Potentials & Challenges in Introducing RE in the PICs

Asia Energy Security Seminar
Energy Security in the Pacific Island Countries
Japan's Contribution for Optimum Use of Renewable Energy in Island Areas –
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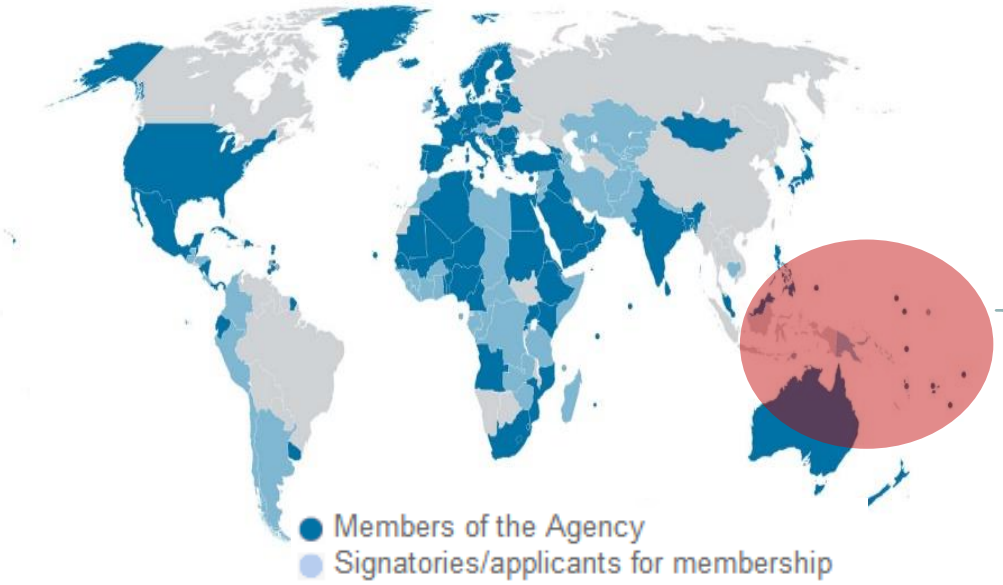
IRENA

- Intergovernmental renewable energy agency, headquarters in **Abu Dhabi**, United Arab Emirates. Innovation and Technology Centre (IITC) in **Bonn, Germany**
- **Established**: April 2011
- **Mandate**: Biomass, Geothermal, Hydro, Ocean, Solar, Wind
- **Membership**: About 141 members and 31 states in the process of becoming members

Mission: Accelerate deployment of renewable energy



Members

1. Fiji
2. FSM
3. Marshall Islands
4. Nauru
5. Palau
6. Samoa
7. Solomon Is
8. Tonga
9. Tuvalu
10. Vanuatu
11. Kiribati

Signatories

1. Papua New Guinea

Introduction

Islands in the Pacific are heavily reliant on costly oil imports from distant locations which can **burden government budgets and inhibit investment in social and economic development.** Indigenous renewable energy resources such as hydropower, wind power, solar power, geothermal power, bioenergy and wave power **can reduce these expensive imports and create important business and employment opportunities**. *But how should islands go about attracting the investment to put these resources to use?*

Enabling RE Investment

- Put in place ***enabling policy and regulatory environments*** to attract renewable energy investment, including ambitious yet practical RE targets, fair returns on capital invested in RE projects by utilities and IPPs, and incentives for RE investment by household and businesses
- Develop ***risk mitigation tools and blended public-private financing instruments*** to reduce the effective cost of capital for RE investment on islands
- Strengthen the technical & Institutional capacities of utilities and IPPs on islands to generate proposals for ***bankable RE projects***
- Disseminate and promote ***successful business models*** that have been employed to put RE investments in place on islands.

Key Elements RE Investments

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1. POLITICAL PRIORITY

to attract investment in renewable energy on an island results from a realization by its people, its utilities and its leaders that it is paying too much money for electricity and renewable power offers a way out. To be credible and have an impact, the political priority must be clearly articulated by ministers and embodied in legislation, strategic plans and policies

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2. MARKET FRAMEWORK

An effective **market framework** for investment must ensure that the electricity market is open to participation by all types and sizes of players who could profit by installing renewable power facilities. These include incumbent utilities, independent power producers, and building owners. Regulations should make it profitable for utilities to invest in cost-effective renewable power options. They should also make it possible for independent power producers to invest in such options – directly or through power purchase agreements with the utilities. And they should make it profitable for building owners to install photovoltaic power systems through net metering arrangements whereby the value of electricity they provide to the grid is credited to their electric bill.

Key Elements RE Investments

3. TECHNICAL PLANNING

- **Technical planning** is needed to ensure that investment in renewable power options is consistent with the economic interests of the island and does not impair the reliability of service. Some sort of integrated resource planning should be done to ensure that an optimal mix of energy options is chosen for the island, to minimize costs within the constraints of preserving the environment, promoting public health, and serving other social objectives. And grid stability analysis is needed to ensure that the grid remains stable and service remains reliable as the share of variable renewable generation grows.

Key Elements RE Investments

4. CAPACITY BUILDING

- human **capacity building** is needed successful incorporation of renewable power options on island power grids. A variety of skills are needed to plan, finance, manage, operate and maintain the power grid effectively, safely, reliably and economically.

POTENTIALS

- **Renewable Readiness Assessments**
  - **Vanuatu, RMI, Fiji & Kiribati**

1. Grid Connected, RMI and Vanuatu wants to have a grid stability study carried out. Samoa & Palau grid stability studies are completed, Cook Islands initiated.
2. Off-Grid Renewables, there are no common activities as each activity are country specific.

POTENTIALS

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  - **Vanuatu, RMI, Fiji & Kiribati**

3. Institutional Strengthening including Policy, Legislation, Regulation, Plans and Capacity Building to support Renewable Energy Development, both Kiribati and RMI wants to establish a National Energy Coordinating Committee. Kiribati, RMI and Vanuatu wants their existing policies and legislations reviewed.

POTENTIALS

- **Renewable Readiness Assessments**
  - **Vanuatu, RMI, Fiji & Kiribati**

4. Diesel Replacement for Power Generation both Kiribati and RMI wants to explore Coconut Oil to be used for power generation.

5. Alternative Fuel for Transport (land and sea) and Efficient Vessels Kiribati also wants to explore Coconut Oil for transport whilst Fiji wants to explore any renewable options for maritime transportation including consideration for efficient vessels.

CHALLENGES

- **Location of islands**
  - Vast distances
  - Remote and isolated islands (not connected to central grid)
- **Land ownership issues**
- **Uniqueness (One Size doesn’t Fit All)**
- **Achieving Ambitious RE Targets through implementation**
- **Limited Capacity (Human, Institutional & Technical)**
- **Limited and Accessibility to Funding**
- **Size of projects (small market size and small projects)**
- **Fluctuations in Fuel Price**

Thank you

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