

Joint Japan-IRENA workshop  
Accelerating renewable energy deployment in the Pacific region

# Current situation of renewable energy deployment in Pacific islands and possible support from Japan

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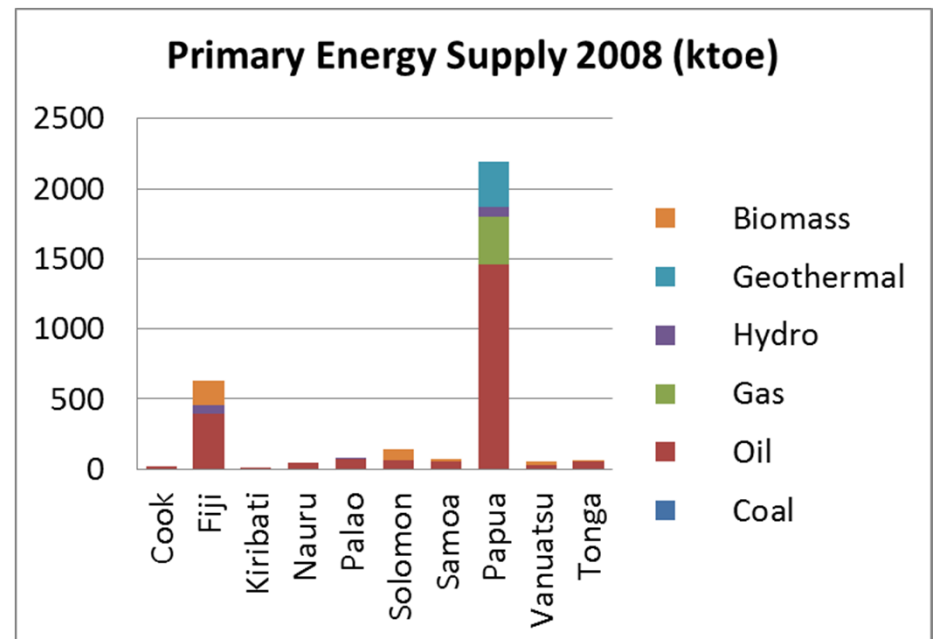
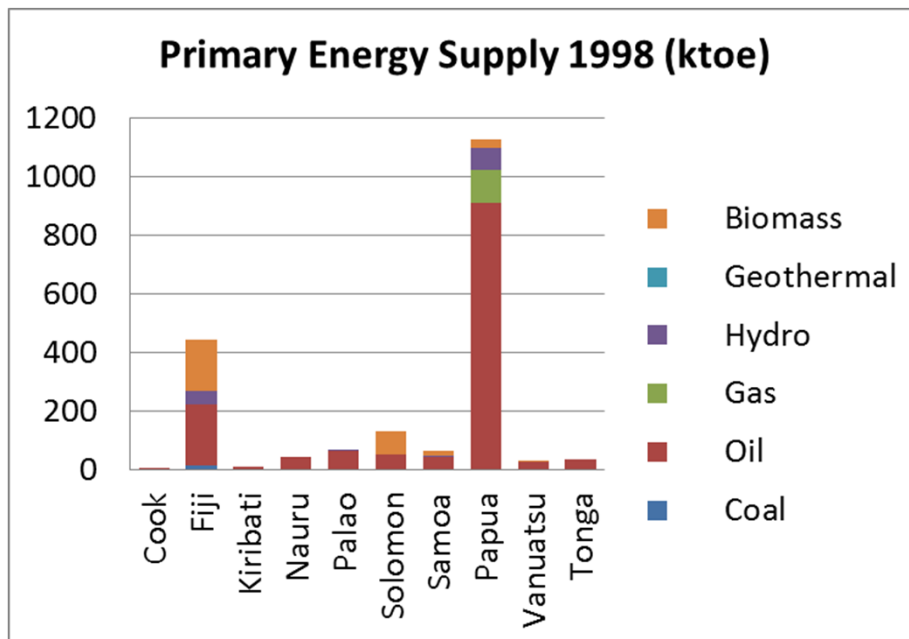
Okinawa, Japan  
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# Contents



- Overview of PICs
  - Challenges
- Possible Support from Japan

# Overview: Primary Energy Supply and Utilization of Renewables in Major PICs



Source: Energy Statistics Database, United Nation

## Characteristics of Primary Energy Supply and Utilization of Renewables

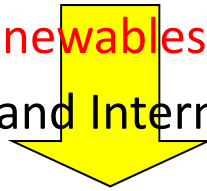
- Major source for PICs is Oil, Coal negligible, but Gas is increasing in PNG
- Biomass is important source for Fiji, Solomon and Samoa, but declining in Fiji
- Hydro is important component in Fiji, PNG and Samoa, but declining in PNG
- Geothermal is limited to PNG, but growing
- Other Renewables including PV and Wind are insignificant

