

# Impact of COVID-19 on the Energy Tax Collection<sup>1\*</sup>

## I. INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) has had an unprecedented impact on the Philippine economy and affected even the energy sector. The slowdown in the operations of commercial and industrial businesses and the travel restrictions brought by community quarantine measures beginning in 2020 had inevitably hindered the growth of the electricity demand and affected the country's electricity consumption patterns (Department of Energy, ca. 2021). Conversely, the switch to work-from-home (WFH) set up by the business process outsourcing industry and the transition to remote learning for students increased the residential sector's demand for electricity.

In the Philippines, an Energy Tax is levied on every residential customer's monthly electric power consumption of electric power utilities of more than 650 Kilowatt-hour (kWh) pursuant to Batas Pambansa Bilang (BP Blg.) 36 issued in 1979. The changes in the residential sector's electricity consumption pattern may affect the Energy Tax collection.

This paper provides background information on the country's power sector and examines the impact of the COVID-19 pandemic on the Energy Tax collection of the government.

## II. BACKGROUND INFORMATION

### A. Overview of the Power Sector

The data on the power generation in the Philippines can be disaggregated based on certain criteria. By source, power can be generated from either coal, oil-based sources, natural gas, or renewable energy (RE). By grid, power generation can be in Luzon, Visayas, and Mindanao. The power supply can be quantified in terms of installed capacity and dependable generating capacity per grid. Installed capacity refers to the nameplate capacity or the full load continuous capacity of a unit under specified conditions, as calculated from the electric generator nameplate based on the rated factor. This is the theoretical capacity of a certain grid. On the other hand,

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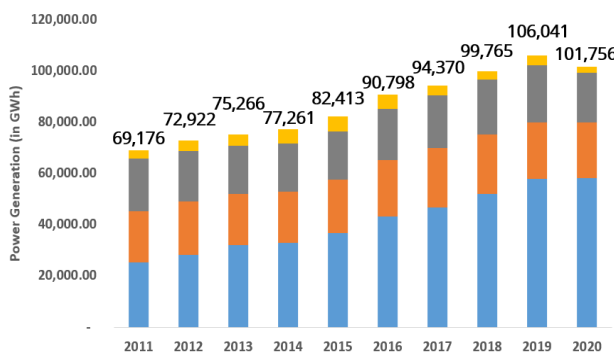
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dependable generating capacity is the maximum capacity when modified for ambient limitations for a specified period of time, such as a month or a season (DOE, 2020).

The country’s gross power production continuously increased from 69,176 Gigawatt-hour (GWh) in 2011 to 106,041 GWh in 2019, which was primarily due to the continuous efforts of the Department of Energy (DOE) to expand the exploration and development of the country’s domestic coal resource potential in line with the Philippine Energy Plan 2016–2030. However, the total gross power production declined to 101,756 GWh or by 4% in 2020. According to the DOE (ca. 2021), the significant reduction was due to the lower demand during the year and the shift of the trend in the utilization of generation sources as a result of lower peaking requirements and irregularities in consumption patterns attributed with the pandemic. On average, the Philippines generates most of its electricity from coal at 41,357 GWh or 48% of the average power production from 2011 to 2020, followed by RE (24%), natural gas (23%), and oil-based (5%). (See Figures 1 and 2.)

**Figure 1**

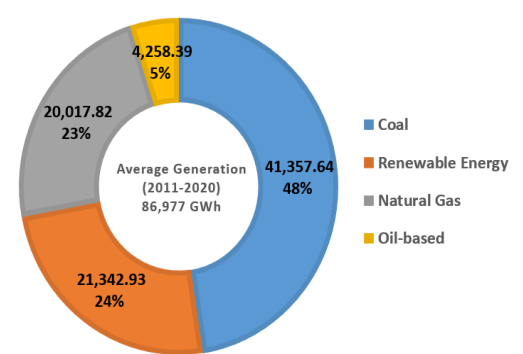
*Power Production by Major Source, 2011 – 2020 (In GWh)*



Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

**Figure 2**

*Average Power Production by Major Source, 2011 – 2020 (In GWh)*

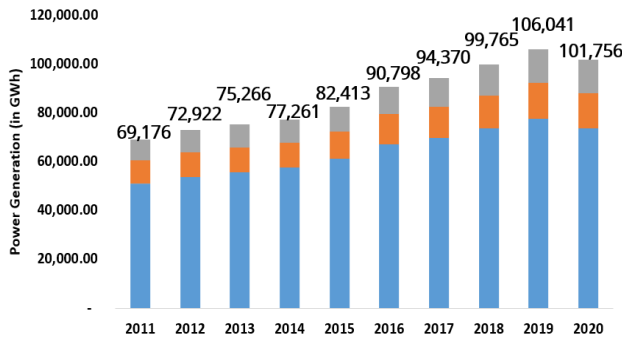


Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

A grid reflects certain area’s power demand and supply. From 2011 to 2020, Luzon continuously has the biggest gross power generation and consumption averaging 64,055 GWh or 74% of the total. This high number is expected as Luzon has the largest composition in terms of population, economic activities, and land area. This was followed by the Visayas at 14% and Mindanao at 13%. (See Figures 3 and 4.)

