

# Stand alone power system Cook Islands

Does the Cook Islands have solar power?

The Cook Islands Electricity Sector historically been powered by diesel generators. Since around 2011, increasing solar PV generation on Rarotonga has changed this situation. And in 2014- 15, installation of 95-100% renewable solar hybrid systems on the Northern Group Islands further altered the mix.

How much energy does the Cook Islands use?

The Cook Islands is a net importer of energy, in the form of petroleum products. Total energy consumption was 1,677,278,000 BTU (1.77 TJ) in 2017, of which 811,000,000 (0.86 TJ) was in the form of oil. In 2012 47% of imported oil was used in the transport sector, 30% in aviation, and 27% for electricity generation.

Who imports the fuel in Cook Islands?

85% of the country's fuel and all of its jet fuel is imported by Pacific Energy. The Energy Act 1998 established an Energy Division within the Ministry of Works, Energy and Physical Planning (now Infrastructure Cook Islands) responsible for energy policy and electricity inspections.

What is a Cook Islands map?

Cook Islands Map depicts Northern and Southern Island groupations. All Islands from the Northern group are smaller and have limited requirements for electrical energy. Most of the Cook Islands people live in the Southern Islands. Two largest Islands are Rarotonga (main island) and Aitutaki

Where do most people live in the Cook Islands?

Most of the Cook Islands people live in the Southern Islands. Two largest Islands are Rarotonga (main island) and Aitutaki. The Government of the Cook Islands has a long standing policy commitment of 100% renewable electricity by 2020.

How many islands are in the Cook Islands?

The Cook Islands Located in the South Pacific Ocean, the Cook Islands has 15 islands, of which 12 are inhabited. Most of the Cook Islands 13,000 permanent residents live on Rarotonga, in the south. Aitutaki has a population of approximately 1,800, and remaining islands are sparsely populated. Fig 1.

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TAU is a critical key infrastructure asset for Rarotonga and the wider Cook Islands. The primary function of Te Aponga Uira (TAU) is the provision of electricity to the people of Rarotonga in a reliable, safe and economical manner.

All inhabited islands of the Cook Islands currently have centralised power supplies, providing single phase (230 V) or three phase (415 V) through a distribution grid to most residential and commercial and industrial customers 4.

This study presents the method for reaching 100% sustainable energy systems in Cook Islands. It covers the possibility of fulfilling this objective from technical, commercial and environmental aspects.

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 emissions from renewable power is calculated as renewable generation divided by fossil fuel generation multiplied by reported emissions from the power sector. This assumes

While small island power systems are generally very similar one to the other, medium island power systems start diverge and there are no off-the-shelf solutions which suit all islands. A tailor made approach including multi-stage plans for reaching high renewable energy penetration is necessary.

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**GRID-CONNECTED POWER SYSTEMS SYSTEM DESIGN GUIDELINES** When providing a quotation to a potential customer, the certified designer should provide (as a minimum) the following information: o Full Specifications of the system including quantity, make (manufacturer) and model number of the solar modules and inverter.

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The Government of the Cook Islands (GCI) has a policy of 100% renewable energy by 2020. The implementation of this plan is well underway, with renewable energy systems installed at half of the inhabited islands (the Northern Group) in 2014-15, and systems for most of the Southern Group planned for installation in 2016-17.



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