



**The e8 Tuvalu Solar Power Project:
'Decreasing reliance on fuel and enhancing renewable energy
electrification in small island states'**



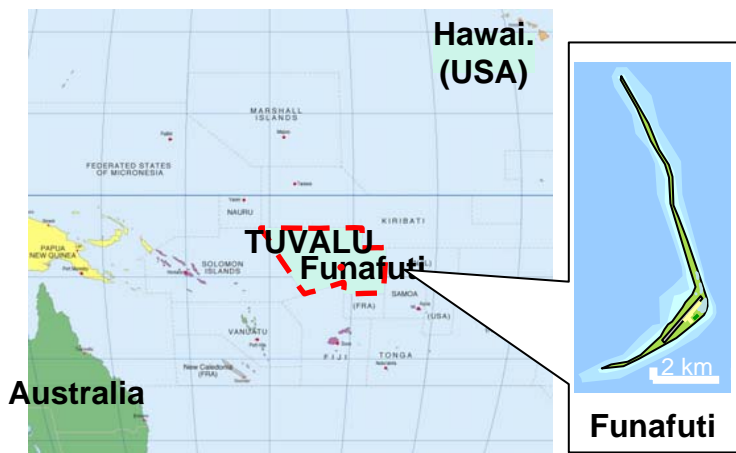
By

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COP14/MOP4, Poznan, Poland, December 8, 2008



The Pacific Small Island State of Tuvalu



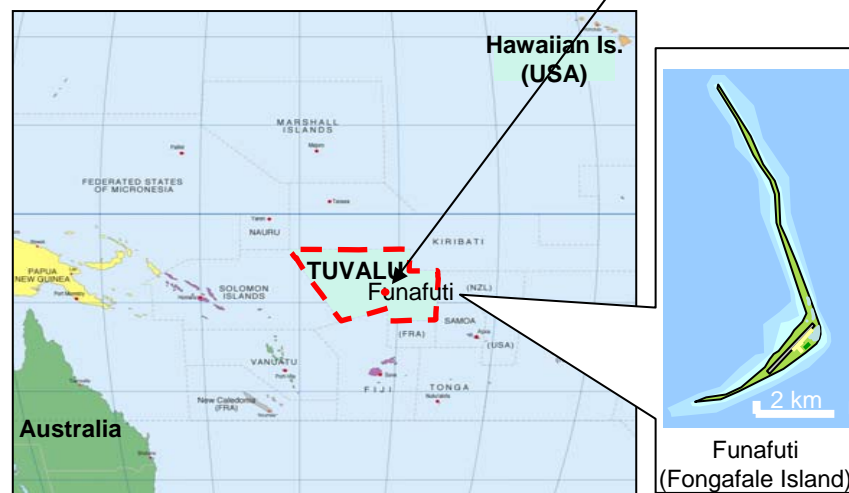


Project Overview



- A grid-connected solar power system .
- Capacity: 40 kW.
- Facility Area: 400m².
- Project Cost: US\$410,000.
- Funding Structure:
 - e8 donation-Kansai (75%)
 - Japanese government grant (25%)

Project Location





Tuvalu Renewable Energy Resources & Potential



Resources	Availability	Comments
Micro Hydro	Not Available	No rivers
Tidal	Not Available	Difficult to store water on the sponge-like island.
Biomass	Limited	Sand and soil very limited
Wind	Limited	Weak
Solar	Available	Good solar radiation (5kWh/m ² /d)

Solar energy is considered to have the greatest potential.



