

## **ACCOMPLISHMENT REPORT FOR 2019 AND 1<sup>ST</sup> SEMESTER 2020**

*Locally Funded Projects (LFPs) and Foreign Assisted Projects (FAPs)*

Department of Energy (DOE)

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The Department of Energy (DOE) implements locally funded projects (LFPs) funded under Fund 151 and categorized as Continuing Programs, Ongoing Projects, and Special Programs while foreign assisted projects (FAPs) may be in a form of Grant, Loan or both.

In 2019, two (2) LFPs and one (1) FAP were concluded, namely:

- Capacity Building for the Test and Evaluation of Lamps for General Lighting Application Particularly Light Emitting Diode (LED)
- Capacity Building on Retail Market Monitoring of Petroleum Products
- Market Transformation through Introduction of Energy Efficient Electric Vehicles Project (E-Trike Project)

Some DOE units implementing projects exceeded their targets while some were able to accomplished most, if not all of their targets in 2019.

Currently, the Department is implementing 12 projects wherein 10 are LFPs and two (2) are FAPs.

For the 1<sup>st</sup> semester of 2020, implementation plans were affected by the declaration of the enhanced community quarantine (ECQ) which started in mid-March brought about by the COVID-19 pandemic. Hence, budget for the projects were recalibrated and work plans were adjusted /revised.

Despite this unforeseen crisis, most projects still managed to achieve and even exceeded some of their targets and pushed through with some activities that entail public engagements through the utilization of social media and creation / application of virtual / online platforms.

The following are the details and accomplishments for the year 2019 and 1<sup>st</sup> semester 2020 of DOE projects:

### **LOCALLY FUNDED PROJECTS**

#### **A. Continuing Programs**

1. Alternative Fuels for Transportation and Other Purposes
2. Biofuels Program
3. National Energy Efficiency and Conservation Program (NEECP)
4. Oil Industry Deregulation Management Program

#### **B. Ongoing Projects**

5. Detailed Wind Resource Assessment Project
6. Philippine Geothermal Resource Inventory and Assessment

#### **C. Special Projects**

7. Nuclear Energy Program Implementing Organization (NEPIO)
8. Philippine Conventional Energy Contracting Program (PCECP)

9. Performance Audit and Assessment for Power Generations, Transmissions and Distributions Facilities
10. Total Electrification Program (TEP)

### **FOREIGN-ASSISTED PROJECTS**

#### **A. Grants**

11. Access to Sustainable Energy Programme (ASEP)
12. Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS) Project

## LOCALLY FUNDED PROJECTS

### A. Continuing Programs

#### 1. Alternative Fuels for Transportation and Other Purposes

<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>	Php 229,307,000.00 (Revised multi-year budget requirement from 2019-2023)
<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>	<p><b>(1) Natural Gas Vehicle Program for Public Transport (NGVPPT)</b></p> <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> </ul>

	<ul style="list-style-type: none"> <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> <p><b>(2) Auto LPG Program</b></p> <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 jeepneys.</li> </ul> <p><b>(3) Promotion of Other Emerging Technologies including E-Vehicles</b></p> <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>
<b>MAJOR OUTPUTS</b>	<p><b>(1) NGVPPT</b> (Implementation of the pilot project)</p> <ul style="list-style-type: none"> <li>▪ Deployment of 200 CNG public utility buses</li> <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</b></p> <p><b><u>2019</u></b></p> <p>The implementing unit exceeded all its targets for 2019. Despite difficulties in securing schedules for the conduct of the IECs in the 3<sup>rd</sup> quarter, the implementer has still managed to even exceed its four (4) targeted IECs with 22 actual IECs in 2019.</p> <p>Likewise, from four (4) Technical Assistance / Evaluation / Studies to be conducted, four (4) Auto LPG monitoring activities, and one (1) related policy formulation / permit issuance targets, it has actually conducted six (6), 15, and nine (9), respectively.</p>	

It is also worth to mention that despite not being part of the target, two (2) policy-related partnerships on alternative fuels and technologies were established through a MOA.

Below is the project's list of actual accomplishments for the year 2019:

1. Conducted 22 IECs for the promotion of research, development, demonstration, and utilization of alternative fuels and technologies, as well as other promotional activities with participants from Regions I, III, and IV-A, and NCR more specifically from:
  - Central Mindanao University, Bukidnon (27 February)
  - TUP, Manila (21 March)
  - National Research and Development Conference 2019 (03 April)
  - Mandaluyong City (27 September)
  - SCs and PWDs in QC (27 May and 08 Oct)
  - Malabon National HS (10 Oct)
  - Victorino Mapa HS (11 Oct)
  - Muntinlupa Science HS (16 Oct)
  - Southern Luzon State University, Quezon (24 Oct)
  - Caloocan National HS (05 Nov)
  - University of Makati (06 Nov)
  - Pitogo National HS, Makati (08 Nov)
  - Cainta Catholic College, Rizal (11 Nov)
  - Pamantasan ng Lungsod ng Maynila (12 Nov)
  - St. Louis College, La Union (13 Nov)
  - Gen. Mariano Marcos University (13 Nov)
  - Batangas State University (14 Nov)
  - Columban College, Olongapo City (16 Nov)
  - Paombong HS (24 Nov)
  - Makati Science HS (06 Dec)
  - Carmona Senior HS, Cavite (10 Dec)
2. Conducted 15 Auto-LPG project monitoring activities in Regions IV and VII more specifically on the following areas:
  - Iloilo City (17 Oct)
  - Cebu City (25 Nov)
3. Conducted six (6) stakeholders' meetings in NCR for some alternative fuels for transport-related studies. Particularly, the meetings that were conducted are:
  - Meeting with DOST-PCIEERD, UP, and VALPROD (07 Oct) regarding the "Prototyping of the Auto LPG Jeepneys"
  - Meeting with CSU, UP, and DOST (10 Oct) regarding the Terms of Reference (TOR) of the:
    - ✓ Development of Minimum Energy Performance Standard
    - ✓ Demonstration of Charging Stations
    - ✓ Inventory of E-Trikes
  - Meeting with Clean Air Asia, UNDP, DOTr, LTO, and EVAP (25 Oct) regarding, "Roadmap of two and three wheeled Electric Vehicles"
  - Meeting with Star8 regarding the "Development of Solar Assisted electric Motor-Powered Boat (05 Dec)

