PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title:	Promotion and development of renewable energies through the set-up of mini-hydro plants in rural communities located in the region of The Andes and the Southern area of the Bolivarian Republic of Venezuela		
Country(ies):	Bolivarian Republic of Venezuela	GEF Project ID:[1]	5676
GEF Agency(ies):	IADB(select)(select)	GEF Agency Project ID:	VE-G1001
Other Executing Partner(s):	Corporación Eléctrica Nacional (CORPOELEC)	Submission Date:	01/10/2014
GEF Focal Area (s):	Climate Change	Project Duration(Months)	36
Name of parent program (if applicable): • For SFM/REDD+ ☐ • For SGP ☐ • For PPP ☐		Project Agency Fee ($):	442,466

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK[2]:

Focal Area Objectives	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
CCM-3(select)	GEFTF	4,657,534	16,842,858
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
(select)(select)	(select)		
Total Project Cost		4,657,534	16,842,858

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: The main objective is to promote and develop renewable energy sources by setting up mini-hydro plants in rural communities in the region of The Andes and the Southern area of the Bolivarian Republic of Venezuela, in order to reduce greenhouse gas emissions.

Project Component	Grant Type[3]	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Cofinancing ($)
1. Set-up of mini-hydro plants and power grids in rural communities	Inv	(i) Renewable energy supply to rural communities, at least 15,000 families with access to electricity by hydro-power capacity producing 8,7 GWh/year; Reduced GHG emissions through the	(i) Selection of potential sites for the set-up of mini-hydro plants; Feasibility report on the set-up of mini-hydro plants in the areas covered; Necessary technical feedback for selection and execution of the mini-hydro plant implementation	GEFTF	4,357,534	9,869,058

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the reference attached on the Focal Area Results Framework and LDCF/SCCF Framework when completing Table A.
[3] TA includes capacity building, and research and development.

		use of renewable energy sources, at least 2,167 Tons of CO2eq/ year reduced Real-time control and monitoring of the mini-hydro plants set up, in order to enhance reliability of renewable energy supply	project; (ii)Engineering, acquisition, set-up and start-up of at least 8 mini-hydro plant units and restoration of at least 3 existing mini-hydro plants for production of a total of 2.2 MW. (iii) Acquisition and set-up of low-voltage power distribution grids and other facilities for connection to the mini-hydro plants (iv) Design, development, implementation, and monitoring and control of the mini-hydro plants through SCADA systems			
2.- Capacity building for the relevant institutions and communities, and dissemination of outcomes	Inv	Information necessary to develop a statistical analysis regarding the conservation of the basin	Set-up of hydro-meteorological stations in each basin	GEFTF		1,488,000
	TA	Environmental sustainability of the basins to be managed for renewable energy production	(i) Planning and implementation of an operational strategy for community environmental management (ii) Integrated basin management program	GEFTF		1,744,000
	TA	Operational sustainability of the mini-hydro plants set up in the rural communities	(i) Training workshops for communities on the operation and maintenance of the mini-hydro plants (ii) Specialization workshops on mini-hydro plant technology	GEFTF		1,612,800
	TA	Promotion and dissemination of renewable energy use	Mini-hydro plant industrial conditioning report, as well as publications on Project experiences, and workshops for disseminating	GEFTF		1,329,000

			experiences and lessons learnt			
	(select)			(select)		
	(select)			(select)		
Evaluation & Monitoring	TA	Project's progress towards objective confirmed	Mid Term and terminal project evaluations	GEFTF	80,000	0
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					4,437,534	16,042,858
Project Management Cost (PMC)[4]				GEFTF	220,000	800,000
Total Project Cost					4,657,534	16,842,858

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, ($)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount ($)
National Government	Corpoelec	Cash	8,080,000
National Government	Corpoelec	In-kind	4,610,742
National Government	FUNDELEC	Cash	552,000
National Government	FUNDELEC	In-kind	72,146
National Government	MPPEE	In-kind	784,970
National Government	MPPA	In-kind	480,000
National Government	INAMEH	In-kind	936,000
National Government	MPPCTI	Cash	903,000
GEF Agency	IADB	Hard Loan	424,000
Total Cofinancing			16,842,858

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount ($) (a)	Agency Fee ($) (b)[2]	Total ($)c=a+b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				0	0	0

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

[2] Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)[5]

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	Amount Requested ($)	Agency Fee for PPG ($)[6]

[4] To be calculated as percent of subtotal.

