

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: PIDA58718

Project Name	Access to Sustainable Energy Project (P153268)
Region	EAST ASIA AND PACIFIC
Country	Philippines
Sector(s)	Other Renewable Energy (80%), Transmission and Distribution of Electricity (20%)
Theme(s)	Rural services and infrastructure (50%), Infrastructure services for private sector development (50%)
Lending Instrument	Investment Project Financing
Project ID	P153268
Borrower(s)	Department of Energy
Implementing Agency	LGU Guarantee Corporation (LGUGC)
Environmental Category	F-Financial Intermediary Assessment
Date PID Prepared/Updated	21-Mar-2016
Date PID Approved/Disclosed	21-Mar-2016
Estimated Date of Appraisal Completion	18-Mar-2016
Estimated Date of First Grant Approval	12-Apr-2016
Appraisal Review Decision (from Decision Note)	The Chair of the Decision Review meeting authorized the team to appraise the proposed project.
Other Decision	Decision Review discussed the risk rating of the proposed project and agreed to rate the operation as moderate.

I. Project Context

Country Context

The Project, funded largely by the European Union-World Bank Trust Fund Access to Sustainable Energy Project (ASEP), supports solar energy-based electrification and network supply. Additional support for solar-based electrification comes from the Global Partnership for Output-based Aid (GPOBA).

The Philippines is a middle income, archipelago nation in Southeast Asia with a population of about 100 million and, of late, strong economic growth of over 6 percent. The country has earned investment grade ratings from major credit rating agencies as a result of its sound macroeconomic fundamentals. It is increasingly characterized by robust inclusive economic growth, low and stable inflation, healthy current account surplus, adequate international reserves, and a sustainable fiscal position – a combination never before seen in its history.

With a solid macro economy that has proven to be resilient to some major shocks, the country can now focus its attention on implementing crucial structural reforms that can sustain inclusive growth, create more and better jobs, and eradicate extreme poverty, consistent with its (2011-2016) updated Philippine Development Plan, which adopts a framework of sustained inclusive growth.

Sectoral and institutional Context

In the energy sector, Government wants to make electricity services more affordable, meet electricity demand, achieve full electrification, and maintain the large share of renewable energy generation in the power supply mix. There are big challenges in meeting these objectives. Retail electricity rates are among the highest in Asia, though they are not subsidized and high rates are partly due to the legacies of past mistakes and subsequent reforms. The economy is growing rapidly and key growth drivers, such as business process outsourcing, are electricity-intensive. Investments are being made, but generation reserves are tight. About 88% of households are electrified, and most remaining unelectrified households are relatively poor, and/or very isolated. The Philippines currently has an enviable generation mix powered by hydro, gas, geothermal, and coal. Most new power supply under development is to be fired by coal – which is least-cost for baseload generation and the least constrained in terms of available supply (though most coal-fired plants are being designed to burn imported coal).

The power sector in the Philippines is mostly privately owned and operated. Power generation has become highly competitive and new investments are made exclusively by the private sector. Government continues to own some older oil-fired power plants and some key hydroelectric assets, especially in Mindanao. A competitive wholesale electricity market has been operating for a decade in Luzon and the Visayas. A spot market is not yet in operation in Mindanao, but new investments in generation capacity there are driving prices down and could lead to the emergence of wholesale competition. The first phase of retail electricity competition has been implemented in Luzon. Transmission remains state-owned, but new investment and operations have been assigned to a private concessionaire on a long-term basis. Distribution is a mix of 20 investor-owned utilities, including world-class companies providing services in the cities of Manila, Cebu, and Davao; and 120 rural electric cooperatives (ECs), which are owned by their member-consumers. One hundred of these ECs are connected to the main transmission networks in Luzon, the Visayas and Mindanao; the remaining 20 are spread across islands that have no connection to the larger grids.

