

Assessing natural ventilation potential on a tropical island such as Tahiti (French Polynesia), where strong climatic constraints apply on buildings constitute a challenge due to the scarcity...

TEDOM provides cogeneration systems, a method of generating electrical energy in which the heat released during the generation process is captured and utilized. The efficient power produced in a CHP unit can be exported to the grid or utilized onsite.

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TL;DR: In this paper, a Particle Swarm Optimization (PSO) algorithm is used to optimize a prototype of cold/electricity cogeneration designed to be disconnected from the grid and implanted in an insular tropical region where a high need of cold and electricity is required.

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]

However, technical, administrative, and financial support is being put in place to assist the municipality through the project's phases and make headway towards a renewable energy system.

In this context, a potentially interesting system suitable for regions with a high need of cold production and which are poorly interconnected to the electricity grid is under development. An experimental demonstration in French Polynesia is scheduled by 2022 as part of the RECIF project funded by the French national research agency (ANR).

Eco-friendly MWM cogeneration power plants with combined heat and power enable decentralized, economical and energy-efficient power production. Container Cogeneration Plant Available for TCG 3016, TCG 3020 and TCG 2020 gas engines.

combined cooling and power, cogeneration, off-grid, fuel cell, electrolyzer, thermochemical storage I. INTRODUCTION French Polynesia is composed of hundreds of small islands spread out over an area bigger than the European Union. French Polynesia is also extremely dependent to oil importations as 93% of the final energy comes from hydrocarbons [1].

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