

**DEPARTMENT OF ENERGY  
4<sup>TH</sup> QUARTER 2017  
PROJECT STATUS REPORT**

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# **LOCALLY FUNDED PROJECTS**



# CONTINUING PROGRAMS

Continuing Programs



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Alternative Fuels for Transformation and Other Purposes</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Alternative Fuels and Energy Technology Division – Energy Utilization Management Bureau (AFETD-EUMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	2010 – Continuing
<b>PROJECT COST</b>	Php20,085,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	The program encourages and supports cooperation and private sector investments across to maximize the benefits of alternative fuels and advanced and emerging energy technology on our nation's transportation system. The program also supports the government's environmental sustainability strategic goal, and aims for the local adoption of alternative fuels and emerging energy technologies.
<b>OBJECTIVES</b>	<p><b>Main Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) Reduce dependence on imported oil through transportation fuel source diversification and adoption of indigenous energy technology;</li> <li>(2) Contribute to energy security by providing other fuel source aside from the conventional liquid petroleum products; and</li> <li>(3) Contribute to the attainment of the country's international commitment to climate change mitigation by reducing emission through the use of advance energy technology.</li> </ol>
<b>PROJECT ACTIVITIES</b>	<p><b>Core Activities:</b></p> <ol style="list-style-type: none"> <li>(1) Information, Education, and Communication (IEC) and awareness campaign to increase public acceptance of locally available alternative fuels and energy technologies (AFETs);</li> <li>(2) Identification, validation, and assessment of AFETs;</li> <li>(3) Adoption, review and update of necessary policy and enabling mechanism; and</li> <li>(4) Strengthening of partnership and collaboration with academic/research institution, National Government Agencies and sectoral stakeholders.</li> </ol>
<b>PROJECT COMPONENTS</b>	<ol style="list-style-type: none"> <li>(1) <b>Natural Gas Vehicle Program for Public Transport (NGVPPT)</b> <ul style="list-style-type: none"> <li>▪ Launched in 2002</li> <li>▪ Implemented by virtue of Executive Order 290 series of 2004</li> <li>▪ The NGVPPT is a pilot project that aims to demonstrate viability of Compressed Natural Gas (CNG) — fueled public utility buses (PUBs) operation as well as to showcase the commercial viability, technical requirements, market demand, and impact of incentives and public acceptance of natural gas in the public transport sector.</li> <li>▪ It involved formulation of policies and provision of various fiscal and non-fiscal incentives. Standards with regard to the vehicle, refueling station, gas cylinder, and gas quality have also been formulated to support the implementation of the Program</li> <li>▪ It has an initial 7-year pilot phase ("Pilot Phase") and if successful, DOE will declare to proceed with the Commercial Phase.</li> </ul> </li> <li>(2) <b>Auto LPG Program</b> <ul style="list-style-type: none"> <li>▪ It promotes the mainstreaming of liquefied petroleum gas (LPG) as a cleaner alternative fuel for public transport to replace gasoline or diesel, with focus on taxis and jeeps.</li> </ul> </li> <li>(3) <b>Promotion of Other Emerging Technologies including E-Vehicles</b> <ul style="list-style-type: none"> <li>▪ The DOE continuously monitor emerging energy technologies for the country to effectively adopt for domestic application. These energy technologies, which are considered mature in developed countries and proven to be efficient, may be considered for evaluation for domestic application in sectors other than transportation.</li> </ul> </li> </ol>
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) <b>NGVPPT</b> (Implementation of the pilot project) <ul style="list-style-type: none"> <li>▪ Deployment of 200 CNG public utility buses</li> </ul> </li> </ol>

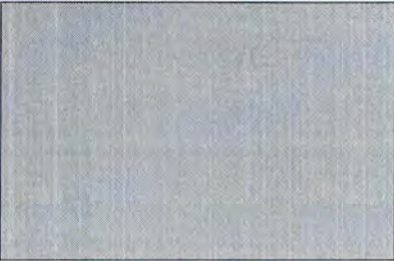


	<ul style="list-style-type: none"> <li>▪ Establishment of CNG refueling station</li> <li>▪ Provision of incentives on the use of CNG for public transportation</li> <li>▪ Formulation of standards and supporting policies</li> </ul> <p><b>(2) Auto LPG Program</b> (Support the use of LPG as alternative fuel for transportation and other equipment)</p> <ul style="list-style-type: none"> <li>▪ Validate performance of LPG as fuel for vehicle</li> <li>▪ Formulation of standards and policies to ensure public safety and welfare</li> <li>▪ Research and studies for other application of LPG.</li> </ul> <p><b>(3) Promotion of Other Emerging Technologies including E-Vehicles</b> (Promotion of advance and emerging energy technologies)</p> <ul style="list-style-type: none"> <li>▪ Introduction of advance transportation technologies such as electric vehicles</li> <li>▪ Emerging energy technology research assessment and validation for pilot testing</li> <li>▪ Demonstration project for advance energy technologies</li> </ul>
<p><b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b></p>	<p>Sixteen (16) Information, Education, and Communication (IEC) campaigns and other promotional activities on alternative fuels and energy technologies were conducted during the 4<sup>th</sup> quarter of 2017.</p>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Biofuels Program</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Biomass Energy Management Division - Renewable Energy Management Bureau (BEMD-REMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	2006 – Continuing
<b>PROJECT COST</b>	Php 14,241,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	Appropriating funds to direct the development and utilization of domestically-produced biofuels as mandated under the Republic Act No. 9367 also known as the Biofuels Act of 2006 and other purposes
<b>OBJECTIVES</b>	To increase the contribution of biofuels in the country's energy mix thereby reducing its dependence on imported fossil-based fuels, enhance the quality of the environment, and create opportunities for countryside socio-economic development consistent with the Philippine Energy Plan
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Status/updates on various biofuels and biomass for existing facilities and proposed projects</li> <li>(2) Promotion of Biofuels Program</li> <li>(3) CT equipment, ICT/office/laboratory supplies, collateral materials, and others</li> <li>(4) Data/information on the effect of using higher biofuel blends on test vehicles</li> <li>(5) Data/information on the effect of using 20% biodiesel blends on four in-use test vehicles</li> <li>(6) Data/information on the utilization of biofuel using alternative feedstock</li> <li>(7) Information on new/emerging biofuel technologies</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<ul style="list-style-type: none"> <li>• The following were continually conducted during the 4<sup>th</sup> Quarter of 2017: <ul style="list-style-type: none"> <li>➤ Implementation of the following biofuels projects using alternative feedstock and biogas technology: <ul style="list-style-type: none"> <li>- "Bioethanol Production from Microalgae and Socio-ecological Implications" by the University of the Philippines Visayas Foundation Inc. (UPVFI);</li> <li>- "Bioethanol Production Potential of Different Cassava Varieties under Northern Mindanao Condition and Development of a Pilot-scale Cassava Bioethanol Plant" by Xavier University;</li> <li>- "Biogas Technology Assessment in the Philippines" by Cavite State University; and</li> <li>- "Hands-On Training on the Construction of Biogas Digester in General Santos City" by Cavite State University;</li> </ul> </li> <li>➤ Research/ demonstration projects: <ul style="list-style-type: none"> <li>- "Electrification of Sitio Bagong Silang, Baranggay Alad, Romblon, Romblon using Biomass Technology" (18kW) by the Romblon Electric Cooperative (ROMELCO); and</li> <li>- "Establishment of a Community-Based Bioethanol Industry and Continued Research and Development on the Feasibility of Hydrous Bioethanol as Biofuel Blend" by the Mariano Marcos State University (MMSU);</li> </ul> </li> <li>➤ Validation/ resource assessment of biofuels feedstock plantation sites; and</li> <li>➤ Vehicle performance testing using higher biofuel blends (B5);</li> <li>➤ Monthly project monitoring of 27 biofuels facilities;</li> <li>➤ Site validation and product sampling of 17 project facilities;</li> <li>➤ Witnessed 25 denaturing activities;</li> <li>➤ Validated 24 site inspection/validation of Biomass Facilities and Projects;</li> </ul> </li> <li>▪ Awarded 1 Biomass Renewable Energy Operating Contract/ Certificate of Registration;</li> </ul>

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- Issued 15 Safety Officer's permit;
  - Participated/Attended 4 local and international seminar/workshop/training on biofuels; and
  - Conducted/participated in 4 Information, Education, and Communication (IEC) campaigns on Biofuels.



