



Towards a Sustainable Power Sector

The Philippines has aggressively pursued policies to promote the use of sustainable power sources and encourage energy efficiency and conservation. For instance, RA 9513 or the Renewable Energy Act of 2008 established the policy framework for developing renewable energy sources, while RA 11285 or the Energy Efficiency and Conservation Act institutionalized energy efficiency and conservation while outlining the responsibilities of the public and private sectors. Meanwhile, RA 9136 or the Electric Power Industry Reform Act of 2001 established a market-oriented framework for governing the power sector. Government agencies led by the Department of Energy have issued various circulars and memoranda to implement key provisions of these laws.

The Joint Congressional Energy Commission (JCEC), co-chaired by Senator Win Gatchalian and Representative Juan Miguel "Mikey" M. Arroyo, held a hearing on April 27, 2021 to tackle updates on the implementation of these laws and other key issues facing the sector. Ms. Mylene Capungcol, Director of the Renewable Energy Management Bureau of the Department of Energy (DOE), provided the following updates to the body.

Status of renewable energy projects

Director Capungcol reported that from 2009 to 2020, the share of renewable energy to the installed generating capacity fell to 29 percent from 34 percent. The agency seeks to increase this share to 35 percent by 2030. In terms of power generation, renewable sources accounted for 21 percent in 2019 versus 32 percent in 2009.

Further, she said that 2,338 MW of new renewable energy capacity were built, which required some PhP 221 billion in investments. Solar power had the largest share at 1,033.13 MW, followed by biomass at 550.04 MW, and wind at 409.90 MW. These sources also accounted for the largest share of investments at PhP 86.8 billion, PhP 33.1 billion, and PhP 52.9 billion, respectively.

As of December 2020, DOE has awarded 932 renewable energy contracts, of which 870 were for commercial projects while 62 were for own use projects. These service contracts had a total installed capacity of 5,352.81 MW, with commercial capacity representing 97 percent of the total. This figure included legacy projects that opted to convert under RA 9513 while excluding the 2,641.73 MW that were installed under other laws and issuances, as well as those that were still being validated.

Total renewable energy capacity stood at 7,622 MW, including new and legacy installations.

[Note: The latest data and policy issuances are available on the DOE website: <https://www.doe.gov.ph/renewable-energy>]

Status of renewable energy support mechanisms

Net metering. RA 9513 defines net metering as "a system, appropriate for distributed generation, in which a distribution grid user has a two-way connection to the grid and is only charged for his net electricity consumption and is credited for any overall contribution to the electricity grid". Director Capungcol said that DOE recently issued a policy requiring net metering in areas not connected to the main transmission line "as long as they are currently



Senator Win Gatchalian speaks during the Joint Congressional Energy Commission hearing on April 27, 2021

supplied by the distribution utility” [DC 2020 10-22:

<https://www.doe.gov.ph/sites/default/files/pdf/issuances/dc2020-10-0022.PDF>].

As of March 2021, about 30 MW of net metering installations were monitored by the government. She also said that DOE is currently working on a net metering guidebook “to assist the practitioner in the net metering as to how the process will be undertaken from the offer of the providers to the post or after sales service of that provider.” The initial draft has been posted on the DOE website: <https://www.doe.gov.ph/sites/default/files/pdf/announcements/draft-guidebook-on-net-metering-2021.pdf>.

Feed-in tariff (FiT). Established under RA 9513, FiT seeks to encourage renewable energy investments by providing developers a guaranteed fixed price for the sale of renewable energy for a given period. Meanwhile, FiT-All is a uniform charge in PHP/kWh paid by all electricity users. It is calculated and set annually by the Energy Regulatory Commission. Director Capungcol reported that as of December 2020, about 103 MW run-of-river hydro projects are still eligible for FIT.

Renewable portfolio standard (RPS). Under RA 9513, the National Renewable Energy Board is required to set the minimum amount of renewable energy procured by distribution utilities and other participants.

