Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: 72266 - HT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 59.7 MILLION
(US$90.0 MILLION EQUIVALENT)

TO THE

REPUBLIC OF HAITI

FOR A

REBUILDING ENERGY INFRASTRUCTURE AND ACCESS PROJECT

August 27, 2012

CURRENCY EQUIVALENTS

(Exchange Rate Effective July 31, 2012)

Currency Unit	=	Gourdes (HTG)
HTG41.991	=	US$1
US$ 1.508	=	SDR 1

FISCAL YEAR
October 1 – September 30

ABBREVIATIONS AND ACRONYMS

BME	Bureau des Mines et de l'Energie
CIDA	Canadian International Development Agency
CMEP	Council for the Modernization of Public Enterprises (*Conseil de Modernisation des Entreprises Publiques*)
CMS	Commercial Management System
EDH	Electricité d'Haïti
DPO	Development Policy Operation
ERR	Economic Rate of Return
EMP	Environmental Management Plan
ESMAP	Energy Sector Management Assistance Program
ESMF	Environmental and Social Management Framework
FM	Financial Management
FRR	Financial Rate of Return
IDA	International Development Association
IDB	Inter American Development Bank
IFC	International Finance Corporation
IFR	Interim Unaudited Financial Report
IPP	Independent Power Producer
ISN	Interim Strategy Note
KfW	Government of Germany's Development Bank (*Kreditanstalt für Wiederaufbau*)
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finances
MTPTEC	Ministry of Public Works, Transport, Energy and Communication *(Ministère des Travaux Publics, des Transports, de l'Energie et de la Communication)*
NPV	Net Present Value
OFID	OPEC Fund for International Development
OIA	Operations Improvement Agreement
OM	Operations Manual
PCU	Project Coordination Unit
PPA	Power Purchasing Agreement
PREPSEL	Electricity Loss Reduction Project (*Projet de Réduction des Pertes dans le Secteur Electrique*)
RAP	Resettlement Action Plan

RPF	Resettlement Policy Framework
SFLAC	Spanish Trust Fund for Latin America and the Caribbean
SIL	Sector Investment Loan
SME	Small and Medium Size Enterprise
TSMS	Technical Service Management System
UGSE	Energy Sector Management Unit (*Unité de Gestion du Secteur de l'Energie*)
USAID	US Agency for International Development

Regional Vice President:	Hasan A. Tuluy
Country Director:	Alexandre V. Abrantes
Sector Director:	Ede Jorge Ijjasz-Vasquez
Sector Manager:	Malcolm Cosgrove-Davies
Task Team Leader:	Karen Bazex

HAITI
Rebuilding Energy Infrastructure and Access Project

TABLE OF CONTENTS

PAD DATA SHEET

HAITI

REBUILDING ENERGY INFRASTRUCTURE AND ACCESS PROJECT

PROJECT APPRAISAL DOCUMENT

Latin America and the Caribbean Region

Energy Unit

Basic Information			
Date:	August 27, 2012	Sectors:	General energy sector (100%)
Country Director:	Alexandre V. Abrantes	Themes:	Infrastructure services for private sector development (60%), Rural services and infrastructure (15%), Other public sector governance (25%)
Sector Manager:	Malcolm Cosgrove-Davies	EA Category:	B Partial assessment
Project ID:	P127203		
Lending Instrument:	Specific Investment Loan		
Team Leader(s):	Karen Bazex		

Does the project include any CDD component? No.

Joint IFC: No.

.

Borrower: Republic of Haiti

Responsible Agency: Ministry of Public Works, Transport, Energy and Communication (MTPTEC)

Contact:	Jacques Rousseau	Title:	Minister
Telephone:		Email:	hubejack@gmail.com
Contact:	René Jean Jumeau	Title:	Minister Delegate for Energy Security
Telephone:	(509) 3461 5041	Email:	Renejj2011@hotmail.com

.

Project Implementation Period:		Start Date:	September 27, 2012	End Date:	September 30, 2017
Expected Effectiveness Date:	January 15, 2013				

Expected Closing Date: December 30, 2017

.

Project Financing Data(US$M)

[ ] Loan	X Grant	[ ] Other
[ ] Credit	[ ] Guarantee	

For Loans/Credits/Others

Total Project Cost :	US$90 million	Total Bank Financing :	US$ 90 million
Total Cofinancing : N/A		Financing Gap :	NA

.

Financing Source	**Amount(US$M)**
RECIPIENT	
IDA: New	US$90.0 million
IDA: Recommitted	
Others	
Financing Gap	
Total	US$90.0 million

.

Expected Disbursements (in US$ Million)

Fiscal Year	2013	2014	2015	2016	2017	2018		
Annual	2.0	13.5	18.0	29.5	23.0	4.0		
Cumulative	2.0	15.5	33.5	63.0	86. 0	90.0		

.

Project Development Objective(s)

The objectives of the proposed Project are to (a) strengthen the Recipient's energy policy and planning capacity; (b) improve the sustainability and resilience of the Recipient's electricity sector and restore and expand access to reliable electricity services; and (c) provide financial assistance in case of an Energy Sector Emergency.

.

Components

Component Name	**Cost (US$ Millions)**
Component 1: Strengthening Energy Sector Institutions and Improving Energy Access	IDA US$12.2 million
Component 2: Enhancing EDH's Performance	IDA US$77.8 million.

and Rehabilitating and Expanding Infrastructure	
Component 3: Energy Sector Risk and Emergency Response Contingent Reserve	IDA US$ 0.0 million.

.

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [X]

Does the project require any exceptions from Bank policies?	Yes [ ]	No [X]
Have these been approved by Bank management?	Yes [ ]	No [ ]
Is approval for any policy exception sought from the Board?	Yes [ ]	No [X]
Does the Project meet the Regional criteria for readiness for implementation?	Yes [X]	No [ ]

.

Safeguard Policies Triggered by the Project	**Yes**	**No**
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 Waters OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

.

Legal Covenants

Disbursement Condition	**Recurrent**	**Due Date**	**Frequency**
Acceptable management structure in EDH.	Yes	Upon termination of the Operations Improvement Agreement.	Continuous

Description of disbursement condition
No withdrawal shall be made under Categories (2) and (4), unless a management structure for EDH: (i) has been established by EDH; and (ii) said management structure is operational, both in a manner satisfactory to the Association.

Covenant 1	**Recurrent**	**Due Date**	**Frequency**

Publication of sector financial indicators on the MEF and MTPTEC websites.	Yes	September 2012	Quarterly

Description of Covenant 1

The Recipient shall publish on the respective websites of MEF and MTPTEC a monitoring table of key energy sector indicators on a quarterly basis, including data on budgetary transfers, production by electricity producers other than EDH, and EDH's financial and operational results, satisfactory to the Association.

Covenant 2	Recurrent	Due Date	Frequency
EDH finalizes is financial statements for the fiscal years 2010-11.	Yes	December 2012	Once

Description of Covenant 2

The financial statements of EDH for the Recipient’s fiscal year 2010 to 2011 will be finalized by December 31, 2012.

.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Karen Bazex	Energy Specialist	Task Team Leader	LCSEG
Christophe de Gouvello	Senior Energy Specialist	Senior Energy Specialist	LCSEG
Koffi Ekouevi	Senior Economist	Senior Energy Access Specialist	SEGEN
Frederic Verdol	Power Engineer	Power Engineer	LCSEG
Pedro Antmann	Senior Energy Specialist	Senior Energy Specialist	SEGEN
Pierre Xavier Bonneau	Senior Infrastructure Specialist	Senior Infrastructure Specialist	LCSTR
César Adrián Arreola	Consultant	Energy Specialist	LCSEG
Janina Andrea Franco	Energy Specialist	Energy Specialist	LCSEG
Fernanda Pacheco	Senior Program Assistant	Senior Program Assistant	LCSEG
Ainsley McPherson	ET Temporary	Program Assistant	LCSEG
Carmélie Montuma	ET Temporary	Program Assistant	LCHHT
Nyaneba Nkrumah	Senior Social Development Specialist	Senior Social Development Specialist	LCSSO

Fabio Pittaluga	Senior Social Development Specialist	Senior Social Development Specialist	LCSSO
Peter Lafere	Social Development Specialist	Social Development Specialist	LCSSO
Franck Bessette	Sr Financial Management Specialist	Sr Financial Management Specialist	LCSFM
Patricia MacGowan	Consultant	Sr. Procurement Specialist	LCSPT
Josue Akre	Financial Management Specialist	Financial Management Specialist	LCSFM
Alois Ndorere	E T Consultant	Procurement Specialist	LCSPT
Victor Ordonez	Finance Officer	Finance Officer	CTRLN
Mariangeles Sabella	Senior Counsel	Senior Counsel	LEGLA
Julius Martin Thaler	Counsel	Counsel	LEGEN
Michelle C. Keane	Lead Country Officer	Lead Country Officer	LCCHT
Stephan Garnier	Senior Energy Specialist	Peer Reviewer	AFTEG
Richard Hosier	Senior Climate Change Specialist	Peer Reviewer	ENVGC
Valdislav Vucetic	Lead Energy Specialist	Peer Reviewer	MNSEG
Fanny Missfeldt-Ringius	Senior Energy Specialist	Peer Reviewer	MNSSD
Reynold Duncan	Operations Adviser	Peer Reviewer	SACPK

Non Bank Staff

Name	Title	Office Phone	City
Michel E. Layec	Lead Energy Consultant		Washington DC

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Haiti	NA	Haiti			Activities will be carried out in Port-au-Prince and urban and rural areas of the country.

I. STRATEGIC CONTEXT

A. Country Context

1. Two and a half years after a massive earthquake ravaged Haiti, reconstruction remains urgent to address the impacts of the disaster. The earthquake killed 230,000 people, injured 300,000, and displaced 1.5 million. It resulted in damages and losses of US$7.9 billion (120% of GDP) and in US$11.3 billion in estimated reconstruction needs. Massive efforts have been made by individuals, communities, Government and donors to respond, but much remains to be done to improve living conditions and effect sustainable change. Experience of the reconstruction process has also made clear that increasing the capacity of Haitian institutions and improving overall governance are critical to achieving sustainable results. Striking a balance between speed and sustainability remains a considerable political, economic, financial and organizational tour de force for Government and donors alike.

2. The earthquake struck a country already facing major development challenges and further weakened the ability of the Haitian State to respond. With a GDP per capita of US$656 in 2009, one of the lowest in the World, Haiti is also one of the most unequal countries in the World (Gini coefficient of 0.59). Over half of its population of 10 million was estimated to live on less than US$1 per day, and 78% on less than US$2 per day in 2001 (last available data). Any poverty gains from the country's average real growth of 2.2 % p.a. from 2004 to 2009 are likely to have been eradicated by the earthquake. The country ranks 158th out of 187 in the 2011 Human Development Index, and has suffered from repeated exogenous and political shocks. In 2008, rising food and fuel price hikes led to riots and the fall of the Government and multiple tropical storms and a hurricane year caused losses estimated at $900 million (or 15% of GDP) the same year. With the disappearance of one third of the civil service, the collapse of all but one Ministry, and the destruction of much of the service delivery infrastructure in and around Port au Prince, the earthquake further weakened the Government's ability to respond.

3. In addition to facing high poverty levels, Haiti's development has historically been hampered by fragility and characterized by social fracture. Over many years, deep social and economic inequities, intense concentration of wealth and power in the hands of a few, and a lack of social justice and of the rule of law have repeatedly led to spikes of political and non-politically motivated violence. Longstanding lack of transparency and the absence of service delivery have led to citizens' low trust in government and severely damaged the credibility of the State. Governance challenges - including limited rule of law, the absence of clear rules for market-based competition and corruption- are major constraints on growth and investment and have hampered Haiti's development. While this historical context presents substantial challenges for reconstruction and medium-term goals, Gallup's most recent yearly perception poll shows Haitians' trust in Government at its highest level since polling began in 2006 and on the rise by 30% compared to 2010.

4. This surge in confidence and improved political consensus is encouraging in the wake of the level of political uncertainty of 2010 and 2011. Presidential and legislative elections launched in November 2010, were concluded in May 2011, with the swearing in of President Michel Joseph MARTELLY. He was the first opposition candidate in Haiti's history to accede to the post by democratic transition. However, while the President received a strong majority of

votes cast, the opposition retained control of Parliament and it took five months to confirm the first Prime Minister, who resigned five months into his term in February 2012. In 2012, although contained, a movement to re-establish the Haitian Army (disbanded in 1995) caused tensions. The movement appears to have abated and, under Government pressure, the idea abandoned. Four months were needed to build consensus around the current Prime Minister, whose Government and program were approved in May 2012 and appear to benefit from broader political and popular support.

5. Despite these difficult conditions, much progress has been made since January 2010. Donors have committed US$8.7 billion in humanitarian and project investments of which US$5.8 billion have been disbursed, and have provided US$1 billion in debt relief. On the ground, progress is visible. Most earthquake affected areas have been cleared of rubble, of 1.5 million internally displaced people (IDPs) about 910,000 have left the camps and relocated. Government, which first struggled to resume its critical functions, is taking initiative to address longstanding service delivery gaps. Many schools have been reconstructed and during the 2011/2012 school year, Government has undertaken to pay fees for 900,000 children while donors financed free access to education for another 230,000 children. Cholera is being combated effectively, social safety net programs are being initiated, agriculture investments are being stepped up, electricity sector reform has been launched, and substantial efforts are being made to attract foreign investors. The World Bank Group has contributed substantially to the achievement of these results, as set out below, and made significant IDA investments for the years to come.

6. Nevertheless, much remains to be done. Important infrastructure in earthquake affected areas is still being rebuilt, including public buildings, schools, hospitals, housing, electricity, and water systems. Access to basic services and private sector investment, already very limited before the earthquake, need to be substantially expanded, if Haiti is to achieve and sustain productive growth rates and see social conditions improve and poverty levels drop. Haitian institutions need to be substantially strengthened to ensure that poor governance and corruption do not stand in the way of the achievement of Haiti's medium-term objective.

7. Reliable and sustainable electricity and other energy services are essential to achieve economic recovery and growth in Haiti, and to improve the quality of life of the population. Industrial and commercial activities - the main drivers of job creation - cannot develop in a sustainable manner without affordable, good quality power supply. Electricity is also critical to the delivery of basic services, such as health care, education and security.

B. Sectoral and Institutional Context

8. The energy sector is facing a sustained dual crisis, reflected in the electricity and household energy sectors. In the electricity sector, this crisis is characterized by a lack of supply, poor quality of service, high costs, inadequate governance and oversight, and unsustainable financial fundamentals. In the household energy sector, overreliance on scarce wood fuel resources for cooking has had serious economic, environmental and health impacts.

Table 1: Overview of the Power Sector in Haiti

Institutional setup	- Oversight : Transition period : Ministère des Travaux Publics, des Transports, de l'Energie et de la Communication (MTPTEC) and Minister's Office for Energy Security.[1] - Vertically integrated public electricity utility: Electricité d'Haïti - Independent Power Producers: E-Power, Sogener, Haytian Tractor and Tripartite Cooperation (Haiti, Cuba, Venezuela): >75% production capacity - No regulatory entity
Access	25% overall (12% regularly) – 40% in Port-au-Prince and below 5% in rural areas
Quality of Service	15 hours daily average service in the Port-au-Prince metropolitan area
Available Installed Capacity	212MW capacity available, app. 40MW estimated suppressed demand
Generation mix	85% of electricity produced is petroleum products based, 15% hydropower
Average tariffs	US$31c/kWh – at par with Caribbean countries
Sector Financial performance	- EDH: Revenues (billed) of app. US$ 94M (2011); technical and non technical losses app. 66% and Cash Recovery Index (CRI) 22%[2] - EDH is in a precarious financial situation - Budgetary transfers to support the sector above US$180M in FY2011.

a. Institutional Framework and Governance Challenges

9. The sector's institutional framework is weak, characterized by an unclear regulatory framework, a fragmentation among the main actors and lack of strategic coordination and leadership as well as low capacity. The Government recently announced a transition in the institutional setup of the sector. Until July 2012, the Ministry of Public Works, Transportation, Energy and Communications (*Ministère des Travaux Publics, des Transports, de l'Energie et de la Communication - MTPTEC*) was responsible for the oversight of the energy sector. On July 5, 2012, the Prime Minister appointed a Delegate Minister for Energy Security, to oversee the energy sector and indicated that an energy unit would be created under the responsibility of the Minister [3].

10. The Office of Mines and Energy (*Bureau des Mines et de l'Energie – BME*), under the authority of the MTPTEC, focuses on petroleum products, energy for cooking and mining issues, and has been involved in off grid rural electrification pilot projects. The power sector utility, *Electricité d'Haïti* (EDH), is the vertically integrated public enterprise with a monopoly over the transmission and distribution of electricity in Haiti, purchasing about 75 percent of the electricity it distributes from Independent Power Producers (IPPs).

11. Lack of coordination between key actors, an inadequate regulatory framework and weak capacity have undermined governance and transparency in the sector. The Government does not

[1] See paragraph 8 below.
[2] Cash Recovery Index (CRI) =billing rate (1-losses)*collection rate
[3] Any substantive changes to the Project management and/or oversight arrangements would be agreed with the Bank to ensure that adequate implementation arrangements remain in place. Until the new institutional arrangements are formalized, MTPTEC remains the official Government's entity responsible for energy.

have sufficient capacity and resources to oversee the sector. The newly appointed Minister for Energy Security does not yet have a clear mandate. In addition, there is a marked lack of coordination and cooperation among the sector's stakeholders. This includes the Ministry of the Economy and Finances (MEF), which provides budgetary funds to pay for EDH's fuel expenses as well as Power Purchasing Agreements (PPAs) with IPPs. The EDH Board of Directors, which includes representatives from MTPTEC and MEF, met for the first time since October 2010 in July 2012. Transparency in the sector's financial flows is also deficient. EDH has not issued financial statements since the last external audit in 2005. There has been some progress, such as the establishment of a monitoring mechanism for budgetary transfers to the sector. However, these transfers are still not fully transparent.

