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Report No:

RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
SREP-SUPPORTED EXTENDED BIOGAS PROJECT
TF-16552
August 27, 2014
TO
ALTERNATIVE ENERGY PROMOTION CENTRE

July 13, 2016

Energy and Extractives Global Practice
South Asia Region

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ABBREVIATIONS AND ACRONYMS

AEPC	Alternative Energy Promotion Centre
DFS	Detailed Feasibility Study
FS	Feasibility Study
GA	Grant Agreement
GoN	Government of Nepal
IP	Implementation Progress
IRI	Intermediate Results Indicators
M&E	Monitoring and Evaluation
MOU	Memorandum of Understanding
NRREP	National Rural and Renewable Energy Program
PDO	Project Development Objective
PDOI	Project Development Objective Indicators
PIU	Project Implementation Unit
POM	Project Operational Manual
SREP	Scaling-up Renewable Energy Program

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NEPAL

SREP-Supported Extended Biogas Project

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DATA SHEET

Nepal

SREP-Supported Extended Biogas Project (P131592)

SOUTH ASIA

ENERGY & EXTRACTIVES

Report No: RES22872

Basic Information									
Project ID:	P131592	Lending Instrument:	Investment Project Financing						
Regional Vice President:	Annette Dixon	Original EA Category:	Partial Assessment (B)						
Country Director:	Qimiao Fan	Current EA Category:	Partial Assessment (B)						
Senior Global Practice Director:	Anna Bjerde (Ag.)	Original Approval Date:	27-Aug-2014						
Practice Manager/Manager:	Demetrios Papathanasiou (Ag.)	Current Closing Date:	31-Dec-2019						
Team Leader(s):	Tomoyuki Yamashita								
Borrower:		Ministry of Finance, Government of Nepal							
Responsible Agency:		Alternative Energy Promotion Center (AEPC)							
Restructuring Type									
Form Type:		Full Restructuring Paper		Decision Authority: Country Director					
Restructuring Level:		Level 2							
Financing (as of 21-Jun-2016)									
Key Dates									
Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date		
P131592	TF-16552	Effective	24-Nov-2014	24-Nov-2014	24-Nov-2014	31-Dec-2019	31-Dec-2019		
Disbursements (in Millions)									
Project	Ln/Cr/TF	Status	Currency	Original	Revised	Canceled	Disbursed	Undisbursed	% Disbursed
P131592	TF-16552	Effective	USD	7.90	7.90	0.00	0.30	7.60	4
Policy Waivers									
Does the project depart from the CAS/CPF in content or in other significant respects?							Yes []		No [X]
Does the project require any policy waiver(s)?							Yes []		No [X]

A. Summary of Proposed Changes

The SREP-Supported Extended Biogas Project (the Project, US\$ 7,900,000) consists of two main components aimed at promoting large off-grid biogas energy generation in Nepal. Component 1 - Technical Assistance (US\$ 1,000,000) supports the identification, pre-feasibility studies, detailed feasibility studies, and post-construction third-party verification of sub-projects. Component 2 - Financing of Investments (US\$ 6,900,000) provides for partial capital cost buy-down of biogas sub-projects through subsidy payments. The Alternative Energy Promotion Center (AEPC) is the implementing agency of the Project.

The main purpose of the proposed restructuring is to respond to the request received from the Government of Nepal (GoN) on March 14, 2016, to expand the expenses eligibility criteria to allow Project funds to be used for the following activities:

- (a) Cover key AEPC contract staff/consultants of the project implementation unit (PIU) and specific external consultants as required for the Project implementation.
- (b) Support capacity development of relevant stakeholders through specialized training, workshops, and visits abroad to gain exposure on foreign technologies.
- (c) Deploy technologies currently unavailable in Nepal in demonstration sub-projects.
- (d) Support necessary technical studies, such as waste potential mapping study in commercial and municipal settings, and outreach promotion (regional workshops).

During the project implementation review and support mission held from April 18 to May 6, 2016, AEPC informed the World Bank that the cost for the detailed feasibility study (DFS) for demonstration sub-projects, which was one of requested items, will be borne by the GoN.

By this restructuring, Component 2 - Financing of Investments will be split into two categories: (a) for commercial and municipal sub-projects and (b) for demonstration sub-projects. The original allocation of US\$ 6,900,000 for the component will be reallocated as US\$ 6,750,000 for category (a) and as US\$ 150,000 for category (b). A new component (Component 3 - Project Management Support) will be created and US\$ 500,000 reallocated to it from Component 1 - Technical Assistance. As a result, the allocation for Component 1 - Technical Assistance will be reduced to US\$ 500,000.