4. Accomplished nine (9) inputs / activities related to the formulation of policies or issuance of permits on alternative fuels and technologies:

- Provided inputs to Senate Bill (SB) 2137, the Senate Bill on Electric Vehicles and Charging Stations;
- Commenced the drafting of the Memorandum of Understanding (MOU) between the Federal Ministry for Transport, Innovation, and Technology of the Republic of Austria and DOE of the Republic of the Philippines;
- Provided inputs to the 8th Philippine-France Joint Economic Commission;
- Facilitated the promulgation of PNS 05:2019 by the Bureau of Philippine Standards (BPS) as revised and updated by the Auto LPG Technical Working Group (TWG) under the supervision of the Department of Trade and Industries (DTI) Technical Committee (TC) 44 on Road Transport;
- Drafted the Department Order (DO) and Special Order (SO) on the Creation of the Special Financial Audit Team for the Alternative Fuels Fund under the Natural Gas Vehicle Program for Public Transport (NGVPPT);
- Drafted the Office Order for the transfer of the equipment and tools to Cavite State University (CvSU) acquired under the 2014 Memorandum Of Agreement (MOA) between DOE and CvSU;
- Provided Inputs to the Revised Emergency Response Protocol established by the Department of Interior Local Government (DILG) – Bureau of Fire Protection (BFP) for alternative fuel vehicles;
- Drafted the MOA between DOE and DOST-PCIEERD for the Prototyping of Solar Assisted Plug-In Electric Motor-Power Boat; and
- Drafted the MOA between DOE and CvSU on the Conduct of Various Research and Development Activities for Emerging Energy Technologies.

5. Established two (2) policy-related partnerships through a MOA on alternative fuels technologies:

- MOA between DOE and DOST-PCIEERD for the “Prototyping of Solar Assisted Plug-in Electric Motor-Power Boat”
- MOA between DOE and CvSU on the Conduct of Various Research and Development Activities for Emerging Energy Technologies

## **2020**

The implementing unit exceeded its targets for the 1<sup>st</sup> semester of 2020 except for the two targeted IECs wherein only one (1) was conducted due to ECQ. Yet despite the global pandemic, the implementer has still managed to even exceed the targeted four (4) Technical Assistance / Evaluation / Studies to be conducted, four (4) Auto LPG monitoring activities, and two (2) related policy formulation / permit issuance for the period and has actually conducted 14, six (6), and three (3), respectively.

Below is the project’s list of actual accomplishments for the 1<sup>st</sup> semester of 2020:

1. Conducted one (1) IEC campaign in Region IV-A particularly in Los Baños, Laguna (04 March)

2. Conducted 14 Technical Assistance / Evaluation / Studies on the following:
  - GMS Tricycle Upgrading Program through utilization of advanced IOT Technology (17 January)
  - CvSU Research and Development on Emerging Energy Technologies (22 January)
  - CMU regarding the Development of a Domestic cook Stove using indigenous Napier grass (24 January)
  - Fuel Cell with PCIEERD, UP, University of Sto. Tomas (UST) and De La Salle University (DLSU) (28 January)
  - Electrochemical Energy Conversion and Storage Devices (05 February)
  - Drivers Training on the basic operation and maintenance of the hybrid vehicle with DILG (13 February)
  - Development of Competency Standard for EV/ Hybrid Vehicle (13 February)
  - Development of Technical Education and Skills Development Authority (TESDA) Training Regulation for Hybrid and Pure Battery Electric Vehicles (17 April)
  - Solar Assisted Electric Motor-Powered Boat with PCIEERD and Mapua (22 April)
  - Certification Protocol for Mechanical, Electrical and Plumbing (MEP) of EV Charging Station with DOST-PCIEERD and UP Electrical and Electronics Engineering Institute (EEEI) (08 May)
  - Niche Centers in the Regions for Research and Development (NICER) with DOST-PCIEERD and UP-EEEI (29 May)
  - PCIEERD and Mapua regarding the E-boat Pre-Project Management Team Presentation (02 June)
  - Served as Technical Panel during the Virtual Technical Panel Evaluation Conference Demonstration meeting of DOST-PCIEERD for the Safe, Efficient and Sustainable Solar-Assisted Plug-in Electric Boat (SESSY E-Boat), Optimal Placement of Electric Vehicle Charging Stations in a Local Public (CHARM-DOE), Motor Vehicle Inspection System with Loaded Emission Testing and Smart Capabilities (MVISION), Design, Development, Demonstration and Business Planning of a Flexible Electric Van (FLEV) for Logistics and Passenger Transport Use, and Port Capacity Analysis and Route Optimization for Local Maritime Administration – 2020 June 18 & 24; and
  - Enerbar and German-Philippine Chamber of Commerce and Industry (GPCCI) regarding Solar Energy and Battery Energy Storage System – 2020 June 29.
  
3. Conducted six (6) Auto-LPG project monitoring activities located in NCR and Regions II and VIII:
  - CMU Project Monitoring (05 May)
  - ISU Project Monitoring (03 March and 06 May)
  - CHMSC Project Monitoring (22 May)
  - Meeting with CMU (29 May)
  - CvSU Project Monitoring (June)
  
4. Accomplished three (3) inputs / activities related to the formulation of policies or issuance of permits on alternative fuels and technologies:
  - Amended the MOA with ISU on the use of Auto-LPG for farm equipment;

- Drafted the MOU with Star Scientific Limited on Hydrogen; and
- Provided inputs to the following for adoption as PNS:
  - ✓ ISO/TR 14806:2013 Intelligent transport systems – Public transport requirements for the use of payment applications for fare media;
  - ✓ ISO 24014-1:2015 Public transport – Interoperable fare management system – Part 1: Architecture;
  - ✓ ISO/TR 24014-2:2013 Public transport – Interoperable fare management system – Part 2: Business practices;
  - ✓ ISO/TR 24014-3:2013 Public transport – Interoperable fare management system – Part 3: Complimentary concepts to Part 1 for multi-application media. Connections; and
- Draft Philippine National Standards (PNS) for Road Traffic Safety Management Systems and the Intelligent Transport System.

