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Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 30-May-2017 | Report No: ISDSA22071



BASIC INFORMATION

A. Basic Project Data

Country Nepal	Project ID P149239	Project Name Nepal: Business Models for Private Sector-Led Mini-Grid Energy Access Project	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 16-Oct-2017	Estimated Board Date 15-Mar-2018	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Alternative Energy Promotion Centre (AEPC)	

Proposed Development Objective(s)

The Project Development Objective (PDO) is to increase electricity delivery from renewable energy mini-grids in selected areas by mobilizing private energy service companies.

Components

- Component 1: Support to Renewable Energy Mini-grid Subprojects
- Component 2: Support to Renewable Energy Mini-grid Interconnections
- Component 3: Project Management

Financing (in USD Million)

Financing Source	Amount
Strategic Climate Fund Credit	2.00
Strategic Climate Fund Grant	6.00
Total Project Cost	8.00

Environmental Assessment Category

F - Financial Intermediary Assessment

Have the Safeguards oversight and clearance functions been transferred to the Practice Manager? (Will not be disclosed)

Yes

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Decision

Track II-The review did authorize the preparation to continue

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Other Decision (as needed)

N.A.

B. Introduction and Context

Country Context

1. Nepal, a landlocked country with a per capita income of US\$730 per year, where 25 percent of the population survives on less than US\$1.25 per day, is facing an energy crisis of unprecedented proportions. Despite having rich hydropower resources of up to 82,000 MW, the current total installed capacity is 855 MW, including generation from the Nepal Electricity Authority (NEA) and independent power producers. Existing generation, even after being supplemented by purchases from India, is insufficient to meet the demand. Forced load shedding, with attendant economic consequences, has been inevitable. Although load shedding has recently ended in the capital, Kathmandu, and the tourism hub of Pokhara, it still plagues the rest of the country despite the import of 330 MW from India. The country has made substantial progress on some development indicators, such as achieving a sharp reduction in infant and maternal mortality and reaching gender parity in education. According to the national census published in 2013, electricity access has been extended to 75 percent of the population. However, Nepal continues to suffer from the adverse impacts of inadequate and unreliable electricity supply, which remains a key obstacle for lifting more people out of poverty.

2. Notwithstanding the reported national access rate of 75 percent, actual consumption of electricity remains very low because of severe limitations in the supply of electricity, which has not kept up with the sharp rise in demand of recent years. Annual electricity consumption is about 132 kWh per capita even for urban Nepal, where access rates are relatively higher, compared to per capita consumption levels of 1,010 kWh for India, 2,600 kWh for China, and 13,246 kWh for the United States. Around 50 percent of the population of 27.5 million has access to grid electricity, while the remaining 25 percent is served by off-grid solutions. While off-grid solutions provide relatively reliable, albeit limited, electricity supply in the rural areas, access to the grid does not necessarily imply reliable access to electricity due to load shedding of up to 14 hours per day in the dry season between December and March.

3. Off-grid communities are served by 1,152 community-owned micro hydropower plants (MHPs) with total installed capacity of 22.8 MW and 600,000 solar home systems (SHSs) with total capacity of about 40 MW, that have been installed by individual households for lighting purposes. The importance of decentralized energy systems must not be underestimated when 25 percent of the population is reliant on off-grid electricity, and where grid extension remains unlikely in the near future due to the difficult and remote terrain. Therefore, Nepal's energy sector priority is not only to maximize its on-grid energy production and delivery, but also at the same time to modernize its off-grid energy sector on which a large part of the population will depend for the medium term. Part of the effort to modernize the off-grid energy sector would have to include the recognition of off-grid electricity delivery as a service rather than a product.

Sectoral and Institutional Context

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4. The Government of Nepal (GoN) is implementing the National Rural and Renewable Energy Programme (NRREP) over five years, starting from July 16, 2012, with a total budget of US\$170 million, jointly financed by the GoN and bilateral and multilateral development partners. The Government has requested the World Bank's support for knowledge transfer, international experience sharing, and development of customized solutions for Nepal to pilot new approaches to address deficiencies in the current program design for off-grid electrification. If this intervention proves to be successful, it could help the Alternative Energy Promotion Centre (AEPCC) potentially transform the way in which it uses its larger pool of bilateral funding for mini-grid electrification and thereby achieve much greater development impact from higher consumption and productive end use of electricity.