Disbursement Categories for the Project have been revised to accommodate changes in eligible expenditures under the revised components.

Target values for the PDO Indicators (PDOI) have been amended, one target value for Intermediate Results Indicators (IRI) has been revised, and new targets are set for two IRIs.

Change in Implementing Agency	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Project's Development Objectives	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Results Framework	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]
Change in Safeguard Policies Triggered	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change of EA category	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Other Changes to Safeguards	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Legal Covenants	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Loan Closing Date(s)	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Cancellations Proposed	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]

Change to Financing Plan	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Disbursement Arrangements	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Reallocation between Disbursement Categories	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]
Change in Disbursement Estimates	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]
Change to Components and Cost	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]
Change in Institutional Arrangements	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Financial Management	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Procurement	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Change in Implementation Schedule	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Other Change(s)	Yes [<input checked="" type="checkbox"/>]	No [<input type="checkbox"/>]
Appraisal Summary Change in Economic and Financial Analysis	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Appraisal Summary Change in Technical Analysis	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Appraisal Summary Change in Social Analysis	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Appraisal Summary Change in Environmental Analysis	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]
Appraisal Summary Change in Risk Assessment	Yes [<input type="checkbox"/>]	No [<input checked="" type="checkbox"/>]

B. Project Status

The Project was approved by the Board on August 27, 2014, and became effective on November 24, 2014. The Project is financed with US\$7.9 million grant from the Scaling-up Renewable Energy Program (SREP). The public launch of the Project was held on February 3, 2015.

The latest Implementation Status and Results Report (June 2016) rated progress toward achieving the PDO and overall implementation progress (IP) as Moderately Unsatisfactory. There are two PDOI: (1) off-grid biogas generated for thermal application from large-scale projects (>12.5 m³) and (2) off-grid biogas-based electricity generated. The number of large biogas proposals submitted for investment evaluation has reached 69 since the Project launch in February 2015. Three sub-projects are expected to be commissioned by July 2016, and eight sub-projects have completed detailed feasibility studies. However, there has been neither biogas produced for thermal application nor biogas-based electricity generated so far. Therefore, the overall rating for achievement of the PDO has been downgraded from 'Moderately Satisfactory' to 'Moderately Unsatisfactory'.

After the earthquakes of April and May 2015 in Nepal, investment in biogas was no longer a priority. As a result, AEPC received few applications for funding support, which delayed project implementation until the situation returned to normal. From September 2015 to February 2016, Nepal also experienced a fuel crisis, which made it difficult to transport necessary equipment and materials to the site. As a result, construction of biogas plants supported by the Project did not start until March 2016. Due to these unforeseeable incidents, project implementation has been significantly delayed from the original schedule. The current overall IP of the Project is downgraded from 'Moderately Satisfactory' to 'Moderately Unsatisfactory'.

C. Proposed Changes
Development Objectives/Results
Project Development Objectives
Original PDO The project development objective (PDO) is to promote large off-grid biogas energy generation in Nepal.
Change in Project's Development Objectives The proposed restructuring will not lead to any modification of the PDO.
Change in Results Framework
<p>Explanation:</p> <p>The target values for the PDOI were incorrectly set. The target value for the PDOI 1 (off-grid biogas generated for thermal application) was set at 53,000 m³. However, this value reflects total installed capacity by year five rather than total biogas generated for thermal application in year five. The target value for the PDOI 2 (off-grid biogas electricity generated) of 30 GWh was overestimated.</p> <p>The target value for the IRI 1 for Component 1 is revised downward to reflect the latest cost calculations. The target values of the IRIs for Component 2 - Financing of Investments were not set in the original results framework of the Project, so these target values are newly set in revised results framework.</p> <p>During the project implementation review and support mission held from April 18 to May 6, 2016, AEPC and the World Bank agreed on the target values as follows:</p> <ul style="list-style-type: none"> • PDOI 1 - Off-grid biogas generated for thermal application: 1,445,000 m³ [revised target] • PDOI 2 - Off-grid biogas electricity generated: 5.73 GWh [revised target] • IRI 1 for Component 1 - No. of large biogas proposals submitted for investment evaluation: 350 [revised target] • IRI 2 for Component 1 - No. of companies trained to evaluate and appraise large biogas sub-projects: 8 [no change] • IRI 3 for Component 2 - No. of commercial biogas plants installed by the Project: 340 [new target set] • IRI 4 for Component 2 - No. of municipal biogas plants installed by the Project: 10 [new target set]
Financing
Reallocations
<p>Explanation:</p> <p>By this restructuring, the Project will consist of the following three components:</p> <ul style="list-style-type: none"> • Component 1 or Part 1: Technical Assistance (US\$500,000) • Component 2 or Part 2: Financing of Investments (US\$6,900,000) • Component 3 or Part 3: Project Management Support (US\$500,000) <p>Proposed Change</p>

