



Retail Market Assessment Report for 3rd Quarter of 2023

26 June to 25 September 2023

DECEMBER 2023

This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment Group
and approved by the
Market Surveillance Committee

TABLE OF CONTENTS

1.	RETAIL COMPETITION AND OPEN ACCESS	1
1.1.	MARKET STRUCTURE	1
1.1.1.	Number of Participants	1
1.1.1.1.	Contestable Customers	1
1.1.1.2.	Per Threshold	2
1.1.1.3.	Per Location	2
1.1.1.4.	Per Retail Activity	3
1.1.1.5.	Average Consumption	4
1.1.1.6.	Suppliers	5
1.2.	MARKET SHARE	5
1.2.1.	Supplier Share	5
1.2.1.1.	Share in terms of Number of Contestable Customer and Consumption	5
1.2.1.2.	Per Franchise Area Location	6
1.2.2.	Market Concentration	7
1.2.2.1.	Herfindahl–Hirschman Index (HHI)	7
1.2.2.2.	Four-Firm Concentration Index (C4)	8
1.2.3.	Supplier Structure	9
1.2.3.1.	Supplier Affiliate	9
1.2.3.2.	Vertical Integration	9
1.3.	MARKET PERFORMANCE	10
1.3.1.	Energy Consumption	10
1.3.1.1.	Total Energy Consumption	10
1.3.1.2.	Monthly Energy Consumption	11
1.3.2.	Load Profile	12
1.3.2.1.	Hourly Energy Consumption Profile	12
1.3.2.2.	Load Factor	13
1.4.	RETAIL ACTIVITY	14
1.4.1.	Market Transaction	14
1.4.2.	Customer Switching Rate	15
1.4.3.	Retail Rate	15
1.4.4.	Estimated Savings	16
2.	GREEN ENERGY OPTION PROGRAM	17
2.1.	MARKET STRUCTURE	17
2.1.1.	Number of Participants	17
2.1.1.1.	Per Threshold	17

2.1.1.2.	Per Location	17
2.1.1.3.	Per Retail Activity	18
2.1.1.4.	Average Consumption	19
2.1.1.5.	Suppliers	19
2.2.	MARKET SHARE	20
2.2.1.	Supplier Share	20
2.2.1.1.	Share in terms of Number of GEOP End-Users and Consumption	20
2.2.1.2.	Per Franchise Area Location	21
2.2.2.	Market Concentration	22
2.2.2.1.	Herfindahl–Hirschman Index (HHI)	22
2.2.2.2.	Four-Firm Concentration Index (C4)	23
2.3.	MARKET PERFORMANCE	24
2.3.1.	Energy Consumption	24
2.3.1.1.	Monthly Energy Consumption	24
2.3.2.	Load Profile	25
2.3.2.1.	Hourly Energy Consumption Profile	25
2.3.2.2.	Load Factor	26
2.4.	RETAIL ACTIVITY	26
2.4.1.	Customer Switching Rate	26
APPENDIX A - LIST OF REGISTERED SUPPLIERS		28
APPENDIX B - LIST OF DISTRIBUTION UTILITIES / ECONOMIC ZONES WITH CONTESTABLE CUSTOMERS AND GEOP END-USERS		30

LIST OF TABLES

Table 1.	Percentage Per Level of Average Energy Consumption, 2023-Q3	4
Table 2.	Cumulative Number of Supplier	5
Table 3.	Change in Consumption (in percentage), Year-on-Year and Quarter-on-Quarter ...	11
Table 4.	Percentage Per Level of Average Energy Consumption, 2023-Q3	19
Table 5.	Cumulative Number of Supplier	20

LIST OF FIGURES

Figure 1.	Cumulative Number of Eligible End-Users, 2022-Q3 to 2023-Q3	1
Figure 2.	Cumulative Number of CCs per Threshold, 2022-Q3 to 2023-Q3	2
Figure 3.	Cumulative Number of CCs Per Region, 2022-Q3 to 2023-Q3	3
Figure 4.	Cumulative Number of CCs Per Retail Activity, 2022-Q3 to 2023-Q3	4
Figure 5.	Share in Number of CCs Per Major Participant Grouping, 2022-Q3 to 2023-Q3	6
Figure 6.	Share in CCs' Total Energy Consumption Per Major Participant Grouping, 2022-Q3 to 2023-Q3	6

Figure 7. (a) Share in CCs' Energy Consumption by Franchise Area, 2020-Q3; (b) Share in CCs' Energy Consumption by Supplier within MERALCO Franchise Area, 2023-Q3 .	7
Figure 8. HHI Values, 2022-Q3 to 2023-Q3	8
Figure 9. Four-Firm Index, 2022-Q3 to 2023-Q3	8
Figure 10. Summary of Suppliers with Affiliate Generation Companies, Suppliers and Distribution Utilities	9
Figure 11. Generated Energy vs Supply Requirement, 2023-Q2 vs 2023-Q3	10
Figure 12. Total Energy Consumption (in GWh), 2022-Q3 to 2023-Q3	11
Figure 13. Total Energy Consumption by Industry Type (in GWh), Jul 2022 to Sep 2023	12
Figure 14. Hourly Average Energy Consumption (in MWh), Industrial, Apr to Sep 2023	13
Figure 15. Hourly Average Energy Consumption (in MWh), Commercial, Apr to Sep 2023..	13
Figure 16. Load Factor, Jul 2022 to Sep 2023	14
Figure 17. Market Transaction, Apr to Sep 2023	14
Figure 18. Switching Rate, Jul 2022 to Sep 2023	15
Figure 19. DU Average Generation Rate vs Retail Weighted Average Rate, Jul 2022 to Sep 2023	16
Figure 20. CC's Cumulative Estimated Savings, 2022-Q3 to 2023-Q3	16
Figure 21. Cumulative Number of GEOP End-Users per Threshold, 2022-Q3 to 2023-Q3 ..	17
Figure 22. Cumulative Number of GEOP End-Users Per Region, 2022-Q3 to 2023-Q3	18
Figure 23. Cumulative Number GEOP End-Users Per Retail Activity, 2022-Q3 to 2023-Q3	19
Figure 24. Share in Number of GEOP End-Users Per Major Participant Grouping, 2022-Q3 to 2023-Q3	21
Figure 25. Share in Total Energy Consumption of GEOP End-Users Per Major Participant Grouping, 2022-Q3 to 2023-Q3	21
Figure 26. (a) GEOP End-Users Energy Consumption by Franchise Area, 2020-Q3; (b) GEOP End-Users Energy Consumption by Supplier within MERALCO Franchise Area, 2023-Q3	22
Figure 27. HHI Values, 2022-Q3 to 2023-Q3	23
Figure 28. Four-Firm Index, 2022-Q3 to 2023-Q3	24
Figure 29. Total Energy Consumption Industry Type (in GWh), Jul 2022 to Sep 2023	24
Figure 30. Hourly Average Energy Consumption (in MWh), Industrial, Apr to Sep 2023	25
Figure 31. Hourly Average Energy Consumption (in MWh), Commercial, Apr to Sep 2023..	26
Figure 32. Load Factor, Jul 2022 to Sep 2023	26
Figure 33. Switching Rate, Jul 2022 to Sep 2023	27

General Note:

No. of CCs and GEOP End-Users – Based on Cumulative Count as of End of any given Quarter
 CCs and GEOP End-Users Consumption – Based on Total Consumptions for the whole Quarter

1. RETAIL COMPETITION AND OPEN ACCESS

This portion provides the assessment on the implementation of the Retail Competition and Open Access (RCOA) for the for the 3rd quarter of 2023 (26 June to 25 September 2023), based on the monitoring indices set forth in the Catalogue of Retail Market Monitoring Data and Indices (CRMMDI) Issue 1.

1.1. MARKET STRUCTURE

The market structure indices were used to assess the number of participants, market share, and level of market concentration.

1.1.1. Number of Participants

1.1.1.1. Contestable Customers

Over the billing quarter in review, there were twenty-two (22) recorded initial switches¹ and seven (7) cessations yielding to an additional fifteen (15) registered Contestable Customers (CCs) that participated in the market, demonstrating an increase on the figures of the previous quarter, and a steady upward trend since 2022 as shown in **Figure 1**. A total of 1,965 registered CCs or about 61%² of the entire population of eligible end-users³ by the end of the 3rd quarter of 2023.

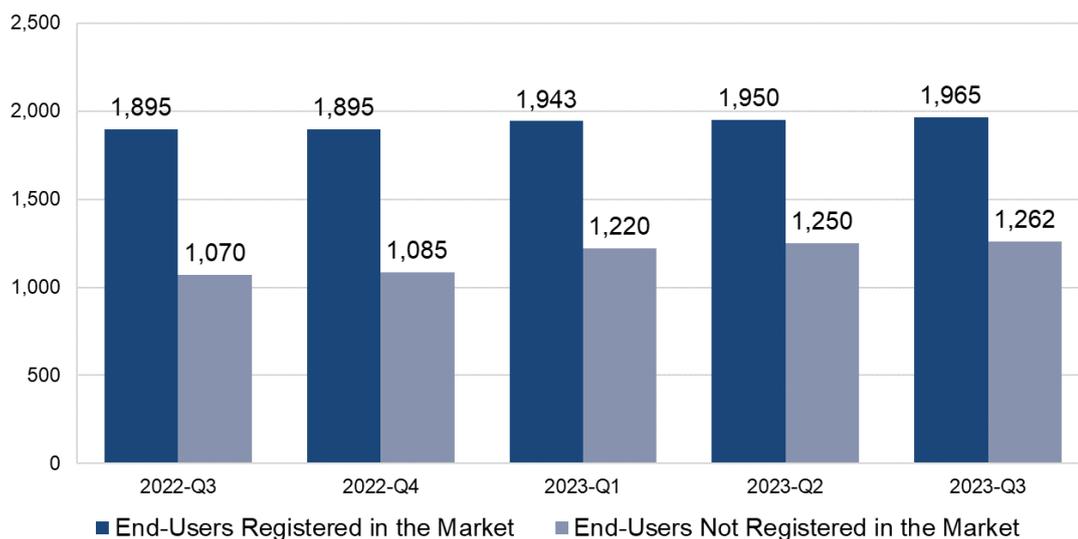


Figure 1. Cumulative Number of Eligible End-Users, 2022-Q3 to 2023-Q3

¹ Commercial transfer of Contestable Customer from the DU as its supplier under regulated service to a Supplier

² Based on the latest ERC CREM report, as of July 2023 (Source: ERC's Competitive Retail Electricity Market (CREM) Report; Link: www.buyourelectricity.com.ph)

³ End-user that has met the eligibility threshold, as indicated by a single revenue meter and who has a choice to switch to the Retail Electricity Market

1.1.1.2. Per Threshold

This portion provides for the breakdown of the 1,965 CCs per contestability threshold. Out of the total registered CCs, 291 or 15% were registered in 500-749kW threshold and 423 or 22% were under the 750-999kW threshold. Meanwhile, majority or 1,251 (64%) belonged to the 1MW and above threshold.

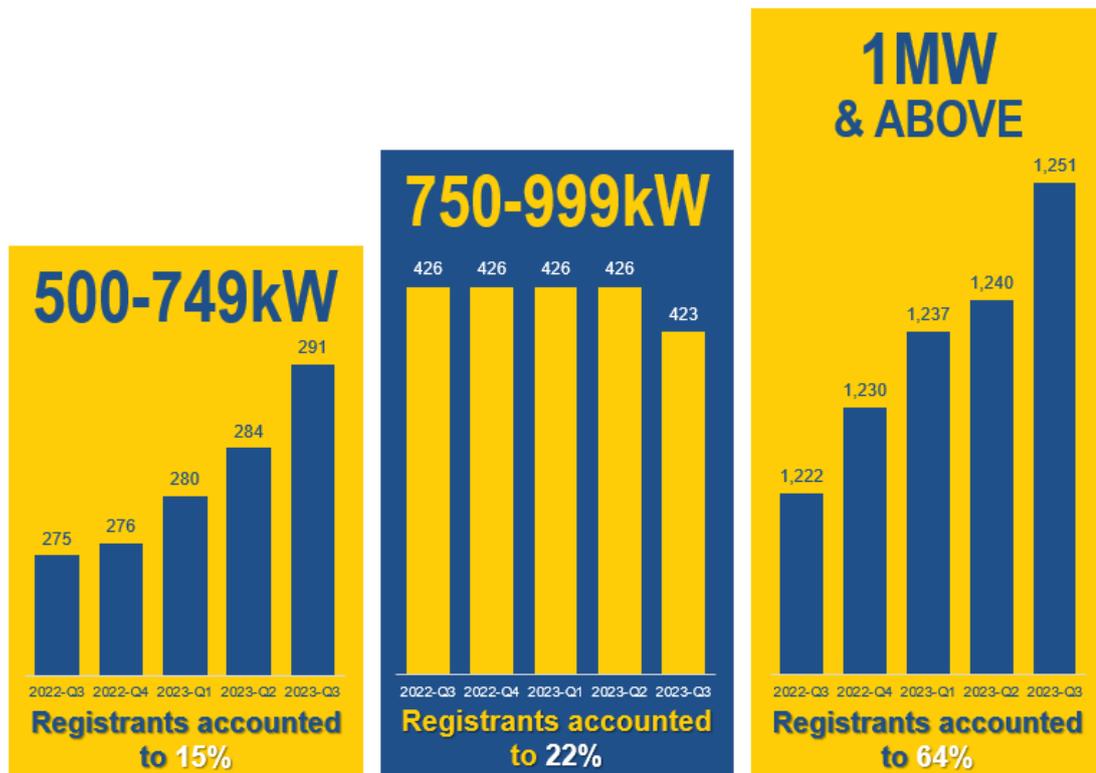


Figure 2. Cumulative Number of CCs per Threshold, 2022-Q3 to 2023-Q3

Figure 2 shows that both the 500-749kW and 1MW and above threshold continue to increase in registered CCs in the market compared to previous quarters. Moreover, for the 750-999kW threshold, from a steady total number of registered Contestable Customer in the market, a decline trend was recorded for the 2023-Q3 mainly due to cessations of CCs.