12. Poor management of EDH and weak sector governance have led to an unsustainable financial situation for the power sector and the economy. As a general proposition, PPAs have been negotiated and are implemented without adequate oversight and controls. Budgetary transfers to cover PPAs and imported fuel accounted for US$180 million in FY2011, or about 17% percent of the national budget. These transfers are expected to increase to more than US$200 million in FY2011-12, due to the buildup of the generation capacity (albeit, in many ways a positive development) and increasing oil prices. Moreover, the heavy reliance on imported petroleum for most of the power generated in Haiti - 85% of electricity generation is provided by the oil-based generating units - has increased the vulnerability of the sector and the national budget to external shocks.

13. The serious governance issues affecting the sector have undermined its performance. Of utmost priority is for the Government to clarify the institutional framework of the sector, assigning clear roles, responsibilities and accountability to each entity. A Government entity should be made responsible for the sector's oversight, including for monitoring the performance of EDH. Such supervision requires for the Board of EDH to meet on a regular basis. Secondly, efforts should be made to enhance transparency in the sector's real and financial flows: amounts of electricity generated and distributed, electricity billed and collected, and payments for IPPs should be adequately measured, verified, and disclosed. Finally, new sources of electricity generation should be transparently selected, based on principles of economic efficiency and careful analysis of available options. All these measures require efforts to strengthen capacity at the Government and enterprise levels and investments, all of which are included in the Investment Program supported by the donors and described below.

14. Progress has recently been made towards improving the sector's governance: (i) the signature of a Memorandum of Understanding between EDH, the MTPTEC and the MEF establishing a mechanism for budgetary transfers to the electricity sector; (ii) on August 2, 2012, EDH Board met and approved a Loss Reduction Plan for the utility and subsequently met on August 17, 2012 to give an external firm (see paragraph 16 below) the authority to implement the measures necessary to improve EDH performance; and (iii) the Prime Minister described, in a letter attached to the Government's energy strategy, its main commitments to support better governance in the sector, among which: the establishment of a centralized unit to oversee the energy sector, the strengthening of procurement processes for new generation capacity, the organization of monthly meetings of the Board of EDH and the revision of the sector's regulatory framework (see Annex 6).

b. Power Sector Policy and Strategy

15. The Government has undertaken at various points efforts to set out a comprehensive strategy for the sector. The Martelly administration has identified energy as one of its five priorities- the five 'Es' (alongside education, employment, environment and rule of law – '*état de droit'*). The January 2012 Draft Energy Policy Report (*Avant-Projet de Politique Energétique d'Haïti*) defined the Government's five key objectives of its energy policy: (i) Ensure sufficient supply to meet demand and support economic growth; (ii) Promote energy savings and efficiency; (iii) Promote development of indigenous renewable sources of energy ; (iv) Pursue exploration of fossil fuel sources in Haiti; and (v) Create a regulatory framework to encourage the development of supply while protecting the environment.

16. Due largely to financial constraints and the inability of key sector actors to coordinate their efforts and to implement actions, over the past five years, few of the specific actions defined under the various plans prepared by the Government were carried out. The actions that were in fact implemented included, among others, efforts to improve the management of EDH, through the hiring of four 'Delegate Directors' to the commercial, financial, technical and planning divisions of EDH, the installation of billing, accounting and claims management systems for the utility, interventions to rehabilitate the grid, and support to the MTPTEC's energy sector management unit, under the IDA-financed Electricity Loss Reduction Project ('PREPSEL', US$11 million 2006-2013 Grant[4]) and the Inter American Development Bank (IDB)'s Distribution Rehabilitation Project (US$18 million 2007-2013 Grant). The January 2010 earthquake exacerbated the challenges faced by the sector by worsening EDH's financial situation and undermining institutional and managerial capacities. The earthquake also damaged or destroyed a wide range of electricity infrastructure, increasing the emphasis on the physical inventory and the need to rehabilitate assets.

17. Since 2011, the Government has focused its efforts on the reform of the electricity sector, and in particular EDH. In March 2011, it launched a process of modernization of EDH, led by the Council for Modernization of Public Enterprises (CMEP). The process involves preparing detailed diagnostic studies to determine the best option for sector modernization, a decision-phase based on a consensus-building process, and the activities required for implementing the chosen model. In March 2012 the MTPTEC, the MEF, Minister of Justice, EDH and a private firm signed a transition agreement, financed by USAID, – the Operations Improvement Agreement (OIA) - for the period March 2012-April 2013, to provide managerial support to EDH. The Government committed to implementing the modernization option selected by the CMEP at the end of the OIA. To define the most appropriate option, USAID contracted the International Finance Corporation (IFC), which recommended the implementation of a management contract for EDH.

[4] The Haiti Electricity Loss Reduction Project (P098531, Grant number H251-0-HA) was approved on August 3, 2006 and is expected to close on February 28, 2013.

c. Access to electricity

18. About 25% of the population (fewer than 2.5 million Haitians) have some access to electricity, with many customers only benefitting from intermittent and unreliable service[5]. The country has the lowest per capita electricity consumption in the Latin America and Caribbean region. At 21kWh per year, per capita consumption is more than 80 times lower than the average for the region, reflective of the very low income levels and access to electricity services. Available generation capacity of approximately 212MW is insufficient to meet estimated peak load demand of more than 250MW[6].

19. Access to electricity in rural areas is very low, below 5%. No national grid exists, but there are nine separate small grids throughout the country, with power mostly supplied intermittently by diesel units. Given the high population density in the countryside, this lack of access to electricity in rural areas leaves the majority of the Haitian population isolated and with little access to economic development opportunities and basic services. There have been very few investments in rural electricity access in Haiti over the last thirty years. BME carried out three pilot projects in 2005 (installation of solar home systems for productive activities), which are still in operation. However, an inadequate framework and the concentration of efforts on the Port-au-Prince metropolitan area led to a very low increase of the access rate in rural areas.

d. EDH

20. EDH has a monopoly over the purchase, transmission and distribution of electricity. It owns 100% of the transmission and distribution networks, and generates approximately 15% of the energy produced in Haiti, with the rest coming from Independent Power Producers and the Tripartite Cooperation (Haiti-Venezuela-Cuba). EDH delivers services to 200,000 customers [7](approximately 1.4 million Haitians) in Port-au-Prince and the rest of the country.

21. EDH faces considerable technical, managerial and financial challenges. Its technical and commercial losses amount to 66 percent and the utility only recovers approximately 65 percent of the electricity it bills, resulting in a cash recovery index of 22%. As a result, EDH is unable to pay for the cost of basic maintenance services, fuel, payments due for generation under the PPAs signed with IPPs, and for any new investment. The combination of PPAs structured as take-or-pay contracts, deficient transmission and distribution (T&D) networks, and poor billing and commercial practices has further exacerbated the gap between revenues and expenditures. Electricity production is highly dependent on fossil fuels, with only approximately 15% of power generated from hydroelectricity. Production costs are high, as reflected in average tariffs of US$0.31/kWh, at par with levels in the Caribbean, but industrial and commercial tariffs are even higher at US$0.35/kWh. These high tariffs represent a significant obstacle to private sector growth and employment. EDH has not prepared any financial statements since 2005. Under the IDA-financed Infrastructure and Institutions Emergency Recovery Project (P130749), the

[5] This includes about 200,000 'inactive' customers of EDH who have been disconnected but have access to electricity irregularly.
[6] TetraTech estimates, March 2012.
[7] This includes app. 180,000 customers billed and more than 20,000 customers with 0kWh consumption due to defective meters, for instance.

procurement process is underway to hire an accounting firm that would help EDH finalize the statements covering until the fiscal year 2010-2011 by the end of December 2012.

22. The quality of electricity services provided by EDH is very poor, including in the capital city Port-au-Prince, characterized by an inability to increase access to electricity even in areas covered by the grid, frequent alterations and interruptions of service, and very high tariffs. Nonetheless, recent progress has been achieved: average electricity service in the capital rose to 15 hours per day up from 12 hours in 2009, due to an increase in available generation capacity and improvement in the dispatching. The ongoing load shedding is mostly due to insufficient generation capacity and obsolescence of transmission and distribution grids, which have not been renovated for more than 20 years. The existing transmission and distribution systems have difficulties absorbing current generating capacity, which recently increased significantly with the commissioning of the E Power 30MW power plant (accounting for around 30% of available generation in the capital) and the continuing build-up of the capacity provided by the IPP Sogener. In addition, EDH's dispatching center was damaged during the earthquake, requiring manual interventions to manage the grid. Large rehabilitation and extension investments are needed immediately to address these issues.

23. Past efforts to improve EDH's performance have been unsuccessful, in part the result of lack of financial and human resources, but also of insufficient political support to the reform agenda. However, in late 2010, EDH hired four international experts to support its commercial, technical, financial and planning divisions. The experts supported, among others, the implementation of the new commercial management system, the preparation of financial accounts up until year 2010-2011 (which should be finalized by the end of December 2012) and an improvement in the supervision of Power Purchasing Agreements. The experts also facilitated the preparation of an Operations Improvement Agreement (see paragraph 16 above) in March 2012, with a team of six specialists providing technical advisory services to the general manager of EDH. Under the supervision of the OIA team leader, the experts and the OIA team have been working hand in hand to implement the new billing system for EDH and work towards the finalization of financial statements. Despite these efforts, EDH fundamentals remain very weak.

e. Donor Partnerships in the Sector

24. The electricity sector has seen the active involvement of the IDB, the US Agency for International Development (USAID), the Canadian International Development Agency (CIDA), the German Development Agency (KfW), the Government of Brazil and the World Bank Group (the International Development Association - IDA and the International Finance Corporation - IFC). This includes the following ongoing investments: (a) two IDB grants for a total of US$28 million to rehabilitate the power distribution system, a US$12.5 million grant to rehabilitate the hydropower facilities at Péligre, complemented by a US$15 million grant by the OPEC Fund for International Development and US$10 million grant by KfW and a US$35 million budgetary support grant to strengthen and modernize the electricity sector over three years (2 tranches already approved for a total of US$24 million); (b) USAID's US$11 million grant to rehabilitate some substations in Port-au-Prince; US$32.5 million financing of the Operations Improvement Agreement and investments; and US$74 million to build the Caracol power plant; (c) the World Bank's US$ 11 million PREPSEL grant to strengthen the management of EDH and the capacity

of the Ministry; (d) CIDA's investments in generation and distribution in Jacmel and Les Cayes; (e) Brazil's US$ 3.3 million technical assistance to prepare feasibility and resettlement studies the development of a new hydropower plant on the Artibonite river; and (f) IFC's US$17 million investment to finance the 30MW E-Power plant in Port-Au-Prince (project cost of US$57 million). In the household energy sector, USAID is investing approximately US$7.5 million to define a strategy for the dissemination of improved cookstoves and the substitution of charcoal.

25. To support the Government's energy strategy, USAID, IDB and the Bank have coordinated their investment plans and intend to provide an aggregate of about US$400 million over the next five years. The donors' program would financially and technically support: (i) physical investments to rehabilitate and expand the power sector infrastructure in Port-au-Prince and in the provinces; (ii) capacity building and technical assistance to improve efficiency, transparency and governance in the sector; (iii) the implementation of alternative electricity services delivery models; and (iv) technical assistance and investments to reduce the pressure on woodfuel resources. Given the complexity of the issues facing the electricity sector, and the fact that other donors, such as USAID, have committed funds towards the promotion of improved cooking stoves, the proposed Project would focus on investments in the power sector and technical assistance for the energy sector as a whole. The impact of the proposed Project must be considered within the broader donors' program context, as significant structural changes in the sector will require progress under the program as a whole.

26. To successfully implement the program supported by the donors, continuous support for EDH management will be required. A stronger management structure should be in place to give the utility sufficient capacity to implement the proposed program of investments and improve the utility's technical, commercial, financial and operational capacity. Such management team should focus on service quality improvement, loss reduction, increased commercial and financial performance, transparency, and accountability. It would build upon ongoing efforts to reduce losses and improve collection, in particular under the PREPSEL and the OIA.

27. Improving access to reliable energy is a fundamental condition for Haiti's economic growth. The Project's success will depend on i) unequivocal Government support for sector reform, focusing on improving governance and transparency, strengthening Government oversight capacity and EDH performance; ii) development of new institutional and legal frameworks; and iii) efficient donor coordination and availability of committed funds.

C. Higher Level Objectives to which the Project Contributes

28. The Project would contribute to improving the quality of life of the Haitian population, stimulating economic development, and reducing the burden of the electricity sector on budgetary resources through a reform of the electricity sector. The Project supports one of the four priority areas of the Government's reconstruction framework of the March 2010 Action Plan for National Recovery and Development of Haiti: 'territorial rebuilding'. This pillar aims to strengthen "economic infrastructure required for growth (roads, energy and communication)".

29. The proposed Project is also fully aligned with the World Bank Group's Haiti Interim Strategy Note FY2013-2014 (ISN2). The Strategy programs the second tranche of the US$520 million allocated to Haiti from the IDA 16 Crisis Response Window in response to the 2010

earthquake. The Strategy focuses on i) reducing vulnerability and increasing resilience, (ii) supporting sustainable reconstruction, (iii) building human capital, and (iv) promoting inclusive growth. This Project would put substantial resources toward fulfilling the first and second pillars in rebuilding the electricity distribution network and toward pillar four in improving electricity supply and access, the most critical infrastructure obstacle to private sector growth identified by investors in the 2011 Doing Business survey.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

30. The objectives of the proposed Project are to (a) strengthen the Recipient's energy policy and planning capacity; (b) improve the sustainability and resilience of the Recipient's electricity sector and restore and expand access to reliable electricity services; and (c) provide financial assistance in case of an Energy Sector Emergency.

1. Project Beneficiaries

31. Through the implementation of the three components described below, the Project is expected to benefit a large range of households and small businesses in Haiti, specifically: (i) in the capital Port-au-Prince, EDH (residential, commercial/industrial and institutional) customers would experience an improvement in the quality of their service through grid rehabilitation work, and new households who currently have no electricity services would be connected through extension of the network; (ii) outside Port-au-Prince, EDH customers would experience an improvement in the quality of electricity services, and new households and small enterprises in rural areas would gain access to electricity through grid extension and/or installation of off grid systems. Capacity building and governance activities would help improve the public's awareness of energy related issues, strengthening overall efficiency of the sector.

2. PDO Level Results Indicators

32. The expected key results are as follows (see also Annex 1: Results Framework and Monitoring):

(i) Strengthening of Government's oversight capacity and transparency in sector financial flows, through: establishment of a functioning permanent entity for energy, implementation of a new regulatory framework for the sector, quarterly publication of the monitoring mechanism table for budgetary transfers for electricity and yearly update on the electricity sector financial situation.

(ii) Improvement in the Cash Recovery Index (CRI) of EDH: 51% (2014)

(iii) Direct Project Beneficiaries 600,000 (population gaining new and/or improved access to electricity, including through street lighting by 2014)

III. PROJECT DESCRIPTION

A. Project Components

33. The proposed Project represents a key element of a new and significantly expanded program of engagement that involves multi-donor actions through investment financing, budgetary support and capacity building (see Table 6 of Annex 3). Rehabilitation works on the Port-au-Prince metropolitan grid would complement the investments currently underway /or planned by IDB and USAID on different areas of the EDH grid. In addition, capacity building activities would be closely coordinated with these donors, since IDB is also supporting the strengthening of the sector's institutional capacity through technical assistance linked to its budgetary support operation, and USAID is currently financing the Operations Improvement Agreement (OIA) in EDH. Finally, the Project would build upon the tools financed under the PREPSEL, in particular (i) the installation of the new billing system will be essential to improve EDH billing and this system will be extended to the provinces, (ii) the remote metering system – which will be installed for 500 clients under the PREPSEL - will be installed for all industrial clients, and (iii) support to put into place an acceptable management structure within EDH will be provided, building on the technical assistance provided by the four international experts to EDH under the PREPSEL and the OIA. Project activities will also be closely coordinated with other IDA-financed Projects under preparation. in particular the proposed Additional Financing for Infrastructure and Institutions Emergency Recovery Project (P130749) and the proposed Haiti Jobs Creation and Growth Project (P123974), to maximize possible synergies.

34. In the event of a natural disaster, the Government and the Bank would assess the need for revising Project activities. A component has been included in the Project design to allocate funds to disaster response. The Project design also includes specific activities aimed at reducing the impact of future natural disasters on the sector, including: (i) consultants will be hired to help the MTPTEC and EDH assess needs and establish a plan of action to improve the sector's resilience (procedures, equipment etc. under components 1.1 and 2.1); (ii) solar home systems and solar street lighting (financed under component 1.2) have proven particularly resilient to natural disasters (as demonstrated during the January 2010 earthquake); and (iii) grid rehabilitation and expansion activities will integrate the need for more resilient equipment (component 2.2).

35. Given the weak institutional environment, most Project interventions planned from Project year two/three through year five (70% of the Project budget) will be implemented subject to the implementation of an acceptable management structure within EDH, before the closing of the OIA (April 2013). This approach seeks to ensure that EDH will have sufficient capacity to successfully execute the donor-financed investment program and that the Government has an incentive to support and foster a consensus on a solid management structure for EDH. Section II below details the sequencing of activities under this approach.

36. The proposed sequencing of Project activities would mirror the expected schedule of execution of Project activities. The Project would start by financing limited priority physical investments and technical assistance to the Government and EDH, including for the preparation of bidding documents for the investments planned under the subsequent phase (activities 1.1, 1.2a-b, 2.1 b-g and 2.2a and d). Financing for these investments would become available on the condition that EDH management structure is considered acceptable. The Government has

expressed strong commitment towards improving the management of EDH. Nevertheless, failure to put into place an acceptable management structure in the utility by late 2013 would delay implementation of Project activities (see Risk section for more details).