5. The structure of the GoN's renewable energy subsidy program and incentives offered for off-grid electrification may be inadvertently contributing to the low consumption levels of electricity in off-grid areas. The AEPCC, which was established in 1996, is the implementing agency of what is now the Ministry of Population and Environment (MoPE) for rural and renewable energy solutions. The AEPCC has been implementing a subsidy-driven model that has subsidized renewable energy based rural electrification on the basis of 'installed generation capacity' and 'number of households connected'. There have been only limited efforts to support operation and maintenance (O&M) of installed facilities and to incentivize demand growth. This traditional public sector-supported top-down model of off-grid electricity delivery stops with the deployment of generation technology (SHS and MHP), and end users are fully responsible for all aspects of operation, maintenance, repair, and load management. The delivery of generation capacity has been seen as an end in itself; subsidies are paid out to private installers by the AEPCC when the asset is commissioned. A small amount is withheld to ensure after-sales service from installers during the warranty period, after which it is disbursed. There has been no incentive to promote electricity as a 'service' that will enable higher consumption, greater productivity, and improved quality of life. Availability of electricity is important to allow for productive uses, and daytime supply is especially important to support income generation activities for off-grid businesses and community members.

6. Due to the community ownership model, the development impact of off-grid solutions has remained rather low and is mostly confined to basic lighting and mobile phone charging. Customers of Nepal's main grid operator, the NEA, enjoys access to the grid and benefit not only from subsidized tariffs but also from the national electric utility taking responsibility for the entire electricity value chain, including retail supply, customer management, and operations and maintenance. In contrast, for off-grid communities, ownership of the generation assets has been transferred to households (in the case of SHS) or to communities (in the case of MHPs). Operation, maintenance, repair, and revenue collection (for example, in community-owned MHPs) are the responsibility of beneficiaries/owners. End users of MHPs (community members) have been trained in basic operation of the asset, but they lack the capacity to perform detailed maintenance or solve technical and mechanical problems. Therefore, all risks associated with equipment breakdown, battery replacement, procurement of spare parts for repair, and costs for undertaking those repairs are borne by the users who do not have sufficient expertise/capacity to do so. As a result, this approach incentivizes limited use of the renewable energy generation assets since end users perceive that higher usage will result in additional maintenance costs and shorter life span of the assets.

7. The Renewable Energy Subsidy Policy of 2016 recognizes the need for public-private partnership in off-grid electrification and that the lack of mobilization of credit and high dependence on subsidy is hampering the deployment of renewable energy. The policy proposes the gradual replacement of subsidy with credit. The Renewable Energy Subsidy Policy of 2013 did not allow private developers or Energy Service Companies (ESCOs) to receive subsidies for mini-grid investments. However, the new Renewable Energy Subsidy Policy approved in May 2016 allows privately owned ESCOs to receive subsidies at about 50 percent capital cost for hydropower mini-grids and at about 70 percent for solar mini-grids. This is expected to facilitate the entry of ESCOs into the mini-grid energy services market. To access subsidies, the Renewable Energy Subsidy Policy of 2016 requires mini-grid projects to either mobilize 20 percent credit from commercial



banks and financial institutions or reach financial closure within six months of approval by the AEPC. This requirement could impede ESCO participation as historically financial institutions have been reluctant to lend to mini-grid projects on project finance basis. Since the revision of the Subsidy Policy in May 2016, no mini-grid has been developed by private ESCOs.

8. The NEA grid extension to rural areas served by mini-grids is another challenge for ESCOs. Private developers are unlikely to invest in a mini-grid without some certainty on what their business options will be when the NEA grid is extended to their service areas. In Nepal, it is estimated that about 30 percent of existing mini-grid projects in rural areas may face grid encroachment and seek connection to the NEA grid in the near and midterm. To address this challenge, the NEA has recently agreed to enter into a Power Purchase Agreement (PPA) with mini-grids that are connected to its central grid. However, there has been no interconnection made between the grid and a mini-grid in Nepal, although there is abundant experience internationally. The AEPC is designing two pilots of grid interconnection, expecting their commissioning in 2017. Effective intervention harnesses a large number of existing mini-grids that would have otherwise been stranded if the NEA distribution line reaches their service areas.

C. Proposed Development Objective(s)

Note to Task Teams: The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

Development Objective(s) (From PAD)

16. The Project Development Objective (PDO) is to increase electricity delivery from renewable energy mini-grids in selected areas by mobilizing private energy service companies.