1.1.1.3. Per Location

With regard to location, 88% or 1,727 Contestable Customers were located in Luzon while the remaining 12% or 238 were located in Visayas as shown in Figure 3. The percentage share was consistent in comparison to the previous quarter. Likewise, this implies that the Luzon is where CCs are concentrated.

LUZON	
Period	No. of CCs
As of Sep 2022	1,694
As of Dec 2022	1,699
As of Mar 2023	1,707
As of Jun 2023	1,714
As of Sep 2023	1,727

VISAYAS	
Period	No. of CCs
As of Sep 2022	229
As of Dec 2022	233
As of Mar 2023	236
As of Jun 2023	236
As of Sep 2023	238



Figure 3. Cumulative Number of CCs Per Region, 2022-Q3 to 2023-Q3

Note: Retail market is only operational in the Luzon and Visayas grids. Commencement of retail market in the Mindanao will be determined by the DOE and ERC.

1.1.1.4. Per Retail Activity⁴

In terms of industry, for the preceding quarters, there was a consistent share of participation from commercial and industrial Contestable Customers. Around 53% of Contestable Customers were engaged in commercial activities, while the 47% remaining were engaged in industrial activities.

⁴ Retail activity is based on the available information provided under the specific business type, i.e. manufacturing, real estate, etc., in the IEMOP-Registration Data. If information is unavailable in the Registration Data, retail activity of the participant will be tagged based on the business description available online.

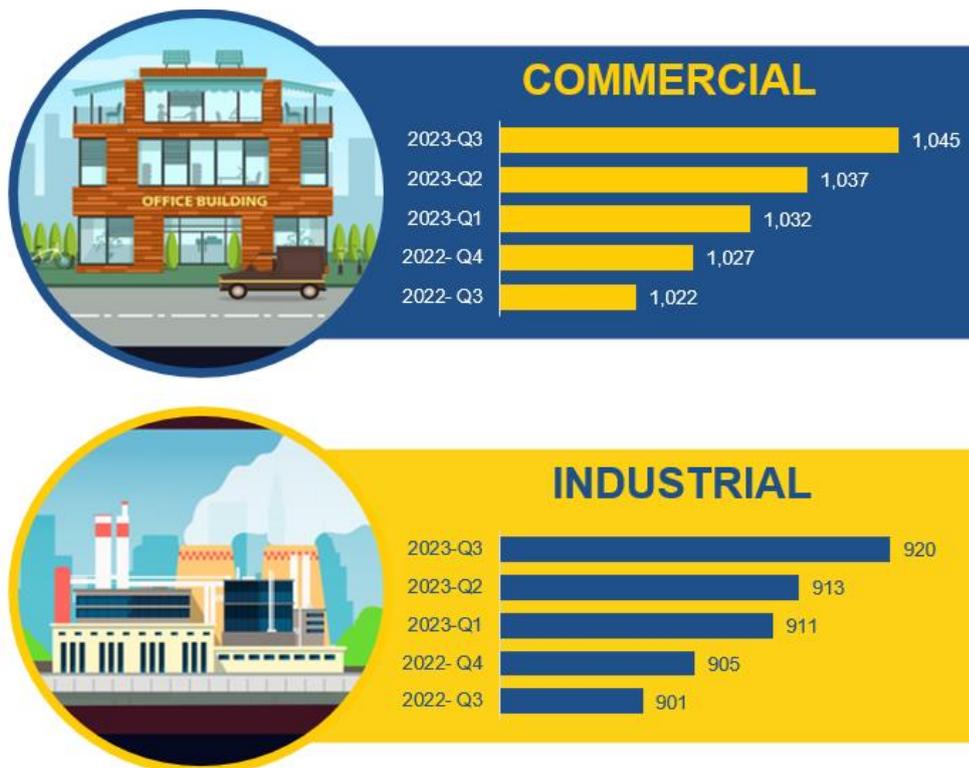


Figure 4. Cumulative Number of CCs Per Retail Activity, 2022-Q3 to 2023-Q3

1.1.1.5. Average Consumption

With respect to the energy consumption for Contestable Customers, **Table 1** shows the breakdown of level of consumption based on the averaged metered quantity (MQ) for the 3rd quarter of 2023. About 67.34% of the registered Contestable Customers had an average energy consumption of 1MWh and below. This is followed by customers that are in the 1MWh to 5MWh threshold taking about 28.45 % of the total number, while 2.43% are in the 5MWh to 10MWh level. The rest of the contestable customers belonged to average consumption of 10MWh to 50 MWh.

In summary, minimal changes were noted for thresholds monitored during the covered period when compared to the previous quarter. Moreover, there were no contestable customers that had an average energy consumption above 50MWh during the period covered for reporting.

Table 1. Percentage Per Level of Average Energy Consumption, 2023-Q3

Region	1 MWh and below	Above 1 MWh to 5 MWh	Above 5 MWh to 10 MWh	Above 10 MWh to 15 MWh	Above 15 MWh to 20 MWh	Above 20 MWh to 50 MWh	Sub-Total Per Region
LUZON	58.47% ▲	25.61% ▼	2.28% ▲	1.01% ▲	0.35% ▼	0.20% ▲	87.93% -
VISAYAS	8.87% ▼	2.84% ▲	0.15% -	0.05% -	0.05% -	0.10% -	12.07% -
Sub-Total Per Level of Average Energy Consumption	67.34% ▲	28.45% ▼	2.43% ▲	1.06% ▲	0.41% ▼	0.30% ▲	100.00%
Percent Change from the previous quarter	0.22% ▲	0.33% ▼	0.08% ▲	0.14% ▲	0.16% ▼	0.05% ▲	-

1.1.1.6. Suppliers

Table 2 shows the cumulative number of Suppliers with License from ERC vis-à-vis registered Suppliers per category vis-à-vis the number of active Suppliers or those that are currently serving a registered Contestable Customer. Majority of the registered Retail Electricity Suppliers (RES) were actively participating in the market and serving registered Contestable Customers.

Table 2. Cumulative Number of Supplier

	Licensed/Authorized	Registered	With Active Contract
RES	47	39	33
LRES	29	15	3
SoLR	47	25	0

The complete list of all registered Suppliers per category is provided in *Annex A. List of Suppliers Per Category, as of 25 September 2023.*

1.2. MARKET SHARE

1.2.1. Supplier Share

1.2.1.1. Share in terms of Number of Contestable Customer and Consumption

Figure 5 shows the quarterly share of the Suppliers per major participant grouping⁵ in terms of the number of Contestable Customers registered in the market as of the September 2023 billing period.

Quarter-on-quarter review shows that the share of MERALCO group continued to decrease but still managed to be the top group with the highest share in terms of the number of Contestable Customers engaged in its services. The remaining groups, namely Aboitiz, Ayala, and San Miguel, generally retained their shares from the previous quarter. It is also interesting to note that those Suppliers without affiliation(s) or do not belong to any major group demonstrated an increase of about 1% in the shares for the subject period. To an extent, this signal improved competition in the market with increasing activities from other Suppliers apart from the major groupings.

Furthermore, the decline in the shares of the EDC group was primarily attributed to the customers switching to other Suppliers.

⁵ Based on ERC's Competitive Retail Electricity Market (CREM) Report.

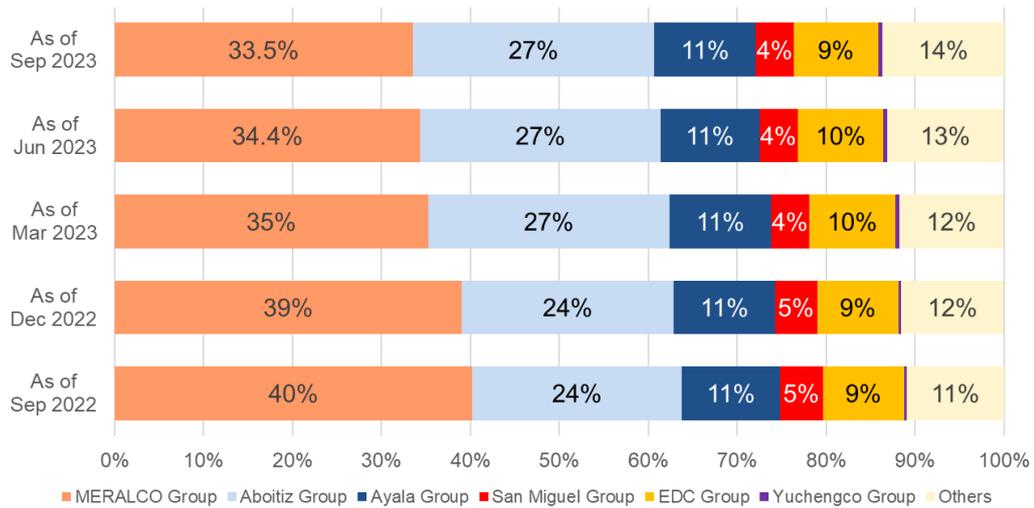


Figure 5. Share in Number of CCs Per Major Participant Grouping, 2022-Q3 to 2023-Q3

As regards the share with respect to retail energy consumption, **Figure 6** shows that the Aboitiz group remained to be the group with the largest share at 30% surpassing the MERALCO group with the highest share in terms of number of Contestable Customer. This indicates the disparity in consumption scale present between their clienteles. The Aboitiz group experienced a decline in its share by approximately 2%, primarily due to the migration of high load demand customers to the other Suppliers. This shift contributed to the increase in the percentage share for the other Suppliers which do not belong to any identified major participant grouping, serving as an indicator of improvement in competition within the retail market.

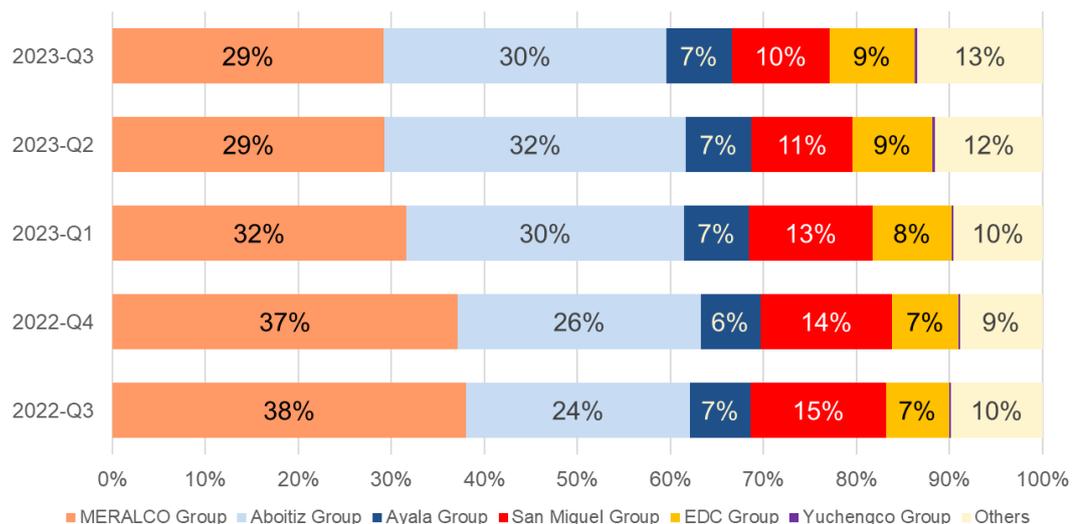


Figure 6. Share in CCs' Total Energy Consumption Per Major Participant Grouping, 2022-Q3 to 2023-Q3

1.2.1.2. Per Franchise Area Location

Geographically, registered contestable customers were dispersed throughout the various economic zones and distribution utility franchise areas indicated in Appendix B: List of Distribution Utility Franchise Areas and Economic Zones.