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>National Energy Efficiency and Conservation Program (NEECP)</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Energy Efficiency and Conservation Division-Energy Utilization Management Bureau (EECD-EUMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	January 2006 – Continuing
<b>PROJECT COST</b>	Php 30,000,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	This program aims to make energy efficiency and conservation (EE&C) a way of life. Specifically, the program aims to cushion the impact of increases in prices of petroleum products and electricity through the implementation of energy efficiency and conservation measures, promote cost avoidance/savings on fuel and electricity without sacrificing productivity, get firm savings commitments from identified sector groups and help protect the environment.
<b>OBJECTIVES</b>	The project aims to further strengthen and promote energy efficiency and conservation in the commercial, industrial, residential, transport, agricultural, and power industry sectors.
<b>MAJOR OUTPUTS</b>	<p><b>(1) Component No. 1: Energy Management</b></p> <ul style="list-style-type: none"> <li>▪ Energy management standard promulgated nationally.</li> <li>▪ Capacity of industry and industry support organizations developed to implement ISO compliant energy management systems.</li> </ul> <p><b>(2) Component 2: Systems Optimization</b></p> <ul style="list-style-type: none"> <li>▪ Capacity of industry and industry support organizations developed to implement systems optimization.</li> <li>▪ Increased adoption of system optimization energy efficiency projects by industry.</li> </ul> <p><b>(3) Component 3: Enhancement of Financial Capacity</b></p> <ul style="list-style-type: none"> <li>▪ Increased availability of financial capacity and support for industrial energy efficiency projects.</li> </ul> <p><b>(4) Component 4: Project Management</b></p> <p><b>(5) Component 5: Monitoring and Evaluation</b></p>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<ul style="list-style-type: none"> <li>▪ Conducted 2 public consultations on the implementing guidelines of the Philippine Energy Standards and Labeling Program.</li> <li>▪ Conducted 2 public consultations on the Minimum Energy Performance.</li> <li>▪ Conducted 7 IECs on energy efficiency.</li> <li>▪ Conducted 1 Fuel Economy Run.</li> <li>▪ Issued 13 certificate of savings to government agencies.</li> <li>▪ Conducted 3 E-Power Mo activities.</li> <li>▪ Conducted 1 awarding ceremony of the Don Emilio Abello Energy Efficiency Awards.</li> </ul>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Oil Industry Deregulation Management Program</b>
<b>IMPLEMENTING UNIT / OFFICE</b>	Oil Industry Management Bureau (OIMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	1997 – Continuing
<b>PROJECT COST</b>	Php 33,500,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>Republic Act 8479 or the “Downstream Oil Industry Deregulation Act of 1998” has a main objective “to ensure a truly competitive market under a regime of fair prices, adequate and continuous supply of environmentally-clean and high quality petroleum products.” The passage of the law encouraged competition and the entry of new players in the market.</p> <p>In this regard, Oil Industry Deregulation Management Program Fund was allocated to ensure that the objectives are effectively implemented. The various programs, projects and activities under the Fund support the functions of the Oil Industry Management Bureau to include, formulation/development and monitoring of quality, safety and environmental standards to promote fair trade practices in order to ensure consumer protection.</p>
<b>OBJECTIVES</b>	<p><b>MAIN OBJECTIVE:</b> To successfully implement the Downstream Oil Industry Deregulation Law</p> <p><b>SPECIFIC OBJECTIVES:</b></p> <ol style="list-style-type: none"> <li>(1) Advocate compliance of industry players standards on quality, quantity, safety and environment;</li> <li>(2) Espouse consumer protection by reducing trade violations in the liquid fuels and LPG industries;</li> <li>(3) Promote awareness of the different stakeholders, i.e. industry players, LGUs, concerned government agencies, etc. on the rules and regulations governing the downstream oil industry;</li> <li>(4) Espouse consumer awareness through the publication of press releases and primer on oil price updates;</li> <li>(5) Harmonize fuel quality to international standards pursuant to the Philippine Clean Air Act of 1999; and,</li> <li>(6) Conduct studies/ researches relative to the improvement of the downstream oil industry.</li> </ol>
<b>PROJECT ACTIVITIES</b>	<ol style="list-style-type: none"> <li>(1) <b>Monitoring and Enforcement</b> - Focused inspection in retail level; and Petroleum product quality monitoring depot / bulk level)</li> <li>(2) <b>Communication Advocacies / Initiatives</b> - LGUs capacity building; and DOE – PIA Communication Initiatives (Conduct of Multi-Sectoral Advocacy for Communications Network, government agencies, stakeholders in LF and LPG sub-sectors and LGUs.)</li> <li>(3) <b>Public / Private Sector Partnership</b> - Consultation and stakeholders’ meeting with the Downstream Oil Industry (Steering committee on facility standards; and Technical committee on petroleum products standards)</li> <li>(4) <b>Other Support Activities</b> - IEC with the Academe; Development / Publication of Advertisements (Department Circulars, etc.); Conduct of other activities on DOI in support to the field offices; Bureau’s continuous capacity building (Attendance to local and foreign seminars, conferences, and trainings; and Strategic planning and workshop); and Procurement of common office supplies, ICT and other supplies.</li> </ol>
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Conduct of Focused Inspections to target communities in Luzon, Visayas and Mindanao.</li> <li>(2) Multi-sectoral advocacies for communicators network of different sectors. <i>(Project fund realigned to accommodate rental for warehouse of confiscated liquid and LPG products.)</i></li> <li>(3) Stakeholder’s consultations / meetings</li> <li>(4) Information Education and Communication Campaigns focused on</li> </ol>



	Academe (5) Capacity Buildings / Workshop and Trainings
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	Conducted procurement of three (3) supplies in support to the continuous implementation of the activities in the Downstream Oil Industry

# ONGOING PROJECTS



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Comprehensive Resources Assessment of Philippine Low Enthalpy Geothermal Areas</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Geothermal Energy Management Division – Renewable Energy Management Bureau (GEMD-REMB)
<b>LOCATION</b>	<ul style="list-style-type: none"> <li>▪ Camiguin Island, Camiguin</li> <li>▪ Camiguin de Babuyan, Calayan, Cagayan</li> <li>▪ El Nido Palawan</li> </ul>
<b>DURATION</b>	2015 – 2017
<b>PROJECT COST</b>	Php 31,995,200.00
<b>DESCRIPTION</b>	The project is a continuation of “Detailed Resource Assessment of Selected Low Enthalpy Geothermal Areas in the Philippines”, which started in 2011 and was completed on June 2015.
<b>OBJECTIVES</b>	The project aims to conduct a detailed assessment of three (3) potential low enthalpy geothermal areas identified in previous field appraisals particularly for power generation application in the remote areas hosting the resource. These resources may be developed for power generation, and yield other uses in the tourism and agricultural sector.
<b>PROJECT ACTIVITIES</b>	<ol style="list-style-type: none"> <li>(1) Review of available data/ studies</li> <li>(2) Remote sensing and aerial photo interpretation</li> <li>(3) Semi-detailed to detailed geological, geochemical and geophysical surveys</li> <li>(4) Resource characterization and conceptual modeling</li> <li>(5) Pre-feasibility study</li> </ol>
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Identify the factors needed in the development of low enthalpy geothermal resources for power generation that will serve as the template for future similar projects;</li> <li>(2) By the end of the geological, geochemical and geophysical surveys, drilling targets and the drilling of slim holes should be done on the most promising geothermal area; and</li> <li>(3) Additional geoscientific data gathered on the Philippine low-enthalpy geothermal resources.</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	The completion report of the project was being finalized during the 4 <sup>th</sup> quarter of 2017.



