



RETAIL

Part of Energy Queensland

# Manage Energy Use and Earn Rewards

## Demand Response Information Guide



# Be rewarded for managing your energy use

Demand Response is a collaborative energy arrangement between Ergon Energy Retail and our eligible large customers that helps us manage the variability of wholesale electricity prices and in return provides businesses with the potential to generate additional revenue.

As a retailer in the National Electricity Market, Ergon Energy Retail is exposed to the risk of elevated wholesale prices during periods of high demand for electricity. By working together to avoid the increased costs of electricity, we can share the savings we achieve with businesses that reduce their demand for electricity during these times.

The financial rewards on offer may be substantial depending on a company's ability and willingness to curtail its electricity demand over a specified period.

Savings are distributed according to each company's contribution to the overall reduction in electricity demand achieved.

Participation is voluntary. If you're a registered Demand Response customer and we invite you to participate in a demand-response event, it's your choice.

## How it works

During times when wholesale electricity prices are high, Ergon Energy Retail may ask you to reduce your electricity demand over a period of time by either:

- Shutting down all or part of your plant; or
- Using your in-house generation.

We would also contact you at the end of this response period to ask you to resume normal operations.

## Customer eligibility

To take advantage of Demand Response opportunities, you would need to:

- Be an Ergon Energy Retail business customer;
- Have significant in-house generation and/or the flexibility to reduce your demand for electricity by shutting down or reducing operations;
- Be able to reduce your electricity demand quickly (generally no more than 30 minutes from the time of our request);
- Have the potential to reduce at least 500kW of demand for at least 30 minutes; and
- Demonstrate reasonable costs of running your in-house generation or interrupting processes at short notice.

## Revenue benefits

The financial rewards paid have a fixed and a variable component:

### Part A – Fixed Component

The fixed component (expressed in \$ per MWh) enables Ergon Energy Retail to calculate the appropriate reimbursement for your company to participate in demand reduction activities:

- If your company shut down part of an operating plant, the fixed component would typically represent the cost to your business of lost production.
- Alternatively, if you used in-house generation, this fixed component would typically represent the cost of running the generator. It would be based on the capacity of the in-house generation unit used and include fuel costs and may take into account savings made on regular maintenance costs.

As wholesale electricity prices and Demand Response periods can vary greatly, this fixed component mitigates the risk for your company's participation during a period when the wholesale electricity price outcome is lower than anticipated. Your company's fixed payment component also determines the level of the wholesale electricity price at which you may be invited to participate.

## Part B – Variable Component

The variable component is determined by the:

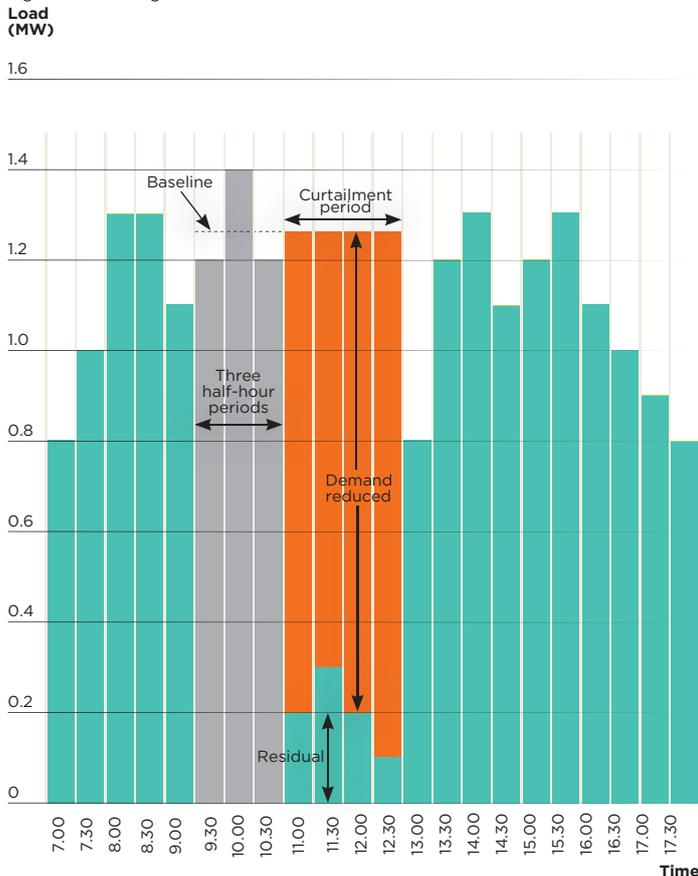
- Duration of the Demand Response period;
- Percentage your company receives of the available portion of the wholesale electricity price; and
- Wholesale electricity price for this period.

Both the Part A and Part B components financial rewards are also based on the amount of demand that is projected to have been reduced by your company during the Demand Response period.

## Measuring demand reduction

- 1 Ergon Energy Retail analyses your site's load profile in the three half-hour periods immediately prior to the start of Demand Response activities and uses the average of this consumption as the baseline;
- 2 We then subtract your actual electricity demand on the site during the Demand Response period from the baseline figure to measure how much demand you were able to reduce (see Fig.1). If you were able to shut down the operating plant completely or switch all available energy use to on-site generation, your reduction in demand would be equal to the baseline measurement. If not, it would be the difference between your residual demand and the baseline measurement.

