



**Monitoring report form
(Version 03.1)**

Monitoring report

Title of the project activity	Saldanha Small Hydroelectric Project
Reference number of the project activity	1526
Version number of the monitoring report	01
Completion date of the monitoring report	04/06/2013
Registration date of the project activity	16/03/2009
Monitoring period number and duration of this monitoring period	3 rd Monitoring Period (01/05/2011 – 31/12/2012)
Project participant(s)	Hidroluz Centrais Elétricas Ltda. EcoSecurities Group PLC
Host Party(ies)	Brazil, involved indirectly
Sectoral scope(s) and applied methodology(ies)	Sectoral Scope 1 AMS I.D. - Grid connected renewable electricity generation - Version 13
Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD	46,970 tCO ₂
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	46,938 tCO ₂

SECTION A. Description of project activity**A.1. Purpose and general description of project activity**

The Saldanha Small Hydroelectric Project (hereafter, the Project) developed by Hidroluz Centrais Elétricas Ltda., as project developer and operator of the project, consists of a small run-of-river hydroelectric project that reduces greenhouse gas emissions by generating carbon neutral power that displaces carbon intensive power from the grid. The units are connected to Rondônia-Acre electricity system, which is located in Rondônia State, north region of Brazil. They are located in very remote areas, and bring electricity to develop these areas socially and economically.

The Project is a run of river hydropower project, located at the Saldanha River in the municipality of Alta Floresta d'Oeste, Rondônia state and has an installed capacity of 5.0 MW, consisting of 2 Francis type turbines of 2.5MW capacity each.

The total GHG emission reductions achieved in this monitoring period is 46,938 tCO₂e

A.2. Location of project activity

The Small Hydropower Plant (SHP) is located in Saldanha River, in the municipality of Alta Floresta d'Oeste, Rondônia State (RO), North region of Brazil.

The exact location of the project is defined using GPS coordinates: Latitude 11°59'09"S and Longitude 62°10'38"W.

A.3. Parties and project participant(s)

Party involved ((host) indicates a host Party)	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Brazil(host)	Private entity Hidroluz Centrais Elétricas Ltda.	No
Netherlands	EcoSecurities Group PLC	No

A.4. Reference of applied methodology

AMS I.D. - Grid connected renewable electricity generation - Version 13

A.5. Crediting period of project activity

Type: Fixed

Starting date: 16/03/09

Length: 10 years.

Crediting period: 16/03/09 - 15/03/19

SECTION B. Implementation of project activity**B.1. Description of implemented registered project activity**

The project consists of renewable electricity generation from a run-of-river small hydro power plant, supplying electricity to the Rondônia-Acre electricity system. The small hydro power plant has a total installed capacity of 5.0 MW.

Table 1 – Technical description¹

GENERATOR	
Manufacturer	GE

¹ Capacities as stated in the equipment plates.

Capacity (kVA)	3300
Power factor	0.8
Power yield	0.962
TURBINE	
Manufacturer	HISA
Type	Francis
Capacity (MW)	2.506

SHP Saldanha uses Brazilian Francis type turbines with a horizontal axis (Hydraulic reactor turbine in which the flow exits the turbine blades in a radial direction) and Brazilian generators. The technology used on SHP Saldanha is environmentally safe and sound, for being a run-of-river power plant requiring a minimum diversion dam which stores sufficient water to generate electricity for short periods of time in a 0.0075 km² reservoir.