**Figure 3**

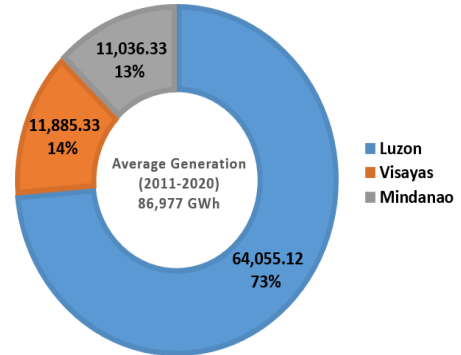
*Power Production by Grid, 2011 – 2020  
(In GWh)*



Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

**Figure 4**

*Average Power Production by Grid,  
2011 – 2020 (In GWh)*

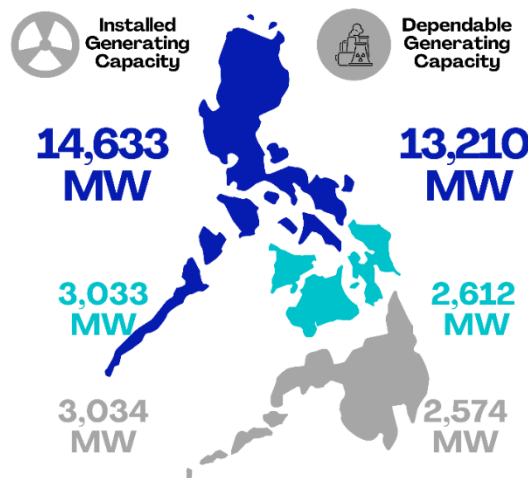


Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

From 2011 to 2020, the country’s total installed generating capacity averaged 20,700 Megawatts (MW) annually, where the Luzon grid contributed the majority at 14,633 MW or 70% of the total installed generating capacity, while the Visayas and Mindanao grids shared 15% each. On the other hand, the country’s total dependable generating capacity averaged 18,396 MW during the same period. Similarly, the Luzon grid contributed the majority (14,633 MW) or 72% of the total dependable generating capacity, while the Visayas and Mindanao grids both shared 14% thereof, or 2,612 MW and 2,574 MW, respectively. (See Figure 5.)

**Figure 5**

*Average Installed and Dependable Generating Capacity by Grid  
2011 - 2020*

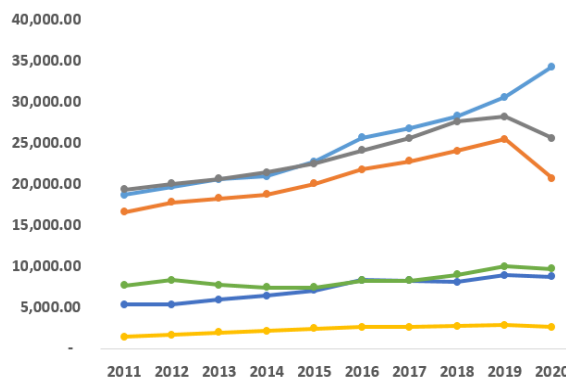


Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

By sector, the residential sector has the biggest power consumption averaging 24,823 GWh or 28% of the total for the period under review. It is followed by the industrial sector (27%) and commercial sector (24%). Starting 2015, the power consumption of the residential sector has been consistently the highest of all the sectors. When the pandemic hit the country in 2020, the residential consumption increased significantly while the consumption of the other sectors declined. Prior to the pandemic, there was only a meager gap between the level of power consumption of the residential and industrial sectors, but a noticeable increase was seen in 2020 when the gap reached 8,725 GWh from 2,358 GWh in 2019. The total power consumption decreased by 4.04% from 106,041 GWh in 2019 to 101,756 GWh in 2020, reflecting the decline in the commercial and industrial sectors, utilities own use, system losses and others (See Figures 6 and 7, and Annex A).

**Figure 6**

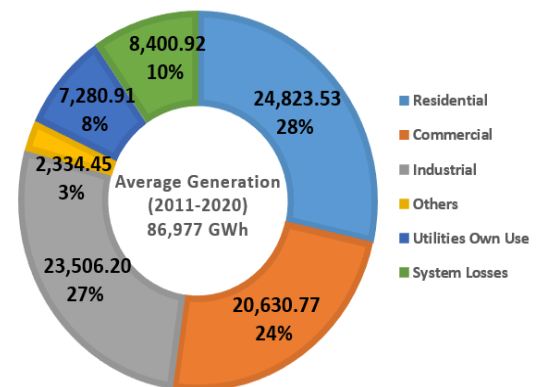
*Average Power Consumption by Sector, 2011 – 2020 (In GWh)*



Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

**Figure 7**

*Power Consumption by Sector, 2011 – 2020 (In GWh)*



Note. DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](http://doe.gov.ph).

Based on the 2011 Household Energy Consumption Survey (HECS), almost every household used electricity for lighting or 99.9% of Filipino households. The other top uses of electricity by Filipino households were for recreation (88.8%), space cooling/air conditioning (72.9%), and other appliances (64.1%). On the other hand, only a few Filipino households used electricity for water heating and water pumping at 4.6% and 3.5%, respectively. However, as shown in Table 1, those end-uses not commonly used by Filipino households had actually high average electricity consumption during the six-month reference period. The largest usage was for water pumping, which registered an average consumption of 623 kWh during the period, followed by water heating (484 kWh) and refrigeration (390 kWh). It can be noted that the average electricity consumption on lighting during the reference period was only 60 kWh.