Table 2: Sequencing of Project implementation (US$ million)

Components	Phase 1	Phase 2	Total
1. Strengthening Energy Sector Institutions and Improving Energy Access	**7.58**	**4.58**	**12.16**
1.1. Institutional capacity of MTPTEC and governance and transparency in the energy	4.33	0.00	4.33
1.2. Offgrid Electricity Access	3.25	4.58	7.83
2. Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure	19.85	57.99	77.84
2.1. EDH Performance enhancement	8.62	10.00	18.62
2.2. Grid rehabilitation and access expansion	11.24	47.99	59.23
3. Emergency reponse	**0.00**	**0.00**	**0.00**
TOTAL	**27.43**	**62.57**	**90.00**

37. The Project consists of three main components, scheduled to be completed within a 5-year period (September 2012- September 2017).

1. Description of components

38. **Component 1: Strengthening Energy Sector Institutions and Improving Energy Access**

1.1. Strengthening the institutional capacity of MTPTEC[8] and enhancing governance and transparency in the Recipient's energy sector, through:

a. Establishment and staffing of an energy unit at MTPTEC by (i) hiring external experts to provide technical assistance to said energy unit on matters related to, *inter alia*, the development of an energy sector regulatory framework; and (ii) providing training to staff and carrying out of workshops;

b. Provision of technical assistance to the energy unit in order to, *inter alia*: (i) establish a planning framework for the Recipient's energy sector and carry out an action plan for the implementation thereof; (ii) strengthen the technical capacity of the energy unit; and (iii) monitor the implementation of energy sector activities;

c. Carrying out of outreach activities and information dissemination campaigns through the energy unit to establish a dialogue on matters relevant to the energy sector

[8] MTPTEC or any successor thereto. The Government is in the process of redefining the institutional setup in the energy sector.

between energy consumers, energy service providers, the relevant institutions of the Recipient and EDH; and

d. Supporting Project management.

1.2. Improving off-grid electricity access, through:

a. (i) the development of new off-grid electricity connections solutions; (ii) the establishment of a regulatory framework therefore; and (iii) the provision of training of MTPTEC staff to enhance their supervisory capacity;

b. The acquisition and installation of: (i) one hundred (100) solar public lights; and (ii) off-grid electricity connections to two thousand (2,000) additional electricity customers; and

c. The acquisition and installation of new off-grid electricity connections, such as public solar lighting, solar home systems and/or mini-grids, and, if needed, the acquisition and installation of rapid response connections, such as solar lanterns.

39. **Component 2: Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure**

2.1. Enhancing EDH's performance, through:

a. The strengthening of its management capacity;

b. The provision of technical assistance to support EDH on technical, commercial, financial and electricity sector planning matters, including support to assist EDH with improving its resilience to and readiness for responding rapidly to natural disasters and to carry out studies for grid rehabilitation and extension work, as well as for the rehabilitation of the Drouet micro hydro electric plant (2.5 MW) and to carry out the supervision of the implementation of said studies;

c. The carrying out of technical assistance to enhance EDH's capacity to supervise compliance with environmental and social standards, including the Association's Safeguard Policies.

d. The carrying out of a master plan for EDH to assess, *inter alia*, electricity demand and define priority investments to meet such demand;

e. The extension of EDH's billing system to the Recipient's entire territory;

f. The installation of a remote metering system for large industrial and commercial clients of EDH; and

g. The provision of technical assistance to assist EDH in carrying out of external financial audits.

2.2. Rehabilitating electricity grids and extending access thereto, through:

a. The rehabilitation of five (5) grid circuits in the Recipient's Port-au-Prince metropolitan area, including the acquisition and installation of metering equipment required therefor;

b. The rehabilitation of the remaining grid circuits in the Recipient's Port-au-Prince metropolitan area, including the acquisition and installation of metering equipment required therefore, and (ii) the installation of new residential connections to EDH's distribution network through grid densification and/or extension; and

c. (i) The rehabilitation of EDH's distribution networks and installation of metering equipment in select areas other than the Port-au-Prince metropolitan area, such as Artibonite, Cap Haitien and Petit and Grand Goave; and (ii) the establishment of new connections in EDH's networks in said areas, through grid extension and/or densification; and

d. The rehabilitation of the micro hydroelectric plant (2.5MW) in Drouet.

40. **Component 3: Energy Sector Risk and Emergency Response Contingent Reserve:** Providing support upon occurrence of an Energy Sector Emergency through: (a) the carrying out of Emergency Recovery and Rehabilitation Activities; and/or (b) technical assistance to support MTPTEC and EDH in its response to an Energy Sector Emergency.

B. Project Financing

1. Lending Instrument

41. An IDA grant (Sector Investment Loan - SIL) with US$90 million equivalent is proposed to finance the Project and the Recipient will contribute US$1.5 million. A Project Preparation Advance of US$2 million was requested by the Government and is in progress of approval.

42. Three other alternative instruments were considered to address the need for phasing in the operation. An Adaptable Program Loan (APL) could provide clear links between progress on reform and fresh financing. However, the APL's structure requires a high degree of predictability to establish practical and effective triggers. The Haiti context remains unpredictable. A structure with two separate projects could address this issue, but would not provide the certainty of funds needed to inspire commitment to reforms. Similarly, an Additional Financing would also lack certainty of funding. Hence, the SIL approach, with a disbursement condition to activate the second phase of investments, was finally selected. This approach allows for simpler and faster triggering of the second phase of investments, while providing sufficient incentives to maintain a

team focused on improving EDH's technical, commercial and financial management and on providing adequate Project implementation capabilities.

2. Project Cost and Financing

43. Project costs and allocation for IDA financing are provided in Table 3 below.

Table 3: Project Cost and Financing (US$ million)

Components	Total costs	IDA financing	Counterpart
1. Strengthening Energy Sector Institutions and Improving Energy Access	**13.06**	**12.16**	**0.90**
1.1. Institutional capacity of MTPTEC and governance and transparency in the energy sector	5.23	4.33	0.90
1.2. Offgrid Electricity Access	7.83	7.83	0.00
2. Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure	**78.42**	**77.84**	**0.58**
2.1. EDH Performance enhancement	19.00	18.62	0.38
2.2. Grid rehabilitation and access expansion	59.42	59.22	0.20
3. Emergency reponse	0.00	0.00	0.00
TOTAL	**91.48**	**90.00**	**1.48**

C. Lessons Learned and Reflected in the Project Design

44. The Project design has benefited from the Bank's experience in infrastructure projects in other fragile countries, from the ongoing IDA Haiti Electricity Loss Reduction (PREPSEL) Project, and the other projects implemented by the IDB and USAID. The following lessons learned have been incorporated in the Project design:

a. Operations in Fragile Environments. Fragile environments are characterized by uncertain roles and responsibilities, weak accountability arrangements, and significant opportunities for corruption. The design and sectoral dialogue seek to address this in two ways. i) With respect to project-specific activities, the design is intended to provide insulation from these influences through mechanisms such as a more robust energy cell with a clear mandate and sufficient capacity, a more solid management structure for EDH, and use of a proven implementation entity for procurement and financial management. ii) In addition, the Project activities themselves are designed in part to address some key elements of fragility although the project in isolation cannot fully address these issues.

b. Political commitment. Strong political will to improve governance and implement sector reforms is essential to ensure satisfactory implementation of projects, and to sustain outcomes. Past interventions in Haiti have shown that investments alone are not enough to ensure positive results. Dialogue with the Authorities and EDH during preparation and implementation, as well as agreement on a series of

governance and policy conditions (negotiations conditions) are critical to obtaining political commitment and maintaining it throughout the Project.

c. Implementation capacity. Capacity building support to sector entities and implementing agencies is essential to ensure adequate implementation and sustainability of Project activities, in particular in fragile environments like Haiti. The implementation of an improved management structure for EDH will be essential to creating such capacity. In addition, the Project will build upon the implementation capacity acquired by the PREPSEL Project Coordination Unit (MTPTEC PCU) by strengthening the unit so that it can also support the proposed Project. Additional support will focus on: technical, management and safeguards aspects, and monitoring and evaluation, both at the Government and EDH levels.

d. Policy and regulatory framework. An adequate policy and regulatory framework is essential to carrying out a comprehensive reform of the sector. This also includes the definition by the Government of clear responsibilities and roles for each institution, and accountability. The approval by the Government of a Letter of Sector Development Policy, a condition of negotiations, is a first step in that direction. The proposed Project, alongside the IDB Technical Assistance to support a third tranche Budgetary Support Operation (June 2013) and USAID interventions, will complement the Project's support to establish such a framework during the initial phase of Project implementation.

e. Donor coordination. In a context where the institutional capacity is low and the issues faced by the sector are complex and far reaching, it is essential that the interventions supported by the donors be well coordinated. Effective donor coordination has proven a key element of successful reform in other fragile States. Before preparation, the main donors in the sector laid out a common strategy for the sector. During preparation, frequent informal and formal meetings took place to agree on the detailed investment program. During implementation, donors will focus on maintaining a continuous dialogue among themselves and with the Government.

f. Public awareness. Public awareness of energy sector issues (for instance, the incidence of electricity theft on the quality of service and the impact of inadequate procurement of new electricity generation and supervision of PPAs on public finances) can contribute to strengthening 'checks and balances' for the management of the sector. The Project will finance the launching of external communication campaigns on Government energy policy and energy related issues, to familiarize the public with the challenges and objectives of energy policy and help build a constituency with a stake in an efficient and transparent energy sector.

g. Project costing. Past interventions in Haiti (including the ongoing PREPSEL) have demonstrated that there is a high risk premium put by foreign firms for investing in Haiti. In addition, it is necessary to include additional funds to

support implementation capacity. These aspects were taken into account when developing the budget for the various activities.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

45. The following implementation arrangements are proposed for this Project: (i) overall coordination of Project preparation and implementation will be the responsibility of the MTPTEC and any successor thereto - until the new institutional arrangements are formalized, MTPTEC remains the official Government's entity responsible for energy -; (ii) this entity will also be responsible for supervising institutional strengthening activities, and the implementation of offgrid/rural access activities (component 1); and (iii) Electricité d'Haïti (EDH) will be responsible for implementing its performance enhancement program and the rehabilitation and expansion activities (component 2). A Project Steering Committee – chaired by the Prime Minister and comprising the MTPTEC, EDH and the MEF - will be established and meet on a bi yearly basis to monitor Project implementation.

46. All fiduciary responsibilities (procurement and financial management) will be carried out by MTPTEC through its existing Project Coordination Unit (MTPTEC PCU), which does this for the PREPSEL. This PCU will be transferred to the entity designated by the Government to manage the sector. The PCU has over five years of experience with Bank-financed activities, including a component that supported the establishment of an energy unit within the Government. Given the significant increase in the size of the activities to be carried under the proposed Project, the PCU will be strengthened by adding two fiduciary staff.

47. Compliance with Project Safeguards will be the responsibility of the MTPTEC and EDH, as described in the Environmental and Social Management Framework (ESMF), in the Resettlement Policy Framework (RPF), and in the Mirebalais Environmental Management Plan (EMP) and Mirebalais Resettlement Action Plan (RAPs). These documents were publicly disclosed in Haiti and in the Bank's Infoshop prior to initiation of Project Appraisal.

B. Results Monitoring and Evaluation

48. The MTPTEC will have overall responsibility for the monitoring and evaluation (M&E) of Project activities. It has appointed the MTPTEC PCU to coordinate the preparation of the Project's M&E reports, which include: (i) quarterly reports on the performance of the Project, based on the M&E framework established during Project preparation (see Annex 1); (ii) quarterly Interim Financial Reports (IFRs); and (iii) annual independent financial audits of the Project and of EDH. Technical Assistance under the Project Preparation Advance will help the MTPTEC set up its own monitoring framework. EDH will also, in the framework of its corporate responsibilities, report on its performance on a regular basis and provide the PCU with the relevant information. Project funds have been allocated under the Project Preparation Advance to hire a consultant to help the PCU put into place an effective M&E framework. These arrangements, requiring that EDH and the MTPTEC provide information on a regular basis to its

PCU, may be slow to put in place, but will be supported by technical assistance financed under the Project.

C. Sustainability

49. The Project is designed to support sustainability of the results through: (i) capacity building support to key sector entities and stakeholders; measures to improve sector Governance; and definition and implementation of a new regulatory framework; and (ii) effective mechanisms to promote maintenance and financial viability for all investments.

50. Capacity building activities seek to strengthen the Government's ability to supervise the implementation of sector policy in a sustainable way. Establishment of a new regulatory and legal framework should help improve transparency and accountability in the sector. Public information campaigns will focus on building up support for the objectives of the sector reform, including those of the proposed Project. Activities to strengthen EDH operational management (in particular the implementation of a more solid management structure) should help improve the utility's financial and operational performance in the long term, enabling it to carry out adequate maintenance of its infrastructure.

51. The design of investment activities focus on achieving sustainability of expected results. Rehabilitation of EDH infrastructure should increase the efficiency of the network, and hence contribute to an increase in revenues for the utility. Contractors involved in off grid investments will be required to provide maintenance services and training to local agents. In addition, financial mechanisms will be established for the off grid activities to promote sustainability of the models developed.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary

52. A summary of the risk ratings is provided in table 3 below. Detailed information is provided in Annex 4.

Table 3 Risk Rating Summary

Risk	**Rating**
Stakeholder Risk	**High**
Lack of sustained political commitment and coordination between sector stakeholders could undermine the sector entities' ability to manage the sector in the face of diverging interests; this has considerably undermined sector performance in the past.	**High**
Implementing Agency Risk	**High**
- Capacity Despite the experience of the PREPSEL Coordination Unit (MTPTEC PCU) to manage the fiduciary aspects of implementation, capacity in the sector remains very low with insufficient staffing at the Government level and managerial deficiencies at the utility level.	High
- Governance Serious governance issues in the sector have heavily affected sector performance, at the Government and utility levels. Haiti has one of the lowest transparency indices in the world. This Project alone will not address these issues.	High
Project Risk	**High**
- Design The design of the Project is the result of careful analysis of sector needs and lessons learned. The phasing of the Project activities could delay implementation, since app. 70% of Project funds will be disbursed conditional upon the implementation of a satisfactory management structure within EDH.	Substantial
- Social and Environmental This operation is a category B Project. Capacity to manage social and environmental safeguards is low.	Substantial
- Program and Donor The Project's success is dependent on the broader sector investment and governance efforts, agreed with the Government and Donors.	Substantial
- Delivery Monitoring and Sustainability Neither the Government nor EDH have developed adequate monitoring capacity.	High
- Sustainability EDH financial situation is very fragile, potentially jeopardizing the sustainability of investments. The Government's energy unit is being restructured. Sector regulatory framework is inadequate.	High
Overall Implementation Risk	**High**

B. Description

53. There are three main risks for the implementation of this Project: (i) lack of sustained political commitment to implement sector reforms including improving governance; (ii) weak institutional and implementation capacity; and (iii) reduced donor coordination. The overall risk of the Project is High.

54. Political commitment to implement sector reforms, including improving governance, has been lacking in the past, undermining the efficiency of the interventions. Key to the success of the reforms will be to ensure agreement on roles and responsibilities of each institution, and initial implementation of a better management structure for EDH. The Bank energy team is in regular contact with the Authorities and other donors to ensure broad support for the interventions proposed under this Project. In addition, a public awareness program on the Government's energy policy will be carried out as part of the Project to ensure that there is broad ownership of the reforms envisioned.

55. Weak institutional and implementation capacity and poor governance could undermine Project implementation. Lack of a clear institutional framework for the sector has been an obstacle to sector reform over the past decades. Another challenge is the culture of fraud and nonpayment in public services. Capacity building activities proposed under sub components 1.1 and 2.1 should strengthen implementation capacity and increase general transparency at the sector level. The OIA and the continued support of the 'delegate directors' will help EDH implement the first phase of the investments The second phase of EDH investments (representing about 70% of investments) will be carried out upon the implementation of an acceptable management structure within EDH. Nevertheless, there is a risk that such management team could fail or change before the end of Project implementation. The Bank and the donor community will continue to support EDH and the Government to ensure that the improvement in EDH management is sustained.

56. The sustainability of Project results is dependent upon the implementation of the donors' investment program. In particular, improving the performance of EDH will fail if the funds do not materialize. Donor coordination could weaken, or funds could be allocated to other sectors in the course of implementation. While this risk exists, donors have organized a series of high profile meetings with the Government, where they have publicly committed to investing in the sector on specific interventions for the next five years. At the same time, each donor has their own mandate and authorizing environment, which means that full alignment is not guaranteed.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

Project Economic Analysis

57. An economic assessment for the Project indicates an Economic Rate of Return (ERR) of 40 percent and an NPV of US$160 million, as the proposed investments in electricity grid, losses

reduction and meters rehabilitation and in access expansion to electricity have relatively low upfront capital expenditures activities and high economic returns. The net economic benefits for Haiti (as estimated by the Net Present Value of the net benefits (NPV - @ 10 percent) and the Economic Rate of Return (ERR) have been estimated for the Project as a whole and separately for: (a) the off-grid investments, not implemented by EDH (Component 1); (b) the physical investments to be implemented by EDH (Component 2), and also separately for key sub-components. As shown in Table 4 below, implementation of the proposed Project is expected to provide substantial net economic benefits for Haiti. Project net economic benefits remain very strong in situations of higher than expected initial capital costs, and of lower economic benefits.

58. Component 1 Net Economic Benefits. Component 1 involves the design of new approaches to increase access to electricity in rural areas, institutional strengthening and Project Management. The NPV and ERR for the offgrid investments are respectively US$8 million and 30 percent.