Part 1 (b): Detailed Feasibility Studies for Short-listed Biogas Sub-projects

The proposed restructuring will ensure provision of sufficient budget for DFS for short-listed biogas sub-projects, based on the re-estimation according to the latest average DFS cost for biogas plants of different scales and types. Since DFS for short-listed biogas sub-projects requires US\$280,000, the allocation under '*Part 1(b): Detailed Feasibility Studies*' will be increased from US\$150,000 to US\$280,000 by reallocating US\$130,000 from previous Part 1(a).

Proposed Part 3: Project Management Support

A newly created '*Part 3: Project Management Support*' will cover the cost of the AEPC contract staff of the PIU and specific external consultants as required for project implementation. Capacity development, training, and exposure visits are currently not well specified in sub-components covered by Part 1 of the Project. Therefore, they are combined into the newly created Part 3. This component needs a total of US\$500,000, consisting of US\$400,000 for contract staff and consultants and US\$100,000 for capacity development, training, and exposure visits, financed by reallocating proceeds from Part 1 of the Project. All the management costs were already intended to be covered as included in the negotiated Procurement Plan and subsequently revised Procurement Plan, for Biogas Technical Adviser (Senior Biogas Program Consultant), Financial Management Consultant, Procurement Consultant, Environment and Social Safeguard Consultant, Business Development Consultant for Commercial Sub-projects, Biogas Program Consultant, Business Development Consultant for Municipal Sub-projects, Biogas Project Monitoring and Evaluation (M&E) Consultant, Independent Technical Expert, and Independent Commercial Expert.

Changes in Disbursement Categories with respect to Part 1 and 3

The allocation under Disbursement Category, 'Consultants' services under Part 1(b)(i) of the Project,' will be increased to US\$280,000.

To allocate the grant to '*Part 1(a): Identification and Pre-Feasibility Studies,*' '*Part 1(c): Post Construction Third Party Verification,*' and '*Part 1(d): Technical Studies,*' and Part 3 of the Project, a new Disbursement Category, 'Non-consulting services, consultants' services, and training except for Part 1(b)', will be added. The grant allocation to this category will be US\$620,000.

An existing Disbursement Category, 'Non-consulting services, consultants' services, and training under Parts 1(a) (i), (1)(c), and 2 of the Project,' will be canceled.

Part 2: Financing of Investments

Proposed Part 2 will include:

Part 2(a): Subsidy Payments for the partial financing of Selected Biogas Sub-projects

Part 2(b): Subsidy Payment for the partial financing of Selected Demonstration Sub-projects

Propose Part 2(b) will have an allocation of US\$150,000. This funding will be reallocated from previous Part 2(a), which will have the new allocation of US\$6,750,000.

Demonstration Sub-Projects

For the demonstration sub-projects under Part 2(b), the Grant is expected to fund the financing gap, which the potential subsidy recipient may face. Subsidy recipient for demonstration sub-projects will be government entities, who will be expected to finance part of the sub-project costs. The exact financing percentage is not yet known and the amount of the World Bank's financing support will be determined in the Memorandum of Understanding (MOU) that will be executed between AEPC and the Government entity receiving the subsidy. The MOU will outline roles and responsibilities of each party. MOU will encourage AEPC to take responsibility for technical review, quality assurance of DFS, and construction supervision as

and when needed, among others. The subsidy recipients will be encouraged to take responsibility for land acquisition, carrying out DFS through a consultant, day-to-day supervision during construction, providing access to other developers to the demonstration sub-project during the operation period, and so on.

