WE ARE INTERESTED IN CUSTOMERS' VIEWS ON THE IMPORTANCE OF RELIABILITY.

We have developed a case-study based on examples of how we manage some of our network assets. This case-study has been simplified for the purposes of this Discussion Paper, however provides a useful basis for gathering feedback.

OPERATIONAL EXPENDITURE CASE STUDY:
MAINTAINING OUR ABOVE-GROUND NETWORK OF POWER POLES

A distinctive feature of the ACT electricity network is the location of power poles in our backyards. Around 15% of Canberra homes have power poles, while a much larger number have wires and infrastructure at the back of their home connecting them to the network. In most other Australian cities the powerlines are located within the street facilitating easy access by distribution businesses to maintain power poles, manage infrastructure and repair damaged lines.

In the ACT, we have approximately 50,600 power poles and more than 2,300km of overhead power lines. Most of our larger voltage transmission lines are above ground. Around 47% of our distribution lines are above-ground, and the remaining distribution network is underground. Maintaining this infrastructure is the role of our Asset and Network Performance Branch, which delivers a program of pole inspections and replacement.

The inspection and replacement of poles is an important part of maintaining the safety of the network and therefore our employees and the broader community. Safety is one of ActewAGL Distribution's core values and is always prioritised.

We have not had a single unassisted wood pole failure in the ACT since 2011/12. Industry benchmarking indicates that ActewAGL Distribution has one of the lowest pole failure rates in the industry and replaces and reinforces more poles per 1,000 poles than the majority of our industry peers.

ACT electricity assets are on average older than those of most other network businesses, and as a result we spend a high proportion on maintenance costs to ensure the risk of failure and damage is low and they perform reliably.

Poles in the ACT are currently inspected every 5 years. Based on the current pole replacement strategy it is anticipated that around 600 poles will need to be replaced each year over the 2019/20 – 2023/24 period. However, due to the age profile of our poles, this number increases significantly from 2050 onwards peaking at nearly 3000 poles per year likely to require replacement in 2078.