The Department of Energy (DOE) is the lead policy agency. The Energy Regulatory Commission (ERC), an independent Government agency, provides economic regulation for the sector as a whole. The National Electrification Administration (NEA), a Government-owned commercial corporation (GOCC) is the apex agency for the 120 ECs. The Philippines Electricity Markets Corporation (PEMC) is the operator of the Wholesale Electricity Spot Market (WESM). The Power Sector Assets and Liability Management (PSALM) corporation holds the remaining government assets in the sector, including the transmission assets, hydro facilities, and distributed generation plants of the Small Power Utilities Group of the National Power Corporation (NPC-SPUG). This institutional structure, and accompanying privatization of operating assets, dates from passage of the Electric Power Industry Restructuring Act (EPIRA) 2001. The Philippines also passed a significant Renewable Energy Act in 2008, and has since seen increased investment in wind and solar especially.

The Philippines has made great progress in the power sector over the course of the last 15 years but

significant challenges remain. While the country is on track to meet its long-stated target of 90% household electrification by 2017, the objective to achieve 100% by the early 2020s will be challenging because the last 10% will be increasingly remote and poor. Electrification in rural areas has been driven by grants, provided to ECs through NEA, for extension of rural distribution lines. These grants will be continued but will need to be complemented by other approaches because in many instances line extensions have been pushed to their economic limits. ECs already provide electricity service to 55% of the households in the country – over 11-million households – and these households consume increasing amounts of electricity. ECs therefore have to be reliable and competent buyers of bulk power from private generation companies. Sector reform – an ongoing process in the Philippines – has dramatically increased accountability in the EC community, but governance strengthening will need to continue if electrification targets are to be met and if generation supplies are to be adequate for meeting the growing demand for power. The Philippines, as with some other countries in the region, has also developed a dependence on coal-fired generation to meet most incremental demand for power. The huge build-out in coal-fired power plants has started, and is sparking both local and global environmental concerns.

The World Bank approach to assisting the DOE and the associated energy sector agencies is to build the program around a focus on electric cooperatives. The foundation of this assistance strategy is built on governance strengthening at the level of ECs and at the level of key oversight agencies like ERC and NEA. On this platform, the Bank focuses on access and renewable energy. Access is supported by mobilizing network investment to complement the electrification grants of Government, and by supporting alternative access approaches when grid expansion is not economically sound. Renewable energy is supported with technical assistance, institutional strengthening, and investment mobilization. The Access to Sustainable Energy Project (ASEP), funded on a grant basis by the European Union (EU) and the Global Partnership on Output-Based Aid, and administered by the World Bank, would provide performance-based grant support for remote electrification (solar home systems) and small, grid-connected solar power plants. ASEP is complemented by a Bank-executed package of technical assistance supporting ECs, NEA, ERC, and DOE in a range of technical areas. ASEP is also complemented by the proposed Philippines Renewable Energy Development (PHRED) project, financed the Clean Technology Fund and structured as a stand-alone CTF Guarantee. PHRED supports expansion of a successful Government guarantee facility that helps enhance the flow of commercial credit to the ECs, both for network investment and for renewable energy projects that will directly supply ECs.

While ASEP and PHRED are each designed to be implemented as stand-alone projects, there are important synergies that will be realized if they are undertaken in parallel. Both focus on EC governance, access, and clean energy issues, and help bolster the enabling environment for private investment and effective oversight and regulation. ASEP supports off-grid electrification (solar home systems), solar energy (which still needs a small subsidy), technical assistance (including through the parallel Bank-executed grant from the EU), and introduces an output-based subsidy approach to Government electrification and renewable energy programs. PHRED focuses on leveraging approximately \$500 million in commercial lending that will fund EC grid extension and privately developed small hydropower plants (least-cost, so no subsidy); it is highly commercially oriented and demand-driven. Together, the operations provide an array of interventions that reflects the diversity of circumstances involved in the electrification of the last 10%, and the institutional development requirements of 120 electric cooperatives that will be key service delivery agents. The operations together will benefit a majority of the ECs ranging from top-rated cooperatives to the financial struggling ECs of the Bangsamoro (Muslim Mindanao). There is no one-size-fits-all; and

the complementary designs of ASEP and PHRED reflects this reality.