## 2. Biofuels Program

<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 226,732,000.00 (Revised multi-year budget requirement from 2019-2023)
<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>

### UPDATES / ACCOMPLISHMENTS

#### 2019

The implementing unit has achieved and exceeded some of its targets in 2019. Despite not being able to accomplish each quarterly targets as planned the implementing unit has still managed to accomplish their total targets for the period.

From the targeted one (1) coordination / monitoring of reports relative to policy recommendation on the use of alternative feedstock for biofuel, the implementing unit has accomplished monitoring three (3) projects for each quarter.

Likewise, the implementing unit has conducted monitoring of its targeted 76 facilities / projects and validation and product sampling of 69 projects / facilities from the 68 targets.

Below is the project's list of actual accomplishments for the year 2019:

1. Conducted quarterly monitoring of reports / coordination meetings for the following projects located in Regions II and IV and NCR:

- Mariano Marcos State University (MMSU) – “Establishment of a Community-Based Bioethanol Industry and Continued Research and Development on the Feasibility of Hydrous Bioethanol as Biofuel Blend”.
  - University of the Philippines Los Baños – “Life Cycle Assessment in Terms of Carbon Debt and Payback Analyses Carbon Savings and Energetics Studies of Biodiesel Production from Coconut Oil”.
  - Department of Science and Technology - Industrial Technology Development Institute – “Characterization / Performance Testing of the Biodiesel / Diesel Blends from Combined Feedstock of Various Vegetable and Used Cooking Oil”.
2. Conducted monitoring of 76 projects / biofuels facilities and validation and product sampling in the 69 project / facilities located in NCR and Regions II, III, IV-A, VI, X, XI, and XII.

## **2020**

For the 1<sup>st</sup> semester of 2020, the implementing unit has conducted quarterly monitoring of the three (3) projects relative to the policy recommendation on the use of alternative feedstock for biofuels, monitored 29 facilities/ projects out of the targeted 96 and conducted five (5) out of the targeted 18 product sampling and validation of biofuels facilities.

### 3. National Energy Efficiency and Conservation Program (NEECP)

<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 632,692,000.00 (Revised multi-year budget requirement from 2019-2023)
<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</b>	
<p><b><u>2019</u></b></p> <p>The implementing unit exceeded its target for 2019 by a number of IECs, Stakeholders Consultations / Meetings, and Orientation or Briefing activities conducted brought about by the passage of R. A. 11285 known as EE&amp;C Act and the drafting and submission of its IRR.</p> <p>RA 11285, otherwise known as the EE&amp;C was signed by President Rodrigo R. Duterte on 2019 April 12 and its Implementing Rules and Regulations (IRR) was signed by Secretary Alfonso G. Cusi on 22 December 2019. For the crafting / development of the IRR, the implementing unit has conducted 13 inter-agency and stakeholders' meetings/ public consultations/ write shops/ workshops which were attended by focal and alternate representatives of the Inter-Agency Committee and energy stakeholders. Said IRR was</p>	

published in three (3) leading newspapers namely, Business World, The Manila Times, and Daily Tribune.

Likewise, the implementing unit has also conducted seven (7) promotional events regarding the subject law and IRR. In addition, a 30-second television advertisement on EE&C was aired in various TV programs of GMA7 with 107 spots.

## **2020**

For the 1<sup>st</sup> semester of 2020, the implementing unit has conducted quarterly monitoring of the three (3) projects relative to the policy recommendation on the use of alternative feedstock for biofuels, monitored 29 facilities/ projects out of the targeted 96 and conducted five (5) out of the targeted 18 product sampling and validation of biofuels facilities.

#### 4. Oil Industry Deregulation Management Program

<b>IMPLEMENTING UNIT/ OFFICE</b>	Oil Industry Management Bureau (OIMB)
<b>LOCATION</b>	Nationwide
<b>DURATION</b>	1997 – Continuing
<b>PROJECT COST</b>	Php 301,829,000.00 (Revised multi-year budget requirement from 2019-2024)
<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> </ol>

	<p><b>(3) 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)</p> <p><b>(4) 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.</p>
<b>MAJOR OUTPUTS</b>	<p>(1) Conduct of Focused Inspections to target communities in Luzon, Visayas and Mindanao.</p> <p>(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></p> <p>(3) Stakeholder's consultations / meetings</p> <p>(4) Information Education and Communication Campaigns focused on Academe</p> <p>(5) Capacity Buildings / Workshop and Trainings</p>
<p><b>UPDATES / ACCOMPLISHMENTS</b></p> <p><b><u>2019</u></b></p> <p>Under this program, the implementing unit has accomplished the following:</p> <ul style="list-style-type: none"> <li>• Conducted four (4) focused inspections of the Liquid Petroleum Products (LPP) and Liquefied Petroleum Gas (LPG) on the Retail Level in Regions I, IV-A, VIII, and X.</li> <li>• From 21 IEC targets, it has conducted 25 IECs in Regions I, VI, VII, VIII, XII.</li> <li>• Conducted two (2) refinery orientation/visit in Region IV-A.</li> <li>• Conducted two (2) trainings on the calibration and sealing of dispensing pumps in Regions X and XII</li> <li>• Conducted Assessment Accomplishment and Workshop Program Planning in Region IV-A despite not being part of the target.</li> <li>• Conducted two (2) out of the 13 targeted Public and Private Consultations and Seminar/Workshops</li> <li>• Conducted eight (8) out of the targeted ten (10) Joint Inspection and Monitoring of Petroleum Products in Retail Outlets.</li> </ul> <p><b><u>1st Semester of 2020:</u></b></p> <p>Aside from the development, publication of information, and advertisement, as well as the procurement of office equipment and warehouse rentals in relation to the conduct of the Joint Inspection and Monitoring of Petroleum Products in Retail Outlets, all other activities were put on hold due to the covid19 pandemic situation. Currently, the work program is being recalibrated in accordance to the "new norm."</p>	

## B. Ongoing Projects

### 5. Detailed Wind Resource Assessment Project

<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 (extended until 2020)
<b>PROJECT COST</b>	Php 69,072,000.00 (Revised multi-year budget requirement from 2019-2020)
<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>

