

Demand Side Management Policy

Philippines



Concept Note

Demand Side Management (DSM) is a key strategy to achieve reduced Greenhouse Gas emissions and the Government's Clean Energy Scenario, this Project contributes to aligning policies with climate targets. This technical assistance will establish a DSM Policy and Program for the electric power industry for the reduction of energy demand by promoting a range of strategies that influence end-users to reduce electricity consumption, shift load patterns, and reduce peak demand. DSM will enhance distribution grids' efficiency, enhance system flexibility and reliability, and delay the need for additional power plants. The TA will strengthen the implementation of the policy by delivering capacity building and developing a DSM toolkit. The combined impact of reduced energy consumption and increased penetration of variable renewables to the grid will result in more significant GHG emissions reduction and displace fossil-fuel based power generation.

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[Annex 1. Background Information](#)

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I. Introduction

- 1 The Southeast Asia Energy Transition Partnership (ETP) brings together governments and philanthropies to work with partner countries in the region - to contribute to the achievement of the UN's Sustainable Development Goals (SDGs) and the Paris Climate Agreement objectives. ETP supports the transition towards modern energy systems that can simultaneously ensure economic growth, energy security, and environmental sustainability. ETP's strategy is built around four inter-related pillars of strategic engagement that are squarely aligned to address the barriers to energy transition. These are (i) policy alignment with climate commitments, (ii) de-risking energy efficiency and renewable energy investments, (iii) extending smart grids, and (iv) expanding knowledge and awareness building. See www.energytransitionpartnership.org for more about ETP.

II. Project Details

A. Rationale and Impact

- 2 The Energy Efficiency and Conservation (EE&C) Act was passed into law in 2019 as one of the Philippines' strategies for achieving the Philippines' Clean Energy Scenario¹ (CES). The CES is defined by slower growth in electricity demand and 5% lower energy consumption by 2040 compared to the business-as-usual scenario (99.3 MTOE). Demand Side Management (DSM) is one of the primary strategies of the EE&C Act, but no rules and guidelines have been established yet.
- 3 DSM aims to improve the distribution grids' efficiency, enhance system flexibility and reliability, and promote wide adoption of energy efficiency among end-users. DSM accomplishes this through a range of strategies that influence consumers to reduce electricity consumption, change load patterns, and reduce peak demand. These strategies encourage consumers to use less power during periods of high demand or when reserve levels are thin, essentially shifting the load. In a similar way, DSM can be used to match the timing and volume of energy demand with the availability of generation from variable renewable energy (VRE) and other emerging technologies, creating a more flexible grid. Managing the peak demand delays the need for additional power plants to be built, effectively mitigating GHG emissions.
- 4 Distribution Utilities (DUs)² will be the principal implementers of DSM strategies. These include demand response mechanisms such as time-of-use rates, prepaid metering, interruptible load program, and "prosumer" schemes (e.g. net-metering, own-use RE generation, etc). Implementing some of these require the adoption of energy monitoring and load control equipment, and advanced metering infrastructure (AMI), which all contribute to creating a smarter grid. Economic

¹ Philippine Energy Plan 2020 - 2040

² The distribution sector in the Philippines is regulated, run by local monopolies within their defined franchise areas and can be classified as electric cooperative (EC), private DU, and local government unit-owned DU. Annex 1 shows the latest classification of ECs according to their performance.

zones will be engaged because as bulk end-users they can dictate distribution utilities' load pattern and overall demand.

- 5 DSM can support the growth of the energy service company (ESCO) industry by opening up opportunities for DUs to work with ESCOs. For end-users, the adoption of DSM programs will lead to cost savings and more reliable electricity services. Additional information is found in **Annex 1**.

B. Objectives

- 6 The TA aims to develop the DSM policy and program for DUs and economic zones with clear authority lines, ensuring interoperability for integration across the power industry, energy security, and GHG emissions reduction. The specific objectives include:
 - i. to draft the DSM Policy for the Philippines that incorporates appropriate DSM strategies (e.g. energy efficiency, demand response, distributed energy, energy storage systems, incentives, etc.);
 - ii. to clarify roles and responsibilities among the different agencies related to DSM implementation
 - iii. to facilitate the implementation and enforcement of the DSM policy and programs, and
 - iv. to build local capacity on DSM.

