



**Small Scale Hydro Power Development in Haiti
PID 73248/ PIMS 2820**

Terminal Evaluation

Prepared for:

**Government of Haiti
Ministère des Travaux publics, Transports et Communication
Global Environmental Facility
United Nations Development Program**

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Abbreviations and Acronyms

ANARSE	National Authority of Electricity Sector Regulation <i>Autorité Nationale de Régulation du Secteur de l'Énergie</i>
BDSE	Office of Energetic Security <i>Bureau délégué à la Sécurité énergétique</i>
BME	Office of Mines and Energy <i>Bureau des Mines et de l'Énergie</i>
CE	Energy Cell <i>Cellule énergie</i>
CER	Renewable Energy Cell <i>Cellule Énergies Renouvelables</i>
CIDA	Canadian International Development Agency
CPAP	Country Programme Action Plan
EDH	Haiti Electricity <i>Électricité d'Haïti</i>
GEF	Global Environment Facility
IADB	Inter-American Development Bank
IFC	International Finance Corporation
IPP	Independent Power Producer
KfW	German Development Agency
kW	Kilowatt
Logframe	Logical framework matrix
M&E	Monitoring and Evaluation
MARNDR	Ministry of Agriculture and Natural Resources and Rural Development
MEF	Ministry of Energy and Finance
MES	Ministry of Energy Security <i>Ministère à la Sécurité énergétique</i>
MTR	Mid-term review
MTPTC	Ministry of Public Works, Transports and Communications <i>Ministère des Travaux Publics, Transports et Communications</i>
MW	Mégawat
M&E	Monitoring and Evaluation
I&E	
NEX	National Execution project formula
NGO	Non-governmental Organization
NOREFUND	Norwegian bank interested in financing SHPs in Haiti
PIR	Project Implementation Report
PPA	Purchase Power Agreement
Pro-Doc	Project Document
SC	Steering Committee
SHP	Small Hydropower Power
SSHDPD-H	Small Scale Hydro Power Development in Haiti
TOR	Terms of Reference
UGP	Project Management Unit
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
US	United States
USAID	US Agency for International Development
WB	The World Bank

**Small Scale Hydro Power Development in Haiti
PID 73248/ PIMS 2820**

Terminal Evaluation

Opening Page

Project

Title: Small Scale Hydro Power Development in Haiti (SSHPD-H)

Project Identification Numbers

Global Environment Facility (GEF) 2822

United Nations Development Program (UNDP) PID: 73248; PIMS:2820

Country: Haiti

Region: Latin America and Caribbean

Focal Area: Climate-Change Mitigation

Project execution

Executing Agency: Ministry of Public Works, Transports and Communications (MTPTC) *Ministère des Travaux publics, Transports et Communications*

Other Implementing Partners: Energy Cell (EC) *Cellule énergie* of the Ministry of Public Works, Transport and Communication; Electricity of Haiti (EDH) *Électricité d’Haïti*; Ministry of Energy Security (MES) *Ministère à la Sécurité énergétique*

Project Document Signature: January 3, 2012

Project Closing Date: April 30, 2016; ‘Operational Closing’ 31 December 2016

Project evaluation

The project was evaluated by one international consultant

Evaluation Duration: 31 days of work

Period: December 2016 to April 2017

Acknowledgements

The consultant, author of this terminal report, would like to express his gratitude to the project stakeholders and experts met during the project evaluation mission, and contacted by phone and e-mail who generously provided their time to share with the consultant their information, perception and insights concerning the project. The consultant also wishes to express specific thanks to Ms. Marie Pascale Francois, the Project Manager and other UNDP-Haiti staff for facilitating access to all required information, effective organisation of meetings, and the logistics for the evaluation mission. Special thanks are to reviewers of the draft of this documents for their comments and suggested improvement of its content.

Résumé Exécutive

Logique d'intervention du Projet

Titre : Développement de l'hydroélectricité sur petite échelle en Haïti (DHPE-H) PID 73248/ PIMS 2820

But du projet : Réduire l'émission des gaz à l'effet de serre produits par la génération d'électricité à partir de combustibles en Haïti via la promotion du développement de petites usines d'hydroélectricité.

Cadre des résultats

Objectif du projet

Créer un environnement favorable pour l'investissement public et privé dans de petites usines d'hydroélectricité dans le pays

Cibles fin du projet

- (1) Trois projets de Petites centrales hydroélectriques (SHP) en construction
- (2) 3,2 millions de dollars US levés pour la construction SHP
- (3) Pipeline de projets actualisé ; au moins huit nouvelles SHP en considération pour la construction
- (4) Régulation pour l'énergie en place y compris l'appui au développement de SHP

Effets du projet :

Effet 1

Un cadre de politiques et de régulation efficace, orienté vers le marché, pour le développement de l'hydroélectricité sur une petite échelle dans le pays

Cibles fin du projet

- (1) Coût et tarif de référence SHP définis
- (2) Proposition du statut opérateurs SHP approuvée
- (3) Résolutions (a) rédigés et (b) approuvés

Effet 2

Les capacités techniques et administratives au sein de l'EDH et d'autres concernés nationaux ont été créées pour faire évaluer, préparer et faire fonctionner l'hydroélectricité sur petite échelle

Cibles fin du projet

- (1) Équipement de mesure acquis et installé
- (2) Cartographie du projet hydraulique des régions pertinentes réalisée
- (3) Unité commerciale SHP établie
- (4) Au moins 30 personnels de l'EDH formés pour développement, fonctionnement

Résumé Exécutive

- et entretien SHP ; matériel de formation sur place
(5) Au moins 8 SHP incluses dans le pipeline de projets de l'EDH et avec accords préliminaires de financement en place

Effet 3

Petites usines de production d'hydroélectricité incorporées dans la distribution régionale construite et fournissant électricité à l'usagers

Cibles fin du projet

- (1) Trois études de faisabilité réalisées
- (2) Financement assurée pour construction trois SHP
- (3) Trois usines en construction
- (4) Réseaux de Jacmet et de Les Cayes pleinement restaurés et interconnexion SHP en cours
- (5) Trois plans d'affaires approuvés

Effet 4

Un plan de monitoring et d'évaluation du projet en application, et leçons apprises disséminées

Cibles fin du projet

- (1) Évaluation de moyen terme réalisée
- (2) Évaluation finale réalisée
- (3) Publication des leçons apprises
- (4) Séminaires pour présenter résultats du projet

Description du projet

L'approche du projet pour le développement des petites centrales hydro-électriques (SHP) en Haïti a été logique et bien conçue. En premier lieu, le projet a envisagé de créer le terrain législatif favorable à l'installation des SHPs et de leur exploitation. Ensuite, il a projeté de mettre à jour les connaissances sur le potentiel de la petite hydroélectricité du pays. Puis, il a été prévu d'aller de l'avant pour mettre à niveau les compétences de l'administration nationale responsable de développement des SHPs et, enfin, installer les SHPs pour démontrer la viabilité de l'approche globale.

Au cours de la période de rédaction du descriptif du projet (2005-2008), le Gouvernement Haïtien soutenait la politique de développement de petites centrales hydroélectriques produisant et vendant l'électricité au réseau électrique national. Toutefois, pendant la période précédente la signature du document de projet (en 2012), le Gouvernement a commencé à être réticent à soutenir cette politique pour des raisons suivantes :

- L'expérience antérieure avec le secteur de l'électricité privée a découragé le Gouvernement de promouvoir la participation du secteur privé dans l'électrification du pays en raison du coût d'achat élevé de l'électricité produite par le secteur privé
- Le Gouvernement était réticent à garantir au secteur privé de la sécurité de leurs investissements
- Enfin, le développement de la petite hydroélectricité ne figurait pas au programme de développement énergétique du Gouvernement pour les années 2007-2017.

Résumé Exécutive

Le concept du projet était solide et correspondant aux priorités du Gouvernement Haïtien d'augmenter rapidement l'accès des populations à l'énergie électrique. Cependant, tout au long de la vie du projet, le Gouvernement est demeuré réticent concernant l'achat d'électricité à partir de l'électricité du secteur privé en raison du coût élevé de l'énergie électrique demandée par les fournisseurs. En conséquence, le gouvernement n'a pas introduit de législation visant à faciliter la mise en place de petites centrales hydroélectriques. La réalisation du premier résultat : *une politique efficace, orientée vers le marché et le cadre réglementaire en vue de permettre le développement de petites centrales hydroélectriques dans le pays a été créé* et l'objectif du projet : *créer un environnement favorable aux investissements privés et publics dans les petites centrales hydroélectriques en Haïti* ont été compromises.

Cependant, en 2016, la dernière année de l'exécution du projet, le gouvernement édité décrets et introduit de changements administratifs favorables à l'installation des centrales génératrices privés d'électricité, en particulier, la petite hydroélectricité. Certains de ces changements ont été stimulés par le projet lui-même. Ainsi, le projet, bien qu'il n'ait pas atteint ses objectifs, a eu un impact sur le changement dans la position du Gouvernement en faveur du développement de la petite hydroélectricité dans le pays.

Résumé Exécutive

Notation des résultats du projet

S : Satisfaisant; MS : Moyennement satisfaisant ; U : Insatisfaisant ; L: Probable N/A non disponible

Notation de l'évaluation			
1. Suivi-évaluation	notation	2. Mise en oeuvre	notation
Suivi-évaluation au démarrage :	S	Qualité de la mise en œuvre par le PNUD :	MS
Mise en œuvre de suivi-évaluation :	S	Qualité de mise en œuvre par l'Agence d'exécution :	MS
Qualité globale de suivi-évaluation :	S	Performance globale de la mise en œuvre du projet :	MS
3. Évaluation des résultats	notation	4. Durabilité	notation
Pertinence :	U	Facteurs financiers :	L
Efficacité :	U	Facteurs socio-économiques :	L
Efficiency :	N/A	Facteurs institutionnels et gouvernance :	L
Niveau d'atteinte de l'objectif immédiat :	U	Facteurs environnementaux :	L
		Probabilité générale de durabilité des résultats atteints :	L

Recommandations

	Address	Recommendation
1	UNDP, GEF et pays bénéficiaires	Chaque projet, en particulier celui qui accuse de retards importants dans la mise en œuvre ou lequel demande de longues prolongations doit être testé pour la cohérence de ses objectifs avec les objectifs du Gouvernement et les principales parties prenantes. Le degré de cohérence et l'impact des différences doivent être évalués. Le Pro-Doc devrait être révisé si nécessaire. Si le désaccord est important, le projet doit être interrompu. Dans le cas contraire, il risque devenir obsolète.
2	UNDP, GEF, MTPTC et EDH	Continuer de soutenir le développement et l'amélioration des SHPs en Haïti. Assurer la meilleure utilisation des résultats du projet et de son expérience dans amélioration des SHPs et d'autres installations de production de l'énergie renouvelable.
3	UNDP et GEF	Assurer le suivi de la politique nationale pour les centrales de production des énergies renouvelables et propres et, une fois que les conditions de mise en oeuvre des centrales sont en place, envisager un projet qui assisterait les entrepreneurs privés et les bénéficiaires directs de l'électricité.
4	MTPTC et EDH	Pour rendre l'utilisation de l'électricité plus efficace et efficace : (i) former les techniciens spécialisés dans le maintien des installations électriques, (ii) employer les conseillers qui aideront les utilisateurs des installations électriques de faire le meilleur usage domestique et industriel de l'électricité, (iii) encourager les universités et les établissements de formation technique

Résumé Exécutive

		d'élaborer les programmes de recherche pertinents, diffuser les connaissances et préparer le matériel de vulgarisation.
5	EDH et MTPTC	Continuer d'informer des institution partenaires et les populations bénéficiaires sur les progrès dans l'élaboration et la mise en œuvre de nouvelles technologies de production énergie électrique renouvelable puisque leur développement dépende : (i) de l'orientation de la politique de gouvernement (ii) de la demande de la population et (iii) de la disponibilité de l'investissement privé.
6	EDH	Puisque la technologie SHP en Haïti est encore au stade très peu avancé, l'EDH peut : (i) continuer à évaluer les meilleures conditions où les SHPs peuvent être une source viable de l'énergie électrique et (ii) être ouvert à l'introduction des technologies alternatives ou complémentaires aux SHPs.

Executive Summary

Project summary table

Title: Small Scale Hydro Power Development in Haiti (PID 73248/ PIMS 2820)

Project goal: To reduce greenhouse gas emissions from fossil-based electricity generation in Haiti by promoting the development of small hydropower plants.

Project objective: To create an enabling environment for private and public investment in small hydro plants in Haiti.

End of project targets:

1. Three SHP projects under construction
2. US\$3.2 million leveraged for SHP construction
3. Updated project pipeline; at least 8 new SHPs under consideration for development
4. Energy regulation in place, including support for SHP development

Project outcomes:

Outcome 1: An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established.

End of project results:

1. SHP reference cost and tariff defined
2. Proposal status SHP operator approved
3. Resolutions (a) drafted and (b) approved

Outcome 2: Technical and managerial capacities within EDH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.

End of project results

1. Measuring equipment procured and installed
2. Mapping hydro potential relevant regions carried out SHP Business Unit established
3. At least 30 EDH staff members are fully trained on SHP development, operation and maintenance; training material in place
4. At least 8 SHPs included in EDH's project pipeline and with preliminary financing agreements in place

Outcome 3: Small hydropower generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.

End of project results

1. Three Feasibility studies completed;

Executive Summary

2. Financing secured for construction of 3 SHPs
3. Three SHP plants in construction;
4. Jacmel and Les Cayes grids fully restored and SHP interconnection underway.
5. Three business plans approved

Outcome 4: A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.

End of project results

1. Mid-term evaluation completed
2. Terminal evaluation completed
3. Lessons learnt publication
4. Seminar to present project results

Project description

The project's approach to small scale hydro powers (SHP)s development in Haiti was clear and well crafted:

1. Create favorable legislative ground for SHP installation and exploitation,
2. Update the knowledge about the small hydroelectricity potential of the country,
3. Proceed to upgrade the competences in the relevant national administration and finally
4. Install SHPs to demonstrate viability of the whole approach.

During the project's drafting period (2005-2008) the Government of Haiti supported the concept of development of small scale hydro power plants producing and selling electricity to the national electric power grid. However, during the period preceding the project document signature (in 2012) the Government started to be reluctant to support this idea:

- The past experience with private electricity sector discouraged the Government to support the private sector participation in the country electrification due to the high electricity purchase cost
- The Government was reluctant to guarantee to the private sector the security for their investment
- Finally, the hydroelectricity development was not included in the Government's energy development 2007 – 2017 program.

The project's concept was sound and corresponding to the Haiti's priorities or rapidly increase the access of population to the electrical energy. However, throughout the project's life, the Government remained reticent about purchasing electricity from the privately owned electricity generating plants due to the high cost of electric power requested by the private suppliers. As a consequence, the Government did not introduce legislation facilitating the small hydropower implementation. The achievement of the first Outcome: *An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established* and the Project Objective: *To create an enabling environment for private and public investment in small hydro plants in Haiti* became compromised.

However, in 2016, the last year of the project execution, the Government edited decrees and introduced administrative changes favorable to installation of private electricity generating power plants, especially, the small hydro power. Some of these changes were stimulated by the project itself. Thus, the project, although it did not achieve its outcomes, has an impact on the change in the Government's position towards development of the small hydro electricity in the country.

Executive Summary

Summary of the project evaluation rating

S Satisfactory; MS: Moderately Satisfactory; U: Unsatisfactory; L: Likely; N/A Non available

Evaluation Ratings:			
1. Monitoring and Evaluation	<i>Rating</i>	2. IA& EA Execution	<i>Rating</i>
M&E design at entry	S	Quality of UNDP Implementation	MS
M&E Plan Implementation	S	Quality of Execution - Executing Agency	MS
Overall quality of M&E	S	Overall quality of Implementation / Execution	MS
3. Assessment of Outcomes	<i>Rating</i>	4. Sustainability	<i>Rating</i>
Relevance	U	Financial resources:	L
Effectiveness	U	Socio-political:	L
Efficiency	N/A	Institutional framework and governance:	L
Overall Project Outcome Rating	U	Environmental:	L
		Overall likelihood of sustainability:	L

Recommendations

	Address	Recommendation
1	UNDP, GEF and beneficiary countries	Each project, especially the one with important delays in implementation or extension should be tested for the coherence of its objectives with the objectives of the Government and the main stakeholders. The degree of coherence should be assessed and the impact of the discrepancies evaluated. The Pro-Doc should be revised if needed. If the disagreement is important, the project should be discontinued. Otherwise, it loses relevance.
2	UNDP, GEF, MTPTC and EDH	Continue to support the development and improvement of the SHPs in Haiti. Ensure the best use of the SSHPD-H project's produced outcomes and the project's experience in improvement of the SHPs and other renewable electric energy production powers and networks.
3	UNDP and GEF	Ensure the follow up of the policy for the small, renewable, environmental friendly energy production plants, and, once the conditions for implementation of the energy plants are in place, envisage a project that will support the private entrepreneurs and the direct electricity beneficiaries.
4	MTPTC and EDH	To make more efficient and effective the use of electricity: (i) train local technicians specialised in maintaining the electrical appliances, (ii) employ counsellors helping electricity users to do the best use of electricity in the local situations, (iii) encourage the universities and the technical training

Executive Summary

		establishments to develop the relevant research programs, disseminate knowledge and prepare the needed equipment and supply packages.
5	EDH and MTPTC	Continue to keep informed the partner institution and the potential beneficiary population about the progress in the development and implementation of the new small renewable electrical energy production technologies since their development depend on (i) the Government policy orientation (ii) the population demand and (iii) the availability of the private investment.
6	EDH	Since the SHP technology in Haiti is still in the early stages of development, EDH may (i) continue to evaluate the best conditions where the SHPs can be a viable source of electrical energy and (ii) be open to introduction of alternative or complementary to SHP energy sources.

1 Introduction

This introductory section describes the purpose of the United Nations Development Program (UNDP)-Global Environment Facility (GEF) terminal Small Scale Hydro Power Development in Haiti (SSHDP-H) project evaluations, scope and methodology of this evaluation and the structure of the evaluation report.

1.1 Purpose of the evaluation

The Evaluation Office in its guidelines for GEF Agencies¹ states that:

The GEF Agencies are required to prepare, in English, a terminal evaluation report at project completion for all GEF full-size projects and, until further notice, all medium-size projects.

The purposes of the evaluation for the UNDP supported GEF financed projects are identified in the UNDP guidance for conducting their terminal evaluations², namely:

- To promote accountability and transparency, and to assess and disclose the extent of project accomplishments
- To synthesize lessons that can help improve the selection, design and implementation of future GEF financed UNDP activities
- To provide feedback on issues that are recurrent across the UNDP portfolio and need attention, and on improvements regarding previously identified issues
- To contribute to the overall assessment of results in achieving GEF strategic objectives aimed at global environmental benefit
- To gauge the extent of project convergence with other United Nations (UN) and UNDP priorities, including harmonization with other United Nations Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

In summary, as it was briefly stated in the Terms of Reference (TOR) for this evaluation (Annex I), the objectives of this evaluation are to³:

- Assess the achievement of the project's results
- Draw lessons that can:
 - Improve the sustainability of the project's benefits, and
 - Aid in overall enhancement of UNDP programming.

¹ GEF Evaluation Office. (2008). Guidelines for GEF Agencies in Conducting Terminal Evaluations. Evaluation Document No. 3. Paragraph 2.1, point 2.

² UNDP Evaluation Office. (2012). Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects. Page 13.

³ UNDP Haiti. (2016). Terms of Reference for Terminal Evaluation of Small Scale Hydro Power Development in Haiti. Page 3.

1.2 Scope and methodology

In conformity with the Terms of Reference (TOR) for the evaluation mission and this evaluation Inception Report *Rapport initial de l'évaluation finale*⁴, the terminal evaluation went through four phases (Table 1):

Phase 1. Documentation review

The consultant carried out a preliminary documentation review to identify questions and indicators that would be used to guide the evaluation process. The key result of this phase was the Evaluation Matrix⁵ that became central to structure the implementation phase of the evaluation.

Phase 2. Inception Report

The Inception Report was prepared after completion of the documentation review. The report contained a description of the methods that will be used during the evaluation, the evaluation questions, indicators, sources of information and the data collection method. It included description of management of the evaluation process, enumerated the evaluation risks and risks mitigation methods, specified the mission resources, the mission agenda and the expected results. It also included the Evaluation Questions, attached as Annex VI to this report.

