



AusNet Transmission Group Pty Ltd

Transmission Revenue Review 2017-2022

Revised Revenue Proposal

**Appendix 1B: Engagement Overview –
TRR Accelerated Depreciation**

Submitted: 21 September 2016

Stakeholder perceptions of accelerated depreciation

Customer advocate interviews: FINAL Report

September 2016



missionzero

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Executive summary

Depreciation costs represent around 17% of AusNet Services' transmission network revenue. Currently, depreciation costs are calculated following a straight line approach. However, with significant changes occurring in the energy industry, AusNet Services is exploring the option of accelerating regulatory depreciation of transmission assets.

To better understand consumer perceptions of accelerated depreciation, AusNet Services conducted a series of five one-on-one interviews with representatives from a diverse range of consumer advocacy groups.

The findings revealed that consumer perceptions and acceptance of accelerated depreciation were likely to be varied. That is, some advocates suggested that many customers would be highly sceptical of any changes in depreciation approaches, assuming businesses were simply seeking to capture more revenue. However, others suggested that the low magnitude of bill increases resulting from AusNet Services' proposed accelerated depreciation approach (less than \$7 per annum), would be acceptable to consumers.

The ambiguity in findings highlights the complexity of this issue and the difficulties faced by network businesses when considering accelerated depreciation. These insights will assist AusNet Services in responding to AER feedback on their proposed accelerated depreciation approach as a part of the Transmission Revenue Reset (TRR).

Background and purpose



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.

Depreciation costs account for around 17% of AusNet Services' transmission network revenues. Depreciation costs are currently calculated by allocating a constant value to the asset over each year of its expected life (i.e. a straight line approach).

Historically, utilisation rates for transmission assets have been consistently high, 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 higher uptake of solar panels, an increase in the energy efficiency of appliances and reductions in the cost of power storage. These factors have created uncertainty regarding future utilisation rates for electricity networks.

Background

Accelerated depreciation



In response to this uncertainty, AusNet Services has proposed to increase the rate at which depreciation costs are recovered from consumers by accelerating the depreciation of assets. Consistent with the 'user pays' principle, this approach suggests that current consumers should pay for a relatively higher proportion of the assets than future consumers, as they are relatively more reliant on the network than future consumers are likely to be. Under this approach, per unit prices for current and future consumers will be relatively constant.

There are a few important facts about accelerated depreciation that need to be taken into consideration:

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

Background

Forms of accelerated depreciation

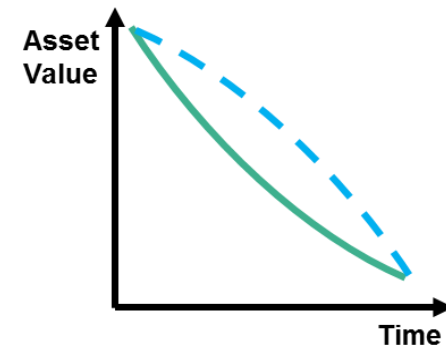
There are a number of different approaches that businesses can adopt as alternatives to straight line depreciation. These include:

1. The declining balance approach

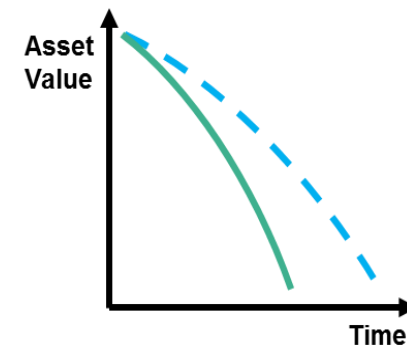
This approach changes the profile of depreciation, but maintains the assumed asset life. As shown in the diagram, relatively more of the asset's value is recovered at the start of the asset's life, while relatively less of the asset's value is recovered towards the end of its life.

2. Reducing asset life

Where assets are not expected to be used over their entire assumed lives, their lives can be shortened to match the period over which they are expected to be used. This approach ensures that only customers using the asset will pay for their services.



