Fact Sheet:

TasNetworks | Powering a Bright Future

2024-2029 Residential consumer energy resources

Issue Date: December 2023

Effective for the 2024-2029 Regulatory Control Period (1 July 2024 – 30 June 2029)

What are consumer energy resources?

Consumer energy resources (**CER**) are a vast array of decentralised consumer-owned technologies that sit "behind the meter". Solar PVs, electric vehicles (**EVs**), household batteries are common examples of CER.

Transformation of the electricity market

Tasmania has more than 250,000 residential customers, and they aren't all just consuming electricity anymore – they are generating, storing and selling energy back to the grid.

Uptake of CER for solar PV, household batteries and EVs are forecast to increase over the next 10 years.

Tariff design is a crucial component to efficiently integrate and utilise new technologies.

Tasmanian 'prosumers' are looking for innovative ways to help move towards a more sustainable future whilst reducing their electricity bills.

Why is network tariff design so important to help with the integration of CER technologies?

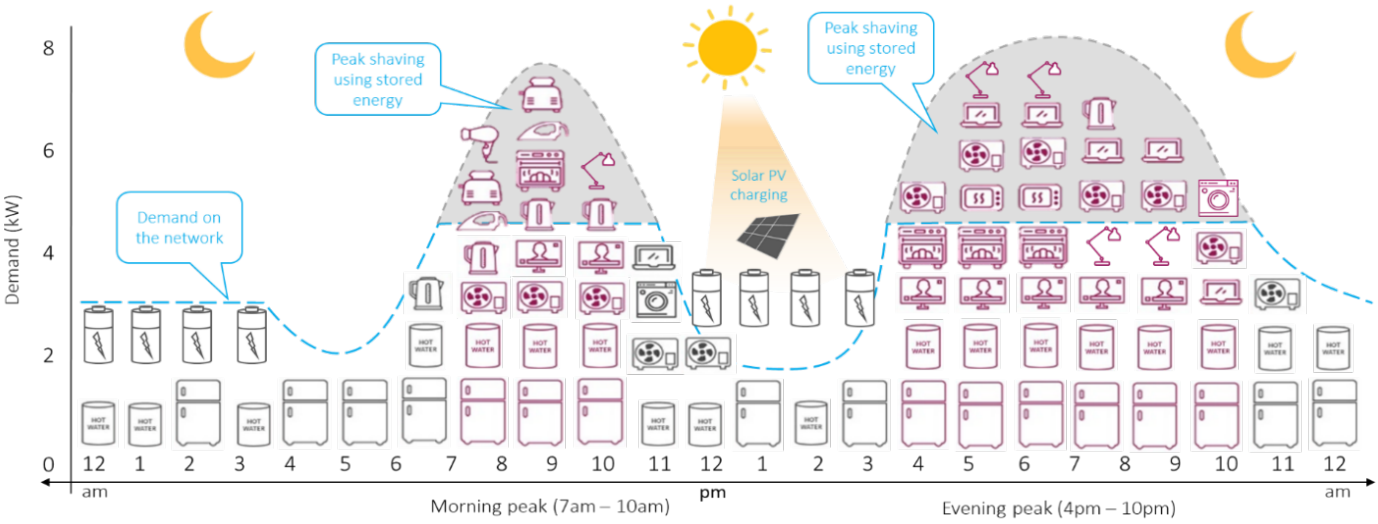
Tariff design incentivises customers to consume energy in specific ways, such as substituting energy use at peak periods to off-peak periods. Growth in peak demand is the main driver of increased network costs.

Will CER uptake lower peak demand?

Consumer energy resources uptake has the potential to help or hinder the electricity network. For example,

- The afternoon / evening peak could be exacerbated if EV owners all charge their vehicles after returning home from work.
- Increasing midday solar generation could result in the energy supply being much higher than demand, this can lead to instability in the network.

Figure 1. Peak shaving using stored energy



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However, utilising CER technologies in a smart way can make a huge impact in reducing peak demand. Tariff design is essential to ensure that consumption is smoothed, allowing benefits to be shared by both customers and networks to achieve the lowest prices now and in the future.

Figure 1 showcases peak shaving to smooth consumption over the course of a day. By utilising solar PV and batteries, consumption during peak periods can be reduced.

What network tariffs are available for a household with solar panels, a battery, or an EV?

The residential CER network tariff (TAS97) is an innovative tariff created with a growing number of prosumers in mind. TAS97 represents a cost reflective alternative which can provide stronger benefits to CER technology owners than the default consumption-based time of use network tariff (TAS93).

