

Vector Powersmart Pacific solar and battery systems and learnings to increase renewables in New Zealand

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Vector case studies for BEC webinar “New Zealand a world leader
in renewable energy”

A large array of solar panels is installed in a tropical setting. The panels are arranged in long, parallel rows on a sandy ground. In the background, there is a dense line of palm trees under a clear blue sky. The text "Tokelau; world's first solar powered principality" is overlaid in white on a semi-transparent dark blue band across the middle of the image.

Tokelau; world's first solar powered principality

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Vector Powersmart, MFAT and the Government of Tokelau, 2013 and 2020

- Challenge: pre 2012, 100% of Tokelau's energy from diesel generators
- Solution : one of the largest solar / battery systems in the world
- Outcome: nearly 100% of Tokelau's energy from renewable as a result electricity prices decreased and demand increased

Vector Powersmart is returning this year in partnership with MFAT and Government of Tokelau to expand the system

Niue; integrating new with existing infrastructure



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- **Challenge:** Niue Government target is 80% renewables by 2025. Solar generation curtailment to maintain stable grid
- **Solution :** **Vector Powersmart** energy management system to coordinate the integration of existing solar (500 kWp), new solar (600 kWp) and batteries (3 MWhp)
- **Outcome:** increased system stability, reliability and reduced emissions with increased use of renewables

Increasing renewables is about more than installing more renewable generation – it is about creating a smart and coordinated system that pairs renewable generation with energy storage

An aerial photograph showing a cityscape in the background with a large body of water in the foreground. The water is dark blue, and there are several large, rectangular floating solar panel arrays (floatovoltaics) deployed on the surface. The panels are arranged in a grid pattern. In the distance, a mountain range is visible under a cloudy sky. The city includes residential areas, commercial buildings, and a highway. A large green field is visible between the highway and the water.

lessons for increasing renewables in New Zealand

lessons for increasing renewables in NZ

- Getting the most value from distributed solar requires coordination and visibility of the whole system
- The community needs to be at the centre - it is about understanding customer needs and network requirements
- Decentralisation increases resilience and efficiency – new renewable generation should be close to demand
- Distributed solar has a significant role in our energy future – particularly with innovative solutions

There is transformative potential for New Zealand's energy systems now

Thank you

For further questions please email:

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