

Interview



Anthony Rudimch Manager

Project Planning and Implementation Department, Republic of Palau

In consideration of the Master Plan supported by JICA, PPUC has initiated the first step of achieving the Republic of Palau's ambitious target of Renewable Energy Integration of 45% with the procurement of its first Independent Power Producer (IPP). At the same time, in order to effectively transition into 45% renewable energy generation, the power grid must be upgraded. With this in mind as well as the recommendations in the Master Plan, PPUC intends to strengthen its power grid in terms of both reliability and stability, for which JICA is conducting feasibility study. We appreciate JICA's holistic approach to achieve our National target of renewable energy integration.



John Korinihona Director

Energy Division, Ministry of Mines, Energy and Rural Electrification, Solomon Islands

The Government of Solomon Islands set the ambitious goal of adopting the 100% Renewable Energy by 2030 in the greater Honiara area, and 100% by 2050 for the whole country to promote affordable energy supply and reduce CO2 emission. In order to achieve this, JICA cooperated to draft up Renewable Energy Road Map and arrange its implementation framework. The Road Map is under the process of obtaining cabinet approval, but we expect the further investment (private and public) based on the Road Map to achieve the RE 100 %.



Mikaele Belena Director

Energy Division, Ministry of Infrastructure and Meteorological Services, Republic of Fiji

The Fiji Ministry of Infrastructure trains engineers engaged in operation of electric power systems in Fiji to serve as instructors throughout the Pacific Island region. I believe the JICA program will enable them to acquire the knowledge and skills for reducing carbon and stably supplying electric power in the future. Moreover, JICA has prepared and provided guidance for a unique training program tailored to the environment of the Pacific Island region.

In addition, together with electric power companies and organizations supporting establishment of certification systems, we are working to establish a system certifying training completion. I hope that our engineers will be able to serve as instructors in training sessions in the future.



Gordon J. Chang Deputy Executive Director

Pacific Power Association (PPA), Republic of Fiji

The PPA trains engineers not only in Fiji, but throughout the Pacific region. This results in the development of engineers possessing the proper knowledge and skills for Pacific Island nations. It also leads to the education of not just personnel employed by electric power utilities, but also those associated with the Department of Energy. The JICA project covers a broader range of knowledge and content than training provided by PPA, so this is also a very wonderful opportunity for Fiji and other Pacific island countries seeking to achieve a stable supply of electric power.



Green Power Island Program

Aiming to realize zero-emission electric power systems using 100% renewable energy sources, shifting away from hybrid power generation systems

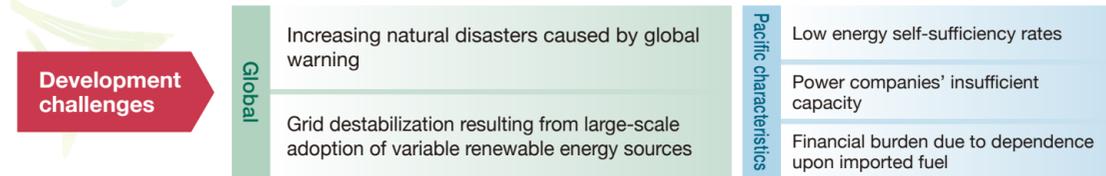


JICA Strategy for Power Sector in the Pacific Island Region

Objectives

- To contribute to energy decarbonization, stable supply, and economic viability in Pacific Island countries
- To contribute to global solutions through the expansion of the Pacific Island model to other regions

JICA's Green Power Island Program is actively working toward the goal of carbon-free society, to which the world is rapidly shifting



[Decarbonization of entire energy system] + [Energy security, economic efficiency, and stable supply]

Hybrid Island Program (2016~2021)



What is the Hybrid Island Program?

The Hybrid Island Program aims to realize a stable supply of electric power through the utilization of hybrid power generation together with diesel generators, storage batteries, and a grid stabilization system to compensate for fluctuations in renewable energy sources due to weather, and, at the same time, accelerate adoption of renewable energy sources based upon targets set by Pacific Island countries.

