

Cost benefit analysis for adjustment event proposal

Transpower has undertaken initial Cost Benefit Analysis (CBA) for the proposal.

Despite being high-level, it indicates the proposal could yield a benefit of up to \$3 million (present value) over an initial ten-year period, that would continue to rise – albeit at a slower rate due to the discounting effect – in later years.

For clarification, in the context of this CBA, ‘the proposal’ means to batch adjustment events and increase the large threshold to 25 MW (and not any of the other proposals/preferences discussed in the consultation paper).

The approach to CBA

The approach to the CBA is straightforward. Focusing on Transpower’s and affected customers’ transaction costs, it compares a scenario that has the proposed changes embedded to the status quo.

The transaction costs under each scenario fall into two categories:

- The computational cost to Transpower in deriving new prices.
- The customer engagement cost to Transpower and affected customers leading up to and following an adjustment event.

For both categories, the costs are resulting from the frequency of adjustment events as well as the per unit (per event) costs for computational and customer engagement efforts.

Put simply, the transaction cost per scenario can be expressed in the below equation:

Transaction cost = (Computational unit cost + Customer engagement unit cost) x adjustment event frequency

The cost benefit to the proposal then is a function of the difference in transaction costs between both scenarios:

Cost benefit (the proposal) = Transaction cost (the proposal) – Transaction cost (status quo)

At this stage, the CBA is focusing on the effect the proposal could have on purely transaction costs as only these can be quantified with some certainty. The CBA does not yet incorporate any flow-on impacts the proposal could have on processes outside Transpower – such as from impacts on pricing certainty or accuracy – as quantifying and forecasting these effects would come with a significantly lower degree of confidence.

Inputs and assumptions

The inputs and assumptions are summarized in the table below:

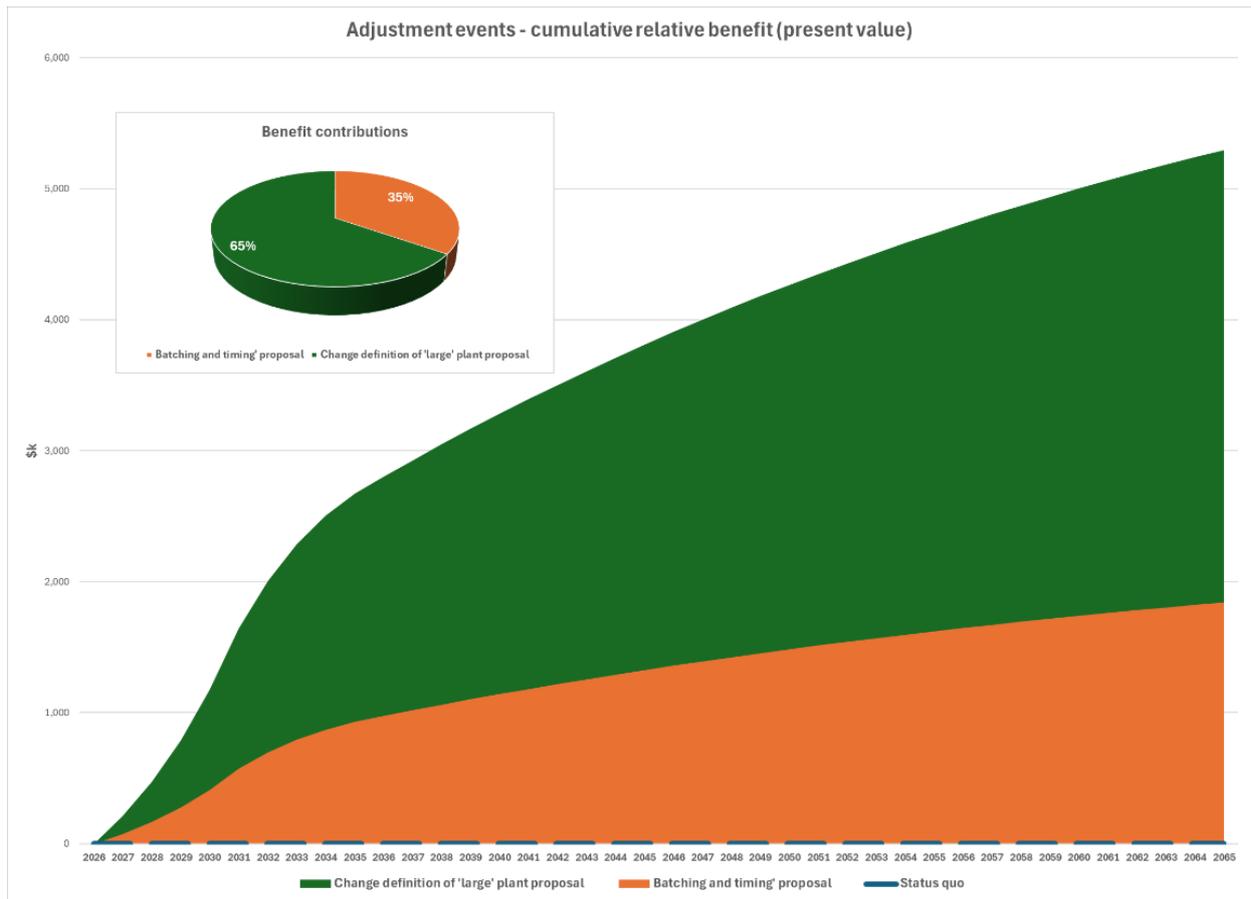
Input	Status Quo	The proposal
Computational unit cost	\$10k/event reducing to \$3k/event with further systemisation from year 2027.	'Batching and timing' reduces the cost to \$1k/event.
Customer engagement unit cost	\$5k/event	\$5k/event
Adjustment event frequency	30 events in 2026, increasing by 25% annually to 2031 (94 events) before it decreases over five years back to 30 events.	Redefining 'large' plant to 25MW would reduce the event profile by two thirds.
Other	Discount rate = 5% CPI = 2%	Discount rate = 5% CPI = 2%