About 71% of the registered Contestable Customers, as shown in **Figure 7(a)**, were located in MERALCO's franchise area, 8% were directly connected to the transmission grid, 6% were within the VECO franchise, and 16% were scattered throughout the other franchise areas and economic zones. Moreover, it should be highlighted that not every Contestable Customer in the MERALCO franchise area was served by the MERALCO Group. As **Figure 7 (b)** illustrates, some of them subscribed to other Suppliers to meet their energy needs and only 35% of the total consumption inside the MERALCO franchise area was supplied by the MERALCO group.

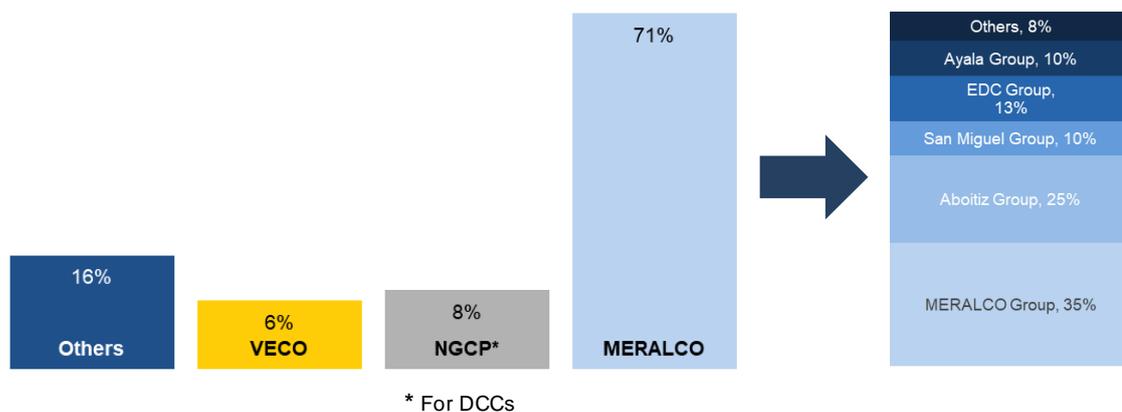


Figure 7. (a) Share in CCs' Energy Consumption by Franchise Area, 2020-Q3; (b) Share in CCs' Energy Consumption by Supplier within MERALCO Franchise Area, 2023-Q3

1.2.2. Market Concentration

1.2.2.1. Herfindahl–Hirschman Index (HHI)

This section discusses the market concentration of Suppliers by major participant grouping, as determined by the Energy Regulatory Commission (ERC), based on the number of Contestable Customers they are in contract with and based on the energy consumption of these Contestable Customers. **Figure 8** shows the level of market concentration using the Herfindahl-Hirschman Index (HHI)⁶ using the shares determined in Section 1.2.1.1.

On a per major participant grouping, the market was concentrated based on the results of the HHI, which is less than the values that emerged for the previous quarter. The continued decline marked an improvement in the level of concentration and generally indicates better competition in the market.

⁶ HHI measures the degree of market concentration. Defined as the sum of the Suppliers' market share, the HHI threshold are as follows:

- HHI < 1000 - not concentrated
- Greater than 1000 up to 1800 - moderately concentrated
- Greater than 1800 up to 2500 - concentrated
- Greater than 2500 - highly concentrated

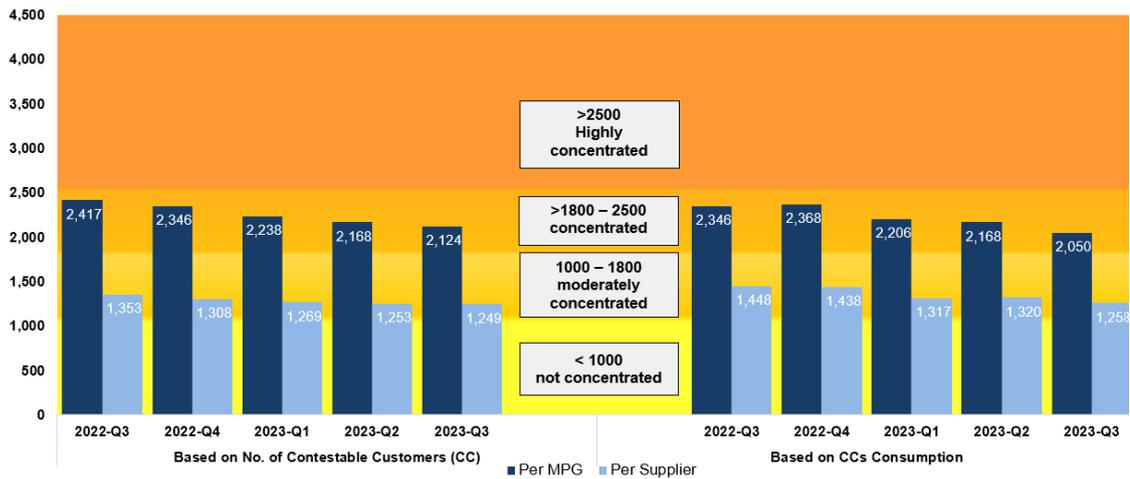


Figure 8. HHI Values, 2022-Q3 to 2023-Q3

1.2.2.2. Four-Firm Concentration Index (C4)⁷

The four-firm index or C4 was based both on the number of served Contestable Customers and their consumptions on a per major participant grouping. During the quarter in review as shown in **Figure 9**, C4 values were still high at about 81.6% and 79.2%, respectively. Despite this, the elevated values demonstrated a consistent decline starting from the 3rd quarter of 2022.

Moreover, in terms of per supplier basis, the market remains to be considered as an oligopoly having more than 50% share from only four (4) top suppliers.

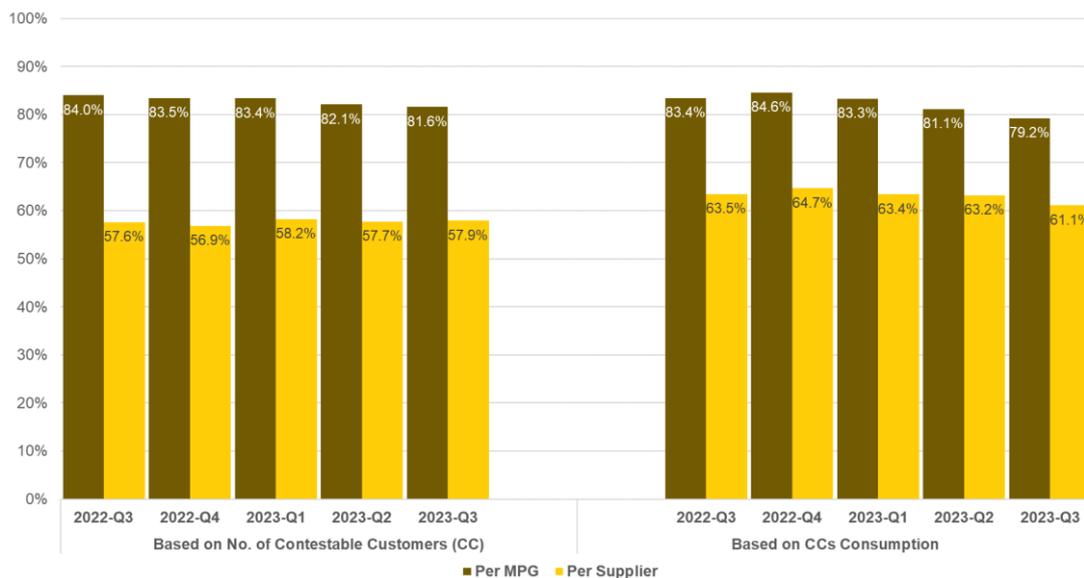


Figure 9. Four-Firm Index, 2022-Q3 to 2023-Q3

⁷ C4 measures the percentage of market share of the four largest firms in the market. Concentration levels are as follows: High: 80% to 100%; Medium: 50% to 80%; and Low: 0% to 50%.

1.2.3. Supplier Structure

1.2.3.1. Supplier Affiliate

Figure 10 shows the degree of integration among the Suppliers, Generation Companies, and Distribution Utilities as of 14 November 2023⁸. The Supplier structure shows that most of the RES are affiliated with Generation Companies. Additionally, some Suppliers had affiliations with other Suppliers, Distribution Utilities (DUs), or both.

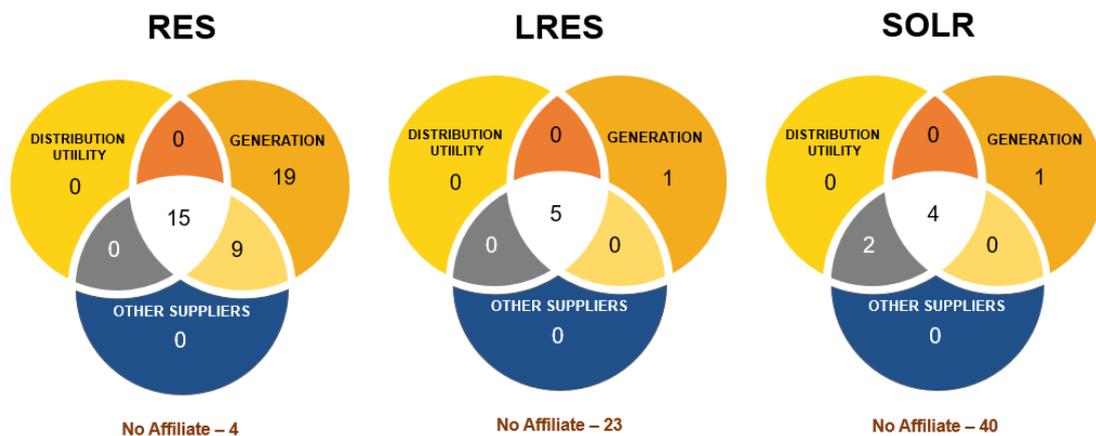


Figure 10. Summary of Suppliers with Affiliate Generation Companies, Suppliers and Distribution Utilities

Note that one Supplier may have multiple affiliate Generation Companies, Suppliers, and/or Distribution Utilities

During the period in review, it was observed that a RES has established affiliations with generating companies. The affiliations could be driven by a range of strategic factors, such as ensuring a more reliable electricity source, expanding business operations, or influencing the overall competitiveness in the market.

1.2.3.2. Vertical Integration

This measures the vertical integration of the generation companies and their affiliated Suppliers in the RCOA Market. With regard to the generation and supply in terms of major participant grouping, **Figure 11** provides the comparison of the total generation per major participant grouping in the WESM as related to the total energy supplied by their affiliated Suppliers.

⁸ Based on latest available ERC data.

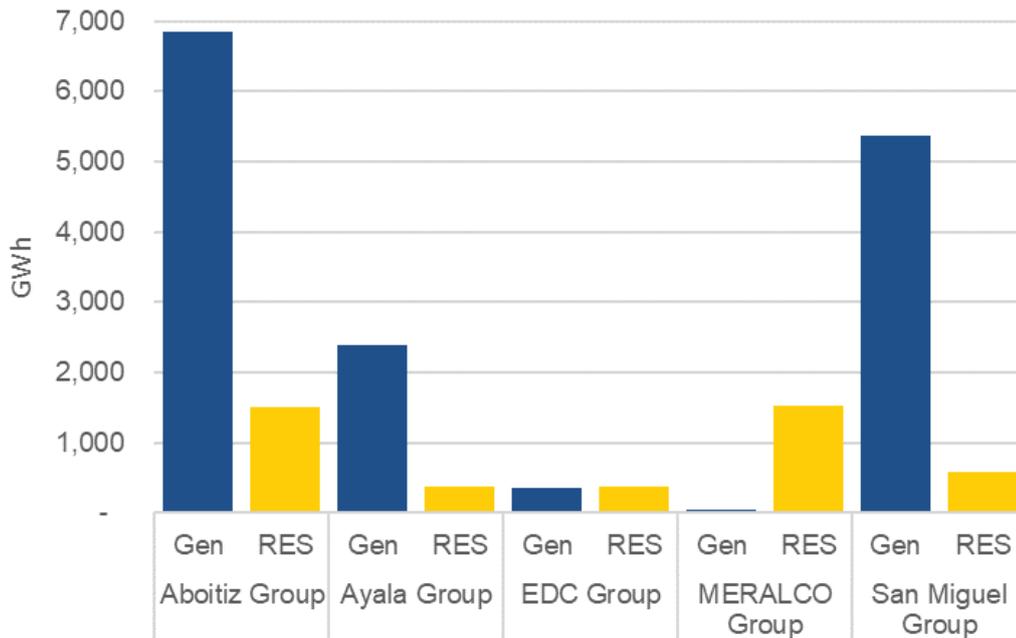


Figure 11. Generated Energy vs Supply Requirement, 2023-Q2 vs 2023-Q3

MERALCO, primarily established for the distribution of electricity to end-users, exhibited a substantial disparity in the ratio of generated energy from its generation subsidiary to its supply business. In contrast, Aboitiz, Ayala, and San Miguel groups primarily engaged in generation, also displayed a notable difference, with their respective generated energy exponentially higher than the supplied energy to the retail market.