59. Component 2 Net Economic Benefits. Component 2 includes the second phase of the installation of remote metering for large industrial clients, strengthening of Port-au-Prince's power network, rehabilitation of feeders and customers connections, and extension of electricity services in some areas of Port-au-Prince, as well as rehabilitation and extension in secondary urban centers (outside Port-au-Prince) and the rehabilitation and extension of electricity services in the Plateau de l'Artibonite. Component 2 NPV and ERR are respectively US$153 million and 41 percent, reflective of the Project supporting high priority investment activities.

60. Sensitivity Analysis. The economic viability of the Project and of its two main components has also been assessed for scenarios of higher initial capital costs (+20 percent) and of lower benefits (- 20 percent). The sensitivity analysis shows that the Project's overall economic viability and the economic viability of the main components remain acceptable (Table 4).

Table 4: Summary of Economic Analysis

Investment		**Project**		**Component 1**		**Component 2**	
Scenario	Unit	Base Case	Low Case	Base Case	Low Case	Base Case	Low Case
NPV@10%	$million	160	14	8	2.3	153	12
ERR	%	40	13	30	15	41	12

(*) The Low Case Scenario combines an increase of 30 percent in Project initial capital costs together with a decrease of 20 percent in willingness to pay or value of energy saved.

Financial Analysis: Impact on the electricity sector and EDH Finances

61. EDH's financial condition has been severely degraded for many years, despite large fiscal transfers from the national Budget (estimated at US$180 million in FY 2011), and high tariffs (about US$c31/kWh in early 2011). For fiscal year 2011, EDH's revenues (billing) were estimated to be US$ 94 million, with significant losses of US$ 235 million[9]. These large financial losses occurred despite a very high average tariff, and to a large extent reflect EDH

[9] EDH has not produced any financial statements since fiscal year 2005. An accounting firm financed under the IDA-financed Infrastructure and Institutional Emergency Recovery Project will help EDH finalize FY2011 accounts by end 2012. The proposed Project would finance an audit of the financial accounts.

very high technical and commercial losses, of about 66 percent in 2011[10]. The collection performance was also low: 65 percent. Such low performance is related largely to weak management at the sector and EDH levels, lack of technical and commercial capacity and tools, and also to a lack of investments and of maintenance which led to a poor quality of service.

62. With the large rehabilitation program partly to be financed through the Project and by other Donors (USAID, IDB, etc), the capacity building efforts, and also with the implementation of the Operation Improvement Contract (OIA) and of the planned strengthening of the utility's management structure, the installation of a state-of-the-art commercial and technical management systems (financed through the PREPSEL project), and improvements in the quality of service, EDH's technical and non-technical losses should decrease significantly, and the company's collection performance should also improve. It is assumed that within 10 years, EDH technical and commercial losses will gradually decrease from 66 percent in 2011 to 28 percent, and that EDH's collection performance will also increase from 65 percent in 2010 to 89 percent over a 10-year period. For the Project Base Case, this would provide a Financial Rate of Return (FRR) on the investment of 58 percent. In a "Low Case Scenario" (Project capital costs higher by 20 percent, and benefits lower by 20 percent), the FRR will be 25 percent.

B. Technical

63. The proposed Project relies on tested technologies and the proposed investments present no unusual construction or operational challenges. It will be implemented in accordance with internationally accepted technical criteria and standards with support from the OIA contractor and other experts as needed. The technical parameters, key design features and the estimated costs for each Project component have been discussed with MTPTEC and the Minister Delegate for Energy Security, EDH's staff and its advisors, as well as with international experts.

64. The preparation of the technical and other contractual specifications, the evaluation of the bids, the contractual negotiations and the supervision of construction will be supported as needed by external expertise. In addition, the Bank team will provide implementation support to the Project, in particular regarding procurement, financial management and compliance with Bank environmental and social safeguards (see Annex 5 - Implementation Support Plan).

C. Financial Management

65. Fiduciary risk at the national level is high and the current volatility of governmental structures increases this overall risk. The Project will rely on MTPTEC's PCU, to have fiduciary responsibilities over the implementation of all activities, including those activities to be carried out by the MTPTEC. However, in view of the increase in the amounts and the change in the nature of the activities to be managed by the PCU's financial management team and of the fact that the same team also manages IDB funds, a strengthening of the PCU FM team is necessary.

66. The latest Financial Management (FM) supervision of PREPSEL (July 2012) noted that though some weaknesses existed, this did not prevent timely and reliable provision of

[10] Technical and non-technical losses defined as billed energy over EDH and IPPs net production. Of the quantities billed, EDH recovered 65%.

information required to manage and monitor the implementation of the project. An action plan was developed to mitigate these weaknesses and prepare for the implementation of the Project. The recommended measures include the update of the existing financial management sections of the Operational Manual, the recruitment of an FM specialist, the purchase of an accounting software and the selection of an external auditor for the Project. The detailed proposed action plan is provided in Annex 3.

67. In conclusion, the FM arrangements for the Project, with the implementation of the mitigating measures described in the above paragraph, satisfy the Bank's minimum fiduciary requirements under OP/BP10.02 and are adequate to provide, with reasonable assurance, accurate and timely information on the status of the Project required by the Bank.

D. Procurement

68. An assessment of the procurement requirements and of the existing procurement capacity of the MTPTEC PCU was carried out by the Bank team during Project preparation. To strengthen the Project procurement performance, the following measures were agreed: (i) a procurement specialist is expected to be in place before the effectiveness of the Project; (ii) contracts will be aggregated in a few procurement packages using single responsibility (turnkey) type of contracts when feasible, which will be subject to Bank prior review; and (iii) all staff involved in Project procurement will participate in procurement training delivered by the Bank.

69. Procurement for the Project activities will be carried out in accordance with the World Bank Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants dated January 2011 and Guidelines: Selection and Employment of Consultants under IBRD Loans & IDA Credits & Grants by World Bank Borrowers dated January 2011; and the provisions stipulated in the Grant Agreement. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements and timeframe will be agreed between the Borrower and the Bank and reflected in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. Additional details are provided in Annex 3.

E. Social and Environment (including Safeguards)

70. **Social.** The following socially positive Project impacts can be highlighted: (i) increasing quantity and quality of electricity services available in Haiti; (ii) improving consumers' and civil society's understanding of the energy sector, and their access to data; and (iii) building up capacity in the sector to manage social safeguards.

71. Potential negative social impacts of Project implementation relate mainly to the potential impacts of extending the electricity infrastructure within Port-au-Prince, secondary cities and in rural areas and of regularizing electricity connections. In particular, the distribution extension and rehabilitation works may cause resettlement land acquisitions, such as displacement of farms and/or people, although this is expected to be minor. These issues are addressed through: (i) the

selection of investments with limited impacts and of sites with low social sensitivity; (ii) Project consultations with the communities and the local and central Authorities (including consultations with women's groups) and social outreach activities; (iii) Social outreach campaigns before and during rehabilitation works; and (iv) implementation of mitigation measures, when appropriate, as outlined in the Project's safeguards documents. Other potential negative impacts may include loss of economic trees, shade trees or other agricultural products for communities that have farmed exactly in the right of way or in the path of the distribution line.

72. **Environment**: The Project is a Category B Project. Investments include the construction and rehabilitation of distribution feeders (in Port-au -Prince, in secondary towns and in rural areas), the installation of public lighting in urban and rural areas, and small off grid electrification schemes in rural areas. The project triggers the following safeguards: O.P/B.P 4.01 Environmental Assessment, O.P./B.P 4.12 Involuntary Resettlement and O.P./B.P 4.37 Safety of Dams.

73. In this project, grid rehabilitation and extension, expansion of the power distribution network and grid densification activities could potentially have negative environmental and/or social impacts. Negative environmental impacts may be related to waste/debris removal and disposal, worker and fire safety, soil removal and erosion, increased levels of dust and noise, oil spill or leakage from machinery or transformers, and removal of vegetation and trees from the right of way in order to create clearance for the poles and lines.

74. Given that for some activities, specific sites will be known only during Project implementation, an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF), dated August 9, 2012, have been prepared and were disclosed prior to appraisal. For all activities envisioned under the Project (including the Mirebalais line, see below), an owner's engineer will support EDH to specify the exact nature of the rehabilitation works to be carried out, prepare the technical specifications and supervise the works. For the site that was clearly defined during preparation (the extension of the Mirebelais line in the Artibonite valley), a Mirebalais Environmental Management Plan (EMP) and a Mirebalais Abbreviated Resettlement Action Plan (RAP), dated August 9, 2012, were prepared. Additional Resettlement RAPs will be prepared in accordance with Bank policies if resettlement is necessary. The safeguard documents outline the process to screen and mitigate these negative impacts as well as outline the process for compensation. In every case, there will be an effort for the selected contractor(s) to apply mitigation measures and to minimize losses, particularly the loss of trees and land, by using existing rights of way and even within these areas, to minimize these impacts. In terms of positive impacts, access expansion activities as well as repair to existing stations and lines should help stimulate social and economic development, particularly in regions where lack of access has hindered economic growth.

75. For the connection between Mirebalais and Verettes, a Mirebalais Abbreviated Resettlement Action Plan (RAP) was developed to ensure compensation to the 14 people that would be affected by the project through limited loss or pruning of economic or shade trees. This plan, including compensation alternatives, was consulted with the communities and the beneficiaries themselves. All beneficiaries chose to receive monetary compensation, but were also offered compensation in kind. A Committee for Compensation and Evaluation will be

formed to implement and oversee the RAP and will include representatives from EDH, DGI, the Communal Administrative Council (CASEC), the affected people themselves, and a representative of a Haitian civil society organization.

76. Lack of capacity in the Government and EDH to manage environmental and social safeguards is an important constraint and the Project will provide capacity building support to address this issue, through the organization of workshops, the hiring of a consultant to support the MTPTEC and EDH in the implementation of safeguards policies (during Project preparation), and technical assistance. In addition, the consultants hired to help the Government prepare the safeguards documents will work in close collaboration with the MTPTEC and EDH, providing training as needed, including improved PCB management. The EMP will detail the type of training and capacity building that EDH and the MTPTEC will require to ensure that there is adequate monitoring, reporting and implementation supervision. Additional Safeguards information is provided in Annex 3.

Annex 1: Results Framework and Monitoring

HAITI: Rebuilding Energy Infrastructure and Access Project

Project Development Objectives (PDOs):
The objectives of the proposed Project are to strengthen energy policy and planning capacity, expand access to reliable electricity services through power sector infrastructure rehabilitation and expansion , and to provide sustainable access to more efficient energy for cooking.

PDO Level Results Indicators*	Core	Unit of Measure	Baseline 2011	Cumulative Target Values*						Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1 2013	YR 2 2014	YR 3 2015	YR4 2016	YR 5 2017	YR 6 2018				
Indicator One: Strengthening of Government's oversight capacity and transparency in sector financial flows		Documents		1) Energy cell with clear mandate, adequate capacity, and demonstrated effectiveness 2) Monitoring of budgetary transfers to electricity sector: Publication of monitoring table 3) Availability of EDH's updated financial outlook and forecasts of future budgetary transfers needed, as part of the financial model	1, 2, 3 (see prior year)	1, 2, 3, 4 (see prior year) 4) Draft regulatory framework for the sector agreed with stake-holders	1, 2, 3 (see prior year) and 4) effective implementation of the framework	1, 2, 3, and 4 (see prior year)	1, 2, 3, 4	Quarterly (monitoring mechanism) Quarterly (Project reporting) Annual: EDH's audits	Energy cell and MTPTEC PCU reports	Energy cell / MEF and MTPTEC PCU	
Indicator Two: Cash Recovery Index (CRI)		%	22%	23%	27%	33%	40%	48%	51%	Semi annual			12-month moving average
Indicator Three Direct beneficiaries	☐	Number (000s)	N/A	0	60	300	400	550	600	Semi-annual	Direction Energie and	Semi-annual	Beneficiaries from increase access and

(000)											EDH reports		improved quality of electricity services
	INTERMEDIATE RESULTS												
	Intermediate Result (Component One): Institutional strengthening and governance enhancement												
Intermediate Result indicator One: Government entity responsible for the Energy Sector adequately staffed		Number of staff		0	2	4	5		5 permanent staff in the new energy cell	Semi-annual	Energy cell / Supervision Missions	Energy cell	In addition to BME staff
Intermediate Result indicator Two: Electricity sector financial model and Energy sector database		Excel file		Financial Model established	Energy Database established and updated regularly	Energy Database and financial model updated	Energy Database and financial model updated		Energy Database and financial model update	Annual	Energy cell reports	Energy cell	
Intermediate Result indicator Three: Sample Power Purchase Agreement (PPA) and retail tariff					Draft study	Proposal approved by GOH				Semi-annual	Energy cell reports/ Supervision missions	Energy cell	
Intermediate Result indicator Four: Offgrid access to electricity for collective uses (street lighting schools etc)		Number of systems (cumulated)		30	120	220	350	490	500	Semi-annual	Energy cell and MTPTEC PCU reports	Energy cell and MTPTEC PCU	In urban and rural areas
Intermediate Result indicator Five Offgrid connections to electricity		Number of households (cumulated)			700	1600	3000	4500	5200				
	Intermediate Result (Component Two): EDH capacity strengthening and infrastructure rehabilitation and expansion												
Intermediate Result indicator One: External audits of EDH					External audit	External audit	External audit	External audit	External audit	Yearly	EDH's reports, supervision missions	EDH	External audit available within 6

accounts													months of closing of EDH fiscal year
Intermediate Result indicator Three Average Daily Service Availability Port-au-Prince Metropolitan zone Provinces		Hours	15 hours TBD	15 hours	16 hours	18 hours	19 hours	20 hours	20 hours IBD	Semi-annual	EDH's reports	EDH	Within EDH perimeter n Port-au-Prince and secondary urban centers
Intermediate Result indicator Four: Restored connections		Number of connections restored		0	5,000	30,000	45,000	57,000	67,000				
Intermediate Result indicator Five: New grid connections established		Number of new connections		0	5,000	10,000	19,000	24,000	30,000	Semi-annual	EDH's reports, supervision missions	EDH	Within EDH perimeter
Intermediate Result indicator Six: Technical and non technical losses		% of energy injected into distribution networks	66% (mid 2011)	65%	60%	54%	48%	41%	40%	Semi-annual	EDH's reports	EDH	Within EDH perimeter n Port-au-Prince and secondary urban centers
Intermediate Result indicator Seven: Distribution lines rehabilitated or repaired		Kms	0	0	50 kms	200kms	300kms	360kms	390kms	Annual			

* Implementation would be over 5 years, from September 2012 to September 2017, covering 6 fiscal years.

***Please indicate whether the indicator is a Core Sector Indicator (see further http://coreindicators)**

Annex 2: Detailed Project Description

HAITI: Rebuilding Energy Infrastructure and Access Project

1. The proposed Project represents a key element of a new and significantly expanded program of engagement that involves multi-donor actions through investment, budgetary support and dialogue. The sector program and the role of the other donors is presented in Annex 3.

2. As the Project is being developed in a risky environment, with low implementation capacity and weak governance, most Project interventions planned from Project year two/three through year five (70% of Project amount) will be conditional upon the implementation of an acceptable structure within EDH, satisfactory to the Bank, at the end of the OIA (April 2013). This approach seeks to ensure that EDH will have sufficient capacity to successfully execute the donor-financed investment program and that the Government has an incentive to support and foster a consensus for such an improvement in EDH management structure. Section II below provides a summary of activities to be developed under each phase of the Project.

3. The proposed Project consists of three components, scheduled to be completed within a five-year period (September 25, 2012- September 30, 2017).

1. Project description

4. Component 1: Strengthening Energy Sector Institutions and Improving Energy Access (IDA US$12.2 million)

1.1. <u>Strengthening the institutional capacity of MTPTEC and enhancing governance and transparency in the energy sector, through (IDA US$4.3 million):</u>

a. Establishment and staffing of an energy unit at MTPTEC by (i) hiring external experts to provide technical assistance to said energy unit on matters related to, inter alia, the development of an energy sector regulatory framework; and (ii) providing training to staff and carrying out of workshops.

Specifically, this sub component would provide the unit capacity building support through the hiring of external experts and the provision of training (including workshops) to perform the following key functions: (i) definition of an energy policy; and supervision of its implementation; (ii) development of planning capacity (through, among others, the elaboration and periodical updating of strategies and implementation plans); (iii) development and enforcement of a regulatory and services delivery framework to promote efficiency and accountability as well as to attract the private sector and other actors to implement the action plans. This would contribute to economic and social development.

b. Provision of technical assistance to the energy unit in order to, inter alia: (i) establish a planning framework for the Recipient's energy sector and carry out an action plan for the implementation thereof; (ii) strengthen the technical capacity of the energy unit; and (iii) monitor the implementation of energy sector activities.

Specifically, this sub component would provide technical advice to the unit, including for (i) activities where renewable energies and new energy services delivery approaches are considered, (ii) the updating and enforcement of standards; (iii) the preparation of an energy sector planning framework; (iv) developing capacity in the household energy subsector; and (v) monitoring of the implementation of activities carried out by the public and private sectors and of the sector's operational and financial performance through the updating of an electricity sector financial model and the creation of an energy information system, parts of which would be made public for greater transparency in the sector (se c. below). The activity would also finance a study to assess the sector's resilience to natural disasters, and make recommendations to improve its readiness.

c. Carrying out of outreach activities and information dissemination campaigns through the energy unit to establish a dialogue on matters relevant to the energy sector between energy consumers, energy service providers, the relevant institutions of the Recipient and EDH.

Specifically, this sub-component would strengthen understanding of the energy sector and participation of the energy consumers and the general public and thereby enhance transparency and accountability in the sector. It would provide resources for outreach activities and public dissemination campaigns to familiarize consumers and civil society with Government's and EDH energy program and increase awareness of energy sector issues, including the incidence of fraud and nonpayment on service quality and the financial sustainability of the utility. Key sector data would be published on a regular basis, including the table of budgetary transfers to the electricity sector and yearly EDH audited financial accounts (see paragraph above).

d. Supporting Project management. This sub-component would support the management and compliance with the Project's safeguards and fiduciary aspects. The existing PREPSEL's Project Coordination Unit (MTPTEC PCU) will be strengthened to provide the necessary support to Project activities, including through the hiring of two consultants in the financial management and procurement fields. Technical assistance would also be provided to EDH and the MTPTEC for the implementation of the Project environmental and social safeguards.

