



AusNet Transmission Group Pty Ltd

Transmission Revenue Review 2017-2022

Revised Revenue Proposal

**Appendix 1A: Accelerated
Depreciation: Background Briefing
Document**

Submitted: 21 September 2016



Briefing document

Accelerated depreciation stakeholder consultation

1.0. Background

Depreciation represents the decline in value of an asset over time. The deterioration in the value of invested capital is a cost to network businesses. Depreciation costs are one of the key components of revenue that AusNet Services recovers from its customers. This ensures that network businesses are able to recover the full costs of assets over their lives from customers (a principle which is enshrined in the regulatory framework).

Allowing network businesses to recover the full cost of their investment minimises the overall cost of energy networks. This is because insulating investors from the risk that their investment will not be fully recovered lowers the financing costs recovered by networks.

Depreciation costs account for around 20% of AusNet Services' transmission network revenues. Currently, depreciation costs are calculated by allocating a constant value of the asset over each year of the asset's life (commonly called a 'straight line' approach).

Historically, utilisation of transmission assets has been constant or increasing, as network demand and customer reliance on the network have grown. However, in recent years, significant changes have occurred in the energy market. These include high uptake of solar panels, an increase in the energy efficiency of appliances and reductions in the cost of power storage which have thrust the future utilisation of gas and electricity networks into question.

2.0. Accelerated depreciation

In response to these changes, it has been suggested that network businesses increase the rate at which depreciation costs are recovered from customers by applying accelerated depreciation to assets. Consistent with the 'user pays' principal, this approach suggests that current customers should pay more than future customers if they are more heavily reliant on the network than future customers are likely to be.

It is important to note that accelerating depreciation does not increase the amount of revenue recovered from customers over the life of an asset, rather changes the profile of this recovery. That is, it increases depreciation charges (and potentially prices) in the short term, but lowers depreciation charges (and potentially prices) in the long term, compared to the existing straight line depreciation approach. With falling utilisation, accelerated depreciation can lead to a more constant price per unit than straight line depreciation. This ensures that future consumers do not have to pay disproportionately more per unit than current consumers.

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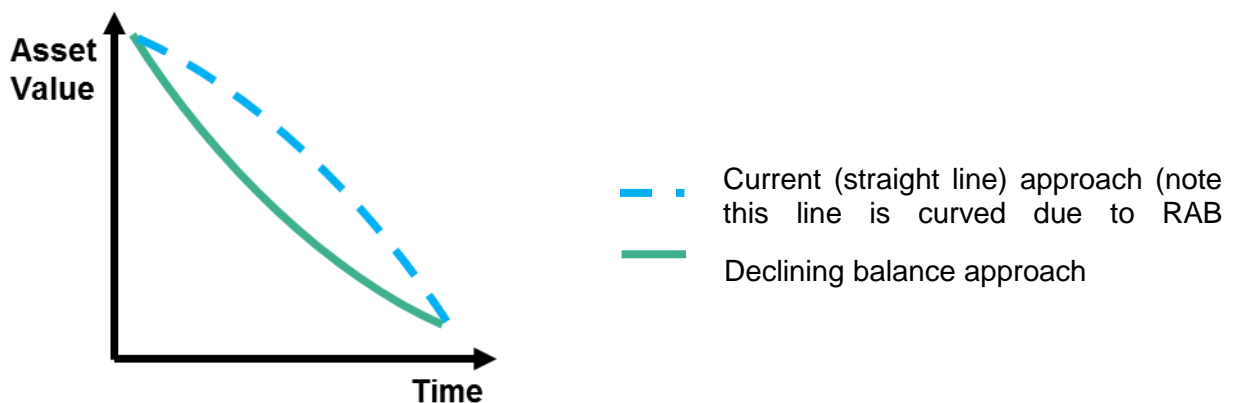
Preventing future price increases will also contribute to economic efficiency. In the future, there are likely to be more economic alternatives to grid-sourced electricity. If network prices are artificially high, there is a risk that some consumers will inefficiently reduce their consumption of energy from the grid. To avoid this inefficiency, networks can act now to ensure future prices are set at a more sustainable level.