Moreover, EDC demonstrated a close correlation between generated energy and the supplied energy by its affiliated Supplier.

These analyses underscore distinctive patterns in energy dynamics among these entities in the sector. However, it should be noted that **Figure 11** does not necessarily translate that energy supplied by the supplier counterparts were directly sourced from their generation.

1.3. MARKET PERFORMANCE

1.3.1. Energy Consumption

1.3.1.1. Total Energy Consumption

Figure 12 shows the total energy consumption from quarter-to-quarter for all the Green Energy Option Program (GEOP) End-Users and the Captive and registered Contestable Customers. The demand for electricity and the shift in the number of players in the retail market are the two factors that affect these statistics.

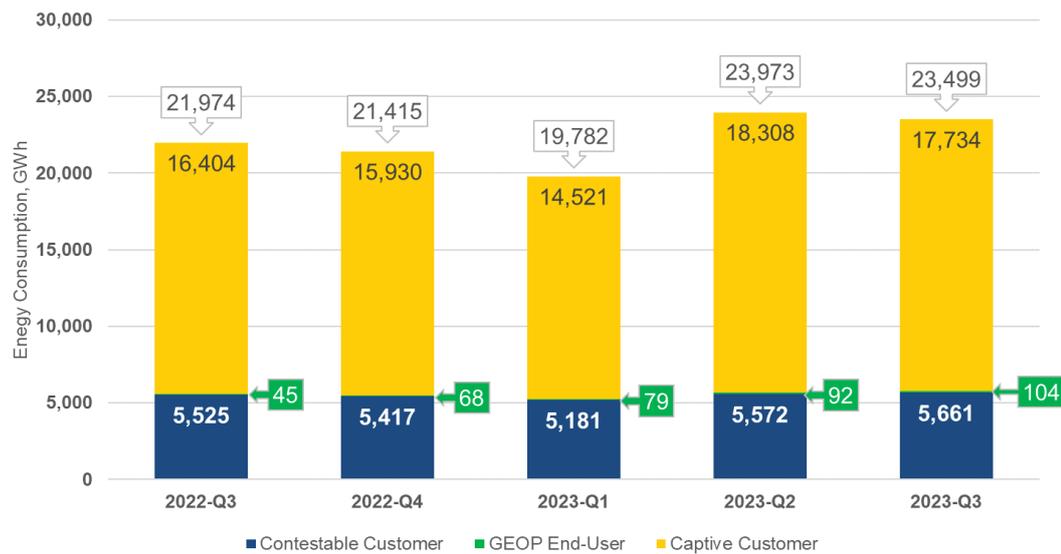


Figure 12. Total Energy Consumption (in GWh), 2022-Q3 to 2023-Q3

On a year-on-year basis, there is a noticeable upward trend in consumption across all categories, including the system, captive consumers, GEOP End-Users, and Contestable Customers. Nevertheless, when examining the data on a quarter-to-quarter basis, it is observed that only the GEOP End-Users and Contestable Customer categories showed an increase in consumption. This observation can be primarily attributed to the growing number of participants in these two programs while the decrease in consumption of the entire system, as well as the captive customers, was due to the onset of rainy season where demand is expected to decrease due to colder temperature.

Table 3. Change in Consumption (in percentage), Year-on-Year and Quarter-on-Quarter

Change in Consumption		
Category	Year-on-Year, %	Quarter-on-Quarter, %
System	6.94%	-1.98%
Captive Consumer	8.11%	-3.13%
GEOP End-Users	131.52%	12.36%
Contestable Consumers	2.46%	1.59%

1.3.1.2. Monthly Energy Consumption

Further, **Figure 13** shows the month-on-month consumption of consumers for fifteen months including the 3rd quarter of the previous year of 2022. It is evident that despite the conclusion of the summer season, there is a sustained and consistent upward trajectory for both the industrial and commercial sectors. This trend is particularly notable during the billing periods of August and September. The primary factor contributing to this increase is the continuous increase in participation in the RCOA program coupled with the activities from the customers.

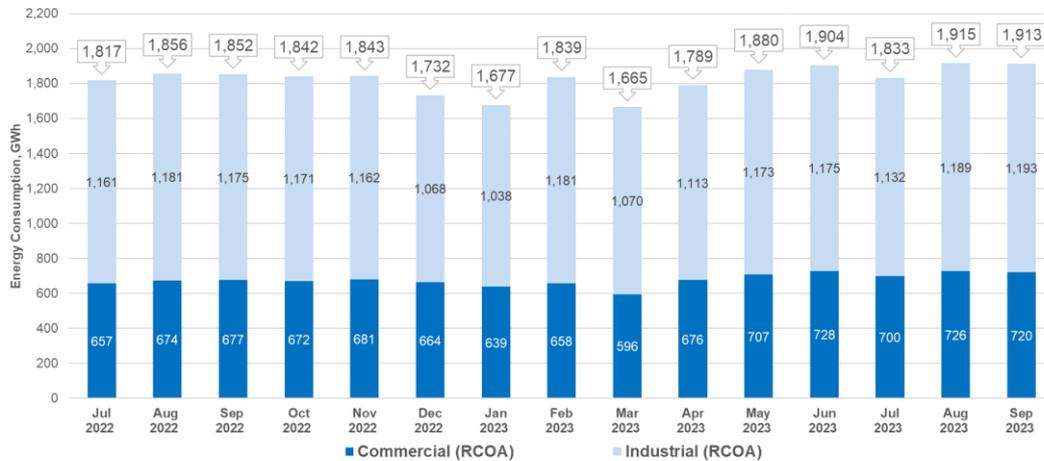


Figure 13. Total Energy Consumption by Industry Type (in GWh), Jul 2022 to Sep 2023

1.3.2. Load Profile

1.3.2.1. Hourly Energy Consumption Profile

Figures 14 and 15 show the hourly average consumption of registered industrial and commercial Contestable Customers, respectively, for the billing months of April to September 2023. The consumption profile demonstrated how their electricity consumption varied over the course of a 24-hour period.

As depicted in Figure 14, the electricity consumption patterns of industrial Contestable Customers revealed no significant fluctuations between peak and off-peak periods. Notably, a decrease in their average energy consumption was consistently observed during specific intervals at 0600h, 1300h, and 1900h. This observation strongly suggests that these industrial customers operate on a three-shift schedules.

In connection with the analysis presented in the earlier sections, it is evident that the load profiles of industrial consumers were notably elevated during the months of August and September. Furthermore, in terms of load profile comparisons, the data indicates that the month of May was consistently recorded with the highest load profile among all the months under review.

It is noteworthy that the consumption pattern of industrial customers offers a compelling opportunity to strategically shift their loads to off-peak hours, taking advantage of periods when prices from the Wholesale Electricity Spot Market (WESM). This strategic load-shifting making their load factor more stable that could influence their price negotiation leading to cost savings for industrial consumers during times of more favorable pricing conditions.

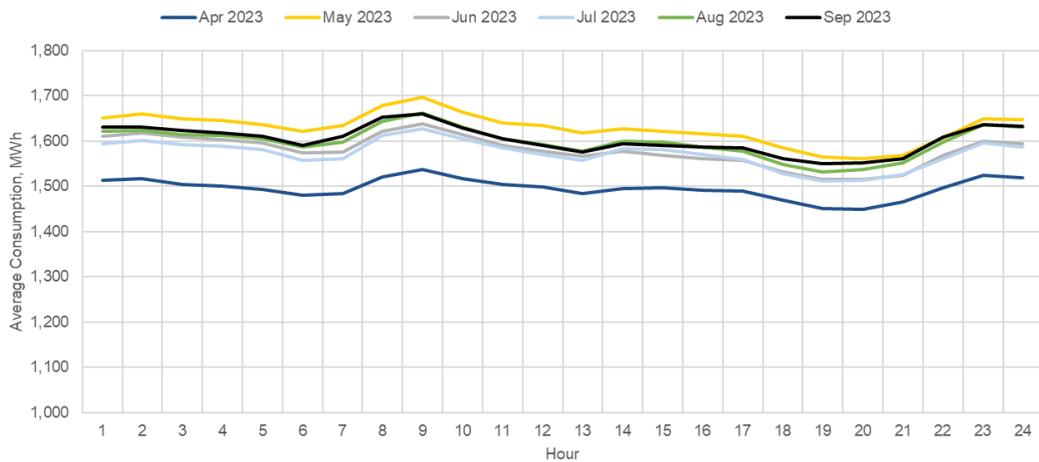


Figure 14. Hourly Average Energy Consumption (in MWh), Industrial, Apr to Sep 2023

Figure 15 illustrates the notable differences in consumption patterns between peak and off-peak periods among registered commercial Contestable Customers. For these customers, the hours between 1000h to 2000h were when peak consumption was observed. Compared with the preceding quarter, there was no significant variation in the demand for commercial Contestable Customers. Starting in the May billing period, the average load profile remained consistently high which was expected due to the summer season.

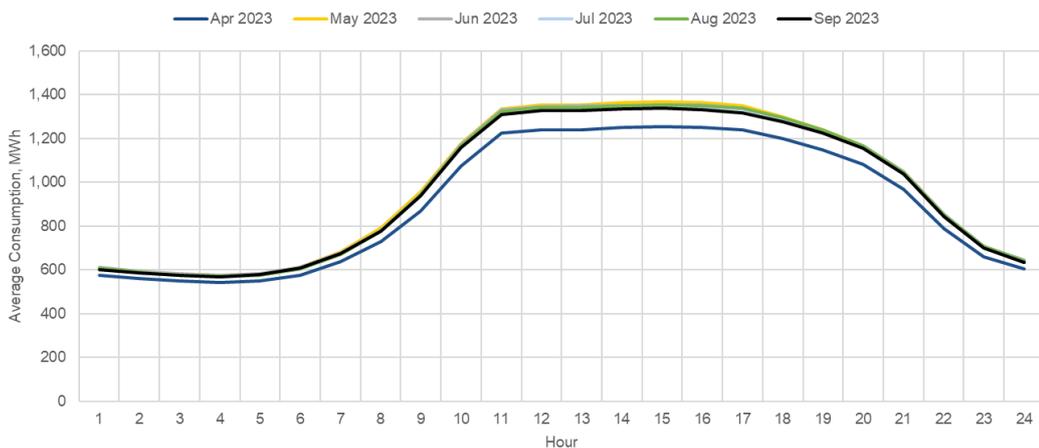


Figure 15. Hourly Average Energy Consumption (in MWh), Commercial, Apr to Sep 2023

1.3.2.2. Load Factor

Figure 16 shows the monthly load factor⁹ of registered Contestable Customers, which was calculated based on their actual electricity consumption (total consumption over the maximum consumption and the total number of hours for the billing period). The load factors of registered Contestable Customers were kept relatively high during the 3rd quarter of 2023.

⁹ Based on Metered Quantity (MQ)

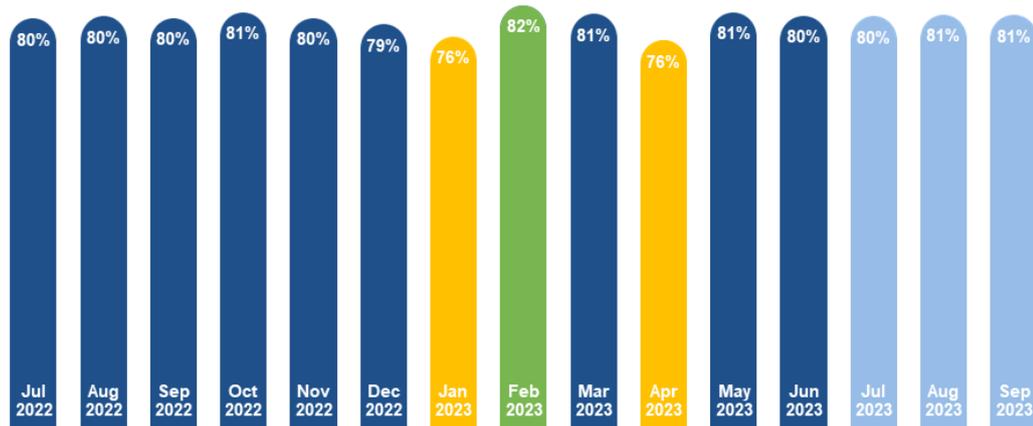


Figure 16. Load Factor, Jul 2022 to Sep 2023

1.4. RETAIL ACTIVITY

1.4.1. Market Transaction

This section provides a brief discussion on the share of market transaction in the retail market with respect to the Wholesale Electricity Spot Market (WESM). **Figure 17** depicts that the retail market exhibited a significant level of bilateral contact quantities (BCQ), mirroring the pattern observed in the WESM. In terms of percent share, approximately 14% of the total traded energy in the WESM (Luzon and Visayas) was associated with the Retail Market, a little to no deviation pattern was observed throughout the months considered in this review.