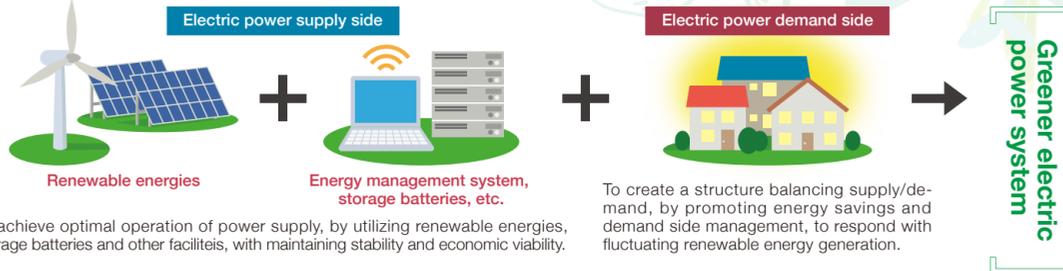
The program's concept is to create a framework that allows hybrid power generation systems to be maintained and managed within a country or region. To achieve this, solar, hydro and other renewable power generation facilities developed with financial cooperation as well as technical cooperation such as personnel training and an organizational structure, which the program also provides, are combined and rolled out in Pacific Island countries where they have an impact on sustainable development. These forms of cooperation serve as the foundation for the Green Power Island Program.

One initiatives is the important role played by the "Project for Introduction of Hybrid Power Generation System in the Pacific Island Countries," which is a regional project not just for individual countries, but the entire region. This has enhanced the capability to operate and manage diesel and solar power generation systems.

Green Power Island Program

The aim of the **Green Power Island Program** is to build upon the **Hybrid Island Program** and strengthen the strategy for decarbonizing electric power.

Green Power Island Program Concept



To achieve optimal operation of power supply, by utilizing renewable energies, storage batteries and other facilities, with maintaining stability and economic viability.

Three approaches for concept realization

- Bolstering capacity of electric power utilities**
By strengthening the Fiji-based regional training system and cooperating with Okinawa Prefecture, Pacific Regional Infrastructure Facility (PRIF), and other organizations, this program will enhance the capability of companies in Pacific island countries to formulate business plans and operate.
- Maximize adoption of renewable energies**
Assistance will be extended to promote private-sector investment, prepare a roadmap, and other initiatives to facilitate adoption of renewable energies. Cooperation will also be provided for installation of storage batteries, energy management system, and other grid stabilization facilities as measures to offset grid unstabilization caused by adoption of renewables.
- Developing know-how in other regions**
The practical know-how for realizing a carbon-free society hoped for by Pacific island countries will be reverse innovated for development in Japan, Southeast Asia, Africa, and other areas.

Key Green Power Island Program Initiatives

Build up the capacity of electric power utilities

The "Project for Introduction of Hybrid Power Generation System in the Pacific Island Countries" focuses on the five Pacific island countries of Fiji, Kiribati, Tuvalu, Micronesia, and Marshall, and has provided guidance on renewable energy integrated planning, operation and maintenance, as well as other aspects to local engineers. In Fiji, trainers are being developed so that they may provide training to communities in Pacific Island countries. Training materials are prepared and presentations rehearsed repeatedly in an effort to improve trainers' abilities. A manual has been jointly developed so that countries other than Fiji are able to continue to implement on their own renewable energy operation maintenance and integrated planning.



On-site training



Training in Japan

Review of Samoa's grid analysis simulation and grid stabilization measures

Samoa has set a goal of achieving 100% power generated from renewable energy sources by the year 2025. In considering how to achieve this goal, grid analysis simulations have been conducted assuming renewables supply 100% of the electric power in order to identify issues to be addressed and examine necessary countermeasures. This knowledge gained in this analysis will be shared with countries participating in the "Project for Introduction of Hybrid Power Generation System in the Pacific Island Countries."

Projects in Palau

The "Project for Study on Upgrading and Maintenance Improvement of National Power Grid" supported formulation of a long-term plan for transmission and distribution systems to contribute to the Palau Government's goal of adopting renewable energy. In line with this long-term plan, the Palau Public Utilities Corporation (PPUC) has worked to introduce solar power generation through a program with private sector investment. Moreover, so that a stable supply of electric power may be maintained even after renewable energy adoption, preparations are underway to use grant assistance to augment transmission and transformation systems.