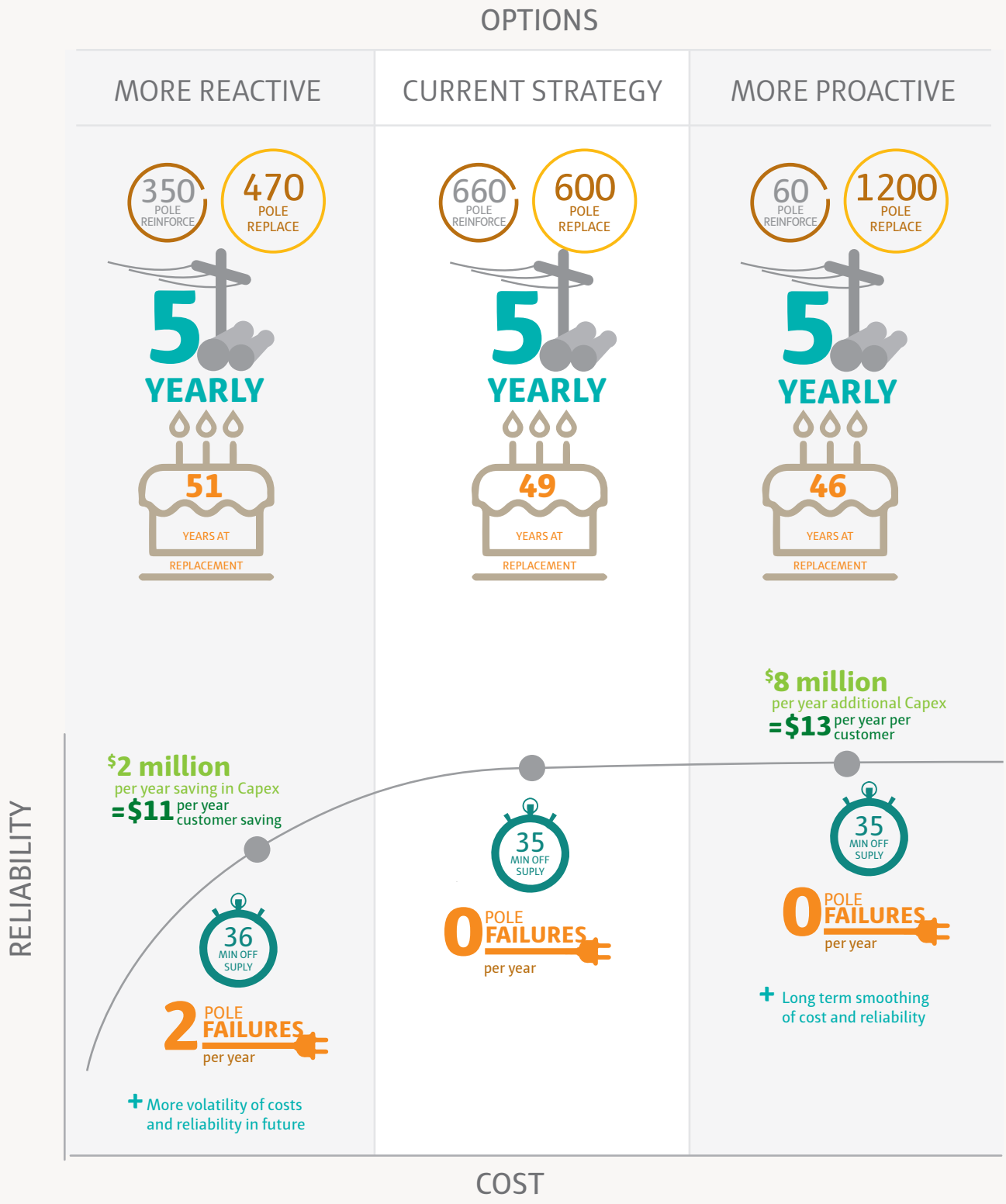
Reliability versus cost trade-off

The program of pole maintenance that we adopt impacts on the reliability of our network and the cost imposed on our customers. Poles, including the hardware on top of the pole, that are well maintained and regularly replaced are less likely to have a fault or be damaged during storms. Pole failures cause:

- safety issues due to poles causing damage where they fall and risks of fire and electrocution from live wires on the ground; and
- lengthy power outages

The cost of maintaining and replacing poles has an impact on customers' bills. The infographic on the next page illustrates how adopting a different approach to managing our poles could impact on customers' bills and reliability in the 2019-24 regulatory period.

Figure 12. Cost and reliability trade-off in 2019-24.



Note: Figures are based on estimates

Our activities during the 2019-24 period also have an intergenerational impact on cost and reliability. The rapid growth of Canberra in the 1960s and 1970s means there is a large cohort of poles that will be 100 years old by 2070. It is not certain when these poles will fail, since age is not the only determinant of pole condition, but we do know there will be an increase in the number of pole failures around that time unless we increase our maintenance activities. We also do not know what technological advances may assist in dealing with ageing poles in a few decades time. However, based on our estimates the three strategies outlined above are expected to have the following impacts over the coming decades.

- Under the current strategy there would be a minor increase in cost and deterioration in reliability between 2050 and 2090.
- The proactive strategy would smooth both cost and reliability over time.
- The reactive strategy would involve a major increase in cost and deterioration in reliability between 2050 and 2090 over time.

While it seems that 2070 is in the distant future, the desicions we make today about our long term strategy will have an impact on the cost and reliability imposed on future generations.

WE WANT YOUR FEEDBACK

Which option would you prefer?

1 More pro-active approach to network maintenance (at an additional cost and with the benefit of greater future reliability)

2 More reactive maintenance program (for a saving now but potentially reduced reliability in the future)

3 The current approach

Figure 13. Long-term implications of maintenance strategy.