Phase 3. Field mission in Haiti

After approval of the Inception Report by the Project Management the consultant traveled to Haiti where he met and interviewed the following key stakeholders:

Project Management and officials from the UNDP, Office of Mines and Energy *Bureau des Mines et de l'Énergie* (BME), Haiti Electricity *Électricité d'Haïti* (EDH), HYDROMET, Institut Haïtien de l'Énergie, Ministry of Economy and Finance (MEF), Ministry of Public Works, Transports and Communications *Ministère des Travaux publiques, Transports et Communications* (MTPTC) and Soleo Énergies.

Phase 4. Documentation review and detailed analysis

The documentation from the SSHDP-H files received by the consultant before the field mission, the documents transmitted during the mission, and information collected during the interviews with the stakeholders and on the Web were the basis for the in-depth review of the Project that aimed to answer the evaluation questions. The evaluator used the triangulation method to cross-checking the information and to ensure that the answers to the evaluation questions will provide a solid basis for the description of the mission findings, and for conclusions and recommendations.

Draft report

During three weeks after the field mission, the consultant prepared a draft of the *Terminal Evaluation* report and submitted it to the UNDP office in Haiti for distribution among the interested stakeholders and for comments.

⁴ Manikowski, S. (2016). *Report initial de l'évaluation finale*. Pages 19 and 20.

⁵ Ibid. Table V.

Final report

The final report took into consideration the comments received from the stakeholders. All comments were acknowledged. However, since the terminal evaluation is an independent body, the comments that the evaluator considered as pertinent to the evaluation were acknowledged and incorporated into the final document. Others were duly commented and the reasons for their non-incorporation explained. The final report was submitted to the UNDP office in Haiti.

TABLE 1 Evaluation mission agenda

Phases	Agenda													Effort (days)	
	2016 December		2017												
			January			February			March			April			
	II	III	I	II	III	I	II	III	I	II	III	I	II		
1. Preliminary documentation review														3	
2. Inception report														3	
3. Field mission in Haiti														8	
4. Documentation review and detailed analysis														7	
Draft report														7	
Final report														3	

1.3 Structure of the evaluation report

This evaluation report follows the evaluation consultancy TOR outline. The introductory section of the report is followed by a description of the project and presentation of its development context. Then, the report depicts the evaluation findings including: a critical analysis of the project formulation process and its design, examination of the project implementation, and evaluation of its implementation process and the achieved results. Finally, it contains a section presenting conclusions, offering recommendations and describing lessons. The report body is preceded by an executive summary and has attached 10 annexes.

2 Project Description and Development Context

This section contains information essential to appreciate the project's importance to the development of Haiti. The first part situates the project in time and describes the progression of its implementation. It is followed by a detailed description of Haiti's electrification state, the difficulties and challenges for improvement of the existing unsatisfactory situation, and the project approach to solving some of the obstacles in improving the electrification coverage of the country. The presentation of the project's goals and the progress indicators that follows is the central part of the section. In addition, this section presents the main stakeholders and their reasons to be involved in the project's implementation. The account of the project and its development ends with the specification of the expected project's results.

2.1 Project start and duration

The project proposal for the SSHPD-H, prepared between 2005 and 2008 from the initiative of MTPTC was approved by UNDP-Haiti in the second half of 2008⁶ and submitted to GEF for funding under the GEF Trust Fund for medium-sized projects. Initially, it was expected to terminate in 2011 after three years of execution.⁷ However, the arrangements for the project's implementation took several years; the Project Document (Pro-Doc) was signed in December 2011 by UNDP and in January 2012 by MTPTC⁸. Unexpected institutional challenges within the Government of Haiti and the January 2010 earthquake were the most significant reasons for the delay in project signature⁹. Another reason for the Haiti's administration slow pace in decision taking was about 40 years' stagnation in development of the small hydroelectricity sector in Haiti.¹⁰

The project's closing date was scheduled for 31 March 2014.¹¹ However, several factors independent of the project, delayed or were responsible for the slowdown of the project's activities (i) the needs to mitigate the economic and social consequences of the devastating earthquake of January 2010; (ii) political instability during the first years of the project implementation; (iii) and administrative modifications within the energy sector, namely closing in November 2014 of the Office of Energetic Security *Bureau délégué à la Sécurité énergétique* (BDSE), one of the project Implementing Partners (replaced after 8 months by the Energy Cell *Cellule énergie* (CE) of the MTPTC and (iv) institutional status insecurity of another project Implementing Partner, the EDH.¹² Facing the delays in the project's implementation, in 2015, the project's Steering Committee (SC) requested UNDP-Haiti to

⁶ UNDP, GEF (2012). Small Scale Hydropower Project Development for Haiti (PIMS 2820) Inception Report. Page 3.

⁷ GEF (no date). Medium-Sized Project Proposal Request for Funding under the GEF Trust Fund. GEF Agency Project ID: 2820. Page 1.

⁸ Gouvernement de la République de Haïti et PNUD (no date). Développement de l'Hydroélectricité sur petite échelle en Haïti. Document du Projet. Page 1.

⁹ GEF (no date). Medium-Sized Project Proposal Request for Funding under the GEF Trust Fund. GEF Agency Project ID: 2820. Page 3.

¹⁰ SSHPD-H (2014). Réunion du Comité de pilotage. Minutes du Comité de Pilotage. Page 1.

¹¹ Gouvernement de la République de Haïti et PNUD (no date). Project Document *Développement de l'Hydroélectricité sur petite échelle en Haïti*. Document du Projet. Page 1.

¹² PIR (2015). Page 3.

request the GEF to grant the project a 9-month' extension¹³; the extension was granted by GEF and the new closing date was scheduled for April 30, 2016. The project results were to be delivered by 31 December 2016; however, the delivery of two results: Mapping Hydro Potential of Relevant Regions (Result 2 of Outcome 2) and Terminal Evaluation Report (Result 2 of Outcome 4) were scheduled for 2017.¹⁴

During the project extension period, further disruption in its activities took place: the project manager resigned in February 2015 and was replaced 5 months later. The absence of the project manager furthermore temporarily slowed down the project implementation.

2.2 Problems that the project sought to address

Haiti has one of the lowest electricity consumption rate in the world (per capita electricity consumption was eighty times lower than the Caribbean's regional average).¹⁵ Before the earthquake in 2010, the national electrification rate covered only 38.5 percent of the country population; the 2010 earthquake reduced this rate to 12.5 percent.¹⁶ Also, Haiti suffers from the high cost of electricity production. To make the electricity price affordable to consumers, the government subsidises its retail cost for residential consumers (in 2012, the industrial tariff rate was at 36 US cents per kWh, the residential at 16 US cents per kWh.¹⁷) The consequence of this policy is the reluctance of the government to support new (in particular private) suppliers of electricity to the national electricity grid since this would put additional pressure on the overstretched national budget.

Finally, due to the weaknesses of the Haitian electricity transport system, the EDH losses 66 percent of the produced electricity during the transport from plant to consumers (data from 2011).¹⁸ In addition, the systemic custom of part of the population to arrange parallel connection to the electrical grid is responsible for additional 12.5 percent loss of the produced electricity.¹⁹ In consequence, the EDH recuperates only fraction of the cost of electricity production.

Nevertheless, the Haitian *Growth and Poverty Reduction Strategy for 2008-2010* program stressed the needs of full development of the existing energy production potential including the hydropower, wind, solar and other sources of energy²⁰. Moreover, after the 2010 earthquake, the restoring and expansion of access to electricity became parts of the national



Source:
<http://www.haitianphotos.com/photos/the-problem-of-illegal-electricity-or-cumberland-in-haiti.html>.

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Lucky et al (2014). Page 26.

¹⁶ UNIDO and ICSHP (2013) World Small Hydropower Development Report. Haiti. Page 147.

¹⁷ Lucky et al (2014). Page 26

¹⁸ Ibid. Page 24.

¹⁹ Ibid. Page 26.

²⁰ Ministry of Planning and External Cooperation. (2007). Document de Strategie Nationale pour la Croissance et pour la Réduction de la Pauvreté (2008-2010). Pages 60 and 61

priorities. The program of rebuilding and extension of the electricity network was included in an *Action Plan for National Recovery and de Development* designed for 18 months²¹. Numerous donors have joined the Government effort in rebuilding and extending the electricity network. Among them the Canadian International Development Agency (CIDA), the Inter-American Development Bank (IADB) and the World Bank (WB).

UNDP and GEF through the SSHPD-S project have joined the donor family of contributors to the Haiti's electrical energy production development. The project concentrated mainly on development of small hydropower plants (SHPs) but it also supported the use of other renewable energy sources to the electricity production. The expected introduction and extension of these technologies by the project should have resulted in savings of imported fuel for the diesel-powered electricity generation plants. Also, it was expected that this economy would reduce the releases of CO₂ to the atmosphere by 62,000 tons; the indirect reduction was expected to reach about 788,000 tons²².

However, since SHP plants were not constructed during about 40 years preceding the project implementation, some barriers were expected to arise impeding the SHP plants to be installed and connected to the national grid. The most important among them were:²³

1. Policy barrier
2. Lack of information and knowledge
3. Absence of business skills
4. Lack of financing.

The project aimed at attenuation of the first three barriers: (i) the policy barrier by introducing the SHP promoting legislation, (ii) the information barrier by increasing the EDH capacity to generate and update hydro meteorological data and (iii) the knowledge barrier by promoting business skills related to SHP installation and operation.

The analysis of the project achievements in the sections 3 and 4 of this report will show that the identified barriers, and especially the first one, the policy barrier, were hard to overcome during the project's life.

2.3 Immediate and development objectives of the project

The project's approach to SHPs development in Haiti was clear and well crafted:

1. Create favorable legislative ground for SHP installation and exploitation,
2. Update the knowledge about the small hydroelectricity potential of the country,
3. Proceed to upgrade the competences in the relevant national administration and finally
4. Install SHPs to demonstrate viability of the whole approach.

To put this strategy to work, the project was designed to have one goal, one objective and four outcomes:

²¹ Government of the Republic of Haiti (2010) Action for National Recovery and Development of Haiti. Section 4.2.4.

²² Pro-Doc (No date). Page 1.

²³ Ibid. Page 9.

Project goal was:

To reduce greenhouse gas emissions from fossil-based electricity generation in Haiti by promoting the development of small hydropower plants.

Project objective was:

To create an enabling environment for private and public investment in small hydro plants in Haiti.

Project outcomes were:

Outcome 1: An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established.

Outcome 2: Technical and managerial capacities within EDH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.

Outcome 3: Small hydropower generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.

Outcome 4: A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.

Box 1. Project contributions to UNDP and GEF programs

This project will contribute to achieving the following Country Programme Outcomes as defined in CPAP or CPD:

Outcome 4.: Capacity development and governance reform related to sustainable management of the environment and natural resources

Country Programme Outcome Indicators:

Capacity development and governance reform related to sustainable management of the environment and natural resources. Promotion of inclusive growth, based on the MDGs

Indicator 1: Adoption/Creation/Enactment/ of Policy for On-grid Renewables

Indicator 2: Electricity production during the project period from grid-connected renewable energy installations installed under the influence of the project (MWh / year)

Primary applicable Key Environment and Sustainable Development Key Result Area: 4. Expanding access to environmental and energy services for the poor.

Applicable GEF Strategic Objective and Program: Objective CC-4 “To promote on-grid renewable energy”, Strategic Program “Promoting market approaches for renewable energy”

Applicable GEF Expected Outcomes: “Growth in markets for renewable power in participating program countries”

Applicable GEF Outcome Indicators: “tons CO₂ equivalent avoided; adoption of policy frameworks allowing renewable generators equitable access to the grid; kWh generated from renewable sources”

2.4 Baseline indicators

The baseline indicators for both the project's objective and the project's outcomes (Table 2) were clearly defined and easily measurable. They allowed adequately assess and evaluate the progress in achievement of the project's targets and, at the end of the project, to evaluate the degree of attainment of each target.

The indicators, the baseline and the objectives end of project targets remained unchanged during the project's life. The inception report of the project proposed modification of the indicator B of the Outcome 1, and some other minor changes in the project's effects, but these modifications were not retained.²⁴

TABLE 2 The project objective, the indicators, the baseline and the end of project targets

Project objective	Indicators	Baseline	Targets at the end of project
To create an enabling environment for private and public investment in small hydro plants in Haiti	<ul style="list-style-type: none"> - Number of new SHP projects under construction - Capital secured for SHP investment - SHP Project Pipeline - SHP Policy 	<ul style="list-style-type: none"> - No SHP currently under development - Private sector and donors demonstrate interest in investing in SHPs - Outdated and unreliable project pipeline - No appropriate energy policy framework 	<ul style="list-style-type: none"> - Three SHP projects under construction - US\$3.2 million leveraged for SHP construction - Updated project pipeline; at least 8 new SHPs under consideration for development - Energy regulation in place, including support for SHP development

2.5 Main stakeholders

The main stakeholders in the project were the government agencies:

- The Ministry of Public Works, Transports and Communications (MTPTC) was the project executing agency. It was interested in progress in development of key stakeholders technical, managerial and business skills for SHP development and operation.
- Electricity of Haiti (EDH) was the project executing partner. It was concerned by capacity building and strengthen of technical and managerial capacity.

Other important stakeholders:

- Ministry of Economy and Finance (MEF) was involved in building progress in building the private-public partnership.

²⁴ The signed project document was not amended

- Ministry of Agriculture and Natural Resources and Rural Development (MARNDR) used the project outputs concerning the water resources management and information collection.
- The Government of Haiti became interested in restauration of the electric coverage of Haiti after the earthquake of 2010 and in implementation of the Haiti electrification plan 2007 to 2017.
- The communities, especially the rural communities in the territories with potential for SHP installation were also interested in the project progress and the potential environmental and social impacts of SHPs
- Other stakeholders: Non-government Organisations (NGOs), private commercial enterprises, and Universities followed the project progress in facilitation of the private sector investment in SHP.

2.6 Expected results

According to the Pro-Doc, to achieve its objective, the project should:

1. Sign the memorandum of understanding for construction of 3 SHP projects
2. Leverage US\$3.2 millions for SHPs construction
3. Update the project pipeline and enlist at least 8 new SHPs under consideration for development
4. Put in place an energy regulation, including those supporting the SHP development.

This achievement should have been attained through realisation of four outcomes. The exact labelling of the project outcomes and the list of the corresponding results (targets) are collated in Table 3.

In the first paragraph of the section 2.3 of this document it was stated that the strategy of the project to achieve its objective was clear and well crafted. In fact, the outcomes and their targets coherently aimed at the project's objective: *to create an enabling environment for private and public investment in small hydro plants in Haiti*. All three results of outcome 1 aimed at drafting legislation and creation of legal conditions favorable for implementing the SHP. The results 1 and 2 of the Outcome 2 and the result 4 of the Outcome 4 aimed at updating the knowledge about the small hydroelectricity potential of the country. Result 3 of Outcome 2 and result 4 of Outcome 4, were to upgrade the knowledge and skills of relevant national administrations. Finally, the result 4 of Outcome 2 and all four results of the Outcome 3 had to facilitate of installation of SHPs and the demonstration of economic and environmental advantages of SHP approach in the Haitian conditions.



Inside the SHP

Source SSHPG-H

The results of the Outcome 4 were expected to monitor the project and help the stakeholders to follow progression of its implementation.

TABLE 3 Expected results of each of the four outcomes

Outcome 1	Outcome 2	Outcome 3	Outcome 4
An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country is established	Technical and managerial capacities within EDH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.	Small hydropower generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.	A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.
Results of outcome 1	Results of outcome 2	Results of outcome 3	Results of outcome 4
<p>1. SHP reference cost and tariff defined</p> <p>2. Proposal status SHP operator approved</p> <p>3. Resolutions (a) drafted and (b) approved</p>	<p>1. Measuring equipment procured and installed</p> <p>2. Mapping hydro potential relevant regions carried out SHP Business Unit established</p> <p>3. At least 30 EDH staff members are fully trained on SHP development, operation and maintenance; training material in place</p> <p>4. At least 8 SHPs included in EDH's project pipeline and with preliminary financing agreements in place</p>	<p>1. Three Feasibility studies completed;</p> <p>2. Financing secured for construction of 3 SHPs</p> <p>3. Three SHP plants in construction;</p> <p>4. Jacmel and Les Cayes grids fully restored and SHP interconnection underway. Three business plans approved</p>	<p>1. Mid-term evaluation completed</p> <p>2. Terminal evaluation completed</p> <p>3. Lessons learnt publication</p> <p>4. Seminar to present project results</p>

3 Findings

The section *Findings* contains an appreciation of the project design, its implementation and the achieved results. The degree of conformity of some of the project achievements with the expectations included in the Pro-Doc are evaluated and rated according the UNDP-GEF scale (Table 4)

TABLE 4 Evaluation rating scale

Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution	Sustainability ratings	Relevance ratings	Impact Ratings
6: Highly Satisfactory (HS): no shortcomings 5: Satisfactory (S): minor shortcomings 4: Moderately Satisfactory (MS) 3: Moderately Unsatisfactory (MU): significant shortcomings 2: Unsatisfactory (U): major problems 1: Highly Unsatisfactory (HU): severe problems	4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks	2. Relevant (R) 1. Not relevant (NR)	3. Significant (S) 2. Minimal (M) 1. Negligible (N)
Additional ratings where relevant: Not Applicable (N/A); Unable to Assess (U/A)			

Source: TOR.

3.1 Project design and formulation

The section starts with the analysis of the project's logical framework matrix (logframe). It is followed by the consideration of assumptions and risks. Then, the section presents lessons from other projects that were incorporated into the project design. Also, the section describes the planned stakeholders' participation and the replication approach. The indication of the UNDP comparative advantage and link between the project and other intervention follows. The section ends by description of the project management arrangements.

3.1.1 Analysis of Logframe

The project description in the chapter 3 showed that basically, the project proposed to:

- Create legal and administrative conditions facilitating installation and management of the SHPs and
- Contribute to installation of three SHP units to demonstrate the expected benefits from this way of electricity production.

The installed SHPs should be a source of clean and cheap electricity and should contribute to reduction of the global CO₂ emissions in Haiti. However, the project's

implementation history has shown that expectations of these benefits during the project's lifetime was premature.

As it was noted in the section 2.1, the Pro-Doc drafting team assumed that the Government will promote, among others, the use of SHP technology to provide electricity distributed through the national grid. In the meantime, the government's perception of the SHP as a part of the electric grid evolved. In the final version of Energy Sector Development Plan for 2007 – 2017, the hydroelectricity development (including the small hydroelectricity) was not included²⁵. In spite of this evolution the Pro-Doc remained unchanged. However, seeing the slow progress in the project implementation during the first few months of its execution, the inception meeting in August 2012 proposed to slightly modify the outcomes and to extend the project by six months (see section 3.2.3 and Table 9). The inception meeting recommendations were not implemented.

To ensure successful development of SHPs implementation, the project drafted laws that should systematize development of this industry taking into accounts its multidimensional character, namely its interrelation with environment, water resource management, forestry, agriculture, land and water property (the State has exclusive rights over the natural water resources and the public hydraulic domain). Following the Pro-Doc (Outcome 1, results 2 and 3), the project management considered the approval of the new legislation by the Government as the prerequisite for successful installation and development of the SHP network and its connection to the electric grid.

A legislative process in support of private SHP development was not started in spite of advocacy into this direction by the Project. Also, the Government remained reluctant to provide warranties required by the investors concerning the protection 'against natural disasters ... [or] vandalism'.²⁶

Another reason for the persistence of the policy barrier was the additional cost for the government of purchasing the electricity produced by the private sources. According to the Purchase Power Agreement (PPA) proposal between the private sector agent and the EDH the requested price for the produced electricity was 25 cents for kWh from years 1 to 8 and 18 cents later in 2012.²⁷ Too high compared to the tariff rates for industrial consumers of 36 US cents per kWh, and the residential consumers of 16 US cents per kWh (section 2.2 of the report).

Since the removal of the policy barrier was the condition of the delivery of other outcomes, the project implementation begins with a stalemate.

²⁵ Government of Haiti. (2007). Plan de Développement du Secteur de l'Énergie 2007 – 2017 Pages 7, 8 and 9.

²⁶ PIR 2016. Page 26.

²⁷ Hydro Camp Perrin. (No date). Accord pour achat d'énergie entre l'État de Haïti l'Électricité de Haïti (EDH) et Hydro Camp Perrin. Page 25.

3.1.2 Assumptions and Risks

The project was well integrated with the Haitian institutions. Its Executing Agency was the Ministry in charge of electricity regulation and investment promotion; the project Implementing Partner was the Energy Cell of the same ministry and the Co-Implementing Partner was EDH itself responsible for the electricity transmission and distribution.²⁸ It might have been expected that collaboration with these key institutions involved in electricity production and distribution and the close link with other key ministries such as the MEF or MARNDR would facilitate the progress in achievement of the project goal and objective. However, as it was indicated in the previous section, to fully achieve the goal and objective and to deliver the planned outcomes, the project needed the consensus among the ministries and the consent of the Government. (According to the Pro-Doc²⁹, the project should make available to the Government the new legislation within 6 months of its initiation and the Government should approve it by the end of the second year of the project) However, although the project jointly with the technical ministries and the government agencies contributed to drafting the required legislation³⁰, the Government remained irresponsive; the new legislation was not approved during the project's life; the planned SHPs were not installed.