Key Results

19. The achievement of the PDO will be measured using the following indicators and targets:

- (a) Generation capacity of energy constructed or rehabilitated: 2.10 MW
- (b) People provided with new or improved electricity service: 8,400
- (c) Annual electricity output from renewable energy: 9.19 GWh

D. Project Description

18. The proposed project consists of three components: (a) Support to Renewable Energy Mini-grid Subprojects, (b) Support to Renewable Energy Mini-grid Interconnections, and (c) Project Management. The total cost for the proposed project is US\$8.0 million: US\$6.0 million as grant and US\$2.0 million as guarantee.

Component 1: Support to Renewable Energy Mini-grid Subprojects (US\$4.7 million Grant)

18. This component will support the establishment of about seven renewable energy mini-grids based on the A-B-C business model, which will provide modern energy services to A-B-C customers in rural areas. Two subcomponents will provide support to the investment financing and TA necessary to open up the ESCO market.



Subcomponent 1A: Financial Support for the A-B-C Business Model Mini-grid (US\$4.2 million Grant)

19. This subcomponent will provide loans (called 'SREP loan' hereafter) to ESCOs to enhance financial viability of the subprojects and facilitate financial closure. The SREP loan will be provided at a marginally commercial interest rate for subprojects whose proposals (based on Detail Design [DD] results) are reviewed and recommended by the Independent Evaluation Panel (IEP), consisting of international and national technical and financial experts, and approved by the Technical Review Committee (TRC) formulated by the AEPC. Loans will be disbursed and recovered by partner commercial bank(s), which will serve as agents, utilizing their existing loan provisioning and debt recovery procedures, but the credit risk will be borne entirely by AEPC. One or more commercial banks will be selected to serve as the agent for the SREP loans after thorough review for compliance with World Bank requirements; CREF partner banks may meet these criteria and thus be eligible to participate. Disbursement of the SREP loan will be in tranches tied to explicit milestones in project preparation and implementation.

20. With the proposed US\$4.2 million in SREP loan, about seven mini-grids of capacity from 100 kW to 1,000 kW will be supported. To attract subproject developers, the SREP loan conditions should compare favorably to the benefits that the developer could get by opting for the full amount of the government subsidy or by accessing the CREF loans from other donors instead. The SREP loan terms, with a marginally commercial interest rate and longer repayment period, will be set to attract ESCOs and to help them in making their business sustainable.

Subcomponent 1B: TA to the A-B-C Business Model (US\$0.5 million Grant)

21. The project will support the identification, financing, implementation, and performance assessment of subprojects utilizing the A-B-C business model or other innovative business models in rural areas. ESCOs will receive training and advisory support. ESCOs that are interested in entering the access to energy business will be assisted with market research and information on suitable technologies that are currently being used successfully in developing country environments, so that they can decide which types of technology partners to approach on their own for a business engagement.

22. The project will also provide technical support to ESCOs to help them address the challenges in accessing funding sources. Technical support will help build the confidence of anchor customers, which may be skeptical of the ESCO's ability to provide continuous and reliable power, as stipulated in the PPA, and partner banks, which may be unsure about the ESCO's ability to pay back its debt on time.

23. This subcomponent will support TA activities, such as:

(a) Partial cost support for DDs executed by ESCOs (except for two pilot subprojects for which DDs will be prepared using the project preparation financing support from the ESMAP Global Mini-Grid Facility during the project preparation period);

(b) Creation of an enabling environment, such as the preparation of technical specifications for mini-grids and prepaid metering system;

(c) Promotional activities and capacity building among stakeholders. This includes promotional activities/workshops to connect developers, financiers, anchor customers, end users, and so on. This component will also support capacity development activities aimed at filling specific knowledge gaps among relevant stakeholders (for example, training on business plan development for ESCOs and assessment of business proposals for commercial banks). Activities for capacity



building will be aligned with the World Bank-supported Nepal Renewable Energy Training Program, whose target audience, technologies, and content are especially relevant to the proposed project; and

(d) Rural community consultations (inviting both men and women from business and community customers); focus group discussions; periodic socioeconomic survey (for example, a baseline survey and yearly surveys after the subprojects' commissioning); and analysis to monitor the impacts of electrification, including on citizen engagement and gender, by collecting data from the same interviewees. These citizen engagement activities will support the creation of an enabling environment for subprojects and inform awareness raising activities.

