Retail electricity competition in DC: market trends and analysis

For the period of July 2023 – August 2024

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Summary

During a period of market liberalization in the late 1990s and early 2000s, several countries and states within the US restructured their energy markets to unbundle utilities' monopolies and make energy markets more competitive. However, restructuring has led to various regulatory structures, which have contributed to divergent outcomes. Here we leverage electricity market data to evaluate the competitive retail market for residential and commercial customers in the District of Columbia. When comparing average prices of retail supply to the default utility's average supply price, we estimate that residential customers with retail suppliers experienced a net consumer loss of $17.85 million over the study period from July 2023 to August 2024. This price difference was equivalent to a 70% price premium per kilowatt-hour, on average, for customers of retail suppliers. Customers receiving utility assistance compose about 25% of retail suppliers' accounts, on average, despite representing only about 8% of total residential customers. Customers receiving utility assistance experienced a proportional net consumer loss of $4.04 million. This price difference was equivalent to an average 80% price premium per kilowatt-hour, on average, for customers of retail suppliers who also receive utility assistance.

Although residential customers are paying higher average prices with retail suppliers, commercial customers experienced a net consumer *gain* of about $193.57 million during the period. The findings of this analysis suggest that market restructuring and the emergence of competitive retail markets has led to beneficial outcomes for many commercial customers and customers in master-metered apartment (MMA) buildings; however, competition has led to price increases among most residential customers, especially among utility assistance customers. Therefore, retail customers would benefit from market reform measures to increase consumer protection among residential and small business consumers, a conclusion that other jurisdictions have reached as they have begun reforming their markets.

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1 Introduction

Energy market liberalization policies were popularized by policymakers in the US and globally in the 1990s and early 2000s. Most energy utilities had operated as monopolies since the turn of the 20th century.[4] Market restructuring unbundled the vertical stack of generation, transmission, and distribution. Newly distributed services and management in the supply and distribution networks created an opening for competition on the supply side of the market.[5] Instead of the utility providing its default service[6] to all customers, retail choice enables customers to choose between competing retail energy suppliers (which will be referred to in this paper as "retail suppliers") with different service features, including more renewable energy generation, contract term flexibility, incentives, and potentially other complementary services. Utilities continue to maintain infrastructure and provide transmission and distribution.

Economic motivations for market restructuring centered on improving consumer welfare by lowering prices for residential and commercial consumers and cultivating innovation.[7] DC and 17 states currently have fully competitive retail energy markets.[8] Six additional states allow only competitive wholesale generation, but not competition in retail sales.[9] According to Lien (2008), DC and 28 states restructured at some point before 2008.[10] Among those restructured markets, retail electricity prices in DC and 10 states increased at a rate that outpaced national average retail electricity price growth from 1995 to 2006. Other restructured states observed retail electricity prices that increased or decreased while remaining below the national average supply price, which suggests it is possible to have retail choice markets that produce financial benefits for consumers. However, DC's average retail electricity price increased by over 50% during this period, making it the fourth largest increase in average retail electricity prices among structured or restructured markets in all 50 states and DC from 1995 to 2006 (Lien, 2008). Here we examine more recent retail electricity data in DC. These data suggest that the market is producing cost savings for many commercial customers and master-metered apartment (MMA) building customers, but many residential retail customers are paying significantly higher supply prices and accruing significantly higher arrears than customers on the default service.

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[4] Unbundling of generation, transmission, and distribution led to the creation of two new system operators: 1) independent system operators (ISOs) to manage generation, and 2) regional transmission operators (RTOs) to manage transmission in several regions across the US.

[5] Here we focus on the supply side of the market because transmission and distribution are still monopolized by the local utility in DC.

[6] In DC, Pepco's standard offer service (SOS) is the "default service," which is the electricity supply service option for customers who have not selected a third-party energy supplier (Public Service Commission, 2025a).

[7] Innovation includes additional renewable generation, new cost structures for renewable energy procurement, improving energy efficiency and market efficiency, and other changes to market dynamics.

[8] As of 2008, these markets included DC, California, Oregon, Montana, Texas, Illinois, Michigan, Ohio, Pennsylvania, New York, Maryland, New Jersey, Delaware, Connecticut, Rhode Island, Massachusetts, New Hampshire, and Maine.

[9] Environmental Protection Agency (2025)

[10] The number of restructured states has changed over time. Some states have reverted to regulated market structures and some have reformed their markets to allow only partial retail choice. Some states restrict the market to only electric or gas and residential or commercial retail sales. An early galvanizing force for restructuring reversals or regulatory reforms was California's energy crisis in 2000-2001. California's competitive market worked well initially, but after the first two years, consumer prices began to spike and generation struggled to meet demand, causing widespread outages and decreased confidence in the state's electric utility companies. A more recent shock to the retail choice space was the 2021 power crisis in Texas that led to widespread outages during unusually cold temperatures. Texas's wholesale market prices are unregulated while most markets have consumer price caps. This caused outrageously high prices and outages during the 2021 winter storm as generation facilities struggled to perform in low temperatures.

From July 2023 through August 2024 in DC, there were 53 different retail suppliers providing residential and/or commercial electricity service. Retail suppliers provided service to about 10% of residential customers and about 32% of commercial customers, as discussed further below, with the local electric utility, Potomac Electric Power Company (Pepco), providing service to the majority of customers in both markets. However, retail suppliers provided about 83% of all commercial electricity consumed while residential retail suppliers provided about 11% of all residential electricity consumed at the end of the study period (Public Service Commission, 2025b).[11] In DC, most suppliers in the residential and commercial markets maintain relatively small numbers of customers, with the exception of a handful of retail suppliers that dominate the residential market and a handful of mostly different retail suppliers that dominate the commercial market. Variation in the number of customers month-to-month fluctuates more among retail suppliers in the residential market than in the commercial market. This suggests the commercial market may have more customer retention or longer contracts.

When comparing on price alone, residential electricity customers in DC experienced an estimated *net consumer loss* of *$*17.85 *million*[12] during the 14-month period analyzed in this paper (July 2023 to August 2024). This loss estimate is derived by comparing retail supply charges to Pepco's standard offer service (SOS) price to compare as the counterfactual. For reference, this estimated net consumer loss is equivalent to 30% of all electricity supply charges during the period. This loss estimate does not account for any costs willingly incurred by consumers to improve their welfare through consumption of goods and services that are additional compared to Pepco's SOS (e.g., additional supply costs for renewable energy or home energy efficiency technologies offered by retail suppliers). This trend is consistent with

[11] For residential consumption, the percentage of retail supply customers corresponds proportionally to the percentage of electricity consumption among all residential customers because variation in consumption among households is much smaller than variation in consumption among different commercial customers. Therefore, about 10% of residential customers had retail suppliers during the period and these customers consumed about 11-12% of residential electricity sold during the period (Public Service Commission, 2025b, "Energy Usage (MWHs) and Market Shares").