In this light, it can be seen that the risk No 2, (the most important among the five listed risks) *Delays in elaboration and approval of SHP regulation* became correctly identified but it should have been rated High. The corresponding mitigation assumption of close and conclusive collaboration with ministries involved in promotion of the SHP and the donor's support (Table 5) was correct, but it appeared insufficient to change the Government's stance.

TABLE 5 Risks external to the project

Risk	Probability	Mitigation
1. The political, nation wide instability that impede the efforts to reform the policies	Medium	Collaboration with international community
2. Delays in elaboration and approval of SHP regulations	Low	Project effort is part of global international community of donors' effort
3. Technical risks in preparation and implementation of the SHP	Low	Technical support
4. Security of the investments	Medium	Collaboration among the involved stakeholders
5. Natural disasters	Medium	Take the major disaster risks (cyclones, earthquakes) into account during SHP the feasibility study; incorporate advanced anti disaster measures into the SHP project concept

²⁸ Pro-Doc. Page 4

²⁹ GEF (no date). Page 20.

³⁰ For example: SSHPD-H (2016) Atelier de restitution : Cadre légale régissant la conception, l'exploitation et la gestion de l'hydro électricité sur petite échelle

Among the other four risks the Pro-Doc identified three were justly rated as Medium and one as Low.

3.1.3 Lessons from other relevant projects incorporated into project design

During the project designing, three main donors were involved in the electricity development in Haiti, and their findings and conclusions were incorporated into the project's design and the project's work plan.

The IADB in the 2010 analysis of the electricity situation in Haiti identified three main root causes of the weakness in the national electricity supply system³¹:

- Lack of a legal and regulatory framework
- The Government's conflicting roles in EDH management as policy maker, owner, and customer which is blurring the lines between the finances of this key institutions, and
- A weak human resource base.

All three weaknesses were also identified by the SSHPD-H project Pro-Doc and the remediation actions were envisaged in the project's program.

CIDA, between 2005 and 2015, financed two projects that aimed at improvement of the Haiti's electricity supplying system.³² The first one improved the financial autonomy of EDH, namely lessening its reliance on subsidies from the Government of Haiti. The second provided expertise required to enable Haiti's national public electrical utility and to provide quality electricity services to the city of Les Cayes. CIDA investment of US\$1 million in improvement of this grid was included in SSHPD-H global contribution to achievement of its outcome 3, indicator D (adjustments needed to plug the project's implemented SHP into the Haitian electricity grid)³³.

The World Bank (WB) project signed in 2012³⁴ was designed, among others, to strengthen the institutional capacity of MTPTC, enhancing the EDH performance and enhancing governance and transparency in the recipient's energy sector. The SSHPD-H activities of reinforcing the EDH and the MTPTC Energy Cell were complementary to those of the WB project.

3.1.4 Planned stakeholder participation

The stakeholders' participation in the project management intensified with time.

Initially, the project was implemented by UNDP and executed by the MTPTC through its BDSE. This arrangement was changed after the closing of BDSE in November 2014. In

³¹ IADB. (2010). Haiti Energy Sector White Paper. Page 2.

³² CIDA. (2013). Semi-autonomous Electricity Supply and Rehabilitation of Electrical Facilities.

³³ Pro-Doc. Page 9.

³⁴ World Bank. (2012). 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. Pages 11 and 12.

July 2015 the project execution was taken over by the Energy Cell *Cellule Énergie* (CE) of MTPTC.³⁵ After this take over the dynamism of the project implementation progress improved in terms of continuation of addressing the regulatory issues allowing private investment in SHPs, re-initiation of discussions with the private company Soleo Energy concerning the SHPs implementation, using the Norwegian Bank (NOREFUND) financing for the SHPs construction and the IADB financial guarantees.

The Project Implementation reviews (PIRs) in 2014 and 2015 noted that between 2012 and 2015 the key stakeholders, namely those directly responsible for the project implementation were slow in taking decisions. In one instance, the UNDP Technical Advisor started to consider the project status as ‘problematic’ due to insufficient engagement of the MTPTC and EDH.³⁶ However, starting from the mid 2015 and then in 2016, the project implementation improved: after 5 months of vacancy, a new project manager was appointed; the SC attended by the General Director of EDH met three times. Most of the important project’s technical results were achieved during this period. (However, it should be noted that the PIR 2016 ratings in project progress toward development objective and the project progress in project implementation³⁷ varied from satisfactory to unsatisfactory according to the position and appreciation of the PIR evaluator).

The SC meetings (that should have taken place twice a year to revise and evaluate the project progress) included a large gamut of stakeholders such as the representatives of ministries, the directorates, donors and private sector. It effectively ‘steered’ the project although its main efforts concerning the project work programs were oriented toward approving of the legal status of the private SHPs operators by the Government. These efforts remained inconclusive until the end of the project.

3.1.5 Replication approach

Haiti badly needed rapid development of the electricity supply and the country has many rivers with high potential for installation of small hydroelectric powers. In this situation, the Pro-Doc justly and realistically assumed that once its outputs are fully delivered, the project has high potential for replication. According to Pro-Doc this potential would have been reinforced by the project’s activities and outputs that aimed at:

- Introduction by the Government of regulations needed to successfully install and exploit the SHPs by the private sector
- Upgrading the technological and administrative skill of the electricity administering institutions
- Promoting the development of the business oriented private SHP sector and
- Successfully demonstrating economic feasibility of the SHP and its social acceptability through installation of three SHP connected to the newly reconstructed grid by the CIDA project.

³⁵ SSHPD-H. (2016). Rapport sur les enseignements tirés du projet. Pages 3 and 4.

³⁶ PIR. (2015). Page 17.

³⁷ PIR. (2016). Pages 20 to 22.

As it will be seen in the section 3.3 *Project Results*, demonstration of the success of this replicability approach did not take place during the project's life. Nevertheless, the project mobilised the private sector and donors to invest in SHPs.

3.1.6 UNDP comparative advantage

UNDP Haiti Office was established more than 40 years ago and, since then, UNDP and then also GEF have been supporting both the Haiti's development efforts and its reconstruction mobilisation after the natural disasters that frequently struck the country. The past UNDP and GEF programs were oriented towards achievement of the Millennium Development Goals, among them, strengthening capacities and building effective institutions and engaging with private sector.

Also, UNDP is actively involved in improvement of the environmental conditions in the countries where it is operating. In the past, until 2015, it contributed to achievement of the Goal 7 *Ensure environmental stability* of the *Millennium Development Goals*; and is now supporting the Goal 7 *Affordable and clean energy* of the program *Sustainable Development Goals*. In the framework of these two goals, UNDP-Haiti is running now five environmental protection projects (including the SSHPD-H). In 2016, one of them has financed construction of a community owned hydroelectric plant in Capotille which represents promising alternative to the national electricity grid alimentering SHP option chosen by the SSHPD-H project.

Finally, through the long history of partnership and support in implementation of the Haiti Government programs, the UNDP gained confidence of the Government and developed privileged working relations with the government's senior administration executives.

3.1.7 Linkages between project and other interventions within the sector

Recently, the Haiti's electricity sector reconstruction and extension, experienced an active involvement of the Government and donors, namely IADB, US Agency for International Development (USAID), CIDA, the German Development Agency (KfW), the Government of Brazil, and two members of the WB Group: International Development Association and the International Finance Corporation (IFC). This included the following investments:³⁸

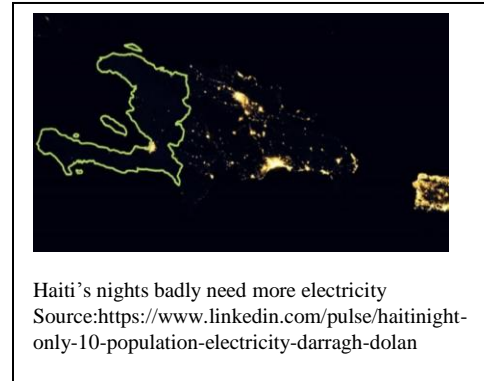
- IADB grants for a total of US\$28 million to rehabilitate the power distribution system and US\$12.5 million grant to rehabilitate the hydropower facilities at Péligre (complemented by US\$15 million grant by the OPEC Fund for International Development, KfW's US\$10 million grant and US\$35 million budgetary support grant to strengthen and modernize the electricity sector
- 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 plan
- the World Bank's US\$90 million *PREPSEL* grant to strengthen the management of EDH and the capacity of the MTPTC

³⁸ Based on the World Bank. (2012). Pages 7 and 8.

- CIDA's investments in generation and distribution in Jacmel and Les Cayes
- Brazil's US\$ 3.3 million technical aid to prepare feasibility and resettlement studies in relation with development of a new hydropower plant on the Artibonite river; IFC's US\$17 million investment to finance the 30MW E-Power plant in Port-Au-Prince.

Moreover, in the household energy sector, USAID is investing approximately US\$7.5 million to define a strategy for dissemination of improved cookstoves and the substitution of charcoal.

The massive interest of donors in investment in the energy and electricity sectors was expected to contribute to mitigation of the SSHDP-H risks 1, 2 and 3 (Table 5). Also it is underlying the actuality of UNDP and GEF support to energy and electricity production development in Haiti.



3.1.8 Management arrangements

At the **institutional level** the project was managed jointly by National Coordinator designed by the MTPTC and the Programme Officer designed by the UNDP.

At the **project level** the project was managed by the Project Management Unit (UGP) attached to the EDH. The project supervision and decision taking was in hands of the SC whose permanent members were MTPTC, EDH and UNDP. Some SC meetings were also attended by representatives of the Ministry of Finance and the ministry of Agriculture.

At the **project's execution level**, the project management was the responsibility of the Project National and Financial Directors. Their task was to coordinate the project activities and to collaborate with the decentralised authorities, the involved communities and the project partners; also, they contracted consultants for execution specific of activities.

The project **exit strategy** specified that the Commercial Unit of the EDH would inherit the project outcomes and would be responsible for formulation of further activities.

3.2 **Project implementation**

This section starts by consideration of the adaptive management of the project and the arrangements and the supports received from the project's partners. The usefulness of the feedback from monitoring and evaluation to further project management is considered next.

Adaptive management

The Inception Report³⁹ is a detailed, excellent quality document that took into consideration the difficulties in implementation that appeared during the first six months

³⁹ SSHDP-H. (2012). Inception Report 2012.

of the project execution. As a consequence of the experienced delays, the report suggested the following main changes in the project document:

- Construction of two SHP instead of three
- Reduction of SHP under consideration for development from eight to three
- Change of the end of project date from March 2014 to April 30, 2015.

These and other proposed changes are in Table 6. The proposed Pro-Doc modifications were discussed by the project management, SC members, UNDP and GEF. The final result of these discussions was the UNDP request and the GEF agreement to extend the project until the end of June 2016 but the proposed changes in the Inception Report were not incorporated into a revised Pro-Doc.

The Inception Report overlooked the lack of coherence between the Pro-Doc and the Haiti's energy development plan for the 2007 and 2017, the lack of coherence that was, among others (such as additional cost for the Government or guarantees for investors) at the origin of the difficulties of project in implementing the SHP plants.

TABLE 6 Changes in the Pro-Doc proposed in the Inception Report

Subject	Targets end of project	
	Original	Modified
Project Objective To create an enabling environment for private and public investment in small hydro plants in Haiti.	(A) Memorandum of Understanding signed for construction of Two (2) SHP projects; (C) Updated project pipeline; at least 8 new SHPs under consideration for development;	(A) Two (2) SHP projects under construction; (C) Updated project pipeline; at least 6 new SHPs under consideration for development;
Outcome 1 An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country is established.	Output 1.1 Proposal status SHP operator approved Output 1.3 Resolutions (a) drafted and (b) approved.	Output 1.2: Proposal status approved for an IPP operator for a SHP; Output 1.3: Resolutions drafted that define (i) quality of service; (ii) land tenure, (iii) water rights and environmental issues; (iv) standard documentation for IPP contracts; and (v) risk mitigation mechanisms for public and private investors of SHPs
Outcome 2 Technical and managerial capacities within EdH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.	Output 2.1 Measuring equipment procured and installed; Output 2.3 SHP Business Unit established; Output 2.4 At least 30 EDH staff members are fully trained	Output 2.1: More measuring equipment for an additional 6 sites procured and installed; Output 2.3: SHP business unit established with a system of awarding fee-based SHP concessions to potential IPPs; Output 2.4: At least 15 EDH staff members are fully trained

Subject	Targets end of project	
	Original	Modified
	<p>on SHP development, operation and maintenance; training material in place.</p> <p>Output 2.5 At least 8 SHPs included in EDH's project pipeline and with preliminary financing agreements in place</p>	<p>on managing an SHP development program; 15 IPP staff are trained in operating and managing an SHP; training material in place.</p> <p>Output 2.5: At least 6 SHPs included in EDH's project pipeline and with preliminary financing agreements in place</p>
<p>Outcome 3</p> <p>Small hydropower generation facilities are incorporated in regional distribution, constructed and are providing electricity to end-users.</p>	<p>Output 3.1 Three feasibility studies completed;</p> <p>Output 3.2 Financing secured for construction of 3 SHPs</p> <p>Output 3.3 3 Three SHP plants in construction</p> <p>Output 3.4 Jacmel and Les Cayes grids fully restored and SHP interconnection underway</p> <p>Output 3.5 3 Three business plans approved</p>	<p>Output 3.1: 1 bankable SHP feasibility study and Environmental Impact Assessment completed;</p> <p>Output 3.2: Financing secured for construction of SHP</p> <p>Output 3.3: 1 SHP plant in construction;</p> <p>Output 3.4: Les Cayes grids fully receptive to renewable energy and SHP interconnection underway</p> <p>Output 3.5: 1 business plan completed for Lower Saut Mathurine SHP.</p>

From 2012 and 2013 the decision about the project were taken by the SC members through ad hoc contacts. Starting from 2014 the project organised 3 steering committees' meetings⁴⁰. The important decisions of adjusting the project budget and the decisions concerning the further extensions of the project's activities were the initiatives of these committees.

3.2.1 Partnership arrangements

The UNDP as well as MTPTC, the main national partners, both were supportive towards achievement of the project's results. They enjoyed of good working relations with other Ministries (for example the Ministries of Finance, Mining and Agriculture) and displayed variety of strategies (although unsuccessfully) that aimed at removal of obstacles for successful implementation of the project goal. The project inspired confidence in collaborators and donors. For example, the Norwegian Bank committed to advance credit for the first two SHPs investments, and Taiwan expressed interest in further investments in the SHPs, once the administrative problems with the SHP development are cleared.

The project's progress reporting as reflected in the PIRs were specific and comprehensive and the comments on the progress were candid and substantiated.

⁴⁰ SC meetings: 14 January 2014, 3 November 2015 and 16 June 2016.

3.2.2 Feedback from M&E activities used for adaptive management

The project did not prepare separate monitoring and evaluation reports.

The project results were debated during the SC meetings. The SC met every year (2 times in 2012, and four times from 2013 to 2016). However, the meetings reports (available for 2014, 2015 and 2016) did not contain the results of these debates that could inform about the SC's evaluations of the project's achievements. The best sources of the M&E results are the three prepared PIRs (for 2014 and 2015 and 2016) that covered the period from 2013 to 2016. They are detailed documents critically describing the project implementation development and containing the implementation evaluation provided independently by the Project Manager, UNDP Country Office Programme Officer and UNDP Technical Advisor.

Being a small scale, the project was exempt from the mid-term review (MTR), although this review was included in the project's logframe, but, as required (Outcome 4, Results3 and 4), it organised a workshop where the hard copy of Report About the Lessons from the Project *Rapport sur les enseignements tires du projet* was distributed.

The terminal evaluation was organised between December 2016 and April 2017.

3.2.3 Project Finance:

The project had a budget of US\$2,975 000 that included the GEF grant of US\$975 000, the UNDP contribution of US\$200 000 (Table 7). The in kind contributions of MTPTC and EDH represented an equivalents of US\$400 000 each. Finally, the project benefited from indirect CIDA contribution (through EDH) of one million of USD spent for adaptation of the Les Cayes grid to the planned SHPs connection

TABLE 7 Project Budget in US dollars

Subject	Required resources (USD)
Total resources	2,975,000
Agency costs	(100,000)
Monetary contribution	
GEF	975,000
UNDP	200,000
Other contributions	
MTPTC	400,000
EDH	400,000
Indirect contribution	
EDH	1,000,000

All budgetary contributions announced in the signed Pro-Doc were received (Table 8)

TABLE 8 Project co-financing (in thousand US dollars)

Co-financing (type and source)	UNDP own financing		Government		Partner Agency		Total	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	0.2	0.2					0.2	0.2
Loans/Concessions								
In-kind support			0.8	0.8			0.8	0.8
Other					1.0	1.0		
Total	0.2	0.2	0.8	0.8	1.0	1.0	2.0	2.0

The budget changes related to the extensions of the project implementation are in the Table 9.

The first three years of the project execution was marked by instability within the administrative structure of the executing partners. The project itself suffered from five months of delay in starting its activities and later by the five months' period without project manager. The financial management of the project reflected the slow rhythm of the project's activities execution. Starting from the mid 2015 the employment of the new dynamic project manager and increase in involvement of the SC in the project allowed to speed up the output's delivery and accelerated the project's spending. During the formal SCs meetings the committee evaluated the achieved results, reviewed the spending and programmed the budget for the following year.

The audits of the project's finances were done jointly with the audits of the UNDP-Haiti office.

TABLE 9 History of the GEF and UNDP financing disbursements in US dollars

Year	2012	2013	2014	2015	2016	Total
Pro-Doc (GEF funds only)	363,000	337,000	275,000			975,000
GEF Project annual work plan (as in Atlas)	81,177	236,282	182,835	101,562	411,190	1,013,046
GEF Project Disbursed (as in Atlas)	78,219	193,492	166,578	57,144	326,671	822,104
UNDP Project annual work plan (as in Atlas)	7,248	109,219	70,533	24,018	113,900	324,918
UNDP Project Disbursed (as in Atlas)	7,248	91,141	81,912	22,301	87,885	290,487

3.2.4 Monitoring and evaluation: design at entry and implementation

The project was expected to have four formal monitoring and evaluation procedures:

- Inception session and the inception report
- Mid-term review
- Project results and lessons dissemination document and
- Terminal evaluation.

A M&E plan (Outcome 4, Result 1) results was available in ATLAS. Also, the M&E issues were discussed during the SC meetings and incorporated in the PIRs.

The MTR was dropped-out since the project was of medium size category and therefore the MTR was not mandatory.

The report about the project lessons⁴¹ contains the project description and, lists its challenges and obstacles, its successes, lessons and the follow-up actions. (For easy reference, the report *Rapport sur les enseignements tirés du projet* is attached as Annex 9). The most important lessons from the report are: (i) in the political context prevailing during the project execution, to be successful the project Pro-Doc required a thorough revision and modification of its outcomes; (ii) to successfully play its role, the Renewable Energy Cell *Cellule Énergies Renouvelables* (CER), the agency that will inherit the project's outcomes) is still too 'fragile'; (iii) there was a lack of project communication program; (iv) similar projects should give preference to electrification of isolated communities.

The project thoroughly and critically reported progress in its implementation through all three PIRs⁴². They contained detailed and quantified description of the achieved outputs and the critical and rated analysis of the project status.

The project monitoring and evaluation both at entry and implementation can be considered as Satisfactory.

The overall quality of M&E was Satisfactory as well.

3.2.5 UNDP and Implementing Partner implementation

Due to National Execution Modality (NEX) the project structure was deeply imbedded in the country's governmental structure: the MTPTC was its Executing Agency and the Implementing Partners included three other ministerial level agencies, EC of MTPTC, EDH and MES. The advantage of this choice was creation of genuine ownership of the project's approach and results by the national administration. The feeling of ownership was growing throughout the years of the project implementation and culminated by creation in 2016 of CER within the EDH that, by its mandate will ensure, the follow up of the project's activities and realisation of its goal (for further detail see the sections 3.3.6 and 3.3.7).

⁴¹ SSHPD-H (2016). *Rapport sur les enseignements tirés du projet*.

⁴² In 2014, 2015 and 2016. There was no PIR before 2014.

However, since the project was strongly dependent on the national energy policy and the administrative modification of the energy and electricity governance structure, it was sensitive to changes of the dominant political tendencies and administrative priorities. Thus, the change of the government's composition between the project submission to GEF (2008) and its signing (2012) deprived the project of support of the influent government protagonists. Furthermore, the reorganisation of the administrative structures in the energy branch slowed down implementation of project activities during the first three years of project functioning.