Component 2: Support to Renewable Energy Mini-grid Interconnections (US\$0.8 million Grant and US\$2.0 million Guarantee)

24. This component will allow the AEPC, the NEA, mini-grid owners, and potential private sector operators (or DSCOs) to test different technical arrangements and business models for future interconnections of existing renewable energy based mini-grids to the main grid in rural areas, and it will catalyze debt financing of mini-grid interconnection by commercial banks (The necessity for interconnection between existing renewable energy based mini-grids and a DSCO's business model is explained in Annex 6). This component will have three subcomponents.

Subcomponent 2A: Pilot for Different Interconnection Options (US\$0.4 million Grant)

25. Grand funding to cover the full cost of grid connection for four existing mini-grids in rural areas will be provided by the project. The mini-grid subprojects will be chosen to test alternative physical and business arrangements. This subcomponent will provide funding support for the physical equipment and software needed for interconnection of pilot subprojects for both micro-hydro and solar mini-grids, whether community or privately owned.

Subcomponent 2B: TA to Support Different Interconnection Options (US\$0.4 million Grant)

26. Under this subcomponent, regulatory, technical, and financial studies will be funded to prepare regulation and technical standards to support future grid connection of mini-grids in rural areas. In addition, consultations with stakeholders (commercial banks, rural communities, mini-grid owners, potential private sector operators, NEA, and the GoN) will be held to create an enabling environment. The engineering support from the TA will focus on the technical requirements for achieving an operationally reliable physical interconnection that will allow the mini-grid to operate either in parallel with the main grid or as a stand-alone small electrical system during times of load-shedding on the main grid. The business advisory from the TA will explore options to bring in private operators who can assist existing community-owned MHPs in achieving efficient, reliable, and coordinated operations, and in securing stable electricity sales income from NEA based on PPA, once the interconnection takes place.

Subcomponent 2C: Partial Risk Sharing for Renewable Energy Mini-Grid Interconnections (US\$2.0 million Guarantee)

27. Building on the pilot mini-grid interconnections under Subcomponent 2A and the technical assistance provided under Subcomponent 2B, this subcomponent will support the scale-up and commercialization of interconnection. A risk-sharing mechanism will be established, backed by US\$2 million of SREP guarantee, to promote local commercial banks to provide loans to mini-grid owners or DSCOs, which are willing to take over existing mini-grids for grid interconnection, to cover additional investment cost required for interconnection. To encourage lending for interconnection purposes, a risk-sharing mechanism will be put in place to partially cover credit risk of commercial loans extended by partner banks to mini-grid owners or DSCOs. The selection criteria for banks to participate in the risk sharing mechanism will be consistent



with those that will be defined under component 1; it is thus anticipated that the same banks would be eligible for either facility.

28. Investments required for the interconnection, in addition to investments for the establishment of mini-grid, are suitable for commercial lending, because the revenue income from interconnected mini-grids will be provided by the NEA based on PPAs. Through market sounding with some local commercial banks, interest in lending to interconnection investments will be strong, provided there is technical support for appraising interconnection projects and risk mitigation to enter into the business area, which has never been explored in Nepal. Capacity building and training will be provided, under Subcomponent 2B, to local commercial banks as well as mini-grid owners and potential DSCOs to improve their capacity of designing and appraising interconnection investments. Every interconnection project will need to be submitted to the AEPC and the NEA for their technical review and approval of the PPA to ensure its technical soundness before seeking financing.

29. Given the relatively small size of this component and the challenges of creating a new market, since there has been no interconnection of mini-grids in Nepal, the design of the mechanism and the implementation arrangement may need to be prepared to minimize structuring and transaction cost, while achieving the intended purpose of market creation. Activities supported under Subcomponent 2A and Subcomponent 2B, such as the pilot projects, trainings, and market sounding exercise, will inform the guarantee structuring aspects that are voluntarily left open at this stage to best benefit from market feedback.

30. The risk-sharing mechanism will be developed building on the existing market structure to accelerate project implementation. The Deposit and Credit Guarantee Fund (DCGF), which has been providing deposit guarantee and loan guarantee schemes in the market since 2010, is considered as a potential implementing entity of the risk-sharing mechanism. While exploring the opportunity to engage with the DCGF and take advantage of its existing guarantee structure, local commercial banks are not excluded for consideration as an implementing entity. A decision will be made in discussion with the AEPC as and after performance and capacity assessment of DCGF and other potential entity.

