



06 September 2017

TECHNICAL ADVISORY NO. 4

Series of 2017

TO : ALL ON-GRID ELECTRIC COOPERATIVES (ECs)

SUBJECT : NAMA SUPPORT PROJECT, ENABLING DISTRIBUTED SOLAR POWER IN THE PHILIPPINES

This is a reiteration of Technical Advisory No. 3, series of 2017 dated 05 April 2017.

Project objectives and planned measures

The NAMA Support Project (NSP) aims to accelerate the penetration of new distributed RE technologies. The project would do this by reducing technology risks, lowering transaction costs, and creating financing options for distributed generation (DG) photovoltaic (PV) customers and third parties.


Planned activities include: streamlining the permitting process, accrediting installers, creating a technology certification program, and supporting the development of an initial pipeline of projects to help fast-track low grid-impact projects to come online. The NSP will also create a Financing Support Fund (FSF) to reduce perceived risk by local financial institution and facilitate the flow of commercial debt to the distributed RE sector. The FSF, which would be fully designed during the Detailed Preparation Phase (DPP), is envisioned as a hybrid facility comprising a guarantee component to support commercial investments for which there are financing constraints; and a subsidy component to help accelerate deployment of near commercial technologies. The NSP will also build the financial sector capacity to evaluate distributed PV projects and bring a variety of financing options for DG PV customers.

Project ambition

By accelerating the uptake of DG PV installations, the NSP will help build local technical and financing capacities, and reduce hard and soft costs of DG PV. The lower DG PV technology risks, lower soft costs, faster approval processes and available financing products will catalyze the growth of the distributed solar market. The NSP will accelerate development of DG PV market estimated at over 3000 MW.

In view of this, we enjoin all interested on-grid ECs to submit a letter expressing your interest to join the abovementioned program not later than 29 September 2017. You may send the scanned copy of your letters to nea_ored@yahoo.com and jaysoncorpuz88@yahoo.com. Kindly disregard this advisory if you have previously submitted your letters of intent.

Thank you for your usual support.


ARTIS NIKKI L. TORTOLA
Deputy Administrator
Technical Services



Enabling Distributed Solar Power in the Philippines

NAMA Support Project Executive Summary August 2017

Project objectives

Guided by the overall vision of providing “Energy Access for More,” the Philippine Energy Plan (PEP, 2012-2030) seeks to mainstream access to reliable and affordable energy services to improve local productivity and countryside development. Embracing the energy sector’s central role in increasing quality of life for the Filipino people, the PEP calls for the delivery of secure, sustainable, sufficient, affordable and environmental friendly energy. In pursuit of this goal, the government has pledged to mobilize private sector participation and involve all necessary stakeholders to make power of choice a reality.

Embedded in this vision, the NAMA Support Project (NSP) *Enabling Distributed Solar in the Philippines*, summarized in this document, will enable electricity customers to produce clean electricity for their own consumption. The project will accelerate the integration of grid connected rooftop photovoltaic installations on residential, commercial, industrial, and government facilities under the country’s net metering program and self-supply options.

The NSP will strengthen the Philippines’ ability to create and take advantage of climate change mitigation opportunities in the energy sector, which is heavily reliant on fossil fuels. The country is a longstanding leader in renewable energy, and this is reflected in the landmark Renewable Energy Act 2008, and in the prominent place of renewable energy in the Philippines Energy Plan, as updated over many years.

The NSP proposal was developed by the Philippines’ Department of Energy, the Center for Clean Air Policy, the LGU Guarantee Corporation, and the World Bank over the last three years. It received preliminary approval for €20 million in grant funding by the NAMA Facility in November 2016. The project is now in the detailed preparation phase, during which partners will prepare the detailed design of the program and submit the full proposal to the NAMA Facility in May 2018 to seek final funding approval.



Barriers to distributed generation from renewable energy

The Renewable Energy Act provides for a full suite of tools to support renewable energy development, including feed-in tariffs for utility scale installations, and net metering (NEM) for renewable energy installations up to 100kW. The NEM rules were approved in 2013, but the uptake has been slow. Due to the high retail power prices, DG PV for residential, commercial, and industrial customers is economical. Yet, despite favorable economics in many areas and an overall policy framework to enable renewable energy, the following barriers have been hindering higher penetration levels of rooftop solar installations:

Table 1: Barriers to DG PV in the Philippines

Barrier	Description
Financial	<ul style="list-style-type: none"> - Lack of financing options at competitive interest rates and longer maturities for consumers - Lack of financing options for third parties so that they can offer one-stop solutions to DG PV customers - Financial institutions lack experience with renewable projects and view them as risky
Technical	<ul style="list-style-type: none"> - Grid interconnection procedures and rules are not harmonized across all grid operators (distribution utilities and electric cooperatives), which increases development costs for project developers operating in multiple regions - Lack of certified technology; substandard technology increases technology risks for consumers, investors, grid operators, and banks - No standardized accreditation processes for installers, which further increases technology risks - No established market leaders in PV technology - due to the small market size - contributes to overall low technical standards in PV installations
Regulatory	<ul style="list-style-type: none"> - The variation of permitting requirements across Local Government Units (LGUs) create project delays and lengthy approval processes, which increases installation costs - Distribution Impact Study (DIS) requirements by grid operators increases costs and creates further delays. Permitting process by grid operators can be lengthy
Economic	<ul style="list-style-type: none"> - High upfront costs for renewable energy technology - Small DG PV market size means that on average, prices per kW are higher than in larger, more established markets - High soft costs (e.g., the lengthy permitting process) - The price for excess energy exported back to the grid by the end-user is equal to the blended generation rate, which reduces economic incentives for DG PV, limiting the market opportunity
Social	<ul style="list-style-type: none"> - Little public and consumer awareness of the benefits of PV installations and availability of NEM reimbursement



Proposed NSP activities to implement the project under the grant

The NSP will accelerate the uptake of rooftop solar installations by reducing technology risks, lowering transaction costs, and creating attractive financing options for DG PV customers. These enabling conditions will spur the DG PV market, further contributing to lowering capital costs of DG PV, increasing technology affordability for Filipinos as the market expands.

To achieve the objective of accelerating the uptake of rooftop solar installations, the NSP will establish:

- **A comprehensive Technical Assistance Facility** to offer targeted assistance to the national and local governments, grid operators, investors, electricity consumers, installers and technology vendors, and the financial sector. The Facility will support the development of solar technology standards and installer accreditations. It will also help simplify permitting and approval processes for solar installations and build capacity of local governments and grid operators to process applications;
- **A Credit Guarantee Fund** to enable local banks to provide competitive financing for solar projects and to enter the solar financing market on a large scale;
- **A Project Preparation Facility** designed to help investors and developers overcome initial project development barriers and develop a pipeline of bankable projects;
- **A National Advisory Committee** to provide overall program guidance and feedback.

The NSP is comprised of the following 10 components which will be implemented from 2018-2022, pending final approval for funding by the NAMA Facility:

Table 2: NSP Activities

NSP Component	NSP Activity	
Policy and Institutional Reforms	1.	Streamline & simplify the interconnection permitting process at grid operators for DG PV installations
	2.	Streamline & simplify permitting process with LGUs for DG PV installations
	3.	Build grid operator and LGU capacity to process DG PV applications
	4.	Establish a PV technology certification program
	5.	Establish an accreditation program for PV installers
	6.	Provide technical assistance to government agencies for policy and regulatory reform to support NEM and self supply markets
Financial Mechanism	7.	Establish a Financing Support Fund consisting of a Credit Guarantee Fund and Subsidy Fund to support the development of financing options for DG PV installations and DG PV enabling technology by local banks
	8.	Provide technical assistance to local financial institutions to reduce risks, develop expertise and product portfolio for DG PV projects

Project Pipeline & Market Development	9.	Establish a project preparation facility that will assist investors with DG PV project development and submissions for financing, including by supporting feasibility studies, business plan development, matchmaking, on-line solar marketplace, and making investment grants
	10.	Increase public and consumer awareness of the benefits of PV installations and the availability of new financing

NSP Institutional arrangements

The NSP will be implemented by the Center for Clean Air Policy (CCAP), The World Bank, the Philippine Department of Energy-Renewable Energy Management Bureau (DOE-REMB), and the LGU Guarantee Corporation (LGUGC).

NAMA Facility funding may not be provided directly to partner government institutions. The Facility channels funds through NAMA Support Organizations (NSOs), qualified legal entities, endorsed by the national government who are responsible and accountable for financial and administrative management of the NSP, for monitoring of the NSP and reporting to the Facility.