The overall supervision and guidance of the UNDP with the project management was close and constructive. The UNDP was critical about the project slow progress between 2012 and 2014 and expressed its opinion in the PIRs. Also, it used its influence to motivate the Government to progress with the pro-SHP policy and legislation.

The weakness of the UNDP role in the project implementation was the underestimation of the risk of administrative and political difficulties in installation of the SHPs which was at the origin of difficulties with achievement of the project objective.

Taking into consideration the great (although unsuccessful) effort of the project partners to accelerate the government's decision about the SHP legislation **UNDP and Implementing Partners' (MTPTC, EDH, EC of MTPTC and MES) implementation can be rated Moderately Satisfactory**

3.3 Project Results

3.3.1 Overall results

The project did not achieve its objective. The legislation favorable to SHP implementation was not voted, no (0) SHP plant was installed and at the project termination there were no more than two (2) SHPs in the projects pipeline (Table 10).

The Unsatisfactory results cannot be attributed to the project only. The progress in achievement of the objectives was conditioned by a series of the Government's decisions that were not taken, although the project provided the Authorities both with drafts of the required laws (for example *Analyse du cadrage juridique de l'hydroélectricité à petite échelle en Haïti*) and with technical studies for example (*Complète des travaux réalisés avec toutes les propositions, et recommandations nécessaires pour le développement des SHP en Haïti* or *Cartographie des potentialités hydroélectriques d'Haïti*) arguing for the SHPs importance for the country.

The overall unsatisfactory results were balanced by the progress the project achieved in promotion of the hydroelectric power and other clean energy sources and in the catalytic role it played in putting these issues into the Government policy agenda (See Section 3.3.4).

3.3.2 Relevance

During its implementation years between 2012 and 2016 the Project relevance to the national electricity development program can be graded as Unsatisfactory. However, during the period of drafting the Pro-Doc (2005 – 2008) the project was relevant to the national energy development plan. Haiti's electrification program needed to be improved and the privately owned SHPs network incorporated into the national grid seemed to be a viable option. In 2012, the year of the project signature, the Haiti's electrification needs became even more urgent than before, but the Government support for the electricity production method favored by the project vanished. The hydroelectricity development was not in the energy development 2007 – 2017 program; the past experience discouraged the Government to support the private sector participation in the country electrification. The project has lost its relevance to the national energy development plan.

However, in 2016, the Government began to reconsider its position towards the SHPs and the project's objective started to gain in its actuality. The project can be credited for the contribution to shift in the Government attitude towards the role of the SHPs in Haiti's electrification. Nevertheless, this change in the Government orientation did not allowed the Project to advance its program of introduction of the legislation allowing the SHPs implementation. Thus at the end of the project the projected SHPs were not installed

3.3.3 Effectiveness & Efficiency

Five financing sources contributed to the project' budget: UNDP, GEF, MTPTC, EDH and CIDA through the EDH. All contributions were received and disbursed.

The project financing was extended from three to five years.

The project produced quarterly and annual financial reports that were communicated to the CE of MTPTC, reviewed and discussed with the project management. Clarified reports were transmitted toe the UNDP Haiti for approval. **The effectiveness of the project's outcomes delivery was Unsatisfactory. The most important targets such as construction of the SHPs, SHP reference cost and tariff, SHPs projects pipeline, SHPs feasibility studies, and business plans were not achieved.** (see Table 10)

The difficulties in synchronising the project program with the Government decisions concerning the SHP legislation have slowed down execution of the most important of the project outputs have left the project with 1/3 of its GEF budget unspent half a year before the project termination. The SC that met in June 2016 decided to use the remaining time to implement and finalize the Pro-Doc programmed activities. At the time of the project evaluation, the detailed results of these spending and the evaluation of their impact were not yet available. **The evaluation of the project efficiency was not possible at the time of the project review.**

Quality of execution

The project was effective in implementation or results not directly related to the SHPs installation (Table 10). However, it was unable to install the SHPs.

The quality of execution of the Executing Agency was rated Moderately Satisfactory.

The overall quality of implementation was rated Moderately Satisfactory

TABLE 10 Project Results

Color coding. Green: completed. Yellow: status indicator shows expected completion by the end of the project. Red: Status indicator shows poor achievements – unlikely be completed by the end of the project

Description	Performance Indicator	2012 Baseline	End of Project Target	2016 End of Project Status	Terminal Evaluation Comments	Rating
Objective To create an enabling environment for private and public investment in small hydro plants in Haiti	Number of new SHP projects under construction	No SHP under construction	Memorandum of Understanding signed for construction of 3 SHP projects	No MoU signed	One MoU was drafted and submitted to the Government but it was not signed by the Government yet	U
	Capital secured for SHP investment	Private donors demonstrate interest in investing in SHPs	US\$ 3.2 Millions leveraged for SHP construction	Norwegian Development Bank ready to finance construction of 2 SHPs; US\$ 2 millions secured at the Haitian Ministry of Economy and Finances as guarantees funds for SHP investment; Taiwan is willing to provide further assistance; Taiwanese companies are willing to massive invest in SHP	The capital for construction of first SHPs is secured and strong interest is manifested for development of the SHP network	HS
	SHP projects pipeline	Outdated and unreliable project pipeline	Updated project pipeline; at least 8 new SHPs under consideration	No SHPs under construction	18 Sites and rivers with strong potential for installation of SHP have been identified and selected;	U

Description	Performance Indicator	2012 Baseline	End of Project Target	2016 End of Project Status	Terminal Evaluation Comments	Rating
			for development		but only one project in pipeline; no projects constructed or in construction	
	SHP policy framework	No appropriate energy policy framework	Energy regulation in place, including support for SHP development.	A draft of legal and regulatory framework governing the design, operation and management on small scale hydroelectricity is available but not agreed by the Government	The project drafted and validated by the MTPTEC and EDH the required projects of regulations; the approval by the Government is still pending	MS
<u>Outcome 1</u> An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established	Methodology to define reference cost and tariff SHP approved	No SHP reference cost and tariff defined	SHP reference cost and tariff defined	The terms of Terms of References are drafted and consultant under recruitment	The TOR for a consultant recruitment were drafted but the SHP costs and tariffs are not defined	HU
	Proposal approved legal/commercial status of SHP	No proposal SHP approved	Proposal status SHP operator approved	The SHO proposal status was drafted but not yet approved	The proposal for the SHP status was drafted and validated by MTPTEC and EDH but not yet approved by the Government	U
	Resolution approved defining (i) quality of service, (ii) land tenure, (iii) water rights and environmental issues	No resolutions (a) drafted, (b) approved	Resolutions (a) drafted and (b) approved	Resolutions concerning definition of quality of service; land tenure and water use rights for SHP projects; environmental constraints and management of watershed areas are drafted but not yet approved	Partially attained since the required documents are prepared and validated by the MTPTEC, but not yet approved by the Government	MS

Description	Performance Indicator	2012 Baseline	End of Project Target	2016 End of Project Status	Terminal Evaluation Comments	Rating
Outcome 2 Technical and managerial capacities within EDH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti	Measuring equipment procured and installed	No measuring equipment identified	Measuring equipment procured and installed	Hydro meteorological measuring equipment such as automatic and manual gauges, roping, limnimetric ladders (to measure the water level), telescopic ladders, has been procured and installed.	Fully achieved in 2015 and in service	HS
	Mapping of relevant regions carried out	Data from 1979, no mapping using modern technologies	Mapping hydro potential relevant regions carried out	Advertisement for a consultancy firm launched but mapping did not start yet	Target fully achieved in 2017	HS
	Creation of SHP business units in EDH	No SHP business unit in EDH	SHP Business Unit established	A Renewable Energy Unit (REU) has been created and established in EDH replacing the Business Unit	Fully achieved. The REU is <i>de facto</i> the administrative unit charged to continue the implementation of the project objective	HS
	Internal capacities in EDH enhanced	Low EDH capacity for SHP management, no training material in place	At least 30 EDH staff members are fully trained on SHP development, operation and maintenance; training material in place	More than 30 staff trained.	The targeted staff were trained. It is not reported to which extend the training contributed to the required upgrading of skill and knowledge of the EDH staff.	S
	Project pipeline generated	No SHP project pipeline in place	At least 8 SHPs included in EDH's project pipeline and with preliminary financing agreements in place	8 Sites and rivers with strong potential have been identified and selected; one SHP with preliminary financing	Target was not achieved. One project in pipeline might have been expected since the Government did not ratify	U

Description	Performance Indicator	2012 Baseline	End of Project Target	2016 End of Project Status	Terminal Evaluation Comments	Rating
				agreements (some pending the Government's actions) in the project pipeline	yet the required legislation	
Outcome 3 Small hydropower generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.	Feasibility studies for SHP projects	No feasibility studies	Three Feasibility studies completed;	The project has completed the environmental and social impact studies for 2 SHP and prepared the feasibility studies	The studies have been prepared but have not been finalized because of the non endorsement by the Government of agreement about the purchase of the power (PPA) from the SHPs	U
	Financing secured for SHPs	Private sector and donors demonstrate interest in investing in SHPs	Financing secured for construction of 3 SHPs	Financing of two SHP is secured	Although secured in principle, to release the funds, the Norway Development Bank is awaiting Governmental approval of PPA for this SHP.	MS
	SHP plants procured and under construction	No new SHP plants constructed in the past 20 years	Three SHP plants in construction;	No SHP plants in construction	Lack of the Governmental agreement for SHP construction and exploitation is at the origins of this status	HU
	Regional grids upgraded and fully operational	Jacmel grid restored. Les Cayes grid in poor conditions	Jacmel and Les Cayes grids fully restored and SHP interconnection underway.	The regional grid of les Cayes restored by CIDA with assistance from the project.	Lack of the SHP interconnection since no SHP constructed due to the lack of governmental agreement	U
	Business plan for SHP operator	No SHP business plans defined	Three business plans approved.	Terms of references are being drafted to	The business plan value may be doubtful	U

Description	Performance Indicator	2012 Baseline	End of Project Target	2016 End of Project Status	Terminal Evaluation Comments	Rating
				recruit consultant to define business plan for SHP.	without knowing details of the PPA	
Outcome 4 A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.	Mid-term evaluation report	No mid-term evaluation	Mid-term evaluation completed	Not applicable for the small size projects		N/A
	Terminal evaluation report	No terminal evaluation	Terminal evaluation completed	Terminal evaluation is ongoing	The value and impact of the evaluation not yet assessed	U/A
	Documentation of project experiences	No systematization of SHP experience in Haiti	Lessons learnt publication	Lessons learnt were published recently		S
	Sharing project results	No sharing of SHP development experience in Haiti	Seminar to present project results.	Workshop to present project results done in January 2017	The results and impact not yet published	S

3.3.4 Country ownership

The Pro-Doc design corresponded to the Government old concept of the SHP development:

- Identification of rivers with potential for the SHP installation
- Installing a set of SHPs plugged to the national electricity grid.

Private sector contribution to this program was welcome.

After the first experience with the private thermo-electric generating power plants the government became hesitant about the private sector contribution. In 2007-2017 energy sector development plan the hydroelectricity development was not included (Table 11). As a consequence, the government delayed the decision about updating the legislation requested in the Outcome 1.

Financial resources for SHP implementation

In 2016 the government edited decrees supporting the private sector contribution to the country' electrification and in December 2016 launched a debate about the small hydroelectricity and the electricity generated by other renewable source contribution to the electrification. However, these were taken too late to have any impact on achievement of the project objectives.

TABLE 11 Evolution of the Haiti's attitude towards private SHP projects

Law	Subject	Relevance to project
1991 The Electricity Law ⁴³	The EDH is a major state owned electricity producer and it has a monopoly in transporting and commercializing electricity in Haiti. The private sector can generate electricity but it has to be sold to EDH. Only the owners of mini-grids generating less than 15 kW may also distribute and commercialize electricity providing that they use technical support provided by EDH.	EDH has a monopoly in electricity distribution and commerce
1996 Law on the Modernization of Public Enterprises ⁴⁴	Haiti set up National Commission for Public Sector Modernization and National Energy Commission that aimed at an increase in participation of private sector in public enterprises. This opened the possibility to create so call Independent Power Producer (IPPs) and start to operated private power plants. Two IPPs thermal plants were created and they still are operating in Haiti and selling electricity to EDH.	Private participation in public enterprises is possible
2007 Energy Sector Development Plan until 2017 ⁴⁵	Net electricity production plants are proposed, namely 2 thermal plants of 12 MW to add to the Carrefour central in 2007, build new thermo-electric centrals of 120 MW in 2012, and few centrals out of Port-au-Prince; also, among others, the Plan envisages promotion of renewable energy central such as wind and solar powered centrals. No hydroelectric centrals are envisaged despite the good Haiti's hydro-energy potential. The Plan envisaged institutional strengthening and improve access of poor to the energy sources.	Hydroelectricity is not included in the plan
February 2016, ANARSE creation ⁴⁶	The Government creates a National Authority of Electricity Sector Regulation (ANARSE). The ANARSE placed under the supervision of MPTC is in charge of regulation of production, exploitation, transport, distribution and marketing of electricity in the country (Articles 1 and 2). Moreover, it should promote the competition in the electricity market and participation of the private sector in the electricity production, transport, distribution and marketing (Article 3, point 6) and ensure conditions of financial viability of the private entrepreneurs (pint 7).	Private sector can produce, distribute and market the electricity; ANARSE is charged to regulate the commerce of electricity
February 2016 EDH restructuring ⁴⁷	In the preamble it is stated that the State has still monopoly in production, transport distribution and marketing of electricity, however, it should be taken into account that it appeared that the State should temporarily to the private sector this 'privilege'.	EDH is charged, among others of promotion of electricity production from the renewable

⁴³ GEF. (No date). Page 7.⁴⁴ République d'Haïti (1996) Loi sur la Modernisation des Entreprises Publiques.⁴⁵ Government of Haiti . (2007). Plan de Développement du Secteur de l'Énergie 2007 - 2017⁴⁶ Gouvernement d'Haïti. (2016). Décrète du Président de la République d'Haïti de 3 février 2016 créant un organisme autonome à caractère administratif doté de la personnalité juridique et jouissant de l'autonomie financière dénommée : Autorité Nationale de Régulation du Secteur de l'Énergie (ANARSE).⁴⁷ Gouvernement d'Haïti. (2016). Décret créant un organisme autonome à caractère industriel et commercial, jouissant de la personnalité juridique et de l'autonomie financière dénommée : Électricité d'Haïti (EDH).

Law	Subject	Relevance to project
	<p>EDH has still the mandate to produce transport and market the electricity (Article 2), but it should also (Article 4, points 6 to 8): develop the local resources, promote renewable resources and ensure the transparency and healthy competition in the sector.</p> <p>The restructures EDH is composed of – among others- (Article 21): Direction of Plan and Production, Direction of Grid, Direction of Distribution and Direction of Marketing.</p>	and local resources; introduce transparency and healthy competition in the electricity sector
Energy Sector Decree ⁴⁸	<p>Article 9 ‘The State may entrust to a third party, by contract, the management of all or part of its production facilities, networks of transportation or distribution, facilities and other dependencies for the public electricity service’</p> <p>Article 10 ‘Any company willing to produce electricity by any means whatsoever, must to prior license authority to that effect.’</p>	State can permit to third party to manage the whole or part of its electric system
2016 Renewable Energy Cell (CER) ⁴⁹	<p>In 2016 the MTPTC decided to create a Renewable Energy Cell (CER) under the Planning Direction of the EDH. The objective of the CER is:</p> <ul style="list-style-type: none"> - Organise technical, economic and financial studies of renewable energy projects - Ensure the implementation and follow-up of the projects of renewable energy-based electricity generation - Develop and formalize the protocols and technical procedures to guide the process of selection of sites, and construction and management of power plants - propose methodologies and procedures for the development of projects, to follow-up and evaluation of projects before and during the construction phase, and include the concerned premises in the process - Managing and updating hydro-meteorological data in collaboration with other partners and mapping of potential in renewable energy in Haiti - Developing a pipeline of projects for the production of electricity 	A Renewable Energy Cell is created
December 2016	Objectives: reduce energy dependence; improve the balance of payments; create a pool of skilled jobs	Small hydroelectricity is explicitly included into the discussed

⁴⁸ Gouvernement d’Haïti. (2016). Décret régissant le Secteur de l’Énergie Électrique. Journal Officiel de la République d’Haïti 171^e Année No. 23. Mercredi 3 Février 2016

⁴⁹ Cellule Énergies Renouvelables de l’EDH. (No date). Document de Cadrage

Law	Subject	Relevance to project
National Energy Development Matrix ⁵⁰	Put in place a technical Delegation to the restructuring of the energy sector <i>Délégation Technique à la Restructuration du Secteur de l'Énergie (DTRSE)</i> , responsible for the strategy of energy potential, composed of the following commissions: <ul style="list-style-type: none"> - Micro-hydroelectricity - Biomass - Solar energy - Wind energy - Fossil energy 	strategy of electricity development

3.3.5 Mainstreaming

The project corresponded to the following UN programs and should achieve the effects such as:⁵¹

UNDAF: the national institutions manage the environment and the natural resources in a sustainable manner with participation of the population

UNDP Strategic Plan: promote the access of poor to energy and environmental services

The project's outcome that motivate the Government to policy and legislative changes and the outcome that aimed at upgrading of the national institutions technical knowledge and equipment were aligned with the objectives of the UNDP Haiti support strategic framework⁵² that considered as important the removal of the transversal obstacles such as: insufficiencies in sectoral and multisector policy programs (including environment), and weaknesses of government institutions and absence of clear attribution of responsibility among the administrative entities

The UNDP (2012) Action Plan in Annexe I under the *Governmental Strategy* Result ISF 2.2 stated⁵³ :

Les vulnérabilités environnementales sont réduites et les potentiels écologiques développées par une gestion durable des ressources naturelles et énergétiques axée sur une approche territoriale décentralisée.

The environmental vulnerabilities are reduced through the durable management of natural resources and energy, oriented towards the decentralised territorial management.

As the *refondation territoriale* (Résultat ISF 2.2) the Strategy envisaged that the environment vulnerabilities should be reduced:

Les vulnérabilités environnementales sont réduites et les potentiels écologiques développées par une gestion durable des ressources

⁵⁰ République d'Haïti Primature (December 2016) Matrice de la Politique nationale de développement du secteur de l'énergie

⁵¹ According to the ProDoc, page 1.

⁵² UNDP. (2015) Cadre stratégique des Nations Unies en Haïti Révision 2015-2016. Page 3.

⁵³ UNDP. (2012). Plan d'action du programme du pays du Gouvernement de la République d'Haïti et du Programme des Nations Unies pour le développement 2012-2016. Annexe I : Cadre de résultats et ressources du Plan pour la mise en œuvre du programme de pays 2012-2016 pages 22 and 23 :

naturelles et énergétiques axée sur une approche territoriale décentralisée.

Energy is also included in the UNDP Haiti strategic plan *Plan stratégique PNUD : énergie*, however the Plan did not specify any indicators or results pertinent to hydro electricity.

The gender issues were not explicitly considered by the Pro-Doc, although the project's positive effect on women may be deduced from the meetings with the expected beneficiaries of the envisaged SHPs during the environmental and social impact assessment. According to this assessment, the projected SHPs should have positive effects both on the local population and on women relieving them from the daily activities such as collecting water or food processing and allowing them to socialize more and take a greater part in the community activities.⁵⁴

3.3.6 Sustainability

Likelihood of continued benefits after the project ends is high **and the project sustainability is Likely**

Financial resources for SHP implementation

In 2016 the government edited decrees supporting the private sector contribution to the country's electrification and in December 2016 launched a debate about the small hydroelectricity and the electricity generated by other renewable source contribution to the electrification. However, these were taken too late to have any impact on achievement of the project objectives.

But, in parallel, the introduced legislation reduced the financial risk to the implementation and further extension of the SHPs plants. Their financing by the private sources became encouraged and thanks to the project, such sources as for example NOREFUND and now identified. **The continuation of financing the SHPs implementation is Likely**

Socio-political

During the SSHPD-H execution, the project did not receive the Governmental consent in installation of the SHPs. However, in 2016 the Government policy concerned the small renewable energy plants changed. **In the light of the actual decrees and administrative reforms in the energy sector the project objectives and outcomes have high Likelihood to become the Government ownership.**

Institutional framework and governance

The last year of the project functioning, the project's objective: *To create an enabling environment for private and public investment in small hydro plants in Haiti* became one

⁵⁴ AECOM (2014) Micro-centrales Ravine du Sud et Lower Sit-Mathurine. Étude d'impact environnemental et social. Version Finale. Page 9.71.

of the objectives of newly created governmental institution, the Cell of Renewable Energies *Cellule Énergies Renouvelables* (CER).