Figure 1. Measuring Site Demand



## Frequency of events

The number of times you may be contacted by Ergon Energy Retail to reduce your demand would depend on:

- The anticipated frequency, duration and magnitude of high wholesale electricity prices;
- The agreed minimum payments to your company for participating in demand reduction activities; and
- How quickly your company is able to shut down, reduce processes or switch to in-house generation.

The period in which your company would be requested to reduce its electricity demand could potentially vary from a minimum of 30 minutes up to several hours.

If your company is able to respond quickly to our requests to reduce demand, you may have the opportunity to participate more frequently. In addition, if your operational costs to shut down a plant or switch to on-site generation are low, this could result in more opportunities to participate.

While historical information cannot be used with any certainty to predict future pricing patterns, it is useful as an indicator of the number of potential Demand Response opportunities.

The following table is a summary of Queensland wholesale electricity prices experienced in the 27 months from January 2023 to March 2024. It outlines the number of 5 minute periods in which the wholesale electricity price exceeded various price thresholds in this period.

Wholesale Electricity Price (\$/MWh)	Number of 5 minute periods exceeding the threshold wholesale electricity price
\$100	27,873
\$300	1,976
\$500	283
\$1,000	170
\$5,000	70
\$10,000	57

In practice, we would not be able to act on every occurrence of high wholesale electricity prices due to the short notice periods involved and the availability of customers to reduce demand at the time.

There may also be times when Demand Response opportunities result in wholesale electricity prices which are lower than a customer's price threshold, reducing the customer's revenue to the agreed minimum payment (the fixed component) for that event.

# Calculating payments

Wholesale electricity prices are determined on a 5 minute period. Actual price outcomes in this period can only be confirmed after the five minute period has occurred.

Ergon Energy Retail must wait until the Australian Energy Market Operator (AEMO) publishes confirmed wholesale electricity price outcomes to calculate Demand Response payments. In some cases, this data may not be made available or confirmed for up to two days after the pricing period has occurred.

We use the following formula to calculate customer revenue for Demand Response arrangements:

$$\text{MP} + \max [0, \text{PPS} \times (5\text{MPP} - \text{PPST})] = \text{payment per MWh}$$

Where:

## MP - Minimum Price (\$/MWh)

The agreed minimum payment offered to the customer for responding to a Demand Response request. It represents the fixed payment component outlined in Part A of the Revenue Benefits section.

## PPS - Pool Price Share

The percentage share of the wholesale electricity price the customer receives from Ergon Energy Retail for responding to a Demand Response request.

## 5MPP - 5 Minute Pool Price

The average wholesale electricity price in a half-hour period. It is determined by AEMO after the half-hour period occurs.

## PPST - Pool Price Share Trigger (\$/MWh)

The wholesale electricity price threshold at which the customer may be requested to participate in a Demand Response opportunity. It is determined by the customer's minimum price (MP) and flexibility to respond to Demand Response requests.



## Example

A customer's site has:

- On site generation;
- 1 MW of electricity demand available to be reduced;
- Fixed costs of \$300/MWh to reduce this demand;
- A wholesale electricity price threshold of \$600/MWh;
- A 40% share in the available portion of the wholesale electricity price.

The company would only be requested to reduce demand if the wholesale electricity price was expected to exceed the customer's threshold of \$600/MWh. These scenarios also assume that the average 5 minute wholesale price is steady for the entire Demand Response period.

Wholesale electricity prices are capped by AEMO at \$17,500/MWh for a five minute period.

Using the standard payment formula, potential revenue outcomes for this customer in three projected wholesale electricity price scenarios could be:

**Scenario 1: Wholesale electricity price of \$500/MWh:**  
 $\$300/\text{MWh} + \max [0, 40\% \times (\$500/\text{MWh} - \$600/\text{MWh})] = \$300/\text{MWh}$

In this scenario, the company received its agreed minimum payment of \$300/MWh for the reduction in demand, as the actual wholesale price of \$500/MWh in the Demand Response period was lower than the customer's \$600/MWh threshold. It demonstrates how Ergon Energy Retail's minimum payment to the customer mitigates the risk of a low wholesale price outcome.

**Scenario 2: Wholesale electricity price of \$1000/MWh:**  
 $\$300/\text{MWh} + \max [0, 40\% \times (\$1000/\text{MWh} - \$600/\text{MWh})] = \$460/\text{MWh}$

At a wholesale price of \$1000/MWh, this scenario resulted in a potential benefit of \$460/MWh in revenue for the company for the reduction in demand.

**Scenario 3: Wholesale electricity price of \$5000/MWh:**  
 $\$300/\text{MWh} + \max [0, 40\% \times (\$5000/\text{MWh} - \$600/\text{MWh})] = \$2060/\text{MWh}$

The gains at \$5000/MWh could be even greater, with potential revenues for this company in this high price scenario of \$2060/MWh for the reduction in demand.

## Contact Us

To find out how Demand Response can work for your business visit [ergon.com.au/demandresponse](http://ergon.com.au/demandresponse). You can also ask your Business Account Manager or email [enquiry@support.ergonretail.com.au](mailto:enquiry@support.ergonretail.com.au)



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