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Detailed Wind Resource Assessment Project</b>
<b>IMPLEMENTING UNIT / OFFICE</b>	Solar and Wind Energy Management Division - Renewable Energy Management Bureau (SWEMD- REMB)
<b>LOCATION</b>	Nationwide (40 sites in 20 provinces)
<b>DURATION</b>	2012 – 2019
<b>PROJECT COST</b>	Php 15,000,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>As the lead agency in the implementation of the Act, the DOE is tasked, among others, to develop and maintain a centralized, comprehensive and unified data and information base on RE resources to ensure the efficient evaluation and analysis and dissemination of data and information on RE resources, development, utilization, demand and application.</p> <p>In pursuance of this tasked, the DOE is conducting a detailed wind resource assessment activity in selected areas with potential resources and no existing wind development initiatives. The activity aims to address the gaps of the country's wind database which would be utilized by project developers/investors in conceptualizing, designing and evaluating wind energy projects.</p> <p>The project jumpstarted under the "Capacity Building to Remove Barriers to Renewable Energy Development in the Philippines" (CBRED) Project of the DOE, which procured five (5) units of meteorological mast (met mast) and other auxiliary equipment needed for the start of a detailed wind data gathering. Four (4) of these met masts were installed in the Municipality of Lubang, Occidental Mindoro; in City of San Jose City and Municipality of Pantabangan, both in the Province of Nueva Ecija by the Solar and Wind Energy Management Division (SWEMD) Technical Team. However, the met-mast installed in Lubang, Occidental Mindoro was decommissioned due to devastation of Super Typhoon Yolanda in 2013. Moreover, met-mast installed in the Municipality of Pantabangan, Nueva Ecija was transferred to the Municipality of Dasol, Pangasinan and the remaining unit was installed in the Municipality of Bagac, Bataan in 2015.</p> <p>Upon the conclusion of the CBRED Project in 2011, DOE assumed the sustenance of the wind resource assessment activity through the WRAP Project which was approved for implementation in 2012.</p>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> To identify viable sites for wind power development in the country.</p> <p><b>Specific Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) Undertake and sustain the conduct of detailed wind resource assessment in potential sites of the country;</li> <li>(2) Update the national wind database containing resource data that are necessary in planning, design and implementation of wind energy projects;</li> <li>(3) Build local capability/expertise on various activities of wind resource assessment as well as in the development of wind power projects; and,</li> <li>(4) Offer to prospective Wind Developers the identified viable wind areas for commercial development and implementation pursuant to RA 9513.</li> </ol>
<b>PROJECT ACTIVITIES</b>	<ol style="list-style-type: none"> <li>(1) <b>Site Selection.</b> The DOE has developed criteria in the selection of areas for wind resource assessment based on internationally accepted best practices approach in wind power development. The basis for site selection is mainly the indicative wind power density of the areas under the Wind Atlas of the Philippines. There should be no other wind energy development initiatives in the areas. The DOE will conduct preliminary assessment (desk study and on-site validation) to identify potential sites, both in onshore and offshore areas, for detailed wind resource assessment. Priority provinces for preliminary assessment are those areas</li> </ol>



with practical wind resources as identified by WWF Study. The assessed sites will be ranked according to their respective points using the aforementioned criteria.

- (2) **Processing of Memorandum of Agreement (MOA) and Permits.** Consultation with concerned local government units (LGUs) will be undertaken to forge an agreement (MOA) regarding the meteorological mast (met-mast) installation sites, logistics, regular physical monitoring and provision of security, among others. In compliance with the existing environmental laws, rules and regulations in the course of wind resource assessment, necessary permits will be secured from DENR and other concerned agencies. Moreover, the project will establish collaboration among agencies/offices (i.e. Manila Observatory, PAGASA, etc.) conducting related activities to ensure effective and efficient implementation of the project.
- (3) **Procurement of Materials and Equipment.** Necessary materials and equipment needed for the physical installation, monitoring, data gathering/transmission/analysis, repair and maintenance as well as for health and safety of the SWEMD Technical Team will be acquired/procured.
- (4) **Installation and Commissioning of Meteorological Mast.** With the assistance from the concerned LGUs and Affiliated Renewable Energy Centers (ARECs), the SWEMD Technical Team will install and maintain a met-mast in selected areas to measure/record the average wind speed, wind direction and temperature within a period of at least two (years), among others. Necessary manpower (laborers, haulers and helpers) will be hired to assist the SWEMD technical staff during the installation of met-mast. Also, maintenance personnel will be hired on a Job Order (JO) status to conduct regular on-site monitoring, inspection and maintenance of met-masts.
- (5) **Data Collection, Processing and Analysis.** The DOE shall be responsible in the collection, processing, analysis and management of data recorded by the met mast. Data quality and integrity are the prime consideration of the activity. As much as possible, the operation of the met mast shall be monitored from time to time. A dedicated personal computer will be used in the encoding and processing of the collected/recorded data. Data analysis/interpretation will be undertaken thru WAsPs, GIS soft wares and other computer applications. The said computer shall be equipped with legally-sourced anti-virus software to protect the database from virus and other malware infection. As a standard operating procedure, the database shall be maintained with a least two (2) backup files.
- (6) **Monitoring and Maintenance.** Regular on-site monitoring and preventive maintenance will be conducted to ensure continuous and smooth operation of the met-mast.
- (7) **Decommissioning and Transfer of Meteorological Mast.** After the prescribed period of data collection, the met mast will be transferred to other eligible areas.
- (8) **Capacity Building Activities.** The project is envisioned to create local capabilities not only in wind resource assessment but also in the whole process of wind energy development. A continuous and sustained capacity building activities shall be conducted to further strengthen the technical capability of DOE and other concerned personnel. DOE should have at least three (3) accredited WAsP-operator/user staff to assert its authority on wind power project evaluation.
- (9) **Commercialization Activity.** Offer the identified viable wind sites to prospective Wind Developers for commercial project development under R. A. 9513.
- (10) **Reporting.** Reports shall be generated on a quarterly, semi-annual and annual basis.