[5] On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

- No PPG required. ___-- 0--_____ --0--_____
- (upto) $50k for projects up to & including $1 million_____ _____
- (upto)$100k for projects up to & including $3 million _____ _____
- (upto)$150k for projects up to & including $6 million _____ _____
- (upto)$200k for projects up to & including $10 million _____ _____
- (upto)$300k for projects above $10 million _____ _____

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF ROJECT ONLY

Trust Fund	GEF Agency	Focal Area	Country Name/ Global	(in $)		
				PPG (a)	**Agency Fee** (b)	**Total** c = a + b
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total PPG Amount				**0**	**0**	**0**

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

[6] PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

PART II: PROJECT JUSTIFICATION[7]

A. PROJECT OVERVIEW

A.1. Project Description. Briefly describe the project, including ; 1) the global environmental problems, root causes and barriers that need to be addressed; 2) the baseline scenario and any associated baseline projects, 3) the proposed alternative scenario, with a brief description of expected outcomes and components of the project, 4) incremental cost reasoning and expected contributions from the baseline , the GEFTF, LDCF/SCCF and co-financing; 5) global environmental benefits (GEFTF, NPIF) and adaptation benefits (LDCF/SCCF); 6) innovativeness, sustainability and potential for scaling up

The Bolivarian Republic of Venezuela has great hydro-power generation potential. Hydro-power generates about 53% of the country's electricity supply –the remaining 47% is produced by thermal power plants[8]. In the 2011-2012 period, the contribution of "unconventional" renewable energies -like windpower and solar energy- increased to 562 kWp (with at least 212,803 beneficiaries) due to: i) the set-up of the power-generator units of the two main windpower projects executed by the National Government in the localities of Guajira and the Paraguaná peninsula, ii) the increased implementation of hybrid systems (solar-wind) in communities not connected to the National Electric Power System (NEPS) and iii) through the *Sembrando Luz* Program conducted by *Fundación para el Desarrollo del Servicio Eléctrico* (FUNDELEC) in remote areas of the country. Since 2005, the *Sembrando Luz* Program has installed 3,139 renewable energy systems, mainly solar (corresponding to approximately 2,573 kWp). Through this Program, approximately 465 renewable systems, mostly photovoltaic, have been installed in the Andes region and 221 in the Southern region since 2005.

The Andes and Southern regions of the Bolivarian Republic of Venezuela are characterized by having isolated communities with lack of access to electricity and high poverty levels (these regions produce only one tenth of the Venezuelan GDP). Families in these isolated areas live without electricity and meet their energy requirements with batteries (for flashlights and radios), kerosene burners, candles (for lighting), and firewood (for cooking and heating), at a relatively high cost. Lack of electricity also limits productive potential and negatively impacts health (e.g. due to CO_2 emissions, among others) and education.

In order to duly reduce GHG emissions, it is necessary to overcome certain barriers especially related to the extended use of conventional energy sources (thermal power plants in high and small scale), which have been the primary option for electric power generation, and the promotion of and investment in renewable technologies, such as the mini-hydro plant technologies contemplated in this Project.

This will require increased commitment in undertaking government plans to supply electric power to isolated communities not connected to the NEPS, through unconventional renewable energy technologies, as well as through strengthened inter-institutional articulation among stakeholders.

Based on studies on Venezuela's hydro-power potential for supplying energy to isolated communities, the capacity to be installed in small and mini-hydro plants of 50kW to 500kW in the regions of the Andes and Southern Venezuela has been estimated in 133MW[9]. There are 88 communities in The Andes located no more than 2.5km away from rivers with usable hydro-power potential; in the Southern states, 31 communities are reportedly located no more than 1km away from rivers. Initial efforts by the *Compañía Anónima de Administración y Fomento Eléctrico* (CADAFE) and *Corporación Eléctrica Nacional* – CORPOELEC have resulted in the installation of 1,376kW in these communities. In addition to this, CADAFE has carried out assesments on watersheds and irrigation systems as well as on old water power plants to verify retrofiting possibilities. In addition, at least 10 dams, that are not being used for power generation, were assesed to evaluate the potential for generating electricity.

