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Lifeline rate and senior citizen discount on electricity: Who pays and who benefits? (socialized pricing mechanisms in the Philippine electric power industry)

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DISCUSSION PAPER SERIES NO. 2024-47

# Lifeline Rate and Senior Citizen Discount on Electricity: Who Pays and Who Benefits? (Socialized Pricing Mechanisms in the Philippine Electric Power Industry)

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Lifeline Rate and Senior Citizen Discount on Electricity:  
Who Pays and Who Benefits? (Socialized Pricing Mechanisms  
in the Philippine Electric Power Industry)

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## **Abstract**

Socialized pricing mechanisms are common in utility services like electricity because it is critical for daily activities and therefore, considered vital for economic growth. The aim of such mechanisms is to redistribute financial resources from well-off to marginalized consumers. This is seen to improve the availability and affordability of critical services, thus enhancing the overall social welfare. However, while the rationale for socialized pricing mechanisms is widely accepted, funding-related discussions have induced much debate. Some studies found that subsidies for electricity end up benefiting middle-income and high-income households instead of the poor, exposing possible targeting issues (Mayer et al. 2015, Trimble et al. 2011, Komives et al 2009). Motivated by these discussions, this study examines two presently implemented socialized pricing mechanisms in the Philippine Electric Power Industry namely: (1) the lifeline rate, and (2) the senior citizen rate. The analysis employed data from the Household Energy Consumption Survey and Family Income and Expenditure Survey from which it was shown that the set of rules for availing the discounts is prone to leakages, favoring electricity consumers that can well afford to pay their electricity consumption at full price. Some recommendations on addressing implementation issues are presented in this paper.

# **Lifeline Rate and Senior Citizen Discount on Electricity: Who Pays and Who Benefits? (Socialized Pricing Mechanisms in the Philippine Electric Power Industry)**

*Kris A. Francisco*

## **1. Introduction**

Socialized pricing mechanisms are common in utility services such as electricity and water because these are considered critical for human well-being and economic development. A wide array of literature strengthens this narrative by showing better access to electricity and water services leads to improved labor productivity (Alam et al. 2018, Anklin et al. 2016, Numba et al. 2009, Fedderke and Bogetic 2006, Fan et al. 2004), education and health (Olanrele et al. 2020, Bridge et al. 2016), household income (Bridge et al. 2016), and long-run economic growth (Kolin et al. 2021). Over the years, a great deal of attention has been dedicated to bridging the gap on universal access to clean water and sanitation, and energy services. This is evident in the numerous policy initiatives of international organizations as well as governments around the world, that are geared towards achieving Social Development Goal 6 and 7, respectively. While there are variations in policy design and modes of implementation, the general idea behind socialized pricing mechanism is consistent: to make critical services available and affordable for a specific group of end-users. Mechanisms of such aim to redistribute financial resources to improve overall social welfare.

However, although the rationale for socialized pricing mechanisms is widely accepted, funding-related discussions have induced much debate. In the case electricity services, studies argue that heavily subsidized electricity rates leave little room for efficiency, i.e. production efficiency in the case of providers (Ahmed et al. 2012, Komives et al. 2009) and efficiency in electricity use, in the case of end-users (Mayer et al. 2015). Furthermore, it has been found that subsidies for electricity end up benefiting middle-income and high-income households instead of the poor (Mayer et al. 2015, Trimble et al. 2011, Komives et al. 2009), exposing possible targeting issues. Motivated by these findings, this study seeks to examine the existing socialized pricing mechanisms in the Philippine Electric Power Industry, to provide a more localized context.

Presently, there are two types of pricing mechanisms implemented in the Philippine Electric Power Industry: (1) the lifeline rate, and (2) the senior citizen rate. The lifeline rate is a feature of Republic Act No. 9136, also known as the “Electric Power Industry Act of 2001”, designed to provide subsidized electricity rates for consumers with electricity consumption not exceeding 100kWh per month. The subsidy is meant to cover low-income households who are unable to afford the full cost of electricity. This pricing mechanism is considered an additional lever supporting the government’s goal of providing universal access to electricity. The senior citizen rate, on the other hand, is a discount on the total monthly electricity bill given to a household with a senior citizen member. This socialized pricing mechanism is a feature of Republic Act No. 9994, also known as the “Expanded Senior Citizens Act of 2010” wherein a 5 percent discount total monthly electric bill is given to a household with a senior citizen member, consuming less than 100kWh. Both the

lifeline rate and senior citizen rate are cross-subsidies wherein consumers with higher electricity consumption shoulder the discount given to these specific groups of households.

The main goal of this study is to review the general motivation for these pricing mechanisms and verify whether the transfers indeed benefit the intended group of consumers. Using the best available data, this study seeks to address the following policy questions:

1. Who pays and who benefits from the lifeline and senior citizen rates?
2. Do the profiles of the beneficiaries match the targeted groups of consumers?
3. Are there possible areas for improvement for lifeline and senior citizen rate implementation?

Overall, this study provides an informative examination of the lifeline and senior citizen rates, looking particularly at the aspect of matching the targeted groups and the actual beneficiaries. The findings from this study will be useful to policymakers as it can reveal some strengths and weaknesses in the current design of the socialized pricing schemes, which can feed into either (a) updating the existing policy design, or (b) for future policy proposals. This study will also contribute to the growing literature on socialized pricing mechanisms in electricity, offering some insightful lessons from the experience of the Philippines.

## **2. Background**

### *Lifeline rate*

The lifeline rate is part of the reforms included in Republic Act 9136, commonly known as the Electric Power Industry Reform Act (EPIRA) of 2001. Under Section 73 of the Act, it is defined as a socialized pricing mechanism that is meant to benefit marginalized end-users who may be unable to afford electricity rates at the full price. The lifeline rate was set to be implemented for an initial period of ten years from the effectivity of the EPIRA law. The Energy Regulatory Commission was given the responsibility of determining the consumption level and rate to be used for this cross-subsidy. In accordance with this mandate, the ERC laid out the guidelines through ERC Case No. 2005-09 RM to establish the process of implementing the lifeline rates and discounts to be given by the Distribution Utilities (DUs). As specified in the said document, the ERC aims to ensure the lifeline discounts shall be awarded to all marginalized users, and the cost of subsidizing these customers will be levied on the non-lifeline users. The ERC likewise stated its intention to protect the revenue position of the DUs in the implementation of the discounts, hence prescribing formulas on the calculation of the lifeline rate adjustments (LRA).

With the ERC Case No. 2005-09 RM, all DUs were given two formulas for calculating the LRAs; which takes into consideration the total kWh sales to both lifeline and non-lifeline customers; lifeline rate to non-lifeline customers; the total rate for residential customers (including the generation, transmission, system loss, distribution, supply and metering, and loan condonation for the DUs); the lifeline level-specific sales and number of customers; and the total actual amount billed to lifeline customers. In addition, DUs were granted a choice to propose an alternative

mechanism/formula, but subject to the approval of the ERC, in case of a valid reason for the DU not to comply with the guidelines. Given these, it is worth noting that lifeline rates and discounts vary per DU due to differences in customer characteristics and financial capacity to offer discounted rates. The electricity consumption threshold likewise differs per DU. To demonstrate, the consumption threshold for lifeline rates of MERALCO, Metro Manila’s sole electric distributor, is contrasted against the consumption threshold for lifeline rates of ANTECO, Antique’s Electric Cooperative, in Table 1. As shown below, MERALCO covers higher levels of consumption thresholds as well as a higher percentage of discounts for its consumers.