The €20 million NSP will have two NSOs and two key components:

1. **4M Euro Technical Assistance Component** where CCAP and DOE-REMB will deliver the Policy and Institutional Components of the NSP (Activities 1- 6 in Table 2) and the public and consumer awareness campaign (Activity 10). To deliver this component, CCAP will sign an NSO agreement with the NAMA Facility Grant Agent.
 - o Separately, upon final approval of the NSP, CCAP and DOE REMB will sign an Implementation Agreement specifying the implementation framework and work plan for delivering the technical assistance for all required activities;
 - o Also upon final approval of the NSP, DOE REMB will sign sub-implementation agreements with the following implementing partners:
 - The Technical Skills Development Authority (TESDA) to assist DOE and CCAP in implementing the work plan for accrediting installers
 - The Bureau of Philippine and Standards (BPS) to assist DOE and CCAP in implementing the work plan for the technology certification
 - The National Electrification Administration (NEA), a government-owned corporation with the power of supervision over Electric Cooperatives (ECs), to assist DOE and CCAP in engaging ECs and developing new business models for DG PV



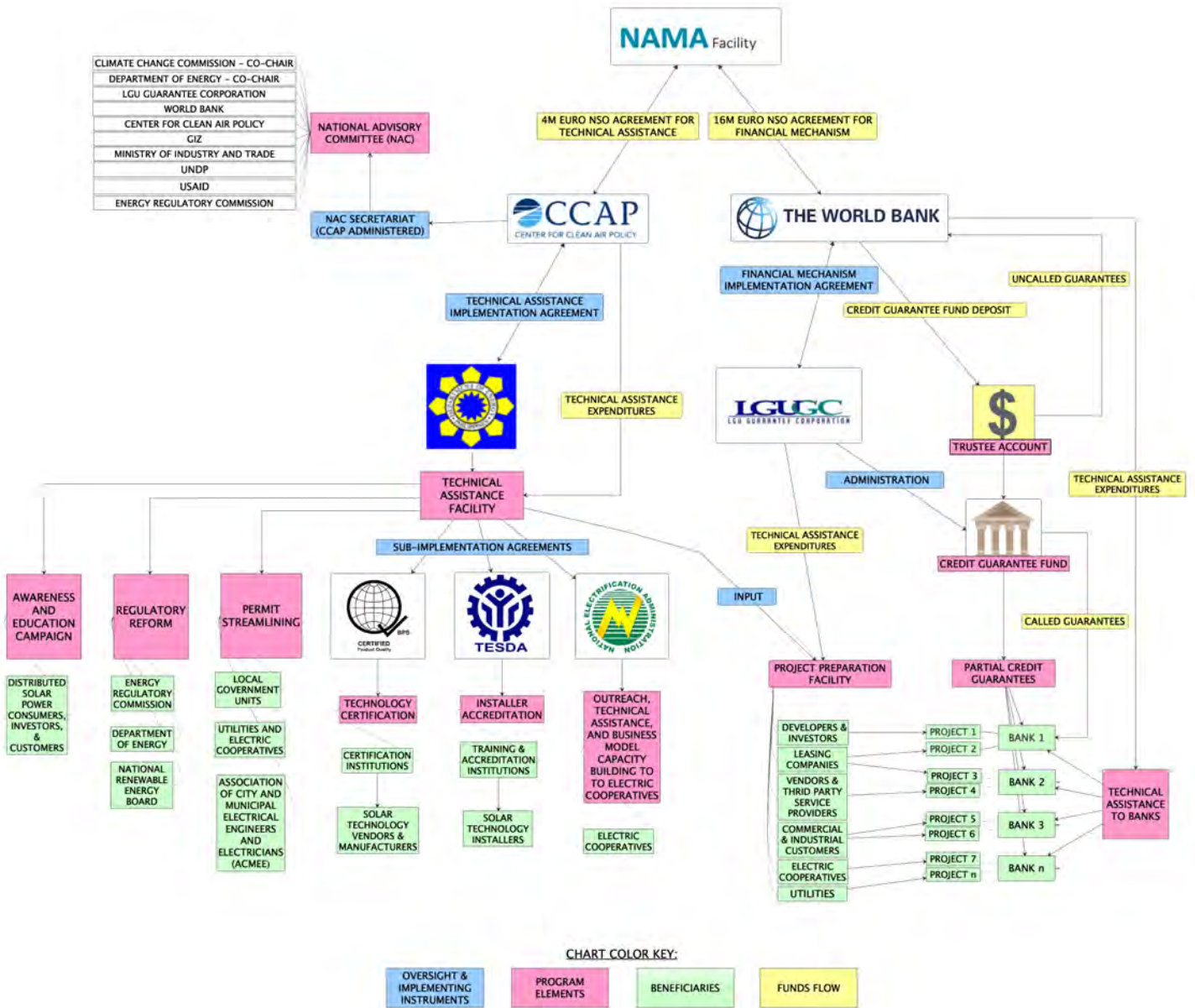


2. **16M Euro Financial Mechanism Component**, where WB and LGUGC will deliver the Financial Mechanism Component (Activities 7 and 8 in Table 2) and the Project Preparation Facility (Activity 9)
 - o Separately, the WB and LGUGC, upon final approval of the NSP, will sign a Project Agreement specifying the implementation framework and work plan for delivering the Financial Mechanism component
 - WB and LGUGC will manage and administer the technical assistance program of the Project Preparation Facility and for the banks
 - CCAP and DOE will provide substantial input for project selection within the Project Preparation Facility