All activities under sub component 1.1 would be developed during the first phase of the Project.

1.2. Improving off-grid electricity access (IDA US$ 7.8 million):

This sub-component would seek to establish new non-EDH connections to electricity services. Selection of communities would be based on (i) energy sector plans, focusing on areas where no extension to EDH grid is planned in the next ten years; (ii) potential for economic development in the area, in order to maximize benefits and financial sustainability; and (iii) synergies with other Bank Group -financed operation, for example the IDA-financed Job Creation and Sector Growth Project, currently under preparation as well as activities carried out by other public and private entities. Two activities are expected to be

implemented through this subcomponent: (i) technical assistance to establish an adequate framework; and (ii) electrification of communities/zones.

a. Development of new off-grid electricity connections solutions; establishment of a regulatory framework therefor; and provision of training of MTPTEC staff to enhance their supervisory capacity.

The activity would finance consultants to help establish a new regulatory framework for offgrid electricity and define and implement alternative electrification models outside of the existing EDH monopoly. Training would be provided as part of the technical assistance activities.

b. Acquisition and installation of: (i) one hundred (100) solar public lights; and (ii) off-grid electricity connections to two thousand (2,000) additional electricity customers.

This activity would finance the installation and maintenance of one hundred public lights in Port-au-Prince and other areas of the country during the first phase of the Project. 100 public solar lighting systems are expected to be installed in the first 12 months of Project implementation, under the Project Preparation Advance financing. The activity would seek to build up on the recent experience in particular of Non Governmental Organizations (NGOs) in Haiti. In addition, new electricity connections would be established in peri urban and rural areas of Haiti, through off-grid schemes, including solar home systems (SHS), systems for collective uses (street lighting, hospitals and health units, schools, community services, etc) and/or minigrid, and solutions for rapid responses to disasters, if needed (solar lanterns, flood lamps). For the electrification of communities (approximately 2,000 households in this first phase), subsidies would be provided to competitively-selected private providers/operator(s) (such as community associations, cooperative organizations, private companies, and/or nongovernmental organizations) for the installation of the equipment and the delivery of services, including maintenance of the equipment over a number of years following installation and training of local technicians. A consultant started to help the Government define the most appropriate mechanism(s) to ensure sustainability, under the Bank-executed Spanish Trust Fund for Latin America (SFLAC) grant.

c. Acquisition and installation of new off-grid electricity connections, such as public solar lighting, solar home systems and/or mini-grids, and, if needed, installation of rapid response connections, such as solar lanterns. This subcomponent would finance the second phase of public solar lighting (about 300 additional public lamps and 3,200 offgrid connections; these estimates could be adjusted during implementation).

Activities 1.2a and b would be developed during the first phase of the Project, while activity 1.2c would be carried out during the second phase.

5. Component 2: Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure (IDA US$77.8 million).

Managed by EDH, this component would finance: (i) the provision of technical assistance and purchase of related equipment and services required to improve the technical, commercial and financial performance and the governance of EDH (sub component 2.1); and (ii) the purchase and installation of equipment, and related services to rehabilitate and expand access to reliable electricity services (sub component 2.2). Technical assistance is expected to underpin investment activities, with the objective of improving EDH technical, commercial, financial and operational performance and expanding reliable access in a sustainable manner. Through these activities, it is expected that about 67,000 existing customers would benefit from improved access to electricity, while 30,000 customers would gain new access to electricity services. Activities proposed under this component would be implemented in close coordination with the Operations Improvement Agreement (OIA) currently in place in EDH, and with the IDB financed activities.

2.1. Enhancing EDH's performance (IDA US$18.6 million):

a. Strengthening of its management capacity. This activity would support a new management structure for EDH to be adopted following termination of the TetraTech OIA.

b. The provision of technical assistance to support EDH on technical, commercial, financial and electricity sector planning matters, including support to assist EDH with improving its resilience to and readiness for responding rapidly to natural disasters and to carry out studies for grid rehabilitation and extension work, as well as for the rehabilitation of the Drouet micro hydro electric plant (2.5 MW) and to carry out the supervision of the implementation of said studies;

c. The carrying out of technical assistance to enhance EDH's capacity to supervise compliance with environmental and social standards, including the Association's Safeguard Policies.

d. The carrying out of a master plan for EDH to assess, inter alia, electricity demand and define priority investments to meet such demand;

e. The extension of EDH's billing system to the Recipient's entire territory. This activity would finance maintenance expenses and extension of the installation of the new billing system outside of the Port-au-Prince metropolitan area, to ensure maximum impact and sustainability of the system financed under PREPSEL.

f. The installation of a remote metering system for large industrial and commercial clients of EDH. This sub component would finance the second phase of the advanced metering system for EDH, which would cover remote metering and monitoring of consumption of the remaining 1,500 largest EDH customers (industrial and commercial) not included in the scope of a a first phase financed by PREPSEL, comprising about 500 customers and meters recording energy delivered by power plants operated by IPPs.

g. The provision of technical assistance to assist EDH in carrying out of external financial audits.

All activities under subcomponent 2.1, except the support to the new management structure of EDH, would be developed under the first phase of the Project.

2.2. Rehabilitating electricity grids and extending access (IDA US$59.2 million):

a. Rehabilitation of five grid circuits in EDH's Port-au-Prince metropolitan area, including the acquisition and installation of metering equipment required therefor. EDH has identified 11 circuits (out of 32 circuits) in the Port-au-Prince metropolitan area to be rehabilitated under the Project. Under the first phase of the Project, this subcomponent would rehabilitate five circuits, including regularization of corresponding connections and replacement of meters.

b. Rehabilitation of the remaining grid circuits in EDH's Port-au-Prince metropolitan area circuits in the Recipient's Port-au-Prince metropolitan area, including the acquisition and installation of metering equipment required therefor, and the installation of new residential connections to EDH's distribution network through grid densification and/or extension.

Specifically, under the second phase of the Project, the subcomponent would finance six (6) additional circuits in the Port-au-Prince metropolitan area. The activity would also finance the electrification of urban areas of Port-au-Prince currently not electrified. Close coordination with the IDA-financed housing and sector growth Projects and other projects will be maintained during the preparation of this sub component, to maximize potential synergies. The Project would also finance consultants to help EDH define a public communication strategy to explain to the population the objective of the rehabilitation activities, which will include regularization of customers, as well as the public campaign itself. Experience of similar activities in other countries (Brazil, for instance) will be used to design the campaigns, which will include a number of social outreach activities to involve communities in the proposed interventions and gain their acceptance.

c. Rehabilitation of EDH's distribution networks and installation of metering equipment in select areas other than the Port-au-Prince metropolitan area, such as Artibonite, Cap Haitien and Petit and Grand Goave; and establishment of new connections in EDH's networks in said areas, through grid extension and/or densification.

Specifically, under the second phase of the Project, the sub component would support grid rehabilitation, loss reduction and extension activities in and around secondary urban centers, such as Cap Haïtien and Petit Goave. In the Artibonite region, the existing distribution grid would be rehabilitated including the rehabilitation of 21 kms of the existing 23 kV line and a 60 Km extension to interconnect population centers, the rehabilitation of distribution systems and the connection of new customers.

d. Rehabilitation of the micro hydroelectric plant (2.5MW) in Drouet. The micro hydroelectric plant, with a capacity of 2.5 MW, would be rehabilitated. Scope of works

includes repair, replacement and upgrade of electromechanical equipment, regulation and control systems, and protection devices of all four installed generating units. This activity would be carried out under the first phase of the Project.

6. Component 3: Energy Sector Risk and Emergency Response Contingent Reserve: Providing support upon occurrence of an Energy Sector Emergency through: (a) the carrying out of Emergency Recovery and Rehabilitation Activities; and/or (b) technical assistance to support MTPTEC and EDH in its response to an Energy Sector Emergency. Funds from the other components would be reallocated to this component in such an eventuality.

7. Project costs and IDA contribution by sub-component (including a 15% physical and price contingency) are provided in Table 1 below.

Table 1: Project Cost and Financing (US$ million)[11]

Components	Total costs	IDA financing	Counterpart
1. Strengthening Energy Sector Institutions and Improving Energy Access	**13.06**	**12.16**	**0.90**
1.1. Institutional capacity of MTPTEC and governance and transparency in the energy sector	5.23	4.33	0.90
(a) MTPTEC energy unit	1.83	1.53	0.30
(b) TA to the energy unit	0.65	0.65	-
(c) Outreach activities and information dissemination campaigns	0.50	0.50	-
(d) Project management	2.25	1.65	0.60
1.2. Offgrid Electricity Access	7.83	7.83	-
a. Design of off-grid electricity connections solutions and regulatory framework	0.90	0.90	-
b. Off-grid electricity connections (phase 1)	2.35	2.35	-
c. Off-grid electricity connections (phase 2)	4.58	4.58	-
2. Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure	**78.42**	**77.84**	**0.58**
2.1. EDH Performance enhancement	19.00	18.62	0.38
(a) Strengthening of management capacity	10.00	10.00	-
(b) Technical assistance- technical, commercial, financial and planning	3.56	3.20	0.36
(c) Technical assistance on environmental and social standards	0.72	0.69	0.03
(d) Master plan	0.30	0.30	-
(e) Extension of EDH's billing system	0.10	0.10	-
(f) Remote metering system	4.03	4.03	-
(g) External financial audits	0.30	0.30	-
2.2. Grid rehabilitation and access expansion	59.43	59.23	0.20
(a) Rehabilitation of five (5) grid circuits in Port-au-Prince (phase 1)	8.39	8.36	0.03
(b) Rehabilitation of the remaining grid circuits in Port-au-Prince and grid densification and/or extension	19.26	19.24	0.03
(c) Rehabilitation of EDH's distribution networks and grid extension and/or densification in areas other than	28.88	28.75	0.13
(d) Rehabilitation of the Drouet micro hydroelectric plant	2.90	2.88	0.03
3. Emergency reponse	**-**	**0**	**-**
TOTAL	**91.48**	**90.00**	**1.48**

[11] Table number 1 links project's cost and components with disbursement categories (in the Financing Agreement) through the phasing of the project

2. Phases

8. The following Project activities would be developed under phase 1, for a total of US$27 million:

- Under component 1: (i) the Government's energy cell, technical assistance and outreach campaigns (subcomponent 1.1); (ii) the installation of 100 public solar lamps and the delivery of offgrid electricity to about 2,000 households and collectivities (subcomponents 1.2 a-b); (iii) the project management unit throughout implementation (subcomponent 1.1d).
- Under component 2: (i) technical assistance to EDH (including delegate directors to the commercial and financial divisions, external audit, engineering firms to prepare feasibility studies, environmental and social unit) (subcomponents 2.1.b,c,d,g); (ii) phase 2 of the remote metering system and extension of the billing system (subcomponents 2.1 e-f); (iii) the rehabilitation of five circuits in Port-au-Prince (sub component 2.2 a) ; and (iii). the rehabilitation of the Drouet micro hydro plant (sub component 2.2 d).

9. Upon effectiveness of the new management structure for EDH, phase 2, for a total of US$63 million, would finance the remaining investments:

- Under component 1; (i) the installation of 300 additional public solar lamps; and (ii) the supply of offgrid electricity to approximately 3,300 additional households/collectivities (sub component 1.2 c).
- Under component 2: (i) support to the new management structure for EDH (sub component 2.1.a); (ii) the rehabilitation of the six remaining circuits in Port-au-Prince (sub component 2.2.b); (iii) the rehabilitation and extension of the grid in Cap Haitien and Petit Goave; and (iv) the extension of the distribution line in the Artibonite valley (subcomponent 2.2.c).

10. The proposed sequencing would mirror the expected schedule of execution of Project activities. The Government has expressed strong commitment towards launching the preparation of such contract, with donors' financial backing. Nevertheless, failure to improve contracted management structure by mid/late 2014 would delay implementation of Project activities.

Table 2: Sequencing of Project implementation (US$ million)

Components	Phase 1	Phase 2	Total
1. Strengthening Energy Sector Institutions and Improving Energy Access	7.58	4.58	12.16
1.1. Institutional capacity of MTPTEC and governance and transparency in the energy sector	**4.33**	-	**4.33**
(a) MTPTEC energy unit	1.53	-	1.53
(b) TA to the energy unit	0.65	-	0.65
(c) Outreach activities and information dissemination campaigns	0.50	-	0.50
(d) Project management	1.65	-	1.65
1.2. Offgrid Electricity Access	**3.25**	**4.58**	**7.83**
a. Design of off-grid electricity connections solutions and regulatory framework	0.90	-	0.90
b. Off-grid electricity connections (phase 1)	2.35	-	2.35
c. Off-grid electricity connections (phase 2)	-	4.58	4.58
2. Enhancing EDH's Performance and Rehabilitating and Expanding Infrastructure	19.85	57.99	77.84
2.1. EDH Performance enhancement	**8.6155**	**10.00**	**18.6155**
(a) Strengthening of management capacity	-	10.00	10.00
(b) Technical assistance- technical, commercial, financial and planning	3.20	-	3.20
(c) Technical assistance on environmental and social standards	0.69	-	0.69
(d) Master plan	0.30	-	0.30
(e) Extension of EDH's billing system	0.10	-	0.10
(f) Remote metering system	4.03	-	4.03
(g) External financial audits	0.30	-	0.30
2.2. Grid rehabilitation and access expansion	**11.24**	**47.99**	**59.23**
(a) Rehabilitation of five (5) grid circuits in Port-au-Prince (phase 1)	8.36	-	8.36
(b) Rehabilitation of the remaining grid circuits in Port-au-Prince and grid densification and/or extension	-	19.24	19.24
(c) Rehabilitation of EDH's distribution networks and grid extension and/or densification in areas other than the Port-au-Prince	-	28.75	28.75
(d) Rehabilitation of the Drouet micro hydroelectric plant	2.88	0	2.88
3. Emergency reponse	-	-	-
TOTAL	27.43	62.57	90.00

Attachment 1: Overview of the Energy Sector in Haiti

Key Facts and Energy Balance

1. In 2009, Haiti's annual primary energy consumption was 2.7 million tons of oil equivalent (Mtoe), the lowest per capita consumption of the LAC region (0.22 toe/cap.). After particular energy consumption in 2010 due to the earthquake, the 2011 consumption went back around the 2009 level. The repartition among different energy uses is fairly constant since the last decade, among industries (17%), transports (19%), households (62%, mainly for cooking) and Commercial / Public services (2%).

2. The country's energy mix is composed of wood fuels (72%), imported oil products (25%) and hydroelectricity (3%). Oil products imports represent half of the country's expenses. Local energy resources, partially or totally untapped, are mainly on hydroelectricity (potential estimated between 150 MW and 270 MW), wind (at least 50 MW potential, according to a wind study conducted by the EU in 2006), lignite (proven reserves of 54 Mt, with a poor calorific content) and solar (average horizontal irradiance of 5 kWh/m2.day, only local renewable energy source available for some rural areas).

Power Sector

3. The Power sector consumes about 20% of Haiti's fuel imports (diesel and HFO) to generate the large majority of the electricity produced in the Port-au-Prince metropolitan area. The table 1 below summarizes the generation capacity in Haiti for each type of fuel, in the Port-au-Prince metropolitan area and the 10 smaller grids. The low available capacity is due to insufficient maintenance and aging plants.

Table 1: Generation capacity

Interconnected system in Port-au-Prince				**Secondary systems in the provinces**		
(in MW)	Installed Capacity	Available Capacity			Installed Capacity	Available Capacity
Diesel	107.5	49		Diesel	38.1	26.3
HFO	64	32		HFO	27.2	25.5
Hydro	54	26		Hydro	6.9	2.8
Total	225.5	157		Total	72.2	54.6

Source: Tetra Tech, March 2012

4. Four IPPs own and operate 80% of the thermal plants in the Port-au-Prince metropolitan area: PBM (34MW HFO), Sogener (36MW Diesel), Haytian Tractor (21MW Diesel) and E-Power (30MW HFO). The capacity in the provinces is mainly operated by the state power company EDH and the small communities.

5. The Port-au-Prince metropolitan zone's power grid comprises (i) a 56 km transmission line (115 kV) from the Peligre hydropower plant to Port-au-Prince, (ii) a dispatch center operated manually and interconnecting three power plants by a 69 kV transmission line of 53 km, (iii) 9 substations transforming in 69 kV in distribution voltage, and (iii) 32 distribution circuits totalizing 1,029 km and transforming 12.5-7.3 kV in 120-240 V. Punctual and structural overloads of some distribution lines and of the most part of the transformers are adding to their

increased fragility since the earthquake and lead to a 30% average rate of technical losses on this grid.

6. According to EDH as of December 2011, the number of active customers (connected legally and paying bills) was 180,315; this number represents the 12% of the country's population who is legally electrified (electrification rate of 25% representing about 350,000 customers, including irregular customers). The 1,270 industrial customers represent about 40% of the power demand.

Energy Balance and Losses

7. During the fiscal year 2010/11 (Oct. 2010-Sept. 2011), the total energy generated in Haiti was about 875 GWh. Table 4 below shows the energy dispatch during this period of time:

Table 2: Losses and collection

Technical losses	175 GWh
Commercial losses	425 GWh
Energy billed but not collected	83 GWh
Energy collected	192 GWh
Total	875 GWh

Source: Tetra Tech, March 2012

8. Revenues generated by EDH from the energy collected represented US$ 66 million during the fiscal year 2010/2011. The total losses represent US$ 235 million. In order to pay EDH US$ 200 million expenditures over the same period (mainly for payment of the IPPs), a US$ 180 million budgetary transfer to the public company was necessary.

