1.0 BACKGROUND

Climate change has been recognised by the Forum Leaders as one of the most serious threats to the Pacific. For some low lying atoll countries, climate change may even threaten their very existence, as confirmed by the recently published Intergovernmental Panel on Climate Change (IPCC) report, AR4.

At the Sixteenth Small Island States (SIS) Leaders’ Summit held at Nuku’alofa, Tonga on 15th October 2007, it was noted that non-fossil solutions are viable and critical, particularly for the SIS, which face particular hardships as a result of climate change and sea-level rise.

Through the requests of SIS for an opportunity to share their renewable energy experiences and to learn from the wind and biofuel developments in Vanuatu, the Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project (PIGGAREP) and the Taiwan-funded Small Island States Sustainable Solar Initiative (SI3SI) jointly funded a special Capacity Building Workshop on Renewable Energy Application for SIS.
2.0 OBJECTIVES

The stated objectives of the workshop were to:
- Strengthen the capacity in the SIS to Productively Utilise Renewable Energy (PURE) services from standalone and grid-connected PV, wind and biofuel through the sharing of field experiences, and
- Provide an opportunity for the SIS to observe and to learn from the biofuel and wind power developments in Vanuatu as well as in Australia and other PICs.

3.0 SUMMARY OF KEY ISSUES RAISED IN DISCUSSIONS/ PRESENTATIONS

The 5-day programme, appended as Annex 1, was structured into the categories of: stand alone solar PV systems; grid connected solar PV systems; solar water pumps; solar-wind hybrid systems for telecommunication; biogas; biofuels and coconut oil for electricity generation (both utility and rural electrification) and land transportation; wind and hydro.

Discussions during the workshop were focused on a number of aspects with the above mentioned renewable energy applications:
- Management modalities – community based, RESCO approach and Government schemes;
- Tariff structure for the urban and rural schemes;
- Fee collection systems particularly for rural areas and remote island projects;
- Financing mechanisms available for renewable energy projects;
- Training and capacity development needs for local technicians, engineers and project managers;
- Gender component of renewable energy as demonstrated by the Solomon Islands; and
- Technical aspects including make of equipment, warranty issues, spare parts and after installation service.

Various experiences from around the region with government, semi-government, NGOs, private sector and individual view points were presented and discussed.

4.0 MEETING OUTPUTS

- Participants proposed that a functional network to share experience on certain types of components such as lights, batteries, inverters and experience would be beneficial as many equipment failures are of similar in nature across the region.
- Follow-on activities such as training attachment for Technicians from Niue to the Tuvalu 40kW grid-connected system has been organised.

5.0 FOR SOPAC INFORMATION/ CONSIDERATION

- Participants and SPREP acknowledged SOPAC’s presence and contribution to the discussions and presentation of experience with renewable energy; and
- Request from PNG to conduct an independent evaluation of their rural based energy initiatives to identify areas for improvement – PNG have been informed about the required process to request SOPAC technical assistance.

6.0 FOLLOW UP ACTIONS

Stay in touch with the PIGGAREP Project in possible future collaborative activities.
ANNEX 1  Programme

SIS Capacity Building Workshop on Renewable Energy Technology Applications
Port Vila, Vanuatu
21st - 25th April 2008

Workshop Programme

Monday 21st April

Session 1  Official Opening
0900 – 0930  Opening Address – (by Hon. Maxime Carlot Korman, Minister of Lands and Natural Resources)
House keeping, etc
Group Photo
Introduction to the Workshop & Setting the Scene (Solomone Fifita)
0930 – 1000  Morning Tea