[12] We estimated net consumer loss by first calculating the total residential supply charges for the period. Then we compared total residential supply charges to the product of total residential consumption (kWh) and Pepco's SOS price to compare, which is 12.01 cents/kWh for the period of analysis. This figure excludes master-metered apartment (MMA) buildings, which follow a different rate schedule. This implies that the true total net consumer loss is actually greater than $13.63 million considering that MMA customers mostly pay higher supply charges than Pepco's SOS price to compare. Of course, there are additional benefits that retail suppliers offer to customers, such as additional renewable energy supply. These additional benefits and consumers' willingness to pay for these services cannot be accounted for with the data used here.

findings in other retail choice states, including Maryland,[13] Massachusetts,[14] Maine,[15] Connecticut,[16] New York,[17] Pennsylvania,[18] and other states and countries.

Low-income customers in DC who received utility assistance (UA) during the study period (July 2023 to August 2024) made up 25% of total residential customers during the period and experienced *a net consumer loss of $4.04 million*.[19] This is equivalent to 33% of all supply charges for UA customers during the period. Conversely, commercial customers benefited, on average, from the retail market with a *net consumer gain* of $193.57 million during the period. This estimate is derived by comparing commercial retail supply charges to Pepco's average commercial supply charges as the counterfactual. This net gain is equivalent to 45% of the total commercial supply charges during the period.

Residential customers of retail suppliers are also much more likely to be in arrears. As of August 2024, 25% of SOS customers were in arrears, on average, compared to 55% of retail supply customers. Average monthly arrears among retail supply customers were nearly double those of Pepco's SOS customers. The starkness of these findings is consistent with differences in average supply prices between Pepco's SOS and retail suppliers. This suggests, unsurprisingly, that higher prices in the retail supply market may be leading to higher rates and amounts of arrears; it is also possible that some customers already in arrears seek to switch to retail suppliers to save money.

Commercial trends for arrears were very different than residential trends. Total monthly arrears among commercial customers of Pepco's SOS were relatively similar to commercial customers of retail suppliers throughout the period. This is despite retail suppliers providing over 80% of commercial energy consumed during the period. There were only about half as many customers of retail suppliers in arrears each month compared to the number of Pepco's SOS customers in arrears; average monthly arrears for the period were somewhat higher for commercial customers of retail suppliers throughout the period, which is potentially explained by larger consumption among retail customers, on average.[20]

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[13] "From 2014 to 2017, Maryland households paid about $255 million more than if they had stayed with their utility's supply offer" (Baldwin and Howington, 2023, page 30).

[14] "Households experienced $425.7 million net consumer loss between July 2015 through June 2020 (with the net consumer loss based on a comprehensive analysis of bills rendered and comparison of the prices consumers would have paid for standard offer service with what were actually charged by CEPs)" (Baldwin and Howington, 2023, page 30).

[15] "… over the four-year period spanning 2018 to 2021, Maine households purchasing CEP products paid between $78 million and $91 million more for electricity supply than if they had purchased standard offer service" (Baldwin and Howington, 2023, page 27).

[16] "Since January 2015, when the Connecticut Office of Consumer Counsel started tracking supplier data, customers with a supplier have overpaid a total of $299,183,095 more than standard service" (Baldwin and Howington, 2023, page 30).

[17] "In New York, the Department of Public Services Staff found New York customers of alternative suppliers paid in the aggregate $1.3 billion more than they would have if they remained energy supply customers of their own utility during the 36-month period" (Baldwin and Howington, 2023, page 30).

[18] "Consumers in the FirstEnergy Companies' regions paid $431,152,822 above standard offer rates to CEPs between August 2017 and December 2021. Consumers in other parts of the state paid $1,131,895 above standard offer rates…" (Baldwin and Howington, 2023, page 30).

[19] To calculate net consumer loss among UA customers only, we followed the same formula as above. Total UA charges for the period were $9,677,090. Total consumption was 54,090,470 kWh. Total estimated charges if all customers had paid Pepco's price to compare for supply would have been $6,496,265. This suggests a net loss of $3.18 million. This estimate also does not include MMA customers.

[20] We do not have data linking consumption (kWh) to commercial customers in arrears, making it difficult to know whether higher average monthly arrears among commercial retail customers are due to higher consumption and subsequently higher bills. However, we may assume this is a plausible explanation.

To perform this market-level analysis, DOEE requested aggregated and anonymized retail supply data and the average SOS supply charges during the period (July 2023 to August 2024) from Pepco. Retail supply data have been aggregated by month and supplier during the study period. These data have been anonymized using codes to represent each retail supplier. Data used in this paper are provided in the appendices. Residential data are included in **Appendix I: Residential data**. Commercial data are included in **Appendix II: Commercial data**.

This paper illustrates high-level trends in the retail supply market in DC. The first section presents data and insights on the residential supply market. The second section focuses specifically on utility assistance customers who receive benefits from at least one of DOEE's or Pepco's utility assistance programs, including the Utility Discount Program (UDP), Low-Income Home Energy Assistance Program (LIHEAP), and Solar for All (SFA). The third and final section covers trends in the commercial retail supply market in DC.

2 Residential market trends

The following sections on the residential market in DC explore changes in customer accounts, variation in supply charges across different groups of customers and suppliers, and customers' arrears. More information on total residential consumption among customers of retail suppliers during the study period is provided in **Appendix IV: Residential and commercial consumption**.

2.1 Customer accounts and market share

Over the course of 14 months, from July 2023 to August 2024, there were 40 different retail suppliers in the DC market providing electricity to residential customers. Not all 40 retail suppliers had residential customers throughout the year. In July 2023, there were 39 retail suppliers with residential customers and in August 2024, there were 36 retail suppliers with residential customers. It remains unclear from this data whether the difference in retail suppliers throughout the year can be attributed to retail suppliers entering or exiting the retail space completely; it may be that some retail suppliers simply relied primarily on commercial customers and/or residential customers in other states. However, evaluating regional or nationwide trends among suppliers in all parts of the market is beyond the scope of this study.