Mindanao is a particular area of focus. Although ASEP is a national program of the DOE, Mindanao is less than 75% electrified at the household level and has had the worst electricity reliability of any major region in the country for the last 15 years. Despite this, some of the country's best performing electric cooperatives operate in Mindanao. ECs there have been 70% of the market in peso terms for loans guaranteed by the government Electric Cooperative Partial Credit Guarantee (ECPCG) facility that will be expanded by PHRED. It is expected that, because of both access and power supply demand, Mindanao will be a major beneficiary of ASEP output-based grants. Mindanao is also home to some of the worst performing ECs, including the seven ECs that provide service in the Autonomous Region of Muslim Mindanao (ARMM; also now referred to as the Bangsamoro). As ASEP (and PHRED) offer possibilities that are mainly suitable for creditworthy ECs, it is unlikely that the Bangsamoro ECs will be able to avail of output-based subsidies for solar home systems, or will be able to be the offtaker from a privately developed solar power project. However, attempts will be made to work with these ECs. More realistically, the ECs of the Bangsamoro will be linked to ASEP in two ways: first, through the Bank-executed technical assistance facility funded by the EU, which includes €1.5 million euro for institutional strengthening of the seven ECs; and second, through grant-financed provision of solar lighting that the European Union intends to provide as part of the overall ASEP program. Bank-executed technical assistance will include support to Bangsamoro ECs that are currently in discussions about power supply to new agribusiness investment in that part of Mindanao.

The institutional array is an important part of the context in which the proposed new trust fund is being prepared. Policy, regulatory, and operational responsibilities are highly disaggregated in the Philippines, with specialist agencies like ERC and NEA assigned specific technical tasks. The Philippines electricity market is very sophisticated, and management and regulation of it requires focused agencies that must continually upgrade their skills to keep pace with the private sector entities that they oversee and with trends in similarly advanced markets elsewhere.

II. Proposed Development Objectives

The Project Development Objective (PDO) is to increase household access to solar powered electricity within select electric cooperative service areas.

III. Project Description

Component Name

Component 1 - PV Mainstreaming

Comments (optional)

Component 1: PV Mainstreaming (PVM) entails rural electrification via solar home systems (SHS) of an estimated 40,500 households within the coverage areas of the participating ECs. Through the contributions of the European Union (EU) and GPOBA, PVM will target ECs seeking to receive grants in the form of a competitively allocated capital subsidy for SHS distribution and installation. Sustainability of the proposed scheme is based on the regulatory framework for SHS, which includes monthly service fees paid by SHS customers.

Component Name

Component 2 - Rural Network Solar

Comments (optional)

Component 2: Rural Network Solar (RNS) aims to increase renewable energy production via small,

grid connected solar power plants. It is expected that 14 MW of new renewable energy generation capacity will be brought on-line as a result of the project interventions. A capital subsidy buy-down based on a least-cost, competitive approach is expected to level the playing field for grid connected solar vis-à-vis higher polluting alternatives. The subsidy made available under this component is provided by the EU.

Component Name

Component 3 - Pre-Paid Metering

Comments (optional)

Component 3: A Pre-Paid Metering (PPM) pilot targets commercial efficiency at the EC level through controlled pilots - estimated at 1,000 meters - of PPM systems. This component is closely tied to a PPM analysis that will be done as part of the EU-funded, Bank-executed technical assistance to NEA.