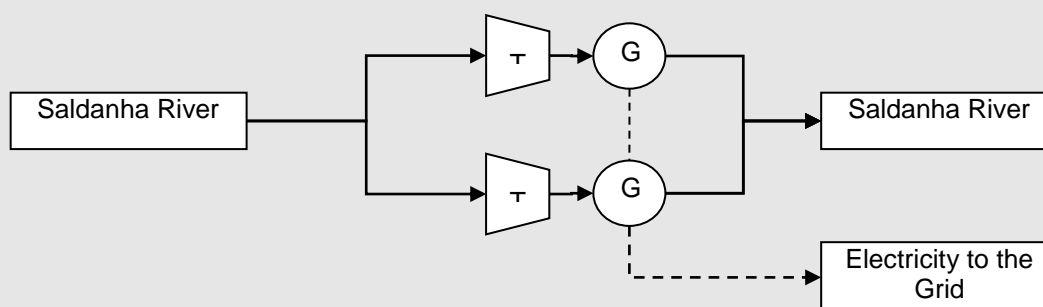


Figure 1 – General Layout of the SHP Saldanha

B.2. Post registration changes

B.2.1. Temporary deviations from registered monitoring plan or applied methodology

No temporary deviation was applied during this monitoring period

B.2.2. Corrections

No correction was applied during this monitoring period

B.2.3. Permanent changes from registered monitoring plan or applied methodology

No permanent changes from monitoring plan or methodology was requested.

B.2.4. Changes to project design of registered project activity

There was no post-registration change to the project design of registered project activity.

B.2.5. Changes to start date of crediting period

There was no post-registration change to the start date of the crediting period.

B.2.6. Types of changes specific to afforestation or reforestation project activity

The present project activity is not related to afforestation or reforestation.

SECTION C. Description of monitoring system

Data collection procedures

Data generation: In the power plant (SHP Saldanha) there is a main cumulative meter that records the net electricity exported to the grid. This meter is read monthly to issue sale invoices and hourly/daily for operation control.

Data recording: Hourly/daily records are performed by Hidroluz (project participant and operator of the plants). Readings are taken monthly by both CERON and Hidroluz.

Data aggregation: A monthly reading is taken to issue sale invoices. The electricity generation in a month is the difference between two consecutive readings, times the constant of the electricity meter.

Calculation: see section D.2 and section E. Electricity output is the difference between the cumulative values on the power meter. Net power supplied to the grid times the emission factor are emission reductions.

Reporting: The monthly electricity supplied to grid data is recorded on site log sheets. At the end of each month the monitoring data are transferred to electronic files and reported to EcoSecurities.

Organizational structure, roles and responsibilities: A CDM manager has been appointed and trained who is responsible for the CDM monitoring system. Monthly recording of power meter falls under the responsibility of the site manager and the grid company. A monitoring organization has been set up and procedures developed for all the staff involved in the CDM Project.

Emergency procedures for the monitoring system: The site manager will notify the grid company in case there is doubt about the correct functioning of the meter mentioned in the monitoring plan. In that case, the grid company and the operator will check and where necessary replace the meter. If the problem can be solved quickly, no CERs are claimed for the period during which the meter were not functioning correctly. If the problem cannot be solved quickly the grid company and the operator estimate the power delivered to the grid using the gross electricity generation readings taken from the equipment panel, by the plant operator, discounting estimated electricity losses.

SECTION D. Data and parameters**D.1. Data and parameters fixed ex ante or at renewal of crediting period**

Data / Parameter:	EF_{grid,CM,y}
Unit:	tCO ₂ /MWh
Description:	Baseline Emission Factor
Source of data:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) applied:	0.9421
Purpose of data:	Baseline emissions.
Additional comment:	

Data / Parameter:	EF_{grid,OM,y}
Unit:	tCO ₂ /MWh
Description:	Operating Margin Emission Factor
Source of data:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) applied:	0.8682

Purpose of data:	Baseline emissions.
Additional comment:	

Data / Parameter:	$EF_{grid,BM,y}$
Unit:	tCO ₂ /MWh
Description:	Build Margin Emission Factor
Source of data:	CERON, Termonorte, Eletronorte, Eletrobrás
Value(s) applied:	1.0160
Purpose of data:	Baseline emissions.
Additional comment:	

Data / Parameter:	Installed capacity
Unit:	MW
Description:	The installed capacity
Source of data:	ANEEL resolution n° 349, October 5th 2004 and Equipment.
Value(s) applied:	5.0
Purpose of data:	This data refers to the total installed capacity of the SHP Saldanha and is not used for emission reduction calculations.
Additional comment:	

D.2. Data and parameters monitored

(Copy this table for each piece of data and parameter.)