During the same period of 14 months, the total number of residential electricity customers who were enrolled with retail suppliers remained relatively stable. There were 33,119 residential customers (i.e. individual accounts) of retail suppliers in DC as of July 2023; this decreased, on net, to 30,294 customers of retail suppliers as of August 2024. This net decrease may be attributed to account cancellations and switching to the default service (i.e. Pepco's SOS). According to historic records from the Public Service Commission (2025b), there were 317,802 residential electricity accounts in DC as of August 2024 (Potomac Electric Power Company, 2024). Therefore, retail suppliers provided service to about 10% of the residential market in DC in August 2024.

Most retail suppliers maintain a relatively small portfolio of residential customers. In **Figure 1**, we show the net change, from July 2023 to August 2024, in the number of accounts by each anonymized retail supplier operating during part, or all, of the period. During each of the 14 months, some retail suppliers had only one active residential customer account. The retail supplier with the largest residential market share had as many as 8,365 customers at one point during the period. The average number of customers for retail suppliers during the period was 553.6, and the median number of customers was 78. As **Figure 1** illustrates, most retail suppliers had fewer than 1,000 customers. This is true for each month during the period. Only a handful of retail suppliers provided service to over 1,000 customer accounts, and one retail supplier dominated the residential retail supply market with about a quarter of the market's total customers.

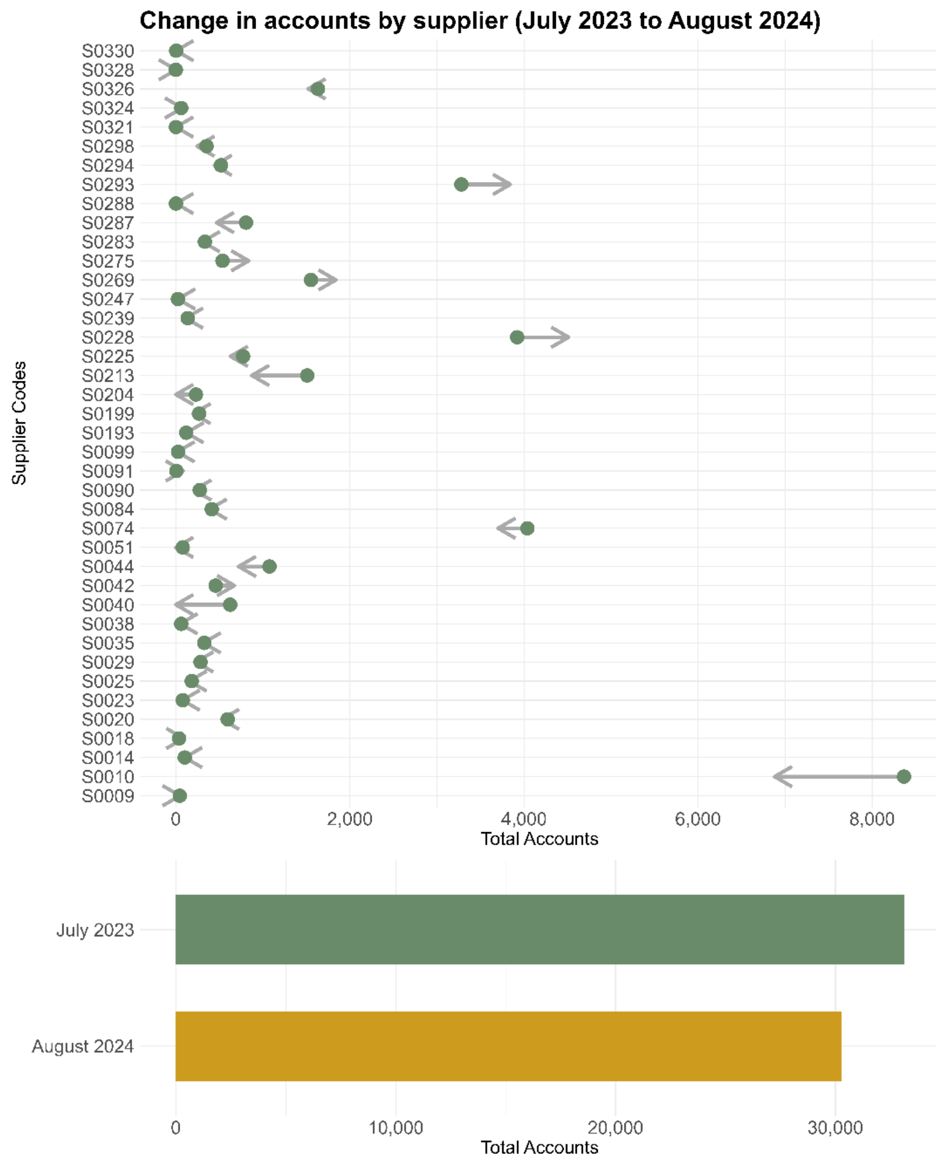

Figure 1. All residential retail accounts (July 2023-Aug. 2024)

In the figure, the arrow represents the difference from the starting point in the data, which is July 2023 (green dots) to August 2024 (arrow tips). Changes in the months between the start and end points are not captured in this figure. At the base of the figure, bars show the total number of customers enrolled with all retail suppliers in the start month of July 2023 and the end month of August 2024.

Pepco's residential rate classes highlighted in this study's data include "R" for general residential customers and "MMA" for master-metered apartment buildings. While **Figure 1** shows the net change in accounts with retail suppliers for general residential accounts, **Figure 2** shows the change in the number of MMA buildings with retail suppliers during the period.[21] Instead of customers in MMA buildings

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[21] For the MMA rate class, Pepco accounts are billed at the building level, meaning a property owner or manager is responsible for paying for the building's consumption.

paying for utilities directly, residents in these buildings pay landlords or property managers who then pay the total utility bills each month for their buildings. Definitions of MMA buildings and the terms of utility billing procedures for these properties are detailed in the DC Code (Council of District of Columbia, 2025).[22]

The data for **Figure 2** do not provide the number of units within each MMA building, so the data are simply representative at the building level. Buildings in the MMA rate class can vary in size and number of units and should, therefore, be considered with that variation in mind. It is best to analyze charges by consumption rather than by account in the case of MMA accounts. What we can broadly learn from the data in **Figure 2** is that there are far fewer retail suppliers providing service to MMA buildings compared to individual residential accounts. Whereas 40 companies provided service for general residential accounts, only 25 provided service to MMA buildings over the period. The number of MMA customers is also much smaller than the number of residential customers.

The number of MMA buildings per retail supplier was very low for the vast majority of retail suppliers. Only a handful of retail suppliers had more than 15 accounts per month during the period. Most of the retail suppliers maintained a stable number of accounts throughout the period, but three retail suppliers experienced relatively large changes in accounts. As shown in the bar graph at the bottom of **Figure 2**, there were 302 MMA accounts with retail suppliers in July 2023 and by August 2024, there were 333 MMA accounts.