**Table 1**

*Proportion of Households Using Electricity and Average Consumption of Electricity Per Household by End-Use, 2011*

End-Use	Proportion of households using electricity (for all income class) (In %)	Average consumption per household (in kWh)
Lighting	99.9	60
Recreation	88.8	129
Space Cooling/Air Conditioning	72.9	277
Other Appliances	64.1	2
Ironing	48.6	37
Refrigeration	41.6	390
Laundry	30.7	36
Cooking/Food Preparation	21.2	108
Computer Activity	15.7	84
Water heating	4.6	484
Water Pumping	3.5	623

*Note.* PSA. (2016, July 15). *2011 HECS* (ISSN 0118-9107). Retrieved May 4, 2022, from <https://psa.gov.ph/sites/default/files/HECS%202011.pdf?fbclid=IwAR096bVlhpJIrj99TwbBrdNG9giOvLTTEHY7BWAoW7jvImN2awEXIK5-hQ>.

However, since the HECS has not yet been updated, it is likely that there were changes in the proportion of households using electricity and their common end-uses. Specifically, the proportion of households using electricity for computer activity may be significantly higher during the pandemic since many Filipinos were forced to stay at home due to restricted movement, many jobs had shifted to the WFH setup, and classes had transitioned to remote learning.










As of May 2022, the distribution and sales of energy in the country were done by 152 distribution utilities composed of 121 Electric Cooperatives (ECs), 2 Multipurpose Cooperatives (MPCs), 23 Private Investor-Owned Utilities (PIOUs), and 6 Local Government Unit-Owned Utilities (LGUOUs). Among the 121 ECs in the country, 56 (46%) are located in Luzon, 31 (26%) are in the Visayas, and 34 (28%) are in Mindanao. On the other hand, 13 (57%) of the PIOUs are in Luzon, 6 (26%) are in the Visayas, and 4 (17%) are in Mindanao. Meanwhile, among the LGUOUs, 5 are in Luzon, and 1 is in Mindanao. (DOE, n.d.)

The Manila Electric Company (Meralco) remains to be the largest distribution utility (DU) in the country, with a franchise area of 9,685 square kilometers covering 36 cities and 75 municipalities. This area covers all of Bulacan, Cavite, Metro Manila, and Rizal and certain municipalities, cities, and barangays of Batangas, Laguna, Pampanga, and Quezon. In 2020, the company served at least seven million customers. (Meralco, 2020)

From 2015 to 2021, majority of Meralco's customers were residential accounts averaging 6.07 million or 92.0% of its total customers, followed by commercial (7.8%), industrial (0.2%), and streetlights (0.1%). In terms of consumption, commercial accounts had the highest consumption averaging 16,152 GWh or 38.1% of Meralco's total sales during the same period, while residential and industrial accounts shared 33.1% and 29.7%, respectively, of the total sales. (See Figure 8 and Annex B.)

**Figure 8**

*Average Number of Customers and Sales of Meralco, 2015 – 2021*

Type of Account	 Customers (in thousands)	 Sales (in GWh)	 % Share (Customers)	 % Share (Sales)
 Residential	6,069	14,024	91.98	33.11
 Commercial	514	16,152	7.79	38.14
 Industrial	10	12,571	0.16	29.68
 Streetlights	5	138	0.07	0.33
 <b>TOTAL</b>	<b>6,598</b>	<b>42,354</b>	<b>100.00</b>	<b>100.00</b>

*Note.* Meralco. (2020, January 1). *Power on 2020 annual report*. Retrieved March 22, 2022, from [https://meralcomain.s3.ap-southeast-1.amazonaws.com/2021-05/meralco\\_2020\\_annual\\_report\\_for\\_web2\\_1.pdf](https://meralcomain.s3.ap-southeast-1.amazonaws.com/2021-05/meralco_2020_annual_report_for_web2_1.pdf)

Table 2 shows the comparative number of Meralco's customers and their energy consumption by a range of consumption in a typical month of April in 2019 and 2021. It is noted that the 2020 data was not used as it was not a good representation of the customers' actual consumption behavior because it was distorted due to the pandemic restrictions that affected Meralco's meter reading activities, i.e., there may have been no meter reading for some months while the reading for some months may represent two- or three-months consumptions (Meralco, official communication, March 25, 2022).

In the typical month of April, Meralco's total residential customers with more than 650 kWh consumption who paid the Energy Tax increased from 275,927 in 2019 to 371,435 in 2021 or by 35%. This led to the increase of share of customers who paid the Energy Tax to Meralco's total residential customers increasing from 4.5% in 2019

to 5.6% in 2021. The total power consumption of the said households reached 300,713,489 kWh and 399,300,381 kWh in April 2019 and 2021, respectively. On the other hand, the bulk or more than 90% of Meralco's residential customers consumed electricity below 650 kWh. Thus, they were exempted from the Energy Tax.