Data / Parameter:	EG_y
Unit:	MWh
Description:	Net Electricity Supplied to the Grid
Measured/ Calculated / Default:	Measured
Source of data:	Power meter. Recorded by CERON and project developer

Value(s) of monitored parameter:	49,823			
Monitoring equipment:	The meter has been used during the whole monitoring period.			
	Meter Type, Class	Serial Number	Last Calibration	Validity (3 years ²)
	ELSTER Alpha A3RBR	5049637	18/05/2010	17/05/2013
Measuring/ Reading/ Recording frequency:	Continuous measurement, hourly recording, monthly aggregated.			
Calculation method (if applicable):	Not applicable.			
QA/QC procedures:	Data collected has low uncertainty levels and to guarantee its accuracy it will be cross checked with the electricity sales receipts obtained from the grid operator.			
Purpose of data:	Baseline Emissions			
Additional comment:				

D.3. Implementation of sampling plan

No sampling needed.

SECTION E. Calculation of emission reductions or GHG removals by sinks

E.1. Calculation of baseline emissions or baseline net GHG removals by sinks

The calculation of baseline emissions in a monthly basis, including formulae used and the plant load factor is also included in the spreadsheet provided together with this Monitoring Report.

Calculation of baseline emissions	Symbol	Value	Unit	Formula
Net Electricity delivered to the Grid	EG _y	49,823	MWh	Measured parameter
Grid emission factor	EF _y	0.9421	tCO ₂ e/MWh	Please see the formulae provided on the section of the approved PDD
Total Baseline emissions	BE _y	46,938	tCO ₂ e	BE _y =EF _y *EG _y

The auxiliary consumption and transmission losses are already discounted from the electricity supplied to the Grid as the measuring point is after these consumptions.

E.2. Calculation of project emissions or actual net GHG removals by sinks

According to the methodology and PDD, Project Emissions for this Project is zero.

² According to the meter manufacturer the meter does not need calibration. However to assure the quality of the monitored data Project Developers have set the calibration frequency as 3 years.

E.3. Calculation of leakage

According to the methodology and PDD, Leakage Emissions for this Project is zero.

E.4. Summary of calculation of emission reductions or net anthropogenic GHG removals by sinks

Item	Baseline emissions or baseline net GHG removals by sinks (t CO ₂ e)	Project emissions or actual net GHG removals by sinks (t CO ₂ e)	Leakage (t CO ₂ e)	Emission reductions or net anthropogenic GHG removals by sinks (t CO ₂ e)
Total	46,938	0	0	46,938

E.5. Comparison of actual emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Item	Values estimated in ex-ante calculation of registered PDD	Actual values achieved during this monitoring period
Emission reductions or GHG removals by sinks (t CO₂e)	46,970	46,938

E.6. Remarks on difference from estimated value in registered PDD

As shown in the tables above, there is no increase from the ex-ante calculation of the registered CDM-PDD during this monitoring period.

E.7. Actual emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards

Item	Actual values achieved up to 31 December 2012	Actual values achieved from 1 January 2013 onwards
Emission reductions or GHG removals by sinks (t CO₂e)	46,938	0

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.1	2 January 2013	Editorial revision to correct table in section E.5.
03.0	3 December 2012	Revision required to introduce a provision on reporting actual emission reductions or net anthropogenic GHG removals by sinks for the period up to 31 December 2012 and the period from 1 January 2013 onwards (EB70, Annex 11).
02.0	13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	28 May 2010	EB 54, Annex 34. Initial adoption.
Decision Class: Regulatory		
Document Type: Form		
Business Function: issuance		
Keywords: monitoring report, performance monitoring		