Director Capungcol reported that on-grid and off-grid installations currently have their own RPS. On-grid RPS is currently set at 1 percent. The preferred compliance mechanism of mandated participants is FIT, followed by power supply agreement. The other compliance mechanisms allowed by DOE are net metering, generation of renewable energy for own use, and purchase or acquisition of Renewable Energy Certificate (REC) from the market [DC 2017-12-15:

https://www.doe.gov.ph/sites/default/files/pdf/issuances/dc2017-12-0015_1.pdf].

Director Capungcol estimated that by 2023, most distribution utilities will begin to experience an REC shortfall. “For example, in Luzon, we’re seeing 30 distribution utilities to be lacking the REC compliance or the RE certificate which is equivalent to one megawatt-hour of eligible RE generation. And for Visayas, it’s about 21; and Mindanao, 19, for a total of 23 distribution utilities by 2023 and then onwards, it’s increasing,” she said.

Meanwhile, individual requirements for off-grid RPS are pending, but DOE has pursued capacity building initiatives for mandated participants.

The DOE official stressed the need for clear regulations from the Energy Regulatory Commission to provide clarity on key issues, including the impact on “existing contracts entered into by the new private power providers with the DU [distribution utility]”, and how power generation companies or qualified third parties including NPC would be able to comply.

Green Energy Option. The Renewable Energy Act allowed end users to independently procure renewable energy sources. Director Capungcol reported that DOE has so far issued 10 operating contracts. Around 51 customers with demand averaging 300 to 400 kW have also expressed their interest to avail of the program pending the regulatory framework to “fully implement” the program.

Renewable Energy Market. RA 9513 established a renewable energy market to facilitate compliance with RPS. The Renewable Energy Registrar is mandated to “issue, keep and verify RE Certificates corresponding to energy generated from eligible RE facilities. Such certificates will be used for compliance with the RPS.” DOE is targeting commercial operations of the renewable energy market by June 2021. Currently, the Renewable Energy Registrar and DOE are working on the registration, as well as amendments to market rules, including pricing.

Green Energy Auction Program. This program supports the implementation of RPS by allowing the auction or contracting of the minimum RPS requirement. DOE is currently working on instruments such as the green energy implementation agreement and the terms of reference.

Renewable Energy Trust Fund. DOE in coordination with the Bureau of the Treasury is working to set up the trust fund. It has held talks with contributing institutions.

Third Open and Competitive Selection Process (OCSP3). DOE is awaiting the results of

the final review of the contracts to be awarded to qualified firms. Under OCSP3, 22 pre-determined areas with potential geothermal (5) and hydropower (17) resources, with total potential capacity of about 150 MW, have been offered to qualified developers [<https://www.doe.gov.ph/press-releases/doe-launches-3rd-open-and-competitive-selection-process-renewable-energy-projects?ckattempt=1>].

Waste-to-energy Development. DOE is conducting a study on the potential of waste-to-energy technology in the Philippines. Meanwhile, the DOE secretary has approved the proposal to include this technology in RPS compliance. It is studying the impact of having 1.5 REC equivalent to 1 MWh of generation from waste-to-energy, marking it for priority and preferential dispatch, and coordinating with local government units and distribution utilities for the supply of electricity from this technology.

Geothermal Energy. The agency has developed a concept note and is awaiting the approval of a set of policy recommendations on geothermal energy development.

Other programs and projects. Director Capungcol highlighted the following programs and projects to support the development of renewable energy in the country.

- First Geothermal Resource Inventory (target completion in June 2021),
- Wind Resource Assessment Project (completed),
- Total Electrification Project in far-flung areas (ongoing),
- Competitive RE Zones (ongoing),
- DREAMS project in partnership with the Global Environment Facility and United Nations Development Programme,
- Local Renewable Energy Planning with Palawan and Iloilo provinces.