Annex 3: Implementation Arrangements
HAITI: Rebuilding Energy Infrastructure and Access Project

Project Institutional and Implementation Arrangements

1. The following implementation arrangement is proposed for this Project: (i) overall coordination of Project preparation and implementation will be under the responsibility of the Government's entity responsible for energy[12]; (ii) this entity will also be responsible for supervising institutional strengthening activities and the implementation of rural access and household energy interventions (component 1); and (ii) Electricité d'Haïti (EDH) will be responsible for implementing its performance enhancement program and for implementing the rehabilitation and expansion activities planned under the proposed Project (component 2). A Project Steering Committee – chaired by the Prime Minister and comprising MTPTEC, EDH and the MEF - will be established and meet on a bi-yearly basis to monitor Project preparation and implementation.

2. All fiduciary responsibilities (procurement and financial management) will be carried out through PREPSEL's existing Project Coordination Unit (MTPTEC PCU). The PCU has over five years of experience with Bank-financed activities, including a component that supported the creation of an energy unit within the MTPTEC. Given the significant increase in the size of the activities to be carried under the proposed Project, the PCU will be strengthened to provide support under the proposed Project, in particular in Project Procurement and Financial Management (see below).

3. Compliance with Project Safeguards will be the responsibility of MTPTEC and EDH, as described in the Mirebalais Environmental Management Plan, the Mirebalais Abbreviated Resettlement Action Plan, and in the Environmental and Social Management Framework and in the Resettlement Policy Framework. These documents were disclosed in Haiti and in the Bank's Infoshop prior to initiation of Project Appraisal.

Financial Management, Disbursements and Procurement

Financial Management

Risk assessment

4. Haiti is facing serious financial management challenges at the country level, and Government structure is re-thinking its oversight arrangements for the sector. The Financial Management (FM) arrangements for this Project will therefore build on those existing for PREPSEL. The FM arrangements will also benefit from the ongoing strengthening of the overall accounting environment of EDH, through the implementation of a new accounting system for the utility, financed by the IDB. Nevertheless, the increase in the amounts and change in the nature of operations to be managed by the FM team of the MTPTEC PCU with this new Project and the fact that the same team also manages IDB funds creates risk necessitating a strengthening of FM practices.

[12] A transition in the institutional setup was announced by the Government. – see Part IB, paragraph 10.

5. The mitigation measures regarding FM include: (i) the recruitment of an additional FM specialist to support the FM specialist in charge of the overall fiduciary system of the Project; (ii) updating the FM sections of the Project Operational Manual (OM), based on the PREPSEL OM; and (iii) acquisition of an accounting software capable of automatically producing financial reports. With the implementation of the mitigation measures, the FM arrangements for the Project satisfy the Bank's minimum fiduciary requirements under OP/BP 10.02 and are adequate to provide, with reasonable assurance, accurate and timely information on the status of the Project required by the Bank. Table number 2 (below) provides further details on these mitigation measures.

Summary of FM Arrangements

6. *Financial Management Institutional Arrangements*. The MTPTEC PCU will be responsible for FM and for preparing audits of accounts, systems and procedures acceptable to the Bank. The Project Coordinator will be the authorizer of expenditures at the Project level and will work with the FM specialist who is entrusted with the overall FM responsibilities of the Project. The PCU will keep records of all Project-related expenditures in order to prepare financial statements that would be audited annually, by independent auditors acceptable to the Bank. The PCU will also prepare Interim un-audited Financial Reports (IFRs) on a quarterly basis due to be submitted to the Bank no later than 45 days after the end of every quarter.

7. During the supervision mission of PREPSEL in July 2012, the Bank noted that the PCU was maintaining financial records on a manual basis because the ACCPAC software was not capable of handling these operations. With the increase in amounts and complexity stemming from additional activities proposed under the Project, the Project will acquire an accounting system to record and report Project transactions. Considering that the grant amount (US$90 million) for this Project is around nine times the amount of PREPSEL, it is important that an accounting software be acquired and configured for the Project to allow for accurate and effective monitoring of Project transactions.

8. *Accounting Software*. The Project's accounting records will be maintained using a computerized financial management system. The system will be based on an accounting package capable of producing all the accounting and financial data required, including financial statements, bank reconciliation statements, and all financial reports, such as the Interim Financial Reports (IFRs). The accounting software to be procured will include the following modules to be integrated: Budgeting, general accounting, cost accounting, reporting, monitoring and evaluation, fixed assets management, preparation of withdrawal applications, and tracking of disbursements by donors.

Table 1: Allocation of proceeds

Category	**Amount of the Financing Allocated (expressed in SDR)**	**Percentage of Expenditures to be Financed (inclusive of Taxes)**
(1) Goods, works, non-consulting services, consultants' services, training and Operating Costs for Part 1.1 (a), (b), (c) and (d), and for Part 1.2 (a) and (b) of the Project	4,380,000	100%
(2) Goods, works, non-consulting services, consultants' services, training and Operating Costs for Part 1.2 (c) of the Project	3,040,000	100%
(3) Goods, works, non-consulting services, consultants' services, training and Operating Costs for Part 2.1 (b), (c), (d), (e), (f) and (g), and Part 2.2 (a) and (d) of the Project	12,490,000	100%
(4) Goods, works, non-consulting services, consultants' services, training and Operating Costs for Part 2.1 (a), and 2.2 (b) and (c) of the Project	38,455,000	100%
(5) Goods, works, non-consulting services, consultants' services, training and Operating Costs for Part 3 Project	0	100%
(6) Refund of Preparation Advance	1,335,000	Amount payable pursuant to Section 2.07 of the General Conditions
TOTAL AMOUNT	59,700,000	

Internal Controls and Procedures

9. The PCU will maintain a strong system of internal controls and procedures that will be documented in the Operational Manual to enable all stakeholders of the various components of the Project to be cognizant of the detail Project operating guidelines necessary to implement the program. In particular, procedures for transfer of financial data between the MTPTEC, EDH and the PCU need to be carefully documented and agreed. The OM will need to be completed before Project Effectiveness.

10. *Financial Reporting*. The PCU will be responsible for the preparation of periodic financial reports for the Project. It will prepare IFRs on a quarterly basis, and the annual financial statements. The IFRs will be submitted to the Bank no later than 45 days after the end of the quarter.

11. *External Audits*. The Project annual financial statements will be subject to external audits and the PCU will be primarily responsible for ensuring that the auditor's recommendations are implemented. The external audit will be undertaken by a private firm selected in accordance with independence and competency criteria acceptable to IDA. The audit report will be submitted to the Bank no later than six months after the end of each Project financial year. The audit report will include a management letter containing findings and recommendations relating to the Project's internal controls at the PCU level. Terms of Reference for the audit were prepared by the PCU and submitted to the Bank for its no-objection. The selection of the auditor should be completed by no later than 4 months after Project effectiveness.

12. *Financial Management Action Plan*. The following actions have been agreed to strengthen the FM arrangements for the Project. The updating of the Operational Manual and the acquisition of an accounting software draw on Project Preparation Advance funds:

Table 2: Financial Management Action Plan

	Actions	**Timeframe**	**Intermediate Milestones**	**Responsibility**
1	Preparation of TORs for the External Auditor	Completed		PCU
2	Recruitment of a FM Specialist	Four months after Effectiveness		PCU
3	Updating of the Operational Manual.	By Effectiveness		PCU
4	Selection and Appointment of External Auditor	Four months after Effectiveness	Selection process started immediately after Effectiveness	PCU
5.	Acquisition of Accounting Software and Configuration for PCU use	Four months after Effectiveness	Selection process started immediately after Effectiveness	PCU

13. *Supervision plan*. Given the high risk of the Project, close supervision of the financial FM system will be required. Supervision missions will be conducted twice a year. The missions will

notably focus on the strengthening of the financial management capacity of the PCU. The IFRs and annual audit reports will also be reviewed.

Flow of Funds and Disbursement Arrangements

14. Proceeds of the Grant will be disbursed from the Bank on the basis of withdrawal requests by the Recipient using the advance method which is based on summary reports in the form of Statement of Expenditures (SOE) for categories 1-5, and where relevant, applications for direct payments to Service Providers and Financial Agents. A designated account will be opened at the Central Bank (Banque de la Republique d'Haiti /BRH) and will be managed by the PCU.

15. The Direct Payment, Reimbursement and Special Commitment method will also be retained as disbursement options. Under the Direct Payment method, and at the request of UCP-EDH, direct payments may be made by the Bank to contractors based on the requirements as specified in the Manual of Operations. The Disbursement Letter will stipulate the minimum application size for Direct Payments, Reimbursements and Special Commitments as US$ the equivalent of 20% of the Advance ceiling amount. Withdrawal applications for such payments will be accompanied by relevant supporting documents as follows:

Statement of Expenditures (SOEs)- Supporting Documentation:

16. Necessary supporting documents would be sent to the Bank in connection with contracts with a value of (a) US$ 1,000,000 equivalent or more for Works, (b) Goods US$ 150,000 equivalent or more, (c) consulting firms US$ 100,000 equivalent or more and (d) for individual consultants, operational costs or training US$ 50,000 equivalent or more . The documentation supporting expenditures would be retained at the UCP-EDH and would be readily accessible for review by the external auditors and Bank supervision missions. All disbursements would be subject to the conditions of the Financing Agreement and disbursement procedures as defined in the Disbursement Letter.

Reporting of Grant Proceeds:

17. Supporting documentation should be provided with each application for withdrawal as set out below:

18. For requests for Reimbursement and for reporting eligible expenditures paid from the Designated Account:

(a) List of payments against contracts that are subject to the Association's prior review;

19. For requests for Direct Payment:

(b) Records evidencing eligible expenditures, e.g., copies of receipts, supplier invoices.
(c) Frequency of Reporting Eligible Expenditures paid from the Designated Account would be quarterly.

Procurement

20. Procurement for the Project activities will be carried out in accordance with the World Bank Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants dated January 2011 and Guidelines: Selection and Employment of Consultants under IBRD Loans & IDA Credits & Grants by World Bank Borrowers dated January 2011; and with the provisions of the Financing Agreement. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements and timeframe are agreed between the Borrower and the Bank in the Procurement Plan.

21. *Procurement of Works*: Works procured under this Project will include, inter alia, the rehabilitation of transformers, sub stations, feeders and metering systems, the construction of distribution lines. The procurement will be done using the Bank's Standard Bidding Documents (SBD) for all ICB and SBD satisfactory to the Bank for other procurement methods.

22. *Procurement of Goods*: Goods procured under this Project will include, inter alia, electricity equipment (transformers, feeders, meters, etc.), PV systems, dispatching software, etc. The procurement will be done using the Bank's SBD for all ICB and SBD satisfactory to the Bank for other procurement methods.

23. *Selection of Consultants*: The Project will finance consulting services for technical assistance and capacity building activities to enhance: (a) the sector's regulatory framework, planning and energy policy capacity; (b) EDH's managerial capacity; and (c) the Government and EDH's capacity to supervise Project activities. Short lists of consultants for services estimated to cost less than US$100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

24. *Procurement of non-consulting services*: Non-consulting services for Project execution, such as those needed for workshops, conferences, training events and publications will be acquired in accordance with the Bank's procurement guidelines. This procurement will also be carried out using the Bank's SBD or SBD satisfactory to the Bank.

25. *Operating Costs*: These costs will include the incremental expenses incurred on account of project implementation, including office supplies, vehicle operation and maintenance, insurance costs, office administration costs, utilities, travel, per diem and supervision costs and salaries of locally contracted employees, and as approved by the Bank. These items will be procured using the implementing agency's administrative procedures, which were reviewed and found acceptable to the Bank.

26. *Assessment of the agency's capacity to implement procurement*: Procurement activities will be carried out by the same Project team that has been implementing procurement under PREPSEL. While the performance of the existing PCU has been generally satisfactory to date, in light of the larger scale of the new Project, the procurement team will need to be reinforced by the recruitment of a procurement specialist by Project effectiveness (this is not a disbursement

condition, and the specialist will be hired under the Project Preparation Advance funds). The PCU`s procurement team is already experienced in World Bank procedures and, with the addition of a new procurement staff, should be well-equipped to execute procurement according to World Bank Guidelines. However, the overall public procurement system in Haiti remains relatively weak. Despite recent reforms in the legal and institutional framework for procurement, there is still a lack of skilled personnel with knowledge of international norms, limited planning and follow-up capacity, and insufficient use of standard documents and procedures. This generally risky environment for procurement creates serious obstacles to Project implementation which have been exacerbated by the January 2010 earthquake. Consequently, the overall Project risk for procurement is HIGH.

27. *Procurement Plan*. Thresholds for Procurement Methods and Bank Review. The summary procurement plan for implementation of the proposed Project was agreed between the Recipient and the Bank on August 8, 2012 and is presented below in Table 3. The plan will be updated at least annually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. The recommended thresholds for the use of the procurement methods specified in the Financing Agreement for Components 1 and 2 are identified in Table 4 below. These thresholds have served as the basis for the agreed procurement plan. Supervision of procurement will be carried out primarily through prior review supplemented by supervision missions at least twice a year.

Table 3: Summary Procurement Plan

Procurement Plan for Goods, Works and Consultant Services							
Ref. No	**Description of Contracts**	**Estimated Cost US$**	**Number of Packages**	**Review by Bank (Prior / Post)**	**Method**	**Request for Proposal / Bidding doc. issued**	**Date of Contract Signature**
Goods							
1.1	Project accounting software	50,000	1	Prior	NCB	August 2012	October 2012
1.2	Billing system extension	100,000	1	Prior	ICB	September 2012	December 2012
1.3	Offgrid systems	6,925,000	4	Prior	ICB	January 2013	March 2013[13]
1.4	Remote Meters	4,025,000	1	Prior	ICB	October 2012	January 2013
Total Goods		**11,100,000**					
Works							
2.1	Supply and installation (rehabilitation)	59,225,000	4	Prior	ICB	January 2013	June 2013
Total Goods and Works		**59,225,000**					
Consultants							
3.1	Individual consultants for the energy cell and the PCU	2,662,147	13	Prior	3 CVs	N/A	August 2012
3.2	Training for the energy cell and PCU	160,000	tbd	Prior	3 CVs	N/A	Since 2006
3.3	Project audit	150,000	1	Prior	QCBS	September 2012	January 2013
3.4	Studies and Technical Assistance (energy cell)	1,000,000	Up to 5	Prior	QCBS	March 2013	July 2013
3.5	Support to management structure of EDH	10,000,000	1	Prior	QCBS or 3 CVs	November 2012	June 2013
3.6	Technical Assistance to EDH	4,370,500	5	Prior	QCBS	July 2012[14]	October 2012
3.8	Consulting firm for offgrid strategy	900,000	1	Prior	QCBS	August 2012[11]	November 2012
Total Consultants		**19,242,647**					
Operating expenses	Expenses for energy cell, project management, and other incremental project operating costs	432,553		N/A	N/A	N/A	Continuous, for life of project
Grand Total		**90,000,000**					

[13] This date may be reconsidered. It will apply to the first phase of the program.
[14] These dates are being revised.

Table 4: Thresholds for Procurement Methods and Prior Review

Expenditure Category	Contract Value (Threshold) US $ thousands	***Procurement*** Method	Contracts Subject to Prior Review
1. Works	>1,000	ICB	All
	100 -1,000	NCB	All
	25 – 100	Shopping	All
	< 25	Shopping	None
	Regardless of value	Direct Contracting	All
2. Goods	>100	ICB	All
	25-100	NCB	All
	20-25	Shopping	All
	< 20	Shopping	None
	Regardless of value	Direct Contracting	All
3. Consulting Services			
- 3.A Firms	Regardless of value	QCBS, QBS, FBS, LCS	All
	<100	CQS	All
	Regardless of value	Single Source	All
- 3.B Individuals	> 50,000	In accordance with Chapter V of the Guidelines	All
	< 50,000	In accordance with Chapter V of Consultant Guidelines	In accordance with paragraph 5.4 of Consultant Guidelines

Abbreviations:

ICB = International Competitive Bidding
NCB = National Competitive Bidding
DC = Direct Contracting
LCS = Least-Cost Selection
CQS = Selection Based on Consultants' Qualifications
SSS = Single Source Selection
QCBS = Quality- and Cost-Based Selection
QBS = Quality-Based Selection
FBS = Fixed Budget Selection

Environmental and Social (including safeguards)

28. ***Environmental Issues and Impact***: From an environmental and social safeguards point of view, this Project is a Category B project. This is because the environmental and social impacts are expected to be minimal, site-specific and manageable to an accepted level. There are three World Bank safeguards policies applicable to the Project: Environmental Assessment (OP 4.01), Involuntary Resettlement (OP 4.12), and Safety of Dams (O.P 4.37, for the replacement and/or repair of dam turbines in existing dams). Currently, the locations of the subprojects are unknown except in Mirebalais. An ESMF was prepared for the Project and an EMP prepared for the Mirebalais section of the distribution line. An owner's engineer will be hired to assist EDH in: (i) the preparation of the detailed designs and technical specifications of all rehabilitation, upgrade and expansion works of electricity distribution networks included in the scope of the project; (ii) the supervision of the execution of the rehabilitation, upgrade and expansion works to ensure full compliance with the designs and technical specifications. The owner's engineer could also assist EDH in other activities comprised in the scope of the Project, as deemed convenient by the utility. A "circuit by circuit" approach to define scope of rehabilitation works

is needed, as the starting condition varies from circuit to circuit, due to lack of systematic investment plans in the last 20-30 years (this has meant that rehabilitation was carried out on an ad hoc basis, often under different sources of financing). Because of the lack of details on the scope of rehabilitation works and the fact that exact locations for the rehabilitation works were not known, the ESMF approach was chosen. The EMP of the Mirebalais line will be updated based on the scope of works.

