



# Sws energy Tokelau

Can Tokelau support itself with solar energy?

Tokelau, an island nation in the South Pacific, is now completely able to support itself with solar energy. Elly Earls met Joseph Mayhew of the New Zealand Aid Programme to find out how this tiny collection of atolls has become almost 100% self-sufficient in less than 12 months.

Where does Tokelau get its electricity from?

Except for that part of the electricity supply provided by Solar Photovoltaic (PV) to TeleTok facilities on all three atolls and the University of the South Pacific (USP) facility on Atafu, essentially all energy in Tokelau currently is from imported petroleum.

How much electricity does a solar system provide in Tokelau?

Each system alone is among the largest off-grid solar power systems in the world, and together they are capable of providing 150% of current electricity demand in Tokelau, a much higher amount than the 90% that was originally planned for.

Could Tokelau be the world's first renewable nation?

Solar power plants and coconut biofuel-powered generators switched on in Tokelau has made the islands the world's first truly renewable nation.' Imagine a place where the only energy to be found is clean, reliable solar power. Solar Array's seen on the three tiny islands of Tokelau to completely produce solar power energy.

Why did Tokelau switch to solar?

Yet despite the challenges involved in installing comprehensive solar systems in such a remote location, switching to solar was absolutely crucial for the tiny collection of islands. 'Tokelau's atolls are low-lying and especially susceptible to the adverse effects of climate change,' Mayhew stressed.

Why is electricity so expensive in Tokelau?

Before the PowerSmart systems were installed on the nation's three atolls, Tokelau was highly dependent on imported fossil fuels to meet its energy needs and therefore vulnerable to international price fluctuations and increasing fuel costs, making electricity extremely expensive for both households and businesses.

A host of Pacific nations are turning to renewable technologies to satisfy 100% of their energy, writes Maxine Newlands. Samoa is aiming to achieve 100% renewable energy by 2017, while Tokelau has already reached ...

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A decade ago, Tokelau, a group of three atolls in the South Pacific, was hailed as the world's first territory to be powered by solar energy. The islands of Fakaofu, Nukunonu and Atafu, once dependent on diesel to generate electricity, installed solar grids to provide cheap electricity for their villages.

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developing areas. Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. Energy trade includes all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation is calculated as annual generation divided by year-end capacity x 8,760h/year. Avoided

Solar Array's seen on the three tiny islands of Tokelau to completely produce solar power energy. The renewable energy system comprising of solar panels, storage batteries and generators running on biofuel derived from coconut will generate enough electricity to meet 150% of the islands' power demand.

The Tokelau Renewable Energy Project (TREP) saw the installation of solar diesel hybrid power systems on Fakaofu, Nukunonu and Atafu, the three atolls of Tokelau. There is a clear need across the community to better understand the reasoning behind tariffs and what different tariffs mean for the community

A host of Pacific nations are turning to renewable technologies to satisfy 100% of their energy, writes Maxine Newlands. Samoa is aiming to achieve 100% renewable energy by 2017, while Tokelau has already reached 94% including 100% of its electricity.

Target: 100% renewable energy; Status: Achieved; RES: 1MW off-grid solar energy system across three main atolls of Tokelau. The project includes : 4032 solar modules, 196 string inverters, 112 DC charge controllers, 84 battery inverters and 1344 batteries in 48V banks. The system allows for up to 2 days of energy without any solar input.



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