



SA Power Networks

Undergrounding powerlines

Undergrounding overhead powerlines
SA Power Networks supports the undergrounding of powerlines. Powerlines are placed underground in all new urban residential and industrial developments, and SA Power Networks works closely with local councils, other authorities and our customers to underground existing overhead powerlines through fully-funded or subsidised schemes.

Undergrounding existing powerlines
SA Power Networks recognises that the community wants overhead powerlines removed to improve the aesthetics of residential living. The removal of overhead powerlines, when combined with improved streetscaping and greening with suitable trees and shrubs, can greatly increase the aesthetics of our suburbs and towns.

In meeting these community expectations, SA Power Networks spends around \$10 million annually undergrounding existing powerlines as part of the Government's Powerline Environment Committee (PLEC) scheme.

Like any other business, SA Power Networks needs to have the additional costs of undergrounding powerlines met by other parties. This normally means the customers or ratepayers who benefit from the undergrounding, are asked to meet the costs.

The cost of undergrounding existing overhead powerlines is very subjective and could be \$30,000 to \$100,000 or greater per residential block, depending on the nature of the soil for trenching and whether there are high voltage powerlines in the street as well as low voltage.

The total cost to underground the thousands of kilometres of overhead powerlines in South Australia would be more than \$25 billion. Fundamentally, cost is the main reason for not adopting more extensive undergrounding programs.

Undergrounding new powerlines
Due to a progressive approach since the early 1970s of supplying power to new land developments via underground cables, South Australia has a significant proportion of its powerlines underground.

Some councils have established policies in regard to undergrounding powerline extensions to new homes.

The additional cost for undergrounding the powerline extension in lieu of placing them overhead is met by the customers requesting the extension.

Can we do more to underground overhead powerlines?

SA Power Networks, like most other distributors worldwide, operates a predominantly overhead electrical infrastructure system. Overhead systems are the most cost effective way to distribute power over long distances.

Although undergrounding can reduce maintenance costs it does not offset capital costs which have already been incurred to establish an overhead system.

Customers can choose to pay for their power supply to be placed underground. In some instances, customers living in the same street have agreed to pay for the cost of undergrounding the overhead powerlines in their street.

Why don't we just increase the cost of electricity to fund undergrounding?

In South Australia, powerlines in new residential areas are placed underground with the land developers paying the cost, which is included in the price of the land.

The customers who have purchased the properties have already paid for undergrounding the powerlines and therefore should not be required to pay again. If the residents of older, established suburbs were to pay for undergrounding, their electricity bill would increase substantially.

The advantages and disadvantages of undergrounding powerlines

Power interruptions are likely to be fewer where powerlines are underground because there is less exposure to the environment, third parties and the weather. However, it can take longer to locate and repair a fault when the powerline is underground meaning that customers will generally be without power for longer than if the powerlines were overhead.

Where powerlines are placed underground, tree trimming is significantly reduced allowing the natural shape and beauty of the trees and shrubs in the street to develop. Unfortunately however, the cost savings resulting from the reduced tree trimming is small compared to the cost of the undergrounding.

What schemes are in place to underground existing powerlines?

SA Power Networks plays a major role in the undergrounding of powerlines by working co-operatively with local councils and PLEC, which was established by the State Government in 1990 to manage the State's undergrounding program.

The PLEC scheme enables SA Power Networks and other parties, such as councils, to continually improve the aesthetics of local communities.



What is the powerline environment committee (PLEC)?

PLEC assesses powerline undergrounding submissions from local councils and several other parties. Each submission is assessed in terms of its overall benefit to the wider community and against certain criteria such as being on main public roads or on tourism routes.

The PLEC is administered by the Essential Services Commission of South Australia (ESCOMA) and comprises representatives from the following:

- SA Department of Environment and Conservation
- Department of Transport
- Local Government Association of SA
- SA Power Networks
- Tourism interests

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- Conservation interests
- Two community representatives.

The PLEC portion of the capital costs of undergrounding powerlines is funded by SA Power Networks in accordance with the legislative requirements of the Electricity Industry of SA Act and Regulations, which determines the expenditure each year for PLEC projects.

The program is ongoing with a number of aesthetic improvement projects being constructed each year throughout South Australia.

For further information in relation to PLEC, please contact ESCOSA on (08) 8463 4352 or visit: www.escosa.sa.gov.au