

## PROJECT INFORMATION DOCUMENT (PID)

### APPRAISAL STAGE

Report No.: PIDA968

<b>Project Name</b>	Access and Renewable Energy Project (P127837)
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Country</b>	Bolivia
<b>Sector(s)</b>	Other Renewable Energy (40%), General energy sector (60%)
<b>Theme(s)</b>	Rural services and infrastructure (100%)
<b>Lending Instrument</b>	Investment Project Financing
<b>Project ID</b>	P127837
<b>Borrower(s)</b>	Ministry of Finance
<b>Implementing Agency</b>	Ministerio de Hidrocarburos y Energia, Vice Ministerio de Electricidad y Energias Alternativas VMEEA
<b>Environmental Category</b>	B-Partial Assessment
<b>Date PID Prepared/Updated</b>	25-Mar-2014
<b>Date PID Approved/Disclosed</b>	25-Mar-2014
<b>Estimated Date of Appraisal Completion</b>	26-Mar-2014
<b>Estimated Date of Board Approval</b>	27-May-2014
<b>Decision</b>	

### I. Project Context

#### Country Context

Bolivia's strong economic performance over the past decade is likely to continue into the coming years. Boosted by gas and mining exports as well as public investment, annual GDP growth has averaged 4.8 percent over the last ten years and is likely to remain above 5 percent in 2014. Over the past decade, gas exports to Brazil and Argentina have substantially increased due to prior investments while mining output has nearly doubled since 2006 as a result of the foreign-financed San Cristóbal project. Furthermore, rapidly increasing public investment has spurred growth in other sectors such as construction, manufacturing, finance, transport, and communications. Current account and fiscal balance surpluses have prevailed over the last ten and six years, respectively. This has allowed Bolivia to accumulate sizable buffers in order to face eventual negative external shocks. Similarly, Bolivia's relative isolation from international financial markets has helped the country withstand the international crisis whilst continuously accumulating buffers. Assuming commodity prices will remain stable and no new international crises occur, Bolivia will likely maintain its robust economic growth and healthy macroeconomic balances during upcoming years. Nevertheless, Bolivia is still exposed to shifts in international commodity prices as low investment rates could constrain its longer term growth prospects.

Although Bolivia has been able to substantially reduce both poverty and inequality, poverty remains high - particularly in the rural area - and varies widely across regions. Using national metrics, poverty markedly decreased from 63 percent of the population in 2002 to 43 percent in 2012, while extreme poverty reduced from 37 percent in 2002 to 22 percent in 2012. Inequality—as measured by the Gini coefficient—has decreased from 0.60 in 2002 to 0.47 in 2011. Moreover, between 1994 and 2008, the Human Opportunity Index rose from 45 percent to 66 percent due to improvements in children’s access to health, education and other basic services. Nevertheless, poverty still affects more than 61 percent of the rural population, almost twice the urban poverty rate. According to the Human Opportunity Index, the largest constraining factor regarding opportunity access for children and youths is living in rural areas. Moreover, the level of poverty varies widely across regions; ranging from more than 60 percent in Potosí and Chuquisaca to 20 percent in Tarija , underlining the prevalence of important regional gaps.

Access to electricity is directly linked to the achievement of the World Bank twin goals as it has a direct impact in alleviating poverty and boosting shared prosperity. It also enhances social inclusion by improving the lives of the poor, in particular of the rural poor. In rural areas, lack of access to electricity and other infrastructure results in a lower quality of life, poor medical care and education, and limited opportunities for economic development. Schools have less or no access to modern educational resources (videos, audio systems, computers, etc.) and students less time available to read or do homework at home, after finishing other domestic tasks. Health clinics do not have adequate access to light, water pumps, refrigeration for drugs and vaccines, medical instruments, or fans and sterilizers. Without electricity women have limited hours in which to complete their indoor work, and undertake educational and employment possibilities, and limited participation in community affairs. Mobile phone coverage, if available, cannot be leveraged as there is no way to recharge mobile phone batteries. In addition, a lack of public lighting contributes to a lack of security at night, particularly for women and children. Furthermore, families that do not have electricity services usually cover their energy needs with batteries (for flashlights and radios), kerosene burners and candles (for lighting), and wood (for cooking and heating), which have high relative costs for the low-income segment, and contribute to respiratory illnesses that affect households, especially women and children. The provision of all these services supports the alleviation of poverty and also increases the likelihood of sharing prosperity and developing economic activities.