The Grant will finance the reimbursable amount of the subsidy provided by AEPC to partially finance the costs of construction, installation, and commissioning of the demonstration sub-project, among others. Disbursement for subsidy reimbursements under demonstration sub-projects will not be made until the Project Operational Manual (POM) describing the process and procedures as well as adequate internal controls required for the demonstration sub-projects has been updated and the AEPC and the Government entity have signed an MOU acceptable to the World Bank.

As in the case of subsidy payments for biogas sub-projects under Part 2(a), the amount pre-financed from AEPC can be withdrawn only after successful commissioning of the demonstration sub-project. A tripartite agreement will be also executed between AEPC, the subsidy recipient, and the sub-project contractor for demonstration sub-projects, to make the direct payment from the AEPC to the contractor possible (on behalf of the subsidy recipient).

Changes in Disbursement Category with respect to Part 2

A new Disbursement Category, 'Reimbursable Amount of the Subsidy Payments under Part 2(a) of the Project,' will have allocation of US\$6,750,000.

A new Disbursement Category, 'Reimbursable Amount of the Subsidy Payments under Part 2(b) of the Project,' will have allocation of US\$150,000.

The procedures described in the original Grant Agreement (GA) for subsidy payments for the biogas sub-projects are not applicable for the demonstration sub-projects. Hence, a new category is proposed to be added as 'Reimbursable Amount of Subsidy Payments under Part 2(b) of the Project'.

Ln/Cr/TF	Currency	Current Category of Expenditure	Allocation		Disbursement % (Type Total)	
			Current	Proposed	Current	Proposed
TF-16552	US\$	Non-consulting services, consultants' services, training under Parts 1(a)(i), 1(c), and 2	750,000.00	0.00	100.00	100.00
		Non-consulting services, consultants' services, training except for Part 1(b)	0.00	620,000.00	0.00	100.00
		Consultants' services under Part 1(b)(i)	150,000.00	280,000.00	50.00	50.00
		Incremental Operating Costs	100,000.00	100,000.00	100.00	100.00
		Reimbursable Amount of Subsidy Payments under Part 2(a)	6,900,000.00	6,750,000.00	100.00	100.00
		Reimbursable Amount of Subsidy Payments under Part 2(b)	0.00	150,000.00	0.00	100.00
Total:			7,900,000.00	7,900,000.00		

Disbursement Estimates		
Change in Disbursement Estimates		
<p>Explanation:</p> <p>The public launch of the Project was held in February 2015. Due to the earthquakes, reviews of the feasibility study (FS) and the DFS for the sub-projects submitted by the commercial developers were suspended for more than three months until the AEPC returned to normal operation. Implementation was further delayed during the fuel crisis from September 2015 to February 2016. Therefore, biogas plant construction did not start until March 2016.</p> <p>Due to these unforeseeable incidents, the Project implementation has been significantly delayed from the original schedule. Thus, the disbursement in FY15 was much less than the disbursement schedule and will still be low in FY16. It is expected the disbursement will accelerate after FY17 (especially after the construction of the demonstration sub-projects and the promotional workshops scheduled in FY17).</p>		
Fiscal Year	Current (US\$)	Proposed (US\$)
2015	1,000,000.00	0.00
2016	1,000,000.00	300,000.00
2017	2,000,000.00	1,900,000.00
2018	2,000,000.00	2,700,000.00
2019	1,900,000.00	3,000,000.00
Total	7,900,000.00	7,900,000.00
Components		
Change to Components and Cost		
<p>Explanation:</p> <p>1. Technical Assistance</p> <p>There are three sub-components under existing Part 1 of the Project: (a) Identification and Pre-Feasibility Studies, (b) Detailed Feasibility Studies, and (c) Post Construction Third Party Verification. However, none of them cover costs for the necessary technical studies, such as waste potential mapping study in commercial and municipal sub-project locations, and outreach and promotional activities (regional workshops). Therefore, '<i>Part 1(d): Technical Studies and Support</i>' is being proposed to fund these costs.</p> <p>2. Financing of Investments</p> <p>The adoption of large-scale biogas plants using foreign technology has not occurred despite several initiatives, including a Waste to Energy Bazaar held in Nepal in April 2013, a Biogas Technology Experience Sharing Event held in Nepal in June 2014, and a study visit to India in January 2015. Despite these interactions with foreign technology vendors, local biogas companies and potential sub-project developers remain skeptical about applicability of foreign biogas solutions. Their major concern is whether the additional cost associated with these technologies would be justified by increased biogas output. In the consultation meetings with pre-qualified local consulting and construction companies and potential developers during the project implementation review and support mission in August 2015, the project team received feedback on the importance of having demonstration projects that serve as models for promoting the foreign technologies.</p> <p>To enhance confidence in the foreign biogas technologies among local developers and potential owners, the</p>		