31. In line with other existing guarantee schemes in Nepal, the implementing entity will offer partial credit risk coverage to selected partner banks. Given the relatively small size of the program, appraisal and discussions with the partner banks and the selected implementing entity will allow to determine most appropriate pricing. At minimum the guarantee fee charged to the partner banks will include the guarantee cost to the SREP and the administrative cost of the implementing entity. The appropriate percent amount to be covered will be determined through four pilot projects and market sounding with the commercial banks, ESCOs, and the guarantee agency. The guarantee payouts under the risk-sharing mechanism will be reimbursed by the SREP guarantee. To minimize transaction cost of this small risk-sharing mechanism, it will be explored to offer coverage on a loan portfolio-basis rather than on selected individual loans. It will be also sought to reimburse the implementing entity on a regular basis (for example, biannual). Detailed design of the risk-sharing mechanism, including the selection of an implementing entity and partner banks, effective and efficient risk-sharing mechanism, and proper risk mitigation measures, will be further developed during project preparation.

Component 3: Project Management (US\$0.5 million Grant)

32. This component will support the AEPC to institute and sustainably maintain the Project Implementation Unit (PIU). In particular, it will help in hiring key AEPC contract staff/consultants for the PIU (to ensure there is adequate capacity to implement AEPC's financial intermediation role in the project) and establish an IEP. The IEP will consist of international and national technical and financial experts to evaluate subproject proposals submitted by ESCOs. Only subprojects evaluated and recommended by the IEP and approved by AEPC (TRC) are eligible to receive the SREP loan. This component



will also support the preparation of the Project Operational Manual (POM), including a monitoring and evaluation framework, and other key documents such as a standardized PPA to facilitate long-term engagement between ESCOs and anchor customers, standardized expressions of interest from potential ESCOs to participate in the subprojects, a standardized DD format to demonstrate viability of proposed subprojects, standard bidding documents for potential ESCOs to select contractors, and so on. In addition, procurement of goods for the AEPC/CREF, such as equipment and software necessary for the project design, implementation, supervision, monitoring, and evaluation, will be supported by this component.

E. Implementation

Institutional and Implementation Arrangements

38. The AEPC will be the project implementing agency and host the PIU. For Component 1, the AEPC PIU will be responsible to select ESCOs and subprojects according to the criteria (details are provided in Annex 1). After the AEPC shares market intelligence regarding demographic patterns, electrification rates, locations of anchor and business customers, and other salient facts, potential ESCOs will be invited to submit expressions of interest to establish mini-grids in about five locations. On a competitive basis, following the methods agreed in the PPSD and POM, promising candidates will be selected by the TRC in assistance with the IEP to carry out DD and prepare business plans for funding consideration (it is possible that some subprojects among about five candidates will be dropped at this stage) These DDs will be partially (50 percent) funded from Subcomponent 1B. Upon completion and submission of DDs and final business plans, another round of evaluation by the IEP and the TRC will determine the subprojects eligible for the SREP loan.

39. To provide loans with attractive conditions to ESCOs, the SREP grant will be used as a seed fund for the loan with a marginally commercial interest rate. The CREF, within the AEPC, will function as a wholesale institution for the SREP loan. Assessment of the AEPC, including the CREF, against criteria put forward in the World Bank OP 10.00 (Investment Project financing) has been initiated to ensure that the AEPC/CREF can implement the project. In order to qualify as an intermediary for the credit line, an institutional development plan may be proposed for areas in which AEPC has limited capacity. The preliminary OP 10.00 assessment is summarized in Annex 5. The OP10 assessment of AEPC/CREF will be finalized during project preparation.

40. Under Subcomponent 1A, the SREP loan will be provided to ESCOs through partner banks (the selection criteria are provided in Annex 1). It is anticipated that CREF's current partner banks will be also eligible as partner banks under this project. The role of these partner banks is envisaged to be that of a transactional agent utilizing long-term source of funds made available from the CREF to subprojects identified by the AEPC. Therefore, the credit risk is on the AEPC/CREF. The CREF fund (or fund for the SREP loan) will remain as deposit in the books of banks until the loans are repaid. The partner banks, however, will not be permitted to set off the defaulted loans against such deposits unless all recovery actions are exhausted. The project does not involve any foreign exchange risk because (i) projects funds are a SREP grant to GoN and do not involve any repayments; (ii) GoN then provide funds to AEPC in local currency; and (iii) lending to ESCOs will be in local currency.

