

## European Solar and Energy Storage Solutions

# Solar energy photovoltaic French Polynesia



## Overview

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How much electricity does French Polynesia use?

Hydroelectricity accounts for 23% of the electricity mix in French Polynesia. It is the first renewable energy source in French Polynesia with an installed capacity of 49.3 MW. Solar water heaters produce hot water using solar energy. In 2019, the electricity consumption saved is approximately 22 GWh, i.e. 3% of electricity consumption.

How much energy does a PV module produce in Tahiti?

The annual energy output of a single PV module is 256.7 kWh, which corresponds to 7 % of the annual consumption of a typical household in Tahiti. The capacity factor reaches 22.5 %, which makes Faaa a good site for harnessing solar resource. Monthly variations of GHI and  $k_t$ . Annual GHI in kWh/m<sup>2</sup> retrieved from Global Solar Atlas.

Does Tahiti have a solar resource?

This study focuses on the solar resource available at Faaa, Tahiti (17.5°S, 149.5°W) thanks to 10 year-long solar irradiance time series.

What is energy production in Tahiti?

is the production of electricity of net thermal origin related to the combustion of fuel oil for Tahiti and diesel in the islands. energies in the electricity mix, thanks in particular to the production of hydroelectricity and electricity from photovoltaic sources.

Can a global solar atlas dataset be used in Tahiti?

The Global Solar Atlas satellite-derived dataset shows acceptable relative error when compared to Faaa in situ measurements. This product could then be used for other coastal areas of Tahiti. The annual energy output of a single PV module is 256.7 kWh, which corresponds to 7 % of the annual consumption of a typical household in Tahiti.

What is PEC in French Polynesia?

In French Polynesia, mainly crude oil and its derivatives, hydraulic power and solar radiation PEC is expressed in tonnes of oil equivalent (toe), unit that allows the different energies to be compared in relation to their intrinsic characteristics. litres of hydrocarbons were imported in 2019 in French Polynesia. is the dependency rate.

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### FROM FUEL BASED ELECTRICITY TO RENEWABLE ENERGY

GWh of PV production is expected to be directly consumed by our clients and not reinjected in the grid. On several islands of the Tuamotu, Diesel-Solar hybrid power stations have been built, with a share of PV over 50%. WIND TURBINES: Wind conditions in French Polynesia are generally not very favorable (not enough wind).

### Solar PV Analysis of Papeete, French Polynesia

In Papeete, French Polynesia (latitude: -17.5324608, longitude: -149.5677151), solar photovoltaic (PV) generation is highly suitable due to the abundant and consistent sunlight throughout most of the year. The average daily energy ...



### J& V Energy secures 180MW solar PV project in the Philippines

The utility-scale solar PV project is located in General Santos. Image: ib vogt Taiwan-headquartered developer J& V Energy has entered the utility-scale solar PV sector in the Philippines by

## Assessing solar resource and photovoltaic production in Tahiti ...

This study focuses on the solar resource available at Faaa, Tahiti (17.5°S, 149.5°W) thanks to 10 year-long solar irradiance time series. Faaa's global horizontal irradiance ranges from 14 ...



## The Brando In French Polynesia , Stewardship

Positioned on Tetiaroa's airstrip, over 4,700 photovoltaic panels meet 60% of the energy requirements. Surplus energy is conserved in lithium batteries, ensuring nocturnal power supply for the island. These solar batteries, crafted ...

## GSL ENERGY Supplies 20kwh Lithium Solar Energy Storage System in French

GSL ENERGY announced that the company has supplied home solar energy storage system for a Polynesia's solar off grid project, which is installed with a capacity of 20kwh Lifepo4 Lithium battery and 5kva smart inverter. This is a residential rooftop solar energy storage system for home energy storage system. And here are the details of the system:



## Solar PV Analysis of Papeete, French Polynesia

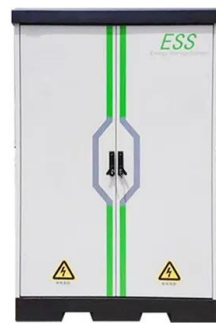
In Papeete, French Polynesia (latitude: -17.5324608, longitude: -149.5677151), solar photovoltaic (PV) generation is highly suitable



due to the abundant and consistent sunlight throughout most of the year. The average daily energy production per kW of installed solar capacity varies by season, with 7.16 kWh in Summer, 5.81 kWh in Autumn, 4.77

## Assessing solar resource and photovoltaic production in ...

Assessing solar resource and photovoltaic production in Tahiti from ground-based measurements Marania Hopuare<sup>1,\*</sup>, Lorène Lucas-Svay<sup>1</sup>, Pascal Ortega, Franck Lucas<sup>1</sup>, and Victoire Laurent<sup>2</sup> <sup>1</sup>University of French Polynesia, GEPASUD Laboratory <sup>2</sup>Direction Inter Régionale de Polynésie française, Météo France Abstract.