[22] The DC Code (§ 42–3301) defines MMA buildings as "any building or part thereof, not used primarily for transient occupancy, in which there are three or more apartments, each with one or more habitable rooms with kitchen and bathroom facilities exclusively for use of and under the control of the occupant thereof."

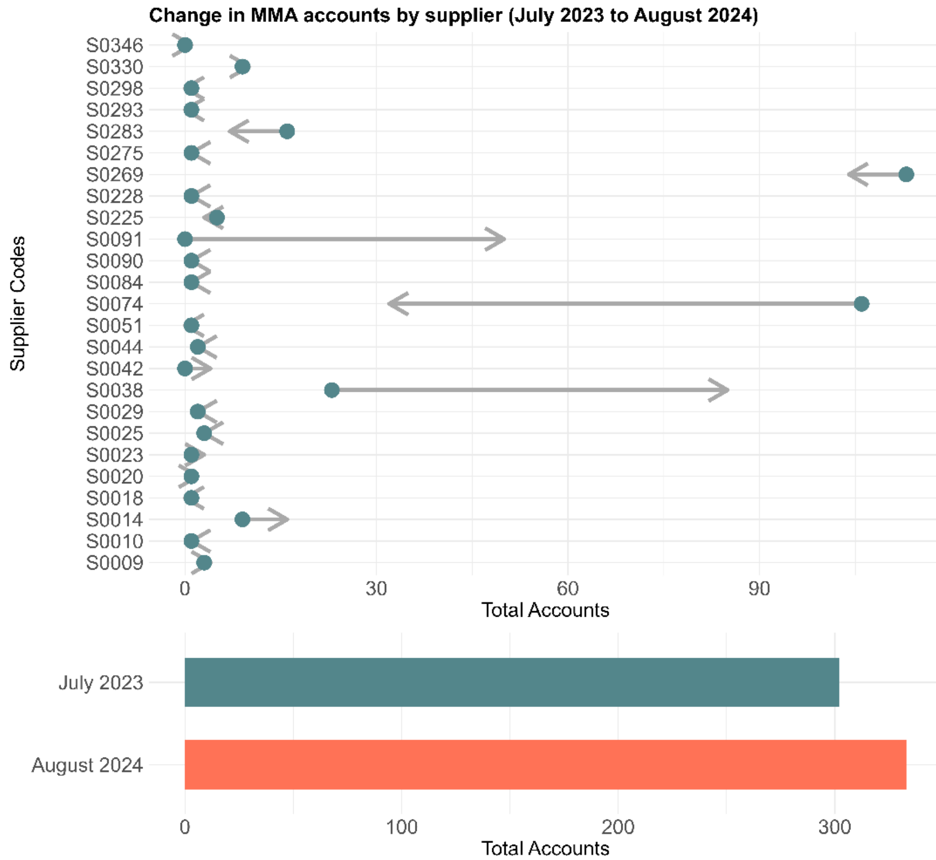

Figure 2. Change in MMA retail accounts (July 2023 - Aug. 2024)

The total number of master-metered apartment (MMA) buildings that are customers of retail suppliers is limited compared to other residential customers. However, each MMA account represents a residential building with at least three units. Arrows show the change in the number of customer accounts from the starting point of July 2023 (turquoise dots) to the ending point of Auguster 2024. At the base of the figure, bars show the total number of MMA accounts in July 2023 and August 2024.

2.2 Variation in charges by retail suppliers

In **Figure 3**, we present average supply prices per kilowatt-hour (kWh) among customers in different groups during the period. Customers of Pepco's SOS and customers in MMA buildings with retail suppliers appear to have paid nearly the same average supply price of about $0.10 per kWh.[23] Retail supply customers paid an average supply price of $0.17 per kWh, and UA customers, as a subgroup of all retail supply customers, paid an even higher average premium of $0.18 per kWh. UA customers are counted within the retail supply group, but we highlight this subgroup of retail customers because of additional price disparities between UA customers and retail customers generally.

[23] MMA supply charges are very simply estimated by dividing supplier-level supply charges by supplier-level consumption (kWh). Since we do not have access to more granular data than this, we recognize this estimate of what a building's tenants pay for supply is likely to differ in reality.

To put these figures in perspective, a UA customer consuming 700kWh in a month during the period would have paid an average of $73 for Pepco's SOS but would have paid an average of $126 for retail supply. That's an average monthly premium of $53 for retail supply among customers who received utility assistance from DOEE during the period, or an additional $636 per year.

Residential customers (unless they are part of DOEE's Utility Discount Program (UDP)) also paid an estimated $0.057 per kWh, on average, for distribution charges during the period.[24] Including these distribution charges, the UA customer consuming 700kWh in a month of Pepco's SOS supply during the period would pay $113, on average, and the UA customer consuming 700kWh of retail supply would pay $166, on average. Again, this is the average difference among all 40 suppliers in the market compared to Pepco's SOS, but there are some retail suppliers that charge competitive average prices compared to Pepco's SOS. We are unable to report the actual distribution of customer prices for each supplier, unfortunately, due to the supplier-level aggregation of the data. This means that we can report the average, but not the spread or deviation of the customer-level data from the average.