	<ul 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> </ul>
<p><b>PROJECT ACTIVITIES</b></p>	<ul 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 with practical wind resources as identified by WWF Study. The assessed sites will be ranked according to their respective points using the aforementioned criteria.</li> <li>(2) <b>Processing of Memorandum of Agreement (MOA) and Permits.</b> 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.</li> <li>(3) <b>Procurement of Materials and Equipment.</b> 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.</li> <li>(4) <b>Installation and Commissioning of Meteorological Mast.</b> 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.</li> </ul>

	<p>(5) <b>Data Collection, Processing and Analysis.</b> 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.</p> <p>(6) <b>Monitoring and Maintenance.</b> Regular on-site monitoring and preventive maintenance will be conducted to ensure continuous and smooth operation of the met-mast.</p> <p>(7) <b>Decommissioning and Transfer of Meteorological Mast.</b> After the prescribed period of data collection, the met mast will be transferred to other eligible areas.</p> <p>(8) <b>Capacity Building Activities.</b> 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.</p> <p>(9) <b>Commercialization Activity.</b> Offer the identified viable wind sites to prospective Wind Developers for commercial project development under R. A. 9513.</p> <p>(10) <b>Reporting.</b> Reports shall be generated on a quarterly, semi-annual and annual basis.</p>
<p><b>MAJOR OUTPUTS</b></p>	<p>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.</p>
<p><b>UPDATES / ACCOMPLISHMENTS</b></p> <p><b><u>2019</u></b></p> <p>The implementing unit continuously maintained its wind energy database throughout 2019 and has conducted the monitoring of nine (9) met-masts located in the following locations:</p> <ul style="list-style-type: none"> <li>▪ Culasi, Antique – 2019 March 27-29, July 18-19, October 17-21;</li> <li>▪ Dasol, Pangasinan – 2019 May 11-13, October 20-25;</li> <li>▪ Cabusao, Camarines Sur – 2019 May 22-24, October 14-16;</li> <li>▪ San Jose, Nueva Ecija – 2019 June 15-18, October 28-31;</li> <li>▪ Pantabangan, Nueva Ecija – 2019 June 15-18; October 28-31;</li> </ul>	

- San Isidro, Northern Samar – 2019 October 7-11;
- Kananga, Leyte – 2019 October 7-11;
- Magsingal, Ilocos Sur – 2019 October 20-25; and
- Bagac, Bataan – 2019 October 20-25.

Likewise, the target of refurbishing a met-mast in Bagac, Bataan was conducted in December 2019 December while the Pampanga State Agricultural University (PSAU) - Affiliated Renewable Energy Center (AREC) and WRAP MOAs were notarized during the subject period.

On the other hand, the SODAR which was targeted to be deployed during the last quarter of 2019 was rescheduled in 2020 since the customized trailer was yet to be delivered.

### **1st Semester of 2020:**

DOE continuously maintained its wind energy database throughout the first semester of 2020. However, due to the COVID-19 pandemic, various activities were suspended.

The remote data transfer of all met-masts is not working and since there is mobility restriction due to the pandemic, on-site data retrieval and repair data transfer device cannot be done.

Further, all procurement activities were suspended and the implementation of the project is no longer feasible due to lack of material time and ground work activities are restricted due to COVID-19 pandemic and implementation of ECQ. Attendant funds were recalibrated and offered to the National Government for the implementation of plans and programs against COVID-19 pandemic. This is in compliance with the National Budget Circular No. 580 dated 22 April 2020 entitled "Adopting of Economy Measures in the Government due to the Emergency Health Situation."

Likewise, the processing of the MOA between DOE and PSAU for the implementation of the Project was suspended. The engagement of PSAU will resume in FY 2021 through the AREC, provided, however, that funds are available and situation returns to normal.

## 6. Philippine Geothermal Resource Inventory and Assessment

<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 2020
<b>PROJECT COST</b>	Php 55,246,000.00 (Revised multi-year budget requirement from 2019-2021)
<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> <p>(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.</p> <p>(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:</p> <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>
<b>OBJECTIVES</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

	<p>conventional and binary technologies, by 2030 and promotion of direct-use applications of geothermal resources including.</p> <p><b>Specific Objectives:</b></p> <p>(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.</p> <p>(2) To identify additional geothermal prospect areas.</p>
<b>PROJECT ACTIVITIES</b>	<p>(1) Literature Review</p> <p>(2) Coordination with the LGUs</p> <p>(3) Procurement of field supplies and equipment</p> <p>(4) Identification of geothermal resource potential through nationwide inventory</p> <p>(5) Integrated Geoscientific Study (Semi-detailed geology, geochemical and geophysical survey)</p> <p>(6) Discussion, acceptance or rebuttal of results and Report Writing</p>

### **UPDATES / ACCOMPLISHMENTS**

#### **2019**

The Department attained its target of conducting two (2) IEC campaigns for the year. It is likewise worth noting that the conduct of the geological and geochemical surveys for the six (6) geothermal areas targeted for the entire project were fully accomplished during the subject year since the aforementioned surveys were performed on the remaining three (3) geothermal areas in 2019.

#### **1<sup>st</sup> Semester of 2020:**

Due to the COVID-19 pandemic and the late release of SARO, the awarding of the contract-out service to the winning bidder for the comprehensive database of Philippine geothermal resources was delayed. As a catch-up plan, the implementation schedule of the project will be extended until June 2021. Further, it may be noted that the awarding of contract was pending awaiting the acquisition of LGU endorsement of support.

Since the contract is yet to be awarded, the targeted monitoring of geophysical survey was not performed by the Department. However, it was able to conduct the targeted pre-coordination meeting.

The attendance to seminar/ conference to Iceland scheduled during the first semester of 2020 was not attained due to the re-alignment of fund and the travel restrictions brought about by the COVID-19 pandemic.

