MONITORING REPORT FORM (F-CDM-MR)
Version 02.0

MONITORING REPORT

Title of the project activity	Incomex Hydroelectric Project
Reference number of the project activity	0968
Version number of the monitoring report	01
Completion date of the monitoring report	06/08/2012
Registration date of the project activity	27/04/2007. CP Renewed: 23/10/2009
Monitoring period number and duration of this monitoring period	6th Monitoring period (01/05/2011 - 31/07/2012)
Project participant(s)	Incomex – Indústria, Comércio e Exportação Ltda. Grupo Cassol Energia EcoSecurities Ltd. EcoSecurities Group Plc.
Host Party(ies)	Brazil, involved indirectly United Kingdom of Great Britain and Northern Ireland, involved indirectly Switzerland, 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	115,058 tCO_2e
Actual GHG emission reductions or net anthropogenic GHG removals by sinks achieved in this monitoring period	89,136 tCO_2e

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

The Incomex Hydroelectric Project (hereafter, the Project) developed by Incomex – Indústria, Comércio e Exportação Ltda. together with Cassol, as proponents and operators of the project, consists of a bundle of three small run-of-river hydroelectric projects. 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.

All 3 hydro units use Brazilian turbines of the Francis model (Hydraulic reactor turbine in which the flow exits the turbine blades in a radial direction), produced by Hidráulicas S/A – HISA; The Project is a Renewable electricity generation project for a grid (run-of-river hydro power plants). Total installed capacity for 3 energy units is 14.55 MW.

Table 1 - Start of operation dates.

Monte Belo	01 February 2001
Cabixi II	12 August 2002
Rio Branco	31 December 2004

The total GHG emission reductions achieved in this monitoring period is 89,136 tCO_2e

A.2. Location of project activity

Small Hydropower Plant (SHP) Rio Branco – located in the Branco river – 11º54'35"S and 62º10'49"W in the municipality of Alta Floresta d'Oeste, Rondônia State (RO), north region of Brazil.

Small Hydro power Plant (SHP) Monte Belo – located in the Saldanha river – 11º57'08.2"S and 62º10'58.7"W, in the municipality of Alta Floresta d'Oeste, Rondônia State (RO), north region of Brazil.

Small Hydro power Plant (SHP) Cabixi II – located in the Lambari river – 13º01'20.0" S and 60º08'01.7"W, in the municipality of Comodoro, Mato Grosso State (MT), mid-west region of Brazil.

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)	Incomex – Indústria, Comércio e Exportação Ltda (Private entity) Grupo Cassol Energia (Private entity).	No
United Kingdom of Great Britain and Northern Ireland	EcoSecurities Ltd. (Private entity)	No
Switzerland	EcoSecurities Group Plc. (Private entity)	No

A.4. Reference of applied methodology

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

"Tool to calculate the emission factor for an electricity system", version 01.1, approved at EB35.

A.5. Crediting period of project activity

Type: Renewable
Starting date: 01/02/2008
Length: 7 years
Crediting period: 01/02/2008 – 31/01/2015

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

It is a Renewable electricity generation project for a grid (run-of-river hydro power plants). Total installed capacity for the three energy units is 14.55 MW. Rio Branco: 7.14MW installed capacity; Monte Belo: 4.6 MW installed capacity and; CABIXI II: 2.81 MW installed capacity.

Small Hydro run-of-river projects consist of the use of water, either from storage in small holding ponds or directly from the river, to generate electricity. The water's gravitational power is used to move the turbine and by doing so generates electric power. It is a clean and renewable source of energy that has minimum impact on the environment.

All 3 hydro units will use Brazilian turbines of the Francis model (Hydraulic reactor turbine in which the flow exits the turbine blades in a radial direction), produced by Hidráulicas S/A – HISA; that turbine is widely used among water turbines.

