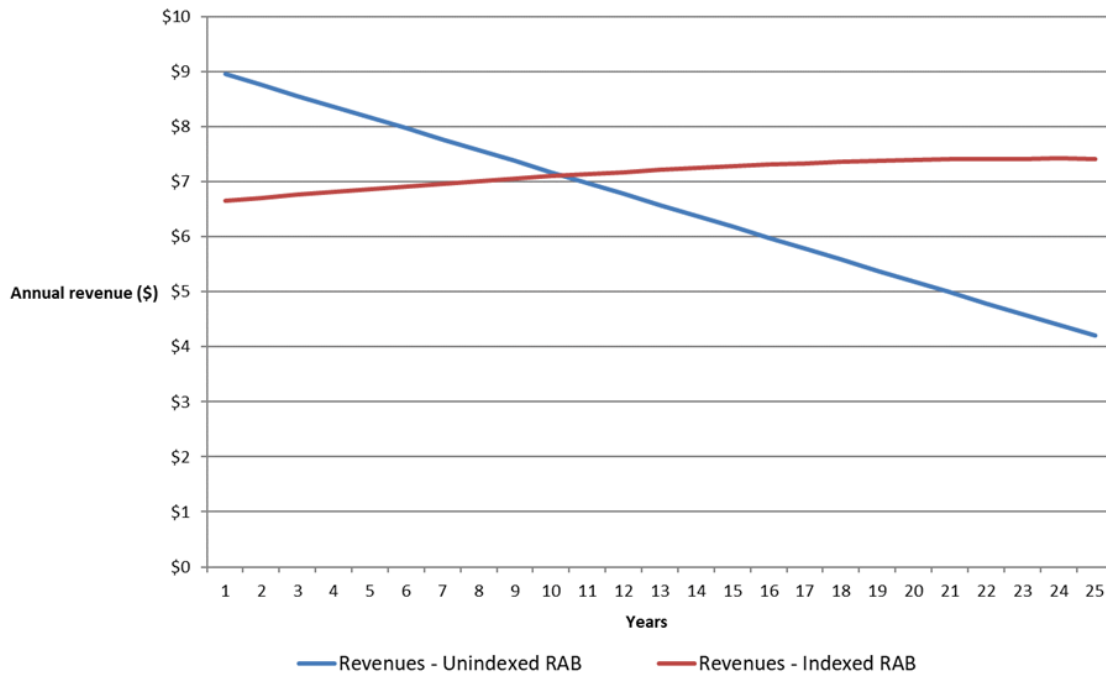
Source: AER analysis.

Figure 2.1 (in Attachment 2) shows the relative size of the inflation and straight-line depreciation, and their impact on the RAB based on Directlink's proposal. A 10% increase in the straight-line depreciation causes unsmoothed revenues ($ nominal) to increase by about 5%.[24]

4.4 Reasons for draft decision

We accept Directlink's proposed straight-line depreciation method for calculating the regulatory depreciation amount as set out in the PTRM. However, we reduced Directlink's

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[22]   The example is based on the initial cost of an asset of $100, a standard economic life of 25 years, a real WACC of 2.50%, expected inflation of 2.40% and nominal WACC of 4.96%. Other building block components such as opex, tax and capex are ignored for simplicity as they would affect both approaches equally.

[23]   In year 26, the revenues in the example for the un-indexed approach would jump from about $4 to $9, assuming the asset is replaced by an asset of roughly similar replacement cost as the initial asset. In contrast, in the same circumstances, the indexed approach would see revenues stay at roughly $7.

[24]   We have analysed the sensitivity of straight-line depreciation relative to total revenue based on input data provided in Directlink's proposal PTRM.

proposed forecast regulatory depreciation amount for the 2025–30 period by $6.4 million (15.7%) to $34.5 million ($ nominal).