29. The ESMF identified the major issues and impacts associated with the implementation of the Project. Overall, there are a few negative impacts associated with distribution lines. These include air and dust emissions, noise and vibration, open pits/trenches, increased levels of dust and noise, increased exposure to electromagnetic frequency (EMFs) oil spill or leakage from machinery and transformers, reduction of vegetation cover through the removal of shrubs, trees and crops from the right of way, disposal of construction waste and worker and public safety/health concerns. In addition, new equipment to be financed through the IDA grant will not include Polychlorinated Biphenyls (PCBs), due to health risks and a subsequent ban on PCBs in many countries. In order to address the issue of PCBs, particularly if they have been used in old transformers that require disposal, the ESMF describes a four-step approach: (i) when preparing the technical specifications for the works, the owner's engineer will assess the presence of PCBs; (ii) if the existence of PCBs is detected, the owner's engineer will prepare a plan for the management of PCBs, underlining the short term and long term options available; the ESMF references the pertinent World Bank Group environmental health and safety guidelines for this type of works and the specific UN guidance on PCB management; (iii) the firm will also prepare a procedure manual for the option that will be chosen by the Government and EDH to manage PCBs; such manual will be included in the bidding documents; and (iv) the contractor(s) in charge of the works and/or EDH, based on the responsibilities assigned in the manual, will implement the procedures described in the manual.

30. Mitigation measures include provisions for minimizing ground clearance and particularly tree clearance, methods to ensure the collection of waste and disposal at authorized facilities, replanting of trees in other areas where possible and using the forest service to assist with this effort, siting of substations away from offices and residential locations, requiring workers to wear appropriate safety attire to reduce risk of electrocution, dust, etc (see ESMF for details). Mitigation measures are enforced through contractor performance monitoring and evaluation with participatory supervision from the EDH. In order to ensure that the contractor is fully aware and prepared for the sustainable management of health, safety, and environmental aspects of the contract, the contractor will be required to fill out a screening checklist and, if necessary, a management plan for the specific works to be executed under his/her contract. This will be covered under his cost.

26. ***Social Issues and Impact***. The Project activities respond to requests expressed by the different key stakeholders (Haiti's residential, commercial and industrial electricity consumers, Government) to increase the quantity and quality of EDH's electricity services, develop institutional alternatives for increasing access to electricity services and improve transparency in the sector.

27. The following socially positive Project impacts can be highlighted: (i) increasing quantity and quality of electricity services available in Haiti; (ii) improving consumers' and civil society's understanding of the energy sector, and their access to data; and (iii) building up capacity in the sector to manage social safeguards.

28. Potential social negative impacts of Project implementation relate mainly to the potential impacts of extending the electricity infrastructure within Port-au-Prince, secondary cities and in rural areas. In particular, the distribution extension and rehabilitation works may cause displacement of farms, and/or people, although this is expected to be minor as one of the indicators used to assess and select subprojects was minimization of resettlement. These issues would be addressed through: (i) the selection of investments with limited impacts and of sites with low social sensitivity; (ii) Project consultations with the communities and the local and central Authorities (including consultations with women's groups and as part of the preparation of the safeguards documents), and social outreach activities; and (iii) implementation of mitigation measures, when appropriate, as outlined in the Project's safeguards documents. A Resettlement Policy Framework, which summarizes potential impacts and mitigation measures, was prepared for this Project and a Mirebalais Abbreviated Resettlement Action Plan was prepared for the extension of the Mirebelais line.

29. Required environmental and social mitigation measures complying with Bank guidelines and national laws will be incorporated into the contracts with oversight from the MTPTEC and EDH. Consultations consistent with national regulations and Bank's Policies will be carried out with the participation of, among others, local municipalities and residents.

30. Institutional Capacity: Both the environmental and social safeguards issues will be managed within the existing Environmental Unit of the EDH. The unit was set up by IDB and consists currently of one staff with an environmental background. EDH has launched a selection process to add two environmental specialists and a social specialist to the team.

31. ***Capacity Building***: Lack of capacity in the Government and EDH to manage environmental and social safeguards is an important constraint and the Project will provide capacity building support to address this issue through the organization of workshops, the hiring of a consultant to support the MTPTEC and EDH in the implementation of social and environmental safeguards policies, and capacity building. He/she will be responsible for designing a capacity building plan and framework for a series of workshops on the social issues related to the project, particularly on resettlement and compensation issues, and on monitoring the social impacts of the Project. In addition, the consultants hired to help the Government prepare the safeguards documents will work in close collaboration with the MTPTEC and EDH, providing training as needed, including improved PCB management. The cost of this training, securing of environmental permits, mitigation, and monitoring are included in the overall Project costs.

32. The contractor may provide, under the terms of his contract, sufficient training to his personnel to ensure that they are all aware of the general conditions and safeguard issues in the ESMF. The contractor is responsible for having sufficient capacity in terms of the number of staff trained in natural habitat protection, forestry/agro-forestry and environment. They will have general knowledge on environmental assessment and management and will be able to undertake

regular self-monitoring and evaluation of the project. The contractors would however need to be trained on how to implement the screening checklist, on any permit processes and conditions, on how to fulfill mitigation commitments, reporting requirements, and compliance checklists. This training will be included in the overall Project costs.

Table 5: Review of Bank Environmental and Social Policies

Safeguard Policies Triggered	Yes	No	TBD
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	
NA			
Projects in Disputed Areas (OP/BP 7.60)		X	
NA			

Project Environmental and Social Safeguards Documentation.

33. On August 7 and 9 2012, and following consultations with the Project stakeholders between November 2011 and April 2012, and prior to the initiation of Project Appraisal, a Mirebalais Environmental Management Plan (EMP), a Mirebalais Abbreviated Resettlement Action Plan (RAP) for the connection between Mirebalais-Verettes in the Artibonite region; an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Framework (RPF) were disclosed on the website of the MEF, the BME and in the Bank's Infoshop [15].

34. Consultations at the national level (national Government authorities, Artibonite and Cap Haïtien) and in Port-Au-Prince confirmed the importance of the public lighting component, particularly in vulnerable and rural areas, of the need to sensitize the population to paying for electricity and including women's organizations. The Mirebalais Environmental Management Plan further informed the priority areas at local level.

35. The Project environmental and social documentation has been developed by a team comprising an international consultant experienced with the Bank's Safeguards policies and

[15] The following documentation was disclosed in Haiti and in the Bank's Infoshop on August 7 and 9, 2012: Mirebalais Environmental Management Plan (EMP); Mirebalais Abbreviated Resettlement Action Plan (RAP); Environmental and Social Management Framework (ESMF): and Resettlement Policy Framework (RPF).

requirements, a social scientist from Haiti, and representatives from MTPTEC, the Secretariat of Energy and from EDH's environmental unit.

36. Project resources are also provided to strengthen EDH's Environmental and Social unit through capacity building and access to best practices.

Monitoring & Evaluation

37. Project outcomes, results indicators and intermediate results are provided in Annex 1. The MTPTEC will be responsible for monitoring and reporting on Project implementation progress relying on inputs provided by the other implementing entities in particular EDH.

Role of Partners

38. The proposed Project represents a key element of a new and significantly expanded program of engagement that involves multi-donor actions through investment loans, budgetary support, capacity building and dialogue (see table 6 below). In particular, the Project will be implemented in close coordination with USAID, which is financing EDH Operations Improvement Agreement (OIA), and the IDB, which is financing generation and grid rehabilitation investments in Port-au-Prince, the installation of an accounting system for EDH, and approved in June 2011 a Development Policy Operation aimed at modernizing the electricity sector.

Table 6: Sector Investment Program

Activity	Specific action	Project/Donor	Financing	Timeline
Institutional Strengthening				
Capacity building /TA to MTPTC	Support to the Energy Sector Management Unit, and Technical Assistance	- SFLAC and proposed Project (WB) '- Technical assistance for budgetary support (IDB)	- US$3.7mn - US$0.2 mn	- Ongoing - Summer 2012
Transparency in financial flows	Financial model for the sector	Infrastructure and Institutional Emergency Recovery Project (WB)	Up to US$ 0.3mn	August – December 2012
Policy based grant	Budgetary support with conditions related to the electricity sector	Transformation and Modernization of the Energy Sector (IDB DPL)	US$35mn	Approved in June 2011 and June 2012; 3rd tranche in June 2013
Total (excl. DPL)			**Up to US$4.2mn**	
Offgrid Access and Household energy				
Offgrid Access	New connections to households, social facilities, and public lighting	Proposed Project (WB)	US$7mn	September 2012- 17
Promotion of alternative fuels	Enhance the availability of alternative technologies and fuels to reduce charcoal and wood consumption in Haiti.	US	US$7.5mn	Ongoing seletion process for a consulting firm to design and implement the program
Total			**US$14.5mn**	

Table 6: Sector Investment Program (cont'd)

Activity	Specific action	Project/Donor	Financing	Timeline
EDH Performance Support				
Improve the Management of EDH	Operations Improvement Agreement	USAID	Up to US$8 mn	Ongoing- Until April 2013
	Managerial support to EDH	PREPSEL (WB)	US$0.4mn	Ongoing – to continue under proposed Project
Commercial loss reduction	Operational support for new billing system (maintenance, extension)	PREPSEL and proposed Project (WB)	US$0.8 mn	January 2012-2014
Financial management	Installation of an accounting system for EDH	IDB	US$0.5mn	Ongoing
	Preparation of EDH financial accounts; external audits	Infrastructure and Institutional Emergency Recovery Project and proposed Project (WB)	US$0.8mn	August-December 2012; audit to be carried out uder proposed Project
Total			**US$9.7mn**	
Grid rehabilitation and expansion				
Rehabilitation of infrastructure	Péligre hydro plant	IDB with KfW and OFID	US$38mn	Ongoing
	Saut Mathurine hydro plant	CIDA	US$5mn	Ongoing
	Five substations	US	US$11mn	Ongoing
	Grid rehabilitation	IDB	US$28mn	Ongoing
Expansion	30MW E-Power	IFC/FMO	US$29mn	Ongoing
	Semi autonomous electricity supply in Les Cayes	CIDA	US$9mn	Ongoing
	2 new industrial parks in North and Port-au-Prince	US and IDB	US$74mn	First phase ongoing
Rehabilitation and Expansion	Rehabilitation and expansion of EDH grid	Proposed Project (WB)	US$63mn	From January 2013
Distribution	OIA investment plan	USAID	US$ 32mn	
Total			**US$368mn**	
Grand total			**US$397mn**	

Annex 4: Operational Risk Assessment Framework (ORAF)

HAITI: Rebuilding Energy Infrastructure and Access Project

Stage: Appraisal

<table>
<tr><td colspan="2">1. Project Stakeholder Risks</td><td colspan="4">Rating High</td></tr>
<tr><td colspan="2" rowspan="2">Description :
Lack of political commitment towards reforn and coordination between sector stakeholders and weak capacity could continue to undermine the sector entities' ability to manage the sector in the face of diverging interests; this has considerably undermined sector performance in the past.

The management structure of EDH could be inadequate, jeopardizing the implementation of investments.</td><td colspan="4">Risk Management :
Government's institutional strengthening and EDH performance enhancement activities are aimed at establishing a transparent and efficient framework for the sector and give both entities the capacity to manage and enforce new rules for the sector (including through the preparation of a new regulatory sector framework and TA to EDH management). Public outreach activities would help create broad public support for sector reform and transparency. The current Operations Improvement Agreement financed by USAID and the planned management support to EDH (financed by this Project) should considerably strengthen governance.

The majority of investments are conditional upon the implementation of an acceptable management structure within EDH; therefore funding for these investments would not be available without such improvement in the management structure of the utility. In the meantime, the OIA is in place to support EDH management. The Project will also finance support to improve the management structure of EDH..</td></tr>
<tr><td>Resp :MTPTEC[16]/ EDH</td><td>Stage: Preparation and Implementation</td><td>Due Date : Support to the GoH to put into place a new management structure for EDH should start now</td><td>Status: Ongoing</td></tr>
<tr><td colspan="6">2. Implementing Agency Risks (including fiduciary)</td></tr>
<tr><td colspan="2">2.1. Capacity</td><td colspan="4">Rating: Substantial</td></tr>
<tr><td colspan="2">- FM/ Procurement
Given the significant size of the new operation vs. the PREPSEL the entity in charge of managing fiduciary aspects of the Project could face difficulties preparing and supervising procurement processes, which would delay Project implementation and lead to the selection of weak</td><td colspan="4">Risk Management :
The PREPSEL PCU, which has more than five years of experience in the implementation of Bank projects, will have fiduciary responsibilities over the proposed Project. The PCU will receive additional capacity building support, in particular through the hiring of two consultants in FM and procurement, to support the existing team.</td></tr>
</table>

[16] Until the new institutional arrangements are formalized, MTPTEC will remain the official Government's entity responsible for energy. See paragraph 7 in section I.A. for background.

providers/consultants. Inadequate FM capacity could lead to lack of proper internal controls and general transparency of funds' use.	
- Technical capacity Preparation of procurement documents could encounter delays due to weak technical capacity.	Technical assistance to EDH (through the existing PREPSEL managerial support, the USAID OIA, international consultants, an owners' engineer, and an improved management structure within EDH) and the MTPTEC (through the support of international experts) will be provided.
Implementation capacity Overall implementation capacity, both at EDH and Government levels is weak. Availability of qualified staff in the Government and EDH is scarce. High staff turnover could further undermine capacity.	A mix of improved HR policy (with incentives not solely based on financial reward- ie career/training opportunities, recognition etc) will be provided as part of efforts to improve management of EDH, including through a review of HR policy.
Failure to attract competent staff to manage EDH at the end of the OIA would seriously compromise implementation of the donors' investment program, including Project activities.	The bulk of the Project's investments would be made available only upon the implementation of an acceptable management structure within EDH. While this safeguards Project investments, lack of acceptable management structure would seriously compromise sector reform. This is why the donor community and the Government are working together to ensure that the process for selecting an appropriate solution for EDH, led by CMEP, be finalized as soon as possible, The proposed Project will provide financial support to the management structure, if needed. .
	Resp: MTPTEC/EDH | **Stage: Preparation and Implementation** | **Due Date : Before implementation and throughout the Project** | **Status: Started.**
2.2. Governance	**Rating: High**
Description : Haiti faces serious governance issues overall, in the energy sector in particular. The country and sector's overall weak governance could adversely affect the efficiency of interventions and their sustainability, as it has in the past.	**Risk Management :** One of the key objectives of the Project is to strengthen governance and transparency in the sector, in particular through capacity building to the Government, public outreach, and an improved management structure for EDH. However, this Project alone will not address all governance issues. The ongoing implementation of new systems for EDH (billing, accounting and claims monitoring system) and the planned implementation of remote metering for both industrial customers and independent power producers (PREPSEL financing) will contribute an improvement in the overall level of transparency and efficiency in the management of the sector. A number of activities supported by the Donors Investment Program seek to reduce opportunities for fraud: presentation of anti electricity fraud law to Parliament (IDB budgetary support condition for 2013, with TA), installation of billing (completed) and remote metering systems (financed under PREPSEL), choice rehabilitation equipment, and audit of EDH accounts. In addition, social outreach activities (both at the sector and EDH levels) should help create awareness of consequences of corruption, fraud and non payment on EDH performance and public finances. The Government has expressed strong willingness to tackle these issues, and started taking some steps in that direction (including the creation of an inter ministerial commission to monitor

	performance of EDH). During preparation, negotiation conditions related to efficiency and governance were established and the Government has achieved them. Regarding Project funds specifically, existence of a ring fenced PCU for the fiduciary aspects of the Project aims to reduce the potential risk. In addition, a private firm is now supporting EDH management and all major investments will only be implemented on the condition that there is an acceptable management structure in EDH.			
	Resp: MTPTEC/EDH	**Stage: Preparation and implementation**	**Due Date : Throughout Project**	**Status: Ongoing**
3. Project Risks				
3.1. Design	**Rating: Substantial**			
Description : If the design of the Project does not correspond to the sector's needs and does not address key capacity issues, the Project's will not reach its objectives. The wide array of interventions (grid rehabilitation/expansion, offgrid, in different geographic locations, some of which hard to access) could complicate/slow down implementation. The phasing of the Project activities could delay implementation, since app. 70% of Project funds will be disbursed conditional upon the implementation of a satisfactory management structure within EDH.	**Risk Management :** The design of the Project is the result of a careful analysis of sector needs and lessons learnt from implementation of previous operations in the sector in Haiti. The Project team has consulted and will continue to consult key Project stakeholders and donors during preparation. More than 70% of Project budget will consist in large contracts for grid rehabilitation and expansion, which are not expected to raise particular technical or implementation issues. The Project will bundle contracts as much as possible, to be able to attract competitive bidders. Regarding offgrid activities, activities will focus on a limited number of communities outside of Port-au-Prince in order to achieve greater impact, and seek to take advantage of existing providers'/ operators' experience. Donors , in particular USAID, already started to provide support to the GoH to help determine the best option to improve EDH management and will help the Government implement such option (under the proposed Project).			
	Resp: Bank and EDH/MTPTEC	**Stage: Preparation**	**Due Date : December 2012**	**Status: Ongoing**
3.2. Social & Environmental	**Rating: Substantial**			
Description : This operation is categorized as B because of infrastructure investments. Neither EDH nor the MTPTEC have experience with Bank's social and environmental safeguards; as a result, there is a risk that social and environmental could be addressed or managed in an inadequate manner. Another challenge concerns the regularization activities – which could lead to social tensions.	**Risk Management :** Capacity building activities (training, workshops), including during Project preparation, will provide support to help build expertise. Specialized technical assistance will also be provided during Project preparation (Project Preparation Advance) and implementation. Regarding the regularization activities a consultant will be hired (funded under the Project Preparation Advance) to help EDH define a public outreach strategy and the Project will finance the activities recommended in that strategy.			

