

Why we need to invest

✓ **Investment Need**

In early January 2020, fire destroyed the power supply to Cabramurra, Selwyn Ski Field and Selwyn communications tower.

The original line supplying this load was built to enable the construction of Snowy Hydro and remained in use to support the ongoing operation. As a result, the line extends ~30km through National Parks. Rather than simply reinstate the destroyed assets, Essential Energy undertook to explore potentially more resilient and cost-effective options.

✓ **Compliance**

To comply with the NSW Electricity Supply Act 1995, and its obligations under the National Electricity Rules (NER), Essential Energy needs to prudently restore power supply to its customers affected by network outages, in this case, the catastrophic bushfires. It has therefore:

- ▶ Considered several options for reinstatement of supply.
- ▶ Conducted a cost-efficiency review of these options for prudence in accordance with the NER RIT-D methodology.
- ▶ Considered environmental compliance aspects, given its sensitive location.

✓ **Risk Mitigation**

As the operator of the electricity distribution network for the regional NSW community, we take prudent steps to manage and mitigate risk. In this circumstance, Essential Energy has assessed and incorporated regard for:

- ▶ Safety risk (Public, customer and staff).
- ▶ Bushfire risk (considered fire-resilient poles, and/or undergrounding of proposed new assets).
- ▶ Network risk, including outage exposure duration, its cost and value.
- ▶ Environmental risk. (Supply area is in the Kosciusko National Park).
- ▶ Reputational risk.

✓ **Business Improvement**

Essential Energy is always seeking ways to deliver its services to the community as efficiently and effectively as possible. We have the opportunity to make an improvement now through:

- ▶ Delivering a new, secure, and more resilient network supply from an alternative network source being the nearby Upper Tumut Switching Station (UTSS), in much closer proximity than the pre-bushfire supply sourced from Cooma, approximately 100km remote.
- ▶ Considering options that will deliver a more operationally efficient network due to reduced operational and maintenance outlay of this period.

Why not leave things as they are?

Leaving things as they were, meant that the network would continue to remain exposed to similar reoccurring events and consequential reinstatement costs, including a higher burden of operational and maintenance costs within a National Park footprint with difficult alpine access conditions. Historically, there have been frequent fires in this region.

Essential Energy decided early on, following the January 2020 bushfires to halt any restoration of the destroyed powerline network to assess feasible alternate options. In doing so, it engaged and sought the co-operation of its local stakeholders and customers supplied from the impacted network to arrange an intermediate alternative power supply. The aim of the deferral was to identify a:

- ▶ more resilient long-term network, or
- ▶ a non-network option as the most cost-effective solution.

What options did we consider?

The following feasible options have been considered to address the identified investment (reinstatement) need as follows:

Option 1: Installation of a 330/11kV substation at Upper Tumut Switching Station (UTSS)

- ▶ Construction of a substation at UTSS, and overhead or partial overhead or full underground 11kV network to Cabramurra and further to Selwyn Ski Field and the communications tower.
- ▶ This is the 'preferred' option, as it has the highest Market Benefit, improved reliability, lower environmental impact, lower operational and maintenance costs as well as superior bushfire resilience and exposure.

Option 2: Rebuild the 33kV powerline from providence Portal to Cabramurra using composite poles

- ▶ Reinstatement of the 33kV powerline section destroyed by bushfire.
- ▶ This option is not recommended as it has higher ongoing costs and has a lower level of reliability. It has a lower Market Benefit, as compared to the 'preferred' option (option 1).

Option 3: Stand Alone Power System and Microgrid (SAPS)

- ▶ Installation of hybrid SAPS consisting of a wind turbine, solar array, battery and diesel-gas generator.
- ▶ High upfront capital and operating costs make this option cost prohibitive.

What are we proposing?

Preferred Option: Installation of a 330/11kV substation at Upper Tumut Switching Station (UTSS) – Option 1

To address the investment need, Essential Energy proposes to:

- ▶ Source a local 11kV supply from the TransGrid UTSS switching station near Cabramurra by:
- ▶ Constructing a 330/11kV substation immediately adjacent to and connected to this site.
- ▶ Extending a new 11kV network from this site to Cabramurra (village) substation and then on to both the Selwyn Ski Field and communications tower via either overhead or underground powerline or parts thereof.
- ▶ Provide a long-term resilient, low maintenance network to suit forecast capacity needs of local customers.
- ▶ Some powerline rights-of-way and/or easements can also be returned to National Parks following the completion of the project.

What will it (Option 1) cost?

This investment will occur over 2 years from FY21 to FY22 with total costs as follows:

Expenditure	\$M (FY21 Real)
Project Capital Expenditure	\$6.1
Total Project Expenditure	\$6.1
Ongoing Operating Expenditure (p.a.)	\$0.2

What are the benefits?

This proposal delivers benefits and addresses the identified investment need as follows:

Need	Benefit	(FY21 Real)
✓ Compliance	Essential Energy will remain compliant with Electricity Supply Act, NER and Environmental requirements	Non-financial
✓ Risk Mitigation	Mitigated Safety & Bushfire risk	Non-financial
	Mitigated Network & Reputational risk	\$35k p.a.
	Mitigated Environmental risk	Non-financial
✓ Business Improvement	Improved resilience	Non-financial
	Reduced O & M cost outlay	\$43k (to FY24)

Options NPV/NPC Comparison

Option		NPV (NPC) \$M (FY21 Real)
Option 1	Preferred – Install a 330/11kV transformer at UTSS	(\$12.4)
Option 2	Base case - Rebuild the 33kV powerline	(\$13.5)
Option 3	Stand Alone Power System (SAPS)	(\$29.1)

Next Steps

- ▶ Consultation with consumer advocates and stakeholders on the proposed option, begins in June 2021, followed by further consultation in July, prior to finalisation of the cost pass through application and submission to the Australian Energy Regulator in September.