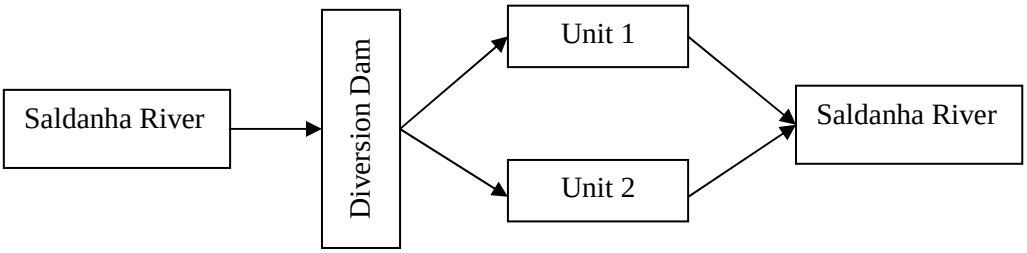

Figure 1 - Monte Belo layout

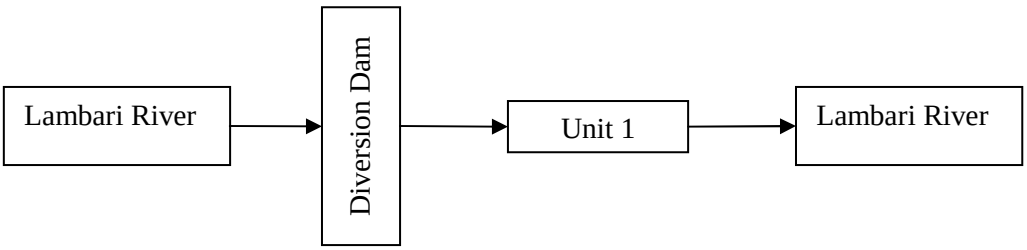

Figure 2 - Cabixi II layout

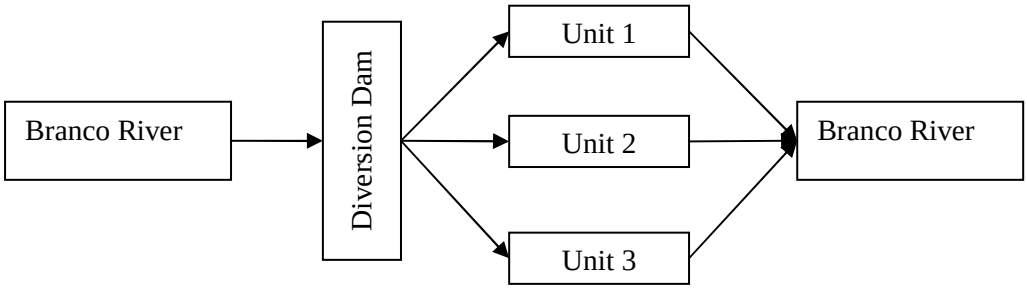

Figure 3 - Rio Branco layout

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

A "Request for approval of changes from project activity as described in the registered PDD" was submitted on 18 February 2011 and the PDD version 14.1 dated 10/12/2010 approved on 15 July 2011.

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 each of the three power plants (Rio Branco, Cabixi II and Monte Belo) there is a main cumulative meter that records the electricity delivered to the grid. These meters are installed, owned and maintained by CERON (Centrais Elétricas de Rondônia S/A – the grid operator).

Data recording: Readings are taken monthly by both CERON and Cassol (Project participant and operator of the plants). Data aggregation: A monthly reading is taken for invoicing purposes.

Calculation: see section D.2 and section E. Electricity output is the difference between two cumulative values on the power meter. Net electricity supplied to the grid times the baseline emission factor are emission reductions. Regarding emission factor, the Combined Margin is calculated using an ex-ante build margin defined on validation and an ex-post operational margin obtained from official national data published in the Brazilian DNA website.

Reporting: The monthly electricity supplied to grid data is recorded on site log sheets. At the end of each month the monitoring data from each site is 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. The check of monthly recording of power meters falls under the responsibility of the site manager. The amount of electricity generated in each month is signed off by the two parties, Project Developer and Grid Company. After the sign off the invoice is generated and the receipts are used to cross check monthly

recorded power output. Relevant roles and responsibility have been defined to fully implement data collection, archiving and data quality assurance and quality control etc.

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 meters mentioned in the monitoring plan. In that case, the grid company and the operator will check and where necessary replace the meters. If the problem can be solved quickly, no CERs are claimed for the period during which the meters 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.

Line diagram

The line diagrams of the plants, with relevant measuring points, are presented in the figures below. The generators are represented by the letter "G" and the turbines by the letter "T".