# Characteristics of Energy USE (Summary)

- Limited availability of energy and the geographic characteristics and infrastructure
  - Small Islands and limited in domestic fossil fuel availability
  - Traditional renewables are biomass, hydro, and geothermal, but hydro (Fiji) and geothermal (Vanuatu) is geographically limited.
- Limited energy access
  - Infrastructure for electricity is limited: household electrification rate is low. Ex.. Fiji 80%, Kiribath 30%, PNG below 10%
- Traditionally pattern
  - Fossil fuels for Transportation and Electric power (Diesel)
  - Firewood and other biomass for residential use
  - Kerosene for lighting

Utilization of renewables is still very limited

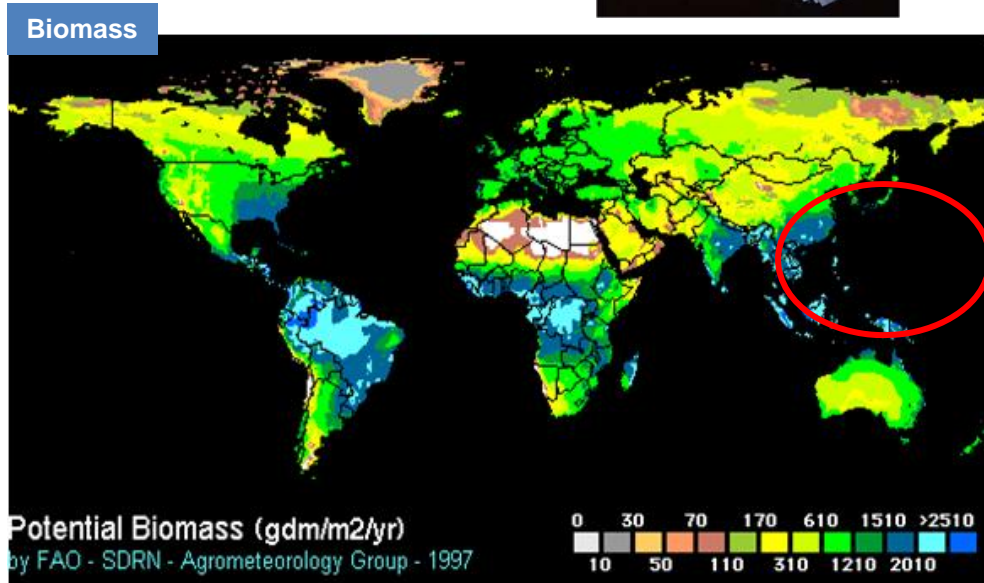
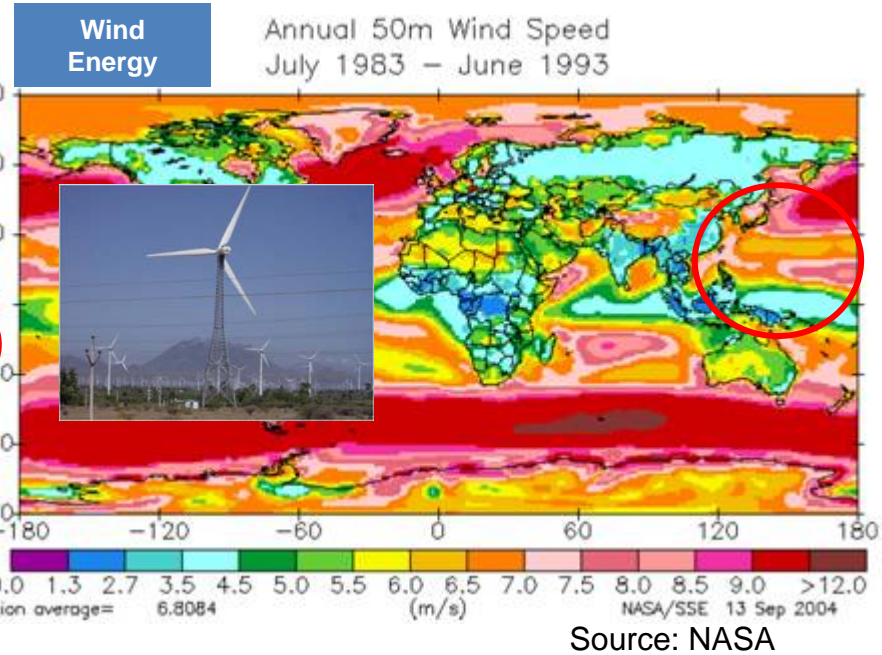
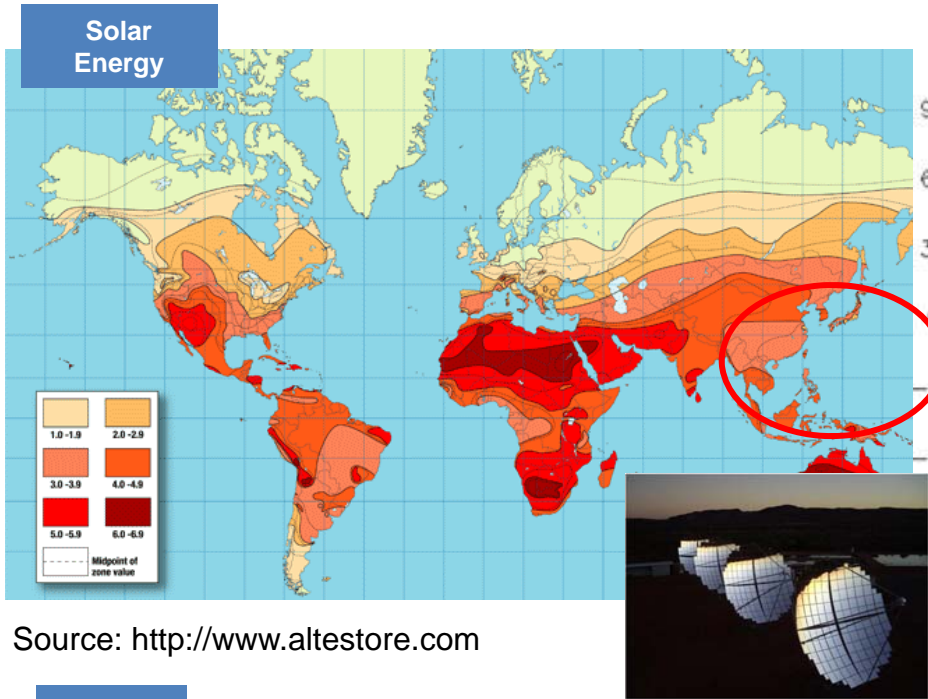
New Technologies and International Cooperation