Energy market trends and opportunities

Meanwhile, in a webinar organized by local energy startup Exora Technologies, representatives of the Energy Regulatory Commission (ERC) and the DOE shared to



Organizers, presenters, and sponsors of a webinar on energy market trends and opportunities on April 28, 2021. Representatives of Energy Regulatory Commission and the Department of Energy spoke at the event [Courtesy: Exora Technologies]

prospective investors the trends and opportunities in the industry which emerged through RA 9136 (Electric Power Industry Reform Act), RA 9513, RA 11285, and other measures.

Retail Competition and Open Access (RCOA). Ms. Laiza Amor Lagman of ERC defined RCOA as the non-discriminatory use of transmission and distribution facilities. RCOA paved the way for the creation of the Competitive Retail Electricity Market (CREM) where “contestable” customers can choose their preferred suppliers of electricity. Currently, customers with monthly average peak demand in the past 12 months of 500 kW and above are eligible to participate in the market. Meanwhile, suppliers are classified as Retail Electricity Supplier (RES), Local RES, and Supplier of Last Resort (SOLR) depending on their coverage area and designation by ERC.

Ms. Lagman noted that customers are attracted to RCOA because of the following features:

- Customers have the power to choose suppliers.
- Suppliers are licensed by ERC, which certifies their technical and financial capability.
- Deregulated prices.
- Contracts are not subject to ERC approval.

- Customers can choose single or multiple billing schemes.
- All metering information come from distribution utility and NGCP.

Qualified customers who would like to take part in RCOA will undergo a “switching process”, which involves finalizing contracts with the supplier and distribution utility and fulfilling regulatory requirements. The switch takes effect on the 26th day of the month up to the 25th day of the following month.

As of March 2021, there were 2,919 contestable customers with total demand of 3,475.09 MW. On the suppliers’ side, there were 46 RES, 25 Local RES and 47 SOLR. Weighted average price was P3.60 per kWh.

Energy Efficiency and Conservation Act (RA 11285). Director Patrick Aquino of DOE’s Energy Utilization and Management Bureau explained that this law introduced the concept of “designated establishments (DE)”, which are private entities identified as energy intensive industries. DEs are currently classified based on annual energy consumption: Type 1 (500.001 kWhE but less than 4,000.000 kWhE), Type 2 (4,000.001 kWhE and above), and Other DE (100.000 kWhE but less than 500.000 kWhE).

DEs are required to integrate an energy management system into their business

operation. They are mandated to identify energy conservation opportunities and implement energy efficiency and renewable energy projects.

Type 1 and Type 2 DEs are required to engage the services of an Energy Conservation Officer (ECO) and Energy Manager (EM), respectively, as well as to conduct an energy audit once every 3 years. Meanwhile, all DEs are required to submit to DOE the following reports:

- Registration of ECO or EM.
- Annual Energy Efficiency and Conservation Report.
- Annual Energy Utilization Report.

Energy Service Companies (ESCOs) help DEs comply with RA 11285 by offering goods and services towards developing and designing energy efficiency projects, delivering and guaranteeing energy savings, and ensuring cost-effective and optimal performance. As of February 2021, there were 40 ESCOs listed with the DOE.

RA 11285 requires the government to set up energy performance standards and labeling requirements. Thus, DOE launched the Philippine Energy Labeling Program to encourage energy efficiency and conservation “as a way of life” by promoting the use of energy efficient products and regulating energy consuming products. It seeks to empower consumers to choose energy efficient products, help realize energy savings, eliminate the entry and sale of inefficient and substandard products, and reduce greenhouse gas emissions.

DOE endorses energy efficiency projects to the Board of Investments to allow DEs to avail of fiscal incentives. These projects should meet the 15 percent savings threshold measured at the boundary to be able to access the following income tax holiday (ITH) rates:

Annual energy savings at project boundary	ESCO or TPPD rate of ITH	Self-financed amount of ITH
< 15%	0% but registration shall not be cancelled	None, but registration shall not be cancelled
15%-20%	50%	30% of cost of installed equipment
> 20% (up to 25%)	75%	40% of cost of installed equipment
> 25%	100%	50% of cost of installed equipment

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