Furthermore, in a recent letter of the Prime Minister to the minister of MTPTC (29 March 2017)⁵⁵, the Prime minister requested the MTPTC to strengthen the CE of MTPTC by units of Rural Electricity, Energetic Efficiency and Renewables Energies; and envisage the MHPs management transfer to the private sector.

In the second half of 2016, to ensure implementation of the new mandate, EDH (with the Governmental approval) decided to create CRE and placed it under the EDH's *Direction de planification* (Plan Directorate). The CRE is aiming at promotion of economically viable electricity production using renewable resources. Among other objectives it is charged to:⁵⁶

- Organise technical, economic and financial studies of renewable energy projects
- Ensure the implementation and follow-up of the projects of renewable energy-based electricity generation
- Develop and formalize the protocols and technical procedures to guide the process of selection of sites, and construction and management of power plants
- Propose methodologies and procedures for the development of projects, to follow-up and evaluation of projects before and during the construction phase, and include the concerned premises in the process
- Manage and update hydrometeorological data in collaboration with other partners and map the potential of Haiti in renewable energy sources
- Develop a pipeline of projects for the production of electricity

3) The set of objectives of the newly created CER strongly similar to many of the SSHPD-H's expected outputs (Box 2).

The set of objectives of the newly created CER strongly similar to many of the SSHPD-

During the last year of the project implementation the Government issued the decrees and introduced the administrative changes that create the institutional framework that makes the sustainability of the project's benefits Likely

⁵⁵ République d'Haïti (2017). Letter of the Prime Minister to the Minister of MTPTC.

⁵⁶ Cellule Énergies Renouvelables de l'EDH. (No date). Document de Cadrage

Box 2. Comparison of the CER mandate and SSHPD-H output or outcomes

CER mandate	SSHPD-H output or outcomes
Organise technical, economic and financial studies of renewable energy projects	Outcome 3. Feasibility studies for SHP projects
Ensure the implementation and follow-up of the projects of renewable energy-based electricity generation	Outcome 4. M&E; description of project's results
Develop and formalize the protocols and technical procedures to guide the process of selection of sites, and construction and management of power plants	Outcome 3. Feasibility studies for SHP projects
Propose methodologies and procedures for the development of projects, to follow-up and evaluation of projects before and during the construction phase, and include the concerned premises in the process	Outcome 1. An effective, market-oriented policy and regulatory framework to enable SHP development
Manage and update hydro meteorological data in collaboration with other partners and mapping of potential in renewable energy in Haiti	Outcome 2. Measuring equipment procured and installed; Mapping of relevant regions
Develop a pipeline of projects for the production of electricity	Objective. SHP projects pipeline

Environmental

The recent administrative changes in favor of development of environmentally sustainable sources of energy, the environmental evaluation that should accompany the implementation of the new plants, and involvement of the MARNDR in evaluation of the environmental feasibility of the expected SHPs emplacement, all reduce the risk to sustainability of the investments due to the change in the environmental conditions. **The lack of environmental risk to sustainability rating of the future SHP is Likely.**

The overall likelihood of the project sustainability is Likely.

3.3.7 Impact

The impacts of the full-scale introduction of SHPs and investment in their construction did not materialise yet. But in the last year of the project's execution, the government took significant steps going to the same direction as the expected project's impact. Namely:

- Reduction of CO₂ emissions produced by combustion of fossil fuels thanks to production of electricity by 'clean' energy sources, over all the SHP
- Catalysing and introducing private investment in implementation of SHPs in Haiti
- Saving of CO₂ emissions to the atmosphere by replacing the fossil fuel electricity generating plants.

1) In 2016, the Government has significantly shifted its attitude towards private involvement in SHP implantation and published a decree creating a new agency *Autorité nationale de Régulation du Secteur de l'Énergie* (ANARSE) under the trusteeship of the MPTPC in charge of (Article 1) regulation of activities of production, exploitation transport, distribution and marketing of electricity and that (Article 3, point 5) should ensure development, management and exploitation of hydroelectric facilities jointly with public institutions and promote competition and participation of private sector in production, transport, distribution and marketing of electricity.⁵⁷

2) Another decree of February 3, 2016 states that⁵⁸ the EDH has still the mandate to produce transport and market the electricity (Article 2), but it should also (Article 4, points 6 to 8): develop the local resources, promote renewable resources and ensure transparency and healthy competition in the sector.

3) The National Energy Development Matrix Discussion Paper Prepared in December 2016 by Prime Minister Office⁵⁹ put in place a technical Delegation to the restructuring of the energy sector *Délégation Technique à la Restructuration du Secteur de l'Énergie* (DTRSE), responsible for the strategy of energy potential, composed of the following commissions:

- Micro-hydroelectricity
- Biomass
- Solar energy
- Wind energy

The environmental assessment and evaluation of the environmental thread to the project and the project's environmental impact as part of the DTRSE and CER mandates.

4) The CER creation was one of the recommendation of the project SC (2015). Also, the UNDP and the project contribution to the CER creation was acknowledged by the representative of the MPTPC in the ceremony of the CER inauguration in December 20, 2016.⁶⁰

⁵⁷ Décret du Président de la République d'Haïti de 3 février 2016 créant un organisme autonome à caractère administratif doté de la personnalité juridique et jouissant de l'autonomie financière dénommée : Autorité Nationale de Régulation du Secteur de l'Énergie (ANARSE)

⁵⁸ Décret créant un organisme autonome à caractère industriel et commercial, jouissant de la personnalité juridique et de l'autonomie financière dénommée : Électricité d'Haïti (EDH)

⁵⁹ Primature (December 2016) Matrice de la Politique nationale de développement du secteur de l'énergie

⁶⁰ See more at: <http://www.lenouvelliste.com/article/166547/ledh-lance-une-cellule-energies-renouvelables#sthash.1nngKVHh.neOhQXpz.dpuf>

It is unknown to which extent the shift in the Government policy in favour of renewable energies can be attributed to the SSHDP-H project, according to MTPTC probably large, but certainly the recent policy changes made the achievement of the project goal and objective more realistic than during its signature in 2012.

TABLE 12 Summary of the project evaluation rating

S Satisfactory; MS: Moderately Satisfactory; HU: Highly Unsatisfactory; U: Unsatisfactory; L: Likely.
For complete meaning of symbols in the second column see Table 4.

Evaluation Ratings:			
1. Monitoring and Evaluation	<i>Rating</i>	2. IA & EA Execution	<i>Rating</i>
M&E design at entry	S	Quality of UNDP Implementation	MS
M&E Plan Implementation	S	Quality of Execution - Executing Agency	MS
Overall quality of M&E	S	Overall quality of Implementation / Execution	MS
3. Assessment of Outcomes	<i>Rating</i>	4. Sustainability	<i>Rating</i>
Relevance	U	Financial resources:	L
Effectiveness	U	Socio-political:	L
Efficiency	N/A	Institutional framework and governance:	L
Overall Project Outcome Rating	U	Environmental:	L
		Overall likelihood of sustainability:	L

4 Conclusions, recommendations and lessons

The chapter content is divided into four sections. The first concerns the design, implementation, monitoring and evaluation of the project. The next propose des actions de follow up or reinforcement des benefits from the project. The proposals for the future directions are in the third section and the last one analyse the best and the worst project's practices. Each section contains conclusions, recommendations and lesson based on the project's experience.

4.1 Corrective actions for the design, implementation, monitoring and evaluation of the project

Conclusion 1.1

Between seven and eight years separated the start of the project designing from the beginning of its implementation. The project design started in 2005; the Pro-Doc was drafted and submitted to UNDP and GEF for approval and financing in 2008. The initial date of the project start was scheduled for March 2011 but the final signature of the Pro-Doc took place in January 2012. The project implementation started with additional few months of delay. Its closing date initially scheduled for March 2014 was extended until April 2016 with 'operational Closing' in December 2016.

In the meantime, Haiti was struck with the devastating earthquake, experienced periods of political instability and introduced modifications in electric energy policy. All these changes concerned directly the project objective and outcomes. However, once designed, the Pro-Doc remained unchanged. In consequence, the project, although technically sound and methodologically coherent lost its priority status within the Government development programme and its objective became impossible to attain.

Such a situation was avoidable if the project protagonists would have taken into consideration the time that passed between the project design and its implementation and adjusted the project objectives to the national priorities.

Recommendation 1 to UNDP GEF and beneficiary countries

Each project, especially the one with important delays in implementation or extension of should be tested for the coherence of its objectives with the objectives of the Government and the main stakeholders. The degree of coherence should be assessed and the impact of the discrepancies evaluated. The Pro-Doc should be revised if needed. If the disagreement is important, the project should be discontinued. Otherwise, it loses relevance.

Lesson 1.1

The lesson from the SSHPD-H execution history is that to be successful, the project objectives and outcomes should be coherent with the long-term objectives and operational policies of all levels of government. This coherence should be maintained during the project implementation period and expected to continue after the project's completion.

Conclusion 1.2

Assuming that the SHPs implementation is still a country's priority and that the Government will take actions supporting the implementation of the SHPs the project also assumed that (i) the SHPs powers (including the cost of the generated electricity) will be competitive with the fossil fuel powered plants, (ii) the private investors will obtain from the State the guarantees against major risks, and (iii) the price demanded for the produced electricity will be acceptable for the Government. As a consequence, the project did not take actions to analyse the impact of these additional assumptions on the SHPs economic viability. The future projects supporting the development of the small electricity generating plant should take into consideration the whole gamut of assumptions: (i) coherence with the national priorities, (ii) economic viability, and (iii) the required guarantees by investors and by the Government.

Conclusion 1.3

The project produced the technical reports, some of them requiring some level of specialisation. But it did a little do popularise it through production of digests and translation of the digests or summaries into the local language. The project posted information on the project on the Web, but seeing low access of Haitians to the electricity, this information was not accessible to the most of citizens. Extension and communication should be one of the project results.

Conclusion 1.4

Similar conclusions concern reporting of the project progress and evaluation of the achieved results. The SSHPD-H project produced useful information about its progress, but it was destined for the internal use (available in SC reports, PIR or Atlas). Project periodical (biannual for example) progress critical reporting for the large audience should be included in the project's logframe as a part of the Results.

4.2 Actions to follow up or reinforce initial benefits from the project

Conclusion 2.1

In 2016, during the last year of the project implementation, the Government adopted the project idea to build private SHPs network to generate electricity.

Building the SHPs can increase the badly needed potential of electricity production in Haiti. However, although a SHP connected to a national electricity grid had the advantage to provide four to five time more electric power than the same SHP unit serving only a local community; the cost of SHP produced electricity is much higher than that from other

energy sources.⁶¹ To be affordable to consumers, the SHP produced electricity should be subsidised by the Government, situation the Government wanted to avoid.

In 2016 the government started to see the SHP and other renewable and non-polluting energy sources differently. (1) At first, the idea that the SHP and other small energy powers can be used to provide electricity to isolated communities was accepted. (2) Then, once the cost of the SHPs installation and exploitation will be reduced, these sources can be connected to the national grid. (3) The Government returned to the idea of development of privately owned SHP network. To implement these approaches, the Government created a specialised agency, CER, with a mandate similar to that of the SSHPD-S. This shift may be, at least partially, credited to the SSHPD-S project.

Recommendation 2 to UNDP, GEF MTPTC and EDH

Continue to support the development and improvement of the SHPs in Haiti. Ensure the best use of the SSHPD-H project produced outcomes and the project's experience in improvement of the SHPs and other renewable electric energy production powers and networks.

Lessons

The lesson from the history of the SSHPD-H project implementation is that, in some cases, but probably exceptionally, in spite of lack of the government support, the project may produce valuable outcomes and have important technical and political impacts. But, the prudent donor will certainly prefer to when maximum of conditions favorable to the project's successful implementation are in place. Concerning the investment in the Haiti's SHPs implementation, it may be stated that these conditions are not yet reunited. The Government issued the decree and declarations encouraging implication of the private sector to in the energy production, but the legislative and administrative obstacles that prevented the project to implement the series of the SHP and achieve its goal are not yet overcome. Therefore, for the UNDP or GEF, investment in the next phase of the SSHPD-H may be premature. However, since the commitment of the Government to the promotion of the SHPs and other small renewable energy sources is still growing, the UNDP or GEF may be interested in supporting the creation of favorable conditions among administration and beneficiaries to espouse the new policy and remove the remaining obstacles.

Recommendation 3 to UNDP and GEF

Ensure the follow up of the policy for the small, renewable, environmental friendly energy production plants, and, once the conditions for implementation of the energy plants are in place, envisage a project that will support the private entrepreneurs and the direct electricity beneficiaries.

⁶¹ Montes, F. P. (2015). Page 43

4.3 Proposals for future directions underlining main objectives

Conclusions 3.1

Since the SHP and other renewable electrical energy sources were recently included into the electrification plans of Haiti, it may be expected that the new electricity users will need to update their knowledge about the maintenance of the system (at domestic and communal levels) and about the gamut of applications of electricity for domestic and small industry purposes. These actions may create further need for electric energy use and require additional demand for public and private investment in SHPs.

Recommendation 4 to MTPTC and EDH

To make more efficient and effective the use of electricity: (i) train local technicians specialised in maintaining the electrical appliances, (ii) employ counsellors helping electricity users to do the best use of electricity in the local situations, (iii) encourage the universities and the technical training establishments to develop the relevant research programs, disseminate knowledge and prepare the needed equipment and supply packages.

Lesson 3.1

The inappropriate illegal use of electrical grid still practiced in Haiti that was responsible for the loss of revenue from 12,5 percent of produced electricity, if persisted in the future, may negatively impact the development of the small private electricity production plants. The new private owned installations may be more exposed to vandalism and the produced power to pilfering. Insufficient law enforcement and protection against these damages may jeopardise the electrification program.

4.4 Best and worst practices in addressing issues relating to relevance, performance and success

Best practice

Conclusion 4.1

Three ministry-level offices (MTPC, EDH and MES) and one ministry-level department (EC) were implicated in the project execution, and two other ministries (MEF and MARNDR) were counted among the important project stakeholders. The implication of the high offices helped the project transmit to the whole government body the main project concerns and create the common understanding of the project's objectives. Although this did not facilitate the introduction of the required legislation, it: (i) prepared the government



June 2016 inauguration of Haiti UNDP-GEF SHP financed in Capotille

<http://www.haitilibre.com/en/news-17766-haiti-social-the-locality-of-magazen-discovered-electricity.html>

to creation of the CER, (ii) probably influenced the issued in 2016 the decrees supporting creation of privately owned electric power generation plants (including those using the renewable and environmentally clean energy sources) and (iii) prepared ground for further reforms in electricity production and distribution. The difficulties in achievement of the project's objective was compensated by the adoption by the Government of the policy advocated by the project.

Recommendation 5 to EDH and MTPTC

Continue to keep informed the partner institution and the potential beneficiary population about the progress in the development and implementation of the new small renewable electrical energy production technologies since their development depend on (i) the Government policy orientation (ii) the population demand and the availability of the private investment.

Lessons 4.1

The recent changes in the Government policy concerning the SHPs and construction of other renewable energy demonstrated the importance of lobbying, dialogue and communication of the project with institutions partners and stakeholders.

Worst practice

Conclusion 4.2

In conformity with the program designed in the Pro-Doc, the project prepared a proposal of the legislation favorable to implementation of the SHPs, validated it and submitted to the Government for approval. During the project's life, in spite of the project's lobbying, the proposed legislation was not approved and, in consequence, the SHPs were not installed compromising the realisation of the project objective. It seems that the reluctance of the Government in the introduction of the law favorable to the SHP installation was not only a consequence of the drafted law formulation but also the result of the government's negative experience with the electricity generating private sector and the high cost of the proposed SHP generated electricity. Possibly, the project might have had more success in attainment of its objective if, it has oriented its efforts toward elaborating of other options of SHP exploitation such as, for example: (i) proposition to use the SHPs to provide electricity to isolated communities instead to connect it to national grid or (ii) complement the SHP as the electricity generation plants by other electric energy producing non-polluting and less expensive in construction and exploitation renewable sources.

Recommendation 6 to EDH

Since the SHP technology in Haiti is still in the early stages of development, EDH may (i) continue to evaluate the best conditions where the SHPs can be a viable source of electrical energy and (ii) be

open to introduction of alternative or complementary to SHP energy sources.

Lesson 4.2

To achieve the objectives, the project management should not limit its effort to thorough implementation the Pro-Doc's prescribed activities but proactively search for the viable and optimal options. For example, after the submission to the Government of the proposal of the law enabling implementation of the SHPs, the SSHPD-H management, instead of unsuccessfully waiting for five years for the Government approval, could set about other approaches to achieve the aimed objective.

TABLE 13 Recommendations

	Address	Recommendation
1	UNDP, GEF and beneficiary countries	Each project, especially the one with important delays in implementation or extension of should be tested for the coherence of its objectives with the objectives of the Government and the main stakeholders. The degree of coherence should be assessed and the impact of the discrepancies evaluated. The Pro-Doc should be revised if needed. If the disagreement is important, the project should be discontinued. Otherwise, it loses relevance.
2	UNDP, GEF, MTPTC and EDH	Continue to support the development and improvement of the SHPs in Haiti. Ensure the best use of the SSHPD-H project produced outcomes and the project's experience in improvement of the SHPs and other renewable electric energy production powers and networks.
3	UNDP and GEF	Ensure the follow up of the policy for the small, renewable, environmental friendly energy production plants, and, once the conditions for implementation of the energy plants are in place, envisage a project that will support the private entrepreneurs and the direct electricity beneficiaries.
4	MTPTC and EDH	To make more efficient and effective the use of electricity: (i) train local technicians specialised in maintaining the electrical appliances, (ii) employ counsellors helping electricity users to do the best use of electricity in the local situations, (iii) encourage the universities and the technical training establishments to develop the relevant research programs, disseminate knowledge and prepare the needed equipment and supply packages.
5	EDH and MTPTC	Continue to keep informed the partner institution and the potential beneficiary population about the progress in the development and implementation of the new small renewable electrical energy production technologies since their development depend on (i) the Government policy orientation (ii) the population demand and the availability of the private investment.
6	EDH	Since the SHP technology in Haiti is still in the early stages of development, EDH may (i) continue to evaluate the best conditions where the SHPs can be a viable source of electrical energy and (ii) be open to introduction of alternative or complementary to SHP energy sources.

5 Annexes



Government of Haiti



United Nations Development Program

Small Scale Hydro Power Development in Haiti

PID 73248/ PIMS 2820

TERMINAL EVALUATION

Terms of Reference

Position: International consultant

Objective: Terminal evaluation of the GEF project “Small Scale Hydro Power Development in Haiti”.

Duration: 31 days of work, 15 days in Haiti

Period: July-October 2016

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the “*Small Scale Hydro Power Development in Haiti*” (PIMS #2820.)

The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

Project Title:	Small Scale Hydro Power development in Haiti			
GEF Project ID:	2822		<i>at endorsement (Million US\$)</i>	<i>at completion (Million US\$)</i>
UNDP Project ID:	PID: 73248 PIMS: 2820	GEF financing:	1,000,000	N/A
Country:	Haiti	Implementing agency (UNDP) own::	200,000	N/A
Region:	Latin America and caribbean	Government (MTPTC, EDH):	1,800,000	N/A
Focal Area:	Cimate-change Mitigation	others:		N/A
FA Objectives, (OP/SP):		Total co-financing:	3,660,000.00	N/A
Executing Agency:	Ministry of public works, Transports and communications (MTPTC)	Total Project Cost:	3,660,000.00	N/A
Other Partners involved:	MTPTC/ Cellule Energie, Electricite d'Haiti (EDH)	ProDoc Signature (date project began):		December 28, 2011
		(Operational) Closing Date:	Proposed: April 2016	Actual:

OBJECTIVE AND SCOPE

The proposed project follows from the findings and recommendations of Haiti's Energy Sector Development Plan 2005-2015, which has set a goal to increase the level of access to electricity for its population from 10% now to 50% by the year 2015. The plan lays out a programme involving over US\$ 400M in needed funding and includes management support for EdH, major investments in rehabilitation of existing power plants and new generation capacity, a far-reaching electrification programme (both urban and rural) and the creation of a regulatory entity. All feasible technologies would be encouraged, including hydro-electricity and other renewable energy sources and the promotion of energy efficiency at the supply and demand sides with substantial donor contributions provided by the Canadian International Development Agency (CIDA), the Inter-American Development Bank (IADB), the World Bank (WB), and USAID.