**C. Special Projects**

**7. Nuclear Energy Program Implementing Organization (NEPIO)**

<b>DURATION</b>	2018 - 2022
<b>PROJECT COST</b>	Php 179,582,000.00 (Revised multi-year budget requirement from 2019-2022)
<b>DESCRIPTION</b>	<p>The DOE NEPIO was created in order to have a unified and coordinated efforts and activities relative to the conduct of various studies and research on nuclear energy development in the country consistent with the relevant policy guidelines of the international standards.</p> <p>The DOE NEPIO is headed by a Steering Committee under the helm of an Undersecretary, with the assistance of other senior DOE officials to oversee the implementation of activities. The DOE bureaus form the technical working groups (TWGs) to ensure effective and timely implementation of its functions and responsibilities. These DOE bureaus are tasked with the following 19 infrastructure issues that need to be considered under each milestone of a nuclear power program:</p> <ol style="list-style-type: none"> <li>1. National position</li> <li>2. Nuclear safety</li> <li>3. Management</li> <li>4. Funding and financing</li> <li>5. Legislative framework</li> <li>6. Safeguard</li> <li>7. Regulatory framework</li> <li>8. Radiation protection</li> <li>9. Electrical grid</li> <li>10. Human resources</li> <li>11. Stakeholder involvement</li> <li>12. Site and supporting facilities</li> <li>13. Environmental protection</li> <li>14. Emergency planning</li> <li>15. Security and physical protection</li> <li>16. Nuclear fuel cycle</li> <li>17. Radioactive waste</li> <li>18. Industrial involvement</li> <li>19. Procurement</li> </ol>
<b>UPDATES / ACCOMPLISHMENTS</b>	
<b><u>2019</u></b>	
The DOE conducted the following activities during the subject year:	
<ol style="list-style-type: none"> <li>1. Technology, Entertainment and Design (TED) Talk with the Environmental Progress Founder and President Michael Shellenberger;</li> </ol>	

2. National Survey on the public's perception on Nuclear Energy in the country, a collaboration between DOE and Social Weather Stations (SWS);
3. Symposia and Fora on Nuclear Energy for Students in Colleges and Universities with the theme: "Steering the Academe Towards Careers in Nuclear Energy" held at the Mindanao State University (MSU) in Iligan City, Mindanao;
4. Implementation of the DOE-funded project on the "Development of Instructional/Educational Resource Materials on Nuclear Science and Technology for Secondary Students and Science Teachers;
5. Hand-over Ceremony of the Official Integrated Nuclear Infrastructure Review (INIR) Mission Report by the International Atomic Energy Agency (IAEA), which cited 14 recommendations, 13 suggestions and 3 good practices;
6. IEC campaigns on Stakeholders' Involvement on the advantages of nuclear energy after the INIR hand-over ceremony;
7. Educational Field Trip/Tour at the Bataan Nuclear Power Plant (BNPP) of 159 Senior High School students and 9 faculty members of the University of the Philippines Integrated School (UPIS);
8. Site/Field Validation by the NEPIO Site and Supporting TWG at the following:
  - Port Irene/Mata Point/Rakat Hill, Cagayan, accomplished with Korea Hydro Nuclear Plant (KHNP);
  - Piacon Point, Siocon, Zamboanga del Norte;
  - Cautit Point, Zamboanga del Norte;
  - San Juan, Batangas;
  - Cansilan Point, Bayawan, Negros Oriental;
  - Baluangan, San Carlos City, Negros Occidental;
  - Talusan Point, Sibalay. Negros Occidental; and
  - Tagbarungis/Concepcion, Puerto Princesa, Palawan.
9. TWGs on Security and Physical Protection and Emergency Planning held consultation meetings with the PNRI;
10. Pre-Feasibility Study on the Deployment of Small Modular Reactor (SMR) in Cagayan Economic Zone. The final version of which was submitted officially in a meeting held last 2019 December 16 between KHNP and DOE officials at DOE.

It may be noted that the Public Perception Survey on Nuclear Energy in the Philippines was finalized last 2019 June. The objective of which is to obtain relevant information that will inform the strategic planning and decision-making process of the DOE NEPIO on the engagement of key stakeholders to address issues on the development of Nuclear Power Program (NPP).

Further, DOE attended the consultancy meeting to Discuss the Integrated Work Plan (IWP) for the Republic of the Philippines at the IAEA Headquarters, Vienna, Austria.

Moreover, Legislative Assistance Mission was conducted by the IAEA as requested by the Philippines. This mission includes a bilateral meeting that was participated by the IAEA, DOE, DOST, PNRI and members of the Committees on Energy and Science and Technology of the House of the Representatives was held last in Metro Manila and Clark, Pampanga on 2019 November 25-29. Another activity under this mission is the National Workshop on the Legal Framework for the Safe, Secure and Peaceful Uses of Nuclear Technology which were participated by said agencies/offices among others.

### **1<sup>st</sup> Semester of 2020:**

DOE was the Chair for the Virtual 10<sup>th</sup> Nuclear Energy Cooperation Sub-Sector Network (NEC-SSN) in which the following were discussed:

- Progress and plans of NEC-SSN for Action Plan for ASEAN Energy Cooperation (APAEC) Phase I: 2016-2020;
- Agreed and adopted the Key Strategy, Outcome-based Strategies, Action Plans and Annual Priorities for the APAEC Phase II: 2021-2025; and
- Discussed the plans and proposal of Dialogue Partners and International Organizations.

Due to COVID-19 situation, possible alternatives in the implementation of the activities under the IWP are being discussed by the DOE NEPIO and IAEA since physical workshops are not advisable at this time. The attendance to seminar/ conference to Iceland scheduled during the first semester of 2020 was not attained due to the re-alignment of fund and the travel restrictions brought about by the COVID-19 pandemic.