This reduction is the result of a lower forecast capex (Attachment 5) and a lower opening RAB as at 1 July 2025 (Attachment 2), which affect the projected RAB over the 2025–30 period. The magnitude of the reduction is further increased by a higher RAB indexation in our draft decision compared to the proposal. This is because our draft decision applies a higher expected inflation rate of 2.85% per annum compared to Directlink's proposal of 2.62% per annum (Attachment 3).[25]

Our assessment of Directlink's proposed standard and remaining asset lives are discussed in the following subsection.

4.4.1 Standard and remaining asset lives

We accept Directlink's proposal to assign the remaining asset life of its depreciable asset classes to 16.2 years, which is the remaining technical life of Directlink.[26] In general, the remaining asset life of an asset class should reflect the technical life of the assets in that asset class. However, unlike other TNSPs, Directlink is an interconnector with a finite life and its assets will have no useful life when it ceases to operate. Therefore, Directlink's entire asset base should be fully depreciated by 2041–42.[27]

We also accept Directlink's proposal to align the standard asset lives for its asset classes with the remaining technical life of Directlink for the purpose of depreciating new capex over the 2025–30 period. This is because we consider Directlink's forecast capex is for 'stay in business' and ancillary equipment purposes, and therefore should have the same asset life as the rest of Directlink's core assets. Accordingly, the standard asset life of Directlink's depreciable asset classes is also 16.2 years for the 2025–30 period.

We note Directlink's proposed standard asset life for its 'Buildings' asset class is zero in the PTRM, which does not align with Directlink's remaining asset life. However, Directlink's proposal indicated the 'Buildings' asset class should be assigned a standard asset life of 16.2 years, which reflects Directlink's remaining asset life.[28] We therefore consider the PTRM input is an unintended error, which is corrected to 16.2 years in our draft decision. Directlink agreed with this correction in its response to our information request.[29]

We also note that Directlink's proposed approach for determining its remaining and standard asset lives is consistent with that approved for its previous transmission determinations. Table 4.3 sets out our draft decision on Directlink's standard asset lives for the 2025–30 period and the remaining asset lives as at 1 July 2025. We are satisfied that:[30]

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25 Expected inflation is used to calculate the RAB indexation. Since regulatory depreciation is calculated by subtracting RAB indexation from the straight-line depreciation, a higher RAB indexation reduces the regulatory depreciation, all else being equal.

26 Directlink, *Attachment 09a – PTRM*, January 2024.

27 Directlink, *2025–2030 Directlink Revenue Proposal*, January 2024, pp. 17, 68.

28 Directlink, *2025–2030 Directlink Revenue Proposal*, January 2024, p. 76.

29 Directlink, *Response to the AER's information request #001*, 23 May 2024.

30 NER, cll. 6A.6.3(b)(1)–(2).

- the asset lives and depreciation approach more broadly would lead to a depreciation schedule that reflects the nature of the assets over the economic lives of the asset classes, and

- the sum of the real value of the depreciation attributable to the assets is equivalent to the value at which the assets were first included in the RAB for Directlink.

Table 4.3   AER's draft decision on Directlink's remaining and standard asset lives as at 1 July 2025 (years)

Asset class	Remaining asset life	Standard asset life
Transmission assets	16.2	16.2
Transmission determination costs	5.0	5.0
Easements	16.2	16.2
Land	n/a	n/a
Buildings	16.2	16.2
Equity raising costs[a]	n/a	n/a

Source: AER analysis.

n/a   not applicable. We have not assigned an asset life to the 'Land' asset class because the capex allocated to it is not subject to depreciation.

(a)   For this draft decision, the forecast capex determined for Directlink does not meet a level to trigger any benchmark equity raising costs and is therefore not assigned a standard asset life.

Shortened forms

Term	Definition
AER	Australian Energy Regulator
capex	capital expenditure
ERAWA	Economic Regulation Authority Western Australia
IPART	Independent Pricing and Regulatory Tribunal
NER	national electricity rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
RFM	roll forward model
TNSP	transmission network service provider
WACC	weighted average cost of capital
WARL	weighted average remaining lives