**Table 2**

*Meralco's Residential Customers and kWh Consumption (Typical Month of April 2019 and 2021)*

Range of monthly kWh consumption	April 2019		April 2021	
	Number of customers (April 2019)	kWh consumption (April 2019)	Number of customers (April 2021)	kWh consumption (April 2021)
0-350	5,176,131	666,645,582	5,328,197	685,399,133
351-500	497,421	206,282,955	610,740	254,056,255
501-650	215,025	121,689,404	283,031	160,353,299
651-1,000	175,228	137,760,971	239,858	188,666,158
1,001-1,500	63,756	76,199,020	84,924	101,302,421
1,501-3,000	31,248	61,422,099	39,503	77,415,568
Over 3,000	5,695	25,331,399	7,150	31,916,234
<b>Total</b>	<b>6,164,504</b>	<b>1,295,331,430</b>	<b>6,593,403</b>	<b>1,499,109,068</b>
<b>Under 650 kWh</b>	<b>5,888,577</b>	<b>994,617,941</b>	<b>6,221,968</b>	<b>1,099,808,687</b>
% Share to Total	95.52	76.78	94.37	73.36
<b>Over 650 kWh</b>	<b>275,927</b>	<b>300,713,489</b>	<b>371,435</b>	<b>399,300,381</b>
% Share to Total	4.48	23.22	5.63	26.64

*Notes.* Meralco (official communication, March 25, 2022).

Per Meralco, the 2020 data were distorted due to pandemic restrictions that affected meter reading activities.

## *B. Energy Tax in the Philippines*

In line with the objectives of conserving and promoting efficient energy utilization, the government introduced the Energy Tax on electric power consumption via BP Blg. 36 in 1979. The said tax is a market-based instrument that serves as a tool to discourage excessive electric power usage. Presently, the Energy Tax rate is progressive based on the monthly electric consumption. Under BP Blg. 36 residents with monthly electric consumption not over 650 kWh within Metro Manila are

exempt from the payment of the Energy Tax, while those with greater than 650 kWh are subject to the said tax. Table 3 summarizes the schedule of the Energy Tax rates.

**Table 3**

*Rates of Energy Tax Based on BP Blg. 36*

Monthly kWh consumption within Metro Manila	Rate per kWh
Not over 650 kWh	Exempt
Over 650 kWh but not over 1,000 kWh	P0.10 per kWh in excess of 650 kWh
Over 1,000 kWh but not over 1,500 kWh	P35 plus P0.20 per kWh in excess of 1,000 kWh
Over 1,500 kWh	P135 plus P0.35 per kWh in excess of P1,500 kWh

Outside Metro Manila

If the electric power rates (excluding the energy tax) are equal to or higher than the electric power rates (including the tax) prevailing in Metro Manila	Exempt
If the electric power rates (excluding the energy tax) are less than the prevailing electric power rates (including the energy tax) in Metro Manila	The tax is equal to the difference or the full amount of energy tax, whichever is lower

The Energy tax is a pass-through charge. Hence, power utilities serve only as collecting agencies of the government for the said tax. It is paid to and withheld by the DUs from their respective residential customers along with their monthly electric billings. Within 20 calendar days after the end of each calendar month during which the tax is collected, the DU shall file a true and correct return with the Commissioner of Internal Revenue and remit the total amount of tax collected within the same period.

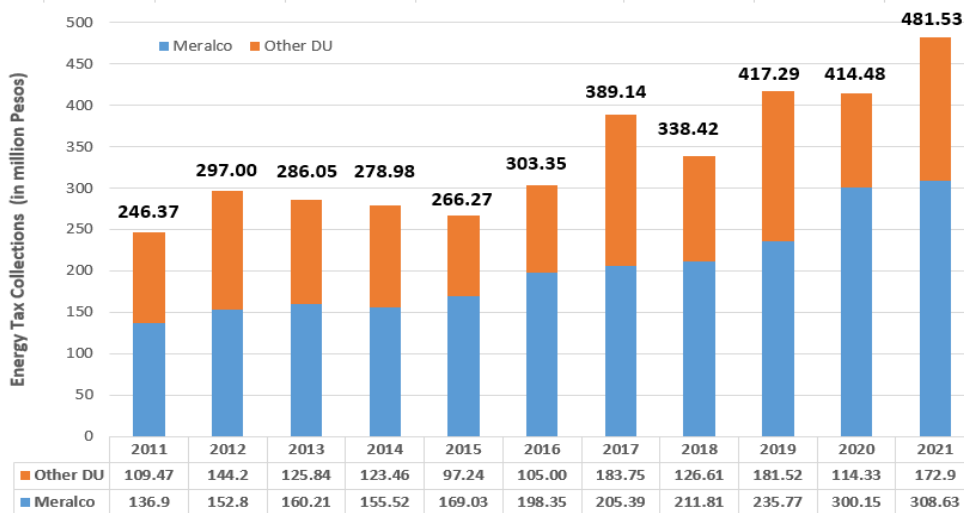
Figure 9 shows the annual Energy Tax collections of the Bureau of Internal Revenue (BIR) presented in proportions of the contributions of Meralco and the other DUs. The total BIR collections moved erratically from P246.4 million in 2011 to P481.5 million in 2021 or averaging P308.6 million annually. On average, the collection from Meralco shared 60% of the total Energy Tax collection of the BIR during the period under review.