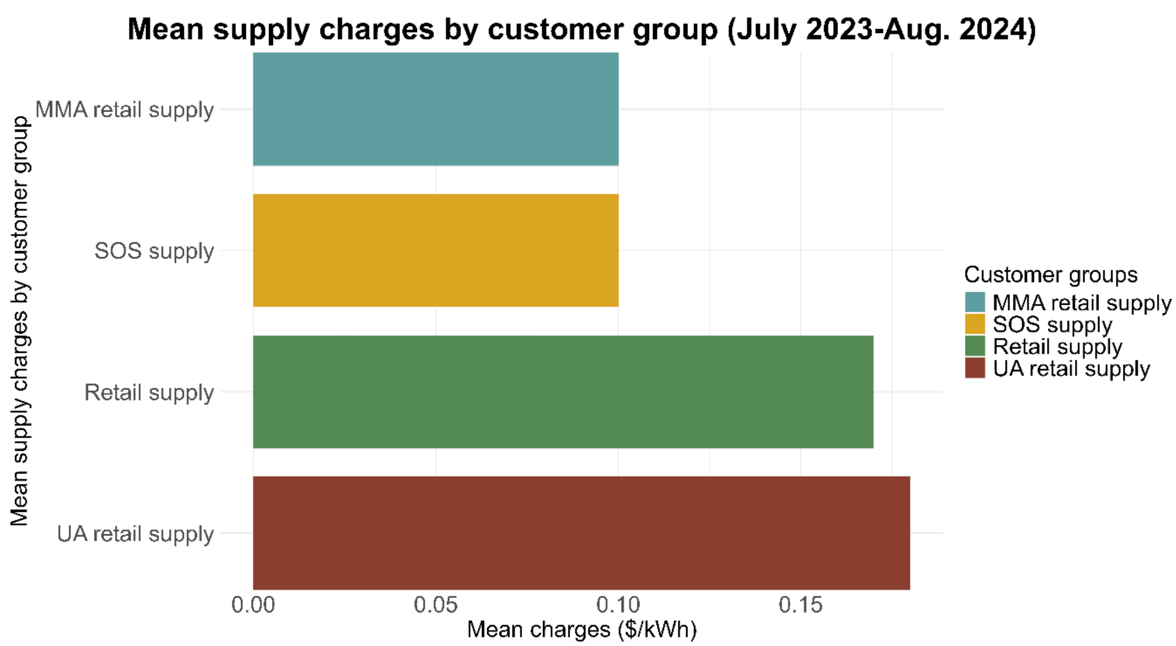

Figure 3. Mean supply charges by customer group (July 2023-Aug. 2024)

Different sub-groups of customers have different average supply charges. Average SOS supply charges were about $0.1043 per kWh during the period. The average estimated MMA price per kWh is also about $0.10. Customers who purchase electricity from retail suppliers paid an average of about seven cents higher per kWh, and UA customers paid an average of about eight cents higher than SOS customers during the period.

There was also considerable variation in the supply charges per kilowatt-hour among different retail suppliers. **Figure 4** presents average monthly supply charge distributions of all 40 retail suppliers

[24] Customers who are part of DOEE's Utility Discount Program and receive a Residential Aid Discount with Pepco are not charged for the distribution portion of their bill; these customers are also exempt from several surcharges. Estimated distribution charges are equivalent to about $40 per month for a customer consuming 700kWh of electricity.

providing service to residential customers (excluding MMA) during the period. Charges per kilowatt-hour of electricity ranged from one retail supplier's average of $0.0772 per kilowatt-hour in July 2023 to $0.2764 cents per kilowatt-hour in February 2024. This means that one retail supplier charged, on average, *four times* the amount of the retail supplier charging the lowest average amount during the period.

The overall average for supply charges was $0.1716 per kilowatt-hour. For comparison, we have included Pepco's Standard Offer Service (SOS) price to compare (PTC)[25] for the period, which is $0.1043 per kilowatt-hour, on average, for residential customers (Daugherty, 2024).[26] Therefore, the average supply charge per kilowatt-hour for the period was $0.0673 cents higher than Pepco's SOS, which is about a 70% supply price premium compared to SOS. This helps to explain why the estimated consumer net loss for the period was $17.85 million.

[25] According to Pepco's website, the price to compare is calculated using the total kilowatt-hour usage, multiplying the total usage by generation and transmission rates, and dividing this total by the total kilowatt-hour usage over a 12-month period. This produces the average price per kilowatt-hour or the price to compare. Supply generation rates vary by 1) rate class, 2) usage rates by household, 3) summer and winter months, and 4) rate redesigns approved by the Public Service Commission. Without specific billing information by household, it is not possible to calculate an accurate counterfactual charge that customers of retail suppliers would pay if they were, instead, customers of Pepco's SOS (Potomac Electric Power Company, 2025).

[26] MMA customers have a separate SOS price to compare, which is typically slightly lower than the standard residential rate class price to compare.