- Current straight line approach
- Declining balance approach



- Current straight line approach
- Reducing asset life approach

Background

Depreciating different assets



A range of options also exist regarding the assets to which accelerated depreciation could be applied. These include:

- **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 industry closures, which may be driven by structural changes in Victoria's economy.
- **The transmission network as a whole.** Due to the general reduction in grid-sourced electricity consumption across Victoria, there may be a case to accelerate the depreciation of AusNet Services' transmission network.
- **New assets.** As assets built today are expected to be in place for a longer period than assets that are currently part-way into their lives, it can be argued that new assets are most exposed to falling utilisation.

Background

Intergenerational equity

While applying accelerated depreciation is likely to increase price pressures in the short term, it will also improve intergenerational equity by reducing the cost burden on the future customer base.

Although considerable uncertainty exists with respect to future utilisation rates of electricity network assets, continuing to apply the same depreciation approach is likely to result in higher per unit electricity prices in the future, to enable sufficient revenue recovery as consumption declines.

Given that current customers are likely to utilise existing network assets to a greater extent than future generations, there are strong arguments on both economic and equity grounds that the revenue from current generations should reflect their usage.



AusNet Services' Proposal



In its Transmission Revenue Proposal, AusNet Services proposed to apply declining balance depreciation to new network investments. While AusNet Services has taken steps to minimise new network investment, assets in poor condition must still be replaced.

Stakeholder consultation undertaken prior to submission of the revenue proposal indicated that there was strong opposition to any form of accelerated depreciation.

However, at the AER's Public Forum following submission, a degree of support for the principles of accelerated depreciation was heard.

In light of this situation, AusNet Services decided to conduct some further research with consumer advocates to improve understanding of consumer views of accelerated depreciation.

Purpose



In particular AusNet Services was interested in understanding:

1. Consumers' views of the future use of electricity networks
2. Consumer thoughts on the price of electricity over time and the notion of intergenerational equity
3. Consumer understanding and acceptance of accelerated depreciation and its different forms

It is anticipated that the insights from this research will be used to inform AusNet Services' response to the AER's draft decision on the model of accelerated depreciation proposed in the 2017 TRR submission.

Methods



Research design

A key focus of this research was to better understand customer perceptions of accelerated depreciation. As this is a complex topic, it was decided that customer advocates, rather than typical end-user customers, would be better placed to contribute on this issue.

Face-to-face semi-structured interviews with individual advocates were selected as the qualitative design for this study. The rationale for selecting this approach over others is two fold:

1. Interviews allow for a depth of understanding that may not always be afforded by quantitative research designs as they permit participants to respond to questions using their own words, rather than pre-determined response categories.
2. Qualitative designs also provide an opportunity for researchers to clarify the meaning of ambiguous participant responses, giving clarity to what could otherwise be opaque or vague comments.

Participants

Interviews were conducted with advocates representing a range of consumer profiles. To protect participants' anonymity and privacy, the specific organisations that they represent will not be disclosed.

The interviews were conducted by an AusNet Services staff member with a background in this type of research. AusNet Services subject matter experts were also in attendance to answer any questions. Each interview was approximately 90 minutes in duration and was conducted at AusNet Services' head office. It is important to note that all participants were sent a background briefing document and discussion guide prior to the interview (see Attachment A and B).

The interviews were not audio recorded, but detailed notes were taken at the time of the interview. Thematic analysis was used to analyse the interview notes.

Interview protocol

Participants were asked a range of questions pertaining to utilisation risk, the price of electricity and accelerated depreciation. Examples of questions asked are presented in the table below.

Utilisation risk

- Do you anticipate that there will be changes in the way that consumers utilise our electricity network in the future?
- In your opinion, how should networks best respond to increasing utilisation risk?