The UNDP/GEF project strategy is to collaborate closely with these initiatives in order to support the development of small hydro plants (SHPs). Electricity generation with SHPs is an attractive option to supply electricity to regional distribution grids. Small hydropower assists in reducing Haiti's dependence on imported fossil fuels. Moreover, unit energy costs over the lifetime of the investment are lower for small hydro than for diesel generators. By promoting the use of small hydro-electricity, the Government of Haiti wants to develop a long-term, sustainable option to meet energy demands and reduce greenhouse gas emissions. SHPs can provide a much more sustainable and manageable generation solution for Haiti, especially in the context where electricity is distributed in regional grids. However, due to a number of barriers and the higher upfront investment compared to fossil-based generation, SHP development has not

taken place over the past 20 years. The main barriers presently impeding the introduction of grid-connected SHP in Haiti are as follows:

- policy barrier;
- business skills and models;
- information, and;
- finance.

Given the extent of the problems the Haitian energy sector faces, it is not feasible to address all the necessary actions through one single project. However, The UNDP/GEF intervention is embedded in this broader framework and focuses explicitly on SHP development within this context.

The UNDP/GEF “Small Scale Hydro Power” initiative will create important enabling conditions necessary for the subsequent implementation of SHP programs by the international donor community and the Government of Haiti, as well as by private investors. It will focus on addressing the policy/regulatory barriers, strengthening EdH’s capacity, and generating updated hydro-meteorological and project information to accelerate new SHP developments in the country. The SSHP project will create an improved institutional and regulatory framework to promote small-scale hydropower development in Haiti and create the necessary human technical and managerial capacity for the sustainable management of SHPs. Furthermore, the project will focus on small hydropower development embedded in regional grids, collaborating with CIDA in the south east region to promote small hydro investment in the regional grids supported by their intervention. The Project will be implemented in close collaboration with other donor organizations in operating in Haiti. Under the Project, three small hydro plant projects will be prepared for investment by project partners.

The transfer of technical and managerial skills to local operators – as well as improving national regulation – is a key element in the project design. The SSHP initiative will result in the direct reduction of approximately 62,000 tons of CO₂e and an indirect emissions reduction of 788,000 tons of CO₂.

Project Goal: To reduce greenhouse gas emissions from fossil-based electricity generation in Haiti by promoting the development of small hydropower plants.

Project Objective: To create an enabling environment for private and public investment in small hydro plants in Haiti.

Project Outcomes

- Outcome 1: An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established.
- Outcome 2: Technical and managerial capacities within EdH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.
- Outcome 3: Small hydropower generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.
- Outcome 4: A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.

The terminal evaluation will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

The main stakeholders of this terminal evaluation are: evaluation users, partners, donors and staff of executing and other relevant agencies, beneficiaries...

Institution	Affiliation	Activities concerning
Ministry of Public Works, Transports and communication (MTPTC)	State	Issues related to the regulation and policies framework.
Ministry of Public Works (MTPTC) covering: Cellule Energie	State	Issues related to the regulation and policies framework
Ministry of Agriculture and Natural Resources and Rural Development (MARNDR) covering: SNRE	State	Issues related to information management, water resources data management
Electricity of Haiti (EDH)	State	Issues related to capacity building, strengthen technical and managerial capacities
Ministry of Economy and Finances	State	Issues related to private public partnership
Ministry of Public Works (MTPTC) covering: BME Training	State	Issues related to development of key stakeholders technical, managerial and business skills for SHP development and operation
NGO, Private Commercial Enterprises, & Universities	Local Government	Issues related to facilitate private sector investment in SHP development

EVALUATION APPROACH AND METHOD

An overall approach and method⁶² for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR ([Annex C](#))

⁶² For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Haiti including the following project sites: South-East and South departments. Interviews will be held with the following organizations and individuals at a minimum:

- Project manager and project team, UNDP Haïti;
- Ministry of Public Works,
- Ministry of Agriculture, Natural Resources Department,
- GEF focal point in Haiti,
- SNRE, EDH, BME
- EDH offices in South-east and South
- Soleo Energies
- Norwegian Development Bank (Norfund)

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#) of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework ([Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#).

Evaluation Ratings:			
1. Monitoring and Evaluation	<i>rating</i>	2. IA& EA Execution	<i>rating</i>
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	<i>rating</i>	4. Sustainability	<i>rating</i>
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental :	
		Overall likelihood of sustainability:	

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US\$)		Government (mill. US\$)		Partner Agency (mill. US\$)		Total (mill. US\$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Actual	Actual
Grants								
Loans/Concessions								
• In-kind support								
• Other								
Totals								

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.⁶³

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Haiti. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within

⁶³ A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: [ROtI Handbook 2009](#)

the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

EVALUATION TIMEFRAME

The total duration of the evaluation will be 31 days according to the following plan:

Activity	Timing	Completion Date
Preparation	3 days	<i>Final date of completion will be determined based on signature date of the contract which should take place in the period of July 2016.</i>
Evaluation Mission	15 days	
Draft Evaluation Report	10 days	
Final Report	3 days	

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission.	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission	To project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Sent to CO, reviewed by RTA, PCU, GEF OFPs
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

TEAM COMPOSITION

The evaluation team will be composed of 1 international evaluators. The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team members must present the following qualifications:

- Advanced university degree (Master's or PhD) in natural sciences, environmental management, Energy regulations, development studies, Renewables energies or related discipline.
- Minimum 10 years of relevant professional experience in Environmental sciences, public policies, mitigation and adaptation, disaster risk management or related field.
- Knowledge of UNDP and GEF.

- Previous experience with results-based monitoring and evaluation methodologies,
- Substantive and demonstrated experience with terminal evaluation/review of GEF funded projects,
- Highly knowledgeable of participatory monitoring and evaluation processes.
- Previous experience in Haiti or in the Caribbean region,
- Proficiency in English and French. Strong abilities to write evaluation reports, good oral and written communication skills in both French and English.
- Strong abilities to analysis and attention to detail,
- Capable of planning, organizing, initiative and autonomy,
- Capacity to work in a multicultural environment and several languages
- Technical knowledge in the targeted focal area(s)

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](#)

PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
20%	At contract signing
40%	Following submission and approval of the 1ST draft terminal evaluation report
40%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

APPLICATION PROCESS

Applicants are requested to apply online <http://jobs.undp.org> by July 4, 2016. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English (with indication of the e-mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs).

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

ANNEX A: PROJECT LOGICAL FRAMEWORK

This project will contribute to achieving the following Country Programme Outcomes as defined in CPAP or CPD: Outcome 4.: Capacity development and governance reform related to sustainable management of the environment and natural resources					
Country Programme Outcome Indicators: Capacity development and governance reform related to sustainable management of the environment and natural resources. Promotion of inclusive growth, based on the MDGs Indicator 1: Adoption/Creation/Enactment/ of Policy for On-grid Renewables; Indicator 2: Electricity production during the project period from grid-connected renewable energy installations installed under the influence of the project (MWh / year)					
Primary applicable Key Environment and Sustainable Development Key Result Area: 4. Expanding access to environmental and energy services for the poor.					
Applicable GEF Strategic Objective and Program: Objective CC-4 "To promote on-grid renewable energy", Strategic Program "Promoting market approaches for renewable energy"					
Applicable GEF Expected Outcomes: "Growth in markets for renewable power in participating program countries"					
Applicable GEF Outcome Indicators: "tons CO2eq avoided; adoption of policy frameworks allowing renewable generators equitable access to the grid; kWh generated from renewable sources"					
	Indicator	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
Project Objective⁶⁴ To create an enabling environment for private and public investment in small hydro plants in Haiti.	(A) Number of new SHP projects under construction; (B) Capital secured for SHP investment. (C) SHP Project Pipeline (D) SHP Policy	(A) No SHP currently under development; (B) Private sector and donors demonstrate interest in investing in SHPs (C) Outdated and unreliable project pipeline; (D) No appropriate energy policy framework	(A) Three (3) SHP projects under construction; (B) US\$ 3.2 mln leveraged for SHP construction; (C) Updated project pipeline; at least 8 new SHPs under consideration for development; (D) Energy regulation in place, including support for SHP development.	Project evaluation, visual inspection	Risks (1) Political instability in Haiti worsens; (2) Natural disasters impact project implementation; Assumption: Government of Haiti continues to be aligned with international community's (WB, IADB, USAID, CIDA, and UNDP) energy policy recommendations and reform projects.

⁶⁴ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

Outcome 1⁶⁵ An effective, market-oriented policy and regulatory framework to enable small hydropower development in the country has been established.	(A) Methodology to define reference cost and tariff SHP approved; (B) Proposal approved legal/commercial status of SHP operator; (C) Resolutions approved defining (i) quality of service; (ii) land tenure, (iii) water rights and environmental issues.	(A) No SHP reference cost and tariff defined; (B) No proposal SHP approved; (C) No resolutions (a) drafted nor (b) approved.	(A) SHP reference cost and tariff defined; (B) Proposal status SHP operator approved; (C) Resolutions (a) drafted and (b) approved	Proposals and official publications	Risks (1) Political instability in Haiti worsens; Assumption: Government of Haiti continues to be aligned with international community's (WB, IADB, USAID, CIDA, UNDP) energy, policy recommendations and reform projects.
Outcome 2 Technical and managerial capacities within EdH and other national stakeholders have been created to evaluate, prepare and operate small hydropower developments in Haiti.	(A) Measuring equipment procured and installed; (B) Mapping of relevant regions carried out; (C) Creation of SHP business unit in EdH; (D) Internal capacities in EDH enhanced. (E) Project Pipeline generated	(A) No measuring equipment identified; (B) Data from 1979, no mapping using modern technologies; (C) No SHP business unit in EdH; (D) Low EdH Capacity for SHP management, no training material in place. (E) No SHP project pipeline in place training material in place. (E) No SHP project pipeline in place	(A) Measuring equipment procured and installed; (B) Mapping hydro potential relevant regions carried out; (C) SHP business unit established; (D) At least 30 EDH staff members are fully trained on SHP development, operation and maintenance; training material in place. (E) At least 8 SHPs included in EDH's project pipeline and with preliminary financing agreements in place	Reports, evaluation, audits	Risks (1) Political instability in Haiti worsens; Assumption: Government of Haiti continues to be aligned with international community's (WB, IADB, USAID, CIDA, UNDP) energy policy recommendations and reform projects.
Outcome 3 Small hydropower	(A) Feasibility studies for SHP projects;	(A) No feasibility studies;	(A) 3 Feasibility studies completed;	Reports, technical studies and drawings, visual inspection	Risks (1) Political instability in Haiti worsens; (2) Natural

⁶⁵ All outcomes monitored annually in the APR/PIR. It is highly recommended not to have more than 4 outcomes.

generation facilities are incorporated in regional distribution constructed and are providing electricity to end-users.	(B) Financing secured for SHPs (C) SHP plants procured and under construction; (D) Regional grids upgraded and fully operational (E) Business plans	(B) Private sector and donors demonstrate interest in investing in SHPs (C) No new SHP plants constructed in past 20 years; (D) Jacmel grid restored, Les Cayes grid in poor conditions; (E) No SHP business plans defined.	(B) Financing secured for construction of 3 SHPs (C) 3 SHP plants in construction; (D) Jacmel and Les Cayes grids fully restored and SHP interconnection underway. (E) 3 business plans approved.		disasters impact project implementation; Assumption: Government of Haiti continues to be aligned with international community's (WB, IADB, USAID, CIDA, UNDP) energy policy recommendations and reform projects.
Outcome 4 A project monitoring and evaluation plan implemented, and lessons learnt are disseminated.	(A) Mid-term Evaluation Report; (B) Final Evaluation Report; (C) Documentation of project Experiences; (D) Sharing of project results	(A) No MTE; (B) No FEV; (C) No systematization of SHP experience in Haiti; (D) No sharing of SHP development experience in Haiti.	(A) MTE completed; (B) FEV completed; (C) Lessons learnt publication; (D) Seminar to present project results.	Evaluation reports	

ANNEX B: LIST OF DOCUMENTS TO BE REVIEWED BY THE EVALUATORS

- Project Document (ProDoc),
- Inception Workshop Report,
- Assessment of Co-Financing Contributions and Strategic Orientation of Outcome 3
- Financial reports and actual co-finance contributions
- Annual Work Plans,
- Annual Project Report (APR)/Project Implementation Report (PIR),
- project budget revisions,
- progress reports, field visit reports,
- Consultancy reports (policy and regulatory framework to enable small hydropower development in Haiti)
- audit reports,
- GEF focal area tracking tools,
- Technical reports, knowledge products, communications material, if available
- Steering Committee Meeting minutes,
- Government of Haiti national development strategy and legal documents (Plan Stratégique de Développement d’Haiti, PSDH),
- UNDP Haiti strategic documents (UNDAF, ISF, CPD, CPAP, Results Oriented Annual Report ROAR),
- GEF strategic documents,
- Projects outputs (studies, surveys, investigations, frameworks developed and presidential orders) and communication documents,
- UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects,
- UNDP Standards, Norms and Code of conduct for evaluation,
- Any other materials that the evaluator considers useful for this evidence-based assessment.

ANNEX C: EVALUATION QUESTIONS

Evaluative Criteria Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels?			
<ul style="list-style-type: none"> How does the project activities, outputs and outcomes participate in the GEF-4 Climate Change Strategic Objective <ul style="list-style-type: none"> To promote on-grid renewable energy To assure Strategic Program Promoting Market Approaches for Renewable Energy And especially, : <ul style="list-style-type: none"> a) Transformation towards renewable energy (hydropower) outside the urban areas in Haiti; b) contributes significantly to the GEF indicators under CC, specifically avoided GHG emission (tons CO₂e), renewable-energy based electricity production (kWh/year) and number of households connected; c) Generate direct and verifiable impact concerning the conservation of watershed areas and indirect benefits, including reduced technical and commercial losses through improved customer approach methods. 	<ul style="list-style-type: none"> Indicators in the Project Logical Framework Outputs and outcomes described in the ProDoc 	<ul style="list-style-type: none"> GEF strategic documents UNDP strategic documents Haiti national development plan Project Document Reports Team and key stakeholders 	<ul style="list-style-type: none"> Documents analysis Interviews Field visits
<ul style="list-style-type: none"> How does the project participate in achieving the national energy policy reform? Regarding the Haitian Regulation program, to which program and sub-program will the project participate? 			
<ul style="list-style-type: none"> How will the project participate in achieving UNDP Haiti strategic objectives describe in UNDP strategic documents? 			

Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
<ul style="list-style-type: none">• Did the project implement the planned activities for the past period?• Were expected outcomes and objectives for the past period achieved?• What progress toward the planned outcomes has been made?	<ul style="list-style-type: none">• Indicators in the Project Logical Framework	<ul style="list-style-type: none">• Project Document• Reports• Team and key stakeholders	<ul style="list-style-type: none">• Documents analysis• Interviews
<ul style="list-style-type: none">• How were the risks managed?• How efficient were the strategies developed to mitigate them?	<ul style="list-style-type: none">• Quality and completeness of the risks and assumptions identified in the ProDoc?• Quality of the mitigation measures described in the ProDoc?	<ul style="list-style-type: none">• Project Document• Reports• Team and key stakeholders	<ul style="list-style-type: none">• Documents analysis• Interviews
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?			
<ul style="list-style-type: none">• Were the logical framework and the work plans followed and used as an implementation tool?	<ul style="list-style-type: none">• Availability and quality of the narrative and financial reports• Consistency of the reports and respect of the deadlines• Discrepancy between planed budget and actual expenditures• Comparison between planed co-financing and actual• Quality and consistency of the data entered in the Integrated Work Plan and in Atlas• Quantity and quality of changes made between the ProDoc and the actual implementation• 	<ul style="list-style-type: none">• Project documents, reports (including administrative and financial documents)• Team• UNDP	<ul style="list-style-type: none">• Documents analysis• Interviews
<ul style="list-style-type: none">• Were the financial and administrative procedures followed to implement the project and produce the accurate financial and administrative data on time?			
<ul style="list-style-type: none">• Were the reporting and monitoring procedures followed? Were the correct and complete reports produced within the deadlines?• Were the funds available and disbursed as planned?• Were the co-financing and in kind contributions as planned?• Were financial resources efficiently used? Could it have been improved? How?• Were the procurement processes done following procedures and contributing to an efficient use of the project resources?• Was the use of the "Result based management" method efficient?• How was adaptive management used?			
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?			
<ul style="list-style-type: none">• Are issues of sustainability integrated in the project design?• Are they adequately addressed?• Have they evolved since the project design? Was the implementation design adapted consequently?	<ul style="list-style-type: none">• Project sustainability strategy and actions : availability, adequacy and completion• involvement, actions taken by the key stakeholders especially the implementing partner Ministry	<ul style="list-style-type: none">• Project documents, reports (including administrative and financial documents)• Team• UNDP	<ul style="list-style-type: none">• Documents analysis• Interviews•
<ul style="list-style-type: none">• Have new risks to sustainability arisen? Were they mitigation measures implemented? were the sustainability plan adapted			

<ul style="list-style-type: none">• Are the main stakeholders willing and able to use, enforce, follow the project outputs (tools, laws, recommendations) after its completion?	<ul style="list-style-type: none">• Changes in the institutional, financial and socioeconomic context	<ul style="list-style-type: none">• Key stakeholders	
<ul style="list-style-type: none">• Is there a political will to continue the projects activities? <p>What are the main issues and difficulties that can affect the project's outcomes sustainability? Have they been addressed?</p> <ul style="list-style-type: none">• How can the project's outcomes sustainability be improved?• Is there an exit strategy in place? What is the project’s sustainability plan?			
Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?			
<ul style="list-style-type: none">•	<ul style="list-style-type: none">•	<ul style="list-style-type: none">•	<ul style="list-style-type: none">•

ANNEX D: RATING SCALES

<p><i>Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution</i></p> <p>6: Highly Satisfactory (HS): no shortcomings 5: Satisfactory (S): minor shortcomings 4: Moderately Satisfactory (MS) 3: Moderately Unsatisfactory (MU): significant shortcomings 2: Unsatisfactory (U): major problems 1: Highly Unsatisfactory (HU): severe problems</p>	<p><i>Sustainability ratings:</i></p> <p>4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks</p>	<p><i>Relevance ratings</i></p> <p>2. Relevant (R) 1.. Not relevant (NR)</p> <p><i>Impact Ratings:</i></p> <p>3. Significant (S) 2. Minimal (M) 1. Negligible (N)</p>
<p><i>Additional ratings where relevant:</i> Not Applicable (N/A) Unable to Assess (U/A)</p>		

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form⁶⁶

Agreement to abide by the Code of Conduct for Evaluation in the UN System

⁶⁶www.unevaluation.org/unegecodeofconduct

Name of Consultant:

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *place* on *date*

Signature: _____

ANNEX F: EVALUATION REPORT OUTLINE⁶⁷

- i.** Opening page:
 - Title of UNDP supported GEF financed project
 - UNDP and GEF project ID#s.
 - Evaluation time frame and date of evaluation report
 - Region and countries included in the project
 - GEF Operational Program/Strategic Program
 - Implementing Partner and other project partners
 - Evaluation team members
 - Acknowledgements
- ii.** Executive Summary
 - Project Summary Table
 - Project Description (brief)
 - Evaluation Rating Table
 - Summary of conclusions, recommendations and lessons
- iii.** Acronyms and Abbreviations
(See: UNDP Editorial Manual⁶⁸)
- 1.** Introduction
 - Purpose of the evaluation
 - Scope & Methodology
 - Structure of the evaluation report
- 2.** Project description and development context
 - Project start and duration
 - Problems that the project sought to address
 - Immediate and development objectives of the project
 - Baseline Indicators established
 - Main stakeholders
 - Expected Results
- 3.** Findings
(In addition to a descriptive assessment, all criteria marked with (*) must be rated⁶⁹)
- 3.1** Project Design / Formulation
 - Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
 - Assumptions and Risks
 - Lessons from other relevant projects (e.g., same focal area) incorporated into project design
 - Planned stakeholder participation
 - Replication approach
 - UNDP comparative advantage
 - Linkages between project and other interventions within the sector
 - Management arrangements
- 3.2** Project Implementation
 - Adaptive management (changes to the project design and project outputs during implementation)

⁶⁷The Report length should not exceed 40 pages in total (not including annexes).

⁶⁸ UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008

⁶⁹ Using a six-point rating scale: 6: Highly Satisfactory, 5: Satisfactory, 4: Marginally Satisfactory, 3: Marginally Unsatisfactory, 2: Unsatisfactory and 1: Highly Unsatisfactory, see section 3.5, page 37 for ratings explanations.