The collections of Meralco generally moved upwards from P136.9 million in 2011 to P308.6 million in 2021 while that from other DUs from P109 million to P173 million during the same period. When the pandemic hit in 2020, the total Energy Tax collected by Meralco went up by 27% but that from the other DUs declined by 37% from the prior year's collection.



**Figure 9**

*Energy Tax Collection of the BIR and Meralco, 2011 to 2021 (in Million Pesos)*



*Note.* BIR and Meralco (official communications, various years).

### III. IMPACT OF COVID-19

#### A. *On the Power Sector*

At the height of the pandemic, lockdown measures were imposed in many countries that significantly reduced the electricity demand. The global electricity demand significantly declined by 2.5% in the first quarter of 2020, based on the estimates of the International Energy Agency (International Energy Agency, 2020). In the Philippines, the power sector was also adversely affected by the pandemic due to lower electricity demand.

To mitigate the pandemic's impact on the welfare of Filipinos, the government implemented a no disconnection policy and extended payment of electricity bills by consumers. The DOE issued a memorandum dated March 18, 2020, which called public and private power sector corporations to defer payments of obligations and dues for 30 days after the conclusion of the enhanced community quarantine (ECQ) period on April 14, 2020 (Energy Regulatory Commission, n.d.). The DOE also directed all electricity providers to give consumers a grace period to pay their bills falling due during the original and extended ECQ periods without incurring interest, penalties, fees, and charges pursuant to Section 4(u) of the Republic Act (RA) No. 11469<sup>2</sup> or the "Bayanihan to Heal as One Act", which

<sup>2</sup> Entitled, "An Act Declaring the Existence of a National Emergency Arising from the Coronavirus Disease 2019 (Covid-19) Situation and a National Policy in Connection Therewith, and Authorizing the President of the Republic of the Philippines for a Limited Period and Subject to Restrictions, to Exercise Powers Necessary and Proper to Carry Out the Declared National Policy and for Other Purposes". (March 24, 2020).

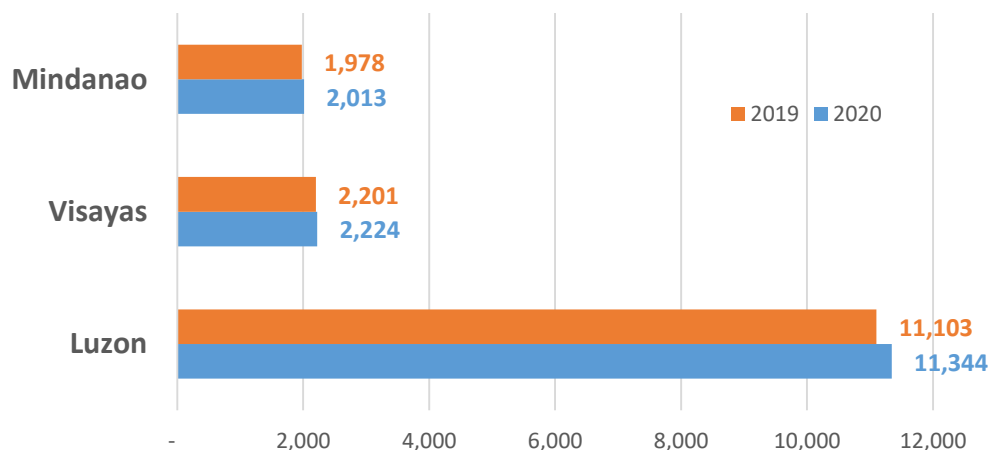
directed the conservation and regulation of the distribution and use of power, fuel, energy and water, and ensure the adequate supply thereof. Also, the accumulated electricity bills falling due during the ECQ shall be amortized in four equal installments, payable in the first four months following the end of the ECQ (DOE, 2020).

Later on, Section 4(vv) of RA 11494,<sup>3</sup> or the “Bayanihan to Recover as One Act”, directed the implementation of a minimum of the 30-day grace period and staggered payment without interests, penalties, and other charges to all payments due within the period of community quarantines in the entire electric power value chain to include generation companies, transmission, and distribution utilities.

In 2020, the country’s total non-coincidental peak demand<sup>4</sup> reached 15,581 MW, which was 299 MW or 1.9% higher than the previous year. This increase was attributed to the higher residential demand due to the imposition of different levels of community quarantine beginning March 15, 2020 throughout the whole country. By major island group, Luzon had the highest increase in non-coincidental peak demand at 241 MW, followed by Mindanao (35 MW) and then Visayas (23 MW). (See Figure 10.)