Price of electricity

- What are your general thoughts on your members' perceptions of electricity prices?
- How important are long term price considerations and grid sustainability to your members?
- How important is intergenerational equity when considering appropriate network charges over the long-term?

Accelerated depreciation?

- Do you think your members are interested in learning about different forms of depreciation?
- In your opinion, what form of depreciation is most appropriate?
- Which assets should accelerated depreciation be applied to?



Findings: Utilisation Risk

Future Network Utilisation



Generally, there were mixed views about the future role of the transmission network. Some advocates suggested that the transmission network would have a more important role in the future, as an enabler transporting cheap renewable electricity between states. Others suggested a more diminished role, with transmission providing a ‘backbone’ between major generators and metropolitan areas, but perhaps less needed in rural areas.

There was a general consensus among advocates that price-related factors would play a key role in driving both residential and small business consumers towards the adoption of renewable technologies. That is, impending price decreases and subsequent improvements in the cost effectiveness of solar and battery technologies would likely decrease their reliance on the electricity network.

Future Network Utilisation

Residential customers



Support for renewables

For residential customers, while advocates believed that price was a key motivator, another factor influencing their future reliance on the electricity grid related to more altruistic goals. Specifically, it was suggested that customers inherently want to ‘*do good by the environment*’ and act in a way that was socially (and environmentally) desirable. Such beliefs may therefore influence the speed with which they adopt renewable technologies.

Implications for vulnerable customers

One advocate noted that the energy industry as a whole needs to be aware of the impact that increasing uptakes of renewable technologies may have on vulnerable customers. It is well understood that vulnerable customers are less likely, compared to their more advantaged counterparts, to install renewable technologies in their home. Instead, these customers will likely remain connected to electricity network for their energy needs. As such, any price increases resulting from a greater proportion of advantaged customers going ‘off-grid’ will be disproportionately spread across vulnerable customers.

Future Network Utilisation

Large Businesses



More energy efficient but continued reliance on the network

Advocates representing large business suggested that these customers have been cognisant of the need to become more energy efficient for the last decade. In fact, it was suggested that many large business customers have been investing millions of dollars in becoming more efficient in their energy consumption practices.

While they are becoming more efficient, the advocates agreed that large industry would remain reliant on traditional energy sources in the foreseeable future. Utilisation of the transmission network by large businesses was more likely to be impacted by large industrial closures, including due to offshoring, than by large businesses switching to renewables.

A reason for this is that there is unlikely to be enough roof space to install the required volume of solar panels to generate the amount of energy needed to operate large businesses. Moreover, many large businesses rent their operation spaces and are therefore not guaranteed to recover the financial outlay of installing renewable technologies. Similarly, it was noted that payback periods were too long and up-front investment too high, acting as an additional deterrent to solar and battery installation for large businesses.

AusNet Services' response to Future Network Utilisation



Many of the interviewed advocates noted that AusNet Services needs to better engage and communicate with their customers in response to the changing energy usage profile of its customers now and into the future.

Specifically, AusNet Services was advised to attend and present at more industry forums. The current work that AusNet Services is doing on the CUAC Energy Literacy program was noted as a good example of this. It was also suggested that AusNet Services adopt a more personalised (i.e., '*face-to-face*') approach to better engage with its business customers.

The advocates noted that these types of engagement and communication efforts could be used as a platform to demonstrate the importance of electricity networks to customers. They could also be used as an opportunity to explain to customers that even with the installation of solar and batteries at home, they will, to some extent, still rely on the electricity network.

Findings: The Price of Electricity



General perceptions of electricity prices

The high cost of electricity was commonly cited by advocates as a key issue for residential consumers. It was noted that consumers believe that electricity prices are too high. According to advocates, most consumers are also disinterested in learning more about the breakdown of their bills as a way of understanding network charges. This was not to say, however, that if it was to be explained to them that they would not see the value in it. As noted by one advocate, *'they don't know what they don't know'*.