- Partnership arrangements (with relevant stakeholders involved in the country/region)
 - Feedback from M&E activities used for adaptive management
 - Project Finance:
 - Monitoring and evaluation: design at entry and implementation (*)
 - UNDP and Implementing Partner implementation / execution (*) coordination, and operational issues
- 3.3** Project Results
- Overall results (attainment of objectives) (*)
 - Relevance(*)
 - Effectiveness & Efficiency (*)
 - Country ownership
 - Mainstreaming
 - Sustainability (*)
 - Impact
- 4.** Conclusions, Recommendations & Lessons
- Corrective actions for the design, implementation, monitoring and evaluation of the project
 - Actions to follow up or reinforce initial benefits from the project
 - Proposals for future directions underlining main objectives
 - Best and worst practices in addressing issues relating to relevance, performance and success
- 5.** Annexes
- ToR
 - Itinerary
 - List of persons interviewed
 - Summary of field visits
 - List of documents reviewed
 - Evaluation Question Matrix
 - Questionnaire used and summary of results
 - Evaluation Consultant Agreement Form

ANNEX G: EVALUATION REPORT CLEARANCE FORM

(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: _____

Signature: _____ Date: _____

UNDP GEF RTA

Name: _____

Signature: _____ Date: _____

5.2 Itinerary

January 8, 2017 Arrival to Haiti (Port-au-Prince)

January 9 to January 16, 2017 Stay in Haiti (Port-au-Prince)

January 17, 2017, Departure from Haiti

No field visits were scheduled

5.3 List of persons interviewed

- Altidor, Jean-Robert. Directeur des Ressources Énergétiques,
Bureau des Mines et de l'Énergie
- Bayard, Philippe. Vice Président, SOLELO Energies
- Bonthomme, Franck Fils. Conseiller Technique UEP
- Chrysostome, Marc-André. Coordonnateur, Cellule Énergie, Ministère
des Travaux Publics, Transports et
Communication
- Colin Ferdinand, Karine. Électricité d'Haïti
- Deshommes, Ronald. Directeur, Direction des Affaires
Juridiques du MEF
- Ernso, Thomas. Coordonateur, HYDROMET
- Etienne, Pierre Erol. Directeur Général, MEF
- Francois, Marie Pascale. Coordonnatrice Unité Environnement et
Énergie, PNUD
- FritzGerald, Louis. Directeur Adjoint, MEF
- Guerrier, Yvon. Sustainable Development Specialist,
Unité Environnement et Énergie, PNUD
- Jean, Gary. Consultant Local en Régulation des
Systèmes Électriques, Cellule Énergie,
Ministère des Travaux Publics, Transports et
Communication
- Jean-Jumeau, René. Directeur, Institut Haitien d'Énergie
- Joseph, Jeff. Électricité d'Haïti
- Mackensen, Corssy. Électricité d'Haïti
- Mars, Marie Farrah. Assistante administrative, Unité
Environnement et Énergie, Programme des
Nations Unies pour le développement
- Noel, Pascal. Conseiller Technique Nord/EBA, Unité
Environnement et Énergie, Programme des
Nations Unies pour le développement
- Prepetit, Claude. Directeur Général, Bureau des Mines et de
l'Énergie
- Saintine Georges, Alerte. Électricité d'Haïti
- Therer, Martine. Deputy Country Director – Programme
UNDP
- Wainright, Kathleen. Directrice de Planification, Électricité
d'Haïti
- Wainright, Yves-André. Chef Unité Environnement et Énergie,
PNUD

5.4 Summary of field visits

No field visits

5.5 List of documents reviewed

AECOM. (2014). Micro-centrales Ravine Sud et Lower Mathurine. Étude d'impact environmental et social. Version finale. SSHPD-S file.

Cellule Énergies Renouvelables de l'EDH. (no date). Document de Cadrage. SSHPD-S file.

CIDA. (2013). Rehabilitation of Electrical Facilities. Available from : <file:///C:/Users/utilisateur/Documents/Haiti%20Dec2016-Mars2017/Documents%2013%20Jan/CIDA%20electricity%202.html>. Accessed: 20 March 2017

CIDA. (2013). Semi-autonomous Electricity Supply and Rehabilitation of Electrical Facilities

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GEF Evaluation Office. (2008). Guidelines for GEF Agencies in Conducting Terminal Evaluations. Evaluation Document No. 3.

GEF. (no date). Medium-Sized Project Proposal Request for Funding under the GEF Trust Fund. GEF Agency Project ID: 2820.

Gouvernement d'Haïti. (1995). Loi sur la modernisation des entreprises publiques. Available from : http://www.haiti.org/wp-content/uploads/2012/09/loi_modernisation.pdf. Accessed: 22 March 2017

Gouvernement d'Haïti. (2008). Stratégie Nationale pour la Croissance et pour la Réduction de la Pauvreté (2008-2010). Port-au-Prince : Imprimerie Deschamps. Available from www.mpce.gouv.ht/dsnrcpfinal.pdf. Accessed: 10 March 2017

Gouvernement d'Haïti. (2016). Décret créant un organisme autonome à caractère industriel et commercial, jouissant de la personnalité juridique et de l'autonomie financière d0énommée : Électricité d'Haïti (EDH). SSHPD-S file.

Gouvernement d'Haïti. (2016). Décret régissant le Secteur de l'Énergie Électrique. Journal Officiel de la République d'Haïti 171^e Année No. 23. Mercredi 3 Février 2016.

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Gouvernement de la République de Haïti et PNUD (no date). Développement de l'Hydroélectricité sur petite échelle en Haïti. Document du Projet. SSHPD-S file.

Government of Haiti. (2007). Plan de Développement du Secteur de l'Énergie 2007 – 2017. SSHPD-S file.

Government of the Republic of Haiti (2010) Action for National Recovery and Development of Haiti. Available from : https://archive.org/stream/pdfy-vNtXMzbKF_vWZt72/Haiti_Action_Plan_ENG_djvu.txt. Accessed: 25 March 2017

Haiti Energy Sector White Paper. Draft Final Report (2010). SSHPD-S file.

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5.6 Evaluation Question Matrix

Section I. Réalisation de l'objectif du projet

Sujet	Indicateurs de performance	Ligne de base 2011	Cibles attendu à la fin du projet	Cibles atteintes à l'achèvement du projet	Source de vérification
Objectif du projet Créer un environnement favorable à l'investissement privé et public dans des petites usines d'hydroélectricité dans le pays	(A) Nombre de nouveaux projets SHP en construction (B) Capital sécurisé pour l'investissement dans les SHP (C) Pipelines de projets SHP (D) Cadre de politiques SHP	(A) Aucun SHP actuellement en construction (B) Secteur privé et bailleurs font montre d'intérêt à investir dans des SHP (C) Pipeline des projets obsolète et pas fiable (D) Pas de cadre approprié de politiques pour l'énergie	(A) Trois projets SHP en construction (B) 3,2 millions de dollars US levés pour la construction SHP (C) Pipeline de projets actualisé ; au moins huit nouvelles SHP en considération pour construction (D) Régulation pour l'énergie en place y compris l'appui au développement de SHP		Documents décrivant des résultats du projet Évaluations Rapport final Inspection visuelle des résultats du projet

Section II. Critères d'évaluation

1. Pertinence				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
1. Contribution des activités, des extrants et des résultats à l'atteinte de l'objectif stratégique FEM-4 de changement climatique	<p>Est-ce que la contribution s'est faite par :</p> <p>1. La promotion des énergies renouvelables ?</p> <p>2. La promotion des approches stratégiques du programme de promotion de marché pour les énergies renouvelables ?</p> <p>3. Le passage vers l'énergie renouvelable (hydroélectricité) en dehors des zones urbaines en Haïti ?</p> <p>4. La contribution significative aux indicateurs FEM sous CC ?</p> <p>5. La génération des retombées directes et vérifiables concernant la</p>	Selon le document du projet et son cadre logique	<p>Documents stratégiques du FEM et UNDP</p> <p>Plan national de développement de Haïti</p> <p>Document du projet et rapports du progrès</p> <p>Personnel du projet et celui des parties prenantes</p> <p>Investissements du projet sur le terrain</p>	<p>Étude documentaire</p> <p>Entretiens avec les représentants des agences-parties prenantes du projet</p> <p>Visites sur le terrain</p>

1. Pertinence				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
	conservation des bassins versants ? 6. les avantages indirects (réduction des pertes techniques et commerciales, par le biais de méthodes d'approche clientèle amélioré) ?			
2. Contribution du projet à la réforme énergétique à Haïti	1. Comment le projet a participé dans la réalisation de la réforme de la politique énergétique nationale ? 2. Dans lequel programme et sous-programme de réglementation haïtienne, le projet a participé ?			
3. Contribution du projet à la réalisation des objectifs du PNUD au Haïti	1. Comment le projet a participé dans la réalisation des objectifs stratégiques du PNUD Haïti ?			
2 Efficacité				

Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
1. Réalisation des activités planifiées du projet	Est-ce que le projet a réalisé les activités planifiées dans le passé ?	Selon le document du projet et de son cadre logique	Document du projet Rapport du progrès du projet Personnel du projet et les représentants des agences-parties prenantes	Étude documentaire Entretiens et réunions avec les parties prenantes
2. Réalisation des objectifs et atteinte des résultats	Est-ce que le projet a atteint les résultats attendus et réalisés es objectifs ?			
3. Progrès réalisé vers les résultats	Quels sont les progrès réalisés vers les résultats prévus ?			
4. Gestion de risques	Comment le projet a géré les risques ?	Qualité et pertinence des risques identifiés selon le document du projet Pertinence et applicabilité des mesures d'atténuation des risques	Document du projet Rapports du progrès du projet Personnel du projet et les représentants des agences-parties prenantes	Étude documentaire Entretiens et réunions avec les parties prenantes
5. Atténuation des risques	Quelle était efficacité des stratégies élaborées pour l'atténuation des risques ?			

3. Efficience				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
1. Cadre logique et plan de travail	Est-ce que le cadre logique et les plans de travail ont été suivis et utilisés comme un outil de mise en œuvre ?	Contenu des rapports financiers Cohérence interne des rapports financiers	Documents du projet Rapports techniques et financiers	Étude documentaire Entretiens et réunions avec les parties prenantes
2. Suivi des procédures financières	Est-ce que les procédures financières et administratives ont été suivies pour la réalisation du projet et la production des données administratives et financières exactes en temps voulu ?	Différence entre les budgets planifié et implémenté Comparaison entre le financement planifié et réalisé	Personnel du projet	
3. Suivi du projet	1. Est-ce que les rapports et les procédures de monitoring ont été suivis ? 2. Les rapports exacts et complets ont été produits dans les délais ?	Qualité et uniformité des données selon le plan de travail et le système <i>Atlas</i> Différences et changements entre les		

3. Efficience				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
4. Financement	<p>1. Les fonds étaient disponibles et déboursés comme prévu ?</p> <p>2. Est-ce que les cofinancements en nature et en contribution étaient disponible comme prévu ?</p> <p>3. Est-ce que les ressources financières ont été utilisées efficacement ?</p> <p>4. Est-ce que leurs utilisations pourraient-elles être améliorées ? Comment ?</p>	prévisions selon le document du projet et la réalisation		
5. Procédures d'achat	<p>1. Est-ce que les procédures d'achat ont respecté les procédures et contribué à une utilisation efficace des ressources projet ?</p> <p>2. Est-ce que l'utilisation de la méthode de</p>			

3. Efficience				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
	« Gestion axée sur les résultats » a été efficace ? Comment la gestion adaptative a été mise en œuvre ?			
6. Gestion du projet	1. Est-ce que l'utilisation de la méthode de « Gestion axée sur les résultats » a été efficace ? 2. Comment la gestion adaptative a été mise en œuvre ?			

4. Durabilité				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
1. Durabilité et conception du projet	<p>1. Est-ce que les questions de durabilité sont-elles intégrées dans la conception du projet ?</p> <p>2. Sont-elles prises en compte adéquatement ?</p> <p>3. Sont-elles évoluées depuis la conception du projet ?</p> <p>4. Est-ce que la conception de la mise en œuvre a été adaptée en conséquence ?</p>	Analyse de la stratégie du projet et des agences d'implémentation du projet	Documents et rapports produits par le projet Personnel du projet Agences d'exécution et de supervision	Étude documentaire Entretiens et réunions avec les parties prenantes
2. Risque pour la durabilité et mitigation des risques	<p>1. Est-ce que les nouveaux risques de durabilité se sont manifestés au cours d'exécution du projet ?</p> <p>2. Est-ce que les mesures d'atténuation des risques ont été mises en œuvre ? Est-ce qu'un plan de mitigation des risques a été ajusté ?</p>			

4. Durabilité				
Critères d'évaluation	Questions	Indicateurs	Sources	Méthodologie
3. Poursuite des activités du projet	<p>1. Est-ce que les parties prenantes principales sont disposées et sont en mesure d'utiliser, d'appliquer et suivre les produits du projet (outils, lois, recommandations) après son achèvement ?</p> <p>2. Est-ce qu'il-y-a une volonté politique de poursuivre les activités de projets ?</p>			
4. Durabilité des résultats	<p>1. Quels sont les principaux enjeux et difficultés qui peuvent affecter la durabilité des résultats du projet ? Ils ont été abordés ?</p> <p>2. Comment peut-on améliorer la durabilité des résultats du projet ?</p>			
5. Stratégie de sortie et viabilité	<p>1. Est-ce qu'il-y-a une stratégie de sortie en place ?</p> <p>2. Quel est le plan de viabilité du projet ?</p>			

5.7 Questionnaire used and summary of results

Since the meetings involved high level administrative officers, no questionnaires were used. The points discussed were oriented by the following set of questions:

Questions concernant la relevance :

1. Comment les activités, les extrants et les résultats contribuent-elles à atteindre l'objectif stratégique FEM-4 de changement climatique :
 - 1.1. Par la promotion des énergies renouvelables sur le réseau ?
 - 1.2. Par la promotion des approches stratégiques du Programme de promotion de marché pour les énergies renouvelables ?
 - 1.3. Et surtout :
 - 1.3.1. Par le passage vers les énergies renouvelables (hydroélectricité) en dehors des zones urbaines en Haïti ?
 - 1.3.2. Par la contribution significative aux indicateurs FEM sous CC, plus précisément, éviter des émissions des gaz à effet de serres (en tonnes CO₂), production d'électricité basée sur les énergies renouvelables (kWh/an) et le nombre de ménages connectés ?
 - 1.3.3. Par la génération des retombés directes et vérifiables concernant la conservation des bassins-versants et des retombés indirects, y compris réduction des pertes techniques et commerciales grâce à l'application des méthodes d'approche clientèle amélioré ?
2. Comment participer au projet dans la réalisation de la réforme de la politique énergétique nationale ?
3. Concernant le programme de réglementation haïtienne, à quel programme et sous-programme le projet participera ?
4. Comment le projet participera à la réalisation des objectifs du PNUD au Haïti spécifiés dans les documents stratégiques du PNUD ?

Questions concernant l'efficacité

1. Est-ce que le projet a réalisé les activités planifiées dans le passé ?
2. Est-ce que le projet a atteint les résultats attendus et a réalisé les objectifs attendus ?
3. Quels sont les progrès réalisés vers les résultats prévus ?
4. Comment le projet a géré les risques ?
5. Quelle était l'efficacité des stratégies élaborées pour l'atténuation des risques,

Questions concernant l'efficience

1. Est-ce que le cadre logique et les plans de travail ont été suivis et considérés comme un outil de mise en œuvre ?
2. Est-ce que les procédures financières et administratives ont été suivies pour la réalisation du projet et la production des données administratives et financières exactes et en temps voulu ?
3. Est-ce que les rapports et les procédures de surveillance ont été suivis ? Les rapports exacts et complets ont été produits dans les délais ?
4. Les fonds étaient disponibles et déboursés comme prévu ?

5. Est-ce que les cofinancements en nature et en contribution étaient disponibles comme prévu ?
6. Est-ce que les ressources financières ont été utilisées efficacement ? Est-ce que leurs utilisations pourraient-elles être améliorées ? Comment ?
7. Est-ce que les procédures d'achat ont respecté les procédures et contribué à une utilisation efficace des ressources projet ?
8. Est-ce que l'utilisation de la méthode de « Gestion axée sur les résultats » a été efficace ?
9. Comment la gestion adaptative a été mise en œuvre ?

Questions concernant la durabilité

1. Est-ce que les questions de durabilité sont-elles intégrées dans la conception du projet ?
2. Sont-elles prises en compte adéquatement ?
3. Est-ce qu'elles ont évolué depuis la conception du projet ? Est-ce que la conception de la mise en œuvre a été adaptée en conséquence ?
4. Est-ce que les nouveaux risques de durabilité se sont manifestés au cours d'exécution du projet ? Est-ce que les mesures d'atténuation des risques ont été mises en œuvre ? Est-ce qu'un plan de mitigation des risques a été ajusté ?
5. Est-ce que les parties prenantes principales sont disposées et sont en mesure d'utiliser, d'appliquer et suivre les produits du projet (outils, lois, recommandations) après son achèvement ?
6. Existe-t-il une volonté politique de poursuivre les activités de projets ?
7. Quels sont les principaux enjeux et les difficultés qui peuvent affecter la durabilité des résultats du projet ? Ils ont été abordés ?
8. Comment peut-on améliorer la durabilité des résultats du projet ?
9. Existe-t-il une stratégie de sortie en place ?
10. Quelle est la perspective de viabilité du projet ?

Autres questions

Prise en charge locale (développement de l'approche commune, les règles, prendre des décisions communes)

1. Sont les principales parties prenantes pleinement engagées et favorable à l'intervention de développement ?
2. Est-ce que les principales parties prenantes ont l'autorité appropriée et les outils dont elles ont besoin pour prendre des décisions et agir ?

Harmonisation (façon dont les choses vont de pair et produire des résultats) et l'alignement (positionnement ou l'ajustement des groupes ou des actions dans les relations entre eux)

1. Comment est organisé la coordination entre l'action de développement et les efforts des organisations locales, les agences du PNUD et les autres bailleurs de fonds s'adressant aux mêmes besoins ou problèmes ?
2. L'action de développement est-elle alignée avec les systèmes locaux ?

Responsabilité mutuelle (prendre la responsabilité des actions propres et leurs impacts sur les autres parties prenantes)

1. Est-ce que la participation des intervenants dans le cycle d'intervention de développement était suffisamment active (conception, exécution, suivi et évaluation).

Considérations de conception

1. L'action de développement a-t-elle été conçue à l'aide d'approches participatives (y compris les besoins des parties prenantes locales) ?
2. Reposait-elle sur la bonne compréhension du contexte local, notamment entre les sexes, l'environnement et gouvernance ?
3. S'appliquait-elle aux leçons précédentes ?
4. La conception reposait-elle sur l'expérience acquise, ou elle a essayé des approches nouvelles et novatrices ?
5. Le modèle logique et le cadre de mesure du rendement répondent aux normes du PNUD pour la gestion axée sur les résultats ?

Gestion et analyse des risques (un examen des conséquences indésirables et négatives des facteurs externes qu'on puisse lier à la mise en œuvre du projet)

1. Existent-il des systèmes en place pour surveiller, rapporter et gérer les risques ayant potentiellement un impact sur l'action de développement ?
2. Ces systèmes ont été utilisés ?
3. Ces systèmes ont été pertinents, efficaces et durables ?