[7] Part II should not be longer than 5 pages.

[8] Source: Corporación Eléctrica Nacional – CORPOELEC, Memoria y Cuenta 2012

[9] Estudio para Determinar la Capacidad de Fabricación Nacional de Equipos y Componentes que Trabajen con Fuentes no Convencionales de Energía – CADAFE, 1983.

The investment in micro hydro-power is complemented by a strong effort to strengthen community involvement in the operation and maintenance of the infrastructure. This is accomplished by training and hiring community members to work for CORPOELEC in these tasks. Additionally, and as part of a Program started in 2013, the Ministry of Environment is developing management plans for watersheds with micro hydro-power with the objective of improving the management of water resources and forest cover in the watershed. This Program entails active participation of communities to implement identified management tasks.

The Government of Venezuela is seeking GEF support increased investments in renewable energy, specifically focused on expanding the scope of micro hydro-power plant capacity in the Andes and Southern regions of the country. These investments will foster the production of at least 8.7GWh/year, impact more than 15,000 beneficiaries and pottentialy reduce emissions by at least 2,167 tons of CO_2 eq/year, As part of its cofinancing commitment CORPOELEC will develop at least four new power plants and retrofit three existing ones, including new water resource management systems. This Project seeks to invest in technology for Mini-Hydro Plants that contribute to the global environmental objective of reducing GHG emissions, replacing current fossil fuels used for meeting the communities' energy needs, and discouraging these communities from opting for fossil fuels with additional cofinanicing support. The Project also seeks to improve management of the local water basins and forests (carbon sinks), preventing activities such as logging for domestic firewood consumption, for instance.

The National Mini-Hydro Plants Program undertaken by the *Ministerio del Poder Popular para la Energía Eléctrica* (MPPEE - Venezuelan Ministry of Electric Power) are continuing the CADAFE and CORPOELEC targets and lessons learned. Also MPPEE has ambitious long-term goals regarding the use of the hydrologic basins existing in the country for energy generation purposes. This Project will contribute to said Program through the set-up of mini-hydro plants of less than 500kW each in carefully selected locations of the target regions. The components support the enhanced sustainability and scalability of the Project, which are the bases for promoting increased resources and investment for the development of renewable energies in the country.

In order to improve Venezuela's energy sector challenges, this project proposes to support the use of hydro energy resources and create social awareness of sustainable energy and GHG emissions reduction, through the following components:

Component I. Set-up of mini-hydro plants and power grids in rural communities (GEF US$4,357,534, co-finance US$9,869,058)

This objective of this component is promote the sustainable renewable technologies through the installation of hydroelectric energy in order to promote rural electrification, energy access and reduction of GHG. This component will examine three main activities which include:

Activity 1. This activity will finance feasibility reports on the set-up of mini-hydro plants for rural communities in the region of The Andes and the Southern area of Venezuela. These report will help: (i) define potential sites for the set-up of mini-hydro plants; and (ii) provide necessary technical instruments for the selection, implementation and execution of the mini-hydro power plants.

Activity 2. This activity will finance: (i) the preparation of engineering, acquisition, set-up, and start-up of at least eight mini-hydro plants units and the restoration of at least three existing mini-hydro plants within defined areas; (ii) the acquisition and set-up of low-voltage power distribution grids and all other facilities to connect rural communities to the mini-hydro plants; (iii) the set-up of hydro-meteorological stations in each basin.

Activity 3. This activity will finance the design, development, implementation, and monitoring and control of the mini-hydro plants through Supervisory Control And Data Acquisition (SCADA) systems to acquire real-time control and monitoring of the mini-hydro plants set-up, in order to enhance reliability of the renewable energy supply.

Component II. Capacity building for the relevant institutions and communities, and dissemination of outcomes. (GEF US$0, co-finance US$6,173,800)

The objective of this component is to strengthen local capabilities in operation and mantenance of renewable technologies and watersheds management, through the support for workshops development, in order to promote technical skills-upgrading among a local labor force . This Component will examine three main activities which include:

Activity 1. Planning and implementation of the operational strategy for community environmental management and the creation of an integrated watershed management program. The main objetive for this activity is ensuring the environmental sustainability of the basins managed for renewable energy production.