AEPC and World Bank teams agreed to support installation of two demonstration sub-projects with partial financing from the Project. The AEPC and World Bank teams will mobilize resources from the Government to minimize the subsidy required from the Project for these demonstration sub-projects. The demonstration sub-projects can also provide data for academic research, and they can be used as a domestic training center for appropriate operation and maintenance practices. The demonstration sub-projects will complement other outreach programs, such as business match-making events and study tours, to promote adoption of new technologies. Therefore, financing support for two demonstration sub-projects will be provided under Part 2 (b) of the restructured Project.

AEPC will select two sites for the demonstration sub-project according to the following criteria:

- (a) Ownership of the demonstration sub-project: Government entity
- (b) Locations: Easy to access, near other potential sub-project owners, spread over the country (or having enough distance between sub-projects)
- (c) Scale of potential biogas plant: Large enough to necessitate introduction of foreign technologies (above 100 m³)
- (d) Applicable foreign technologies: Select different type of technologies to demonstration sub-projects (other than home-grown GGC model, internationally proven)
- (e) Waste source: Suitable for selecting different waste sources for demonstration sub-projects
- (f) Biogas application: Suitable for different biogas applications, such as thermal, electricity, and combination
- (g) Safeguard category: Category B

3. Project Management Support

A new component, Project Management Support, is added for clarity and it consists of capacity building and support to AEPC on all aspects of project management and implementation, including M&E.

The National Rural and Renewable Energy Program (NRREP) has been covering the costs of the AEPC contract staff in the PIU through short-term contracts that are renewable every three months, but because of resource constraints, the NRREP was unable to fund the contract staff. A shortage of contract staff positions at the PIU resulted in (a) delays in review sub-project proposals and related documents, (b) inability to carry out extensive promotion activities targeting private enterprises and municipalities, and (c) inability to establish a robust M&E system for the Project.

The Senior Biogas Program Officer is overloaded, with responsibility not only for review of sub-project proposals and related documents but also for technical advice to pre-qualified consultants and contractors, coordination work with stakeholders, and both technical and managerial monitoring of project progress. Thus, a new position (Biogas Program Officer) is proposed to be created in the PIU to support the Senior Biogas Program Officer on tasks such as reviewing FS and DFS for commercial projects.

Commercial sub-projects and municipal sub-projects entail different technologies and stakeholders. Given the different counterparts involved and the accordingly diverse outreach approach necessary, it is difficult for one officer to handle the business development responsibility for both commercial and municipal sub-projects. Therefore, in addition to the Business Development Officer for Commercial Sub-projects, a new position (Business Development Officer for Municipal Sub-projects) is proposed to be created in the PIU.

The M&E unit has not been fully established in AEPC, and there are no biogas experts for M&E in AEPC. To prepare the M&E guidelines and information system for the Project and to facilitate the commissioning

process for sub-projects, a new position (Biogas Project M&E Officer) is proposed to be created in the PIU.

Total contract staff costs, including for the new contract staff position at the PIU, will be US\$400,000 and costs for capacity development, training, and exposure visits will be US\$100,000. Therefore, US\$500,000 will be allocated to the Project Management Support component. To keep the total project cost unchanged, resource from the previous Technical Assistance component was reallocated to the Project Management Support component.

Current Component Name	Proposed Component Name	Current Cost (US\$, millions)	Proposed Cost (US\$, millions)	Action
Technical Assistance		1.00	0.50	Revised
Financing of Investments		6.90	6.90	No Change
	Project Management Support		0.50	New
	Total:	7.90	7.90	

Other Change(s)

Other Change(s)

Explanation:

Training and Workshops

Whereas one of the Projects goals is to introduce and disseminate new and improved foreign biogas technologies in Nepal, the GA limits training activities, exposure visits, and workshops to inside the recipient's territory in Definition 28 in the Appendix of the GA. Therefore, to enable the costs for foreign technology exposure visits and workshops to be covered by the Project, according to the request letter from the GoN, Definition 28 in the GA will be amended by deleting the words 'carried out inside the Recipient's territory'.

Environmental and Social Impacts

The proposed restructuring and the additional activities and changes to project components do not require an update of the safeguards documents, which remain adequate.