Table 1. Comparison of consumption threshold for lifeline rates, MERALCO and ANTECO

MERALCO		ANTECO	
Threshold	Discount (%)	Threshold	Discount (%)
0-20 kWh	100	0-15 kWh	7
21-50 kWh	50	16-20 kWh	5
51-70 kWh	35		
71-100 kWh	20		

Source: MERALCO and ANTECO websites

A decade after the EPIRA law implementation, an effort was made to extend the lifeline rate discount through RA 10150 of 2011. Stipulated in this Act is the continuous exemption of the lifeline rate from the cross-subsidy phase out for a period of twenty years. In 2021, another extension of the lifeline rate was granted through RA 11552. This Act re-emphasizes the goal of helping marginalized electricity consumers, especially those below the poverty line; while at the same time, underscoring the need to achieve a more equitable distribution of the lifeline subsidy. RA 11552 exempts the lifeline rate discount from cross-subsidy phase out for a period of fifty years. However, a more definitive set of criteria was offered to improve the process of identifying the marginalized end-users. Based on the document released by the Department of energy<sup>1</sup>, either of the two criteria must be met to be able to avail the lifeline rate discount: (1) if qualified-household beneficiary of the “Pantawid Pamilyang Pilipino Program (4Ps) Act”, with monthly electricity consumption that is within the threshold determined by the ERC; and (2) if living below the poverty threshold<sup>2</sup> set by the Philippine Statistics Authority, backed by a certification from the local Social Welfare and Development Office (SWDO) issued within the last six months; and the monthly consumption is within the threshold determined by the ERC. As compared with the previous implementation of the lifeline rate wherein households consuming below the threshold approved by the ERC automatically gets the lifeline discount; the recent rules dictate that qualified consumers are required to apply with their DUs and submit the necessary supporting documents. The validity of the lifeline rate based on the inclusion in the certified list of 4Ps beneficiaries

<sup>1</sup> Additional information based on Department of Energy FAQs on lifeline rate accessed from [https://doe.gov.ph/sites/default/files/pdf/consumer\\_connect/FAQs-on-Lifeline-Rate.pdf](https://doe.gov.ph/sites/default/files/pdf/consumer_connect/FAQs-on-Lifeline-Rate.pdf) on May 7 2024.

<sup>2</sup> In 2021, the annual per capita poverty threshold is at Php28,871 on average, or Php12,030 for a family of five, at the national level.

provided by the DSWD is initially one year. Annual verification is performed from then on. In contrast, the validity of the lifeline rate for those with certification from local SWDO is three years from the date of issuance of the certificate.

### *Senior citizen rate*

The “Expanded Senior Citizens Act of 2010” or RA 9994 includes in the list of privileges for Senior Citizens (SC) –defined as any resident citizen of the Philippines aged sixty and above, a minimum of five percent (5%) discount for monthly utilization of water and electricity supplied by public utility providers. According to this Act, the set of benefits offered to SCs generally aim to support the declaration in the Constitution of the State’s goal to make essential goods and services available to all people at an affordable cost, with priority to the needs of the underprivileged, sick, disabled, elderly, women and children. The Act is also seen as an instrument to encourage SCs to take part in nation building. The monthly consumption threshold for the 5 percent discount on electricity bill is set at 100kWh per month. Exceeding this limit disqualifies the household with a SC member to enjoy the said benefit. The DUs have varied pre-requisites for the SC discount, but the consistent condition among electricity providers aside from electricity consumption that is below the 100kWh threshold, is that the meter for the electricity should be registered under the name of the SC member. Availing the SC discount is renewable every year.

Over the years, proposals from the House of Representatives and the Senate attempted to increase the consumption threshold for the SC discount, in the aim of expanding the benefits to more senior citizens. In 2022, House Bill 07919 proposed to increase the consumption threshold to 200 kWh. A similar bill was also filed the same year, Senate Bill 1066, which likewise suggested expanding the discount to 150 kWh monthly electricity consumption. Both bills, however, remain pending at the Committee level.

## **3. Discussions**

The pronouncements contained in laws that allowed for the implementation of the lifeline rate and senior citizen discount have some similarities in the sense that both pricing mechanisms are generally intended to improve the well-being of the marginalized and specific groups, including the elderly, through more affordable electricity. In this section we examine how the rules of actual lifeline rate and senior citizen discount implementation hold up against the said goal, using nationally representative household surveys. Two relevant surveys are particularly useful for our study. The Household Energy Consumption Survey (HECS) offers information on residential energy consumption and preferences. However, HECS is only available for two periods –2004 and 2011, limiting the extent of our analysis. To aid further examination, we also made use of the Family Income and Expenditure Survey (FIES). FIES contains a section on electricity usage over the survey period, as well as a richer set of information on household characteristics such as family income including indicators on poverty and 4Ps, and the composition and age of family members, which helped identify households with senior citizen members. This additional information enabled us to characterize the types of households qualified for the discounted rates and evaluate

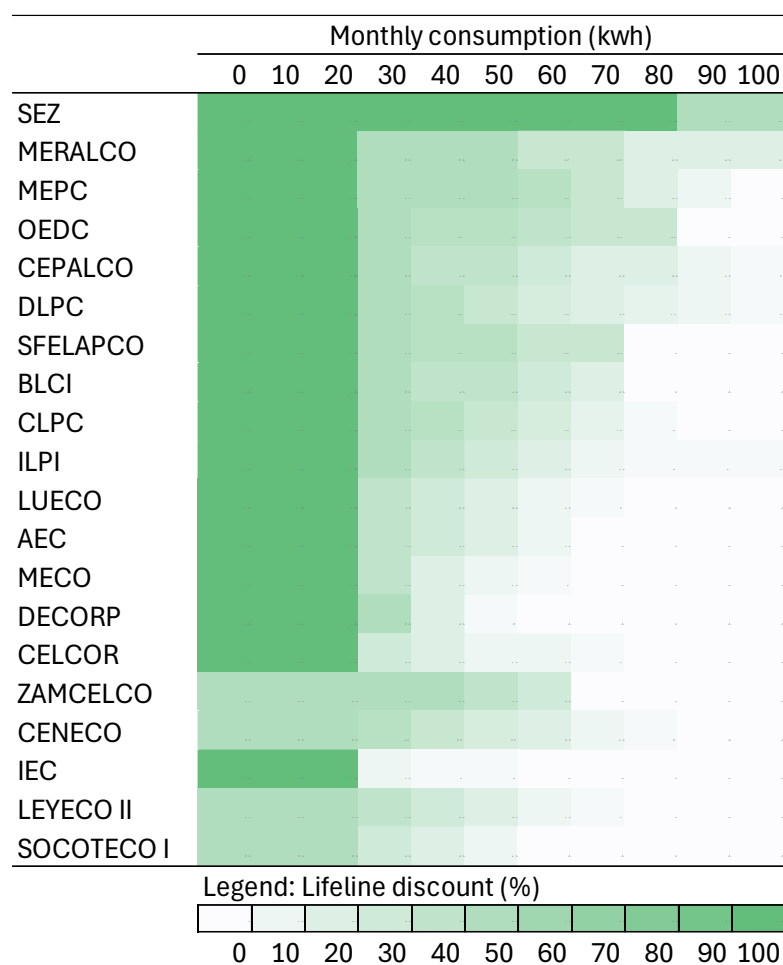


whether the set of criteria is effective in targeting the intended groups or not. For this study, we employed the 2018 FIES data to shield our analysis from the disruptive effects of the COVID-19 pandemic.

