



At the forefront of network tariff reform

# Placing real-time energy data in the hands of residential customers on a new tariff

Powersensor partnered with Ergon Energy Network and its retail partner as part of a Residential Tariff Trial, allowing customers to test-drive a new electricity tariff.

The next decade will see much change emerge as Queensland builds towards its goal of hitting 50% renewable energy by 2030. As a result, the Queensland electricity network will see more distributed energy through solar, batteries, and electric vehicles (EVs).

As residents and businesses look to electrify their homes, there will be more dependence on electricity than ever before. At the same time, networks like Ergon Energy Network and Energex must continually reform electricity tariffs.

The goal is to shift usage to off-peak times and reduce network demand at peak times, so a Residential Tariff Trial was conducted, which gave valuable insights into customer behaviours, responses, and bill impacts to evaluate the use of future potential tariffs.

Powersensor worked with the trial project team from Ergon Energy Network and the electricity retailer delivery partner, Ergon Energy Retail to trial a new evening peak demand period.

A group of seventy-six trial participants self-installed their Powersensor to gain real-time energy insights during the evening peak demand period. Powersensor helped them to better understand their energy usage, and reduce their chargeable demand<sup>1</sup> during peak times.

'The ability of the Powersensor device to be customised for our tariff trial was crucial for our engagement with Powersensor. We see an important role for simple but effective technologies that can provide customers with energy and demand usage information relevant to these new non-flat tariff structures that are expected to become far more prevalent in the future.' Said Brian Elmer, Manager, Tariff Trials and Deployment, Ergon Energy Network.

When participants who had used Powersensor were surveyed, they said they 'understood their house's electricity demand'; 'could work towards their energy goals', and 'aligned their energy usage with the trial tariff changes'<sup>\*</sup>.



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## Why trial new residential tariffs?

Historically, most electricity tariffs have a flat structure, and the price is the same regardless of the time the energy is used.

However, a flat tariff does not reflect the cost of supplying electricity to a home, which does vary throughout the day. Or, that the network is used more heavily during peak times (usually between 4:00 pm and 9:00 pm).

The grid network is being used less during off-peak times, like in the middle of the day when rooftop solar supplies lots of electricity to homes and businesses.

## Why did Ergon Energy Network and Ergon Energy Retail partner with Powersensor?

Ergon Energy Network and Ergon Energy Retail used Powersensor's advanced patented technology and gained valuable insights into participants' energy usage, responses to new tariffs, and corresponding bill effects for potential future tariffs.

The trial participants were provided an Energy Monitor, Essential Solar Solution, or Advanced Solar Solution—depending on whether their home had solar.

Powersensor technology allowed trial participants to view their real-time energy usage in kWh and dollars, including trial peak demand times and associated costs, to understand the cost impacts of their behaviour immediately.

This allowed users to:

- Maximise solar self-consumption;
- Reduce grid reliance;
- Understand energy usage and upcoming bills ahead of time;
- View appliance data in real-time;
- And ultimately save money on energy bills.

## Customised and engaging mobile views

Powersensor is an easy-to-use, low-touch energy monitor with a simple, easily accessible app. That puts real-time energy data at the users' fingertips.

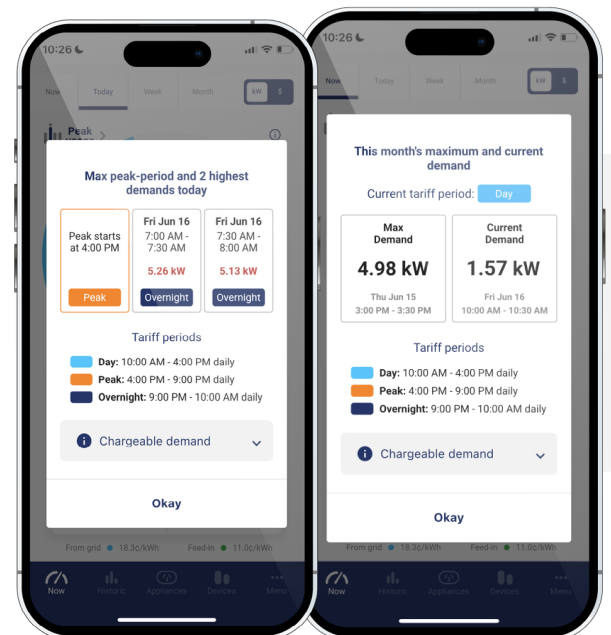
The Ergon Energy Network and Ergon Energy Retail project team worked with Powersensor to create customised app views—the user's maximum demand for the peak tariff period across a day, week, and month.

Powersensor solved a problem that participants stated before the trial, of being 'unclear on how much energy each appliance consumes and what changes should be made to make the most out of the tariff', while ensuring they minimise demand charges and a corresponding increased bill.

The Powersensor app gave users specific real-time insight into their demand period and the associated demand charges.

Granular appliance usage data enabled participants to stagger high-load appliance usage during high-cost demand periods.

Participants found self-installing Powersensor easy, using the app-guided instructions—without needing a costly electrician.