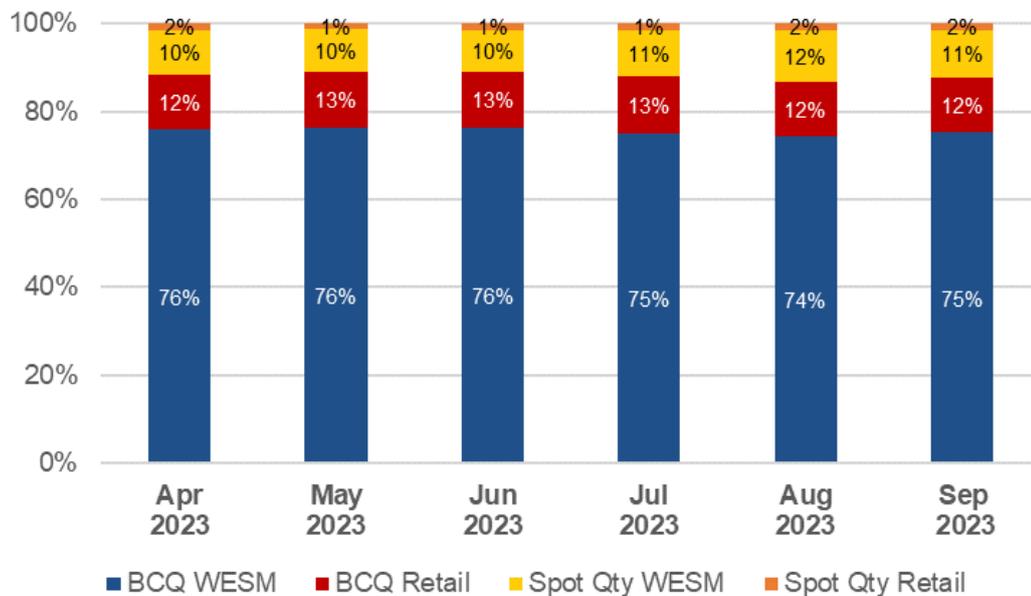


Figure 17. Market Transaction, Apr to Sep 2023

1.4.2. Customer Switching Rate

Figure 18 provides a historical switching rate among registered Contestable Customers. Based on the data, there were eighty-eight (88) instances of customer switching from one supplier to another during the billing months of July to September 2023. Notably, the September billing month recorded the highest switching rate for the period under review, a pattern consistent with the same quarter of the previous year. The primary reason behind most of these switches was the conclusion of contracts, indicating that the end of contractual agreements was one of the key drivers for the observed changes in supplier preferences.

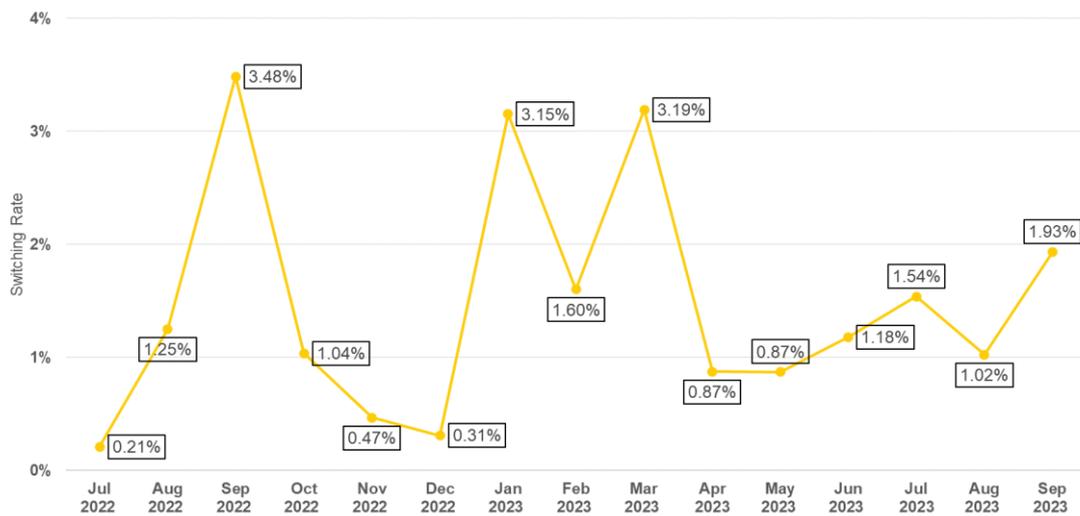


Figure 18. Switching Rate, Jul 2022 to Sep 2023

1.4.3. Retail Rate

Figure 19 shows that starting year 2023, DU generation rates continue to decrease and were closer to the retail weighted average rate for the September billing period by 3%. On quarterly basis, the 2023-Q3 Weighted-Average Retail Generation Rates¹⁰ decreased by 23%, and was 11% lower compared to DU¹¹ Average Generation Rates. This rate reduction was experienced by the participants engaged with a Supplier in the RCOA.

¹⁰ Based on ERC's latest CREM report, as of July 2023

¹¹ MERALCO, VECO, BATELEC II

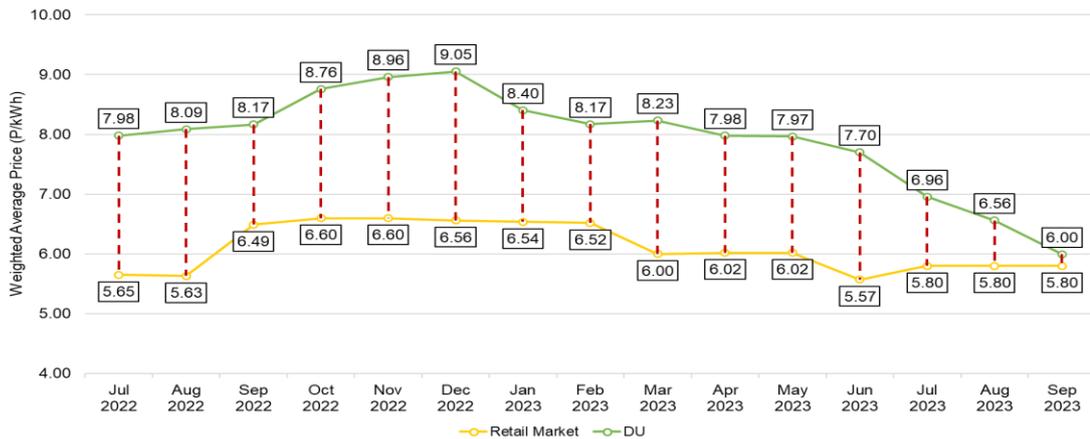


Figure 19. DU Average Generation Rate vs Retail Weighted Average Rate, Jul 2022 to Sep 2023

1.4.4. Estimated Savings

In continuation of the analysis provided in the preceding section, the assessment of estimated savings may likewise be undertaken. For the purpose of this report, monthly savings were calculated by determining the difference between the weighted-average retail rate and the DU average generation rate in consideration. This difference was then multiplied by the monthly consumption of Contestable Customers and lumped in a quarterly manner. It is important to note that these calculations are based on available data and are considered as estimates.

Throughout the period under review, Contestable Customers in the market experienced an estimated total savings of 3.96 billion Philippine Pesos. However, this figure represents a 65% decrease from the savings recorded in the previous quarter due to the significant decrease of the DU average generation rate.

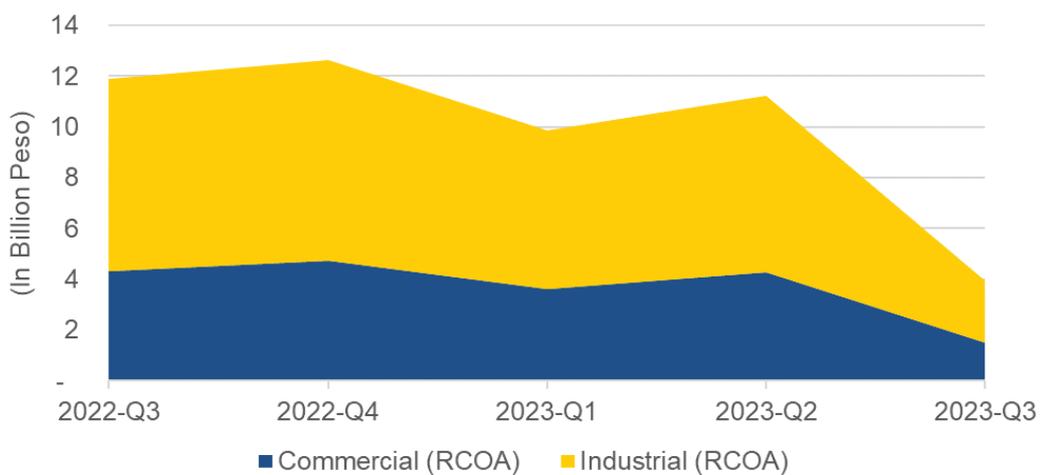


Figure 20. CC's Cumulative Estimated Savings, 2022-Q3 to 2023-Q3

2. GREEN ENERGY OPTION PROGRAM

This portion provides an assessment on the implementation of the Green Energy Option Program (GEOP) for the covered period, utilizing the RCOA indices as reference for the review of activities under this program.

2.1. MARKET STRUCTURE

2.1.1. Number of Participants

2.1.1.1. Per Threshold

Over the billing quarter in review, there were twenty-seven (27) recorded initial switches and registered GEOP End-Users that participated in the market, demonstrating an 11% increase from the previous quarter with a total of 263. In terms of a per threshold category, 6% of the registered GEOP End-Users were within the RCOA threshold but opted to participate in the GEOP as shown in **Figure 21**.

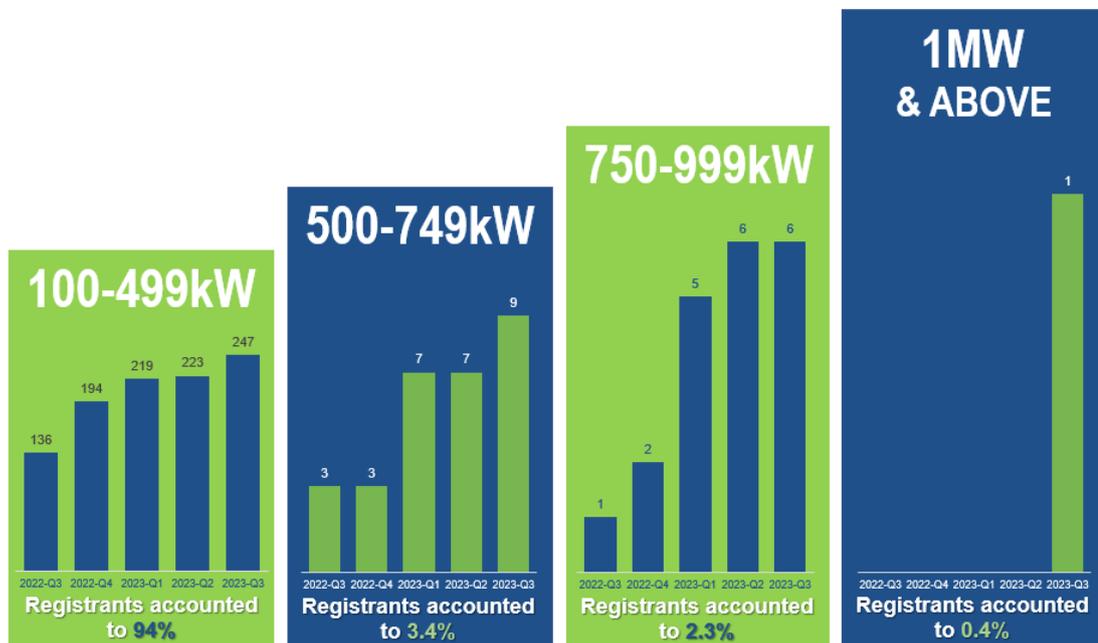


Figure 21. Cumulative Number of GEOP End-Users per Threshold, 2022-Q3 to 2023-Q3

Figure 21 also illustrates that the majority of GEOP End-Users is within the 100k-499kW threshold, which is not offered under the RCOA program. Notably, during the period under review, there was a documented participation of a GEOP End-User with a consumption level of 1MW and above opting to still engage under this program. This signifies a notable trend for larger consumers actively choosing to participate in the GEOP during the specified timeframe.

2.1.1.2. Per Location

In terms of geographical distribution of GEOP End-Users, majority, accounting for 71% or a total of 188 GEOP End-Users, were located in the Luzon grid while the

remaining 39%, accounted as 75 GEOP End-Users, were located in Visayas grid, as depicted in **Figure 22**. This distribution pattern remained consistent when compared to the figures from the previous quarter and to the RCOA. The data underscores that Luzon serves as the focal point of concentration for GEOP End-Users, indicating that a significant portion of these customers were located in this region.