C. Project Components and Outputs

- 7 Activities will be delivered under four components, a more detailed explanation of these activities can be found in Annex 2: **Terms of Reference**. The project components and the main outputs are as follows:
 - i. **Component A. DSM Policy:** Develop the DSM Policy document in close coordination with a DSM Technical Working Group (TWG) composed of government agencies. Guide the identification of specific DSM strategies that will be included, draft the policy with clear guidelines, and define authorities for DSM.

Output: DSM Policy in the form of a Department Circular that will define the DSM measures that are to be adopted by DUs, set the rules for these measures, identify roles and responsibilities of government and stakeholders, set incentives, and a monitoring framework for compliance.
 - ii. **Component B. Capacity Building on DSM for Policy-makers and Energy Planners:** Develop and deliver a capacity building program on DSM for policy makers and energy planners, that will cover technology, business plan, and energy planning. Six case studies on

DSM will be delivered that may focus on technology, business models, or country-specific case studies that will highlight impact, challenges, and success factors.

Output: Training program for policy-makers and energy planners.

- iii. **Component C. DSM Implementation Plan:** Set the national DSM targets and draft an implementation plan aligned with the EE&C Roadmap and should include a strategy for DSM adoption by more than 150 DUs of varying technical and financial resources. A national-level monitoring and evaluation plan should be developed to support DOE in monitoring DUs' compliance, assess needs, and deliver appropriate support.

Output: (i) National-level DSM implementation plan, (ii) Monitoring and Evaluation Framework to track compliance.

- iv. **Component D. Distribution Utility DSM Toolkit and Capacity Building for DUs and Economic Zones:** This component will develop a toolkit to support DUs develop and implement their DSM plans. The toolkit shall include guidelines for DSM target-setting, catalogue of technologies and strategies, and other tools. A capacity building program will be delivered based on this toolkit.

Output: (i) DSM Toolkit/ Guidebook for Distribution Utilities (DU) and Economic Zones, (ii) Training Program for DU's and Economic Zones.

D. Project Timeline

- 8 The project is expected to be implemented for 18 months, consisting of an inception stage, and implementation of the four project components. A detailed timeline is in the terms of reference (Annex 2).

E. Implementation Arrangements

- 9 The project activities will be delivered by an implementing partner (IP), who will be selected through a competitive call for proposals/ procurement process of the UNOPS. The selected IP will have the expertise and capacity to implement the project. They will work in close coordination with the DOE-EUMB and the DSM TWG that will be formed, and are expected to conduct the majority of the activities on the ground rather than virtually.

III. Stakeholders and Donor Activities

- 10 The key stakeholders in the implementation of this TA are as follows:

- i. DOE-EUMB, as the lead unit handling the program, the Renewable Energy Bureau (REMB), Electric Power Industry Management Bureau (EPIMB) - The three DOE bureaus will be represented in the DSM TWG and will be closely consulted in developing the DSM policy and implementation plan.
 - ii. The National Electrification Administration (NEA) and DU's - The NEA oversees and supports the operation of 121 electric cooperatives (ECs) in the country.
 - iii. Other relevant agencies, including the Energy Regulatory Commission (ERC), the National Power Corporation (NPC), and Philippine Economic Zone Authority (PEZA).
 - iv. Investor-owned DUs and Electric Cooperatives - these distribution utilities will need to comply with the DSM policy, develop the DSM plans and implement them.
 - v. Economic zones - These designated industrial or commercial areas that host significant energy end-users.
- 11 DOE-EUMB confirmed that there are no ongoing projects specific to DSM. The following are related EE&C initiatives being implemented by development partners:
- i. **USAID's Energy Secure Philippines (ESP) Program (On-going)** - The Program's relevant components include: (i) Improve Electric Utility Performance, and (ii) Increase Deployment of Advanced Energy Sources and Systems. ESP will also train different stakeholders to promote the use of advanced energy systems.
 - ii. **UK's Low Carbon Energy Programme (LCEP) (Completed)** - A regional program that aims to deploy low carbon energy technologies, supporting green finance and energy efficiency.
 - iii. **EU's Access to Sustainable Energy Programme (ASEP) (Completed)** - A project with the following components: (a) technical assistance and capacity building for policy reform, (b) investment support to enhance the capacity of ECs to implement rural electrification using RE systems, and (c) grant fund for RE projects. The EE component of ASEP focused on accelerating the implementation of energy performance standards and energy label requirements for domestic appliances. The EU ASEP supported DOE with a first draft of the DSM policy. The draft was used as a reference in developing this concept note.