## 8. Performance Audit and Assessment for Power Generations, Transmissions and Distributions Facilities

<b>DURATION</b>	2018-2020 (extended until 2021)
<b>PROJECT COST</b>	Php 102,865,000.00 (Revised multi-year budget requirement from 2019-2021)
<b>DESCRIPTION</b>	The Performance Assessment and Audit shall serve as a DOE tool for the assessment of the overall performance of the electric power industry the way for policy development that shall be instrumental in the attainment of the secure, reliable and affordable supply of electric power to support the economic growth of the country.
<b>OBJECTIVES</b>	<p><b>General Objective:</b> PAA Audit shall serve as a DOE tool for the assessment of the overall performance of the electric power industry thereby paving the way</p> <p><b>Specific Objectives:</b></p> <ul style="list-style-type: none"> <li>▪ Evaluate over-all performance and efficiency of power generation, transmission and distribution systems and facilities in the country to formulate future policies in the country;</li> <li>▪ Determine and remove bottlenecks and inefficiencies in the operation of power generation, transmission and distribution systems and facilities that cause the disruptions in the supply of electricity and the volatility of electricity prices in the market; and</li> <li>▪ Incorporate best practice and good governance principles that enhance transparency, fairness and accountability in the operation of the various generation, transmission and distribution systems and facilities in the country.</li> </ul> <p>Conduct of Public Consultations/ IEC/ Coordination Meetings/ Dialogues/ Deliberation/ Workshops/ Trainings/ Focus Group Discussions/ Sectoral Group Discussions and other similar activities with various Energy Stakeholders intended to Address Power Supply-Demand Issues and to Identify Recommended Measures to Ensure Sustainable, Stable, Secure, Sufficient, Accessible and Reasonably-Priced Electricity</p>
<b>UPDATES / ACCOMPLISHMENTS</b>	
<b><u>2019</u></b>	
The implementing unit has accomplished conducting PAA for the following in 2019:	
<ul style="list-style-type: none"> <li>• Five (5) out of 11 Generation Facilities and System in Regions III, IV-A, VIII, and IX: <ul style="list-style-type: none"> <li>✓ 2 x 345 MW GN Power Mariveles Coal-Fired Power Plant - Done on 21 May 2019</li> <li>✓ 4 x 150 MW SMCCPC Limay Coal-Fired Power - Done on 1-2 August 2019</li> </ul> </li> </ul>	

- ✓ 2x135 MW South Luzon Thermal Energy Corp. Coal-Fired Power Plant - Done on 23-25 July 2019
- ✓ 3x37.5 MW Tongonan Geothermal Power Plant-Done on 26-29 August 2019
- ✓ 112 MW WMPC Diesel Power Plant -Done on 24 April 2019
- Completed all targeted three (3) Distribution Facilities and System (Main Grid) in Regions III, V, and IX:
  - ✓ Pampanga III Electric Cooperative, Inc. (PELCO III) - Done on 9-12 September 2019
  - ✓ Camarines Sur III Electric Cooperative, Inc. (CASURECO III) - Done on 26-28 August 2020
  - ✓ Zamboanga City Electric Cooperative, Inc. (ZAMCELCO)- Done on 23-25 April 2019
- Completed all targeted ten (10) Generation and Distribution Facilities and System (Off Grid) in Regions IV-B, VII, and ARMM:
  - ✓ Palawan Electric Cooperative, Inc. (PALECO)-Done on 25 February to 2 March 2019/11-15 March 2019
  - ✓ 46.75 MW DMCI Power Plant-Done on 25 February to 2 March 2019/11-15 March 2019
  - ✓ 19MW PPGI Power Plant-Done on 25 February to 2 March 2019/11-15 March 2019
  - ✓ 46MW Delta P Power Plant-Done on 25 February to 2 March 2019/11-15 March 2019
  - ✓ 25MW DMCI Irawan-Done on 25 February to 2 March 2019/11-15 March 2019
  - ✓ Occidental Mindoro Electric Cooperative, Inc. (OMEKO) - Done on 21-25 October 2019
  - ✓ 24MW OMPC Power Plant - Done on 21-25 October 2019
  - ✓ 4MW NPC-Occidental Mindoro - Done on 21-25 October 2019
  - ✓ Province of Siquijor Electric Cooperative, Inc. (PROSIELCO) - Done on 23-26 September 2019
  - ✓ 4.464MW SIPCOR Power plant - Done on 23-26 September 2019
  - ✓ Tawi-Tawi Electric Cooperative, Inc. (TAWELCO)
  - ✓ 8.96MW KREC Power Plant

Moreover, its target Public Consultations for the Draft DC entitled " Providing a National Smart Grid Policy Framework for the Philippine Electric Power Industry and Roadmap for Distribution Utilities" to Address Issues Identified During Assessment and Audit in Cagayan de Oro, Davao, Cebu, and Subic was also conducted.

Likewise, two batches of Basic Occupational Safety and Health (BOSH) Training in Relation to PAA were also conducted.

Also, its four (4) targeted Public Consultations on the Draft Implementing Rules and Regulations of the Republic Act 11361 entitled "An Act Ensuring The Continuous and Uninterrupted Transmission and Distribution of Electricity and the Protection of the Integrity and Reliability of Power Lines, and Providing Penalties for Violations Thereof" in support to the conduct of the PAA of Transmission and Distribution Facilities and Systems were also conducted.

**1<sup>st</sup> Semester of 2020:**

The implementation plans of the PAA were put on hold due to the covid19 pandemic situation while procurement activity was rescheduled in the 3<sup>rd</sup> quarter of 2020.

## 9. Philippine Conventional Energy Contracting Program (PCECP)

<b>DURATION</b>	2018-2022
<b>PROJECT COST</b>	Php 75,437,000.00 (Revised multi-year budget requirement from 2019-2022)
<b>OBJECTIVES</b>	<p><b>General Objective/s:</b> The project aims to effectively promote/market potential petroleum areas to interested local/foreign investors with the end in view of awarding Petroleum Service Contracts to winning proponents. The project shall serve as the investment promotion arm of the PCECP to guarantee its success, and its progress shall be monitored over an initial 4-year period, after which the DOE may perpetuate efforts on the same should the strategies employed therein be successful.</p> <p><b>Specific Objective:</b> To present oil and gas exploration opportunities to local and foreign petroleum industry players, including non-industry entrepreneurs, with the end in view of awarding new Petroleum Service Contracts through attractive promotional schemes delivered by competent DOE personnel in support of all local/central government units.</p>
<b>PROJECT ACTIVITIES</b>	<ul style="list-style-type: none"> <li>• PCECP Workshop</li> <li>• Offering of Pre-Determined Areas (PDAs)</li> <li>• Pre-Submission Conference</li> <li>• Acceptance/ Opening of Applications</li> <li>• C-REC Evaluation Workshop</li> <li>• Wrap-Up Activity</li> <li>• Endorsement to the President for award of SCs</li> <li>• IEC Campaign/ Local Roadshow</li> <li>• International Roadshows/Engagements</li> <li>• Trainings</li> </ul>
<b>UPDATES / ACCOMPLISHMENTS</b>	
<p><b><u>2019</u></b></p> <p>The Department attained all and even exceeded some of its targets for the subject project in 2019.</p> <p>The Department attended the annual SEAPEX Conference/ Gathering in Singapore, where 80 instead of the targeted 18 potential investors from Southeast Asia were engaged with. Likewise, DOE attended the AAPG Annual Conference and Exhibition (ACE) in Texas, USA, where 144 instead of the targeted 80 potential investors from North America were engaged with. Also, the Department attended the AAPG International Conference and Exhibition in Buenos Aires, Argentina, where 80 instead of the targeted 13 potential investors from South America were engaged with. Moreover, DOE attended the AAPG International Conference and Exhibition (ICE) in Abu Dhabi, Subai and Sharjah, UAE, where 16 out of the 10 potential investors from Middle East were engaged with. Furthermore, the Department attended the Global Petroleum Roadshow in Alberta, Canada, where 16 out of the 15 potential investors from Canada were engaged with.</p>	