### **Sectoral and institutional Context**

Bolivia’s electricity sector is composed of a National Interconnected System (Sistema Interconectado Nacional, SIN) and isolated systems. In the SIN, most generation, transmission and distribution activities are unbundled. Hydroelectricity represents roughly 40 percent of generation, and thermal almost 60 percent. Typically, each departmental government (Gobernación) is served by a main distribution company. In addition, the Empresa Nacional de Electricidad Bolivia (ENDE, a state-owned vertically-integrated corporation) manages several small-scale utilities, serving reduced areas.

Through its Bicentennial Patriotic Agenda 2025, Bolivia aims to eradicate extreme poverty by providing universal basic services such as access to electricity. The Agenda intends to share the benefits of prosperity and defines the criteria for the provision of basic services such as universality, responsibility, accessibility, continuity, quality, efficiency, effectiveness, equitable and necessary coverage rates, with participation and social control. In order to meet the mandate on energy access

Bolivia has established the Programa Electricidad para Vivir con Dignidad - PEVD (Living with Dignity Electricity Program), with the objective of achieving universal access to electricity by 2025. The Program shall provide access to electricity to roughly 600,000 households, of which 350,000 are located in the most remote rural areas of the country.

The Vice Ministry of Electricity and Alternatives Energy (VMEEA), under the Ministry of Hydrocarbons and Energy (MHE), is the institution responsible for implementing the PEVD. Its responsibilities include delineating electricity sector policy and strategy for planning and monitoring, setting technical regulations and quality of service standards, and also developing new programs that support the access to electricity agenda and foster the use of renewable energy. In addition, the Rural Electrification Regulation (approved by Supreme Decree No. 28567/2005) provided the legal framework to support renewable energy development. The unit in charge of operationalizing the access agenda under the VMEEA's is the General Directorate of Alternative Energy, which is implementing rural electrification and alternative energy projects.

Further to this, the 2010 Autonomy Framework and Decentralization Law has established the need to include other actors in the access agenda, such as Gobernaciones and municipalities. This Law has granted to these entities responsibilities such as: (i) design and implementation of investments; (ii) asset ownership; and (iii) operation and maintenance (O&M). This framework changes a utility-owned and user-owned approach to one in which the subnational governments are responsible for rural electrification.

According to the 2012 census, coverage in the country has reached 80.95% but with significant variations across regions. A large share of the unserved population is concentrated in the poorest departments. These are: Chuquisaca (46,000 households still lack access, which represent 31 percent of total dwellings), Pando (7,100 households, or 28 percent), Beni (16,600, 18 percent) and Potosí (71,300, 30 percent).

The World Bank has supported the GoB in achieving their rural electrification agenda since 2003. Recent energy sector operations include: (i) the Decentralized Infrastructure for Rural Transformation Project (IDTR 20 US\$ M), which closed in May 2011 and provided access to electricity to over 30,000 families across the country; and (ii) the Decentralized Electricity for Universal Access Project (US\$ 5.17 M), a GPOBA grant that closed in June 30, 2013 and benefitted 12,000 households. These projects supported an approach that focused on utility-owned grid extension, and user-owned off-grid systems (individual solar PV systems).

## **II. Proposed Development Objectives**

The proposed Project development objective is to expand access to electricity in unserved areas of Bolivia under a model of electricity access expansion that supports the deployment of the national decentralized framework.

## **III. Project Description**

### **Component Name**

Component 1: Electricity services for rural areas

### **Comments (optional)**

### **Component Name**

Component 2: Support to Access, Energy Efficiency and Renewable Energy Strategies  
**Comments (optional)**

**Component Name**

Component 3: Project Management

**Comments (optional)**

**IV. Financing (in USD Million)**

Total Project Cost:	58.40	Total Bank Financing:	50.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
BORROWER/RECIPIENT			5.15
International Development Association (IDA)			50.00
LOCAL BENEFICIARIES			3.25
Total			58.40

**V. Implementation**

The project will be implemented over a seven-year period. Overall coordination and implementation of the Project will be the responsibility of the Vice-Ministry of Electricity and Alternative Energy (VMEEA). The Project Coordination Unit (PCU) will lie within the PEVD, under the VMEEA's Alternative Energy General Directorate (DGEA). All fiduciary responsibilities (procurement and financial management) will be carried out by the PCU, which has proven experience from the implementation of the IDTR I and GPOBA projects.