Initially, the planned empirical strategy to provide a comprehensive view of the direction of transfers of the lifeline rate and senior citizen discount rests on constructing a distributional model that will be used in verifying money transfers based on some household characteristics. However, in actual implementation, the conditions for availing the lifeline rate and senior citizen discount are much simpler and mainly based on the monthly electricity consumption. Since the rules are straightforward, we simplified our strategy and opted to apply the conditions directly to the data. We then produced relevant statistics, which became the basis for the discussions and analysis.

Examining the pricing mechanisms related to electricity is a complicated task because there are various factors at play. For instance, electricity rates, consumption thresholds, lifeline rates and senior citizen discounts vary among DUs. The Department of Energy website lists a total of 152 DUs within the Philippines. To simplify our analysis, we applied the rates of MERALCO, Metro Manila's sole private DU, to our data. While this is not ideal and we lose a lot of the variabilities that occur in real life, this simplification strategy nevertheless, allowed us to conduct our research more efficiently and come up with a set of statistics that can be used to examine the criteria governing the lifeline rate and senior citizen discount. Moreover, actual data shows that MERALCO places high on the list of the most generous DUs in terms of granting the lifeline discounts (as seen in Table 2), thus serving as a good point of reference for our study.

Table 2. Twenty most generous DU by lifeline rate: Philippines, 2022



Source of basic data: DOE

For the benefit of the readers, we show how the lifeline discount of MERALCO translates into much affordable electricity rates for those consumers qualified under the consumption thresholds in Table 3. Essentially, qualified households save about 200 pesos or more on their monthly electricity bill because of the lifeline cross-subsidy.

Table 3. Sample pricing of MERALCO based on consumption brackets

Consumption bracket	Discount rate*	In PhP	
		Payment (more or less)**	Undiscounted amount**
0-20 kWh	100%	20	250
21-50 kWh	50%	300	550
51-70 kWh	35%	523	763
71-100 kWh	20%	904	1,099

Source: MERALCO, DOE

Notes: Lifeline consumption threshold set by ERC is 100kWh per month.

\*Discount is on the generation charges (system loss, transmission, and distribution components of the bill, except for fixed metering charge)

\*\* Amounts are based on Department of Energy's FAQs on Lifeline rate.

### *Observations from data*

This section contains discussions based on what was observed from household data. The first part centers on the tables produced from the Household Energy Consumption Survey and the latter part presents statistics based on the Family Income and Expenditure Survey. Observations from both surveys are consistent and complementary.

The advantage of employing the Household Energy Consumption Survey (HECS) is that it not only provides information on average household electricity monthly consumption and bill, but it also contains a list on the kind of appliances that the households possess and use. This information has proven useful in trying to characterize the households that qualify for the lifeline discount. Appliance ownership, to some extent, signals the financial capability of households. Such information is crucial because it helps highlight the importance of getting the monthly electricity consumption threshold right, to ensure that the policy benefits only the marginalized households and not unnecessarily include those who can afford to pay at full price.

Table 4 demonstrates that applying the approved consumption thresholds for MERALCO on HECS 2004 and 2011, qualifies more than 60 percent of all sample households in both survey years for the discounted rates. This figure is quite high because essentially, the remaining 30+ percent will be contributing to cover the discounted rates. This initial observation outright puts into question whether the 100kWh consumption threshold is an appropriate benchmark to capture the marginalized users or does this level of consumption allows for untargeted electricity consumers to benefit from the discounted rates.

In the table below, we distinguish between lifeline –those with monthly electricity consumption of 100kWh and below, and non-lifeline households –those with monthly electricity consumption of above 100kWh. Evidently, the distribution of lifeline and non-lifeline households at the regional level is varied. Regional disaggregation suggests that in some regions such as Cagayan Valley, Bicol, and ARMM, the percentage of lifeline rate-qualified households can reach more than 80

percent. In contrast, in regions like Central Luzon and CALABARZON, the percentage share of lifeline and non-lifeline households is somewhat closer in value. For instance, the 60-40 share of lifeline vs non-lifeline households in Central Luzon. Another interesting observation from the HECS is that the NCR is an outlier region, with the lowest percentage of lifeline households, of less than 40 percent in both survey years. Given the design of the lifeline pricing mechanism wherein the non-lifeline households subsidize the consumption of the lifeline households, this regional distribution table based on the type of consumers, somehow implies the contribution of the lifeline rate policy to the varied electricity prices faced in regions in the Philippines. Electricity rates may be more expensive in regions where lifeline households outnumber the non-lifeline households because of the additional burden of cross-subsidy.

Table 4. Distribution of Lifeline vs non-lifeline households based on HECS 2004 and 2011

	2004			2011		
	Lifeline	Non-Lifeline	Total	Lifeline	Non-Lifeline	Total
Region I - Ilocos Region (in percent)	501,377 74.1	174,791 25.9	676,168 100.0	754,921 73.4	274,029 26.6	1,028,950 100.0
Region II - Cagayan Valley (in percent)	318,598 81.4	72,736 18.6	391,334 100.0	527,957 82.1	115,281 17.9	643,238 100.0
Region III - Central Luzon (in percent)	888,859 59.6	603,087 40.4	1,491,946 100.0	1,216,911 61.6	759,073 38.4	1,975,984 100.0
Region V - Bicol (in percent)	454,936 81.6	102,384 18.4	557,319 100.0	727,478 84.5	133,739 15.5	861,217 100.0
Region VI - Western Visayas (in percent)	545,580 76.4	168,385 23.6	713,965 100.0	873,282 75.4	284,281 24.6	1,157,564 100.0
Region VII - Central Visayas (in percent)	626,398 77.7	179,454 22.3	805,852 100.0	822,674 72.3	314,987 27.7	1,137,661 100.0
Region VIII - Eastern Visayas (in percent)	303,357 75.0	100,985 25.0	404,343 100.0	548,549 79.3	142,763 20.7	691,312 100.0
Region IX - Zamboanga Peninsula (in percent)	200,876 75.3	66,057 24.8	266,933 100.0	305,614 74.9	102,497 25.1	408,112 100.0
Region X - Northern Mindanao (in percent)	353,656 73.5	127,603 26.5	481,259 100.0	534,879 75.6	172,174 24.4	707,054 100.0
Region XI - Davao (in percent)	269,230 65.5	141,648 34.5	410,878 100.0	387,396 63.5	223,004 36.5	610,400 100.0
Region XII - SOCSKSARGEN (in percent)	197,109 62.4	118,770 37.6	315,880 100.0	357,448 73.9	126,100 26.1	483,548 100.0
Region XIII - NCR (in percent)	704,796 36.7	1,215,574 63.3	1,920,370 100.0	765,874 34.7	1,443,326 65.3	2,209,200 100.0
Region XIV - CAR (in percent)	144,082 77.7	41,370 22.3	185,452 100.0	229,818 76.8	69,441 23.2	299,259 100.0
Region XV - ARMM (in percent)	104,902 81.6	23,679 18.4	128,582 100.0	238,354 87.9	32,760 12.1	271,114 100.0
Region XVI - Caraga (in percent)	217,264 79.8	55,023 20.2	272,288 100.0	331,801 78.8	89,359 21.2	421,160 100.0
Region IVA - CALABARZON (in percent)	926,259 52.4	840,403 47.6	1,766,661 100.0	1,250,692 57.0	942,286 43.0	2,192,979 100.0
Region IVB - MIMAROPA (in percent)	176,112 78.9	47,191 21.1	223,304 100.0	352,686 85.1	61,874 14.9	414,560 100.0
<b>Total</b> (in percent)	<b>6,933,389</b> 63.0	<b>4,079,142</b> 37.0	<b>11,012,531</b> 100.0	<b>10,226,335</b> 65.9	<b>5,286,975</b> 34.1	<b>15,513,311</b> 100.0