3.0. Approaches to depreciation

There are a number of different approaches that businesses can adopt as alternatives to straight line depreciation. These include:

a) Declining balance approach

The declining balance approach changes the profile of the depreciation, but maintains the assumed asset life. As shown in the diagram below, relatively more of the asset's value is recovered at the start of the asset's life, while relatively less of the asset's value is recovered towards the end of its life. The advantage of this approach are that the asset's life is maintained, suggesting this approach is suitable to apply to assets that may still be used over long time periods, but by a gradually reducing amount. This disadvantage of this approach is that assumptions need to be made to set an appropriate rate of cost recovery.



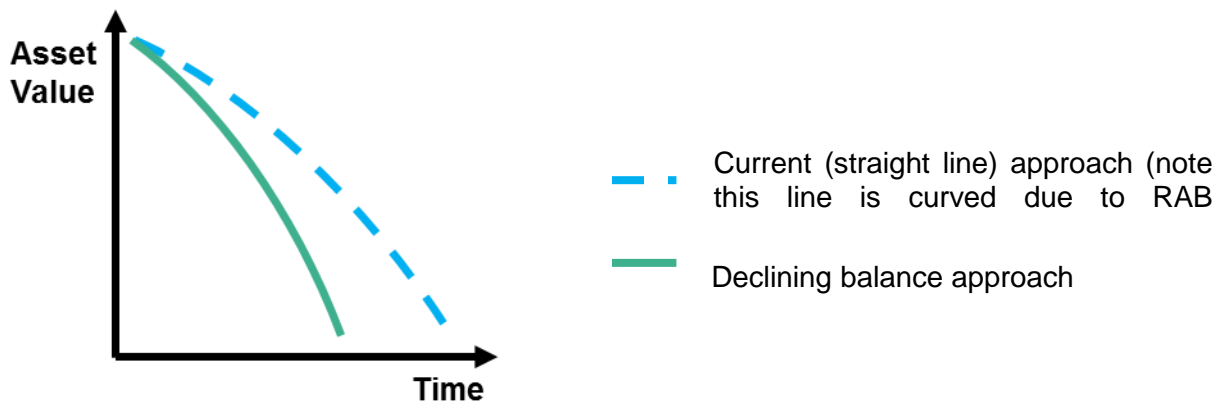
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b) Reducing Asset Life

Where assets are not expected to be used over their entire assumed lives, there is a case to be made to shorten the lives of these assets to match the period of time over which they are expected to be used. This is an alternative accelerated depreciation approach that ensures that only the consumers that use the assets will pay for their services.

The profile of reducing the asset life compared with maintaining existing asset lives is shown in the diagram below.



A range of options also exist regarding which assets accelerated depreciation could be applied to, including:

- **Specific transmission assets where a reduction in usage has occurred or is expected to occur.** These include assets which will cease being used due to customer closures, which may be driven by structural changes in Victoria's economy. For example, it is foreseeable that the 500kV lines that transport electricity generated by the brown coal generators in the Latrobe Valley to Melbourne will not be used over their original lives, due to concern about pollution produced by burning brown coal.
- **The transmission/gas network as a whole.** Due to the general reduction in energy use across Victoria, there may be a case to accelerate the depreciation of the entire transmission network.
- **New assets.** As assets built today are expected to be in place for a longer period of time than assets that are part way into their lives, arguably it is new assets that are most exposed to falling utilisation. While AusNet Services has taken steps to minimise new network investment given the reductions in demand and consumption, assets in a poor condition for which there remains an identified need still must be replaced.

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4.0. Accelerated depreciation and intergenerational equity

While applying accelerated depreciation is likely to increase price pressure in the short term, it will also improve intergenerational equity in the longer term by reducing the cost burden on the future customer base. This is particularly the case because straight line depreciation charges are expected to increase over time owing to increasing asset value, exacerbating the potential intergenerational equities under the current approach.

While considerable uncertainty exists with respect to future utilisation of electricity network assets, a decision not to recover a higher proportion of costs from today's customers is likely to require significantly higher electricity prices in the future to enable sufficient recovery of revenue from a potentially smaller customer base. Given that current customers are likely to account for a greater proportion of the use of existing network assets than future generations, there is a strong argument on both economic and equity grounds that the revenue recovered from current generations should reflect their use.