LUZON	
Period	No. of CCs
As of Sep 2022	102
As of Dec 2022	147
As of Mar 2023	169
As of Jun 2023	171
As of Sep 2023	188

VISAYAS	
Period	No. of CCs
As of Sep 2022	38
As of Dec 2022	52
As of Mar 2023	62
As of Jun 2023	65
As of Sep 2023	75

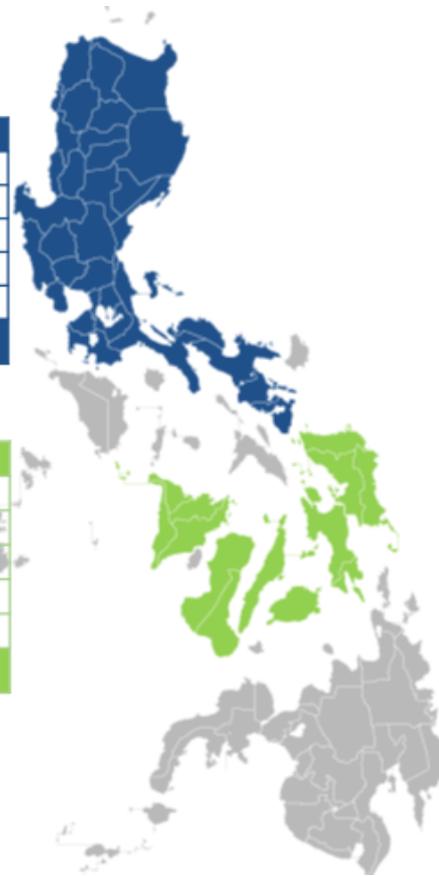


Figure 2222. Cumulative Number of GEOP End-Users Per Region, 2022-Q3 to 2023-Q3

Note: Retail market is only operational in the Luzon and Visayas grid. Commencement of retail market in the Mindanao shall be determined by the DOE and ERC.

2.1.1.3. Per Retail Activity

A consistent pattern of shares between the commercial and industrial sectors was observed in terms of industry participation among GEOP End-Users when compared with the preceding quarters. Of the total registered GEOP End-Users, about 62% were engaged in commercial activities while the remaining 38% belongs to the industrial sector.

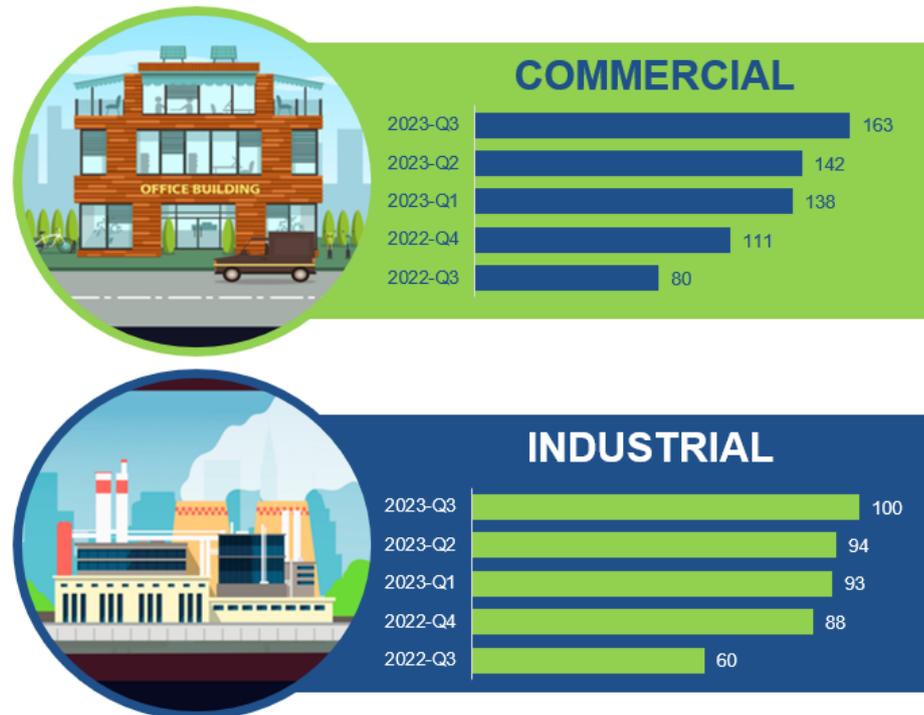


Figure 2323. Cumulative Number GEOP End-Users Per Retail Activity, 2022-Q3 to 2023-Q3

2.1.1.4. Average Consumption

Regarding the energy consumption of GEOP End-Users, **Table 4** provides a breakdown of consumption levels based on the averaged metered quantity (MQ) for the 3rd quarter of 2023. Notably, all GEOP End-Users recorded an average consumption falling under the category of 1MWh and below.

Table 4. Percentage Per Level of Average Energy Consumption, 2023-Q3

Region	1 MWh and below	Sub-Total Per Region	Percent Change from the previous quarter
LUZON	71.48% ▼	71.48% ▼	1.32% ▼
VISAYAS	27.20% ▲	27.20% ▲	1.32% ▲
Sub-Total Per Level of Average Energy Consumption	100.00%	100.00%	-

Despite the existence of a GEOP End-user under the 1MW and above threshold, a low level of average energy consumption among GEOP End-Users was still observed.

2.1.1.5. Suppliers

Within the GEOP framework, authorized RESEs are allowed to provide energy supply, contingent with the possession of an operational permit from the Department of Energy (DOE) and proper authorization or licensing from the Energy Regulatory Commission (ERC), which will then allow them to become a Renewable Energy (RE) Supplier.

As of September 2023, there were a total of 17 registered RE Suppliers in the market, along with 12 designated Suppliers of Last Resort (SoLRs).

Out of the 17 RE Suppliers¹², nine (9) or 56% had active contracts with GEOP End-Users. This percentage has remained unchanged throughout 2023. This statistic emphasizes the consistent engagement of a substantial portion of registered RE Suppliers in actively supplying renewable energy to GEOP End-Users, underscoring the continuity and stability of these contractual arrangements within the specified timeframe.

Table 5. Cumulative Number of Supplier

	Registered	With Active Contract
RE Supplier	17	9
SoLR	12	-

2.2. MARKET SHARE

2.2.1. Supplier Share

2.2.1.1. Share in terms of Number of GEOP End-Users and Consumption

Figure 24 shows the quarterly share of the RE Suppliers per major participant grouping in terms of the number of GEOP End-Users registered in the market as of the September 2023 billing period.

Based on quarter-on-quarter review, the Ayala group continuously increased its percent share and maintained to be the top group in terms of the number of GEOP End-Users served, followed by the EDC group and other RE suppliers not affiliated with any major groups. Meanwhile, Aboitiz group also held a significant share in terms of the number of users served within GEOP. This measure highlights the enduring prominence of the Ayala group and the sustained presence of other players in the GEOP.

¹² Complete list of all registered Suppliers per category is provided in Annex A. List of Suppliers Per Category, as of 25 September 2023

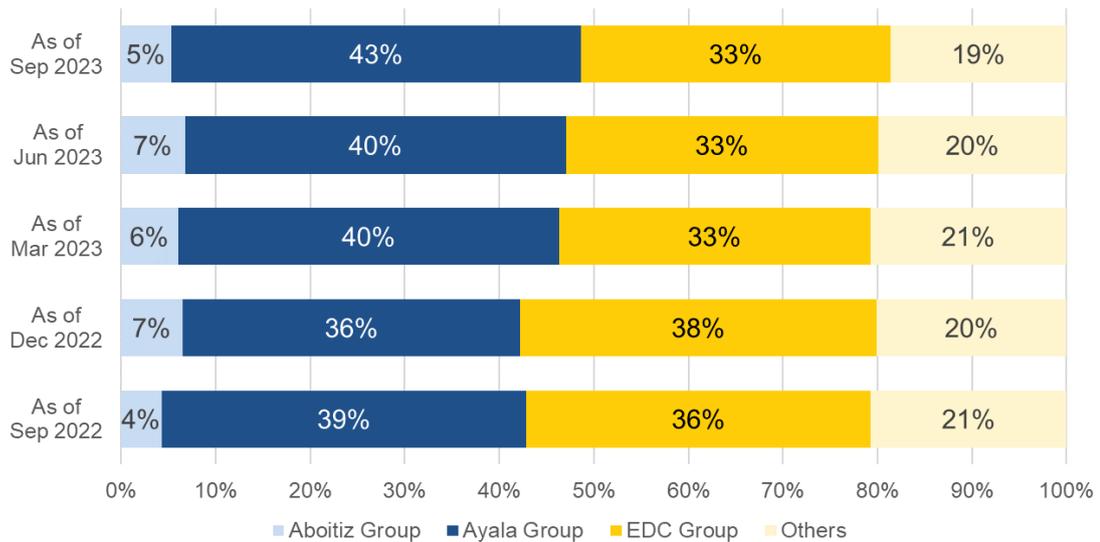


Figure 24. Share in Number of GEOP End-Users Per Major Participant Grouping, 2022-Q3 to 2023-Q3

With regard to the distribution of major groups' shares in terms of energy consumption, **Figure 25** illustrates that the Ayala group remained to have the most substantial share by the end of the 3rd quarter of 2023, accounting to 39%. This highlights the dominant position of the Ayala group in both the number of GEOP End-Users engaged and the energy consumption served.

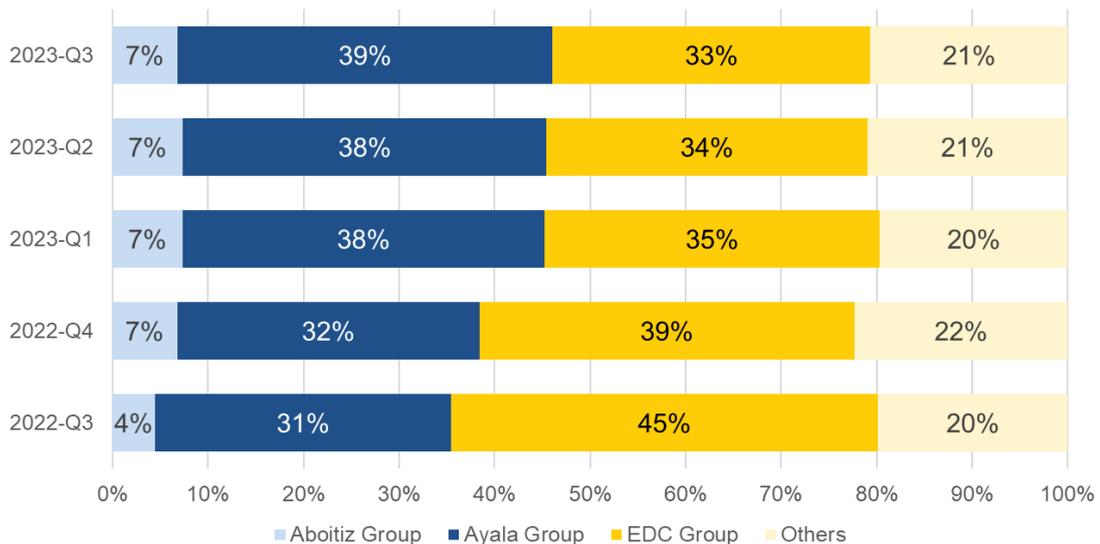


Figure 2525. Share in Total Energy Consumption of GEOP End-Users Per Major Participant Grouping, 2022-Q3 to 2023-Q3

2.2.1.2. Per Franchise Area Location

Geographically, registered GEOP End-Users were spread throughout the various economic zones and DU franchise areas indicated in *Appendix B: List of Distribution Utility and Economic Zones*.

About 64% of the registered GEOP End-Users, as shown in **Figure 26(a)**, were located in MERALCO's franchise area, 17% were within the VECO franchise, and 19% were scattered throughout the other franchise areas and economic zones. **Figure 26(b)** illustrates that inside the MERALCO franchise area, majority of the GEOP End-Users were supplied by various RE Suppliers, which do not belong to any major participant groupings determined by the ERC, at 48%, followed by the Ayala group which is the top major participant grouping within the GEOP.



Figure 2626. (a) GEOP End-Users Energy Consumption by Franchise Area, 2020-Q3; (b) GEOP End-Users Energy Consumption by Supplier within MERALCO Franchise Area, 2023-Q3

Furthermore, there has been minimal changes in the percentage share per location and within MERALCO's franchise area in comparison to the previous quarter.

2.2.2. Market Concentration

2.2.2.1. Herfindahl–Hirschman Index (HHI)

This section discusses the market concentration by major participant grouping determined by the ERC. This index was based on the number of contracted GEOP End-Users and the corresponding energy consumption of these GEOP End-Users. **Figure 27** shows that the level of market concentration using the Herfindahl-Hirschman Index (HHI)¹³ when measured in terms of the number of served GEOP End-Users.

In terms of per major participant grouping, the market was identified as concentrated one, which is marginally less than the value that emerged for the previous quarter. The continued increase marked an degradation in the level of concentration and competition in the market.