Activity 2. Training workshops for communities on the operation and maintenance of the mini-hydro plants and capacity building through specialization workshops on mini-hydro plant technology. The expected outcome is operational sustainability for the mini-hydro plants set-up in the rural communities.

Activity 3. Create reports based on mini-hydro plant industrial conditioning, as well as publications on project experiences, and workshops for disseminating experiences and lessons learnt from this project. Global Environment Benefits: The proposed project will bring result of contribution to climate change mitigation. At least 15,169 tCO2eq reduced over 7 years as a consequence of installing over 2.2 MW of RE capacity, including hydro-powered projects (see annex 1).

Innovativeness, sustainability and potential for scaling up. The innovation this project brings is introducing micro hydro plants to the country where there has been relatively limited experience with this technology, as well as proposing their use for low-income, isolated communities, such as those located in the Andes and South regions of the Bolivarian Republic of Venezuela.

In addition to project activities aimed at building capacity in the communities and specialized technical staff for the operation and maintenance of the mini-hydro plants, sustainability of the project is fostered through the engagement of several national institutions such as MPPEE, CORPOELEC and MPPA that are working directly on the coordination and monitoring of this project. These institutions will also be engaged with beneficiary communities after the project has ended and provide continued support to the maintenance and operation arrangements made with these communities during project implementation. CORPOELEC will train and hire local community members to participate in the operation and maintenance of the plants.

The experience generated by the project can be used to provide valuable lessons for scaling up this type intervention in other regions of the country, as well as taking its example to address similar needs in Latin America.

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

* Communities without access to the National Electric Power System: The communities will be highly involved from the project preparation phase up to its execution and subsequent operation and maintenance. Representatives of indigenous people have already been involved in initial consultations on the project, and will participate in the planned consultation process during design. The intention is to consult a broader number of local representatives that could contribute to enhancing the project's design and future implementation. A more detailed plan on CSO and local participation will be prepared during the next phases of project design. The role of gender will be analyzed and incorporated in the project as needed. First, they will validate the information available on fossil fuel and firewood consumption, as well as the census of their electric self-generation units and other energy loads; they will also participate in the construction of the civil engineering works and the mobilization of equipment and material. As for the operation and maintenance phase, the communities will be qualified to operate the mini-hydro plants, as well as to perform maintenance and minor repairs that will guarantee uninterrupted operation of the mini-hydro plants.

* Corporación Eléctrica Nacional (CORPOELEC): As the national electric utility company with operational capacity to conduct technical design, construction, operation and maintenance projects on electric generation facilities, it will be involved from beginning to end in each of the mini-hydro plant

projects design and construction. In addition, it has the human resources necessary to qualify the beneficiary communities to operate and maintain the mini-hydro plants and to perform or handle any major repairs required. CORPOELEC will be the Executing Unit of this Project.

* Ministerio del Poder Popular para la Energía Eléctrica (MPPEE - Venezuelan Ministry of Electricity): As the entity promoting the Project to the GEF, the MPPEE will be highly involved in the political support. Also the analysis and selection of the potential sites for the project. Visits, logistics and communication with communities for the preparation of the Project in the selected areas will take place before and during this Project. Afterwards, it will play a significant supervisory and administrative role jointly with the Ministerio del Poder Popular para el Ambiente (Venezuelan Environmental Ministry), where GEF's operational focal point is located in Venezuela.

* Ministerio del Poder Popular para el Ambiente (MPPA - Venezuelan Environmental Ministry): As the seat of GEF's operational focal point in Venezuela, this institution will play a major supervisory role at all Project stages, from its conceptualization to its execution, and its participation will be critical in terms of providing support and guidance for the environmental impact assessments to be conducted as part of the prerequisites for setting up the mini-hydro plants, thereby complying with Venezuelan environmental regulations. Also will contribute designing the watershed management program for the selected areas in this Project.