41. The prequalification of partner banks and the draft Project Operation Manual for the overall project (including the financing mechanism of the SREP loan) will be ready before the project negotiations. Filling required positions in CREF/AEPC, including for credit appraisal and accounting, and drafting the loan agreement for the pilot mini-grid subprojects will be prerequisites for project effectiveness.



42. For Component 2, the AEPC will execute regulatory, technical, and financial studies to prepare regulation and technical standards. Then, to identify appropriate financing instruments to support grid connection of existing mini-grids (Subcomponent 2B), the AEPC will select four pilot interconnection subprojects, and then implement them (Subcomponent 2A) using the SREP grant fund. Through these activities, the AEPC will experiment with alternative business approaches for interconnection of mini-grids to the main grid in rural areas and select an optimal one for the standardized interconnection business model.

43. To facilitate the interconnection of the existing mini-grid using the selected standardized interconnection business model, a risk-sharing mechanism backed by the SREP guarantee will be established and operated by an implementing entity, either the DCGF or one of the local commercial banks, which is appointed by the AEPC in agreement with the World Bank (Subcomponent 2C). The mechanism will build on the existing guarantee structure in the financial sector of Nepal. The implementing entity will offer partial credit risk guarantee to underlying loans extended to the mini-grid owning rural communities or DSCOs for interconnection investments. These loans will be provided by selected local commercial banks according to their own due diligence on the submitted interconnection loan applications. If any loan default occurs, the lending bank and the implementing entity will seek all remedies available under the existing debt recovery mechanism before confirming the net losses and make a guarantee payout.

44. Mini-grid owners or DSCOs, which are taking over an existing mini-grid for interconnection business, must submit investment proposals to the AEPC before seeking financing. Then, the AEPC will coordinate and conduct technical due diligence on the proposal together with the NEA to ensure its quality and function. The NEA will approve the PPA with the proposed interconnection. Commercial loans and risk sharing will be sought only after the approval of the AEPC and the NEA. Capacity building and training will be provided through Subcomponent 2B to improve technical capacity of the AEPC, the NEA, partner banks, the implementing entity of the risk-sharing mechanisms, and rural communities and potential DSCOs. The implementation arrangement of Subcomponent 2C will be further refined through market feedback of the pilot projects and market sounding with existing mini-grid owners, potential DSCOs, the selected implementing entity, and commercial banks. An assessment of the guarantee implementing entity will be undertaken further during project preparation and summarized in the project document.

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F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

Both Component 1 and Component 2 of the project are likely to involve physical components and infrastructure that may result in adverse environmental and social risks and impacts, as described below. With regard to Component 1, it will support mini-grid subprojects using renewable-energy-based solutions such as mini-hydropower, solar PV, wind, bioenergy, and hybrid systems. The E&S impacts of mini-grid construction and operation subprojects by ESCOs will vary depending on the locations and are likely to be moderate. Although subproject sites are not known and will be decided based on the results of DD of subproject proposals (with the exception of two pilot subprojects that will be executed during project preparation stage), some of the mini-grids are likely to be located in relatively remote places in the mountain/hill. Component 2 of the project involves provision of financial support for physical equipment needed for four pilots and 60 subprojects (partial risk guaranteed) involving mini-grid interconnections. All works (such as minor equipment installation and line connections) will be executed within existing facility



area, such as in power house. However, OP4.01 and relevant safeguards policies would be triggered, if necessary.

G. Environmental and Social Safeguards Specialists on the Team

Drona Raj Ghimire, Ekaterina Grigoryeva, Jun Zeng

SAFEGUARD POLICIES THAT MIGHT APPLY

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Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	There is possibility of impacts on physical and biological environment due to construction and operation of the subprojects under both Components 1 (mini-grids) and 2 (interconnections).
Natural Habitats OP/BP 4.04	Yes	Some subprojects are likely to be located in the protected areas and/or sensitive critical or natural habitats. This may include critical habitats (defined in accordance with best international practice on biodiversity conservation). As a risk mitigation measure, the project will explicitly exclude subprojects with significant adverse impacts on ecologically sensitive areas, if deemed unacceptable by the World Bank (through subproject selection criteria).
Forests OP/BP 4.36	No	This policy is not triggered as its scope of application is specific to the following types of impacts on forests (a) projects that have or may have impacts on the health and quality of forests; (b) projects that affect the rights and welfare of people and their level of dependence upon or interaction with forests; and (c) projects that aim to bring about changes in the management, protection, or utilization of natural forests or plantations, whether they are publicly, privately, or communally owned. Such specific impacts are not currently expected in this project and may only be known once specific ESAs are completed for subprojects. Other types of impacts on forests can be addressed under



