MONITORING REPORT

Version 01

Vaturu and Wainikasou Hydro Projects

(both located on Viti Levu, Fiji and bundled as a single CDM Project CDM Project Registration Number 0089)

Monitoring Period:
1 November 2007 to 31 October 2008

Date of Submission

26 February 2009

The project was implemented by
Sustainable Energy Limited (SEL)
2 Marlow Street, Suva, Fiji
A Joint Venture between Fiji Electricity Authority and Pacific Hydro Pty Ltd

1) Introduction

a) The project consists of a 6.5 MW small hydro facility in Viti Levu, Fiji and a 3.0 MW small hydro facility in Sabeto, Nadi Provence, about 20 km from Nadi Town, to provide renewable energy to the main Fiji island of Viti Levu.

b) This document reports the Emission Reductions (ERs) for the project for the period 1 November 2007 (start date of the third verification period) to 31 October 2008.

2) Project Information

a) The project activity is generation of electricity for the Fiji Electricity Authority grid system.

b) Wainikasou utilizes the hydro potential available from Wainikasevulu Creek in the central highlands of Fiji.

c) Vaturu power station is located at Nadago water treatment plant and utilises the potential from water prior to it being fed into the treatment plant.

d) The Wainikasou site commenced operation in June 2004.

e) The Vaturu site commenced operation in February 2006.

f) The project consisting of both sites was registered with CDM Executive Board on 1 October 2005.

g) Registration Number is 0089.

h) The company has maintained records for the energy fed to the Fiji grid system.

i) The monitoring equipment includes energy meters that monitor the energy fed by the plant to the Fiji grid system.

j) The metering system is maintained and calibrated by Fiji Electricity Authority.

k) Monitoring Period: 1 November 2007 (starting date of the third verification period) to 31 October 2008.

3) ER Calculation Formula

a) This project falls under the simplified baseline monitoring methodology outlined under category I.D "Grid connected renewable electricity generation" of the CDM document titled: "Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories".

b) The baseline for this project is defined as the kWh produced by the renewable generating unit multiplied by an emission coefficient (as per Version 5 of category I.D).

c) Emission coefficient as per the baseline adopted = 0.656 tCO_2/MWh.

d) Energy exported from 1 November 2007 to 31 October 2008 = 28,962.36 MWh.

e) Emission Reductions for 1 November 2007 to 31 October 2008 = 0.656 x 28,962.36 = 18,999.31 tCO_2.

f) The alternative method for calculating Emission Reductions is to deduct Project Emissions from the Baseline Emissions, where:

i) Baseline Emissions = Emission Factor x Energy Exported = 0.656 x 28,962.36 = 18,999.31 tCO_2.

ii) Project Emissions = 0 tCO_2.

iii) Therefore, Emission Reductions = 18,999.31 - 0 = 18,999.31 tCO_2.

4) Summary of records and data

Wainikasou Hydro Power Station

Year	Billing Month	Days	Energy Export (kWh)			Energy Import (kWh)			Net Electricity Export to Grid (kWh)
			Initial Reading	Final Reading	Total Export	Initial Reading	Final Reading	Total Import	
2007	November	30	55,320,060	56,544,610	1,224,550	8,810	8,910	100	1,224,450
	December	31	56,544,610	58,356,600	1,811,990	8,910	8,990	80	1,811,910
2008	January	31	58,356,600	60,873,590	2,516,990	8,990	9,040	50	2,516,940
	February	29	60,873,680	61,776,900	903,220	9,540	9,610	70	903,150
	March	31	162,560	1,530,740	1,368,180	500	610	110	1,368,070
	April	30	1,530,740	3,248,980	1,718,240	610	640	30	1,718,210
	May	31	3,248,980	4,508,570	1,259,590	640	680	40	1,259,550
	June	30	4,508,570	6,476,250	1,967,680	680	710	30	1,967,650
	July	31	6,476,250	7,347,680	871,430	710	760	50	871,380
	August	31	7,347,680	8,537,310	1,189,630	760	800	40	1,189,590
	September	30	8,537,310	9,275,130	737,820	800	900	100	737,720
	October	31	9,275,130	10,874,080	1,598,950	900	1,040	140	1,598,810
					17,168,270			840	17,167,430

Vaturu Hydro Power Station (at Nadago)

Year	Billing Month	Days	Energy Export (kWh)			Energy Import (kWh)			Net Electricity Export to Grid (kWh)
			Initial Reading	Final Reading	Total Export	Initial Reading	Final Reading	Total Import	
2007	November	30	10,033,270	10,357,460	324,190	28,710	29,942	1,232	322,958
	December	31	10,357,460	11,157,220	799,760	29,942	31,376	1,434	798,326
2008	January	31	11,157,220	11,844,910	687,690	31,376	32,764	1,388	686,302
	February	29	11,844,910	12,187,390	342,480	32,764	33,805	1,041	341,439
	March	31	77,540	637,710	560,170	362	1,764	1,402	558,768
	April	30	637,710	1,793,130	1,155,420	1,764	3,092	1,328	1,154,092
	May	31	1,793,130	3,152,520	1,359,390	3,092	4,402	1,310	1,358,080
	June	30	3,152,520	4,479,330	1,326,810	4,402	5,669	1,267	1,325,543
	July	31	4,479,330	5,844,640	1,365,310	5,669	6,839	1,170	1,364,140
	August	31	5,844,640	7,188,830	1,344,190	6,839	7,608	769	1,343,421
	September	30	7,188,830	8,517,730	1,328,900	7,608	8,253	645	1,328,255
	October	31	8,517,730	9,732,280	1,214,550	8,253	9,194	941	1,213,609
					11,808,860			13,927	11,794,933

5) Specification and Calibration of Power Meters

a) Specification of Power Meters used on Site

Both the Vaturu and Wainikasou hydroelectric plants utilise Landis and Gyr meters to record generation data, which have the following characteristics:

	Vaturu (export)	Vaturu (import)	Wainikasou
Meter Number	94393442	93702731	94393453
Make	Landis and Gyr	Landis and Gyr	Landis and Gyr
Type	ZFD405CT	ZMD405CT	ZFD405CT
Volts	3 x 110	3 x 230	3 x 110
Amps	2 x 5	3 x 5	2 x 5
Accuracy	Class 0.5	Class 0.5	Class 0.5

b) Calibration Scheduling of Power Meters

	Vaturu (export)	Vaturu (import)	Wainikasou
Previous Calibration	Jan 2008	Jan 2008	Jan 2008
Scheduled Calibration	May 2009	May 2009	May 2009

6) Measures to reduce uncertainty in the Monitoring Report

a) The data is recorded at the power station sites and the power is dispatched from FEA's Master Control Centre.

b) The energy is measured using calibrated meters.

c) Sales of energy may be compared as an alternative proof of the power exported to the grid.

7) Signature

This Monitoring Report for the CDM Project of Vaturu and Wainikasou Hydro Projects for the period 1 November 2007 to 31 October 2008 is a true and authoritative account of the monitored activities for the purposes of this Monitoring Report.

Michael Wilson

Executive Manager, Commercial
Pacific Hydro