Source: HECS 2004 and 2011

It is worth noting, however, that the transfers for the lifeline rate discount not only occurs between residential consumers, but it also includes the commercial and industrial type of electricity consumers of the DUs. Commercial consumers require higher power needs than residential households, to support the electricity needs of offices, businesses, or schools. Industrial-type

consumers on the other hand, require the highest power to support more extensive and heavy-duty types of machinery and processes. These two other types of electricity consumers also subsidize electricity prices for lifeline consumers as they are part of the non-lifeline group of consumers. Having said this, the HECS is unable to show us the complete picture because the sample only includes households. To have an idea of the regional share of residential versus non-residential consumers which includes both commercial and industrial type, we show the data of energy sale in 2022 sourced from the Energy Regulatory Commission in Table 5. The share of residential consumers of DUs is lower in the NCR, Northern Mindanao and Davao, compared with other regions. Hence, in these regions, commercial and industrial type of consumers cover a larger part of the lifeline cross-subsidy. The additional amount levied on their electricity rates, however, will depend on the number of qualified lifeline households in their locations. An important point that must be considered here is that from the point of view of commercial and industrial-type electricity consumers, a location with more lifeline users would equate to a higher electricity rate because of the design of the cross-subsidy. Cross subsidy, in this case, has the effect of artificially raising prices for some users. Such externality should be incorporated in the policy design to ensure that it would not act as a deterrent for businesses and industries to locate in certain locations, which could hinder regional growth.

Table 5. Share of residential consumers based on energy sales in 2022

	<b>Residential</b>	<b>Total</b>	<b>% Residential</b>
Region XV - ARMM	154,405,734	194,606,884	79.3
Region XIV - CAR	249,897,594	417,176,145	59.9
Region XVI - Caraga	473,462,063	950,945,698	49.8
Region XIII - NCR	14,209,150,315	39,331,417,483	36.1
Region I - Ilocos Region	1,444,341,600	2,325,808,639	62.1
Region II - Cagayan Valley	662,356,456	1,185,768,765	55.9
Region III - Central Luzon	3,091,315,280	6,507,396,717	47.5
Region IVA - CALABARZON	835,567,244	1,553,866,737	53.8
Region IVB - MIMAROPA	462,767,069	822,413,459	56.3
Region IX - Zamboanga Peninsula	660,021,986	1,274,008,448	51.8
Region V- Bicol	953,688,720	1,639,683,322	58.2
Region VI - Western Visayas	1,940,670,920	3,473,553,721	55.9
Region VII - Central Visayas	1,738,239,859	3,862,563,762	45.0
Region VIII - Eastern Visayas	465,885,215	750,466,809	62.1
Region X - Northern Mindanao	837,536,290	2,447,109,879	34.2
Region XI - Davao	897,955,230	2,399,972,589	37.4
Region XII - SOCSKSARGEN	843,936,466	1,776,562,419	47.5

Source: Energy Regulatory Commission

In Table 6, we further disaggregated the sample households based on the consumption thresholds adapted from MERALCO. The goal here is to detect some notable observations regarding the distribution of households consuming less than 100kWh. As shown in the table, households

consuming between 21 to 50 kWh dominate the group of qualified lifeline households at almost 25 percent, at the aggregate level. Meanwhile, the smallest share belongs to those households consuming 51 to 70kWh of electricity per month, at 11 percent.

A striking observation from the regional disaggregation of households is that in regions such as Bicol, Western Visayas, Central Visayas, Eastern Visayas, Zamboanga, Northern Mindanao, CAR, CARAGA, and MIMAROPA, the share of qualified lifeline households that falls within the lowest electricity consumption threshold of 0 to 20 kWh, range from 20 to 27 percent. This is comparatively higher than in other regions within the country. On another note, NCR continues to be an outlier, with only 2 percent of the household samples falling within the 0 to 20kWh consumption threshold.

Table 6. Distribution of electricity consumption, 2004

Region	0 to 20 kWh	21 to 50 kWh	51 to 70 kWh	71 to 100 kWh	Above 100 kWh	Total
Region I - Ilocos Region	130,053	194,379	80,466	96,479	174,791	676,168
(in percent)	19.2	28.8	11.9	14.3	25.9	100.0
Region II - Cagayan Valley	72,792	143,712	57,175	44,919	72,736	391,334
(in percent)	18.6	36.7	14.6	11.5	18.6	100.0
Region III - Central Luzon	115,755	392,130	179,319	201,655	603,087	1,491,946
(in percent)	7.8	26.3	12.0	13.5	40.4	100.0
Region V - Bicol	124,873	199,656	66,085	64,322	102,384	557,319
(in percent)	22.4	35.8	11.9	11.5	18.4	100.0
Region VI - Western Visayas	144,022	214,087	83,207	104,264	168,385	713,965
(in percent)	20.2	30.0	11.7	14.6	23.6	100.0
Region VII - Central Visayas	191,666	256,908	89,169	88,655	179,454	805,852
(in percent)	23.8	31.9	11.1	11.0	22.3	100.0
Region VIII - Eastern Visayas	98,784	125,574	32,923	46,076	100,985	404,343
(in percent)	24.4	31.1	8.1	11.4	25.0	100.0
Region IX - Zamboanga	57,875	73,895	29,359	39,747	66,057	266,933
(in percent)	21.7	27.7	11.0	14.9	24.8	100.0
Region X - Northern Mindanao	97,451	144,782	55,410	56,013	127,603	481,259
(in percent)	20.3	30.1	11.5	11.6	26.5	100.0
Region XI - Davao	44,571	114,716	49,988	59,954	141,648	410,878
(in percent)	10.9	27.9	12.2	14.6	34.5	100.0
Region XII - SOCSKSARGEN	21,808	87,995	40,789	46,518	118,770	315,880
(in percent)	6.9	27.9	12.9	14.7	37.6	100.0
Region XIII - NCR	43,435	211,274	175,729	274,359	1,215,574	1,920,370
(in percent)	2.3	11.0	9.2	14.3	63.3	100.0
Region XIV - CAR	47,627	56,863	17,706	21,886	41,370	185,452
(in percent)	25.7	30.7	9.6	11.8	22.3	100.0
Region XV - ARMM	11,835	44,260	17,614	31,193	23,679	128,582
(in percent)	9.2	34.4	13.7	24.3	18.4	100.0
Region XVI - Caraga	66,747	79,327	34,892	36,298	55,023	272,288
(in percent)	24.5	29.1	12.8	13.3	20.2	100.0
Region IVA - CALABARZON	148,798	302,822	209,419	265,220	840,403	1,766,661
(in percent)	8.4	17.1	11.9	15.0	47.6	100.0
Region IVB - MIMAROPA	60,663	61,215	17,946	36,288	47,191	223,304
(in percent)	27.2	27.4	8.0	16.3	21.1	100.0
<b>Total</b>	<b>1,478,754</b>	<b>2,703,594</b>	<b>1,237,197</b>	<b>1,513,844</b>	<b>4,079,142</b>	<b>11,012,531</b>
(in percent)	13.4	24.6	11.2	13.8	37.0	100.0