**Figure 10**

*2020 vs. 2019 Non-Coincidental Peak Demand per Grid (in MW)*



*Note.* DOE. (ca.2021). *2020 Power Situation Report*. Retrieved May 2, 2022, from [https://www.doe.gov.ph/sites/default/files/pdf/electric\\_power/2020\\_power-situation-report\\_as\\_of\\_16-august-2021.pdf?withshield=1](https://www.doe.gov.ph/sites/default/files/pdf/electric_power/2020_power-situation-report_as_of_16-august-2021.pdf?withshield=1)

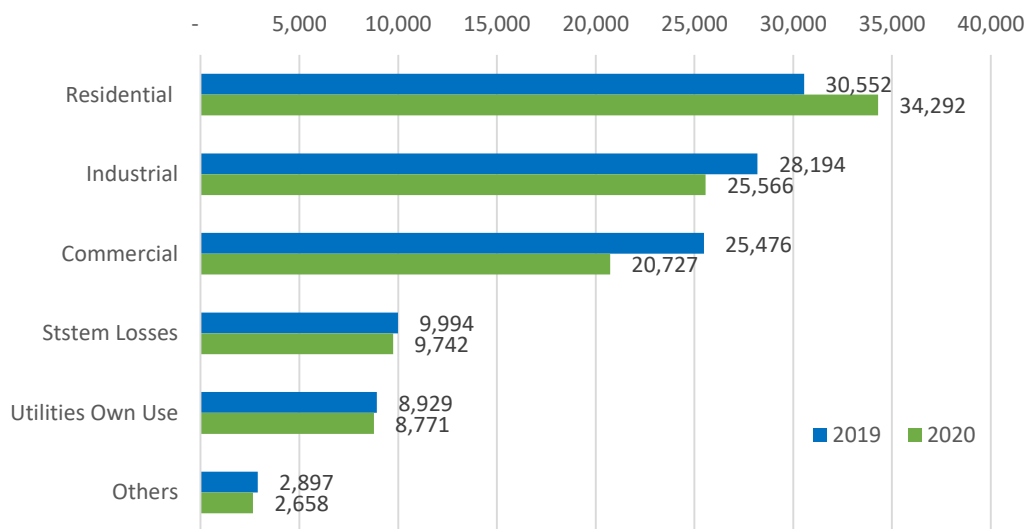
<sup>3</sup> Entitled, “An Act Providing for COVID-19 Response and Recovery Interventions and Providing Mechanisms to Accelerate the Recovery and Bolster the Resiliency of the Philippine Economy, Providing Funds Therefor, and for Other Purposes”. (September 11, 2020)

<sup>4</sup> Non-coincidental peak refers to the aggregate of the peak demand of the grids, which may or may not be at the same time in a year. (DOE, 2017)

Following the slowdown of the Philippine economy, the country's total electricity consumption declined to 101,756 GWh in 2020 from 106,041 GWh in 2019, or by 4%. The reduction in electricity consumption in 2020 generally came from the industrial and commercial sectors as the residential sector recorded higher electricity consumption in the said year. As shown in Figure 11, the residential sector remained the largest sector consuming electricity in 2019 to 2020.

**Figure 11**

*2020 vs. 2019 Electricity Sales and Consumption by Sector (In GWh)*



*Note.* DOE. (2021, April 28). 2020 power statistics [Data Set]. Retrieved from [doe.gov.ph](https://www.doe.gov.ph).

Among the three major islands, Luzon suffered the largest reduction in electricity sales and consumption at 4,183 GWh or by 5.4% in 2020 due to the significant cut in the commercial and industrial sectors' power consumption. Aside from the adverse impact of the pandemic, the Luzon grid was hit by a series of natural calamities in the said year, such as the eruption of the Taal Volcano and the impact of typhoons (DOE, ca. 2021). However, the share of the residential sector electricity consumption in Luzon rose by 13%.

## B. On the Energy Tax collection

As shown in Table 4, the total gross residential demand increased from 30,552 GWh in 2019 to 34,292 in 2020, or by 12%, while Meralco's residential energy sales increased by 13% during the same period. It can also be noted that the number and consumption of Meralco's customers with monthly consumption above 650 kWh increased in April 2021 by 35% and 33%, respectively, as compared to April 2019. These increases in residential energy demand both from Meralco and other distribution utilities were sustained in 2021. From the previous pandemic year, total

residential energy demand and Meralco's residential energy sales increased by almost 15% and 16%, respectively, in 2021.

However, despite the higher residential energy demand in 2020, the annual Energy Tax collection of the BIR declined to P414.5 million from P417.3 million in 2019, or by -0.7%. On the other hand, the annual Energy Tax collection of Meralco increased significantly from P235.8 million in 2019 to P300.0 million in 2020, or by 27%. The higher Energy Tax collection was consistent with the higher number of Meralco customers with above 650 kWh monthly consumption in 2021.

**Table 4**

*Impact of Covid-19 on the Energy Sector and Energy Tax Collection*

Particulars	2019	2020	2021	% Change	
				2019 vs. 2020	2019 vs. 2021
Residential Energy Demand (in GWh)	30,551.60	34,291.59	34,981.00	12.24	14.50
Meralco's Residential Energy Sales (in GWh)	14,589.00	16,488.00	16,913.00	13.02	15.93
BIR's Energy Tax Collection (in Million Pesos)	417.30	414.48	481.53	(0.68)	15.39
Meralco's Energy Tax Collection (in Million Pesos)	235.77	300.15	308.63	27.31	30.90
Number of Meralco's residential customers with more than 650 kWh consumption	275,927	n.a.	371,435	n.a.	34.61
Consumption of Meralco's residential customers with more than 650 kWh consumption	300,713,489	n.a.	399,300,381	n.a.	32.78