## Assessing solar resource and photovoltaic production in Tahiti ...

This study focuses on the solar resource available at Faaa, Tahiti (17.5°S, 149.5°W) thanks to 10 year-long solar irradiance time series. Faaa's global horizontal irradiance ranges from 14 MJ.m<sup>-2</sup>.day<sup>-1</sup> (June) to 21 MJ.m<sup>-2</sup>.day<sup>-1</sup> (November) in agreement with the sun's annual path, while clearness index ranges from 0.5 (January) to 0.

## KEY FIGURES ON ENERGY IN FRENCH POLYNESIA: 2019 ...

KEY FIGURES ON ENERGY IN FRENCH POLYNESIA:

2019 EDITION FOCUS ON PRIMARY ENERGY CONSUMPTION % 8 3 10.2 ktoe = e t a r 1.9 ktoe c n 0.6% d n e Solar water heaters SWAC Primary energy 315.9 ktep Figure 1: Primary energy consumption in French Polynesia in 2019 The photovoltaic sector is expanding from 4.7 GWh in 2010 to 40 GWh in 2019.



## grid management in Tahiti, French Polynesia A tailored solar ...

How to integrate PV+storage production (safe and stable operations)? 12/8/5 hours ahead PV+storage production forecasts, updated every 6 hours (trapezoidal power profile provided by plant operators)

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## ENERGY PROFILE French Polynesia

ENERGY PROFILE Total Energy Supply (TES) 2015 2020 Non-renewable (TJ) 11 908 11 926 French Polynesia COUNTRY INDICATORS AND SDGS TOTAL ENERGY SUPPLY (TES) Total energy supply in 2020 Solar PV: Solar resource potential

has been divided into seven classes,



## SMA installs French Polynesia's first integrated PV-plus-storage

"Thanks to the integration of the battery-storage system with a capacity of 2.6 MWh, 60% of the electricity supply now comes from solar energy. The island's grid quality was also improved once



## KEY FIGURES ON ENERGY IN FRENCH POLYNESIA: 2019 ...

mix in French Polynesia. It is the first renewable energy source in French Polynesia with an installed capacity of 49.3 MW. The photovoltaic sector is expanding from 4.7 GWh in 2010 to 40 GWh in 2019. It now accounts for 5.8% of the electricity mix in French Polynesia. Installed capacity is 41.1 MWp in 2019. 28.8%

## Assessing solar resource and photovoltaic production in Tahiti ...

Assessing solar resource and photovoltaic production in Tahiti from ground-based measurements. Marania Hopuare 1 \*, Lorène Lucas-Svay 1, Pascal Ortega 1, Franck Lucas 1 and Victoire Laurent 2. 1 University of French

Polynesia, GEPASUD This product could then be used for other coastal areas of Tahiti. The annual energy output of a single PV



## China's Shunfeng inks clean energy pact in French Polynesia

June 10 (SeeNews) - China-based Shunfeng International Clean Energy Ltd (HKG:1165) said Wednesday it has agreed to develop solar photovoltaic (PV) and other clean energy projects in French Polynesia.

## Assessing solar resource and photovoltaic production in Tahiti ...

An energy analysis performed, reveals that the Solar City has a solar power potential of 13.55 MW and an annual energy generation capacity equivalent to 21.99 GWh. Construction of the Solar City would help avert the emissions of 13,744 tons of CO2 annually.

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## SMA installs French Polynesia's first integrated PV-plus ...

"Thanks to the integration of the battery-storage system with a capacity of 2.6 MWh, 60% of the electricity supply now comes from solar energy. The island's grid quality was also improved once



## Renewable energy in French Polynesia

Approximately 6% of primary energy in French Polynesia is generated from renewable energy sources. [1] Approximately 30% of electricity is generated renewably, primarily Hydroelectricity and solar power. [1] Renewable generation is concentrated on Tahiti, with other parts of French Polynesia almost entirely reliant on fossil fuels. [2]



## Solar resource maps & GIS data for 200+ countries , Solargis

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