In Table 7 we compare statistics from HECS 2004 and 2011 to help us track observable changes in the distribution of households based on their electricity consumption, over time. Distribution based on consumption thresholds at the aggregate level appears to be roughly similar over the span of 7 years. Still, the biggest share of lifeline households is the group whose electricity consumption is within 21 to 50kWh. A noticeable change, though, is observed on the share of households consuming with 0 to 20kWh, which has increased by almost 5 percentage points between 2004 and 2011. Looking at the data more closely, the change appears to be highest in Cagayan Valley and the Bicol region. Without further details however, we are unable to explain this increase.

Table 7. Comparison of distribution of household based on kWh consumption, 2004 and 2011

Region	0 to 20 kWh		21 to 50 kWh		51 to 70 kWh		71 to 100 kWh		Above 100 kWh		Total	
	2004	2011	2004	2011	2004	2011	2004	2011	2004	2011	2004	2011
Region I - Ilocos Region (in percent)	130,053 19.2	187,268 18.2	194,379 28.8	314,299 30.6	80,466 11.9	123,057 12.0	96,479 14.3	130,297 12.7	174,791 25.9	274,029 26.6	676,168 100.0	1,028,950 100.0
Region II - Cagayan Valley (in percent)	72,792 18.6	200,640 31.2	143,712 36.7	214,290 33.3	57,175 14.6	57,480 8.9	44,919 11.5	55,548 8.6	72,736 18.6	115,281 17.9	391,334 100.0	643,238 100.0
Region III - Central Luzon (in percent)	115,755 7.8	227,987 11.5	392,130 26.3	480,428 24.3	179,319 12.0	256,706 13.0	201,655 13.5	251,791 12.7	603,087 40.4	759,073 38.4	1,491,946 100.0	1,975,984 100.0
Region V - Bicol (in percent)	124,873 22.4	273,834 31.8	199,656 35.8	290,880 33.8	66,085 11.9	73,743 8.6	64,322 11.5	89,021 10.3	102,384 18.4	133,739 15.5	557,319 100.0	861,217 100.0
Region VI - Western Visayas (in percent)	144,022 20.2	295,086 25.5	214,087 30.0	355,301 30.7	83,207 11.7	116,113 10.0	104,264 14.6	106,782 9.2	168,385 23.6	284,281 24.6	713,965 100.0	1,157,564 100.0
Region VII - Central Visayas (in percent)	191,666 23.8	328,011 28.8	256,908 31.9	273,394 24.0	89,169 11.1	111,469 9.8	88,655 11.0	109,800 9.7	179,454 22.3	314,987 27.7	805,852 100.0	1,137,661 100.0
Region VIII - Eastern Visayas (in percent)	98,784 24.4	190,359 27.5	125,574 31.1	234,637 33.9	32,923 8.1	59,863 8.7	46,076 11.4	63,690 9.2	100,985 25.0	142,763 20.7	404,343 100.0	691,312 100.0
Region IX - Zamboanga (in percent)	57,875 21.7	113,804 27.9	73,895 27.7	91,946 22.5	29,359 11.0	47,340 11.6	39,747 14.9	52,524 12.9	66,057 24.8	102,497 25.1	266,933 100.0	408,112 100.0
Region X - Northern Mindanao (in percent)	97,451 20.3	177,464 25.1	144,782 30.1	206,567 29.2	55,410 11.5	77,972 11.0	56,013 11.6	72,877 10.3	127,603 26.5	172,174 24.4	481,259 100.0	707,054 100.0
Region XI - Davao (in percent)	44,571 10.9	83,199 13.6	114,716 27.9	149,560 24.5	49,988 12.2	75,868 12.4	59,954 14.6	78,769 12.9	141,648 34.5	223,004 36.5	410,878 100.0	610,400 100.0
Region XII - SOCSKARGEN (in percent)	21,808 6.9	65,940 13.6	87,995 27.9	138,318 28.6	40,789 12.9	75,003 15.5	46,518 14.7	78,187 16.2	118,770 37.6	126,100 26.1	315,880 100.0	483,548 100.0
Region XIII - NCR (in percent)	43,435 2.3	100,256 4.5	211,274 11.0	181,721 8.2	175,729 9.2	185,654 8.4	274,359 14.3	298,243 13.5	1,215,574 63.3	1,443,326 65.3	1,920,370 100.0	2,209,200 100.0
Region XIV - CAR (in percent)	47,627 25.7	79,681 26.6	56,863 30.7	83,043 27.8	17,706 9.6	32,802 11.0	21,886 11.8	34,291 11.5	41,370 22.3	69,441 23.2	185,452 100.0	299,259 100.0
Region XV - ARMM (in percent)	11,835 9.2	44,769 16.5	44,260 34.4	94,323 34.8	17,614 13.7	54,408 20.1	31,193 24.3	44,853 16.5	23,679 18.4	32,760 12.1	128,582 100.0	271,114 100.0
Region XVI - Caraga (in percent)	66,747 24.5	122,998 29.2	79,327 29.1	117,388 27.9	34,892 12.8	42,941 10.2	36,298 13.3	48,475 11.5	55,023 20.2	89,359 21.2	272,288 100.0	421,160 100.0
Region IVA - CALABARZON (in percent)	148,798 8.4	178,953 8.2	302,822 17.1	445,979 20.3	209,419 11.9	257,417 11.7	265,220 15.0	368,344 16.8	840,403 47.6	942,286 43.0	1,766,661 100.0	2,192,979 100.0
Region IVB - MIMAROPA (in percent)	60,663 27.2	140,211 33.8	61,215 27.4	133,174 32.1	17,946 8.0	39,186 9.5	36,288 16.3	40,115 9.7	47,191 21.1	61,874 14.9	223,304 100.0	414,560 100.0
<b>Total</b> (in percent)	<b>1,478,754</b> 13.4	<b>2,810,458</b> 18.1	<b>2,703,594</b> 24.6	<b>3,805,248</b> 24.5	<b>1,237,197</b> 11.2	<b>1,687,021</b> 10.9	<b>1,513,844</b> 13.8	<b>1,923,608</b> 12.4	<b>4,079,142</b> 37.0	<b>5,286,975</b> 34.1	<b>11,012,531</b> 100.0	<b>15,513,311</b> 100.0