<b>MAJOR OUTPUTS</b>	The project will enhance the identification of viable sites that are ready for the development and implementation of commercial wind power projects that can be at both on-grid and off-grid or on-shore and off-shore areas thereby mitigating the adverse effect of global warming thru the reduction of GHG emissions. It will also create local capability that would eventually contribute to the reduction of the costs of developing wind power projects in the country.
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<ul style="list-style-type: none"> <li>▪ Conduct of quarterly monitoring of 9 met-masts;</li> <li>▪ Managed 1 wind data base; and</li> <li>▪ Conducted 2 capacity building activities for the implementing unit and other concerned personnel.</li> </ul>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Household Electrification Program using Renewable Energy Systems (Photovoltaic and Micro-hydro Systems)</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Solar and Wind Energy Management Division - Renewable Energy Management Bureau (SWEMD – REMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	2010 – 2017
<b>PROJECT COST</b>	Php 1,008,256,176 Php 185,594,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	The Household Electrification Program (HEP) involves the provision of household lighting in off-grid areas (sitios) using mature renewable energy technologies such as photovoltaic solar home systems (PV-SHS), PV streetlights and micro-hydro systems. The HEP is a continuation of the Department of Energy's (DOE's) Barangay Electrification Program (BEP) which started in 1998 and had contributed to the attainment of a one hundred percent (100%) barangay level electrification in 2010.
<b>OBJECTIVES</b>	The HEP aims to contribute to the National Government's goal to attain ninety percent (90%) household electrification level by 2017.
<b>PROJECT ACTIVITIES</b>	<p><b>Major Activities:</b></p> <ol style="list-style-type: none"> <li>(1) Conduct of Rapid Rural Appraisal (RRA) to determine the potential renewable energy (RE) resource (such as solar and micro-hydro) options that can be tapped for the HEP. This also entails the initial coordination with the local government units, electric cooperatives and community and initial community organizing to select the qualified household beneficiaries;</li> <li>(2) Procurement of RE systems and services that entails the bidding and issuance of corresponding contract for the qualified proponent for the supply, delivery, installation and commissioning of the required RE systems;</li> <li>(3) Conduct of social preparation/capacity building activities which include but not limited to the formation of the recipient households into Sitio Power Association (SOPA), trainings on basic accounting and auditing procedures for the officers of the SOPA, load management, maintenance and safety and health for the house beneficiaries and technicians' training for the LGUs and electric cooperatives;</li> <li>(4) Installation and commissioning of RE systems by the Contractor;</li> <li>(5) Conduct of technical inspection and physical inventory of energized house connections; and</li> <li>(6) Conduct of regular monitoring and evaluation of the operations and management of the RE systems.</li> </ol>
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Finalized list of qualified household beneficiaries;</li> <li>(2) Signed procurement contracts for the supply, delivery, installation and commissioning of PV Systems or Micro-hydro Power Systems;</li> <li>(3) Established and trained Sitio Power Associations (beneficiaries) on administrative, social, financial and technical aspects of the Project;</li> <li>(4) Energized household beneficiaries through the installation of Photovoltaic Solar Home Systems, PV Streetlights and/or Micro-hydro Power Systems; and</li> <li>(5) Sustainable operation and maintenance of RE Systems.</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<ul style="list-style-type: none"> <li>▪ Conducted 3 procurement of goods and services;</li> <li>▪ Supervised the installation to 2,440 households and commissioning of 46 Photovoltaic (PV) systems;</li> <li>▪ Conducted technical inspection and physical inventory of completed PV installation to 2,396 households and 72 PV systems;</li> <li>▪ Conducted 6 Solar PV Technician's Training for Local Government Units (LGUs)/ Electric Cooperatives (ECs); and</li> <li>▪ Created 2 reports on the Monitoring and evaluation of implemented HEP/BUB Projects.</li> </ul>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Nationwide Intensification of Household Electrification (NIHE)</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Rural Electrification Administration and Management Division – Electric Power Industry Management Bureau (REAMD-EPIMB)
<b>LOCATION</b>	Nationwide; priority given to poor households
<b>DURATION</b>	January 2015 – December 2017
<b>PROJECT COST</b>	PhP 1,983.81 Billion (Original) PhP 1,725.48 Billion (Revised) PhP 815,396,000.00 (approved appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>The NIHE Project aims to implement the various strategies and programs of the Government's goal of attaining 90% HH electrification by 2017 as specified under the Household Electrification Development Plan 2014-2017. To attain 90% household electrification by 2017 by encouraging all DUs to develop and implement specific measures to fast-track the connections of the remaining unelectrified households in both electrified (load centers and urban/slum areas) and unelectrified areas of their franchise areas.</p> <p>The Project involves the formulation and implementation of specific measures to fast-track the connections of the remaining unelectrified households the franchise areas of the DUs and ECs. These include the streamlining of house wiring connections requirements by LGUs and DUs and promotion of LGU-DU Partnership as main strategy towards intensification, among others. In addition, a Grant Assistance Program shall be developed to support the electrical connection of the dwelling units of deserving poor households as well as others affected by calamities. Priority shall be given to those families enrolled under the DSWD's Pantawid Pamilyang Pilipino Program (4Ps) to ensure the successful poverty alleviation through the provision of basic electricity services. The DSWD's National Household Targeting System for Poverty Reduction database shall be used as the main reference for identifying eligible households.</p>
<b>OBJECTIVES</b>	To contribute to 90% household electrification by 2017 by fast-tracking the connections of the remaining unelectrified households in both electrified areas (urban and slum areas) and unelectrified areas of the country
<b>PROJECT ACTIVITIES</b>	<ol style="list-style-type: none"> <li>(1) Policy and planning support for total electrification program</li> <li>(2) Promotion of LGU-DU Partnership to fast-track electrification of unelectrified poor HHs to streamline electrical permitting and other connection requirements.</li> <li>(3) Establishment of Grant Assistance for electrical connection of poor households; to be downloaded to either DUs/ECs through Memorandum of Agreement.</li> <li>(4) Establishment of Household Electrification Information System</li> </ol>
<b>MAJOR OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Improved policies to support household electrification</li> <li>(2) Improved capacity of DUs to undertake holistic electrification planning</li> <li>(3) Improved capacity of Government to manage and monitor household electrification</li> <li>(4) Provision of electricity services to unelectrified households and households affected by calamities</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<ul style="list-style-type: none"> <li>▪ Obligated 82,510 households that will receive subsidy for new connection and reconnection.</li> <li>▪ Approved 192,578 households that will receive subsidy for new connection and reconnection.</li> <li>▪ Endorsed for the approval of 154,867 households that will receive subsidy for new connection and reconnection.</li> </ul>



# NEW PROJECTS STARTING 2017



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Capacity Building for the Test and Evaluation of Lamps for General Lighting Application particularly Light Emitting Diode</b>
<b>IMPLEMENTING UNIT / OFFICE</b>	Lighting and Appliance Testing Laboratory – Energy Research Testing Laboratory Services (LATL-ERTLS)
<b>LOCATION</b>	The main location of this project is at the Lighting and Other Electrical Devices Section of Lighting and Appliance Testing Laboratory, Energy Research and Testing Laboratory Services, Department of Energy, Energy Center, 34th street corner Rizal drive, Bonifacio Global City, Taguig City. The test facility for the performance testing of LED products will be set-up at the existing LATD building. All meetings and workshops except for those specified to be conducted on selected cities/provinces will be conducted within the premises of the DOE main office.
<b>DURATION</b>	01 January 2017 to 31 December 2019
<b>PROJECT COST</b>	Php 44,123,200.00 (Total Cost and approved appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>During the implementation stage of LED labeling LATD will be conducting regulatory testing, and energy label validation similar to the implementation of the energy labeling program of conventional lighting. A quarterly list of LEDs with approved energy label will be posted at the DOE website.</p> <p>To ensure the quality of test results and harmonize with international laboratory practice and competence, LATD will seek accreditation based on the latest version of PNS ISO 17025.</p>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> The project aims to enhance the capability of LATD to promote energy efficient lighting technology in particular LED for general lighting service. The intention is to expand the coverage of energy labeling program to generate more energy savings for the country. It also aims to mitigate CO2 emissions through reduction of lighting energy demand.</p> <p><b>Specific Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) To conduct market research and testing to determine present LED technologies</li> <li>(2) To develop a National Standard for energy labeling and energy efficiency requirements for LED general lighting service.</li> <li>(3) To procure and set-up a test facility for performance testing of LED for general lighting service compliant to the latest version of PNS ISO17025.</li> <li>(4) To train laboratory personnel on the concepts in Photometry and or Radiometry for lighting technologies including test methods.</li> </ol>
<b>PROJECT OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Market research report on the profile of LED technologies. Test facility is appropriate to test the samples in the market.</li> <li>(2) National Standards specifying the energy labeling and energy efficiency requirements of LED.</li> <li>(3) An operational test facility for LED performance testing.</li> <li>(4) Competent laboratory personnel in test and evaluation of LED.</li> <li>(5) A report on the potential energy savings from the transformation of the market to LED technologies.</li> <li>(6) An indicative report on the environmental benefit on the use of LED technology.</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	Produced one (1) document for sampling methodology that will be adopted for the energy labeling lamps for General Lighting System