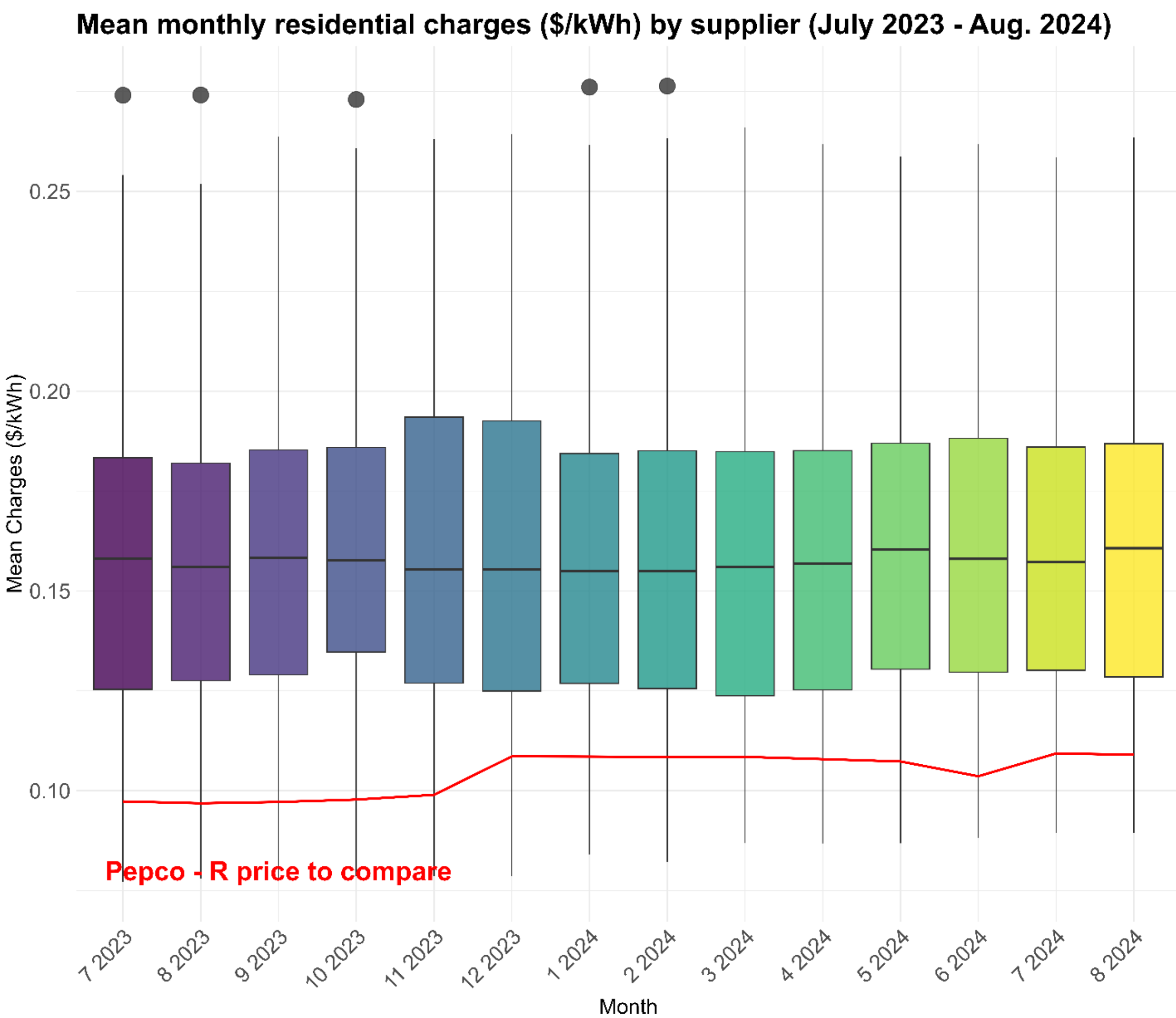

Figure 4. Mean residential charges per kilowatt-hour (July 2023 - Aug. 2024)

The box-and-whisker plot here represents monthly distributions of retail suppliers' average supply charges per kilowatt-hour of electricity consumed. The boxes and whiskers represent quartiles of the data. The box represents the interquartile range or the middle 50% of the distribution of retail suppliers' average charges. The whiskers represent the first and fourth quartiles of the distribution, and the dots indicate outliers. Outliers are any average charges that lie beyond 1.5 times the interquartile range on either end of the distribution. Median values are represented by the lines in the middle of the boxes. Pepco's Standard Offer Service (SOS) price to compare is included as a red line for comparison to the distributions of average prices charged by retail suppliers.

2.3 Variation in utility assistance (UA) customers and charges by retail supplier

Utility assistance (UA) customers accounted for 8% of *all* residential customers in DC but accounted for an average of 25.39% of *retail suppliers'* residential customers during the period. This proportion of UA customers remained fairly stable over the period, with the lowest average proportion of UA customers in June 2024 (22.55%) and the highest average proportion of UA customers in August 2023 (28.07%). However, the proportion of UA customers varied significantly among different retail suppliers in the market. See **Appendix I: Residential data** for a detailed list of the average number and proportion of UA customers per retail supplier during the period. The average of each retail suppliers' proportions of UA customers over the 14-month period was 17.88%. The range of UA customers by supplier varies considerably. Some retail suppliers had months in which they had zero UA customers and one retail supplier's UA customers accounted for 48.97% of its total customers that month.[27]

Using a back-of-the envelope calculation, we observe that several retail suppliers had much larger proportions of UA customers than we would expect if retail suppliers were attracting UA customers proportional to the total number of UA customers among all electricity customers in DC. There were 317,950 residential accounts in DC as of June 2024 (Potomac Electric Power Company, 2024). DOEE provides utility assistance to about 20,000 - 25,000 households annually. Using the high-bound estimate of 25,000, that means that about 8% of DC households are UA customers. Therefore, we can compare the observed count of actual UA customers per retail supplier to the expected count if UA customers composed 8% of each supplier's total customers. This helps us to understand the degree to which some retail suppliers provide service to a disproportionately high percentage of UA customers. We illustrate these differences between observed and expected (i.e., 8%) counts of UA customers in **Figure 5**.[28]

[27] Supplier S0328 had the highest proportion of UA customers (83.33%), but the supplier only had an average of three total customers throughout the period. This underscores the importance of grounding summary statistics in the underlying data.

[28] We also compared means of the observed and expected counts of UA customers by supplier using a paired t-test. The t-test produced a t-statistic of 2.6 and a p-value of 0.014, which is significant at the 5% level. This confirms that average UA customer counts among suppliers are significantly different than what we would expect if UA customers were attracted to suppliers in similar proportions reflected in the total population in DC.