Meralco serves the National Capital Region (NCR) and the provinces in the least poor cluster<sup>5</sup> considered as both willing and able to pay in excess of their pre-pandemic energy demand. Moreover, before the pandemic, electricity bills beyond

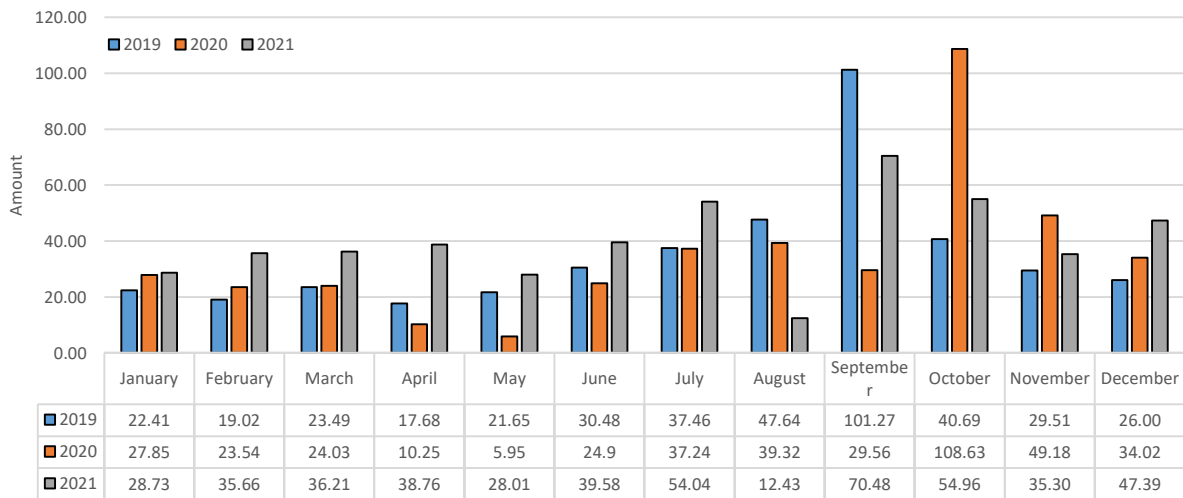
<sup>5</sup> According to the Official Poverty Statistics of the Philippines, provinces included in the **least poor cluster** as of the first semester of 2021 include Batanes, Batangas, Benguet, Capiz, Cavite, Davao del Sur, Ilocos Norte, Lanao del Sur, La Union, Laguna, Pampanga, Quirino, Rizal, and Siquijor (PSA, 2021).

normal were not immediately felt due to Meralco’s public service initiative to convert all unpaid bills during the ECQ and Modified ECQ to monthly installments.

On a monthly basis, the BIR’s Energy Tax collection decreased significantly in May and September 2020 by 73% and 71%, respectively, as compared to the same period in 2019. This was primarily due to the grace periods given for the payment of electricity bills in areas under ECQ provided under RA 11469 and RA 11494. When the series of ECQ were lifted, the Energy Tax collections of the BIR picked up significantly by 167% in October 2020. The payments during this month reflected the consumption with delayed payments during the previous months. In 2021, the monthly Energy Tax collection reached its highest amount at P70.5 million in the month of September, increasing significantly from P29.6 million or by 138% compared to that of the same month in 2020. Similarly, the Energy Tax collected in April and May 2021 increased dramatically by 278% and 371%, respectively, exceeding the same months during the pre-pandemic and pandemic years. (See Figure 12.)

**Figure 12**

*BIR’s Monthly Energy Tax Collection, 2019-2021 (in Million Pesos)*



Note. Data from BIR (official communication, various years).

The decrease in the total Energy Tax collection of the BIR in 2020 may imply that the increase in the residential sector’s demand for electricity had little effect thereon. However, in the case of Meralco, the 27% and 31% significant increases in the Energy Tax collections in 2020 and 2021, respectively, as compared to the collection in 2019, indicated that there was higher electricity demand from its residential customers during the years when the country was at the height of the pandemic. Thus, more households were subjected to the said tax. This may also prove that a higher number of households with electric power consumption above

650 kWh per month were concentrated in the NCR and nearby provinces or those being serviced by Meralco. Moreover, it is also likely that the higher residential energy demand came from households with consumption below the 650-KWh threshold, since a significant proportion of the working class was forced to stay home due to the COVID-19 pandemic.

There was a spike in the electricity usage in the residential sector since the pandemic as Filipinos were confined in their homes. The long hours of using gadgets such as computers and laptops was necessary to ensure that work and online classes were undisrupted. In addition, the increase in electricity consumption can also be attributed to the substantial utilization of cooling equipment, especially in the summer months.

There is a possibility that the increase in the Energy Tax collection seen during the pandemic years may not be sustained under a post-pandemic scenario. However, as the country slowly eases towards normalcy, it is not yet certain whether the majority of Filipinos will go back to their traditional work setting or will permanently adopt the flexible-workplace arrangements. Under the latter scenario, higher Energy Tax collection from the residential sector may persist.

