

Noosa Community Batteries Initiative

In late 2020, Zero Emissions Noosa starting researching Community / Neighbourhood batteries to help on the journey towards the goal of zero net community emissions by 2026. With Council funding we commissioned a report by experts to inform us, and a working group was formed in mid 2021.

WHY?

Rapid uptake in solar is causing 'congestion' in the electricity network, that is, more renewable energy than the grid can handle. Unfortunately, if renewable energy can't be used, exported to the grid, or stored, it is wasted.

The electricity grid is now experiencing reverse power flows from consumer (solar PV) to distributor (solar export) which the grid was not designed for. To alleviate infrastructure upgrades to cope with this problem, a number of solutions are being explored. Community Batteries are one of them.

HOW?

Community batteries address this problem by absorbing and storing excess energy from rooftop solar (like a sponge) and releasing it during peak times when it is needed most.

Noosa is doing well with 45% of residential homes now having solar, with some hinterland areas with over 70%. If we are to reach ZEN's goal of net zero emissions by 2026 we will need to achieve a massive growth in rooftop solar more than doubling the amount of rooftop solar installed, and the grid would not be able to handle this without changes.

Community Batteries are a middle level of storage, between the ever-increasing network- scale big batteries, and behind-the-meter home batteries (and in the future aggregated EV batteries in vehicle-to-grid (V2G)). They are a more affordable and cost-effective solution for renewable energy storage than individual household batteries, which are still too expensive for most people.

With community batteries, we can make our energy system more resilient, climate friendly, equitable, and affordable.

WHO BENEFITS?

Community Batteries deliver benefits to the entire community, whether residents have solar panels or not, providing greener and more equitable power supply.

They support decarbonisation and allow more renewables connect to the grid, seeing storage as an essential player in reducing grid congestion and supporting solar generation.

Community Batteries meet residents' aspiration to make energy more local, and therewith provide local economic value, employ local people, and keep battery profits in the locality.

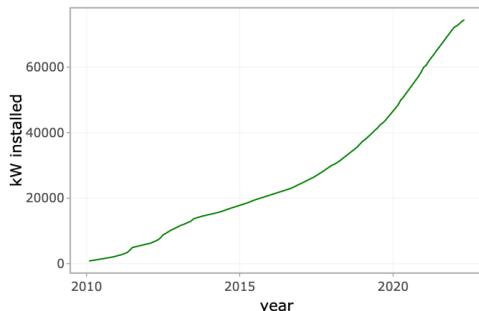
Community Batteries also appeal to those residents who want to 'do their bit,' contributing to reducing or shifting energy use and support the energy transition. This helps creating a sense of community, building community connections and sharing the benefits of local renewable energy to promote fairness.

SOLAR GENERATED ELECTRICITY IS PLENTIFUL IN THE NOOSA LGA

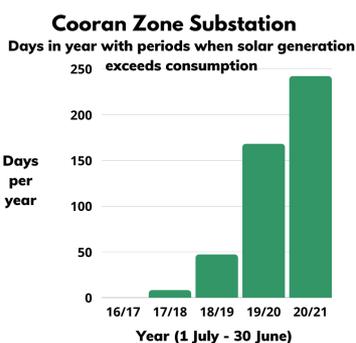
The graphs show why community batteries should be a good fit for Noosa

solar is growing at 1MW per month

Noosa LGA Solar Capacity by year

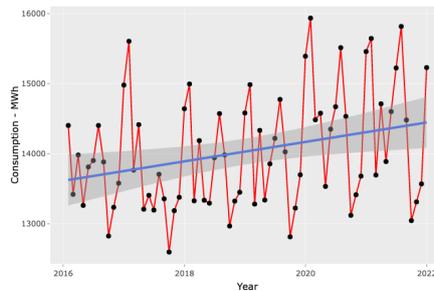


there are days in some Zone Substation areas where solar generation exceeds what is consumed. At Cooran (Pomona) now at 240+ days a year

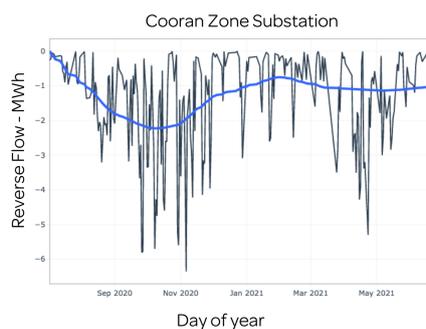


the amount of solar exported is growing rapidly

Noosa Residential Consumption by Month - MWh



there's a lot of excess solar at Cooran Zone substation that is exported out of Noosa, so would be great to store this during the day and release it at night



OUR OBJECTIVE

The ZEN Inc community group and Noosa Council have received requests from community groups, businesses, bodies corporate, individuals and Councillors about the introduction of community batteries in the Noosa LGA. We have been investigating initiatives in other jurisdictions to assess their viability locally to support time shifting of excess generated solar PV, increased hosting capacity, whilst also providing network support particularly on LV feeders, all in a financially viable way.

To help meet the challenges of the energy transition and to meet zero emissions targets, we wish to collaborate with stakeholders, and especially Energex / Energy Queensland to explore and define areas of mutual benefit in this space.

Following from our commissioned roadmap report “Achieving 100% Renewable Electricity in Noosa”, it’s now time to plan how to best time shift the excess daytime solar electricity through a large number of strategically located batteries to support the Noosa community whilst providing support for our grid network.

This new roadmap will be the “Business Plan for a Network of Community Batteries in the Noosa LGA”, and will guide the pathway to grow from a single community battery, to a dozen, and in time to more than 100-200.

We expect that this specific plan for Noosa will be able to be easily adapted to other local government areas in South East Queensland in the Energex zone, and beyond.

Please see our website pages for more detail and to keep up to date, or email us

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