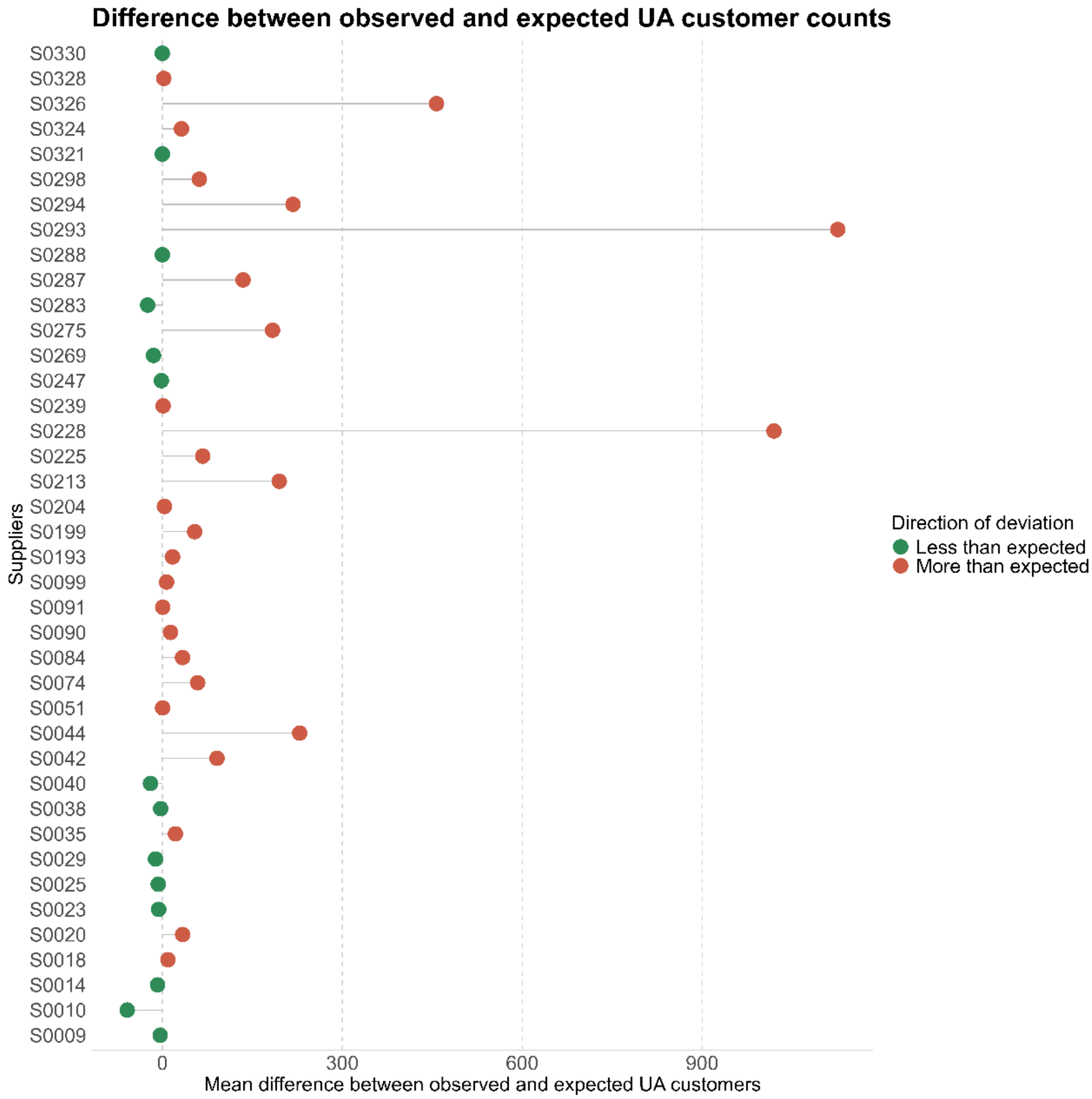

Figure 5. Mean difference between observed and expected UA customers by supplier

Here we estimate the difference between observed and expected counts of UA customers per supplier using a population-level estimate of total UA customers in the DC population (~25,000 UA customers of 317,950 (Pepco, 2024) total customers in DC). Observed counts are the mean monthly numbers of UA customers per supplier. The expected count of the equivalent of 8% of each supplier's accounts is represented as zero on the x-axis here, and the number of UA accounts below or above this expected amount is represented by the dot's location along the x-axis. These are the mean monthly numbers of UA customers we might expect each retail supplier to have if suppliers attracted UA customers to their services proportional to the total number of UA customers in DC's population.

As shown in **Figure 6**, UA customers of retail suppliers paid more for supply, on average, throughout the period. Compared to average supply charges among all residential customers in **Figure 4**, UA customers pay an even greater premium for retail supply than other residential customers.[29] The average price premium for UA customers was 80% greater per kWh of supply compared to Pepco's SOS PTC (i.e. an

[29] Figure 4 includes all residential customers with retail suppliers, including UA customers. Figure 6 includes only UA customers with retail suppliers.

average retail supply price of $0.18/kWh compared to about $0.10/kWh for Pepco's SOS). The lowest average supply charge for UA customers was $0.10 cents per kilowatt-hour, and the highest average supply charge was $0.28 per kWh. These low and high average charges across retail suppliers equate to a –4.2% difference and a 94.7% difference[30] compared to Pepco's SOS price of $0.1043 per kWh during this period.

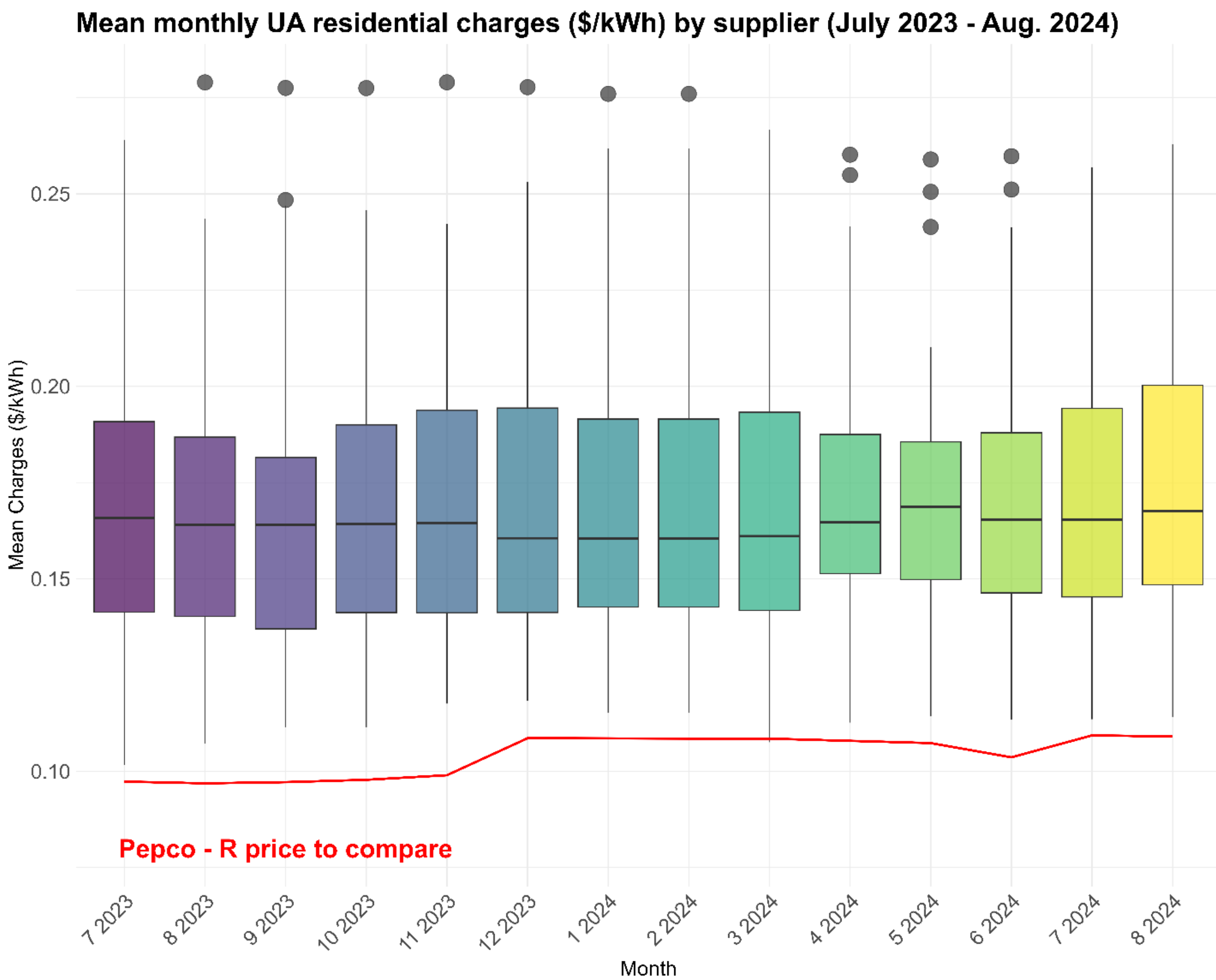

Figure 6. Mean charges per kilowatt-hour for utility assistance customers (July 2023 - Aug. 2024)

Shown here are the average monthly supply charges per kilowatt-hour by retail suppliers in the residential market. Box-and-whisker plots illustrate the distribution of values with the median represented as the line in the middle of the box and outliers represented as dots beyond either end of the distribution. Outliers are calculated as 1.5 times the interquartile range. Pepco's residential SOS price to compare is shown in red for comparison. All retail suppliers charged UA customers more, on average, than Pepco for all months during the period.