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			OP/BP4.04 and are expected to be present in the project.
	Pest Management OP 4.09	No	Project does not envisage use of pesticide.
	Physical Cultural Resources OP/BP 4.11	Yes	Subprojects may have impacts on cultural heritage. Specific impacts may only be known once specific ESIA's are completed for subprojects. As a risk mitigation measure, the project will explicitly exclude subprojects with significant adverse impacts on cultural heritage (through subproject selection criteria).
	Indigenous Peoples OP/BP 4.10	Yes	There are IPs communities collectively attached to proposed subproject areas. At the time the project preparation, exact location of the specific project sites, except for two pilot subprojects for mini-grid, cannot be determined. Therefore, an Indigenous Peoples Planning Framework (IPPF) will be prepared to address the IP issues.
	Involuntary Resettlement OP/BP 4.12	Yes	Proposed project activities may cause land taking, which might not always be done on willing-seller willing-buyer basis. Thus, a Resettlement Policy Framework (RPF) would be prepared and disclosed before appraisal. As a risk mitigation measure, the project will explicitly exclude subprojects involving large-scale resettlement, i.e. that impacting 100 people or more (through subproject selection criteria).
	Safety of Dams OP/BP 4.37	No	Run of river mini hydropower scheme requires only small water diversion structure (or weir, less than 5 meter height) and side-intake. No dams are expected to be built or operated.
	Projects on International Waterways OP/BP 7.50	Yes	Mini-hydropower schemes will divert small quantity of water from streams, and water will be returned to the stream after power generation. Hence, in some cases, small impacts on international waterways may be incurred. Therefore, OP 7.50 (international waterways) is triggered. However, subprojects implemented under this project are a part of larger ongoing Governmental operation, such as rural electrification program under the Rural Energy Policy. Therefore, the exception to the notification requirement under paragraph 7(a) of OP 7.50 will be requested to the Regional Vice President.
	Projects in Disputed Areas OP/BP 7.60	No	This policy will not be applicable as any subprojects where such issues may be present will not be considered for financing / excluded (this may be



determined during the initial E&S screening of subprojects).

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

For Component 1, mini-grid construction using renewable-energy-based solutions such as micro hydropower, solar PV, wind, bioenergy, and hybrid systems may involve biodiversity impacts, as the mountain/hill areas of Nepal, such as the Annapurna Conservation Area, Langtang National Park, Manaslu, Upper Mustang, and Everest National Park, will be among potential project locations. These locations are rich in biodiversity (protected area/sensitive natural habitats) and geologically fragile in terms of landslides and soil erosions. They may house critically endangered species (e.g. avian fauna) and represent critical habitats. Likewise, mini-grids may lead to some insignificant taking of land and thus carry some risk of physical or economic displacement (however, subprojects that would involve large-scale resettlement resulting from potential land acquisition would not be eligible for financing). Such subprojects could be considered to require more attention with regard to risk assessment and management measures.

Component 2 of the project, managed by the AEPC, involves provision of financial support for physical equipment needed for subprojects involving mini-grid interconnections. This component will most probably not result in significant adverse environmental and social impacts necessitating comprehensive E&S assessment, because all works (minor equipment installation and line connections) will be executed within existing facility area, such as in power houses. However, OP 4.01 and relevant safeguards policies would be triggered, if necessary, where E&S risks are identified through initial E&S screening done by AEPC.

Additionally, for both Components 1 and 2, E&S risks associated with subprojects may involve labor and working conditions issues during construction, potential impacts on physical cultural resources, and Indigenous Peoples. Other impacts of associated access roads (although not anticipated at this time). These aspects will be taken into account during ESIA preparation and mitigated through inclusion of relevant provisions in E&S Management Plans (ESMPs).

