

## Solar Energy South Africa

# Cook Islands solar energy utility



## Overview

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Renewable energy in the is primarily provided by and biomass. Since 2011 the Cook Islands has embarked on a programme of renewable energy development to improve its and reduce , with an initial goal of reaching 50% renewable electricity by 2015, and 100% by 2020. The programme has been assisted by.

Will the Cook Islands use renewable electricity?

The Cook Islands will be careful in its selection of renewable electricity options and will not entertain unproven or non-commercial technologies. The attached Summary Table provides some indicative and preliminary information on the types and costs of the renewable electricity technologies we are considering.

Can solar power be used in the Cook Islands?

The Cook Islands has abundant solar radiation, which makes solar electricity PV an attractive option. On average, about 80 percent of households already use solar water heating, and we are committed to increasing the use of photovoltaics for electricity generation and to reduce reliance on diesel.

Where are solar panels installed in the Cook Islands?

The Cook Islands is a recipient of the Fund and has committed to installing Solar (PV) systems for the islands of Rakahanga, Pukapuka, Nassau, Suvarrow and part of Manihiki.

What is a Cook Islands renewable electricity chart (road map)?

This document is called the Cook Islands Renewable Electricity “Chart”. Other countries have called similar documents a “Road map” - and these are countries that are either landlocked or have many kilometres of road between settlements. Our environment is different. We have many kilometres of sea between islands.

How will new energy technologies affect the Cook Islands?

In future, new energy technologies such as marine energy may offer new

opportunities for the Cook Islands to generate electricity from other renewable sources. Developments in energy storage or in energy efficiency may also further reduce the Cook Islands' reliance on diesel. The Cook Islands prefers to use proven and economic energy technologies.

How will electricity tariffs be reviewed in the Cook Islands?

Electricity tariffs will be reviewed so that they, as a minimum, ensure on-going operational viability and account for disadvantaged sections of communities. The Cook Islands Government will review the institutional arrangements to best achieve the 50/15 - 100/20 renewable electricity policy goals for the electricity sector.

## Cook Islands solar energy utility

### Lithium battery parameters

Product capacity: 100Ah

Product size: 135\*197\*35mm

Product weight: 1.82kg

Product voltage: 3.2V

internal resistance: within 0.5



## Solar-plus-storage for the Cook Islands - pv magazine Australia

Around 4.2 MWh of energy storage capacity will be connected to a solar and diesel micro-grid on Rarotonga, the largest of the islands in the South Pacific nation. Three 40-foot containers with a total power output of 4.8 MVA will be used as a power reserve and for grid support by utility Te Aponga Uira.

## ENERGY PROFILE Cook Islands

Energy self-sufficiency (%) 27  
 Cook Islands  
 COUNTRY INDICATORS AND SDGS TOTAL  
 ENERGY SUPPLY (TES) Total energy supply in  
 2021 Renewable energy supply in 2021 93%  
 0% 7% Oil Gas Solar PV: Solar resource potential has  
 been divided into seven classes, each  
 representing a range of annual PV output per  
 unit of capacity



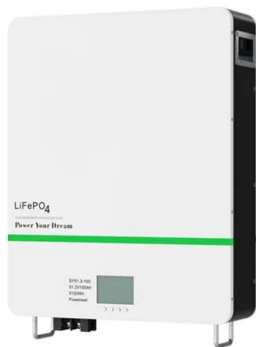
## CookIslands

Cook Islands Country Energy Security Indicator Profile 2009 97% The indicator tracks the share of households actually connected to a utility grid. Based on the Cook Islands HES (2005/2006) survey, close to 92% of the population have access to grid which mainly has solar home systems, other small islands in the Cook .

## Pacific Lighthouses: Cook Islands

Renewable Energy Opportunities and Challenges

in the Pacific Islands Region: Cook Islands 1 1. Country context Physical description. The Cook Islands consist of 15 islands totalling 240 km<sup>2</sup> of land, located in the South Pacific Ocean half-way between Tonga and Tahiti. Ap-proximately 90% of the land and population are in the



### [Te Atamoa o te Uira Natura](#)

There are three main sectors dependent on imported energy in the Cook Islands; these include transport, electricity and aviation. Of the total number of imported fuels into the country, 43% is used by transport; 30% by aviation and 27% by electricity. The Cook Islands has decided to work with one sector at a time, beginning with the

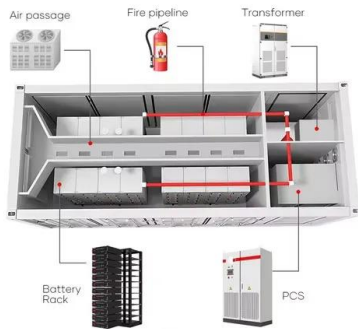
## **Feasibility of grid-connected wind power for Rarotonga, ...**

The Cook Islands energy sector relies 100 % on imported fuels for transport, electricity generation and household use. In the year 2005 the world has experienced a period of price volatility for petroleum that saw petroleum prices increase from US\$ 40/bbl in mid March to US\$ 70bbl in September. At present wind energy is



## **Cook Islands : Renewable Energy Sector Project**

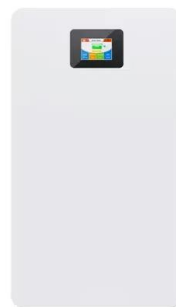
The Renewable Energy Sector Project will support the government's policy to increase power generation from renewable sources and enhance the government's institutional capacity for implementing the Cook Islands Renewable



Energy Chart Implementation Plan (CIRECIP), 2012-2020, which sets a target of supplying electricity from renewable energy sources on all ...

