



## GEF-6 GEF SECRETARIAT REVIEW FOR FULL-SIZED/MEDIUM-SIZED PROJECTS THE GEF/LDCF/SCCF TRUST FUND

GEF ID:	9291		
Country/Region:	Central African Republic		
Project Title:	Promotion of Small Hydropower Based Mini-Grids for a Better Access to Modern Energy Services in Central African Republic		
GEF Agency:	UNDP	GEF Agency Project ID:	5680 (UNDP)
Type of Trust Fund:	GEF Trust Fund	GEF Focal Area (s):	Climate Change
GEF-6 Focal Area/ LDCF/SCCF Objective (s):		CCM-1 Program 1; CCM-1 Program 2;	
Anticipated Financing PPG:	\$85,000	Project Grant:	\$2,645,000
Co-financing:	\$16,658,000	Total Project Cost:	\$19,388,000
PIF Approval:	May 04, 2016	Council Approval/Expected:	June 09, 2016
CEO Endorsement/Approval		Expected Project Start Date:	
Program Manager:	Ming Yang	Agency Contact Person:	Saliou Toure,

PIF Review			
Review Criteria	Questions	Secretariat Comment	Agency Response
<b>Project Consistency</b>	1. Is the project aligned with the relevant GEF strategic objectives and results framework? <sup>1</sup>	<p>MY 8/20/2015</p> <p>Yes. It is aligned with Program 2 of Objective 1: To have direct contribution to innovative national energy policy development, and market initiatives.</p> <p>It is also aligned with Program 1 of Objective 1 of the GEF6 CCM</p>	

<sup>1</sup> For BD projects: has the project explicitly articulated which Aichi Target(s) the project will help achieve and are SMART indicators identified, that will be used to track the project's contribution toward achieving the Aichi Target(s)?

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Project Design		strategy: Promote low-carbon technologies and mitigation options.	
	2. Is the project consistent with the recipient country's national strategies and plans or reports and assessments under relevant conventions?	MY 8/20/2015 Yes. It is stated on page 15 of the PIF.	
	3. Does the PIF sufficiently indicate the drivers <sup>2</sup> of global environmental degradation, issues of sustainability, market transformation, scaling, and innovation?	<p>MY 8/20/2015 Not at this time.</p> <p>Please write one paragraph for each of the following topics:</p> <ol style="list-style-type: none"> <li>1. What are the main drivers of global environmental degradation? What will cause future GHG emissions' growth? How to change the country's economic growth path from intensive carbon mode to low-carbon mode.</li> <li>2. Innovation;</li> <li>3. Sustainability;</li> <li>4. Market transformational impact of the project on the country's low-carbon development path;</li> <li>5. Scaling-up of the project.</li> </ol> <p>MY 9/3/2015 Comments were addressed and issues were cleared.</p>	<p>The PIF has been revised, with additional details on the below points:</p> <ol style="list-style-type: none"> <li>1. What are the main drivers of global environmental degradation? What will cause future GHG emissions' growth? How to change the country's economic growth path from intensive carbon mode to low-carbon mode: <p>In the second national communication (SNC) of Central African Republic (CAR) to the UNFCCC (2013), the energy sector is the third emitting sector after the agriculture and forestry sectors, accounting for 2%. But trends show that under the business as usual, emissions in the energy sector will increase significantly, representing almost 25% of total GHG emission of the country by 2030. This is mainly the result</p> </li> </ol>

<sup>2</sup> Need not apply to LDCF/SCCF projects.

PIF Review			
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			<p>of (i) increased electricity generation from imported fossil fuel (the population will grow by 5% by that time); and (ii) increased usage of biomass as firewood or charcoal for cooking, leading to reduced CO2 sequestration.</p> <p>Regarding mitigation strategies to change the country's economic growth from intensive carbon mode to low carbon mode, the Second National Communication (2013) identified the development of renewable energies (hydro power electricity generation, renewable fuelwood through woodlots to reduce deforestation) as one of the mitigation measure and priority.</p> <p>2; 3 &amp; 5. Innovation, Sustainability and Scaling-up of the project:</p> <p>The PIF already described the above topics. Please refer to section: 6: Innovation, sustainability and potential for scaling up). Additional details are given, especially regarding the scaling-up of the project.</p> <p>4. Market transformational impact of the project on the</p>