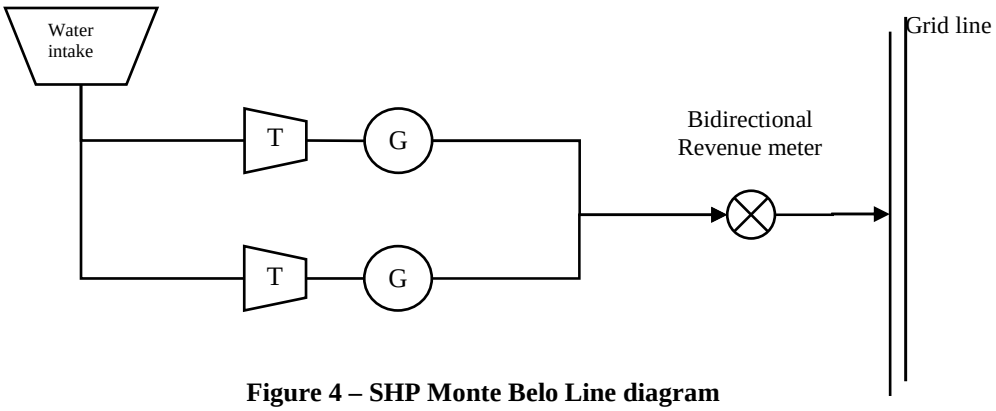

Figure 4 – SHP Monte Belo Line diagram

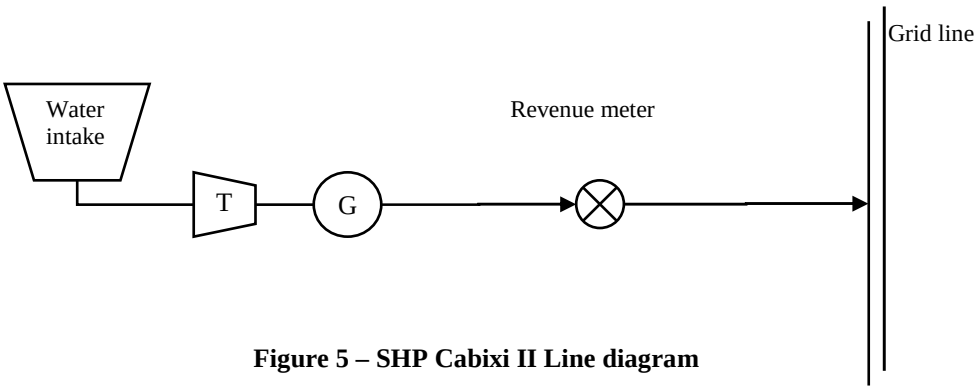

Figure 5 – SHP Cabixi II Line diagram

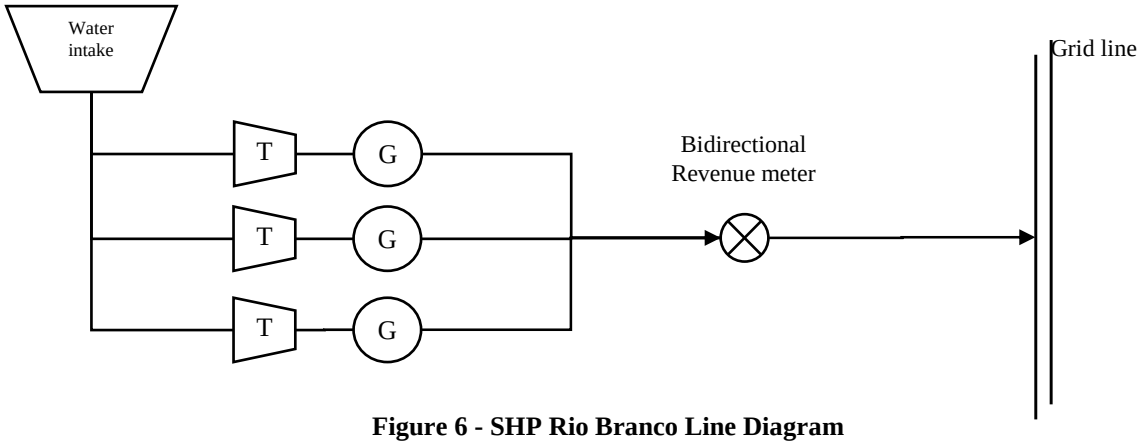

Figure 6 - SHP Rio Branco Line Diagram

SECTION D. Data and parameters

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

Data/Parameter	$EF_{Grid,BM,y}$
Unit	tCO2/MWh
Description	Build Margin emission factor
Source of data	Calculated according to the procedure outlined in B.6.1 of the registered PDD
Value(s) applied	1.0479
Purpose of data	Baseline
Additional comment	This parameter is defined ex-ante and is not monitored throughout the crediting period.