Focusing solely on the monthly electricity consumption of households provides an incomplete picture of the situation. Having additional information on what appliances were used to reach the monthly kWh consumption of the lifeline households provides a much more practical view. It also allows for a better sense of how the lifeline discount is being utilized by beneficiary households. In Table 8 we show the household electricity usage, disaggregated based on consumption



thresholds. Data dictates that electricity is primarily used for lighting among all groups of households. Interestingly, households are easily distinguishable based on the appliances that they use. Households with monthly consumption between 0 to 20kWh mainly use electricity for television viewing (62 percent), radio listening (36 percent) and electric fan operation (39 percent). Households with consumption between 21 to 50kWh on the other hand, are characterized by higher television viewing activities (89 percent), electric fan operation (70 percent), and radio listening (41 percent). Additionally, we noted increased electricity usage for ironing, refrigeration, and cooking. When considering the 51 to 70kWh consumption threshold, a notably higher share of households is observed to use refrigerator (46 percent), iron (54 percent), and washing machine (30 percent). The final group of households (those monthly consumption within 71 to 100kWh threshold), in comparison to the other groups, registers the highest share of households with computer activities at 14 percent. Given these observations on electricity usage of lifeline households, a relevant policy question to ask is at what level of consumption is it acceptable to subsidize electricity use? Does owning a refrigerator, washing machine, or computer signal some level of financial capability to cover monthly electricity bill?

Table 8. Household electricity usage per kWh consumption threshold, 2011

	0 to 20 kWh	21 to 50 kWh	51 to 70 kWh	71 to 100 kWh	Above 100 kWh	Total
Lighting	1.00	1.00	1.00	1.00	1.00	1.00
Heating Water	0.01	0.02	0.03	0.05	0.11	0.05
Cooking/food preparation	0.04	0.11	0.19	0.25	0.44	0.24
Ironing	0.17	0.38	0.54	0.62	0.81	0.54
Radio/cassette/stereo listening	0.36	0.41	0.44	0.48	0.56	0.46
TV/VCR viewing/recording	0.62	0.89	0.95	0.96	0.99	0.89
Refrigeration	0.05	0.20	0.46	0.60	0.86	0.48
Airconditioning	0.00	0.00	0.02	0.03	0.30	0.11
Electric fan/Ventilation	0.39	0.70	0.84	0.89	0.96	0.77
Water Pumping	0.00	0.00	0.02	0.03	0.10	0.04
Laundry(includes drying)	0.05	0.15	0.30	0.40	0.64	0.35
Computer Activity (includes printing)	0.01	0.02	0.06	0.14	0.44	0.18
Others	0.44	0.62	0.70	0.77	0.80	0.67
Total household members	4	5	5	5	5	5

Table 9 is the actual recorded amount of lifeline discounts and subsidies given in January 2022. As can be seen from the table, the discounts enjoyed by lifeline customers and the subsidy share of each non-lifeline customer are highly variable and location specific. Lifeline discounts range from about 8 pesos per customer to as high as 139 pesos per customer. Conversely, subsidy per customer ranges from as low as 1 peso per customer to almost 80 pesos per customer. These rough values demonstrate the varied experiences of customers on lifeline cross-subsidy. As pointed out earlier

in the paper, several factors such as the financial position of DUs, number of lifeline and non-lifeline customers in the area, etc. affect the actual execution of the lifeline discounts.

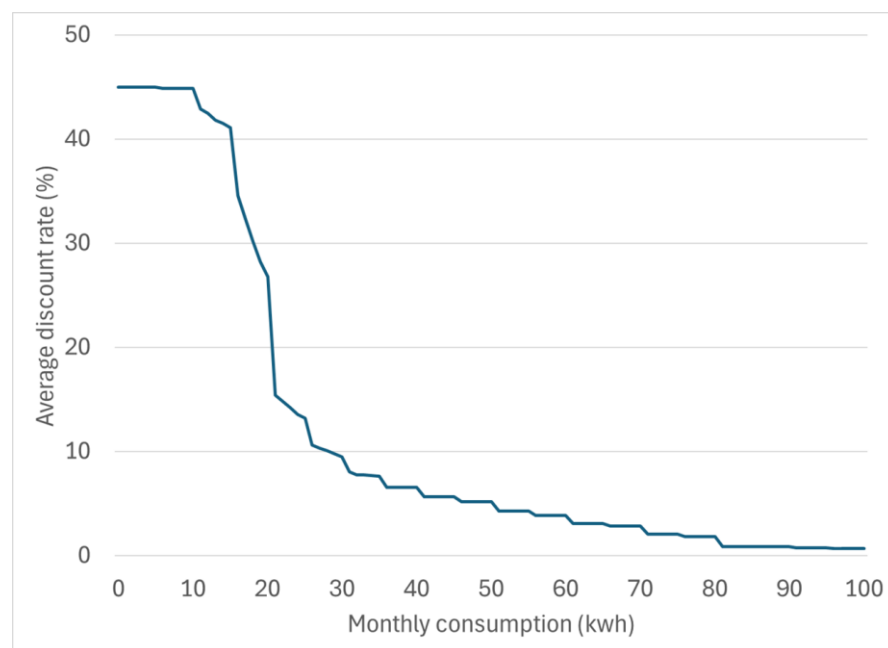
Table 9. Actual lifeline discount and subsidy, January 2022