PCECP promotion campaigns in Palawan and Davao City were conducted and one (1) LGU official/potential investors each were engaged. Additionally, five (5) instead of the targeted one (1) bid opening event was conducted and four (4) nominated areas were processed. Further, all of the 14 Pre-Determined Areas (PDAs) were processed and nine (9) instead of the targeted one (1) Petroleum Service Contract (PSC) applications were received. Three (3) instead of the targeted one (1) PSCs were endorsed to the President for awarding. Further, two (2) trainings and/or personnel were trained.

### **1<sup>st</sup> Semester of 2020:**

Due to the covid19 pandemic situation, the targeted promotional campaigns in nearby provinces of the highly-prospective Northwest and Southwest Palawan, and Recto Bank Basins, and/or Sulu Sea, as well as Cotabato Basins were postponed and the initial plan to conduct international promotional campaigns for the year was also cancelled.

Likewise, two (2) public advisories in April 2020 project activities entitled, “Postponement of the Opening of Bid Documents for Nominated Area No. 5” and “PCECP Applications for Nominated Areas During the ECQ” were issued by DOE.

On the other hand, the Department responded to seven (7) out of the targeted two (2) walk-in inquires and fifteen (15) out of the targeted two (2) phone inquiries in various PCECP-related concerns.

In relation to the pre-bid opening, four (4) companies have submitted viewing/ purchase requests for data sets/ packages, ten (10) area clearances were received, and four (4) Letter of Intent (LOI) were processed. It is noteworthy that the application for the following four (4) nominated areas that have undergone successful Area Clearance and Nomination upon DOE’s receipt and approval of applicants’ respective LOIs have completed the 60-day challenge period and are therefore, already closed:

- Nominated Area No. 5 (Mindoro-Cuyo Basin);
- Nominated Area No. 6 (West PH Sea / Recto Bank Basin);
- Nominated Area No. 7 (West PH Sea / Recto Bank Basin); and
- Nominated Area No. 8 (West PH Sea / Recto Bank Basin).

Two (2) applications that were recommended/endorsed in March by the Department to the Office of the President for awarding of PSCs, which include the applications from Ratio Petroleum Ltd. for Pre-Determined Area No. 3 (East Palawan), and from Troika Giant Power Corporation for Nominated Area No. 2 (Northwest Palawan), are still pending approval by the latter.

Despite not being part of the target, online courses were prescribed for technical/administrative personnel during the second quarter of 2020.

## 10. Total Electrification Program (TEP)

<b>LOCATION</b>	Nationwide
<b>DURATION</b>	2019-2020 (extended until 2022)
<b>PROJECT COST</b>	Php 1,000,000,000.00 (Revised multi-year budget requirement from 2019-2022)
<b>OBJECTIVES</b>	<p><b>General Objective:</b> To contribute to the attainment of Government's goals total household by 2022 by developing and implementing specific policy and project measures as well as financial incentives to mobilize Distributions Utilities (DUs) in fast tracking connection of the remaining unelectrified households in both electrified households (load centers and urban. slum areas) and unelectrified areas of their franchise areas and by developing project measures and programs to intensify household electrification both grid and off-grid.</p> <p><b>Specific Objectives:</b> (1) To implement measure and other interventions to intensify HH electrifications by DUs (2) To enhance HH electrification planning by DUs (3) To develop grant funds to enable poor HHs and those affected by calamities to be immediately electrified (4) To develop mechanism to assist the government in managing the total electrification program in the country, and the program aims to implement electricity access to all forms of modern energy services taking into consideration the specific type of area which are contiguous, island, isolated, etc. vis-as-vis the viability of the areas. Further, to enhance DU total electrification planning of unserved households and underserved areas.</p>
<b>UPDATES / ACCOMPLISHMENTS</b>	
<b><u>2019</u></b>	
DOE exceeded its targeted six (6) consultations/ assessment/ review/ evaluation/ meetings/ public consultation/ workshop on total electrification by conducting sixteen (16) during the subject year.	
However, the Department only conducted 65 out of its 116 targeted household electrification project inspection. There were only few inspections scheduled due to the initial review of the masterplan for the conduct of series of IEC/ Workshop on ER 1-94 EF and Total Electrification Program. The targeted inspection for the third quarter of 2019 was moved to the succeeding quarter.	
<b><u>1<sup>st</sup> Semester of 2020:</u></b>	
The implementation of some activities was put on hold due to the Enhanced Community Quarantine (ECQ) caused by the Covid19 Pandemic Situation. Despite this, DOE was able to conduct its targeted two (2) assessment/ review/ evaluation/ IECs/ PubCons/ Coordination Meetings/ Focus group on total electrification and the inspection of three (3) electrification project areas.	