Session 2  Solar Photovoltaic – SIS PV Project Management Experiences
1000 – 1030  The Kiribati Solar Energy Company Ltd’s experiences (Terubentau Akura)
1030 - 1100  The Namdril experience with solar PV systems (Rupari Mario)
1100 - 1130  The Experiences with the Pukapuka PV project (Tupa Nooroa)
1130 – 1200  The PNG Teacher’s Solar Lighting Project (Joseph Dar)
1200 – 1230  Bushlight’s experience with implementing PV systems in the Indigenous communities of Australia (Grant Behrendorff)
1230 – 1400  Lunch
1400 – 1430  The Torba PV Project (Benjamin Jesse)
1430 – 1500  The Niue Experiences (Speedo Hetutu)
1500 – 1530  Afternoon Tea
1530 – 1600  Willie’s Electrical Experiences (David Iro)
1600 – 1700  General Discussions

End of Day 1

**Tuesday 22nd April**

**Session 3  Experiences with grid-connected PV, solar water pumps and biogas**

0830 – 0900  Tuvalu’s grid-connected PV system (Mafalu Lotolua)
0900 – 0930  Bush Lights’ RE grid-connected experience (Grant Behrendorff)
0930 – 1000  PNG SEL’s grid-connected experience (Joseph Dar)
1000 – 1030  Morning Tea
1030 – 1100  Tokelaus’ grid-connected PV experience (Tomasi Tafia and Bosco)
1100 – 1130  Kiribati’s experiences with solar water pumps (Terubentau Akura)
1130 – 1200  The Lakepa solar water pumping project and experiences from the Ha’apai and Niuafo’ou PV projects (Winnie Veikoso)
1200 – 1230  Tuvalu’s experience with biogas digesters (Mafalu Lotolua)

1230 – 1400  Lunch

**Afternoon**

Efate tour, including the Epao SHS project, potential hydro and geothermal sites, the Onesua gasifier, biogas, White Sands Wind Monitoring and other historical and tourists attractions

End of Day 2

**Wednesday 23rd April**

**Session 4:  Biofuel**

0830 – 1000  UNELCO’s biofuel development (UNELCO)
1000 – 1030  Morning Tea
1030 - 1200  TOBOLAR’s biofuel developments (Wilton Barry)
1200 – 1230  Lata coconut oil fuel trial, the SIEA’s biofuel experience (Andrew Daka)
1230 – 1400  Lunch
1400 – 1500  SOPAC’s RE & EE Activities (Rupeni Mario)
1500 – 1530  Afternoon Tea
1530 – 1700  Visit the UNELCO power plant near the airport

End of Day 3
Thursday 24th April

Session 5: Wind and Hydro
0830 – 0900  TEC’s wind monitoring project (Mafalu Lotolua)
0900 – 0930  Nauru RE experiences (Thomas Star)
0930 – 1000  VANREPA’s “The Answer is Blowing in the Wind Project” (David Stein)
1000 – 1030  Morning Tea
1030 – 1100  The Mangaia Wind Power Experience (Tupa Noorooa)
1100 – 1130  Vergnet Wind Power experiences (Jerome Sudres) /
1130 – 1200  Palau’s RE & EE developments (Greg Decherong)
1200 – 1400  Lunch
1400 – 1500  Vanuatu’s Sarakata Hydro Project (Benjamin Jesse)
1500 – 1530  Afternoon Tea
1530 – 1700  UNELCO’s Wind power Development Programme and visit to the UNELCO wind power installations at Devil’s Point

End of Day 4

Friday 25th April

Session 6: Wrap Up & Conclusion
0830 – 0900  General Discussions
0900 – 1000  Way Forward and Workshop Conclusion
1000 – 1030  Morning Tea

End of Day 5 and End of Workshop
## ANNEX 2 Participants’ List

SIS Capacity Building Workshop on Renewable Energy Technology Applications, Melanesian Hotel, Port Vila, Vanuatu: 21 – 25 April 2008

<table>
<thead>
<tr>
<th>Country / Agency</th>
<th>No.</th>
<th>Name</th>
</tr>
</thead>
</table>
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<table>
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<th>Country / Agency</th>
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<th>Name</th>
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</table>
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|                 | 17  | Jemie Wilson  
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