

## DEMAND RESPONSE

---

Demand response (DR) - or demand management - is when an eligible electricity customer chooses to voluntarily reduce or shift their energy use. This can help grid operators to balance supply and demand, and lower the amount of electricity needed from the grid during peak periods.

### Why Demand Response?

---

Additional power stations and electricity networks need to be built to meet a higher level of demand, but extreme peak demand periods are variable and only occur during extreme weather events, like a very hot summer.

With Australia's energy consumption declining, due to energy efficiency measures, the more infrastructure that gets built, the higher the costs of supplying electricity. This is where DR can come into play - instead of expanding supply to meet peak demand, DR can help to manage the costs, flexibility, and supply and demand balance in the grid.

### How does demand response work?

---

DR allows certain energy customers to receive a time-based rate or financial incentive for voluntarily reducing or shifting when they use power.

A customer must sign-up to a DR program, and will receive a payment for voluntarily reducing or shifting their energy use when electricity demand surges during times of extreme weather events, like during a heatwave when households and businesses switch on their air conditioning at the same time.

DR can help to reduce the risk of a blackout and shift demand to off-peak periods. This means DR can be used as an alternative to increasing the amount of electricity generated by power plants. It can also help to bring down wholesale electricity prices which rise during periods of high demand.

DR can also help to make electricity systems flexible. Renewable energy resources are playing an increasing role in Australia's electricity sector, and DR can be used to help manage excess electricity more effectively when renewable energy output is high, which is beneficial if, like Australia, there is an increasing share of renewable energy.

DR can be used to reward residential customers, and those who send surplus energy from their rooftop solar panels, batteries and smart appliances back to the grid during times of peak demand.

### Where is demand response used?

---

DR is used in the USA, Japan, New Zealand and the UK. [According to \(ARENA\)](#), in some American states DR is used to meet over ten per cent of peak electricity demand. New Zealand began using DR in 2007 and now meets over 16 per cent of peak demand through DR programs.

In Australia, ARENA and the Australian Energy Market Operator (AEMO) [are trying several DR programs](#) across various states, to determine how DR could operate within times of extreme weather event, mainly heatwaves. Some electricity retailers also offer DR programs in which certain customers can participate.

**For more information: ARENA has a dedicated demand response video playlist, which includes:**

> [What is Demand Response?](#)

> [Introducing Demand Response](#)

Or view the [whole playlist here](#).