Based on a scholarly simulation, residential electricity demand in the Philippines by 2030 will increase from 33,251 GWh (under a weak growth scenario) to 40,046 GWh (under a strong growth scenario). By 2040, it is forecasted that residential electricity will increase between 42,500 GWh (under a weak growth scenario) to 59,060 GWh (under a strong growth scenario) (Santos, 2020). Most likely, the said projected residential electricity demand will be realized given that for 2020 residential energy demand had already reached 34,291.59 GWh.

In the same light, it was perceived that more flexible-workplace arrangements would become permanent, and that communities would already be adjusted to the said setup by 2025. Moreover, tele-everything will be embraced, wherein broad adoption of “remote” processes (e.g. telework, telemedicines, virtual schooling) will continue to grow. There will be more people doing WFH, virtual social and entertainment interactions, and fewer forays in public than have been in the case of recent years (Anderson, Rainie, & Vogels, 2021).

It may be noted that even prior to the COVID-19 pandemic hitting the country, there was already a noticeable increase in the Energy Tax collected in 2019 from P338.42 million in 2018 to P448.01 million or higher by 23.3%. Given this, it is not farfetched that the residential sector’s demand for electricity will continue its upward trend post pandemic, which may eventually lead to the Energy Tax continuously contributing more to the government coffer.

However, it is worth mentioning that the Energy Tax rates schedule has been in place for more than 40 years now. The rates or tariffs (inclusive of the energy tax) may not deter electricity use, whether from an efficient or inefficient perspective (Nejar, 2011). Also, the Energy Tax structure has a narrow tax base because a large portion, or 94.4%, of residents have consumption lower than 650

kWh per month in the typical month of April 2021, thus are exempt from the Energy Tax. Therefore, it is of best interest to revisit the present structure of the Energy Tax taking into consideration the need to raise additional revenue for the government and as an important measure to improve energy efficiency to prevent a mounting energy crisis in the coming years.

## V. CONCLUSION

As the country is recovering from the pandemic, more businesses and schools are expected to return to physical reporting. This may increase the demand for electricity in the industrial and commercial sectors and eventually lower the demand for electricity in the residential sector. However, the electricity demand level of the residential sector in a post-pandemic scenario is yet to be seen given the scenarios discussed earlier.

The possibility of restructuring the schedule of the Energy tax to generate additional revenues for the government is also worth exploring because of the country's increasing revenue requirements and as an important measure to improve energy efficiency to prevent the mounting energy crisis that the country may experience in the coming years. Likewise, given that the Energy Tax has been in place for more than 40 years now and has a low tax base, it may be deemed necessary to make it more responsive and relevant to present conditions.

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**Annex A***Power Consumption by Sector, 2011-2020 (in GWh)*

Power consumption by sector	Residential	Commercial	Industrial	Others	Utilities own use	System losses	Total
2011	18,693.55	16,623.83	19,333.95	1,446.26	5,398.48	7,679.58	69,175.65
2012	19,694.90	17,777.22	20,070.97	1,667.53	5,351.15	8,360.24	72,922.01
2013	20,613.72	18,303.75	20,676.80	1,971.35	5,959.40	7,740.82	75,265.84
2014	20,968.87	18,760.79	21,428.67	2,186.46	6,461.27	7,454.94	77,261.00
2015	22,747.05	20,084.78	22,513.88	2,462.03	7,124.27	7,481.19	82,413.21
2016	25,631.25	21,770.17	24,116.82	2,634.27	8,357.34	8,288.05	90,797.89
2017	26,782.03	22,767.98	25,573.27	2,669.53	8,315.78	8,261.75	94,370.34
2018	28,260.76	24,016.27	27,587.35	2,752.72	8,141.04	9,006.58	99,764.72
2019	30,551.60	25,475.85	28,193.98	2,896.60	8,929.11	9,994.35	106,041.49
2020	34,291.59	20,727.10	25,566.33	2,657.77	8,771.22	9,741.72	101,755.72
Average	24,823.53	20,630.77	23,506.20	2,334.45	7,280.91	8,400.92	86,976.79

Note. Data gathered from DOE (2021). 2020 Power Statistics. Retrieved April 4, 2022, from doe.gov.ph.

**Annex B***Meralco's Number of Customers and Power Sales by Sector, 2015 to 2021*

Particulars	2015	2016	2017	2018	2019	2020	2021	Average	% Share
<b>Number</b>									
Residential	5,296	5,537	5,812	6,086	6,339	6,575	6,839	6069	91.98
Commercial	474	486	500	514	528	541	555	514	7.79
Industrial	10	10	10	10	11	11	11	10	0.16
Streetlights	4	5	5	5	5	5	5	5	0.07
Total	5,784	6,038	6,327	6,615	6,883	7,132	7,410	6598	100.00
<b>Meralco's Sales</b>									
Residential	11,121	12,444	13,060	13,555	14,589	16,488	16,913	14024	33.11
Commercial	14,654	15,867	16,597	17,463	18,483	14,766	15,234	16152	38.14
Industrial	11,216	11,697	12,309	13,156	13,659	12,176	13,782	12571	29.68
Streetlights	133	134	136	139	140	142	144	138	0.33
Total	37,124	40,142	42,102	44,313	46,871	43,572	46,073	42,354	100.00

Note. Basic data gathered from Meralco.