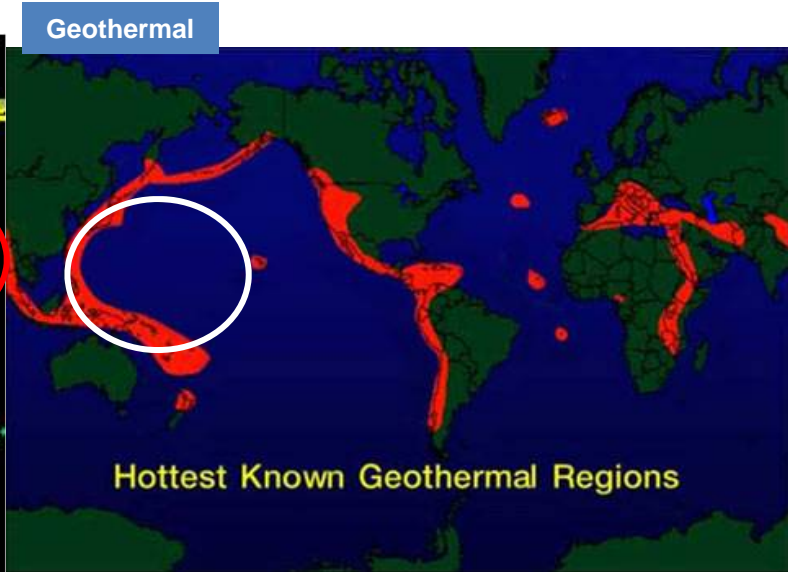
## Increased Use of Renewables

- Barbados Declaration (May 8, 2012, United Nations) : voluntary commitments of 20 Small Island Developing States (SIDS) to take actions toward providing universal access to energy, switching to renewable energy and reducing dependence on fossil fuels

# Rich RE Resources in PICs and the Diversity



Source: FAO



Source: Global Energy Network Institute <http://www.geni.org>

# Challenges:

## Application of New emerging technologies to utilize the abundant Renewable Resources in PICs

- Energy Supply
  - For Transportation
    - Utilization of Agricultural Residue for Biofuels
    - Utilization of ocean biomass
  - Electricity
    - Photo-voltaic
    - Offshore wind
    - Ocean Energies
  - Distributed Energy/Electricity Supply
    - Stable Supply and Stability of electricity
    - Energy network for increased energy access
- Social and Economic Development
  - Poverty alleviation through Utilization of local resources and local technologies
    - Biomass
    - Development of human resources for new industries

# Possible Support from Japan

- Japan's natural characteristics to share with PICs
  - Same islands in the same pacific
  - Similar RE resources with negligible fossil fuel resources
  - Suffering from nature: Typhoo, Tsunami, Volcanic activities
- Japan's experiences and resources
  - Human resources
  - Technologies
  - Commercial and business ties
  - Long-time cooperation with PICs

Enhanced International Cooperation through IRENA



- **Human Resource Development**
  - RE technologies and Policy Development
- **Possible field of Technology Transfer and Commercial Applications**
  - Micro-grid/Smart-grid to enhance energy access
  - Utilization of agricultural resources for energy supply
  - Explore potential of ocean