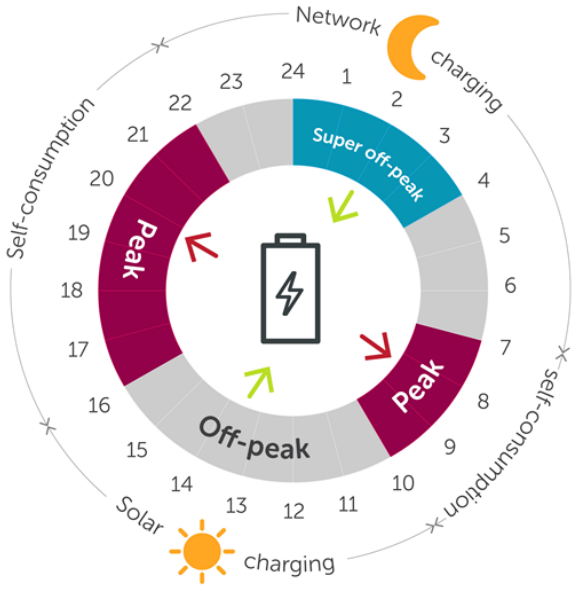
The residential CER tariff allows users to capitalise on their investments in CER by utilising the peak, off-peak and super off-peak periods to structure the use of batteries, the generation from solar and the charging of an EV.

It should be noted that you may not need all three of the above CER technologies to obtain benefit from the CER tariff.

Residential CER network tariff

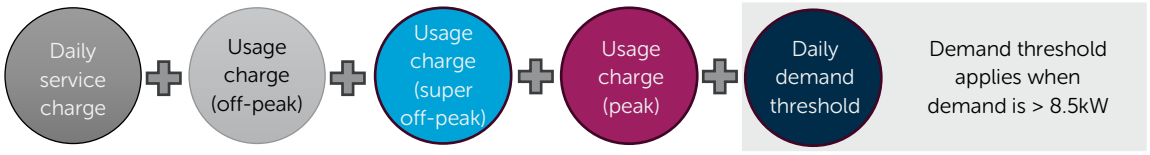
As can be seen in Figure 2, the super off-peak period applies for any day of the week and starts at midnight lasting until 4am. This period represents the time of least demand on the network, making it ideal for customers to charge batteries or electric vehicles.

Figure 2. TAS97 weekday time of use widows and optimal battery cycling strategy



The peak periods, which only apply during weekdays during 7am-10am and 4pm to 10pm reflects the peak in the average network demand and incentivises customers to shift energy usage away from this time on weekdays.

Figure 3. Components of the residential CER time of use, consumption-based tariff (TAS97)



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All remaining periods are **off-peak** including weekends (except where the super off-peak period applies).

The excess demand charge threshold applies when a customer's demand exceeds 8.5kW at any time.

The components of the residential CER network tariff are summarised in Figure 3.

How can TAS97 help me save?

TAS97 has been developed to make the most of CER technologies. Customers can utilise solar generation and battery storage, and time their EV charging during periods of low network demand to make savings on their energy consumption.

Figure 2 highlights the optimal usage of CER when using TAS97. Setting the charging times of your EV and/or battery to the super off-peak period to get the cheapest price per kWh can save money.

Keeping demand below 8.5kW is essential to maximising savings on the residential CER network tariff. Analysis has shown that approximately 94% of household's current maximum demand during peak periods is less or equal to 8.5kW, so for most Tasmanians this shouldn't be an issue. To reduce peak demand, households should look to limit the number of appliances or devices using high amounts of energy at a single point in time.

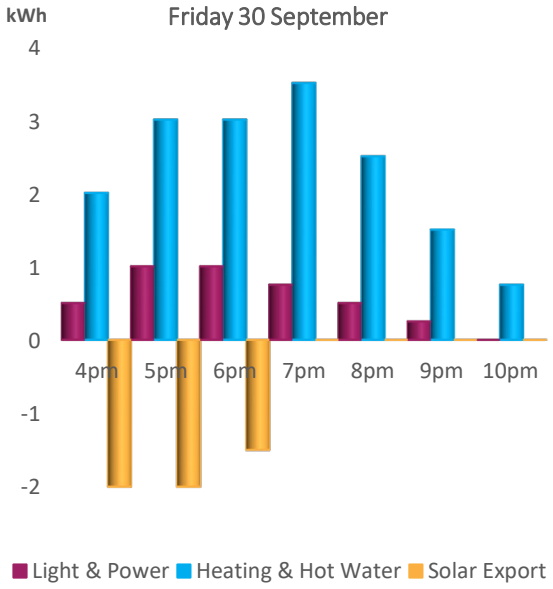
Energy monitoring apps

Your electricity retailer may offer an application to monitor energy usage. This complements a time of use tariff as customers can monitor their usage and develop understanding of their own personal consumption profiles.

It is also a great way to monitor demand and keep it below the 8.5kW threshold.

Figure 4 displays the interface of an example electricity application. A chart is used to demonstrate the kWh used each hour with a table below for daily totals.

Figure 4. Example depiction of energy application with per hour and daily electricity usage



Daily usage	
Light and power	6.12 kWh
Heating and hot water	16.0 kWh
Solar export	-10.0 kWh

For more information

To find out more visit our website:

https://www.tasnetworks.com.au/Poles-and-wires/Pricing/Our-prices

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