## PIF Review

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			country's low carbon development path: The proposed project will enable a market transformation of the energy sector by developing a streamlined and comprehensive market-oriented energy policy and legal/regulatory framework for the promotion of SHP-based electrification. This will help the country to avoid the development of fossil fuel based electrification, especially in rural and provincial areas. Without a proper market approach, rural electrification development will likely continue through gensets (either individual or as mini-grid).
	4. Is the project designed with sound incremental reasoning?	<p>MY 8/20/2015</p> <p>Not completed at this time. Please justify that the development of small hydro power plants is the most cost-effective measure to reduce future GHG emissions.</p> <p>The project aims at generating 165,240 tonnes of CO2 directly; but consequential emission reductions have not been calculated. Please estimate consequential emission reductions as well.</p>	<p>CAR being part of the Congo basin region, small hydropower is the best source of electricity generation in the country, compare to other source of renewable energies such as Solar, Wind or Biomass. A brief comparison of the various RE technologies showed an overall advantage to hydro-based power: year-round reliable availability of water for baseload generation at reasonable cost; solar resource is not</p>

## PIF Review

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		<p>MY 9/3/2015</p> <p>Comments were addressed and issues were cleared.</p>	<p>adequate (high degree of cloudiness during extended periods of the year), wind resources are very inadequate and biomass power presents important technological challenges as well as feedstock supply management concerns.</p> <p>The PIF is revised with estimated consequential emission reductions. But it has to be emphasized that it is only an estimation, to be defined during PPG phase.</p> <p>Direct: CO2 emission reduction attributed to cumulative 2 MW from SHP</p> <p>Assumptions: (1) Hydropower system capacity factor = 60%; (2) Useful life of hydro power systems = 20 years; (3) Average emission factor from diesel generators = 0.786 ton CO2/MWh</p> <p>Calculations:</p> <p>Annual power generation from SHP systems = <math>2 \times 0.6 \times 8760 = 10,512 \text{ MWh}</math></p> <p>Annual CO2 emission reduction = <math>0.786 \times 10,512/1000 = 8,262 \text{ tons/year}</math></p> <p>Lifetime CO2 emission reduction = <math>8,262 \times 20 =</math></p>

## PIF Review

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	5. Are the components in Table B sound and sufficiently clear and appropriate to achieve project objectives and the GEBs?	<p>MY 8/20/2015 Not completed at this time.</p> <p>Please indicate the estimated number of:</p> <ol style="list-style-type: none"> <li>1. Pilot sites for mini-grids to be identified and assessed (output 3.1 on page 2);</li> <li>2. Public private partnerships (output 3.2 on page 2);</li> <li>3. Sustainable O&amp;M&amp;M models (output 3.3 on page 3); and</li> <li>4. Targeted sites (output 3.5 on page 3).</li> </ol> <p>Please also put the total length of mini-power-grids in kilometers and indicate the voltage levels of the grids (output of Component 3 on page 2). This is for future impact evaluation of the project.</p> <p>MY 9/3/2015 Not completed at this time.</p> <p>Please roughly calculate the numbers of O&amp;M&amp;M models and their length of mini-grids and their voltage levels. This calculation can be done according to the total available capital investment and the costs of similar O&amp;M&amp;M models and mini-grids in</p>	<p>165,240 tons</p> <p>Table B of the PIF has been revised, with additional details on the requested topics. It has to be emphasized that it is only an estimation, to be defined during PPG phase.</p> <p>However, regarding the number of O&amp;M&amp;M models and the length of mini-grids and their voltage levels, it seems premature at this stage to define them. These aspects can be defined only after a thorough analysis (socio-economic analysis, village configurations, type of equipments, etc.) of the targeted sites is conducted. These analysis will be conducted during PPG phase and available at CEO endorsement request stage. The CEO endorsement request will then clearly indicate the number of O&amp;M&amp;M models and the length of minigrids and their voltage levels.</p>

