

**CDM SMALL-SCALE PROJECT ACTIVITIES BUNDLING FORM (F-CDM-SSC-BUN)**
Version 03.0

Title of the bundle	SHPs Coronel Araújo and Passo Ferraz CDM Project (JUN1059), Brazil
Version number of the completed F-CDM-SSC-BUN	1
Completion date of the F-CDM-SSC-BUN	20/01/2014
Title of the project activities in the bundle	SHPs Coronel Araújo and Passo Ferraz CDM Project (JUN1059), Brazil
Version number of the project design document(s) (PDD(s)) of the project activities	3.1
Completion date of the PDD(s)	20/01/2014

SECTION A. Description of bundle and subbundles

A.1. General description of project activities in bundle

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The bundle consists in the construction of the following project activities:

Coronel Araújo Small Hydropower Plant (SHP) with final installed capacity of 5,797 kW and Passo Ferraz Small Hydropower Plant (SHP) with final installed capacity of 4,001.4 kW (Greenfield projects).

The **Coronel Araújo SHP** is located on the Chapecó River, Uruguay river basin, in the municipality of Água Doce - Santa Catarina State, Brazil. It has a small reservoir with 0.40 km². The SHP will be managed by the Coronel Araújo Energética S/A, special purpose company responsible for the power plant construction and operation.

The **Passo Ferraz SHP** is located on the Chapecozinho River, Uruguay river basin, in the municipality of Bom Jesus - Santa Catarina State, Brazil. It has a small reservoir with 0.056 km². The SHP will be managed by the Passo Ferraz Energia S/A, special purpose company responsible for the power plant construction and operation.

With respect to the contribution of the project in the greenhouse gases emissions mitigation (GHG) and the global warming, the project activity reduces the emissions of these gases avoiding the entrance in operation of thermoelectric units that burn fossil fuel in its operation. The main source of emissions is the CO₂ emission from electricity generation in thermo electrical plants that will be displaced due to the project activity, as described in the item B.3. The estimated average annual reductions of GHG emissions is 10,431tCO₂ (Total for 7 years = 73,017 tCO₂). In the absence of the project activity (baseline scenario, which is also the scenario existing prior to the implementation of the project activity), fossil fuels would be burned in thermoelectric generation units connected to the network. This initiative will help Brazil achieve its goal of promoting sustainable development.

For Project Participants the project activity is a sustainable alternative for electricity generation because the project consist of Small Hydropower Plants with small reservoirs, which have low environmental impact, almost zero if compared to the large hydroelectric power plants.

Moreover, the project activity is in line with the specific requirements¹ of the CDM (Clean Development Mechanism) of the country host, because:

- Contributes with the sustainable development because it will reduce the fossil fuel use (non-renewable source). Thus the project contributes to a better utilization of the natural resources and it does use of clean and efficient technologies;
- It contributes to better working conditions and increases the employment opportunities in areas where the projects are located (rural areas);
- It contributes to the better conditions for the local economy, because the renewable energy use reduces the fossil fuel dependence, the amount of associated pollution and the social costs related with it.

¹ The specific requirements of the CDM are contained in the document “*Manual para Submissão de Atividades de Projeto no Âmbito do MDL* – from CIMGC Brazil (DNA)”, Page 16.



Project activity	Type (I, II or III)	Methodology(ies)	Technology(ies) / Measure(s)
SHP Coronel Araújo	I	AMS I. D.	Renewable energy generation, source hydro, greenfield project activity (Installed Capacity of 5,797 kW)
SHP Passo Ferraz	I	AMS I. D.	Renewable energy generation, source hydro, greenfield project activity (Installed Capacity of 4,001.4 kW)

The bundle will remain under the limits of its type every year during the crediting period, since the project activity characteristics is well defined (renewable energy generation - source: hydro). Also is no possible changes during the project activity lifetime due to the SHPs technical characteristics under this bundle, so Type I is granted during the crediting period.

A.2. Location of project activities in bundle

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Project activity	Host Party(ies)	Region/State/ Province	City/Town/ Community	Physical/ Geographical location
SHP Coronel Araújo	Brazil	South Region, Santa Catarina State	Água Doce City	26° 40' 21" S and 51° 45' 09" W
SHP Passo Ferraz	Brazil	South Region, Santa Catarina State	Bom Jesus City	26° 45' 32.10" S and 52° 23' 07.59" W

A.3. Parties and project participants

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	Coronel Araújo Energética S/A, Passo Ferraz Energia S/A, Carbotrader Assessoria e Consultoria em Energia Eireli (private entities)	No

SECTION B. Application of selected approved baseline and monitoring methodology**B.1. Summary of ex-ante estimates of emission reductions**

Year	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage (tCO ₂ e)	Emission reductions (tCO ₂ e)
2014	10,431	0	0	10,431
2015	10,431	0	0	10,431
2016	10,431	0	0	10,431
2017	10,431	0	0	10,431
2018	10,431	0	0	10,431
2019	10,431	0	0	10,431
2020	10,431	0	0	10,431
Total	73,017	0	0	73,017
Total number of crediting years	7 years, can be renewable for more two periods of 7 years each one.			
Annual average over the crediting period	10,431	0	0	10,431

B.2. Monitoring plan

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A Common Monitoring Plan will be applied to the Bundle.

The project activities were proposed in a single PDD due the use of the same baseline, crediting period, etc.

So it's expected only one Monitoring Report during the Verification Phase (the project activities have the same type, same methodology and same technology/measure).

The monitoring plan is better described (full of details) on the PDD Sections B.7.1, B.7.2 and B.7.3.

SECTION C. Duration and crediting period**C.1. Duration of bundle****C.1.1. Start date of bundle**

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19/05/2006

This is the date at which the SHP Coronel Araújo (the first venture to start the construction) committed to the expenditures regarding construction services (COMAX Company) required for the project activity. The contract between the companies is the evidence.

C.1.2. Expected operational lifetime of project activities

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30 years and 0 months (based on the Manufacture's statements)

C.2. Crediting period of bundle**C.2.1. Type of crediting period**

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Renewable crediting period, this is the first period.

C.2.2. Start date of crediting period

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01/01/2014 (or in the UNFCCC registration date, which occurs later).

C.2.3. Length of crediting period

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7 years and 0 month (renewable twice).

**Appendix 1: Contact information of project participants in the bundle**

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History of the document

Version	Date	Nature of revision
03.0	EB 66 13 March 2012	Revision required to ensure consistency with the “Guidelines for completing the CDM small-scale project activities bundling form” (EB 66, Annex 22).
02	EB 23, Annex 26 24 Feb 2006	EB 23, Para 74.
01		Initial adoption.
Decision Class: Regulatory Document Type: Form Business Function: Registration		