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Capacity Building on Retail Market Monitoring of Petroleum Products</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Retail Market Monitoring and Special Concerns Division - Oil Industry Management Bureau (RMMSCD - OIMB)
<b>LOCATION</b>	The project will be located at the DOE Central Office, Bonifacio Global City, Taguig City since it will be implemented by RMMSCD-OIMB. Although the venue/place for the participation to trainings and focused sessions will be dependent on whoever training provider/s will be identified and selected.
<b>DURATION</b>	January 2017 to December 2019
<b>PROJECT COST</b>	Php 196,665,300 (Total Project Cost) Php 110,951,100 (Approved Appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>In enforcing the Downstream Oil Industry Deregulation Act of 1998 (R.A. 9367), the DOE through RMMSCD-OIMB conducts routine and complaint related inspections of gasoline stations, household LPG refilling plants, dealers, and retail outlets, as well as auto-LPG dispensing stations to ensure that petroleum products sold in those establishments are in compliance with existing Philippine National Standards (PNS) and DOE rules and regulations.</p> <p>This project was initiated to be able to provide a highly accurate, scalable and cost-effective system for quality and quantity testing of petroleum products in order to meet the new demands of the downstream oil industry local and global market. The DOE through the RMMSCD-OIMB has expressed willingness to undertake such measures to be able to enhance its technical competence and capabilities in order to meet the need of the downstream oil industry particularly in the retail monitoring.</p>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> Capacitate both the technical and non-technical women and men inspectors in the downstream oil industry retail market sector.</p> <p><b>Specific Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) To establish and implement Capacity Building Plan (CBP) particularly for non-technical female and male inspectors in the downstream oil industry retail market sector.</li> <li>(2) To procure goods and services (Technical and Scientific Equipment, Motor Vehicles, Office Equipment/Supplies, Laboratory Supplies, Repair and Maintenance of Motor Vehicles/Technical &amp; Scientific Equipment) to be used by women and men inspectors during inspectors/monitoring activities.</li> <li>(3) To procure goods packages (Audio-Video and ICT Equipment including its accessories) that will be used for the documentation of inspection/monitoring and IEC activities.</li> </ol>
<b>PROJECT OUTPUTS</b>	<ol style="list-style-type: none"> <li>(1) Capacity Building Plan (CBP) conducted/implemented.</li> <li>(2) Quality, procedures, and inspector's work instruction manuals as part of the preparatory works for ISO Accreditation/ Certification drafted and finalized.</li> <li>(3) Technical and Scientific Equipment, Motor Vehicles, Office Equipment/Supplies, Laboratory Supplies, Repair and Maintenance of Motor Vehicles/ Technical &amp; Scientific Equipment procured and delivered.</li> <li>(4) Audio-Video and ICT Equipment including its accessories procured and delivered.</li> <li>(5) Project final report prepared and submitted.</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	Ten (10) procurement activities were conducted supplies and services in support to the enforcement activities during the 4 <sup>th</sup> quarter of 2017.



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Philippine Geothermal Resource Inventory and Assessment</b>
<b>IMPLEMENTING UNIT/ OFFICE</b>	Geothermal Energy Management Division - Renewable Energy Management Bureau (GEMD-REMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	January 2017 to December 2021
<b>PROJECT COST</b>	PhP 61,548,838.00 (Total Project Cost) PhP 5,540,000.00 (Approved Appropriation for FY 2017)
<b>DESCRIPTION</b>	<p>The project is a continuing initiative of GEMD to accelerate the development of geothermal energy resources especially the utilization of the low to medium temperature alongside with undiscovered high temperature geothermal resources, not only for possible power generation, but could also be viable for direct-use applications. This project is related to the locally funded projects- "National Inventory of Geothermal Resources, (1994-1998)" "Resource Assessment of Low-enthalpy Geothermal Resources of the Philippines (2007-2009)", "Detailed resource assessment of selected low enthalpy geothermal areas in the Philippines, (2010-2015)" and Comprehensive Resource Assessment of Philippine Low-Enthalpy Geothermal Areas, (2015-present).</p> <p>The data to be produced from this project should then be made available to private investors for further studies and development through the Open and Competitive Selection Process for awarding of geothermal resources.</p> <p>The project is to be implemented in two phases:</p> <ol style="list-style-type: none"> <li>(1) 1st phase (2017-2018) – will be a nationwide inventory to update the existing database of Philippine geothermal resources and thermal manifestations. This database needs to be updated in terms of site validation and re-sampling of documented thermal manifestations.</li> <li>(2) 2nd phase (2019-2021) – shall be contracted-out to qualified service providers through the usual government procurement process to further assess the potential of the selected areas. Separate contract-out services will be implemented for: <ul style="list-style-type: none"> <li>▪ Semi-detailed to detailed Geology and Geochemistry for up-to 6 geothermal areas subject to the results of the 1st phase.</li> <li>▪ Geophysics and integrated resource assessment for up-to 3 geothermal areas subject to the results of the detailed geological and geochemical surveys.</li> </ul> </li> </ol>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> The main objective of this project is to accelerate the development of indigenous geothermal energy resources that will contribute to the National Renewable Energy Plan of increasing geothermal energy capacity installations, both from conventional and binary technologies, by 2030 and promotion of direct-use applications of geothermal resources including.</p> <p><b>Specific Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) To have an updated database of Philippine geothermal reserves and resources discussing the salient features of each geothermal prospect relative to its locations in the Philippines, geologic, geochemical and geophysical data.</li> <li>(2) To identify additional geothermal prospect areas.</li> </ol>
<b>PROJECT ACTIVITIES</b>	<ol style="list-style-type: none"> <li>(1) Literature Review</li> <li>(2) Coordination with the LGUs</li> <li>(3) Procurement of field supplies and equipment</li> <li>(4) Identification of geothermal resource potential through nationwide inventory</li> <li>(5) Integrated Geoscientific Study (Semi-detailed geology, geochemical and geophysical survey)</li> </ol>



<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<p>(6) Discussion, acceptance or rebuttal of results and Report Writing</p> <ul style="list-style-type: none"><li>▪ One (1) contract was awarded in relation to the procurement of supplies/equipment.</li><li>▪ One (1) Bids and Awards Committee (BAC) resolution was issued in relation to the procurement of supplies/ equipment.</li><li>▪ Six (6) geothermal prospects were identified for the conduct of the detailed studies.</li><li>▪ Five (5) geothermal prospects were validated/ surveyed for the detailed studies.</li><li>▪ Coordinated with ten (10) Local Government Units (LGUs) in relation to the conduct of the detailed studies</li></ul>
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**FOREIGN ASSISTED  
PROJECTS**



# LOAN AND GRANT



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

PROJECT NAME	Market Transformation through Introduction of Energy Efficiency Electric Vehicle (E-Trike) Project
DEVELOPMENT PARTNERS	<ul style="list-style-type: none"> <li>▪ Asian Development Bank (ADB)</li> <li>▪ Clean Technology Fund (CTF)</li> </ul>
OTHER AGENCIES INVOLVED	<ul style="list-style-type: none"> <li>▪ Department of Finance (DOF)</li> <li>▪ National Economic and Development Authority (NEDA)</li> <li>▪ Land Bank of the Philippines (LBP)</li> <li>▪ Local Government Units (LGUs)</li> <li>▪ Department of Budget and Management (DBM)</li> <li>▪ Climate Change Commission (CCC)</li> <li>▪ Department of Interior and Local Government (DILG)</li> <li>▪ Department of Science and Technology (DOST)</li> <li>▪ Department of Environment and Natural Resources (DENR)</li> <li>▪ Land Transportation Office (LTO)</li> <li>▪ Bureau of Customs (BoC)</li> <li>▪ Department of Trade &amp; Industry (DTI) - Bureau of Product Standards (BPS)</li> <li>▪ DTI - Board of Investments (BoI)</li> <li>▪ Tariff Commission (TC)</li> <li>▪ Bureau of Treasury (BoT)</li> <li>▪ Technical Education and Skills Development Authority (TESDA)</li> </ul>
IMPLEMENTING UNIT / OFFICE	Energy Utilization Management Bureau - Alternative Fuels and Energy Technology Division (EUMB-AFETD)
LOCATION	Nationwide For Package 1 (3,000 e-trike units): NCR, Region IV-A and IV-B
DURATION	2013 – 2018
PROJECT COST	<p><b>Total Project Cost:</b> US\$504 million (PhP21.672 billion)</p> <p><b>ADB Loan:</b> US\$300 million (PhP12.9 billion)</p> <p><b>CTF Loan:</b> US\$100 million (PhP4.3 billion)</p> <p><b>Gov't Counterpart:</b> US\$99 million (PhP4.257 billion)</p> <p><b>CTF Grant:</b> US\$5 million (PhP215 million) – US\$4 million allocated for Solar Charging Facilities</p>
DESCRIPTION	The Department of Energy (DOE), as the designated implementing agency, envisions deploying 100,000 quality locally-made e-trike units powered by lithium-ion batteries to key cities and municipalities nationwide. The Project will spur establishment and development of the electric vehicle (EV) industry in the country and new associated EV support industries such as charging stations, motor & parts supply chain, and battery leasing/recycling/disposal in the Philippines which in return generate jobs for the Filipinos.
OBJECTIVES	<ol style="list-style-type: none"> <li>(1) Deploy 100,000 quality locally-made e-trikes powered by lithium-ion batteries to key cities and municipalities nationwide</li> <li>(2) Reduce annual fuel consumption of the road transport sector by 2.8% or an equivalent of 89.2 million liters per year (based on 20 million barrels per year consumption in 2010)</li> <li>(3) Achieve a 79% emission avoidance (estimated at 259,000 tons of CO<sub>2</sub> per year) as a result of shifting from 100,000 units of 2-stroke gasoline-fed tricycles to 100,000 e-trikes running on pure electricity</li> </ol>
PROJECT ACTIVITIES	<ol style="list-style-type: none"> <li>(1) Information, Education, and Communication (IEC), promotion and awareness campaigns to increase public acceptance among LGUs, transport groups, financial institutions, academe and other concerned stakeholders.</li> <li>(2) Identification of potential LGUs as Project Partners in the deployment of e-trikes.</li> <li>(3) Procurement (evaluation of technical and financial bids).</li> <li>(4) Delivery and distribution of e-trikes</li> <li>(5) Conduct training/workshop on e-trike operations and maintenance</li> </ol>
MAJOR OUTPUT	(1) Delivery of 3,000 complete e-trike units to selected LGUs and other interested parties.