Data/Parameter	w_{BM}
Unit	%
Description	Weighting of build margin emissions factor
Source of data	"Tool to calculate the emission factor for an electricity system" ver. 01.1
Value(s) applied	0.75
Purpose of data	Baseline
Additional comment	-

Data/Parameter	w_{OM}
Unit	%
Description	Weighting of operation margin emissions factor
Source of data	"Tool to calculate the emission factor for an electricity system" ver. 01.1
Value(s) applied	0.25
Purpose of data	Baseline
Additional comment	-

Data/Parameter	Installed Capacity
Unit	MW
Description	The installed Capacity
Source of data	Nameplates of the installed turbines
Value(s) applied	14.55
Purpose of data	The data are not used for emissions calculations.
Additional comment	This data refers to the total installed capacity of the three SHP units installed as a result of this project activity: Rio Branco, Monte Belo and Cabixi II.

Data/Parameter	$FC_{i,m,y}$
Unit	Tonnes
Description	Amount of fossil fuel type i consumed by power plant / unit m in year y
Source of data	Annex 3 of the registered PDD v14.1.
Value(s) applied	Depend on the fuel. Please see Annex 3 of the registered PDD v14.1
Purpose of data	The data are not used for emissions calculations. This information is used to calculate the $EF_{Grid,BM,y}$ defined ex-ante.
Additional comment	All values were provided by governmental agencies. Those agencies are responsible for the control of the electric system.

Data/Parameter	$NCV_{i,y}$
Unit	GJ/tonnes
Description	Net calorific value (energy content) of fossil fuel type i in year y
Source of data	Annex 3 of the registered PDD v14.1.
Value(s) applied	Depend on the fuel. Please see Annex 3 of the registered PDD v14.1
Purpose of data	The data are not used for emissions calculations. This information is used to calculate the $EF_{Grid,BM,y}$ defined ex-ante.
Additional comment	-

Data/Parameter	$EG_{m,y}$
Unit	MWh
Description	Net electricity generated and delivered to the grid by power plant / unit m in year y
Source of data	Annex 3 of the registered PDD v14.1.
Value(s) applied	Depend on the year. Please see Annex 3 of the registered PDD v14.1
Purpose of data	The data are not used for emissions calculations. This information is used to calculate the $EF_{Grid,BM,y}$ defined ex-ante.
Additional comment	All values were provided by governmental agencies. Those agencies are responsible for the control of the electric system.

Data/Parameter	$EF_{CO2,i,y}$
Unit	tCO_2/GJ
Description	CO_2 emission factor of fossil fuel type i in year y
Source of data	Annex 3 of the registered PDD v14.1.
Value(s) applied	Depend on the year and on the fuel. Please see Annex 3 of the registered PDD v14.1
Purpose of data	The data are not used for emissions calculations. This information is used to calculate the $EF_{Grid,BM,y}$ defined ex-ante.
Additional comment	-

D.2. Data and parameters monitored

Data/Parameter	**EG_y**
Unit	MWh/year
Description	Annual net electricity supplied to the grid, per plant
Measured/Calculated /Default	Measured
Source of data	Power meters. Measured jointly by CERON and project developer
Value(s) of monitored parameter	SHP Cabixi II: 19067.78 SHP Monte Belo: 36225.60 SHP Rio Branco: 48487.00 **Total**: 103,780.38
Monitoring equipment	See Table 2 below for detailed information about the meters. Since there is no applicable national regulation or manufacturer requirement for calibration for these meters, the calibration frequency of once every 3 years is based on paragraph 17 of the "Indicative Simplified Baseline and Monitoring Methodologies for Selected Small-Scale CDM Project Activity Categories".
Measuring/Reading/ Recording frequency	Continuous measurement, monthly recording.
Calculation method (if applicable)	N/A
QA/QC procedures	The accuracy of the meters will be assured by the grid operator (i.e. CERON), as the meters were installed by them and remain their property.
Purpose of data	Baseline emissions
Additional comment	Data will be archived at least for two years after crediting period or the last issuance of CERs, whichever occurs later.