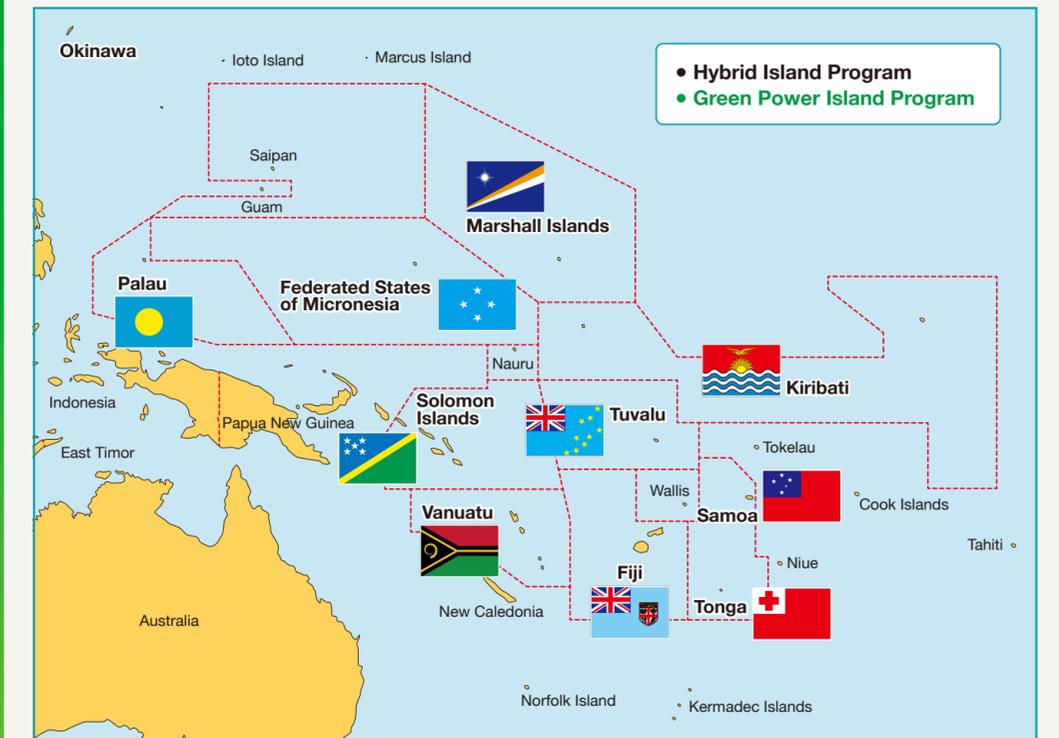


Solar power generation facility developed with JICA cooperation

Program Map

Initiatives implemented under the Hybrid Island Program and Green Power Island Program

- Okinawa Prefecture**
 - **Small Island Renewable Energy Adoption and Diesel Training** [Technical Cooperation] (2017~)
 - **Okinawa Prefecture & Small Island Energy Technical Commission** [Local Government Collaboration] (2016~)
- Micronesia**
 - **Project for Power Sector Improvement for the State of Kosrae** [Grant Assistance] (2016~2019)
- Marshall**
 - **Project on Formulation of Self-Sufficient Energy Supply System** [Technical Cooperation] (2013~2014)
 - **Project for Installation of Solar Electricity Generation System on Ebeye Island** [Grant Assistance] (2017~2020)
- Wide-area (Fiji, Kiribati, Tuvalu, Micronesia, and Marshall)**
 - **Project for Introduction of Hybrid Power Generation System in the Pacific Island Countries** [Technical Cooperation] (2017~)



- Palau**
 - **Project for Studying on Upgrading and Maintenance Improvement of National Power Grid** [Technical Cooperation] (2017~2019)
 - **Preparatory Survey for Project for Upgrading Power Grid** [Grant Assistance] (2021~)
- Solomon**
 - **Project for Formulating Renewable Energy Map in Solomon Islands** [Technical Cooperation] (2019~2021)
 - **Small- and Medium-Enterprises Overseas Business Development in Renewable Energies** (2018~)
- Samoa**
 - **Review of Grid Stabilization Measures** [Activities connected with the Project for Introduction of Hybrid Power Generation System in the Pacific Island Countries] (2020~)
- Vanuatu**
 - **Data Collection Survey on Power Sector in Espiritu Santo** [Technical Cooperation] (2016~2017)
 - **Preparatory Survey for the Project for the Construction of Hydropower Station in Espiritu Santo Island** [Grant Assistance] (2018~2020)
- Tonga**
 - **Project for Installation of Wind Power Generation System** [Grant Assistance] (2017)
- Wide-area**
 - **Survey to Gather and Verify Information for Aid Measures to Improve Energy Security in the Pacific Region Power Sector** (2015)