	<p>(2) Create and increase awareness and knowledge on the benefits of using e-trike as an alternative to gasoline-fed tricycles.</p> <p>(3) Promote and encourage local adoption of e-trikes among LGUs, transport groups and private entities.</p>
<p><b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b></p>	<ul style="list-style-type: none"> <li>▪ On 13 October 2017, ADB approved the key amendments to the revised PAM.</li> <li>▪ DOE E-trike team communicated with fifty-five (55) cities and municipalities in the National Capital Region (NCR), Regions IV-A and IV-B to encourage and solicit intent from the Local Government Units (LGUs) to be DOE's E-Trike Project Partners for possible deployment of the 3,000 E-trike.</li> </ul>







#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Access to Sustainable Energy Programme (ASEP)</b>
<b>DEVELOPMENT PARTNERS</b>	<ul style="list-style-type: none"> <li>▪ <b>Donor:</b> The European Union (EU) - Donor</li> <li>▪ <b>Trustee for part of the EU funds:</b> World Bank (WB)</li> </ul>
<b>OTHER AGENCIES INVOLVED:</b>	<p><b>Cooperating Agencies:</b></p> <ul style="list-style-type: none"> <li>▪ Energy Regulatory Commission (ERC)</li> <li>▪ National Electrification Administration (NEA)</li> <li>▪ National Power Corporation – Small Power Utilities Group (NPC-SPUG)</li> </ul> <p><b>Others:</b></p> <ul style="list-style-type: none"> <li>▪ Electric Cooperatives (ECs)</li> <li>▪ Private Investors</li> <li>▪ Local Government Units (LGUs)</li> <li>▪ Academe and Other Civil Society Organizations</li> </ul>
<b>IMPLEMENTING OFFICE</b>	Rural Electrification Administration and Management Division – Electric Power Industry Management Bureau (REAMD-EPIMB)
<b>LOCATION</b>	Nationwide with focus to Bangsamoro and other Mindanao provinces.
<b>DURATION</b>	April 2016 to March 2020
<b>PROJECT COST</b>	PHP 4.90 Billion with EU Grants of EUR 60 Million (PHP 2.8 Billion; EUR 1 = PHP 47)
<b>DESCRIPTION</b>	<p>ASEP is a 4-year collaboration between EU and the Philippine Government that supports the Government's goal of inclusive economic growth and attainment of 90% household electrification by 2017 under the Philippine Development Plan (PDP) and DOE's HEDP by providing basic electricity services to remote and poor households through PV mainstreaming, pre-paid metering and mini-grids using RE or RE-hybrid systems in remote islands.</p> <p>The project will undertake various technical assistance in the form of policy advice, studies, trainings, and provision of tools to enhance the power sector management through capacity building of DOE and ERC towards policy and regulatory reforms, capacity building to NEA and ECs with special attention to Bangsamoro areas, advice on the least cost implementation of RE and EE strategies, and implementation of the National Energy Efficiency Roadmap, among others. Grants shall also be given for Call for Proposal to promote sustainable business models and partnerships link innovative energy solutions grids with job creation, livelihood, and productive uses especially for poor households.</p> <p>EU shall provide 60 Million Euros of grants to finance the various components as follows:</p> <ul style="list-style-type: none"> <li>▪ Capacity building and IRC / training activities</li> <li>▪ Investment grants to solar PV Mainstreaming for HH electrification, Rural Network Solar for total of 20MW of on-grid solar PV systems connected to the substations of DUs / ECs, and pre-paid metering for poor households</li> <li>▪ Small scale RE projects by communities especially in Mindanao to promote livelihood and productive use activities</li> </ul>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> To assist the Government of the Philippines in expanding its sustainable energy generation to meet the growing needs of its economy and provide energy access to the poor and marginalized sector in accordance with the Philippine Development Plan (PDP).</p> <p><b>Specific Objective:</b> To generate more electricity from RE, increase in the efficiency of energy use, and increase access for the poor to affordable, disaster-resilient energy. As a result of ASEP's RE investments and the facilitation of RE investments by others through the ASEP interventions, at least 100,000, tentatively 150,000 poor households in remote areas will be electrified, and/or utilize innovative energy solutions. Furthermore, 20</p>



	<p>megawatts (MW) of new clean RE generation are to be installed, and Greenhouse Gas (GHG) emissions from the equivalent to that discharged by a 50-MW coal-fired power plant are to be avoided by 2020.</p>
<p><b>PROJECT COMPONENTS</b></p>	<p><b>(1) Technical Assistance (TA) and Capacity Building for Reform</b></p> <ul style="list-style-type: none"> <li>- Aims to provide advice on policy and strategy, develop planning tools and business models and provide targeted support to the implementation of the investment components. It functions as the ASEP Secretariat and directly supports the Department of Energy (DOE) in its role as program manager for the Government. <ul style="list-style-type: none"> <li>▪ Capacity building to DOE on Enhanced Power Sector Management, Household Electrification, and Renewable energy Development</li> <li>▪ Capacity building to ERC on regulations</li> <li>▪ Capacity building to NEA and ECs</li> <li>▪ Market Study on Pre-Paid Metering (PPM) for Sustainable Electrification of Poor Households</li> <li>▪ Special Assistance Program for ECs and Communities in Bangsamoro Areas</li> <li>▪ Automated and Comprehensive Characterization of Power Projects and Electrification Schemes System (ACCESS) including RE4RE System</li> <li>▪ Support to the implementation of the National Energy Efficiency Roadmap (NEEP)</li> <li>▪ Technical Support to Project Development and Other Cross-cutting Activities</li> </ul> </li> </ul> <p><b>(2) Investment Support</b></p> <ul style="list-style-type: none"> <li>- provides investment and capacity building support to specifically designed activities that promote RE-based energy systems and enhance the capability of Electric Cooperatives (ECs) to implement the rural electrification objective. <ul style="list-style-type: none"> <li>▪ Solar PV Mainstreaming: Sustainable SHS electrification of more than 35,000 HHs through Utility-based, Fee-for-Service Approach</li> <li>▪ Rural Network Solar (RNS): to support about 20 MW of Non-FIT, Non UC-ME, Grid-tied Solar PV Project with no tariff impacts to consumers</li> </ul> </li> </ul> <p><b>(3) Call for Proposals for Pro-Poor and Climate-Resilient Innovative Energy Solutions</b></p> <ul style="list-style-type: none"> <li>- <b>Lot 1:</b> Electrification of households and communities through renewable energy hybridization of diesel mini-grids;  <b>Lot 2:</b> Electrification of households and communities through decentralized RE systems and RE micro- or mini-grids;  <b>Lot 3:</b> Lot 3: Electrification of households and communities in the Autonomous Region of Muslim Mindanao (ARMM) through Lot 1 and Lot 2 type projects; and  <b>Lot 4:</b> Promotion of excellence, learning and awareness on SE4All and the SDG78.</li> </ul> <p><b>(4) Program Management</b> - project operations, monitoring and evaluation.</p>
<p><b>MAJOR OUTPUT</b></p>	<p><b>(1) Capacity of energy sector stakeholders for pro-poor sustainable energy policy and institutional framework are strengthened</b></p> <ul style="list-style-type: none"> <li>▪ At least 7 issuances / regulations promoting RE and/or electrification for the poor</li> <li>▪ At least 20 million citizens reached by the EU through IEC on benefits of using RE and EE technologies</li> <li>▪ 10 investment FS and other studies prepared (i.e., resource assessments, business models)</li> <li>▪ Electricity savings due to EE initiatives promoted by the EU to save</li> </ul>