¹³ HHI measures the degree of market concentration. Defined as the sum of the Suppliers' market share, the HHI threshold are as follows:

- HHI < 1000 - not concentrated
- Greater than 1000 up to 1800 - moderately concentrated
- Greater than 1800 up to 2500 - concentrated
- Greater than 2500 - highly concentrated

Meanwhile, the market was determined to be concentrated in terms of a per RE Supplier basis market shares.

These observations are typical for markets which have recently commenced – the case for the GEOP which only commercially operated only on 26 March 2022.

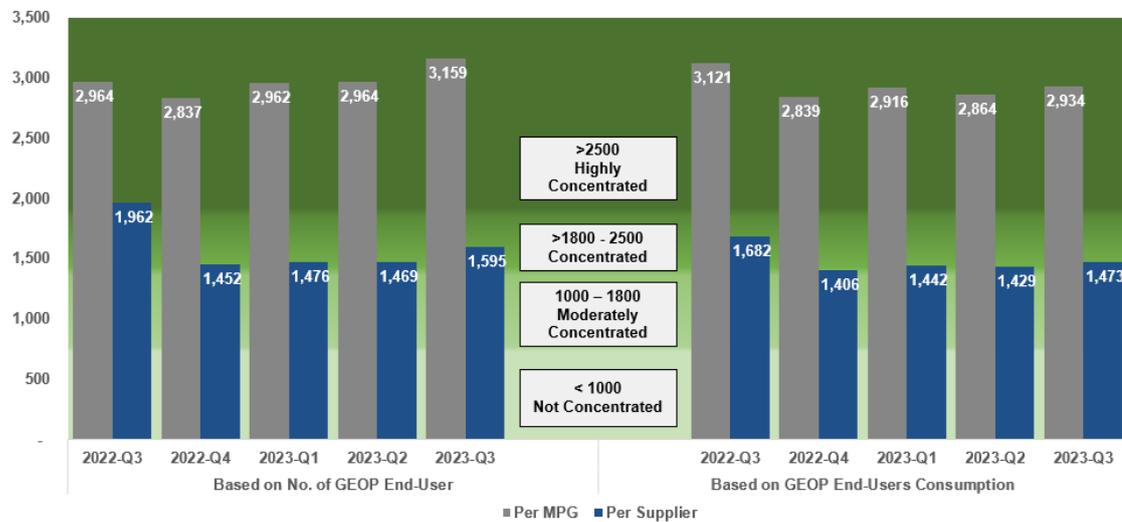


Figure 2727. HHI Values, 2022-Q3 to 2023-Q3

2.2.2.2. Four-Firm Concentration Index (C4)

With regard to the four-firm index or C4 for the GEOP, values were based both on the number of registered GEOP End-Users and their consumption in terms of per major participant grouping. During the period of review, C4 values were still high for both measures at about 95% as shown in **Figure 28**.

Furthermore, when considering each supplier individually, the market continues to exhibit characteristics of an oligopoly, with the top four suppliers collectively holding more than 60% of the total shares. Specifically, these four major suppliers control as much as 72% of the market when assessed in terms of the number of GEOP End-Users. This concentration can be attributed to the early stages of GEOP implementation and the unique characteristics of energy sources involved in the program.

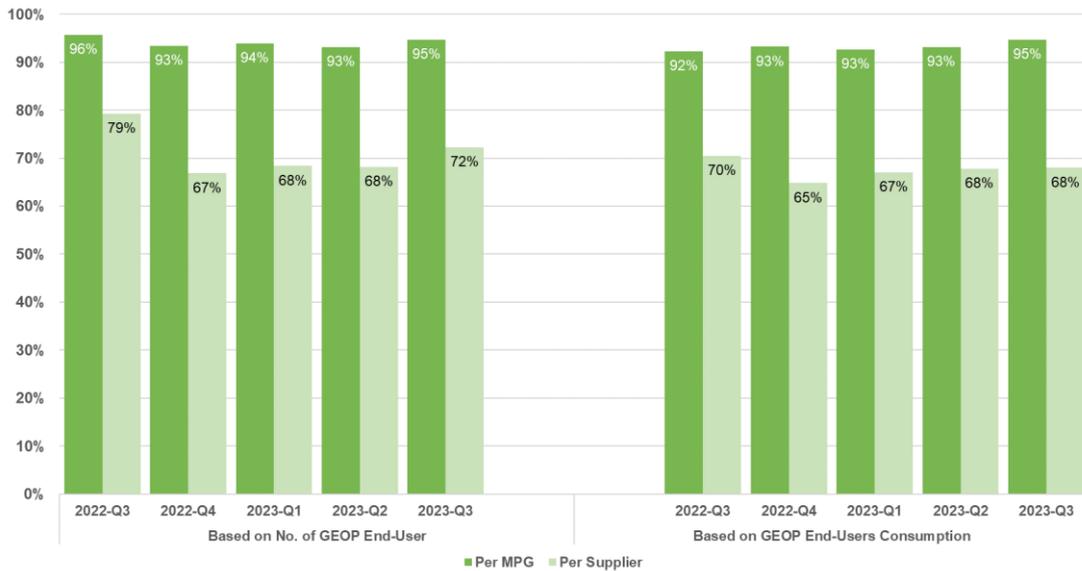


Figure 2828. Four-Firm Index, 2022-Q3 to 2023-Q3

2.3. MARKET PERFORMANCE

2.3.1. Energy Consumption

2.3.1.1. Monthly Energy Consumption

Figure 29 depicts a month-on-month consumption of consumers over the past fifteen months, encompassing the 3rd quarter of the preceding year, 2022. It is apparent that even following the conclusion of the summer season, there persists a continuous and consistent upward trend in the consumption of both the industrial and commercial sectors. The primary factor driving this trend is the continued increase in participation in the GEOP.

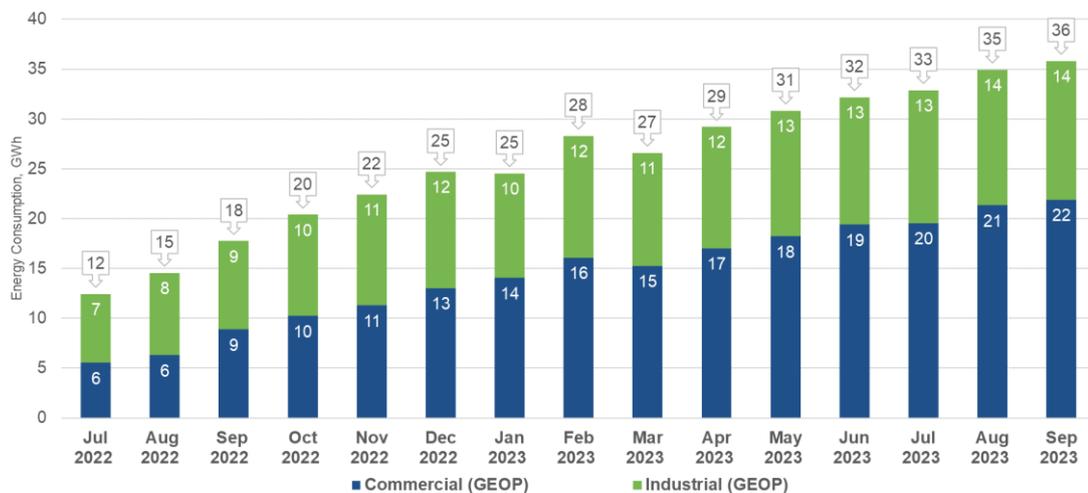


Figure 2929. Total Energy Consumption Industry Type (in GWh), Jul 2022 to Sep 2023

2.3.2. Load Profile

2.3.2.1. Hourly Energy Consumption Profile

Figures 30 and 31 show the hourly average consumption of registered industrial and commercial GEOP End-Users, respectively, for the billing months of April to September 2023. The consumption profile demonstrated how their electricity consumption varied over the course of a 24-hour period.

Illustrated in **Figure 30**, the electricity consumption patterns of industrial GEOP End-Users exhibited minor variations between peak and off-peak periods, particularly during intervals from 0600h to 1700h. It is noteworthy that a reduction in their average energy consumption was consistently observed during specific intervals at 0600h, 1300h, and 1800h. This pattern strongly indicates that these industrial customers are likely operating on a three-shift schedule.

In connection with the analysis provided in the preceding sections, it is evident that the load profiles of industrial consumers exhibited an increasing trend. Furthermore, when load profiles are compared, the data suggests that there is a strong correlation between the total number of registered GEOP End-Users and the resulting load profile of the consumers.

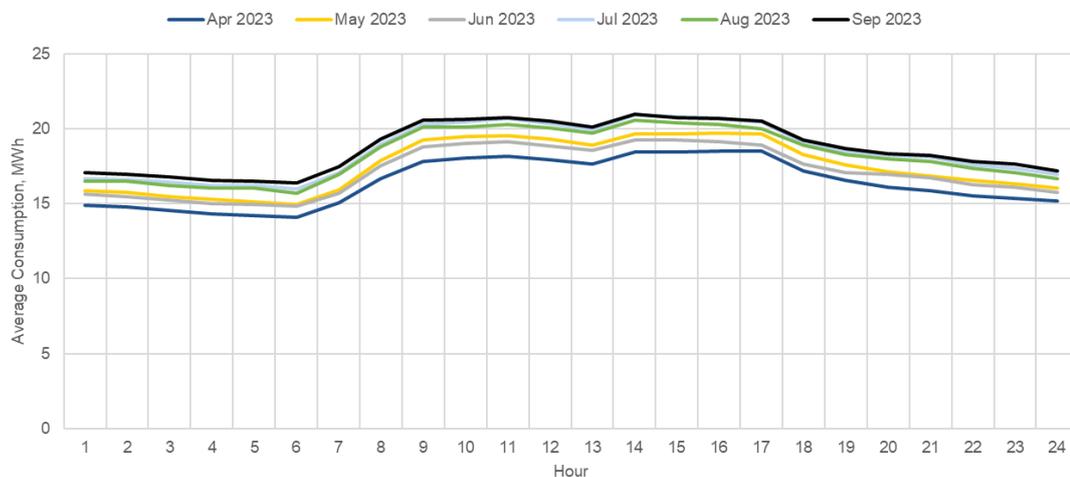


Figure 30. Hourly Average Energy Consumption (in MWh), Industrial, Apr to Sep 2023

Figure 30 illustrates the significant distinctions in consumption patterns during peak and off-peak periods among registered commercial GEOP End-Users. Notably, these customers exhibited peak consumptions between the hours of 1000h to 2000h. In comparison to the preceding quarter, there was an observable increasing recorded consumptions, mirroring the industrial sector. This escalation can be attributed to the increasing number of registered GEOP End-Users, serving as the primary driving force behind this trend.

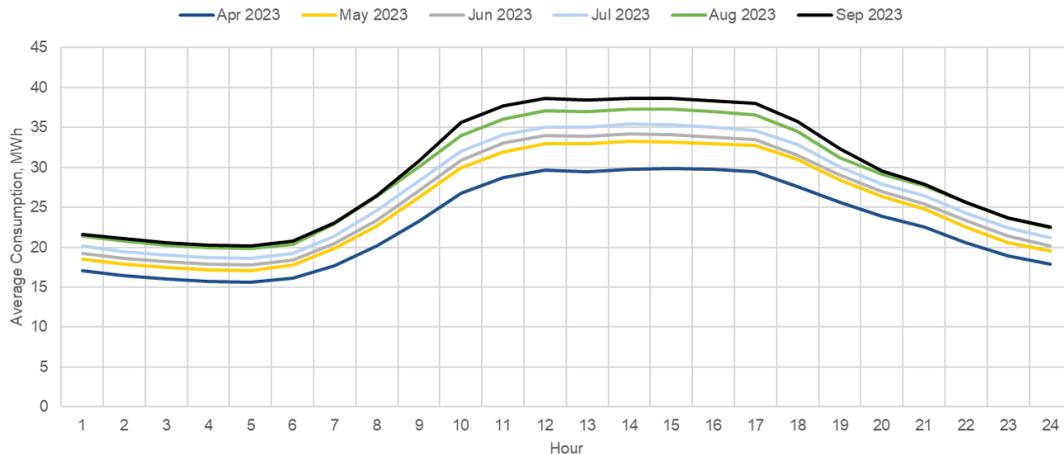


Figure 31. Hourly Average Energy Consumption (in MWh), Commercial, Apr to Sep 2023

2.3.2.2. Load Factor

Figure 32 shows the monthly load factor¹⁴ of the registered GEOP End-Users, which was calculated based on their actual electricity consumption (total consumption over the maximum consumption and the total no. of hours). The load factors of registered GEOP End-Users remained consistently high throughout the 3rd quarter of 2023. Despite a recorded low load factor in the billing month of August, it was sustained at a level of 70%, which is still indicates efficient utilization of electricity.