CBA results

The proposal could yield a benefit of up to \$3 million (present value) over an initial ten-year period.

As can be seen in the graph below, the cumulative benefit (in present value terms) of the proposal accumulates steeply before it starts to level off due to the discounting effect. It also illustrates that two thirds of the benefits arises from an increase in the definition of 'large' plant. This effect is, however, incremental, i.e. the incremental benefit from an increase in the definition of 'large' plant incorporates the reduction in computational costs from the 'batching and timing' proposal.

In other words, it assumes there is an order in which the proposed changes are applied, with 'batching and timing' being implemented first followed, potentially, by a change to the definition of 'large' plant.



Next steps

We acknowledge the CBA is high-level and indicative only at this stage.

This is because:

- the above discussed approach, inputs and assumptions have not been tested yet externally
- the CBA does not capture the flow-on impacts the proposal could have on processes outside Transpower (other than through the cost of customer engagement) due to difficulty in quantifying these sufficiently reliably. If quantified, these could be significant and potentially outweigh or even dwarf the transaction costs currently being used in this CBA.

While we invite all feedback on this CBA, we are particularly interested in views on the following questions (see question **12 of Appendix D**):

- a) What is your view on our approach to the CBA, including its inputs and underlying assumptions. Specifically:
 - I. do you agree \$5k roughly captures the engagement cost with Transpower leading up to and following an adjustment event?
 - II. when planning to connect to a distribution network, what are your costs to interact with your EDB to provide the information Transpower requires and to obtain / update price estimates for benefit-based investments?
- b) Does the effect adjustment events have on businesses:
 - I. alter or delay investment commitment for embedded generation or offtake plant and, if so, how?
 - II. affect plant design and location decisions for embedded generation or offtake plant and, if so, how?
- c) How does the current threshold of 10MW affect plant design and location decisions and how would this change if the threshold were raised to, say, 25MW?