## Simple and engaging communication for new tariffs

A significant theme for trial participants surveyed was 'not being 100% clear on how the tariff works'.

Clear communication across the customer journey, like pre-trial Ergon Energy Retail welcome emails, Powersensor install instructions, and user guides on the peak demand feature, was critical in educating trial participants.

As well as [this simple video](#) showing how the feature works. 92% of those in the trial agreed the video was clear and informative.

93% of participants said having the Powersensor will help me work towards my energy goals.

## The results

The trial participants modified their behaviour to manage their demand charges in real-time, using Powersensor's whole-of-house data and WiFi-plugged appliances.

The results speak for themselves:

- 92% of participants agreed that 'the data presented on Powersensor clearly showed the current tariff period';
- 90% 'that they understand the connection between their electricity bills and their trial tariffs and electricity usage';
- And 82% said, 'Powersensor helped me to make further changes to reduce my energy bills'.

### Appliance insights:

- 3 in 5 users found that the Powersensor helped them understand which appliances used the most energy\*.

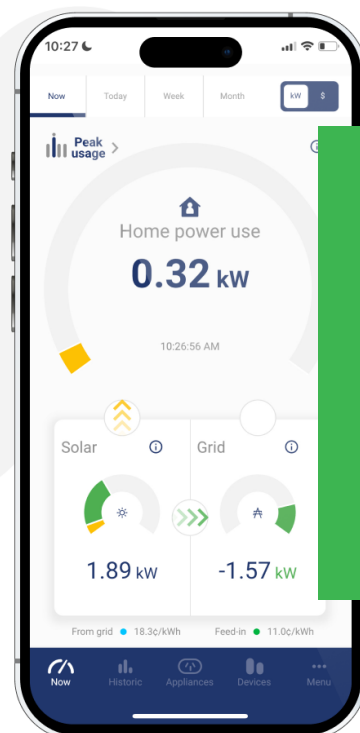
- "I was able to use Powersensor to work out the standby energy usage at my home and to cross-check my fridge usage against the manufacturer's guide, which helped me understand whether my fridge is operating efficiently or not. Powersensor was easy to install and allowed me to monitor my usage and demand easily."

### Demand tariff insights:

- Participants in the trial checked their Powersensor app, demand screens, more than 460 times, or six times per participant.
- "Powersensor is helping me to re-evaluate the tariff adjustments, as I know more about what appliances are using electricity and when.\*"

### Energy usage insights:

- 90% of participants said that Powersensor helped them 'understand their house's electricity demand.\*'
- 93% of participants said, 'Having the Powersensor will help me work towards my energy goals.\*'



"Powersensor helped me to re-evaluate the tariff adjustments, as I know more about what appliances are using electricity and when.\*"

## Powersensor drives simple yet effective tariff change for networks, retailers and customers

Many existing customers, particularly in south-east Queensland, are being moved to demand or time-of-use tariffs.

More broadly, customers nationally by their electricity retailers will move to time-based tariffs.

Many customers will need support to adjust to this new paradigm of electricity tariffs - low costs, self install and information rich technologies like Powersensor does precisely that.

The features of Powersensor and the mobile app help retail customers understand new tariff times and the impacts these times have on their energy bills.

Powersensor can be customised to tariff trials and newly proposed tariffs—putting networks and retailers in the driver's seat.

The Powersensor solutions can also provides front-of-meter and behind-the-meter support, across:

- Real-time demand and generation management / notifications.
- Meter readings in real-time for most meter types.
- Network vs. retail pricing aggregation.

**“The ability of the Powersensor device to be customised for our tariff trial was crucial for our engagement with Powersensor.**

**We see an important role for simple but effective technologies that can provide customers with energy and demand usage information relevant to these new non-flat tariff structures that are expected to become more prevalent in the future.”**

Brian Elmer, Manager, Tariff Trials and Deployment, Ergon Energy Network.

## See how it works

The screenshot shows the Powersensor mobile app interface. On the left, text reads: "The tariff-period times are: - Day: 10am - 4pm daily - Peak: 4pm - 9pm daily - Overnight: 9pm - 10am daily". On the right, a smartphone displays the app's main screen. The screen shows "This month's maximum and current demand" with a table:

Max Demand	Current Demand
4.98 kW	1.57 kW

Below the table, it shows "Current tariff period" as "Day" and "Tariff periods" with a legend: Day (10:00 AM - 4:00 PM daily), Peak (4:00 PM - 9:00 PM daily), and Overnight (9:00 PM - 10:00 AM daily). There is also a "Chargeable demand" dropdown menu set to "Day" and an "Okay" button at the bottom.

90% of participants said they understood the connection between their new tariffs and their electricity usage using Powersensor\*

[Find out more](#)

## Get in touch

Email us - [tariffs.trials@powersensor.com.au](mailto:tariffs.trials@powersensor.com.au)

\* High and Low-Touch User Reach Data Provided by Sprout Strategy across the Participant Cohort.

<sup>1</sup> Electricity bills can include a demand charge. The more high-load appliances you use at the same time, the higher the chargeable demand.

**Powersensor.**