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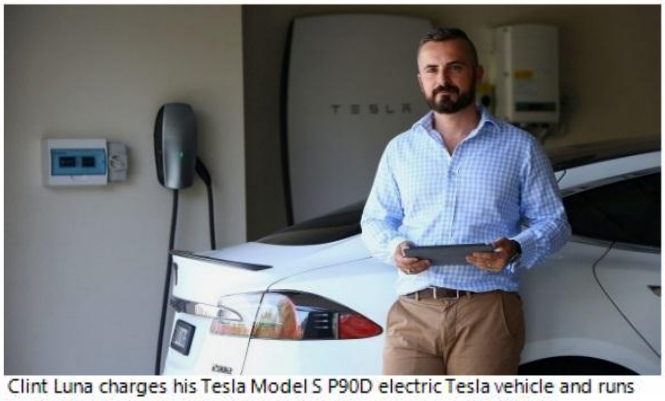
How Queenslander uses solar to charge his Tesla, sell energy back to grid



Clint Luna charges his Tesla Model S P90D electric Tesla vehicle and runs his 40 square home on solar panels and a battery controlled by Reposit Power software. **Lisa Maree Williams**

When the sun shines on Clint Luna's Daisy Hill home south of Brisbane, his solar panels can generate enough power to charge his Tesla P90D car and home battery, cool the house and sell surplus power to retailer Diamond Energy for 8¢ a kilowatt hour.
But on Wednesday afternoon as temperatures and Queensland's power demand soared and the wholesale price touched the $13,800 a megawatt hour cap, the Luna family got a bumper price of 100cKWh for 41 minutes, earning $2.29 of GridCredits.

GridCredits are devised by Reposit Power, whose software runs Luna's solar-battery rig and similar systems in a growing number of households, to provide solar homes with an extra kicker for selling power to the grid when wholesale electricity prices top $1000 a megawatt hour.

It happens a couple of times a month and the benefits won't just accrue to individual households. If enough solar homes do this, they'll help shave peak grid demand levels and reduce network expenditure, helping to prevent blackouts like the ones that hit South Australia and Victoria last year and benefiting all electricity consumers.

GridCredits aren't the main game for Luna, whose family of four's 40KWh a day power usage soaks up most if not all of the solar energy he can generate and store with his 6 ½ KW of solar panels and 7KWh Tesla Powerwall battery.

"The aim is not really to sell that much. When the GridCredits come in it'd be great to be able to sell more but my main aim is basically to self-consume," says Luna, who lives at Daisy Hill with his wife Christina and two sons, Rafa and Andreas.

The existing system cost $18,000 to instal last April. Luna, general manager of UCG, a family-owned Brisbane-based cabling contractor that does work for NBN and Telstra, reckons he is saving about $2,500 a year on power, enough to pay it off in just over seven years.

But because of the outsize quantities of power consumed running Luna's 40 square house and charging the 90KWh Tesla, he is looking at upgrading his panels and adding a 14KWh Powerwall 2 battery - making a total of 21KWh. Powerwall 2 costs $10,000.

"That with what's generated during the day should be enough to cover my 40KWh of usage, which would be cool," Luna says. Less thirsty households could sell more surplus power to the grid.

Home batteries are still too few in number to make a big difference. Reposit's chief executive Dean Spaccavento said no reliable data is available but he guesstimates the number is below 10,000 - out of 1.5 million solar households.

But that should change, Spaccavento says, and the field is a hive of activity. Tesla is leading battery prices lower, US supplier Enphase ordered 70,000 for its first 12 months in Australia, and SA Power Networks is running a 100 home battery trial in the Adelaide suburb of Salisbury. Chief Scientist Alan Finkel is looking at how batteries can support the grid in his power system security review.

Reposit's control software sales are growing at 25 per cent month-on-month, led by NSW where the feed-in-tariff for selling solar power to the grid plunged from 60cKWh to 4-8c on 1 January.

The firm anticipates a further lift as less savvy customers get their first bills for 2017 and find they are paying more to their retailer because the value of their sales to the grid makes a smaller dent in their grid purchases at 25-30c retail tariffs.

Solar psyche

Spaccavento says solar psyche - "the solar is my solar; I am not giving it to someone for 4cKWh" - will push them towards installing more batteries and software controls.

"There'll be a bill shock event and that bill shock event will drive them towards doing something about it," he says.

Source: http://www.afr.com/news/how-queenslander-uses-solar-to-charge-his-tesla-sell-energy-back-to-grid-20170118-gttwo1 , Jan16 2017, Ben Potter