



Fact Sheet

Electricity cost components

For large users in the South West Interconnected System

While electricity tariffs for Western Australian households and small businesses are set by the Government each year, electricity costs for large users can vary based on many different factors. This fact sheet provides an overview of the key factors that influence the cost of electricity for large users in the South West Interconnected System (SWIS).

Electricity costs for large users

Contestable large-use customers in the SWIS, with electricity consumption in excess of 160MWh per year, are able to negotiate commercial agreements to secure electricity supply.

These agreements can cover all, or some, of the multiple components that contribute to the cost of electricity. Agreements are typically made with a licensed retailer, although some large-users contract directly with generators

(which must also be a licensed retailer if selling to an end-user).

Electricity costs can be broadly broken down into the costs for the energy, inputs for maintaining reliability of supply, environmental obligations and network connection costs. Portions of these costs can also include trading or retailing components.

Electricity costs can vary based on usage type, location, selected generation source, consumption volumes, and patterns of use.

As there are many variables that impact electricity costs, the percentage shares of each cost component will vary from site to site, and user to user.

Each of the factors that can influence the cost of one component can also impact other parts of the cost stack.

Cost components

A break-down of each of the main cost components of electricity is provided below.

Network

The network cost component covers the connection to, and the ongoing maintenance of, Western Power's network. The network enables electricity to be transferred from where it is generated to where it is used, with a level of reliability.



The SWIS covers the south west of Western Australia: Perth, the South West, Mid-West and Kalgoorlie.

Network costs are attributed based on type of use, location, consumption volumes, and consumption patterns. Network costs include services such as metering and communications, as well as fees for the use of the network infrastructure.

In its transfer from place to place, there can be losses of electricity that the customer pays for but is not ultimately delivered. This is more prominent where there are long runs of lines between the generation and usage locations which results in the customer having to pay more to cover the lost electricity.

Direct agreements can be made with Western Power for the network connection component, which may include some up-front contributions, and the ongoing costs of maintaining the network.

Environmental

Environmental costs cover obligations under the Commonwealth Government's mandatory Large-scale Renewable Energy Target and Small-scale Renewable Energy Scheme.

Commonly known as 'LGCs', Large-scale Generation Certificates represent quantified renewable electricity. Customers can choose to purchase more LGCs than required by law, to demonstrate that their operation is using green energy.

Reliability

Reliable electricity supply can be crucial to the ongoing operation of a business. To achieve reliable supply, there needs to be sufficient generation capacity available to meet demand; a sound network to transfer the electricity over; and firming undertaken to maintain stability across the system.

Capacity

Capacity costs include the payments made for capacity credits, a certification that ensures there is sufficient generation capacity available to meet peak demand. Capacity costs are imposed on

customers based on their energy consumption during peak periods.

Firming

With increasing demand for renewable generation comes the challenge of balancing out supply and demand with intermittent generation. Electricity supply can be firmed through a diversity of sources and technologies, and by making use of Essential System Services provided in the energy market.

Energy

Energy costs include the purchase of electricity generated (typically in Megawatt-hours or MWh) and the costs of making the relevant trades.

The Wholesale Electricity Market (WEM) allows generators and wholesale purchasers of electricity to buy and sell electricity from different sources, as the cost of energy can vary based on the generation source.

CSIRO has assessed the levelised cost of energy (LCOE) over the lifetime of different energy generation technologies in today's dollars for Australia.

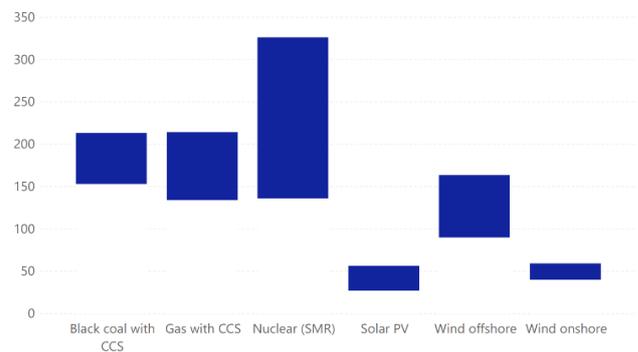


Figure 1: LCOEs for 2030 in FY 2020 \$/MWh¹

Figure 1 shows that renewables can be cheaper, although there is greater likelihood that they will incur higher firming costs to maintain reliability.

¹ <https://publications.csiro.au/publications/publication/Plcsi:EP2022-2576>.