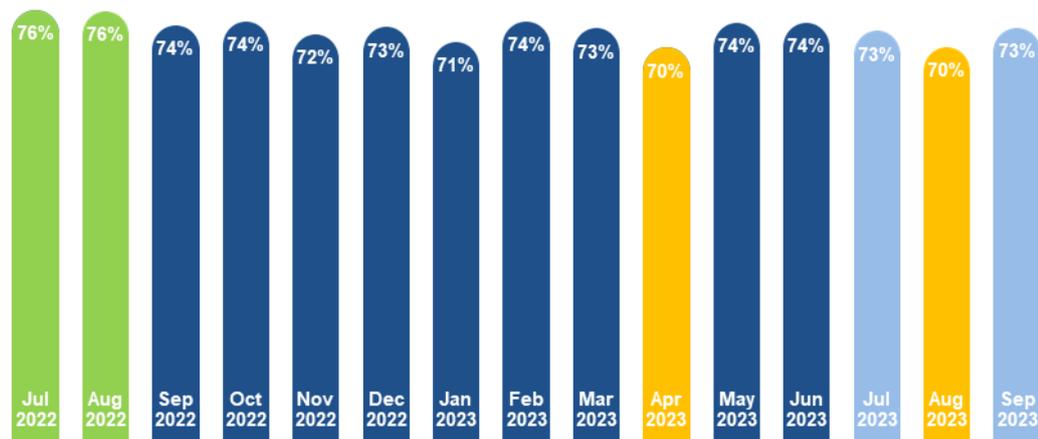


Figure 32. Load Factor, Jul 2022 to Sep 2023

2.4. RETAIL ACTIVITY

2.4.1. Customer Switching Rate

Figure 33 provides a historical switching rate among registered GEOP End-Users. Based on the data, there were seven (7) instances of customers switching from one supplier to another during the billing months of July to September 2023. The observed trend for the initiation of switches stem from the termination of contracts,

¹⁴ Based on Metered Quantity (MQ)

possibly influenced by factors like receiving a more competitive offer or the need for a more specific resource supply to meet the demand.

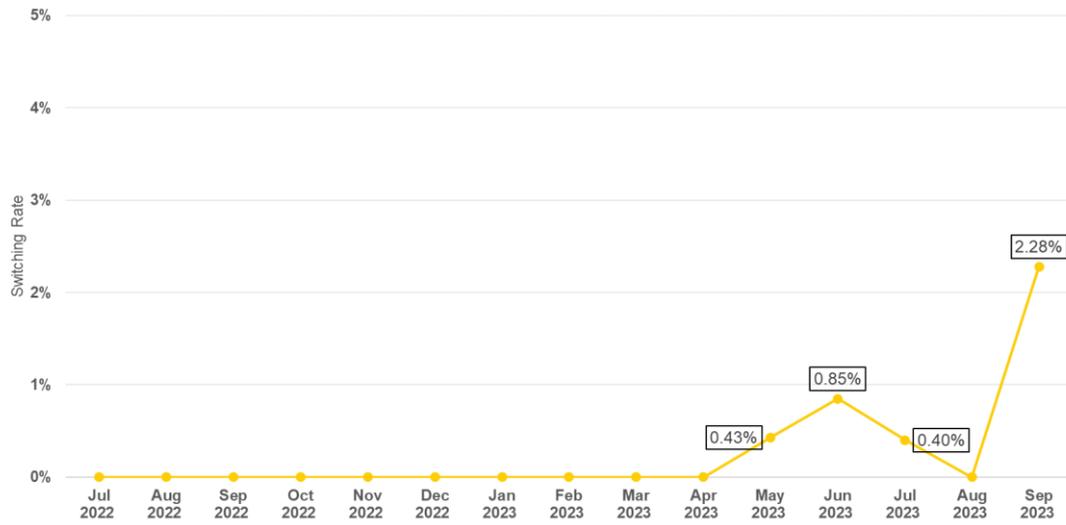


Figure 3333. Switching Rate, Jul 2022 to Sep 2023

APPENDIX A - LIST OF REGISTERED SUPPLIERS

Category	No.	Market Participant Name	RCOA	GEOP
Retail Electricity Supplier (RES) and Renewable Electricity Supplier (RE Supplier)	1	Aboitiz Energy Solutions, Inc.	✓	✓
	2	AC Energy and Infrastructure Corporation	✓	
	3	ACEN Corporation (Formerly known as AC Energy Corporation)	✓	✓
	4	Advent Energy, Inc.	✓	✓
	5	Anda Power Corporation RES	✓	
	6	AP Renewables Inc.	✓	✓
	7	Asiapac Green Renewable Energy Corp.	✓	
	8	Bac-Man Geothermal, Inc.	✓	✓
	9	Citicore Energy Solutions, Inc.	✓	✓
	10	Corenergy, Inc.	✓	
	11	DirectPower Services, Inc.	✓	✓
	12	Ecozone Power Management, Inc.	✓	
	13	EEI Energy Solutions Corporation	✓	✓
	14	FDC Retail Electricity Sales Corporation	✓	
	15	First Gen Energy Solutions, Inc.	✓	✓
	16	Global Energy Supply Corporation	✓	
	17	GNPower Ltd. Co.	✓	
	18	Green Core Geothermal, Inc.	✓	✓
	19	Jin Navitas Electric Corporation	✓	
	20	KEPCO SPC Power Corporation	✓	
	21	Kratos RES, Inc.	✓	✓
	22	Mabuhay Energy Corporation	✓	
	23	Masinloc Power Partners Company Limited	✓	
	24	Mazzaraty Energy Corporation	✓	
	25	MegawattSolutions Inc.	✓	
	26	MeridianX Inc.	✓	
	27	PetroGreen Energy Corporation	✓	
	28	Premier Energy Resources Corporation	✓	
	29	Prism Energy, Inc.	✓	✓
	30	Rockport Power Inc.	✓	
	31	SEM-Calaca RES Corporation	✓	
	32	Shell Energy Philippines, Inc. - RES	✓	✓
	33	Limay Power Inc. (formerly SMC Consolidated Power Corporation)	✓	
	34	SN Aboitiz Power- Magat, Inc.	✓	✓
	35	SN Aboitiz Power-RES, Inc.	✓	✓
	36	Solar Philippines Retail Electricity, Inc.	✓	✓
	37	TeaM (Philippines) Energy Corporation	✓	
	38	Therma Luzon, Inc.	✓	✓
	39	Vantage Energy Solutions and Management, Inc.	✓	

Category	No.	Market Participant Name	RCOA	GEOP
Local Retail Electricity Supplier	1	Batangas II Electric Cooperative, Inc.	✓	
	2	Camarines Sur II Electric Cooperative, Inc.	✓	
	3	Cebu I Electric Cooperative, Inc.	✓	
	4	Cebu II Electric Cooperative, Inc.	✓	
	5	Central Negros Electric Cooperative, Inc.	✓	
	6	Clark Electric Distribution Corporation LRES	✓	
	7	Dagupan Electric Corporation	✓	
	8	Ilocos Norte Electric Cooperative, Inc.	✓	
	9	Mactan Enerzone Corporation LRES	✓	
	10	Manila Electric Company	✓	
	11	Nueva Ecija I Electric Cooperative, Inc.	✓	
	12	San Fernando Electric Light & Power Co., Inc.	✓	
	13	Subic Enerzone Corporation	✓	
	14	Tarlac Electric, Inc.	✓	
	15	Visayan Electric Company, Inc.	✓	
Supplier of Last Resort	1	Angeles Electric Corporation	✓	✓
	2	Balamban Enerzone Corporation	✓	
	3	Batangas II Electric Cooperative, Inc.	✓	✓
	4	Benguet Electric Cooperative, Inc.	✓	
	5	Bohol I Electric Cooperative, Inc.	✓	
	6	Bohol Light Company, Inc.	✓	
	7	Cabanatuan Electric Corporation	✓	
	8	Camarines Sur II Electric Cooperative, Inc.	✓	
	9	Cebu I Electric Cooperative, Inc.	✓	✓
	10	Cebu II Electric Cooperative, Inc.	✓	
	11	Clark Electric Distribution Corporation	✓	
	12	Dagupan Electric Corporation	✓	✓
	13	Ilocos Norte Electric Cooperative, Inc.	✓	
	14	Ilocos Sur Electric Cooperative, Inc.	✓	
	15	Isabela I Electric Cooperative, Inc.	✓	
	16	La Union Electric Cooperative, Inc.	✓	✓
	17	Mactan Electric Company, Inc.	✓	✓
	18	Mactan Enerzone Corporation	✓	✓
	19	Manila Electric Company	✓	✓
	20	Negros Oriental II Electric Cooperative, Inc.	✓	
	21	Subic Enerzone Corporation	✓	
	22	Tarlac Electric, Inc.	✓	✓
	23	Tarlac I Electric Cooperative, Inc.	✓	✓
	24	Tarlac II Electric Cooperative, Inc.	✓	✓
	25	Visayan Electric Company, Inc.	✓	✓

APPENDIX B - LIST OF DISTRIBUTION UTILITIES / ECONOMIC ZONES WITH CONTESTABLE CUSTOMERS AND GEOP END-USERS

No.	Distribution Utility/ Economic Zone	RCOA	GEOP	No.	Distribution Utility/ Economic Zone	RCOA	GEOP
1	Angeles Electric Corporation	✓	✓	32	Leyte II Electric Cooperative, Inc.	✓	
2	Authority of the Freeport Area of Bataan	✓		33	Leyte V Electric Cooperative, Inc.	✓	
3	Aklan Electric Cooperative, Inc.	✓		34	LIMA Enerzone Corporation	✓	
4	Albay Electric Cooperative, Inc.	✓	✓	35	La Union Electric Company, Inc.	✓	
5	Antique Electric Cooperative, Inc.	✓		36	La Union Electric Cooperative, Inc.	✓	
6	Batangas I Electric Cooperative, Inc.	✓	✓	37	Malvar Enerzone Corporation	✓	✓
7	Batangas II Electric Cooperative	✓	✓	38	Mactan Electric Company	✓	
8	Benguet Electric Cooperative	✓		39	Mactan Enerzone Corporation	✓	
9	Balamban Enerzone Corporation	✓		40	Manila Electric Company	✓	✓
10	Bohol Light Company, Inc.	✓		41	MORE Electric and Power Corporation	✓	✓
11	Bohol I Electric Cooperative, Inc.	✓	✓	42	Nueva Ecija I Electric Cooperative, Inc.	✓	
12	Cagayan I Electric Cooperative, Inc.	✓		43	Nueva Ecija II Electric Area 1 Cooperative, Inc.	✓	
13	Cagayan II Electric Cooperative, Inc.	✓		44	Negros Occidental Electric Cooperative	✓	✓
14	Capiz Electric Cooperative, Inc.	✓	✓	45	Northern Negros Electric Cooperative, Inc.	✓	
15	Camarines Sur II Electric Cooperative, Inc.	✓		46	Negros Oriental II Electric Cooperative, Inc.	✓	
16	Camarines Sur IV Electric Cooperative, Inc.			47	Olongapo Electricity Distribution Company	✓	
17	Cebu I Electric Cooperative, Inc.	✓	✓	48	Pangasinan III Electric Cooperative, Inc.	✓	✓
18	Cebu II Electric Cooperative, Inc.	✓	✓	49	Pampanga I Electric Cooperative, Inc.	✓	
19	Cebu III Electric Cooperative, Inc.	✓	✓	50	Pampanga II Electric Cooperative, Inc.	✓	✓
20	Clark Electric Distribution Corporation	✓		51	Peninsula Electric Cooperative, Inc.	✓	
21	Cabanatuan Electric Corporation	✓		52	Quezon I Electric Cooperative, Inc.	✓	
22	Central Negros Electric Cooperative, Inc.	✓	✓	53	Samar I Electric Cooperative, Inc.	✓	✓
23	Central Pangasinan Electric Cooperative, Inc.	✓		54	Subic EnerZone Corporation	✓	
24	Dagupan Electric Corporation	✓	✓	55	San Fernando Electric Light and Power Company, Inc.	✓	
25	Don Orestes Electric Cooperative, Inc.	✓		56	Sorsogon II Electric Cooperative, Inc.	✓	
26	Iloilo I Electric Cooperative, Inc.	✓	✓	57	Tarlac I Electric Cooperative, Inc.	✓	✓
27	Iloilo II Electric Cooperative, Inc.	✓		58	Tarlac II Electric Cooperative, Inc.	✓	✓
28	Iloilo III Electric Cooperative, Inc.		✓	59	Tarlac Electric, Inc.	✓	✓
29	Ilocos Norte Electric Cooperative, Inc.	✓		60	Visayan Electric Company, Inc.	✓	✓
30	Isabela I Electric Cooperative, Inc.	✓		61	National Grid Corporation of the Philippines ¹⁵	✓	
31	Isabela II Electric Cooperative, Inc.	✓					

¹⁵ For Directly Connected Customers