IV. Results-Based Monitoring Framework and Risks

A. Results-Based Monitoring Framework

- 12 The Results of the Project are monitored through the following Framework in Table 1. All reports will update the achievement of the indicators.

Table 1. Results and Monitoring Matrix

ETP Results	Project Output(s)	Indicator	Target	Data Source and Means of Verification
Impact: 5% energy savings by 2040 compared to the reference case (99.3MTOE in 2040). Enabling DSM mechanisms will facilitate adoption of smart grid technologies and achieve higher system efficiency, flexibility, and power supply reliability. DSM will delay the construction of new generating capacity, contributing to the mitigation of GHG emissions.				
Long-Term Outcome: Adoption of the Demand Side Management Policy and Toolkit leads to Electric Cooperatives and economic zones phased implementation of Demand Side Management strategies starting in 2024 with all ECs compliant before 2030, thus reducing overall energy demand, associated GHG emissions and supporting the development of smart grids.				
Intermediate Outcome 1. Strengthened RE and EE policy enabling environment				
Short-Term Outcome 1.1 National RE and EE policies, regulations, standards, and energy plans reflect a clear commitment to Energy Transition agenda and integrated into sectoral plans to contribute to the achievement of Paris Agreement	Demand Side Management (DSM) Policy	Indicator 1: Number of Policies and Rules developed	Target 1: 1 DSM Policy approved and released by the DOE	Published DSM Policy by DOE, Project Report
	DSM Implementation Plan and M&E Framework	Indicator 2: Number of Policies and Rules developed	Target 2: Implementation plan and DSM M&E Framework developed for DOE	Copy of DSM Implementation Plan, Project Report
Intermediate Outcome 4. Increased development of and accessibility to Energy Transition knowledge				
Short-Term Outcome 4.1 Stakeholders involved in the EE/RE value chains and energy system, are knowledgeable and better informed to advance the energy transition agenda	Capacity Building for Policymakers and Energy Planners	Indicator 3.1: Number of Participants, gender disaggregated Indicator 3.2: Number of consultations	Target 3.1: 6 sessions for 50 persons per session, with 50% female participants Target 3.2: At least 1 consultation with minimum 50% female participants	Workshop reports, Project report
	DSM Toolkit	Indicator 4: number Toolkits produced	Target 4: 1 set of toolkit disseminated through public channels (e.g. ETP website and NEA website)	Copy of the DSM Toolkit or Guidebook, Project Report
	Capacity Building for District Units and Economic Zones	Indicator 5.1: DUs trained, gender disaggregated	Target 5.1: 55 electric cooperatives trained, with at least 50% female participants	Workshop reports, Project report
		Indicator 5.2: # Economic Zones trained	Target 5.2: 30 economic zones, with at least 50% female participants	

B. Risks and Mitigation Measures

13 The risks to project implementation and their mitigation measures are summarized in Table 3.

Table 3. Project risks and mitigation measures

Risk	Likelihood	Mitigation Measure
Difficulty in securing data, and delays in feedback from government and stakeholders, leading to overall project delay	Highly likely	ETP will request the National Electrification Administration (NEA) and the Department of Energy (DOE) to endorse the Implementing Partner for data access and facilitate securing feedback from beneficiaries. Regular progress meetings will be conducted to monitor progress and reduce the likelihood of delays.
Opposition to recommendations by stakeholders and government agencies	Likely	A TWG composed of representatives from various agencies and bureaus will be formed and consulted throughout the TA to ensure that inputs and comments from relevant actors are incorporated in the project outputs. Relevant stakeholders will be consulted throughout the process.
Duplication of efforts with other donor programs	Less Likely	DOE - EUMB has confirmed that there are no other programs supporting them on DSM. A scanning of donor programs also revealed that none are delivering the same work, while there are some who are providing energy efficiency interventions. ETP and the implementing partner will periodically engage with other development partners to ensure that there will be no duplication of efforts.
DUs are not receptive to DSM	Likely	DUs may not be receptive to DSM because of associated costs for its implementation. The TA will include capacity building for DUs, and develop a toolkit for them that will also include business models that will encourage ESCOs to participate.