	<p>greenhouse gas emissions equivalent to at least 50MW coal-fired power plant by 2020</p> <p><b>(2) Investments aimed at increasing access to RE in remote and high poverty areas, esp. in Mindanao</b></p> <ul style="list-style-type: none"> <li>▪ 20MW capacity of RE projects installed with the support of the EU by 2018</li> <li>▪ 35,000 HHs benefit from SHSs co-funded by EU</li> </ul> <p><b>(3) Pro-poor and disaster-resilient innovative energy solutions promoted for job creation and wider access</b></p> <ul style="list-style-type: none"> <li>▪ 2 partnerships (NGO, academe) to deliver social preparation, trainings, advice, delivery mechanisms for the promotion of innovative RE solutions to the poor established</li> </ul>
<p><b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b></p>	<p>Two (2) board resolutions and project proposals were received in relation to the Adoption of the PV Mainstreaming Project</p>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS) Project</b>
<b>DEVELOPMENT PARTNERS</b>	United Nations Development Programme (UNDP)
<b>IMPLEMENTING UNIT/ OFFICE</b>	National Renewable Energy Board- Technical Secretariat – Renewable Energy Management Bureau (NREB-TS-REMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	01 January 2016 – 31 December 2020
<b>PROJECT COST</b>	<p>USD 43,502,222</p> <p><b>Total allocated resources:</b></p> <ul style="list-style-type: none"> <li>▪ GEF: USD 5,200,000</li> <li>▪ UNDP: USD 200,000</li> <li>▪ DOE: USD 2,300,000</li> <li>▪ PEMC: USD 2,700,000</li> <li>▪ Local Government: USD 1,222,222</li> <li>▪ Private Sector: USD 31,880,000</li> </ul>
<b>DESCRIPTION</b>	The Project will lead to direct lifetime greenhouse gas(GHG) emission reductions of 2.445 kilotonnes (ktonnes) carbon dioxide (CO <sub>2</sub> ), and indirect CO <sub>2</sub> reductions ranging from 4,889 to 141,000 ktonnes CO <sub>2</sub> .
<b>OBJECTIVES</b>	To promote and facilitate the commercialization of the renewable energy (RE) markets through the removal of barriers to increase investments in RE based power generation projects.
<b>PROJECT COMPONENTS</b>	<p><b>(1) RE Policy, Planning and Financing</b></p> <ul style="list-style-type: none"> <li>▪ The outputs from this component will lead to the outcome of enforcement of the supportive policy and regulatory environment that will leverage increased investment in RE development and application at the local level.</li> </ul> <p><b>(2) Institutional Strengthening for RE mainstreaming</b></p> <ul style="list-style-type: none"> <li>▪ This component is intended to address the barriers associated with the need for improved capacity in the Philippines, mainly at the local level on RE issues and the development, operation and management of RE projects. The outcome resulting from the outputs from this component is strengthened institutional capacity that leads to increased RE investment at the local level.</li> </ul> <p><b>(3) ‘Capitalized’ RE Market Development</b></p> <ul style="list-style-type: none"> <li>▪ This component will address the barrier relating to the absence of a functional RE Market that represents tangible government measures to ensure compliance with the mandated utilization of RE generation and spur the growth of the RE industry. RE projects in the RE Market are to fall within standards of the Renewable Portfolio Standards (RPS) that provide clarity on rules and regulations that qualify certain RE projects for RE Certificates (RECs)<sup>54</sup>.</li> <li>▪ The outcome resulting from the outputs from this component will be a “capitalized” RE Market and an accompanying RE registrar that will contribute to an increased share of RE based power capacity, and an increased number of RE project developers at the local level.</li> </ul> <p><b>(4) RE Commercialization</b></p> <ul style="list-style-type: none"> <li>▪ This component will address barriers related to the lack of successful RE projects in the Philippines.</li> <li>▪ There are two (2) outcomes resulting from the outputs of this component: <ul style="list-style-type: none"> <li>- Increased confidence of local RE developers that leads to an enhanced uptake of RE projects at the local level; and</li> <li>- Increased number of RE projects using proven and emerging RE</li> </ul> </li> </ul>



<b>MAJOR OUTPUT</b>	<p>technologies thus boosting successful replication.</p> <p><b>(1) RE Policy, Planning and Financing</b></p> <ul style="list-style-type: none"> <li>▪ Approved and enforced cohesive national RE policy, implementing rules and mechanisms.</li> <li>▪ Approved and enforced local ordinances, and policies aligned with national RE objectives.</li> <li>▪ Strengthened and approved guidelines on RE penetration into grids.</li> <li>▪ Completed assessments on real cost of RE for formulation of tariffs.</li> <li>▪ Approved policy recommendations for promoting local manufacturing and assembly of quality RE systems.</li> </ul> <p><b>(2) Institutional Strengthening for RE mainstreaming</b></p> <ul style="list-style-type: none"> <li>▪ Harmonized local level development plans and RE programs with national DOE programs.</li> <li>▪ Streamlined system of issuance of permits and licenses</li> <li>▪ Focal points established within LGUs</li> <li>▪ Operational provincial-level market service centers</li> <li>▪ Established and operational RE knowledge platforms</li> </ul> <p><b>(3) ‘Capitalized’ RE Market Development</b></p> <ul style="list-style-type: none"> <li>▪ Completed comprehensive market assessments</li> <li>▪ Established “capitalized” RE markets complete with RE Registrar and operational support</li> </ul> <p><b>(4) RE Commercialization</b></p> <ul style="list-style-type: none"> <li>▪ Financing mechanisms to enhance local RE investment.</li> <li>▪ Bankable RE project plans through financial mechanisms</li> <li>▪ Rural electrification models incorporating innovative RE market services for off-grid areas</li> <li>▪ Training and certification programs for local technical experts</li> <li>▪ Site-specific RE resource databases</li> <li>▪ Expedited RE service contracts</li> </ul>
	<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Output-Based Solar PV Electrification Project</b>
<b>DEVELOPMENT PARTNER</b>	<ul style="list-style-type: none"> <li>▪ World Bank</li> <li>▪ Global Partnership on Output-Based Aid (GPOBA)</li> </ul>
<b>OTHER AGENCIES INVOLVED</b>	<ul style="list-style-type: none"> <li>▪ National Electrification Administration (NEA)</li> <li>▪ Distribution Utilities (Electric Cooperatives, PIOUs, LGUOUS)</li> <li>▪ Qualified Third Parties (QTPs)</li> <li>▪ LGU Guarantee Corporation (LGUGC)</li> </ul>
<b>IMPLEMENTING UNIT / OFFICE</b>	Rural Electrification Administration and Management Division – Electric Power Industry Management Bureau (REAMD-EPIMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	June 2016 – July 2018
<b>PROJECT COST</b>	<ul style="list-style-type: none"> <li>▪ GPOBA: USD 3.00 Million</li> <li>▪ <b>Breakdown: Component 1:</b> USD 2.4 Million and <b>Component 2:</b> USD 600,000</li> <li>▪ <b>With EC/HH user contribution</b> at Php500.00</li> <li>▪ <b>GOP Counterpart (in-kind )</b></li> </ul>
<b>DESCRIPTION</b>	<p>The project aims to help the Philippines in attaining its 90% household electrification goal by 2017. The challenges in obtaining said goal includes the following:</p> <ul style="list-style-type: none"> <li>▪ Most remote, highly dispersed and poor households in the unelectrified areas;</li> <li>▪ Requires huge investment if the grid lines are to be extended;</li> <li>▪ Put constraints in the technical and financial position of the Distribution Utilities; and,</li> <li>▪ Limited potential to attract private sector investment/participation.</li> </ul>
<b>OBJECTIVES</b>	<p><b>Main Objective:</b> The objective of the project is to assist the Philippines in increasing access to electricity in a sustainable towards the attainment of 90% household electrification by 2017.</p> <p><b>Immediate Objectives:</b></p> <ol style="list-style-type: none"> <li>(1) To implement measures to intensify household electrification by electric cooperatives.</li> <li>(2) To establish grant facility to enable access to electricity service by unelectrified poor households.</li> </ol>
<b>PROJECT COMPONENTS</b>	<ol style="list-style-type: none"> <li>(1) Investment to Support for Off-grid Decentralized Electrification using SHS.</li> <li>(2) Capacity Building for DUs on Off-grid Electrification using SHS.</li> <li>(3) Support to Program Management</li> </ol>
<b>MAJOR OUTPUT</b>	<ol style="list-style-type: none"> <li>(1) At least 5,500 households provided with SHS packages for electricity services; and</li> <li>(2) At least 3-5 electric cooperatives capacitated on off-grid, decentralized electrification using solar home systems.</li> <li>(3) Implementation Support (Network of Verification Agents in place, and Output Verification Reports)</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	One verification firm was engaged in relation to the recruitment of verification agent