The debt related to investments in grid extension and solar home systems (Component 1 of the project) will be assumed by the Gobernaciones benefitted under the program, according to the level of investments in each jurisdiction. The debt related to Components 2 and 3 would be undertaken by the Treasury (although confirmation is still pending). However, the GoB will be responsible vis-à-vis the Bank for the overall Credit.

In order to perform all planned activities, the MHE will sign inter-institutional agreements with participating Gobernaciones and municipalities. These agreements will explicitly delegate the subnational competencies on rural electrification to the MHE, and indicate roles and responsibilities for each level of government involved during design and implementation of the subprojects. The following implementation arrangements will be followed:

Component 1: Electricity services for rural areas: The Ministry of Hydrocarbons and Energy (MHE) – through the PCU – will: (i) establish the technical, social and environmental eligibility criteria for subprojects; (ii) review, formalize and prepare the final subproject portfolio that would be initially prepared by the Gobernaciones and Municipalities with the participation of the Distribution Companies; (iii) support and advise these subnational entities on the identification of suitable subprojects (even through the design of specific templates for their preparation); (iv) coordinate with relevant agencies and stakeholders and; (v) design and disseminate educational material for

users. The Gobernaciones will participate in the preparation, selection and prioritization of subprojects, while Municipalities would be responsible for identifying the demand and, together with the Distribution Companies, would be involved in the design and preparation of subprojects.

For sub-component 1.1 (Grid extension) the Credit will cover 100% of the initial investment (outside the household) and supervision costs. Users will be responsible for the standard fee established by law to obtain their connection to the grid, as well as part of the connection costs. The Ministry will be responsible for registering in its budget the available resources for each transaction. Gobernaciones will register the debt incurred through the Credit and will transfer budget to the MHE. The Ministry (through the PCU) will also be responsible for launching the bidding processes (including construction and supervision), sign contracts, monitor their compliance, and authorize payments to contractors and the transfer of assets (subprojects) to the Gobernaciones. The Distribution Company will be also included in the supervision of the subcomponent – together with the MHE and the Municipalities (as needed). Operation, maintenance and management of subprojects will be delegated by the Gobernaciones to the Distribution Companies through a contract in accordance with established regulations for electricity users. The distribution companies to be involved in these activities would be SEPSA (Potosí), CESSA and COSERCA (Chuquisaca). If the beneficiaries of this subcomponent have consumption below 70kWh they will be covered by the Tarifa Dignidad, obtaining a 25 percent discount.

In the case of sub-components 1.2 and 1.3 (Individual Photovoltaic Systems and Solar Photovoltaic Systems in Public Institutions) the initial investments to be made through subcomponent 1.2 will be fully financed by the Credit, while in the case of sub-component 1.3, the financial instrument will finance 90% of the initial investment (the rest will be funded by the Municipalities, which would transfer the resources to MHE through an inter-institutional agreement). The Ministry will be responsible for registering in its budget the available resources for each transaction. Gobernaciones will register the debt incurred through the Credit as well as the budget transfer to the MHE. The Ministry, through the PCU, will also be responsible for the procurement process and would be the institution responsible for signing and monitoring the contracts and making payments to the selected construction firms. Through an inter-institutional agreement, MHE would transfer the property of the PV Systems to the Municipalities, which will be responsible for the Operation and Maintenance (O&M) and replacement of these systems. To perform these O&M tasks, Municipalities will sign contracts with Distribution Companies so these can perform maintenance duties, stipulating among other things the number of visits that the company must make in order to oversee proper operation of equipment and enhance the quality of service. Distribution Companies will be remunerated by the Municipality for the services provided. The Ministry will also oversee that Municipalities continue to make the agreed payments to Distribution Companies. In case of any default, the MHE would start a process to automatically deduct any outstanding debt from the Municipalities' accounts at the National level.

For Components 2 and 3, all activities will be performed directly by the MHE through the PCU, and in coordination with the relevant areas within the Ministry. Given the strong focus these Components will have on transferring experience, knowledge and capacity to subnational entities, the PCU will involve them in their design, planning, implementation and monitoring.

## VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
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Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11	X	
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

**Comments (optional)****VII. Contact point****World Bank**

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**Implementing Agencies**

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