The findings around prices as they relate to business consumers were more varied. One advocate suggested that businesses have different perspectives on their bills because they are all charged differently. Another suggested that on the whole, business consumers perceive their their electricity bills to be too high and believe that networks are overcharging them. This perception has therefore given rise to a high level of scepticism towards networks amongst business consumers.

There were different views among advocates around the level of understanding that businesses had when reading their electricity bills. Nevertheless, allowing for greater transparency around how prices are set would be well received.

Long term price considerations

Advocates frequently made the point that businesses and families face a range of pressures when going about their daily lives. As such, many advocates believed that these consumers groups have limited cognitive bandwidth (i.e. care) to consider the long-term pricing of electricity and how this will impact them. Specifically, advocates suggested the business and residential consumers are mostly '*concerned about the here and the now*', thus removing the impetus to dwell on the impact of rising electricity prices.

However, a few of the advocates did suggest that consumers are in fact worried about whether or not they will be able to pay their bills in the future. In particular, it was noted that businesses are concerned about their ability to absorb electricity costs in the future.

Most of the advocates indicated that the long-term pricing of electricity and its implications is something that AusNet Services should be seriously considering. That is, AusNet Services should be putting plans into place to protect consumers from the impact of price increases in the future. The emphasis for this type of planning was particularly salient for business consumers. The rationale for this argument was that higher electricity prices in the future would ultimately drive Australian businesses out of the country or out of business entirely.

Sustainability of the grid

All advocates indicated that their members had a strong interest in the long-term sustainability of the grid. The reliability of the grid is also very important, particularly for businesses, as the consequence of outages can be severe (for example, for smelters). Some consumer groups (particularly the vulnerable and disadvantaged) may take the sustainability of the grid for granted.

It was also highlighted that AusNet Services has a strong interest in the sustainability of consumers, particularly large businesses.

Findings: Accelerated Depreciation



Intergenerational equity

A significant proportion of advocates were not comfortable with the notion of intergenerational equity. They believed that customers would perceive the concept as an elaborate ploy by NSPs to capture as much money from consumers sooner rather than later. They suspected that this would give rise to a high level of scepticism towards NSPs.

Businesses in particular were less likely to be sympathetic to the concept of intergenerational equity, due to their focus on the bottom line.

Advocates suggested that even if AusNet Services was able to effectively explain the concept of intergenerational equity to consumers, it would still be a '*hard sell*'. In fact, one advocate made the point that having to pay more up front may have the unintended consequence of pushing consumers to invest in renewables sooner rather than later.

Forms of depreciation

After presenting and explaining two forms of depreciation to advocates (see the background section of this document), many were of the opinion that consumers would find it too difficult to understand. They voiced that it was AusNet Services responsibility to select the most applicable form of accelerated depreciation without having to worry consumers about it. One advocate stressed that the choice of depreciation framework should be informed by accurate consumption forecasts.

When questioned about which framework they believed might be most acceptable to consumers, most advocates found it difficult to provide a clear position. This was mostly because, during these discussions, AusNet Services did not have data on the consumers price impact of alternative accelerated depreciation scenarios to the scenario it proposed in its Revenue Proposal. Advocates suggested that they would feel more comfortable taking a firm position if this price data were available to them as a basis for forming an opinion.

Forms of depreciation (cont.)

The scenario that AusNet Services proposed in its Revenue Proposal would cost residential consumers an extra \$7 a year. This was explained to some, but not all, advocates.

This scenario was generally well received. Advocates suggested that consumers would accept a small change like this. In fact, one advocate indicated that the price increase was so small that *'it is not worth even communicating with customers'*. It was the advocates perception that even a \$7 increase in bills would not have a detrimental impact on vulnerable customers. However, one advocate flagged that although the size of the price increase is *'noise'*, it is important that the rationale underpinning this price increase is sound.

It is important to note that these are the views of only a very small sample of customer advocates. As such, caution needs to be taken when basing business decisions on these findings as they may not be representative of all Victorian transmission consumers.