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

Long term cumulative E&S impacts are possible due to development of further mini-grids in the same areas after the project is completed. These shall be assessed as part of the preparation of the ESIA for subprojects (which will be the responsibility of ESCOs). However, AEPC will also be encouraged to conduct such cumulative impact assessment at its level so that this task and associated costs do not fall disproportionately on ESCOs.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

To help minimize adverse impacts, the following exclusions have been incorporated in the project's E&S requirements, including through subproject selection criteria: (i) subprojects with significant adverse impacts on ecologically sensitive areas, if deemed unacceptable by the World Bank, will not be eligible; (ii) subprojects involving large-scale resettlement will not be eligible (defined as physical and/or economic displacement that is expected to affect 100 people or more); (iii) subprojects with significant adverse impacts on cultural heritage will not be eligible. This represents an alternative approach (i.e. decision not to support such sub-projects).



4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

The project (Components 1 and 2) involve investment of the World Bank funds through a wholesale-retail financial intermediation model, where AEPC/CREF represents a wholesale FI/apex that channels financing to ESCOs / DSCOs for design, construction, and operation of mini-grid subprojects/ mini-grid interconnections through several local partner banks (retail FIs) in the form of loans with a marginally commercial interest rate. In this scenario, however, the AEPC/CREF is the key stakeholder responsible for overseeing the entire process of assessment of E&S risks and impacts and ensuring that all relevant parties (retail FIs, ESCOs, and DSCOs) are fulfilling their responsibilities. Hence, AEPC will play key role in the processes of E&S risk management in the context of proposed institutional arrangements.

The exact locations and associated risks and impacts of subprojects are not known at this stage (except for proposed locations of a number of pilot subprojects that will be selected by AEPC). Hence, Environmental and Social Framework (ESMF) is to be prepared and finalized by AEPC/CREF who will act as a wholesale financial intermediary.

ESMF will detail (i) the process for screening and assessment of risks and impacts for each subproject, including risk mitigation instruments to be prepared; (ii) applicable environmental and social policies, as per the Government of Nepal regulations and World Bank policies; (iii) selection criteria for rural and urban model subprojects that will incorporate some exclusion parameters; (iv) roles and responsibilities of all key stakeholders (AEPC, ESCOs, DSCOs, participating banks) in ensuring due process for risk and impact assessment and subsequent monitoring. In particular, through its contractual relationships with partner banks, AEPC will ensure E&S provisions are included in legal agreements with ESCOs and DSCOs. The ESMF will incorporate a capacity building plan and budget.

With regard to pilot subprojects for development of a Detailed Design (DD) to be carried out during project preparation, For the two pilot subprojects, specific environmental documents, i.e. ESIA, RAPs and VCDP (where required), and ESMPs, will be prepared during each subproject preparation and will help identify subproject environmental category / risk level (High, Medium, or Low) and identify site-specific risks and mitigation measures. These would be prepared in addition to the ESMF and will, at the same time, inform ESMF preparation.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The project will follow World Bank’s consultation and disclosure requirements. The ESMF, social assessments and frameworks, as well as site-specific instruments for pilot subprojects will be disclosed locally/in-country and on World Bank’s website. ESCOs, participating banks, and other stakeholders will be consulted on the ESMF.

B. Disclosure Requirements (N.B. The sections below appear only if corresponding safeguard policy is triggered)

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank 01-Nov-2017	Date of submission to InfoShop 15-Nov-2017	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
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"In country" Disclosure

Nepal
01-Nov-2017

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission to InfoShop
01-Nov-2017	15-Nov-2017

"In country" Disclosure

Indigenous Peoples Development Plan/Framework

Date of receipt by the Bank	Date of submission to InfoShop
01-Nov-2017	15-Nov-2017

"In country" Disclosure

Nepal
15-Nov-2017

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting) (N.B. The sections below appear only if corresponding safeguard policy is triggered)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?
NA

OP/BP 4.04 - Natural Habitats

Would the project result in any significant conversion or degradation of critical natural habitats?

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If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

OP/BP 4.11 - Physical Cultural Resources

Does the EA include adequate measures related to cultural property?

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

OP/BP 4.10 - Indigenous Peoples

Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Is physical displacement/relocation expected?

Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)

OP 7.50 - Projects on International Waterways

Have the other riparians been notified of the project?

If the project falls under one of the exceptions to the notification requirement, has this been cleared with the Legal Department, and the memo to the RVP prepared and sent?

Has the RVP approved such an exception?

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The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank's Infoshop?

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

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APPROVAL

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Note to Task Teams: End of system generated content, document is editable from here.

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