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Industrial Energy Efficiency in the Philippines (IEEP)</b>
<b>DEVELOPMENT PARTNERS</b>	<b>Implementer:</b> United Nations Industrial Development Organization (UNIDO) <b>Grant Source:</b> Global Environment Facility (GEF) <b>Other Entities:</b> Department of Trade and Industry (DTI) – Bureau of Product Standards (BPS)
<b>IMPLEMENTING UNIT / OFFICE</b>	Energy Efficiency and Conservation Division – Energy Utilization Management Bureau (EECD-EUMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	<b>Original:</b> 01 June 2011 to 30 November 2016 <b>1<sup>st</sup> Extension:</b> 01 June 2011 to 01 May 2017 <b>2<sup>nd</sup> Extension:</b> 01 June 2011 to 31 March 2018
<b>PROJECT COST</b>	<b>Total Project Cost:</b> US\$ 27,166,065.00 <b>UNIDO-GEF:</b> USD 3,166,065.00 <b>Co-financing:</b> USD 24,000,000.00 (National Commercial Banks – USD 20,000,000.00; Department of Energy – USD 4,000,000.00)
<b>DESCRIPTION</b>	The project will train Filipino national experts in both the optimization of steam, compressed air and pumping systems and in energy management while at the same time introducing these concepts to participating industrial enterprises that will directly benefit from the project implementation. Outputs will include greenhouse gas emission reductions from savings in the use of fuel and electricity attributable to systems improvements undertaken by the participating industrial enterprises. The project will also build capacity for industries in order to introduce an energy management standard – ISO 50001 – an international energy management standard published early 2011. Compliance with this new ISO standard will provide an incentive for continuous attention to improved energy use efficiency.
<b>OBJECTIVES</b>	The project aims to conduct a detailed assessment of three (3) potential low enthalpy geothermal areas identified in previous field appraisals particularly for power generation application in the remote areas hosting the resource. These resources may be developed for power generation, and yield other uses in the tourism and agricultural sector. It also aims to introduce ISO 50001 energy management system along with system optimization approach for improvement of industrial energy efficiency of the Philippines.
<b>PROJECT COMPONENTS</b>	(1) Energy Management (Integration of Energy Management System/ ISO50001) (2) Systems Optimization (Steam, Compressed-air, Pumping Systems) (3) Enhancement of Financial Capacity (EE Financial Criteria) (4) Project Management (5) Monitoring and Evaluation
<b>MAJOR OUTPUT</b>	(1) Promulgation of national energy management standard (2) Capacity of industry and industry support organizations developed to implement ISO compliant energy management (3) Capacity of industry and industry support organizations developed to implement systems optimization. (4) Increased adoption of system optimization energy efficiency projects by industry. (5) Increased availability of financial capacity and support for industrial energy efficiency projects.
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<b>Component 1: Energy Management System (EnMS)</b> <ul style="list-style-type: none"> <li>▪ Conducted two plant visits to follow-up EnMS plans with International Expert</li> <li>▪ Launching of Carbon Bank with National and International Expert</li> <li>▪ Conducted one (1) plant visit to verify EnMS implementation with International Expert</li> <li>▪ Presented project overview and introduce energy management systems</li> </ul>



during the meeting with Semicon and Microelectronics Association.

- Awarded 12 practitioners and 13 companies implementing EnMS during the DEAEAA 2017.

**Component 2: Systems Optimization**

- Conducted a four (4) plant visits
- Conducted one (1) technical training on CASO in partnership with PEZA
- Conducted in-house training on CASO



# TECHNICAL ASSISTANCE



#### 4<sup>th</sup> Quarter of 2017 Project Status Report

<b>PROJECT NAME</b>	<b>Support to the Philippines in Shaping and Implementing the International Climate Change Regime (SUPPORT CCC II)</b>
<b>DEVELOPMENT PARTNERS</b>	<p><b>Fund Source:</b> German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)</p> <p><b>Project Partners:</b> Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Climate Change Commission (CCC), Housing and Land Use Regulatory Board (HLURB), Department of Finance (DOF), and Local Government Units (LGUs)</p>
<b>IMPLEMENTING UNIT / OFFICE</b>	National Renewable Energy Board- Technical Secretariat – Renewable Energy Management Bureau (NREB-TS-REMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	September 2015 to February 2019
<b>PROJECT COST</b>	EUR 4.5 million + 0.25 million (local in-kind contribution)
<b>DESCRIPTION</b>	<p>Support CCC II builds on from the experiences and results of the previous BMUB- International Climate Initiative (IKI) funded project, “Support to the Climate Change Commission in Implementing the National Climate Change Action Plan (Support CCC),” which culminated in August 2015.</p> <p>Support CCC has so far contributed to the institutional strengthening in implementing the National Climate Change Action Plan, to the promotion of renewable energy through policy mechanisms such as the Feed-in-Tariff (FIT) and net-metering, and to the capacity building efforts on climate-resilient planning at the subnational level.</p> <p>DOE and GIZ jointly implement ‘Component 4b– Renewable Energy and Energy Planning’ of the ‘Support to the Philippines in shaping and implementing the international climate change regime (Support CCC II)’ project, led by the CCC. The Project is funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) under its International Climate Initiative (IKI). The Project will be implemented from September 2015 until February 2019.</p> <p>Support CCC II Project Components 4: Renewable Energy and Energy (Power) Planning</p> <p>The project continues its support to DOE in the implementation of an effective regulatory framework to promote the use of renewable energy. Furthermore, the project aims at improving national energy planning to better accommodate the increasing amount of energy from variable renewable sources such as solar and wind energy in the Philippine power system.</p>
<b>OBJECTIVES</b>	Strengthening the Climate Change Commission and other key actors in implementing and coordinating the national climate change regime as well as developing and operationalizing national contributions to the international climate change discussion.
<b>PROJECT COMPONENTS</b>	<p><b>Component 4: Renewable Energy and Energy (Power) Planning will work in four major thematic areas (component modules):</b></p> <ul style="list-style-type: none"> <li>▪ <b>Module 1:</b> RE policy implementation and energy market design</li> <li>▪ <b>Module 2:</b> Integrated energy planning</li> <li>▪ <b>Module 3:</b> RE grid integration and management</li> <li>▪ <b>Module 4:</b> Support the process of assessing the GHG reduction potential of increased deployment of RE</li> </ul>
<b>MAJOR OUTPUT</b>	Renewable Energy Policy Implementation and Energy Market Design
<b>UPDATES / ACCOMPLISHMENTS FOR THE 4<sup>TH</sup> QUARTER OF 2017</b>	<b>No submission yet on updates/accomplishments for the 4<sup>th</sup> quarter of 2017.</b>