## Cook Islands , Pacific Energy

The Pacific Energy Group became established in the Cook Islands in 2010 thanks to the acquisition of the BP assets. Ever since, the Group has renewed its partnership with the power plant TAU and equipped itself with a new refueler to support the business growth. Optimization and quality of supply are also a priority.



## The Cook Islands go solar

According to the 2017 Pacific Energy Update the Cook Islands have received a total of \$41.85 million in funding, only \$7.14 million of which was contributed by the Cook Islands. The remaining \$34.71 million consists of grants from Asian Development Bank, the EU, the Global Environmental Facility and the UN "Green Fund": Figure 2, from the

## **COOK ISLANDS: The Cook Islands Renewable Energy Chart Implementation**

Solar energy is already utilised on Rarotonga by many businesses and domestic consumers in the form of solar PV and water heaters. no specific legislation exists for APS or for the outer islands.

The TAU Act requires the utility to ensure efficient and reliable supply of electricity to communities on Rarotonga. The Energy Act 1998



## Deploying Solar Powered Microgrids on Small Island ...

energy goals, and to explore strategies to overcome obstacles standing in the way. The workshop, which was co-hosted by SolarCity, provided a chance to conduct detailed conversations with representatives from the national utilities of the Cook Islands, Palau, the Republic of the Marshall Islands, and the Seychelles about

## COOK ISLANDS: Cook Islands Climate Change Country Programme ...

The Cook Islands 2nd Joint National Action Plan (JNAP) - A sectoral approach to Climate Change and Disaster Risk Management 2016-2020; Cook Islands Renewable Energy Chart 2016-2020; Intended Nationally Determined Contribution (INDC) 2015; Second National Communication to the UNFCCC 2011; Cook Islands National Infrastructure Investment Plan



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## COOK ISLANDS: The Cook Islands Renewable ...

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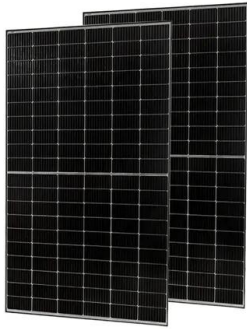
## [Cook Islands Electricity Statistics](#)

See also: Cook Islands Energy. Electricity Generation in the Cook Islands The Cook Islands generates 34,000 MWh of electricity as of 2016 (covering 108% of its annual consumption needs). Solar 4,000 MWh (11.76%) Tide & Wave 0 MWh (0.00%) Biomass & Waste 0 MWh (0.00% )

## COOK ISLANDS RENEWABLE ENERGY SECTOR PROJECT ...

COOK ISLANDS RENEWABLE ENERGY SECTOR PROJECT - Rarotonga Battery Energy Storage System Revision No: 0 E304965-TR-4 8 April 2016 v ontents 1. Introduction 1 1.1 The Cook Islands Renewable Energy Sector Project 1 1.1.1 Overall policy targets and implementation plan 1 1.1.2 Contribution of the Cook Islands Renewable Energy Sector Project 3





## A Renewable Energy Journey in the Pacific

Image: The author in a solar field on one of the Cook Islands. Credit: Entura. Stage 5: Finishing the journey - The 'last renewable mile' is usually the most expensive one, so this last stage means identifying enabling technologies and techniques that can bridge the gap between 70-80 percent and 100 percent renewable contribution, without significant increases ...

## Home

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## COOK ISLANDS RENEWABLE ENERGY SECTOR PROJECT

approximately 363 MWh of usable solar PV energy to Atiu, which is approximately 95% of the 382 MWh estimated annual consumption. The remainder of the load will be met by the backup Cook Islands renewable energy sector project - Atiu Subproject Feasibility Revision No: 0 509673 7 October 2015 v Figure 3.6: Long term population census data 16

## Cook Islands: 100% Renewable Energy in Different Guises

In its approach to delivering a 100% renewable energy target across 12 islands by 2020, the Cook Islands presents a rare insight into how planning requirements of high penetration renewable island



## An improved typical meteorological year for solar energy ...

In the case of the Cook Islands, 2016 estimates had fossil-fuel (diesel) generators providing over 75% of the nation's electricity (~32 GWh p.a.) (Central Intelligence Agency 2021) despite their ambition to have '50 percent of the Cook Island's electricity ... provided by renewable energy in 2015' (Government of the Cook Islands 2011).

## COOK ISLANDS: The Cook Islands Renewable Electricity Chart ...

1. Introduction. This Plan updates the Te Atamoa o te Uira Natura (The Cook Islands Renewable Electricity Chart (CIREC), 2012) and is a guiding document for all stakeholders.<sup>1</sup> While responsibility for the implementation of the CIREC rests with the Energy Commissioner, the Renewable Energy Development Division (REDD) will have the overarching role in developing ...



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