Region	DU	Total Number of Lifeline Customers	Total Number of Non-Lifeline Customers	Total Discounts to Lifeline Customers (PhP)	Total Amount of Subsidy by Non-Lifeline Customers (PhP)	Discount per Lifeline Customer (PhP)	Subsidy per Non-lifeline customer (PhP)
PU-LUZON	AEC	24,219	98,612	1,595,976.57	1,942,558.00	65.90	19.70
REGION VI	AKELCO	43,092	92,776	646,687.85	646,687.85	15.01	6.97
CARAGA	ANECO	57,633	92,719	2,796,052.25	2,629,096.92	48.51	28.36
CARAGA	ASELCO	60,106	79,405	1,773,721.93	2,027,266.90	29.51	25.53
REGION III	AURELCO	12,459	39,831	203,983.73	203,898.45	16.37	5.12
REGION IV-A	BATELEC 2	70,596	170,561	3,616,085.45	3,686,752.95	51.22	21.62
PU-VISAYAS	BLCI	5,609	16,291	779,477.45	779,477.45	138.97	47.85
REGION VII	BOHECO 2	15,155	119,836	503,186.58	136,382.78	33.20	1.14
REGION X	CAMELCO	6,820	17,720	228,099.65	253,129.16	33.45	14.28
REGION V	CASURECO 4	37,810	33,366	1,318,862.72	1,318,733.41	34.88	39.52
REGION XII	COTELCO	42,225	105,733	1,119,106.45	1,108,003.46	26.50	10.48
REGION XI	DASURECO	36,278	88,160	2,383,595.69	2,756,770.15	65.70	31.27
PU-LUZON	DECORP	34,125	90,655	1,988,931.27	2,346,270.24	58.28	25.88
REGION V	FICELCO	20,463	33,149	256,750.06	256,750.06	12.55	7.75
REGION I	ISECO	39,403	142,619	681,082.46	680,189.98	17.29	4.77
REGION VIII	LEYECO 4	30,449	45,235	362,924.15	362,938.24	11.92	8.02
REGION VIII	LEYECO 5	41,005	82,556	1,375,746.27	1,375,746.27	33.55	16.66
PU-LUZON	MERALCO	2,609,919	4,270,348	340,449,646.93	340,330,530.17	130.44	79.70
REGION X	MOELCI 1	17,659	36,279	467,312.01	0.00	26.46	0.00
REGION X	MORESCO 2	15,256	60,394	719,730.25	719,818.73	47.18	11.92
REGION III	PENELCO	50,128	118,947	1,919,192.62	1,819,376.33	38.29	15.30
REGION VII	PROSIELCO	10,331	17,375	106,279.59	106,240.00	10.29	6.11
REGION IV-A	QUEZELCO 1	57,510	89,256	1,337,595.68	1,337,595.68	23.26	14.99
REGION II	QUIRELCO	12,369	31,513	140,051.69	140,144.07	11.32	4.45
REGION III	SAJELCO	7,499	24,577	220,840.79	221,026.29	29.45	8.99
CARAGA	SIARELCO	8,793	23,315	71,053.30	70,934.68	8.08	3.04
REGION V	SORECO 2	35,748	52,016	521,438.16	498,345.67	14.59	9.58
CARAGA	SURSECO 1	18,314	36,009	479,478.93	486,267.17	26.18	13.50
REGION III	TARELCO 2	13,572	94,120	376,869.26	377,468.60	27.77	4.01
PU-LUZON	TEI	18,413	64,219	1,614,104.08	1,878,829.81	87.66	29.26
REGION IX	ZAMSURECO 1	47,299	98,090	1,568,014.13	1,608,372.02	33.15	16.40
REGION IX	ZANECO	34,431	99,530	1,175,082.60	1,235,942.89	34.13	12.42

Source: ERC

Figure 1 strengthens the previous finding as it shows that based on data, the discounts afforded to those who are consuming less than 100kWh are lower in average value. The figure indicates that those consuming less than 20kWh of electricity per month only get about 40 percent discount on their monthly bill, on average. This implies that not all DUs are as able as MERALCO, which provides 100 percent discount to households within the 0 to 20kWh threshold. We can also observe from the figure that the average discount rate drops to 10 percent and further decreases as we move beyond the 20kWh mark. These observations thus put into question whether the varied implementation of the lifeline discounts dilute the expected impact of the cross-subsidy?

Figure 1. Actual average lifeline discount



One of the limitations for using the HECS is that the narrow information on households restricts our capability of identifying households with senior citizen member/s, which is a main requirement for conducting our analysis for the senior citizen discount. Fortunately, FIES offers a richer set of information on household samples, becoming an ideal source of data to aid further analysis. The attractiveness of using FIES is that it allowed us to examine the criteria for both the lifeline rate and the senior citizen discount, by tapping the variables on per capita income, poverty threshold, 4Ps indicator, age of household members, and household electricity consumption.

Shown in Table 10 are the statistics on the share of FIES households whose monthly electricity consumption falls below 100kWh, with distinction whether they are poor, 4Ps recipient, or have a senior citizen member. The table directly reveals the weakness of using the 100kWh threshold. As exhibited below, 44 percent of households that qualified for the lifeline threshold of less than 100kWh electricity consumption is not poor, not 4Ps recipient, and does not have a senior citizen household member. This runs contrary to the goal of the lifeline rate cross-subsidy and the senior citizen discount to benefit only the marginalized and senior citizens, respectively. The high consumption threshold, therefore, allows for leakage in the cross-subsidy mechanism, placing the welfare of the non-lifeline consumers at a disadvantage. By failing to set the electricity consumption threshold duly, non-lifeline consumers are unnecessarily paying for the electricity consumption of other consumers who do not need the subsidy. A more important policy question however, arises: “What then is the appropriate level of electricity consumption threshold to use?”

Table 10. Share of poor, 4Ps, with senior among those with &lt;100kwh consumption

	Within Poverty Threshold	4Ps Receptient	Household with Senior citizen	Others
Region I - Ilocos Region	0.09	0.22	0.34	0.46
Region II - Cagayan Valley	0.14	0.14	0.33	0.48
Region III - Central Luzon	0.08	0.15	0.31	0.54
Region IVa - Calabarzon	0.09	0.14	0.30	0.55
Region V - Bicol Region	0.24	0.37	0.31	0.33
Region VI - Western Visayas	0.16	0.23	0.33	0.43
Region VII - Central Visayas	0.17	0.21	0.35	0.44
Region VIII - Eastern Visayas	0.28	0.33	0.31	0.34
Region IX - Western Mindanao	0.29	0.46	0.31	0.29
Region X - Northern Mindanao	0.20	0.30	0.31	0.40
Region XI - Southern Mindanao	0.17	0.26	0.30	0.44
Region XII - Central Mindanao	0.29	0.26	0.27	0.39
Region XIII - NCR	0.03	0.11	0.32	0.59
Region XIV - CAR	0.11	0.21	0.32	0.49
Region XV - ARMM	0.55	0.28	0.19	0.26
Region XVI - CARAGA	0.28	0.38	0.31	0.32
Region IVb - Mimaropa	0.13	0.33	0.29	0.41
<b>Total</b>	<b>0.17</b>	<b>0.24</b>	<b>0.31</b>	<b>0.44</b>

Source: FIES 2018

We take our analysis a step further by looking at the per capital income of the groups. This enabled us to examine the paying capability of the households qualifying for the 100kWh threshold. Table 11 shows consistency and complementarity with our previous findings. As exhibited in the table, households with less than 100kWh electricity consumption but not poor, 4Ps recipient, or with a senior citizen member (labeled as “Others”) have the highest per capita income among the groups. This confirms that some well-to-do households do benefit from the lifeline cross-subsidy because of the high consumption thresholds used.