A **National Advisory Committee (NAC)** will be established to assure the overall political ownership and embeddedness of the NSP, to provide strategic guidance on the NSP, and help with the coordination of activities with other donor-funded programs in RE DG. The NAC will be co-chaired by the Climate Change Commission and DOE-REMB and additionally be comprised of WB, LGUGC, CCAP, GIZ, the Ministry of Industry and Trade, UNDP, USAID, and the Energy Regulatory Commission. CCAP will serve as the secretariat. Coordinating with WB, DOE-REMB, and LGUGC, CCAP will develop the agendas for NAC meetings, follow up on decisions of the NAC, keep records, and coordinate with NAC members on follow up activities.



Figure 1: Proposed institutional set up for implementing the NSP





Aligning the NSP and creating synergies with other projects

The NSP will align and create synergies with existing initiatives that seek to increase renewable energy penetration in the Philippines through working groups and stakeholder coordination, particularly building on DOE-REMB, Energy Regulatory Commission, GIZ, USAID, World Bank, and National Renewable Energy Board initiatives, and coordinating with these organizations on capacity building activities and technical assistance.

NSP expected outputs and beneficiaries

The project will facilitate and accelerate the uptake of DG PV installations. When fully implemented, within the 4 year span of the project:

- Consumer awareness of PV installations will be increased
- Customers will have access to financing for DG PV through their local banks
- Grid operators, banks, and customers will have greater certainty and confidence in the safety and quality of PV equipment and installations through knowledge of technology standards and existence of an installer certification program
- Administrative burden on individuals applying for DG PV installation permits, currently through their LGUs and grid operators, will have been reduced.

These activities will create enabling conditions for DG PV installation market expansion and contribute to lower DG PV prices, helping to further increasing DG PV's competitiveness against fossil fuel generation.

Direct beneficiaries of the NSP include:

- Electricity consumers, including residential, commercial, institutional and industrial, with greater choice in electricity supply, lower electricity costs, and more reliable, resilient and cleaner electricity;
- DG PV end users and third parties with access to new and attractive financing options to technical assistance for developing projects;
- Local financial institutions with a path to penetrate a new market through guarantee fund and technical assistance to better understand PV technology and further reduce perceived investment risks;
- Bureau of Philippine Standards with access to technical assistance to identify missing standards and recognize new standards for PV technologies;
- TESDA will have access to technical assistance to develop accreditation rules and programs for PV installers;
- The National Electrification Administration and Electric Cooperatives with access to technical assistance for capacity building for DG PV integration and for developing new business models





and strategic investments in solar PV to better serve their customers and reduce dependence on expensive diesel;

- The Energy Regulatory Commission and the National Renewable Energy Board will have access to technical assistance to evaluate and improve NEM and RE DG rules;
- Grid operators and LGUs will benefit from capacity building programs and technical assistance to simplify and streamline their NEM permitting processes;
- Developers, investors, PV vendors and installers, service and third party providers will have access to technical assistance and investment grants to develop a pipeline of DG PV projects.

Accelerating the uptake of DG PV installations will reduce hard and soft costs of the technology, making it increasingly economically competitive in more areas, which will help to expand the market in the longer term, creating jobs and opportunities for market leaders to emerge. The Credit Guarantee Fund (CGF) will leverage approximately €110M in private financing (equity and debt). The CGF will directly support an installed DG PV capacity of approximately 50 MW and reduce CO2 emissions by over 1.8 million tons over the lifetime (25 years) of these installations.

Indirectly, the NSP will catalyze the DG PV market by creating enabling conditions for DG PV in the financial sector, as well as among technology providers and DG PV customers.

Finally, the NSP will reduce transmission and distribution losses, and increase grid resilience to climate change impacts. An increase in renewable energy penetration will reduce reliance on imported fossil fuel, improving air quality and reduce the externalities that arise from burning diesel and coal, namely reduction in life expectancy, respiratory hospital admissions, congestive heart failure, and ecosystem loss and degradation.

This project is supported by the NAMA Facility on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), the UK Department for Business, Energy and Industrial Strategy (BEIS) (formerly DECC), the Danish Ministry of Energy, Utilities and Climate (EFKM) and the European Commission.

