Towards a Resilient Energy Future and Low Emissions for Byron Shire

As the Byron Shire Council’s elections approach, Zero Emissions Byron (zerobyron.org) in collaboration with the Bayside Residents Association is asking new and returning councillors standing in the September 2024 Council election to include as part of their platform, the installation of a battery energy storage system for Byron Shire.

With rapid changes in the energy market, Byron Shire Council’s 2025 Net Zero Emissions Plan must be urgently reviewed to include:
- the installation of a battery energy storage system, to address energy vulnerabilities and focus on providing energy security and reliability during natural hazards (bushfires, heatwaves and flooding), and
- support a greater uptake of renewable energy and pathways to decarbonisation.

The contribution of community batteries to decarbonisation is currently undervalued as these batteries play a role in the renewable energy mix, soaking up otherwise discarded solar generation and weaning off fossil fuel generation of electricity.

We hope the new Council will support the transition to a sustainable, reliable, inclusive and affordable future energy system.

What exactly is a community battery or Battery Energy Storage System?
A battery energy storage system, also known as a neighbourhood/community or shared battery, is an energy storage system designed to benefit all participating community members whether they be households and businesses with solar panels, renters or households yet to install panels.

Typically, ranging in size from 50 kilowatts to 5 megawatts the system stores excess energy from rooftop solar panels during the day to provide low-cost energy during peak evening demand, to ensure clean energy is available even when the sun isn’t shining. This system minimises costs and environmental impacts and increases community control over energy production.

For example, the successful collaboration between Noosa Council, Zero Emissions Noosa (ZEN) and the community resulted in federal government funding for the Noosa Community Battery.²

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What are the objectives of a Battery Energy Storage System for Byron Shire?

The battery will:
• enable greater integration of renewable energy and reduce reliance on fossil fuels for electricity generation,
• reduce greenhouse gas emissions in the local network, and thereby combat climate change,
• support the transition to a more decentralized, democratised, sustainable and resilient energy system through participation in more informed local decisions,
• increase local community connection to low-cost renewable electricity, and to counter potential disadvantages by certain socio-economic groups,
• provide financial benefits either directly to the Council or to the community (such as virtual storage models through subscription), and
• contribute to increased rooftop solar hosting capacity in the local network.

Integration of renewable energy into the grid.

• A battery energy storage system ‘soaks up’ excess solar generation during the middle of the day and discharges it during the evenings to meet peak demand to reduce electricity costs for participants, acting as a ‘solar sponge’ to maximise local consumption of solar.

What are the cost savings?

• By reducing peak demand and the need for expensive infrastructure upgrades, community batteries can also lower electricity distribution costs for utilities, potentially leading to long-term cost savings for all electricity users.

How will a community battery enhance energy independence, grid stability and resilience?

• A community battery will reduce reliance on centralized power plants and transmission lines, which are vulnerable to disruptions, and
• provide residents and businesses with a reliable source of backup power during times of high demand, such as natural disasters or blackouts.

Further information:

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