Also evident in Table 11 is the relatively high per capita income of households with senior citizen members. In the literature, longevity is correlated with high income (see for instance Chetty et al. 2016, Ni et al. 202). Those who can afford better health care and cleaner lifestyle are more likely to live longer than others. So, while there is wisdom in providing certain benefits to senior citizens given their contribution to nation building, this policy decision must also be weighed against making services more expensive for other groups. This discussion becomes more relevant given the recent proposals to expand the coverage for senior citizen discount, by further raising the consumption threshold used. The financial sustainability of such proposals should be carefully considered given future shifts in population age distribution. Related to this discussion is the finding of Abrigo and Ortiz (2024) where in the Philippines, the elderly consume higher electricity than younger cohorts. The imminent effect of population ageing in the country could, therefore, pose higher financial stress on other groups of electricity consumers that will cover the cost of the senior citizen discounts.

Lastly, the marginalized groups, those within the poverty threshold (17 percent), and 4Ps recipients (24 percent), constitute only a small share of the total households qualifying under the less than 100kWh consumption criteria. This signals a huge area for improvement in the targeting mechanism to ensure that only the marginalized will benefit from the cross-subsidy scheme.

Table 11. Per capita income based on group

	Mean	25th percentile	75th percentile
Within Poverty Threshold	20,100	17,262	23,179
4Ps Recipient	35,595	23,201	42,758
Household with Senior citizen	60,393	31,518	70,477
Others	70,884	38,512	82,459

Source: FIES 2018

#### 4. Summary and Recommendations

Electricity has become so necessary in the modern world that it acts as a conduit to participate in modern societies. Strategies to make electricity affordable for targeted groups, therefore, are necessary to achieve higher levels of social welfare. Raising access and affordability of electricity to certain groups that may otherwise not be able to afford it at full cost allows for better productivity and overall decisions that could benefit the whole society. In this paper, we examined how social pricing mechanisms that aim to lower the cost of electricity to marginalized users and senior citizens are implemented in the Philippines. We noted several issues in the mechanisms that require improvement.

- *Variations in the actual implementation of the lifeline discount leads to dilution of overall effect.*

Prescribing different formulas for the calculation of the lifeline rate discounts, including the option to propose an alternative mechanism, was ERC's way of protecting the financial welfare of the DUs. However, the varied characteristics of the DUs, especially the differences in their financial capability to provide lifeline discounts has also led to dissimilar levels of discounts experienced by marginalized households. This has unfortunately diluted the overall effect of the social pricing mechanism. A uniformly implemented level of discount may be preferable to achieving the intended goal. However, this does not come without cost implications.

- *The DU-level cross-subsidies puts other groups of consumers at a disadvantage.*

Improving electricity access and affordability for the marginalized is a national goal. However, the implementation of the lifeline discount and senior citizen discount rates is done at the DU-level. While it is reasonable to task the DUs to identify its marginalized customers, it may be ineffective to do the cross-subsidization at the DU-level because the socio-economic disparities at the DU level may not be so high. This could lead to the possibility of the poor subsidizing the poor, especially in areas with very high poverty rates. In addition, the DU-level cross subsidies are also problematic for industries and businesses. Areas where there are many

lifeline customers may discourage industries and businesses from locating because of higher electricity rates. One policy option is for the government to pay a portion of the lifeline discount, to provide more competitive electricity rates for industries and businesses. Another option is to collect a uniform charge to all electricity users to cover the lifeline discounts, and perform financial redistribution at the national level, for a more equitable sharing of resources.

- *The high consumption threshold levels allow for leakages.*

The statistics shown in this study have repeatedly indicated that the consumption threshold of 100kWh is high and it allowed for non-marginalized users to benefit from the discounted rates. This study calls for a careful review of the consumption thresholds used in the implementation of the lifeline rate and the senior citizen discount. What is more crucial at this point is for the government to decide on what level of electricity consumption is economically acceptable to subsidize. A detailed examination of consumer data is necessary to guide this decision.

- *The lifeline rate and the senior citizen discount are redundant.*

The new guideline released by ERC on identifying qualified marginalized end-users for the lifeline discount is a welcome development. Making the criteria for the discount more stringent minimizes possible leakages in the actual implementation. As a final suggestion, this study pushes the idea of making the senior citizen discount indigency-based, like the lifeline discount. By doing so, both the lifeline rate and senior citizen discount can be combined into one program, to improve administrative efficiency and implementation.

## References

- Abrigo, M.R. and Ortiz, M.C. 2024. Residential Electricity Consumption over the Demographic Transition in the Philippines. *The Journal of the Economics of Ageing*, 27, 100503.
- Ahmed, F., Trimble, C., Yoshida, N., 2012. The Transition from Underpricing Residential Electricity in Bangladesh: Fiscal and Distributional Impacts. World Bank.
- Alam, M.S., Miah, M.D., Hammoudeh, S. and Tiwari, A.K. (2018). The nexus between access to electricity and labour productivity in developing countries. *Energy Policy*, 122, 715-726.
- Anklin, M. Cheng, C., Urpelainen, J., Ganesan, K. and Jain, A. (2016). Factors affecting household satisfaction with electricity supply in rural India. *Nature Energy*, 1, 16170.
- Bridge, B., Adhikari, D. and Fontenla, M. (2016). Electricity, income, and quality of life. *The Social Science Journal*, 53, 33-39.
- Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., Bergeron, A. and Cutler, D. (2016). The Association Between Income and Life Expectancy in the United States, 2001-2014. *JAMA*, 315(16), 1750.
- Fan, S., Jitsuchon, S., Methakunnavut, N. (2004). The importance of public investment for reducing rural poverty in middle-income countries: The case of Thailand, DSGD Discussion Paper No. 7. International Food Policy Research Institute, Washington, DC.
- Fedderke, J.W. and Bogetic, Z. (2006). Infrastructure and Growth in South Africa: Direct and Indirect Productivity Impacts of 19 Infrastructure Measures. The World Bank.
- Kolin, S.K., Sedlar, D.K. and Kurevija, T. (2021). Relationship between electricity and economic growth for long-term periods: New possibilities for energy prediction. *Energy*, 228, 120539.
- Komives, K., Johnson, T., Halpern, J., 2009. Residential Electricity Subsidies in Mexico. The World Bank, Herndon, VA.
- Mayer, K., Ghosh Banerjee, S., Trimble, C., 2015. Elite Capture: Residential Tariff Subsidies in India. World Bank (Working Paper).
- Ni, M., Canudas-Romo, V. Shi, J., Flores, F., Chow, M., Yao, X., Ho, S.Y., Lam, T.H., Schooling, M., Lopez, A. Ezzati, M. and Leung, G. (2021). Understanding longevity in Hong Kong: a comparative study with long-living, high-income countries. *The Lancet Public Health*, 6(12), e919-e931.
- Noumba, P., Straub, S. and Vellutini, C. (2009). Infrastructure and economic growth in the Middle East and North Africa. World Bank Policy Research Working Paper Series 5105. World Bank, Washington, DC.

Olanrele, I.A., Lawal, A.I. and Dahunsi, S.O. (2020). The Impact of Access to Electricity on Education and Health Sectors in Nigeria's Rural Communities. *Entrepreneurship and Sustainability Issues*, 7(4), 3016-3035.

Trimble, C., Yoshida, N., Saqib, N., 2011. Rethinking Electricity Tariffs and Subsidies in Pakistan. (World Bank working paper 32).