* Ministerio del Poder Popular para Ciencia, Tecnología e Innovación (MPPCTI - Venezuelan Ministry of Science, Technology and Innovation): The involvement of this Ministry will be highly relevant in the industrial scalability and technological incorporation process for the industrial development of mini-hydro plant technologies in the country for the long-term national plans. Knowledge exchange in hydro machinery construction and maintenance as part of the capacity building program is taken for the contribution to the Project. MPPCTI's technical team will be focused in the design of the basic and detailed engineering for the SCADA system for all hydro-power units.

A.3 Risk. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable):

Risk Description	Mitigation Measure	Level of Risk
Rural communities lacking motivation to adopt the use, operation and maintenance of the mini-hydro plants	The execution of dissemination activities by MPPEE in the communities about the benefits derived from using renewable energies is expected to address the lack of motivation and mitigate this risk. The MPPEE through Energy Technical Desks (Mesas Técnicas de Energía[10]) will approach to the communities in order to present the added values to the beneficiaries	Low
Change of authorities and personnel responsible for the Project	The change of the personnel responsible for executing and supervising the Project could affect timeframes for obtaining the desired outcomes due to the natural learning process and knowledge required by the new authorities and people assuming responsibility for the Project. Therefore, in order to facilitate this process, the following reduction measures are proposed: 1) Strengthening the "institutional management" of the Project based on the national and sectoral development plans governing the authorities' performance of their respective roles; 2) Creating a technical and strategic desk in charge of the inter-institutional coordination of the Project; and 3) Achieving high involvement levels in the beneficiary communities and their organizational structures (communal councils and/or community Energy Technical Desks), in order to promote a social	Low

[10] Mechanism created eight years ago to universalize the electrical system on the most needy and excluded sectors of the country and strengthen the organization of community councils.

	auditing of the Project.	
Difficulties in procuring materials, equipment and resources for maintaining, constructing and operating the mini-hydro plants	Considered a risk of an administrative-operational nature, efforts will be made to reduce it through the creation of an extensive portfolio of national and international suppliers	Medium
Reduced water flows from climate change affecting power generation	The likely water flow changes will be taken into account in determining site selection and dimension of the plants. Once this selection is done, additional measures will be taken in order to provide continuous energy supply such as small reservoirs.	Low

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

The project is coordinated with the ongoing project of the Bolivarian Republic of Venezuela "Sembrando Luz" conducted by FUNDELEC under supervision of MPPEE, and CORPOELEC. FUNDELEC will share with this project its technical knowledge acquired during Sembrando Luz Initiative, including potential site selections for hydro plants, lessons learned from beneficiary selection criteria and experiences with working with isolated and indigenous communities. CORPOELEC is involved in the operation and maintenance of many hydro projects in Venezuela, and its technical expertise on hydro-power turbine design, operation and maintenance is crucial for the development of this GEF project. No relevant GEF financed initiatives have been identified that can coordinate with this project.

B. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

B.1National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

This project is consistent with the Government of Venezuela's (GOV) priorities. The "Plan Patria para la Gestión Bolivariana Socialista 2013-2019", under its historic objective No. 5, provides for the autonomy of the Bolivarian Republic of Venezuela to voluntarily contribute to save the planet through a National GHG Mitigation Plan.

The country's strategy and policy shown in the "Simon Bolivar" National Development Plan (2007-2013) establishes the following: (i) Promotion and implementation of alternative energy based on renewable resources, and (ii) to influence changes on the present productive patterns towards green technologies.

In addition, according to Venezuela's first communication to the UNFCCC, this project is in line with the following described commitments: (i) formulate plans and programs for adaptation/mitigation of climate change, and implement those related to adaptation, and (ii) build national capacities in the different aspects of climate change. Venezuela also contemplates "The National Electrical Sector Development Plan (PDSEN)" which involves the development and harnessing of national capacities in terms of the different sources of renewable energies existing in the country.

Venezuela also has other priorities and initiatives that support the development of this projects, which are:

* Mini-Hydro Plants National Program Proposal carried out by the Ministry of Electricity (MPPEE): It is the most immediate reference framework for this GEF Project, since its formulation and execution as a public policy depend on the Dirección General de Energía Alternativa (Alternative Energy Unit) of the MPPEE, which promotes this Project to GEF. This program proposes the incorporation of at least 133 MW of energy capacity through the set-up of mini-hydro plants.