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		other regions of the country or other countries. The GEF needs these numbers in the PMIS system for future information. At the CEO ER stage, these numbers can be further revised.	
	6. Are socio-economic aspects, including relevant gender elements, indigenous people, and CSOs considered?	MY 8/20/2015 Yes. The are described on page 13.	
<b>Availability of Resources</b>	7. Is the proposed Grant (including the Agency fee) within the resources available from (mark all that apply):		
	• The STAR allocation?	MY 8/20/2015 Yes. As of 8/20/2015 This country has a remainder of STAR allocation of \$7.55 million.	
	• The focal area allocation?	MY 8/20/2015 Yes. As of 8/20/2015 This country has a remainder of STAR CCM allocation of \$3 million.	
	• The LDCF under the principle of equitable access	MY 8/20/2015 N/A	
	• The SCCF (Adaptation or Technology Transfer)?	MY 8/20/2015 N/A	
	• Focal area set-aside?	MY 8/20/2015 N/A	
<b>Recommendations</b>	8. Is the PIF being recommended for clearance and PPG (if additional amount beyond the norm) justified?	MY 8/20/2015 Not at this time.  Please address comments in Boxes in 3, 4 and 5.  MY 9/3/2015	

PIF Review			
Review Criteria	Questions	Secretariat Comment	Agency Response
		<p>Not at this time.</p> <p>Please address comments in Box 5.</p> <p>MY 2/17/2016 Yes. Comments were addressed and issues were cleared. The PM recommends CEO PIF clearance.</p>	
<b>Review Date</b>	Review	August 20, 2015	
	Additional Review (as necessary)	September 03, 2015	
	Additional Review (as necessary)	February 17, 2016	

CEO endorsement Review			
Review Criteria	Questions	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
<b>Project Design and Financing</b>	1. If there are any changes from that presented in the PIF, have justifications been provided?	<p>12/12/2017 MY</p> <p>Not completed at this time.</p> <p>There are some changes from that the PIF; some justifications for the changes are provided. The PM accepts the reduction of the targeted PPP from 10 to 4 in the output 3.2.</p>	



## CEO endorsement Review

Review Criteria	Questions	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
		However, in Table B on page 2, the targeted numbers for output 3.4 (2) and for output 3.5 (8) were deleted. Please put these numbers back.  12/27/2017 MY Yes, comments were addressed.	
	2. Is the project structure/ design appropriate to achieve the expected outcomes and outputs?	12/12/2017 MY Yes.	
	3. Is the financing adequate and does the project demonstrate a cost-effective approach to meet the project objective?	12/12/2017 MY Yes.	
	4. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk response measures? (e.g., measures to enhance climate resilience)	12/12/2017 MY Yes.	
	5. Is co-financing confirmed and evidence provided?	12/12/2017 MY Yes. The amount of co-financing has increased significantly from the PIF.	
	6. Are relevant tracking tools completed?	12/12/2017 MY Not at this time. The GHG reduction numbers in the TT and in the CEO ER are not consistent. Pleaser resolve this issue.  Lifetime direct GHG emissions avoided 35,000 Lifetime direct post-project GHG	

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		emissions avoided 327,250 Lifetime indirect GHG emissions avoided (bottom-up) 780,000 Lifetime indirect GHG emissions avoided (top-down) 4,550,000  12/27/2017 MY Yes, comments were addressed.	
	7. <i>Only for Non-Grant Instrument:</i> Has a reflow calendar been presented?	12/12/2017 MY N/A	
	8. Is the project coordinated with other related initiatives and national/regional plans in the country or in the region?	12/12/2017 MY Yes.	
	9. Does the project include a budgeted M&E Plan that monitors and measures results with indicators and targets?	12/12/2017 MY Yes.	
	10. Does the project have descriptions of a knowledge management plan?	12/12/2017 MY Yes.	
Agency Responses	11. Has the Agency adequately responded to comments at the PIF <sup>3</sup> stage from:		
	• GEFSEC	12/12/2017 MY N/A	
	• STAP	12/12/2017 MY Yes.	
	• GEF Council	12/12/2017 MY Not completed. Please address all comments of the GEF Council.	

<sup>3</sup> If it is a child project under a program, assess if the components of the child project align with the program criteria set for selection of child projects.

## CEO endorsement Review

Review Criteria	Questions	Secretariat Comment at CEO Endorsement	Response to Secretariat comments
		12/27/2017 MY Yes. comments were addressed.	
	<ul style="list-style-type: none"> <li>Convention Secretariat</li> </ul>	12/12/2017 MY N/A	
<b>Recommendation</b>	12. Is CEO endorsement recommended?	12/12/2017 MY Not at this time. Please address comments in Boxes: 1, 6, and 11.  MY 12/27/2017 Yes. All comments were addressed and issues were cleared. The PM recommends CEO ER clearance.	
<b>Review Date</b>	Review	December 12, 2017	
	Additional Review (as necessary)	December 27, 2017	
	Additional Review (as necessary)		