Depreciation profile

Views on which assets AusNet Services should depreciate if they were to proceed with accelerated depreciation were mixed. For example, two advocates thought that it was more justifiable to apply accelerated depreciation to specific assets, especially new assets which may not be utilised as heavily into the future. Another, however, suggested that AusNet Services should apply accelerated depreciation across all assets to avoid criticism of cherry picking.

Views on whether accelerated depreciation would be most appropriately applied to existing or new assets were also mixed. Some advocates suggested that the existing asset base should not be touched, as consumers should not pay for additional costs they were not expecting to pay. Other advocates suggested targeting existing assets that were most likely not to be required in future (such as the Latrobe Valley 500kV lines) was most appropriate.

One advocate suggested that AusNet Services requires more reliable, locational specific data to underpin its depreciation proposal. Monte Carlo analysis could then be applied to determine expected utilisation patterns and quantify the risk if straight line depreciation were maintained.

Findings: Depreciation Workshop



Depreciation workshop

Following the interviews outlined in the previous slides, AusNet Services held a workshop on 7 July 2016 to confirm the insights obtained from the interviews. The workshop was attended by two consumer advocates, a member of the Consumer Challenge Panel, and a representative from the AER.

AusNet Services also sought feedback on a range of accelerated depreciation options to inform its response to the AER's Draft Decision. The options included:

- The status quo (i.e. straight line depreciation).
- Applying accelerated depreciation to new assets.
- Applying accelerated depreciation to existing and new assets.
- Applying accelerated depreciation to assets that may not be utilised in the medium-term.

Long-term pricing analysis for each option was presented, as well as an assessment of each option's alignment with the stakeholder feedback obtained to date.

Depreciation workshop (cont.)

Stakeholders provided further feedback on a number of issues related to accelerated depreciation.

One advocate stated that customer support of accelerated depreciation depends on whether they are willing to pay a small amount more now to potentially provide a benefit in the future. This advocate suggested that establishing trust with consumers was critical, as accelerated depreciation is akin to paying for insurance to protect future generations. The advocate pointed to the water industry as an example where, when faced with an uncertain future, expenditure was incurred on desalination to provide a potential future benefit.

The same advocate suggested that other network services (e.g. voltage inertia) may be additional sources of revenue for networks in the future. The advocate highlighted that solar PV and electric car uptake could *increase* network utilisation, and that this should be factored into accelerated depreciation proposals.

Depreciation workshop (cont.)



Another advocate noted the impact of large industrial closures on electricity networks and customers (e.g. Alcoa's Point Henry smelter, Toyota and Ford car manufacturing facilities, highlighting that these events will result in price increases for other users.

The same advocate considered that price increases, even if only in the short term, are not tolerable to large energy users as their competitiveness will be affected.

One advocate considered that AusNet Services has not firmly established that there will be a reduction in usage in the future and, therefore, moving away from the status quo cannot be justified.

Conclusion



Conclusion



The motivation for conducting this research was to understand customer perceptions of accelerated depreciation. To do this, a range of consumer advocates working in the energy industry were interviewed.

The findings from these discussions revealed that perceptions of accelerated depreciation are very varied. One line of argument suggested that consumers will most likely be sceptical of NSPs intentions when seeking to implement this type of depreciation framework. Another line of argument indicated that if price increases are to be as small as \$7 per annum, consumers will have no issues accepting this change. Ultimately, the fact that there were different views among consumer advocates when it came to the acceptability of this concept highlights the complexities faced by NSPs when seeking to address consumer views.

The findings of this research provides insights that will be considered by AusNet Services when responding to feedback from the AER in relation to its accelerated depreciation proposal.

Further research, however, would need to be conducted to validate the findings of this study. Care should therefore be taken when making inferences about customers on the basis of these findings as they are not generalisable or representative of the entire consumer base.