IV. Financing (in USD Million)

Total Project Cost:	23.24	Total Bank Financing:	0.00
Financing Gap:	0.00		
For Loans/Credits/Others			Amount
Borrower			0.00
Free-standing Single Purpose Trust Fund			20.24
Global Partnership on Output-based Aid			3.00
Total			23.24

V. Implementation

The key government agencies engaged with the Project would be: (i) the Department of Energy (DOE), which will have an oversight function over the Project's implementing agency; (ii) the LGU Guarantee Corporation (LGUGC), which is the Project's implementing agency; (iii) the Energy Regulatory Commission (ERC), which has the task of regulating the country's 140 distribution companies (DUs, 120 of which are ECs); (iv) the National Electrification Agency (NEA), which is the government-owned apex agency responsible for oversight of the country's 120 ECs; and (v) NEA's Office of Renewable Energy Development (ORED), which was established with Bank support in 2013 for assistance to RE projects in general.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04		x
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11		x
Indigenous Peoples OP/BP 4.10	x	
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50		x

Projects in Disputed Areas OP/BP 7.60		x
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Comments (optional)

Environmental Safeguards: ASEP has an ESSF adapted from PHRED. The ESSF was cleared and disclosed in country and at InfoShop on February 19, 2016. On environmental safeguards, the same set of safeguards are triggered but there are modest differences in emphasis. First, and most importantly, ASEP includes solar home systems, so treatment of battery disposal and recycling has been added to the ESSF. Solar systems typically use lithium-ion batteries which are not considered as containing toxic materials. Disposal of these batteries will be done through firms registered with the Department of Environment and Natural Resources as Transport, Storage and Disposal (TSD) Facilities. It is not expected that any pesticide use will be associated with the project. Developers of small solar plants will want to control vegetation within the fence of their facilities, but multiple Filipino developers have confirmed to us that vegetation is controlled manually in their operations and chemicals are never used. Otherwise there are no environmental issues of note and, given the impact that solar home systems will have on the composition of energy use at the household level, it is expected that the project will have local air quality benefits (especially indoors) for project beneficiaries.

Social Safeguards: An environmental and social safeguards framework (ESSF) has been adapted from PHRED. There are no social safeguard issues unique to ASEP; as with PHRED, subprojects that are ultimately financed will arise through a demand-driven, competitive process designed to achieve value-for-money in terms of subsidy allocation. Households electrified under ASEP will be previously unelectrified households in relatively remote areas within the franchise territories of the various ECs – preliminary identified as 21 in total, out of the 120 ECs nationally – that participate in PV Mainstreaming. Many of these households will include Indigenous Peoples. The ESSF will be used in screening for impacts on Indigenous Peoples, in enhancing positive impacts, and in engaging with them. No adverse impacts on Indigenous Peoples are anticipated. ASEP does not finance hydro plants but, through the rural network solar component, will provide investment support to small solar power plants that feed into the distribution networks of grid-connected ECs. These small solar plants will require plots of land; it is expected that this land is already in the possession of a would-be developer, or would be acquired on a willing-buyer / willing-seller basis. One of the criteria for subproject eligibility is that there should be no involuntary resettlement involved; hence, it is unlikely that temporary or permanent involuntary resettlement will ensue. However, the ESSF includes provisions on involuntary resettlement in the event that involuntary resettlement does arise. Household beneficiaries of the project will experience more and better quality energy availability – better lighting, improved indoor air quality, better security, and enhanced connectivity (through TV, radio, and mobile phones) – thus contributing to the social development of project communities. For purposes of tracking Citizen Engagement, an indicator on “Villages where PV Mainstreaming is implemented with at least one public consultation held” will be included in the project results framework.

VII. Contact point

World Bank

Contact: Alan F. Townsend
 Title: Senior Energy Specialist
 Tel: 473-8654
 Email: atownsend1@worldbank.org

Contact: Roberto La Rocca
Title: Energy Specialist
Tel: 473-9776
Email: rlarocca@worldbank.org

Borrower/Client/Recipient

Name: Department of Energy
Contact: Zenaida Monsada
Title: Secretary
Tel: (632) 840-1021
Email: nmonsada@doe.gov.ph

Implementing Agencies

Name: LGU Guarantee Corporation (LGUGC)
Contact: Lydia Oriol
Title: CEO
Tel: (63-2)750-4166
Email: dengorial@lgugc.com

VIII. For more information contact:

The InfoShop
The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 458-4500
Fax: (202) 522-1500
Web: <http://www.worldbank.org/infoshop>