5.8 Rapport sur les enseignements tirés du projet

Titre du Projet:	Développement de l'Hydroélectricité sur petite échelle (Micro-Hydro)
Pays :	Haiti
Effet du CPAP auquel le projet est lié :	Des cadres stratégiques, légaux, institutionnels et communicationnels sont développés et leur mise en œuvre facilitée pour mieux répondre aux problèmes de gestion de l'environnement et des ressources naturelles au niveau national et local
Description du Projet et Principaux Enseignements Tirés	
Brève description du contexte	<p>Le Ministère des Travaux Publics, Transports et Communications (MTPTC) est responsable de la gestion de l'énergie à travers sa Cellule Energie. Le MTPTC est aussi chargé de la supervision du Bureau des Mines et de l'Energie (BME) qui a pour mission de promouvoir la recherche, l'exploitation et l'utilisation efficace des ressources minières et énergétiques du pays. L'entité « Electricité d'Haïti (EdH) » qui appartient à l'Etat est responsable de la transmission et de la distribution de l'électricité en Haïti. L'EdH est également responsable de la majorité de la production d'électricité, bien que des centrales de production thermiques appartenant au Secteur Privé existent également dans le cadre du schéma IPP. Dans la pratique, l'électricité fournie par l'EdH n'est pas fiable et est distribuée tout au plus quelques heures par jour. A cause d'une série de facteurs politiques, sociaux et administratifs, l'EdH n'a pas été en mesure, depuis des années, de recouvrer ses coûts de fonctionnement. Cela a graduellement miné la capacité de l'entreprise à maintenir la qualité de ses services, à étendre son infrastructure en réponse à la demande croissante et à investir dans une nouvelle capacité de génération.</p> <p>Dans le Plan 2005-2015 de Développement du Secteur Energétique, Haïti s'est donné pour objectif d'augmenter le niveau d'accès de sa population à l'électricité, de 10% actuellement à 50% d'ici l'année 2015. Le plan établit un programme impliquant plus de US 400M de financement nécessaire et inclut un appui administratif pour l'EdH, d'importants investissements dans la réhabilitation des usines électriques existantes et dans une nouvelle capacité de génération, un programme étendu d'électrification (en milieux urbain et rural) et la création d'une entité de régulation. L'utilisation de toutes les technologies applicables sera encouragée, y compris l'hydroélectricité et d'autres sources d'énergie renouvelable et la promotion de l'efficience dans l'utilisation de l'énergie du côté de l'approvisionnement comme de la demande. L'atteinte des objectifs définis dans ce plan a été appuyée par d'importantes contributions de bailleurs de fonds comme l'Agence Canadienne pour le Développement International (ACDI), la Banque Interaméricaine de Développement (BID), la Banque Mondiale (BM), et l'USAID. La stratégie de projet du PNUD/GEF consiste à collaborer étroitement avec ces initiatives afin d'appuyer le développement de petites usines d'hydroélectricité (SHP).</p>

	<p>De ce fait, PNUD/GEF implémente un projet d'une durée de trois (3) ans qui vise le développement de petites centrales hydroélectriques (small scale hydro power – SHP) en Haïti en éliminant les barrières qui existent actuellement en matière d'institutions, de réglementations et d'informations. Le Projet est mis en œuvre en étroite collaboration avec d'autres organisations qui opèrent en Haïti (EDH – Electricité d'Haïti, BME Bureau des Mines et Energie, MTPTC – Ministère des Travaux Publics, Transports et Communications) veut créer un environnement favorable à l'investissement privé et public dans les petites centrales hydroélectriques en Haïti. La génération d'électricité dans le cadre des SHP est une option attrayante pour l'approvisionnement en électricité pour les réseaux régionaux de distribution. Les petites unités d'hydroélectricité aident à réduire la dépendance d'Haïti des combustibles fossiles importés.</p>
Brève description du Projet	<p>Le Projet vise le développement de l'hydroélectricité sur petite échelle (small scale hydro power – SHP) en Haïti en éliminant les barrières qui existent actuellement au niveau des institutions, des règlements et des informations. Le projet devait travailler directement avec l'EdH et le Gouvernement haïtien à l'élaboration d'une politique et d'un cadre de régulation propices au développement de l'hydroélectricité sur petite échelle. Il devait poursuivre aussi l'élaboration de politiques visant la réforme du secteur public pour permettre une implication accrue des opérateurs privés dans le secteur de l'énergie. Le projet renforcera les capacités administratives et techniques de l'EdH pour monter et gérer les usines de SHP en Haïti et établir un environnement institutionnel solide à cette fin. Il préparera le personnel technique de l'EdH pour le fonctionnement et l'entretien des petites usines d'hydroélectricité via des activités de formation ciblée. Des informations actualisées seront obtenues et rendues publiques sur les ressources hydrauliques en Haïti, en mettant en place un programme d'évaluation intégrale, y compris les effets du changement climatique et l'utilisation modifiée des sols. En combinaison avec des règlements améliorés sur la gestion des bassins versants, la propriété foncière et les points d'ordre juridique, cette barrière relative aux informations pour le développement du projet devait être réduite.</p> <p>Dans un dialogue étroit avec le Gouvernement haïtien, le Projet Micro-Hydro devait travailler à l'établissement de modèles commerciaux viables pour la génération et la distribution de l'électricité en milieu rural, spécifiquement à partir des SHP. Des propositions à soumettre à l'acceptation de l'EdH et du Législatif, visant le renforcement de la viabilité technique et financière du service fourni, devait être préparées. Le Projet cible de plus l'élimination des barrières techniques et relatives à l'information, et la démonstration de la viabilité des SHP en Haïti, en préparant et facilitant la construction de trois petites usines d'hydroélectricité. L'initiative de SHP résultera en la réduction directe de l'émission d'environ 62,000 tonnes de CO₂e et une réduction indirecte de l'émission de 788,000 tonnes de CO₂.</p>

Les principaux succès du projet	<p>Succès</p> <ol style="list-style-type: none"> 1. Un avant-Projet de loi fixant le régime juridique de l'hydroélectricité à petite échelle qui ouvre le secteur de l'électricité aux investisseurs privés haïtiens et étrangers; 2. Des réglementations appropriées pour réguler le secteur de l'électricité et sécuriser les financements du secteur privé sont proposés et validés sur le plan technique par le Ministère des Travaux Publics, Transports et Communications ; 3. Quatre autres avant-projets de loi ayant pour matière première les trois décrets du 6 janvier 2016 qui s'inscrivent dans le cadre d'une évolution souhaitée par de nombreux acteurs régissant le secteur de l'électricité ont été proposés; 4. Appui à la création et la mise en place d'une Cellule Énergies Renouvelables (CER) au sein de l'EDH. Ce service technique a pour mission de promouvoir de façon économiquement viable la production d'électricité d'origine renouvelable. Notamment, concevoir et formaliser des protocoles et procédures techniques pour orienter le processus de sélection de sites, et de construction et de gestion des centrales ; 5. Des instruments de mesures hydrométéorologiques ont été acquis et installés sur 8 sites dans les bassins versants des cours d'eau des départements du Sud, Sud-est et les Nippes ; 6. Une base de données est mise en place à EdH pour collecte et traitement d'information hydrométéorologiques; 7. La méthodologie pour l'actualisation des données et la cartographie des cours d'eau à potentiel intéressant a été définie ; 8. Les études d'impact environnemental et social en vue de la construction de 2 petites usines hydro à la ravine du Sud et à Saut Mathurine ; ont été réalisées et ont reçu la non-objection des ministères concernés. 9. Un document de base pour renforcement des capacités des partenaires locaux formulant orientations, modèles techniques et financières, méthodes et procédures de fonctionnement des micro centrales a été élaboré et partagé avec les partenaires ; 10. A travers une coopération Sud-Sud avec le programme SGP de la République Dominicaine, une délégation de douze cadres de l'EdH et du Bureau des Mines et Energies (BME) ont participé à un voyage d'échanges d'expériences avec des communautés constructeurs et gestionnaires de petites usines hydroélectriques en République Dominicaine. 11. Une formation de trois semaines sur les techniques associées sur le développement des énergies renouvelables est donnée à une vingtaine de cadre de l'EdH et du BME pour fournir les compétences techniques, administratives et commerciales appropriées aux opérateurs de projets et aux acteurs publics et privés pour le développement des énergies renouvelables ;
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	<p>12. Évaluation des options d'investissement pour l'intégration de petites centrales hydroélectriques (SHP) dans des réseaux régionaux. Elle contient aussi une évaluation des besoins des centrales existantes et un modèle pour la tarification.</p> <p>Les facteurs qui supportent ces succès</p> <ol style="list-style-type: none"> 1. Prise de conscience et leadership de la Cellule Energie du Ministère des Travaux Publics, Transports et Communications (MTPTC) 2. Stabilité du Poste de Coordonnateur de la Cellule Energie, qui a été nommé coordonnateur National et le point focal du projet Micro Hydro pour le MTPTC en Juillet 2015. 3. Fluidité de la communication avec la Cellule Energie pour les prises de décisions lors des comités de pilotage 4. Appui du projet par un consultant engagé par le Cellule Energie 5. Leadership de l'équipe de gestion du projet au niveau du PNUD qui a su façonner un excellent rapport de collaboration avec la Cellule, EdH et BME 6. Appui de l'Unité Environnement du PNUD
<p>Les défis dans la mise en œuvre du projet et les solutions apportées</p>	<p>Defis et Obstacles</p> <ol style="list-style-type: none"> 1. Retard dans la mise en œuvre du projet. De 2008 (année de conception du projet) à 2012 (année de lancement du projet), Les autorités étatiques qui ont contribué à la formulation du projet et les attitudes en matière de relations avec le secteur privé en matière de production et commercialisation d'électricité ont changé. Le projet était initialement piloté par le Bureau du Ministre délégué à la Sécurité Energétique. A la suppression de ce bureau en novembre 2014, le projet a passé une période de 5 mois sans ancrage institutionnel. Cela a occasionné des retards dans la mise en œuvre des activités. Finalement, le Ministre des TPTC a accepté de le prendre en charge en Juillet 2015. 2. Contexte politique Le projet a été mis en œuvre dans un contexte de tensions politiques autour de contrats d'achats d'électricité passés par un gouvernement antérieur avec 3 compagnies privées. Certains responsables politiques dénoncent des conditions financières et des garanties jugées défavorables à l'Etat haïtien dans lesdits contrats. L'incapacité des autorités publiques à trancher sur le dossier les a rendues frileuses à promouvoir et supporter toutes autres initiatives devant aboutir à des partenariats publics-privés en matière de production d'énergie électrique. (Voir article "l'achat d'électricité par l'EdH: soulagement ou fardeau ?" dans Bulletin "Haiti Energie", de Nov. 2013 du Bureau du Ministre Délégué à la Sécurité Energétique).

	<p>Le contexte de création et de mise en œuvre du projet, ainsi que les moyens alors mobilisés aux fins de celle-ci, n'ont pas permis d'aller au bout du processus et assurer la construction de deux microcentrales. La mise en œuvre de l'activité 3 « Des petites usines d'hydroélectricité sont incorporées dans les réseaux régionaux de distribution construits et fournissent de l'électricité aux usagers » du présent projet a souffert de ce contexte. Une proposition d'accord d'achat soumise par une firme privée (Soléo Energies), en liaison à un des objectifs du projet est restée sans réponse de la part du secteur public durant plus de 2 ans.</p> <p>3. Retards dans les dépenses</p> <p>Les faiblesses en terme d'absorption se situent surtout au niveau de :</p> <ul style="list-style-type: none"> • Composante 1 : 6% dépensés au 30 avril 2016 sur un budget de US\$ 160,000 • Composante 2 : 37% dépensés au 30 avril 2016 sur un budget de US\$ 375,000 <p>4. Instabilité institutionnelle</p> <p>Les changements récurrents aux postes stratégiques de Directeur Générale de EdH, du Ministre à la sécurité énergétique et du chef de projet au niveau du PNUD.</p> <p>Solutions apportées</p> <p>Les activités du projet ont avancé grâce aux solutions suivantes :</p> <ol style="list-style-type: none"> 1. Après dissolution du Bureau du Ministre chargé de la Sécurité Énergétique, le Ministre des TPTC a accepté de prendre le projet en charge. 2. Des services d'un juriste adéquat, mise à disposition du MTPTC, le projet aura permis, non seulement de produire un cadre réglementaire pour le secteur de l'hydro-électricité à petite échelle mais aussi de revoir, à satisfaction du secteur privé et du niveau technique de l'administration publique, le cadre légal régissant le secteur de l'électricité en général. 3. Par ailleurs, le document de projet prévoyait l'appui à la structuration au sein de l'EdH, d'un bureau de promotion et d'appui aux investissements de tiers dans le domaine de l'hydro-électricité. Du fait de l'évolution du contexte national, la vocation de cette structure a dû être reconsidérée. L'EdH s'était engagée à structurer une Unité dédiée en son sein. La Direction de cette institution avait même annoncée que le mandat de cette entité porterait sur la promotion de l'ensemble des énergies renouvelables (donc en sus de l'hydro-électricité, le solaire, l'éolien, la marémotrice, le biogas... Elle devient un bureau pour piloter les investissements propres de l'EdH dans les sources d'énergies renouvelables en général. 4. Constante coordination et dialogue entre le PNUD et le MTPTC
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	<ol style="list-style-type: none"> 5. Propositions de solutions aux problèmes lors des comités de pilotage 6. Recrutement d'un consultant, en appui au projet pour faciliter les échanges avec les partenaires.
Les enseignements tirés	<p>Les principales leçons apprises dans la mise en œuvre de ce projet sont:</p> <ol style="list-style-type: none"> 1. Le contexte politique, la réalité qui prévaut en cours de mise en œuvre du projet étaient assez compliqués. Un changement important aurait pu être apporté par une d'évaluation de mi-parcours du projet avec comme recommandation, une demande de changement dans les effets attendus du projet et une révision substantive du document de projet. 2. Le poste technique non politisé du point focal du projet et son leadership a permis le succès de ce projet et son appropriation par le Ministère. En effet, les décisions ont été moins affectées par la conjoncture politique à certain niveau. 3. La mise en place de la CER a été réalisée avec l'appui du projet. Cette structure est encore fragile. A la fin du projet, la stabilité de l'unité sera précarisée. 4. Visibilité et plan de communication pour le projet ont été pratiquement inexistant 5. Le bailleur n'est pas flexible quant à la possibilité d'orienter les objectives de développement du projet même après constats et évidence que les réalités du moment ne sont plus propices à son implémentation. 6. Une proposition de projet dans le secteur de l'Energie devrait s'intéresser de préférence à l'électrification effective des gens et des communautés isolées et cibler les targets groupes et le développement économique des femmes.
Les actions de suivi	<ul style="list-style-type: none"> ▪ Évaluation du projet. ▪ Capitaliser les leçons apprises dans l'évaluation et l'atelier de présentation des résultats de l'évaluation ▪ Elaboration de la cartographie des potentielles hydroélectriques. ▪ Considérer le contexte actuel d'instabilité socioéconomique et politique et de précarité institutionnelle comme une opportunité de changements structurels avec effets d'impulser une nouvelle économie circulaire axée notamment sur le contournement des contraintes liées au secteur Energie à une stratégie concertation entre les acteurs en présence. ▪ Proposer un projet d'électrification rurale en collaboration avec la Cellule Energie du MTPTC et le Bureau des Mines et de l'Energie.

Les informations du Projet	
Award ID:	00058812

Point focal au bureau de pays:	Yves-Andre Wainright
Les partenaires de mise en œuvre	Ministère des Travaux Publics, Transports et Communications (MTPTC), EDH
Les ressources du projet:	<p>De l'eau et la lumière: Micro hydroélectricité en Haiti son importance sa potentialité</p> <p>http://www.ht.undp.org/content/haiti/fr/home/operations/projects/environment_and_energy/projet-hydroelectricite.html</p> <p>l'edh lance une cellule énergies renouvelables</p> <p>https://web.facebook.com/UNDPHAITI/?_rdr</p>
Le rapport est préparé par	Marie Pascale François, Chef de projet
Date:	6 Décembre 2016

5.9 Evaluation Consultant Agreement Form

Evaluation Consultant Agreement Form⁷⁰

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Stanislaw Manikowski

Name of Consultancy Organization (where relevant): Not relevant

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Montreal on 9 December 2016

Signature:  _____

⁷⁰www.unevaluation.org/unegcodeofconduct

5.10 Comments by Stakeholders

Author of comment: Remi Rijs

		Comment	Answer
1	Xiv	Please add that Mid-Term evaluation was not conducted although it was budgeted and appears in the logframe. And it would have been very appropriate, see also recommendation 1 in table below.	Table was removed
2	Xiv	Question for CO and evaluator. Any opportunities for Haiti and UNDP to benefit from regional (GEF, UNDP, others) programmes on RE and EE in the Caribbean?	Comment added on the page of the final report
3	Xiv	Suspension of the MT Evaluation was a lost opportunity to do such a revision.	The table was removed but the point was discussed in several places the report
4	12	Careful with phrasing! Better: a legislative process in support of private SHP development was not started in spite of advocacy into this direction by the Project.	He section was rephrasing as indicated in the comment Page 12, section 3.1.1
5	14	I understand in 2016 the project produced a document with lessons learned. It would be helpful to have a summary of the findings annexed to this terminal evaluation - so the evaluator can refer to it when needed.	The main lessons are cited. The requested document is attached as an annex 8.
6	19	It would be good to repeat the earlier sentence that the proposed changes in the Inception Report were not incorporated into a revised Project Document.	The sentence was repeated. PAGE 15, PAR 3.2
7	32	Apparently "project design" is no longer rated. I think one important conclusion should be that the implications of private SHP projects and the required key conditions, were not properly understood at project design. By consequence, necessary conditions were assumed to be in place, or to happen quickly. Examples of the first ones are: (a) acceptable generation cost of SHP electricity compared to the fossil grid alternative; (b) requirement of guarantees by private investor, relaying major risks to the State; (c) high kWh prices demanded by private investors, incompatible with subsidized consumer prices. Which means that, in effect, the project could not propose a viable financial model. An example of the second one (expected conditions) is the hope to have legislation passed – this did not happen and was beyond control of the project. It would be good to reflect these design problems in the conclusions.	A paragraph dealing with the project design and with the reflections raised in the comments was added at the page 39 AND 40 paragraph SECTION 4.1

8	32	I leave the HU to the evaluator but I believe this is too negative. At least include a phrase stating that the project was relevant when approved by GEF, but it lost relevance in the years after as the condition (Government policy support) was no longer fulfilled. The development problem remains valid (reason why I would rate this project as relevant (MS) but the project design proved inadequate to address all identified barriers. The project was premature.	Agree The project document was relevant when it was designed and approved by GEF (probably in 2008). The development problem was valid. Both points are introduced in the text
9	32	Question: would it make sense for UNDP to support renewable energy (including SHP) development with a follow-up GEF project, taking benefit from the lessons learned?	Probably yes, providing that the legal obstacles and guarantee problems are solved.
10	32	Check with Table line 4 "overall results". Is it double?	
11	33	In general, the list of conclusions and recommendations provided is very short. Is this all there is to tell? I understand in 2016 the project produced a document with lessons learned. Can you share it with us? It would be helpful to have a summary of the findings annexed to this terminal evaluation - so the evaluator can refer to it when needed.	II have added conclusions
12	33	I draw important lessons with respect to the design of the project and its risk profile. The project was built on assumptions that proved not valid. So, in the future, the PPG phase should be more cautious. Another conclusion is, that there was no business model in place, just a reference price for SHP electricity that was assumed to be paid by the Government. And, as a third element, private investors asked for guarantees to secure the investment. Impossible unless there is multilateral backup. It would be interesting to see how this is done now by the lenders mentioned (Norway, IDB, Taiwan, etc).	Additional lessons are included...
13	33	Otherwise, it loses relevance.	Added at the end of the sequence
14	33	And operational policies	Introduced to the first phrase of the lesson
15	36	Can this be more specific?	I have added a phrase illustrating the understanding of the lesson
16	43	This table is not the same as the one filled out in the document summary and main text. Note that project design (logframe, strategy, assumptions, risk mitigation) is one of the elements contributing to effectiveness	The presentation of the evaluation rating was aligned to those of the TOR
17	44	Table should be filled out and put into document with evidence.	The table's content was completed and updated.
18	80	This table should be in the main document and not in the annexes.	The table was re-introduced to the main document
19	84	The MTR is applicable but CO decided not to implement it.	The content of the cell was corrected

20	84	Just put “ completed”	Replaced as suggested.

Author of comments: Marie Pascale François

		Comment	Answer
1	Xiv	Please be consistent, this rating differs to the one given for M&E in page 22	Table was removed
2	Xiv	Please be consistent, this rating differs to the one given for results in page 31	Table was removed
3	Xiv	It's too vague. If possible, quantify the results. For example 1 over 10 results achieved.	Table was removed
4	Xiv	This sentence needs to be reformulated or needs to be justified with evidence in support. See below comments in section effectiveness and efficiency	Table was removed
5	20	To what discussion are you referring to?	It was referring to the M&E. The phrase was rewritten to clarify the issue
6	22	A formal M&E plan is available on Atlas and was applied.	It is correct and acknowledged.
7	24	The SC approved an annual plan that will allow the project to executed most of the activities that has been projected all previous year. All activity planned was in the prodoc. It did not decide just to SPEND the money.	Agree. What I maintain is that ‘At the time of the project evaluation, the detailed results of these spending and the evaluation of their impact were not yet available.’
8	24	Please refer to the expense report for 2012 to 2016 that the project has sent you. UNDP funds are separate from the GEF Funds. The project management expenditure for the year 2016 is \$ 9,043. UNDP funds supported project management activities. I will send you the report highlighting the amounts of the various funds.	Adjusted accordingly
9	24	First of all, the reasons for these expenditures are explained in the project document, in the TORs for the training, in the notes to file for the justification of the contract, in the supporting documents for the purchase of the materials for the CER.	Removed
10	24	Second, the justifications, the procurement reports for the evaluation of the call for proposal to execute the training, the report of the Local Contracts Committee (Contract Asset Procurement committee, CAP) are available. Any contract of \$ 100,000 or more must be approved at the CAP in addition to the Procurement Assessment. All of this documentation is available for audit. You have not made a special request to have access to these reports.	Removed