	Resp: MTPTEC/EDH	**Stage: Preparation and Implementation**	**Due Date : Throughout the Project**	**Status: Ongoing**
3.3. Program & Donor	**Rating: Substantial**			
Description : Lack of coordination between donors could lead to inefficiency in the use of funds and underfunding of some needs, undermining the recovery of the sector. The objective of improving the sector's performance is dependent on all donor activities.	**Risk Management :** There is a very strong coordination between the main donors, who have jointly prepared an energy strategy and the overall investment program that supports sector reform, in consultation with the Government. The Project will only finance activities agreed with the Government and other donors, to avoid potential duplications.			
	Resp: MTPTEC and Bank	**Stage: Preparation and Implementation**	**Due Date : Throughout the Project implementation**	**Status: Ongoing**
3.4. Delivery Monitoring:	**Rating: Substantial**			
Description : Weak capacity and low ownership could undermine the capacity to monitor results (lack of adequate supervision of works and technical assistance by EDH and the Government).	**Risk Management :** Capacity building activities should help improve technical capacity, while consensus building activities seek to strengthen ownership. TA will be provided to EDH and GoH's energy entity for the preparation of a comprehensive Project monitoring framework. The firm in charge of the Operations Improvement Agreement is monitoring EDH results, while a steering committee with members of EDH/GoH's energy entity/MEF will be monitoring overall project performance.			
	Resp: MTPTEC	**Stage: Preparation (establishment of framework) and Implementation (monitoring)**	**Due Date : bi annually throughout Project**	**Status: Monitoring to start during implementation.**
3.5. Sustainability	**Rating: High**			
Description : EDH financial situation is very fragile – the utility is operating at a loss and unable to maintain infrastructure. The Government's energy unit was restructured and there is currently only one staff in charge of energy in the Government, the Minister Delegate for Energy Security. If EDH financial situation does not improve, the utility will be unable to provide the necessary maintenance investments for the new infrastructure financed under the Project. If no adequate energy unit is put into place with an adequate capacity; the Government will not be able to integrate the energy sector management unit within its staff after the Project's completion.	**Risk Management :** Institutional strengthening and performance enhancement activities seek to ensure sustainability of results by improving capacity of the Government unit in charge of energy and of EDH. The Project Preparation Advance should help make these funds available quickly. These activities are part of a coordinated and comprehensive investment program funded by the donor community, which includes several measures - such as EDH operations improvement agreement, CEMEP process, the preparation of a financial model for the sector and an acceptable management structure for EDH - to substantially strengthen the management of EDH, establish short and long term targets for utility performance, and build a strong consensus with the authorities and civil society on sector reforms.		
	Resp: MTPTEC and EDH	**Stage: Preparation and Implementation**	**Due Date : Throughout implementation**	**Status: Ongoing**

Annex 5: Implementation Support Plan

HAITI: Rebuilding Energy Infrastructure and Access Project

Strategy and Approach for Implementation Support

1. The strategy for Project Implementation Support (IS) by the Bank team reflects the nature of the Project, its risk profile, and Haiti's institutional set-up in the energy sector. The strategy aims to provide an adequate amount of support to the implementing entities, while remaining focused on implementation of the risk mitigations measures described in the ORAF assessment. The strategy is indicative and flexible, and will be revisited during Project implementation based on the progress made on the ground.

2. The IS strategy will focus on strengthening the capacity of the two implementing agencies (MTPTEC and EDH). The Project is also part of a broader Donors' investment and sector support program for the sector, which includes activities that will reinforce the client's implementation capacity, in particular the EDH Operations Improvement Agreement (OIA), financed by USAID.

3. **Overall Project Implementation**. Ensuring a satisfactory implementation of the Project starting with the activities to be carried out under the Project Preparation Advance will be critical. During this period and the first 12-month post effectiveness, critical implementation areas will be: (i) implementation of capacity building activities; (ii) preparation and implementation of procurement processes; (iii) implementation of safeguards policies; (iv) financial management; and (v) monitoring and evaluation of implementation. A Steering Committee, chaired by the Prime Minister and comprising the MTPTEC, EDH, and MEF, would meet every six months to: (i) review progress and issues in Project implementation; and (ii) ensure consistency with the objectives of the Government's reconstruction plan.

4. **Procurement**. The Bank supervision team will: (i) provide training to the Project Coordination Unit, in particular, during Project preparation, to the new procurement specialist to be hired to support the existing consultant; (ii) review procurement documents and provide timely feedback to the PCU; and (iii) monitor procurement progress against the Procurement Plan.

5. **Financial management**. In accordance with the FM Action Plan agreed with the Client, the Bank supervision team will: (i) provide training to the Project Coordination Unit, in particular, during Project preparation, to the new financial management specialist to be hired to support the existing consultant; (ii) closely supervise financial management of the Project; and (iii) encourage the PCU to launch the first audit of the Project in a timely manner, with support for the preparation of the terms of reference and the selection process.

6. **Environmental and social safeguards**. The Bank supervision team will: (i) provide training to EDH's environmental team and the MTPTEC during implementation; and (ii) closely supervise the implementation of the agreed safeguards documents (Environmental and Social

Framework, Mirebalais Environmental Management Plan, Resettlement Policy Framework and Mirebalais Abbreviated Resettlement Plan).

7. **Monitoring and evaluation.** The implementation of the M&E framework from the start of Project implementation is essential to enable the Project to assess implementation progress and take appropriate actions to address potential issues. In addition to the hiring of a consultant to help set up and launch the M&E framework implementation, the Project team will provide support as needed to the PCU.

Implementation Support Plan

8. Given the size of the Project, the presence of a Bank staff located in Port-au-Prince and dedicated to supporting the implementation of the proposed Project is critical. Implementation support will be carried out at the following levels:

- Technical supervision. Power engineering and other technical inputs (in particular for the rehabilitation/expansion works) will be required to review requests for proposals and bid documents. During construction and commissioning, technical supervision will also be required to ensure that technical contractual obligations are met. The team's power engineers will conduct site visits as needed, at least twice a year during Project implementation.

- Fiduciary requirements and inputs. Bank's support regarding financial management will be carried out through the Bank's Washington and Port-au-Prince offices, while Bank support regarding procurement will be carried out from Washington.

- Governance and capacity building. Bank's support regarding Governance and capacity will be carried out through the Bank's Washington office.

- Safeguards. The Bank environmental and social specialists will provide detailed inputs to the draft safeguards documents during preparation, and training sessions will be organized before and during implementation. Field visits to the Project sites will be organized on an annual basis.

Table 1: Implementation Support Plan

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	FM and procurement training	FM and procurement specialists	1SW per specialist	
	Safeguards training	Social and environmental specialists	1 SW per specialist	
	Terms of	Task team leader,	4 SW local	

	Reference/Selection of consultants for capacity building activities, incl. (i) procurement and FM consultants; (ii) renewal of delegate directors' contracts; (iii) external audit of EDH	local coordinator, FM and procurement specialist	coordinator and 1 SW per person for the rest of the team	In coordination with the donors' investment program; in particular: USAID Operations Improvement Contract for EDH and IDB distribution rehabilitation Project
	Technical and procurement review of the Requests for Proposals for public lighting. Two supervision missions	Local coordinator, procurement specialist, power engineer, household energy and rural electrification specialists Project team	1 SW per specialist 2 SW per person	
13-60 months	Preparation of environmental management plans for new activities defined	GoH's energy entity, EDH and environmental and social consultants	3 SW/ consultant (depending on scope/complexity of activities)	In coordination with the EDH Operations Improvement Agreement (USAID)
	Technical and procurement review of the RFPs for (i) community electrification component; (ii) grid rehabilitation activities outside of Port-au-Prince; and (iii) grid expansion activities in and outside Port-au-Prince. Project management (including bi yearly supervision missions)	Project coordinator, procurement specialist, power engineer, household energy and rural electrification specialists Project team		

Table 2: Skills Mix Required

Skills Needed	Number of Staff Weeks per year	Number of Trips	Comments
Financial Management Specialist	6	2	Shared with other tasks
Procurement Specialist	6	2	Shared with other tasks
Rural Electrification Specialist	4	2 (will decrease as Project progresses)	
Household Energy Specialist	4	2 (will decrease as Project progresses)	
Power Engineer	6	2	
Social Specialist	2	1	Shared with other tasks
Environmental Specialist	2	1	Shared with other tasks
Project Management	8	4	Including support from country office and Project coordinator

Table 3: Partners

Name	Institution/Country	Role
USAID	Donor	EDH Operations Improvement Agreement Preparation of a management contract for EDH Financing for rehabilitation works in Port-au-Prince
IDB	Donor	Financing for rehabilitation works in Port-au-Prince Technical Assistance to strengthen Government capacity

Annex 6: Introduction Letter of Sector Development Policy

HAITI: Rebuilding Energy Infrastructure and Access Project

RÉPUBLIQUE D'HAÏTI

Le Premier Ministre

PM/LSL/ab-cbs/119

Port-au-Prince, le 09 août 2012

Monsieur Alexander ABRANTES
Représentant Spécial en Haïti
Banque Mondiale
En ses bureaux.-

Monsieur le Représentant Spécial,

Le Gouvernement Haïtien a élaboré un projet de politique énergétique nationale qui définit les objectifs globaux pour le secteur et les objectifs spécifiques pour les neuf principales filières du secteur, dont la filière du secteur de l'électricité qui comprend la production, le transport, la distribution et la commercialisation de l'électricité.

En ce qui concerne ce secteur de l'électricité, le gouvernement prend les engagements complémentaires, détaillés dans cette lettre de politique, lesquels sont destinés à assurer le succès de la poursuite des objectifs spécifiques pour ce secteur reflétés dans le projet de politique énergétique nationale. Ces engagements visent en particulier à assurer une utilisation efficace des ressources allouées, tant par l'Etat haïtien que par les bailleurs de fonds, pour soutenir le gouvernement et les entités du secteur. Ils seront décrits dans la version actualisée de la politique énergétique nationale actuellement en cours d'élaboration.

Concernant le volet électricité, le projet de politique énergétique nationale détaille en objectifs les principes suivants :

- La recherche de l'efficience dans la production, la transmission et la distribution
- Le développement des sources locales d'énergie, en particulier hydroélectriques, solaires et éoliennes ainsi que la cogénération
- La planification de l'expansion au moindre coût
- La participation du secteur privé à l'investissement
- Le reflet des coûts réels dans les tarifs
- La lutte contre la fraude
- L'électrification rurale au service du développement économique et social
- La contractualisation des objectifs entre l'Electricité d'Haïti et l'Etat haïtien
- L'ajustement du cadre réglementaire aux nouveaux objectifs.

RÉPUBLIQUE D'HAÏTI

Le Premier Ministre

Concernant plus particulièrement l'offre d'électricité, le projet de politique énergétique nationale détaille les engagements suivants :

- L'augmentation de la capacité actuelle par une stratégie d'acquisition d'équipements minimisant le poids de la facture pétrolière
- L'entretien courant du parc de production et des ouvrages de transport et de distribution
- La réhabilitation et l'extension des réseaux haute tension, moyenne et basse tension
- La sécurité des approvisionnements en combustible (mazout, diesel et lubrifiants)
- La lutte contre les gaspillages et les pertes dans le réseau.

Pour assurer l'atteinte de ces objectifs définis par le projet de politique énergétique nationale, et notamment une efficacité maximale des financements apportés par l'État haïtien et les bailleurs de fonds au service de ces objectifs, le gouvernement prend les engagements complémentaires suivants :

Concernant la structure institutionnelle du secteur :

1) Centralisation du pouvoir de décision exécutif au sein du bureau du Premier Ministre ; ce pouvoir est délégué au Ministre Délégué auprès du Premier Ministre pour la sécurité énergétique.
2) Création d'une capacité exécutive permanente sous l'autorité du Ministre Délégué auprès du Premier Ministre pour la sécurité énergétique, composée de fonctionnaires et de consultants.

Concernant la gouvernance d'entreprise de la compagnie publique Electricité d'Haïti (EDH) :

1) Rétablissement du fonctionnement régulier et décisionnel du Conseil d'administration avec des réunions mensuelles obligatoires.
2) Suivi des recommandations du CMEP pour la modernisation de l'EDH afin de réinstaurer une gestion commerciale, technique, comptable et humaine efficace, visant à la réduction des pertes techniques et commerciales, l'amélioration de la gestion des contrats d'achats d'énergie et l'amélioration des encaissements pour rétablir l'équilibre financier de la compagnie et réduire les transferts budgétaires de l'Etat.
3) Mise en place d'un programme de développement des ressources humaines.

Concernant la participation du secteur privé à la production d'électricité :

Maintien et amélioration de la procédure de sélection et de contractualisation transparente et ouverte en accord avec la loi haïtienne, comprenant une analyse préalable des conditions contractuelles par des experts indépendants qualifiés afin de garantir une compétitivité des offres retenues vis-à-vis des conditions du marché.

31, Boulevard Harry Truman, Port-au-Prince, Haïti

RÉPUBLIQUE D'HAÏTI

Le Premier Ministre

Concernant l'extension de l'accès aux services de l'électricité dans les zones rurales :

Création d'un cadre réglementaire et d'un modèle technique et commercial viable et durable pour l'électrification décentralisée dans les zones rurales et, si nécessaire, indépendante du système de l'EDH.

Concernant l'appui budgétaire de l'Etat au secteur de l'électricité

Adoption et mise en œuvre d'un protocole tripartite entre le Bureau du Premier Ministre représenté par le Ministre délégué à la sécurité énergétique, le Ministère des Finances et l'EDH détaillant les obligations respectives des trois entités et notamment les modalités de déterminations des subventions et des décaissements.

Concernant le cadre réglementaire et légal du secteur

La réforme du cadre réglementaire et légal du secteur en fonction des nécessités des objectifs fixés par le projet de politique énergétique nationale et des ajustements requis pour la pleine exécution des engagements suscités.

Comme vous le pouvez constater à travers cette lettre, notre projet de politique énergétique est ambitieux. Mon gouvernement et moi-même sommes déterminés à apporter des solutions durables aux problèmes énergétiques auxquels est confronté Haïti.

Je saisis l'occasion pour vous renouveler, Monsieur le Représentant Spécial, l'assurance de ma haute considération.

Laurent Salvador LAMOTHE

CC : membres du conseil d'administration d'EDH
CC : MPCE
CC : Ministre délégué au secteur de l'énergie
CC : Directrice de Cabinet du Président de la République

Attachment 1: English translation of the Introduction Letter of Sector Development Policy

Dear Mr Abrantes:

The Government of Haiti has developed a draft national energy policy that defines the overall objectives for the sector as well as the specific objectives for the nine key subsectors, including the electricity subsector, which covers the production, transportation, distribution and marketing of electricity.

For the electricity subsector, the Government is making the additional commitments detailed in this policy letter, which are intended to ensure achievement of the specific objectives for the subsector set out in the draft national energy policy. These commitments are aimed, in particular, at ensuring the effective use of the resources allocated by the Government of Haiti and donors in support of the Government and the entities operating in the sector. The commitments will be detailed in the updated version of the national energy policy currently under preparation.

The draft national energy policy establishes the following principles for the electricity subsector and sets them as objectives:

- to improve production, transmission and distribution efficiency;
- to develop local sources of energy, particularly hydroelectric, solar and wind energy, and cogeneration options;
- to plan expansion at the least possible cost;
- to ensure private sector participation in investment;
- to reflect real costs in the rates charged;
- to combat fraud;
- to expand rural electrification in support of social and economic development;
- to establish a performance contract between the electricity company, Electricité d'Haïti, and the Government of Haiti;
- to amend the regulatory framework in line with the new objectives.

The draft national energy policy establishes the following specific commitments for the energy supply:

- to increase current capacity by implementing a strategy for the purchase of equipment that will minimize fuel costs;
- to ensure regular maintenance of production plants and transportation and distribution infrastructure;
- to rehabilitate and expand the high-, medium- and low-voltage networks;
- to secure fuel supplies (heavy fuel, diesel and lubricants);
- to combat grid waste and losses.

To achieve the objectives set out in the draft national energy policy and, in particular, to ensure maximum effectiveness of the financing provided by the Government of Haiti and the donors towards achieving these objectives, the Government has made the following additional commitments:

Regarding the institutional structure of the sector:

- To centralize executive decision-making authority within the office of the Prime Minister; this authority is delegated to the Minister in the Office of the Prime Minister responsible for energy security.
- To create a permanent executive team consisting of officials and consultants under the authority of the Minister responsible for energy security.

Regarding corporate governance of Electricité d'Haïti (EDH):

- To restore the regular operation and decision-making authority of the Board of Directors with mandatory monthly meetings.
- To follow up on the recommendations for the modernization of EDH to be made by the Council for the Modernization of Public Enterprises (CMEP) in order to restore effective commercial, technical, accounting and human resource management aimed at reducing technical and commercial losses, improving the management of power purchase agreements and improving collections to restore the financial viability of the company and reduce government budget transfers.
- To establish a human resources development program.

Regarding private sector participation in the production of electricity:

- To maintain and improve a transparent and open procurement process in accordance with Haitian law, including a prior analysis of the contractual conditions by qualified independent experts to ensure the competitiveness, under market conditions, of the bids accepted.

Regarding expanded access to electricity services in rural areas:

- To create a regulatory framework and a viable and sustainable technical and commercial model for decentralized electrification in rural areas that could be, if necessary, independent of the EDH system.

Regarding government budgetary support for the electricity sector:

- To adopt and implement a tripartite agreement between the Office of the Prime Minister, represented by the Minister responsible for energy security, the Ministry of Finance and EDH setting out their respective obligations and, in particular, the methodology for calculating subsidies and disbursements.

Regarding the legal and regulatory framework for the sector:

- To reform the legal and regulatory framework for the sector based on the needs arising out of the objectives set in the draft national energy policy and the adjustments required for full implementation of the commitments identified.

As you will see from this letter, our draft energy policy is ambitious. My Government and I are determined to provide sustainable solutions for the energy problems facing Haiti.

Sincerely yours,

Laurent Salvador LAMOTHE