## FOREIGN-ASSISTED PROJECTS

### A. Grants

#### 11. Access to Sustainable Energy Programme (ASEP)

<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 UNIT/ OFFICE</b>	Rural Electrification Administration and Management Division – Electric Power Industry Management Bureau (REAMD-EPIMB)
<b>LOCATION</b>	Nationwide
<b>BENEFICIARIES</b>	DOE: Particularly EPIMB, REMB, EUMB, EPPB; Stakeholders of the Energy Community; Private Sector; NGOs; Universities; LGU representatives; the Rural Unelectrified Population
<b>DURATION</b>	Physical Duration: Original: Jan. 2015 – Dec 2019 Revised: Jan. 2015 – Dec. 2021
<b>PROJECT COST</b>	PHP 4.90 Billion with EU Grants of EUR 60 Million (PHP 2.8 Billion; EUR 1 = PHP 47) PHG Counterpart: Php 26,536,000.00 (DBM Approved Appropriation for FY 2019)
<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</p>

	<p>with job creation, livelihood, and productive uses especially for poor households.</p> <p>EU shall provide 60 Million Euros of grants to finance 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 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>
<b>PROJECT COMPONENTS</b>	<p>The program is broken down into three components, with corresponding budget allocation:</p> <ol style="list-style-type: none"> <li>1. Technical Assistance Component (8 million euro) with three (3) sub-components: <ol style="list-style-type: none"> <li>a. Rural Electrification (RE)</li> <li>b. Energy Efficiency (EE)</li> <li>c. Cross-cutting Activities</li> </ol> </li> <li>2. Investment Support component (EU funded: 29 million euro; GPOBA: 3 million US dollar) which the World Bank is implementing with three (3) subcomponents: <ol style="list-style-type: none"> <li>a. PV Mainstreaming</li> <li>b. PV Rural Network Solar</li> <li>c. TA to NEA, ERC, RE4RE, Bangsamoro, and Climate Resilience</li> </ol> </li> <li>3. Call for Proposal (21 million euro for Pro-Poor and Climate-Resilient Innovative Energy Solutions) which is implemented by the EU Delegation under direct management.</li> </ol>
<b>MAJOR OUTPUT</b>	<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 greenhouse gas emissions equivalent to at least 50MW coal-fired power plant by 2020</li> </ul> <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>
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### UPDATES / ACCOMPLISHMENTS

#### 2019

For the GOP counterpart, a Board Resolution was issued by the Department in relation to the adoption of the PV Mainstreaming Project. A project proposal was approved and a MOA with Notice to Proceed (NTP) were signed by Secretary Cusi. An EC was likewise assisted in the conduct of procurement for the project.

#### 1<sup>st</sup> Semester of 2020:

In relation to the GPH counterpart, the Department was able to assist an Electric Cooperative (EC) in the conduct of procurement for the project. Meanwhile, 3,017 out of the targeted 4,671 Solar Home Systems (SHS) were installed. Further, two (2) out of the targeted seven (7) PV Mainstreaming projects were inspected and verified.

As of 1<sup>st</sup> semester of 2020, ASEP has accomplished the following:

- Component 1: Technical Assistance

Rural Electrification: Completed technical/economic feasibility studies to support Productive Use of Renewable Energy (PURE) installation in Mahayag, Davao Occidental and Banacon, Bohol.

Energy Efficiency: ASEP supported the drafting of the Implementing Rules and Regulations of the Energy Efficiency and Conservation Act.

- Component 2: Investment Support

W1 was successfully completed under the management of LGUGC. A total of 10,012 households located in remote areas in Mindanao have received SHS which are now in operation.

ASEP targets to install 30,500 units at Window 2. The bidding documents for the supply of 30,500 SHS were cleared by the Technical Working Group (TWG) of DOE-EU ASEP in late January 2020 and were cleared by the Bank in early March 2020.

- Component 3: Call for Proposals

The seven (7) contracted sub-projects are currently in its various stages of capacity building, procurement and arrangements with counterpart institutions and local government units prior to actual implementation.

## 12. Development for Renewable Energy Applications Mainstreaming and Market Sustainability (DREAMS) Project

<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</li> </ul>

	<p>increased share of RE based power capacity, and an increased number of RE project developers at the local level.</p> <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 technologies thus boosting successful replication.</li> </ul> </li> </ul>
<b>MAJOR OUTPUT</b>	<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>

## **UPDATES / ACCOMPLISHMENTS**

### **2019:**

For Component 1: RE Policy and Planning, twelve (12) out of the eight (8) technical fora, public consultations, trainings, workshops and IECs were conducted. Further, DOE attained its goal of providing two (2) technical assistance on the Renewable Energy Market Rules (REMS) /Philippine Renewable Energy Market System (PREMS).

For Component 2: Strengthened Institutional Capacity and Component, seven (7) micro-hydro resource in San Vicente, Palawan were assessed and nine (9) municipal local government units became RE planning focals. Further, two (2) out of the targeted three (3) IEC materials were produced.

### **1<sup>st</sup> Semester of 2020:**

For Component 1: RE Policy and Planning, the preparation for the National Renewable Energy Plan (NREP) 2020-2040 as well as the activities for the ICA and RIA were ongoing.

In addition, the RE manufacturing industry study began during the subject term. A Program Policy document on the “Balik Probinsiya program” was submitted to DOE. Said program and a proposed Department Circular will encourage developers to use generate local employment in areas where RE facilities are being built. This strategy seeks to decongest urban areas that become centers of pandemic due to high labor in migration.

Meanwhile, seven (7) out of the targeted (8) technical fora, public consultations, trainings, workshops and IECs in relation to the first component was conducted. The delivery of this output was affected by the COVID-19 pandemic situation.

Likewise, the publication of IEC materials was affected as the publishing house was unable to submit a draft Ready to Print (RtP) copy for both documents due to the health quarantine brought about by the COVID-19 pandemic. The RE Decade Report was completed and printed during the first quarter of 2020 and was shared to different public fora and made available online during the second quarter of 2020. Meanwhile, the ready to print copies of the Omnibus Guidelines and Compendium are being reviewed by REMB for final review.

As regards the enforcement of supportive policy and regulatory environment that will leverage increased investment in RE development and application, the NREP assessment report is completed and the Green Energy Option Program (GEOP) permitting guideline was approved. Activities related to the Localized RE Planning process were affected by the COVID-19 as the field work, resource assessment, workshops and conferences were restricted. Further, the second posting for the RE Manufacturing study failed as the shortlisted applicants did not meet the required qualifications.

For Component 2: Strengthened Institutional Capacity and Component 3: Increased share of RE-based power capacity, and Component 4: RE Commercialization, all the activities were halted due to the COVID-19 Pandemic.