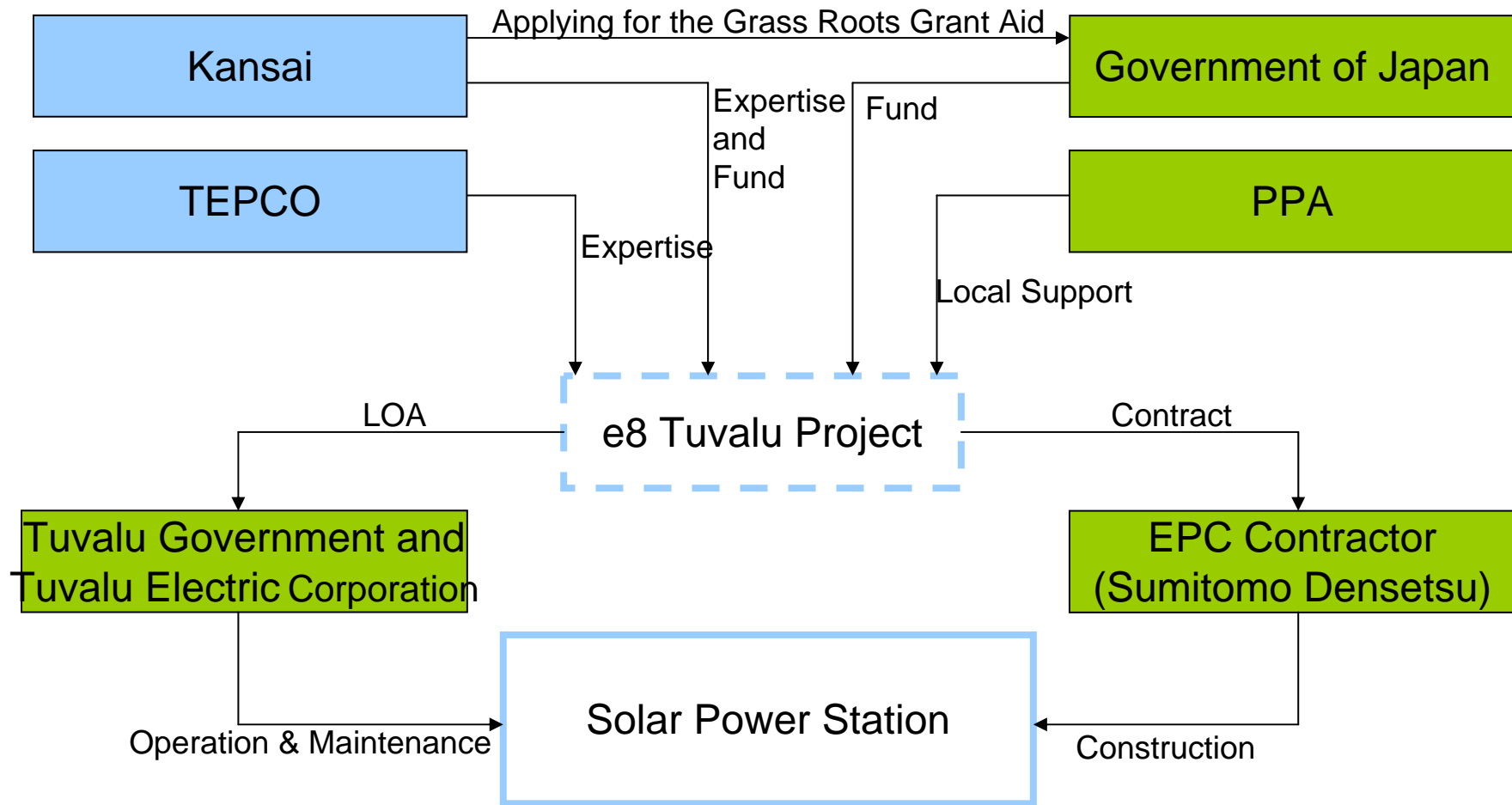
Project Objectives



- Promote the use of renewable energy (RE) options in Small Island Developing States (SIDS);
- Provide momentum in Tuvalu for the shift from full reliance on diesel-based power generation to renewable energy sources;
- Transfer technological expertise in solar photovoltaic power generation to counterparts in the Pacific region and SIDS at large;
- Send a symbolic message about the importance of global and concerted action for the promotion of sustainable energy development and the fight against climate change.



Project Structure





Project Implementation Process



- Pre-feasibility & feasibility studies: Sep. 2006 – Sep. 2007
- Construction: Sep. 2007 - Jan. 2008
- Inauguration: February 2008
- Monitoring: Feb. 2008 - Ongoing



Construction work



Inauguration Ceremony, February 2008



Inauguration Ceremony



Mr. Masao Ikoma
(Managing Director,
The Kansai Electric
Power Co., Inc)

Mr. Kausea Natano
(Tuvalu Minister of
Public Utilities
and Industries)

Hon. Mr. Apisai Ielemia
(Prime Minister of Tuvalu)





Key Success Factors



- Response to local need and use of available resources;
- Strong local political momentum to introduce renewable energy options;
- Support of key local actors [Tuvalu Government and Tuvalu electric utility (TEC)];
- Technical training & monitoring;
- Project replicability in other SIDS:
 - Standard equipment & cost competitive option



Monitoring Results & Lessons Learned



- Monitoring phase started in April 2008 (to last until March 2010): Results show that the solar power system's operations and maintenance activities are running well.
- Lessons learned:
 - Solar power system implementation on a remote island requires longer time estimation, and strong logistical management (i.e: construction material transportation arrangements etc.)
 - Preparatory survey prior to construction needs to be very precise
 - Technical aspects: temperature control in the inverter room needs close monitoring in a tropical location like Tuvalu.



e8 Renewable Energy HCB (Pacific Region)



- **e8-PPA Photovoltaic (PV) System Workshop Series:**
 - A human capacity building initiative developed to:
 - Promote the potential of renewable energy options in the Pacific region, and specifically to
 - Enhance technical expertise capacity in the design, procurement, construction, operation and maintenance of solar PV systems, in the Pacific region.
 - Two workshops held so far, targeting Northern and Southern Pacific Island electricity utilities (April & November 2008).
 - Initiative's timeliness and relevance: Ongoing or imminent implementation of country-wide PV electrification programmes in several participating Island States.





THANK YOU

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