* National Strategy for Biological Diversity Conservation and its National Action Plan 2010-2020: This document aims at promoting a new ecological and socialist ethics through Biological Diversity conservation and sustainable use as a means for achieving Supreme Social Happiness for present and

future generations. Venezuela is prepared to meet globally established goals in terms of diminishing the rates of Biological Diversity loss through goals, mechanisms and indicators designed based on the country's reality, making relevant contributions to structural transformation and guaranteeing sovereignty and social inclusion.

* National Integrated Water Resources Management Plan Proposal: The objectives of this document include promoting the use of water resources as clean energy sources for local development. The document also specifically mentions "Contemplating the mini-hydro plants in the administrative process of concessions for utilizing water resources" as a public policy to be complied with.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:

This Project is aimed at fulfilling the objectives of GEF's Climate Change focal area, specifically objective No. 3: "Promote investments in renewable energy technologies" (CCM-3). The set-up of mini-hydro plants will, in the first place, materialize the use of energy from unconventional renewable sources with high hydroelectric potential in the region of the Andes and Southern area of the Bolivarian Republic of Venezuela, and, in second place, yield environmental benefits through the replacement and/or avoidance of fossil fuels for electricity generation.

B.3 The GEF Agency's comparative advantage for implementing this project:

The IDB is one of the major multilateral lending agencies in the region, supporting a diversity of areas, including education, health, government modernization and energy. The IDB, has been actively participating in developing the energy sector through a number of projects in Venezuela, such as, completed Institutional Development of CADAFE project (1605/OC-VE), which focused on institutional strengthening of the country's largest electricity distributor; Integrated Management of the Caroní River basin (1687/OC-VE), which supports sustainable management of the Caroní River watershed to promote the long-term viability of the Lower Caroníhydroelectric complex, of which this project is a part; the Caruachi HydroelectricPlant (788/OC-VE), located 45 kilometers downstream from the Manuel Piar(Tocoma) plant on the Caroní River and completed in 2006. IDB's energy portfolio in Venezuela is over US$1.2 billion, therefore showing the extensive experience of the IDB in the energy sector in this country.

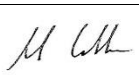
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach theOperational Focal Point endorsement letter(s) with this template. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE*(MM/dd/yyyy)*
Neila González Torrens	Director of the International Management and Cooperation Office	**MINISTRY OF ENVIRONMENT**	**09/04/2013**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE***(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**

Michael Collins		01/28/2014	Alberto Elizalde	(58) 212-9552957	albertoel

Annex 1

Estimation of Greenhouse Gas Emissions

In order to estimate reduced GHG emissions derived from the yearly use of the mini-hydro plants under this Project, the following assumptions and values were considered:

Number of mini-hydro plants: 11
Capacity of each mini-hydro plant: 200kW
Yearly service hours of each mini-hydro plant: 8,760 hours/year
Mini-hydro turbine-generator efficiency: 90%
Net capacity factor: 50%

Each mini-hydro plant would deliver a total of 788,400kWh/year to its community. The 11 mini-hydro plants in aggregate would deliver 8,672,400kWh/year.

Estimating that the energy requirements of these communities are currently satisfied by scattered generator plants (self-generation) which run on Diesel #2 (car diesel), which has a *lower calorific value* of 44.67MJ/kg and a density of 840kg/m3, then a diesel consumption of 75,642.44 liters/year would be necessary in order to obtain the total amount of energy indicated above for a mini-hydro power plant.

Given that the emission factor for diesel is 2.61kg CO_2/liter-diesel, then the CO_2emissions of each mini-hydro plant generating said amount of energy per year are: 197Tons of CO_2eq/year reduced.

For the 11 mini-hydro plants set up and restored, which do not generate carbon dioxide emissions, this Project would be avoiding the emission of 2,167 Ton of CO_2eq per year. In a 7-year period, these 11 mini-hydro plants would have avoided the emission of 15,169 Ton of CO_2eq to the atmosphere.

These estimations of CO_2eq emissions avoided should be supplemented with data regarding emissions absorbed by carbon sinks as a result of the conservation of the basins where the mini-hydro plants will be set up.