

# YOUR GUIDE TO RELIABLE ELECTRICITY

The public debate about the reliability of Australia's electricity system continues and some of it is misinformed.

We've put together this conversation guide for you. Here are our top talking points on reliable electricity.

## 1 FACT

**AUSTRALIA'S POWER SUPPLY IS RELIABLE.**

## 2 FACT

**THE VAST MAJORITY OF INTERRUPTIONS TO POWER SUPPLY (97%) ARE CAUSED BY EVENTS AFFECTING POWER LINES (DISTRIBUTION OR TRANSMISSION LINES).**

## 3 FACT

**AUSTRALIA'S AGEING AND INEFFICIENT FOSSIL FUELLED POWER STATIONS ARE STRUGGLING TO COPE IN EXTREME HEAT.**

## 4 FACT

**A MODERN GRID POWERED BY DIVERSE RENEWABLE ENERGY AND STORAGE CAN PROVIDE SECURE, RELIABLE, CLEAN AND AFFORDABLE POWER FOR AUSTRALIANS.**



## AUSTRALIA'S POWER SYSTEM IS RELIABLE

A reliable power system is one which supplies electricity, as required, to meet the needs of customers (industry, households and businesses). Australia's electricity system is reliable by world standards.

## THE RELIABILITY OF OUR POWER SYSTEM HAS ACTUALLY IMPROVED

In general, over the past ten years, the reliability of Australia's electricity system has improved.

A recent Parliamentary Inquiry found: *"Excluding impacts following floods and cyclones, customers who previously experienced an average of two interruptions a year now experience one interruption a year."*

## POWER LINES ARE THE MAIN SOURCE OF OUTAGES

The vast majority of interruptions to power supply (97%) are caused by events affecting power lines (distribution or transmission lines). Electricity networks are vulnerable in the heat - with distribution related power outages three times more likely to occur on days over 35°C.

Events affecting power lines can include:

- > Weather events like extreme heat, strong winds, heavy rain, flooding, lightning and bushfires.
- > Technical issues such as equipment failure, tripped circuit breakers and planned works.
- > Car accidents, tree branches, animals and vandalism.

For example, in New South Wales on 31 January 2019, 45,000 households lost power due to overgrown weeds at a substation on the electricity network.

Not having enough supply from power stations contributes to a tiny percentage of interruptions to supply – less than 1 per cent. Despite power stations being a negligible source of power interruptions, this issue continues to receive disproportionate attention from politicians and the media.

## ELECTRICITY SUPPLY ISSUES GENERALLY OCCUR IN HOT WEATHER, DUE TO AGEING COAL AND GAS POWER STATIONS

On the rare occasions when outages occur as a result of not having enough electricity supply from power stations, these events are often caused by ageing, inefficient coal and gas power stations. Australia's coal and gas power stations struggle to operate in extreme weather conditions, especially heatwaves.

For example, in Victoria on 25 January 2019, more than 200,000 homes experienced power outages due to a combination of factors - high temperatures, high electricity demand and outages at Victoria's ageing coal power stations.

## AGEING COAL AND GAS POWER STATIONS ARE UNRELIABLE

The recent track record of Australia's ageing, inefficient coal and gas power stations is poor. These power stations have failed more than 150 times since December 2017.

## WHAT DO WE NEED TO DO TO ENSURE RELIABLE POWER?

The Australian Energy Market Operator already has measures in place to ensure there is sufficient electricity supply to meet demand, and more measures are on the way such as the Retailer Reliability Obligation.

Future power system reliability requires planning to improve the resilience of the power system to extreme weather events, as well as to replace ageing and unreliable coal and gas power stations with new renewable energy and storage.

A decentralised and highly distributed grid, powered by renewable energy and storage, together with some transmission and distribution upgrades will deliver a much more resilient electricity network overall, less vulnerable to disruption from extreme weather events.

## COAL HAS NO FUTURE IN A MODERN 21ST CENTURY ELECTRICITY SYSTEM

Within a decade, half of the coal power stations in the National Electricity Market will be over 40 years old. These power stations are technically already obsolete and increasingly unreliable.

Climate change, driven primarily by the burning of fossil fuels like coal and gas, is exacerbating extreme weather events around the globe and in Australia. Worsening extreme weather is a key risk to reliable electricity supply.

A modern grid powered by diverse renewable energy and storage can provide secure, reliable, clean and affordable power for Australians.

Building new coal, or extending the life of existing coal power stations is not only expensive, it risks locking in greenhouse gas pollution for decades to come.