Table 2 - Monitoring equipment (type, accuracy class, serial number, date of last calibration, validity)

Location	Meter Type, Class	Serial Number	Last Calibration	Validity	Meter Changed
SHP Cabixi II	ELSTER Alpha A3RBR Class 0.2%	HCJ09700309	13/02/09	12/02/2012	17/01/2012
	ELSTER A3RBR Plus Class 0.2%	5074761	30/05/2011	29/05/2014	-
SHP Monte Belo	ELSTER Alpha A3RBR Class 0.2%	HCJ09600321	17/02/09	16/02/2012	01/12/2011

Location	Meter Type, Class	Serial Number	Last Calibration	Validity	Meter Changed
	ELSTER A3RBR Plus Class 0.2%	5074763	30/05/2011	29/05/2014	-
SHP Rio Branco	ELSTER Alpha A3RBR Class 0.2%	HCJ09400322	13/02/09	12/02/2012	01/12/2011
	ELSTER A3RBR Plus Class 0.2%	5074762	30/05/2011	29/05/2014	-

Data/Parameter	**$EF_{grid,CM,y}$**
Unit	tCO_2/MWh
Description	Baseline Emission Factor
Measured/Calculated /Default	Calculated
Source of data	Calculated ex post as the average of $EF_{grid,OM,y}$ (determined ex post) and $EF_{grid,BM,y}$ (determined ex ante)
Value(s) of monitored parameter	0.8589
Monitoring equipment	Not applicable, as this data is calculated based on OM and BM.
Measuring/Reading/ Recording frequency	Calculated yearly with the most recent data available for the Operating Margin.
Calculation method (if applicable)	The Baseline Emission Factor calculation consists of the combination of operating margin (OM) and build margin (BM) according to the procedures prescribed in the "Tool to calculate the emission factor for an electricity system" ver. 01.1 and AMS-I.D ver. 13.
QA/QC procedures	Not applicable, as this data is calculated based on OM and BM.
Purpose of data	Baseline emissions
Additional comment	-

Data/Parameter	**$EF_{grid,OM,y}$**
Unit	tCO_2/MWh
Description	Operating Margin Emission Factor
Measured/Calculated /Default	Calculated
Source of data	Calculated ex post using official data provided by the Brazilian DNA.
Value(s) of monitored parameter	0.2919
Monitoring equipment	The Operating Margin Factor calculation was performed by the Brazilian DNA, according to the "Tool to calculate the emission factor for an electricity system". Please see the link below for more details. http://www.mct.gov.br/index.php/content/view/333605.html#ancora The website was accessed on 06/08/2012.
Measuring/Reading/ Recording frequency	Data are acquired by governmental companies that control the electricity grid and the emission factor calculation is performed by the Brazilian DNA.
Calculation method (if applicable)	The Operating Margin Factor calculation was performed by the Brazilian DNA, according to the "Tool to calculate the emission factor for an electricity system" version 01.1.
QA/QC procedures	The governmental companies responsible for the collection of data and calculation of the emission factor are also responsible for guaranteeing the quality of data.
Purpose of data	Baseline emissions
Additional comment	This data was calculated ex-post using the most recent year of data available. The Rondônia-Acre electricity system has been connected to the Brazilian Interconnected Grid (SIN) on 23/10/2009, therefore the data for the SIN was used to calculate the Operation Margin for this crediting period as it best represents the Project baseline. The most recent data available is from 2011. The other monitored parameters **$FC_{i,m,y}$, $NCV_{i,y}$, $EG_{m,y}$, $EF_{CO2,i,y}$** are also under the responsibility of the Brazilian DNA. Only the calculated emission factors are made public by this entity. Please see the link below for more details. http://www.mct.gov.br/index.php/content/view/307492.html

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

Calculation of baseline emissions	Symbol	Amount	Unit	Formula
Net Electricity supplied to the grid	EG_y	103,780.38	MWh	N/A
Baseline Emission Factor	EF_y	0.8589	tCO_2e/MWh	Please see the formulae provided in the workbook
Total Baseline emissions	BE_y	89,136	tCO_2e	$BE_y=EF_y*EG_y$

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

According to the registered PDD and methodology, Project emission calculations are not applicable to the Project Activity.

E.3. Calculation of leakage

According to the registered PDD and methodology, leakage emission calculations are not applicable to the Project Activity.

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 (tCO_2e)	Project emissions or actual net GHG removals by sinks (tCO_{2e})	Leakage (tCO_2e)	Emission reductions or net anthropogenic GHG removals by sinks (tCO_2e)
Total	89,136	0	0	89,136

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 (tCO_2e)	115,058	89,136

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

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

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History of the document

Version	Date	Nature of revision
02.0	EB 66 13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the monitoring report form" (EB 66, Annex 20).
01	EB 54, Annex 34 28 May 2010	Initial adoption.
Decision Class: Regulatory **Document Type**: Form **Business Function**: Issuance		