[30] Note that percentage differences are calculated differently from percentage increases cited above.

Figure 7 and **Figure 8** below show average monthly consumption and charges among customers of each supplier and during each month. **Figure 7** includes UA retail customers only and **Figure 8** includes all retail customers. Each dot in these figures represents the intersection of the average supply charge and average consumption among customers of one supplier in one month. We have set these plots to the same x-axis and y-axis limits for direct comparison; however, some dots representing higher consumption are excluded in **Figure 8** due to uniform axis limits and some high-consumption observations among the full distribution of retail suppliers. An unlimited plot of all suppliers and months of data has been included in **Appendix III: Mean monthly consumption and charges**.

Not all suppliers had residential customers in DC every month of the period, and not all suppliers that *did* have residential customers also had UA customers for those months. Therefore, there are more dots representing average consumption and charges by supplier and month in **Figure 8** than in **Figure 7.**

Average consumption among UA and all residential customers was comparable except for a limited number of high-consumption supplier-months among all retail customers. Average consumption per month mostly fell within the range of about 400 to 1,000 kWh for all residential customers *and* UA customers specifically, as shown in **Figure 8** and **Figure 7**. However, average supply prices among UA customers were higher at baseline compared to all residential customers. In **Figure 8**, we observe several average supply prices below $0.10 per kWh, whereas we do not observe any supply prices below $0.10 per kWh among UA customers in **Figure 7**. There were very few average supply prices among UA customers that fell below Pepco's price to compare.

Overall, average supply prices varied considerably among different suppliers. However, this variation had a higher average baseline for UA customers compared to all residential customers, and fewer UA customers paid supply prices below the price to compare, on average. Suppliers that had customers with high average consumption during certain months also appear to have had relatively low supply prices; average prices among suppliers with customers that had high average consumption (e.g., above 2,000 kWh) were below $0.15 per kWh.

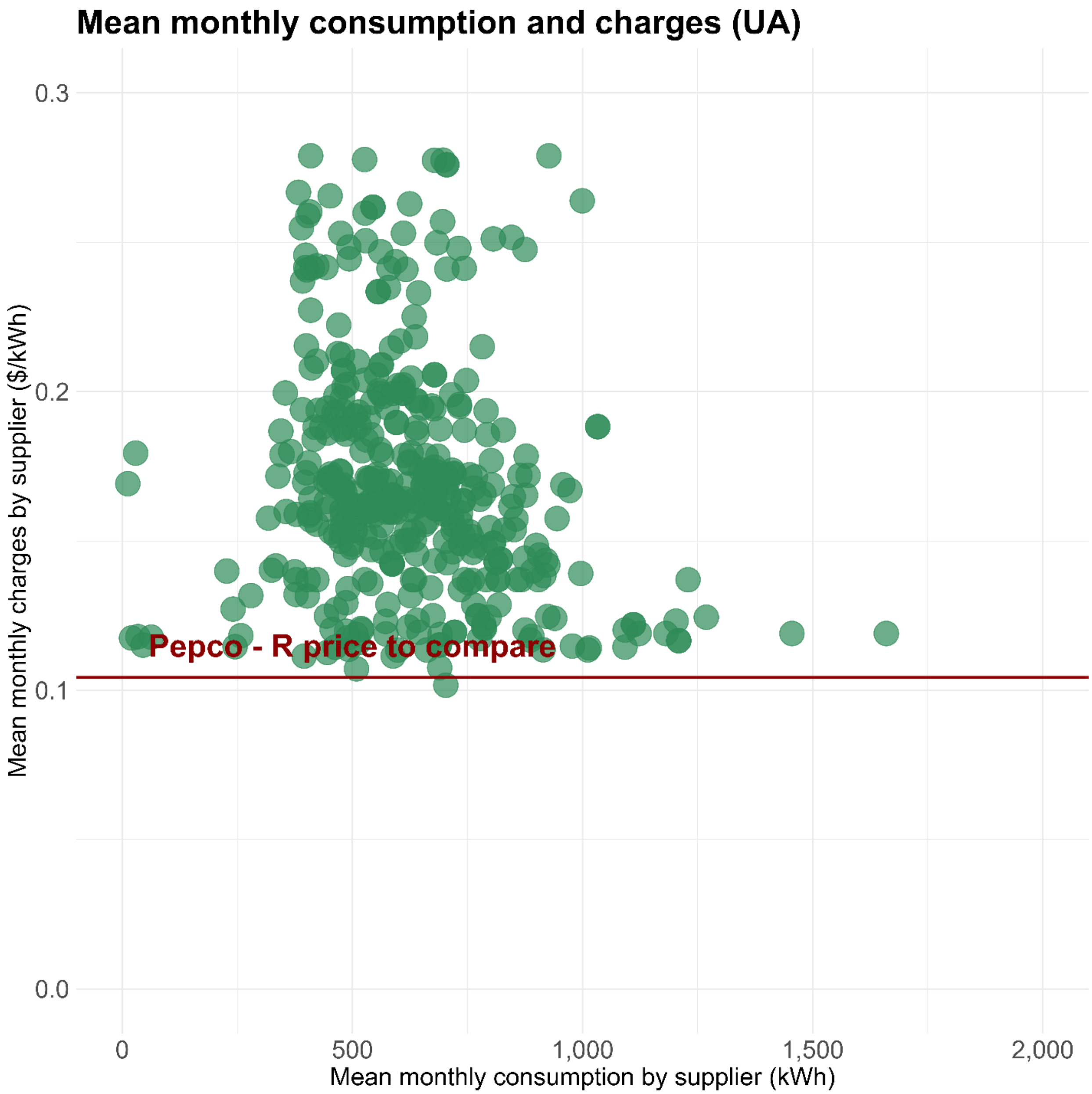

Figure 7. Mean monthly electricity usage and supply charges among UA customers (July 2023 – Aug. 2024)

Each dot in the figure represents the intersection of mean monthly consumption and mean supply charges for each supplier and month from July 2023 to August 2024. Very few suppliers charged UA customers less than Pepco's price to compare (shown as a red, horizontal line) during the period.

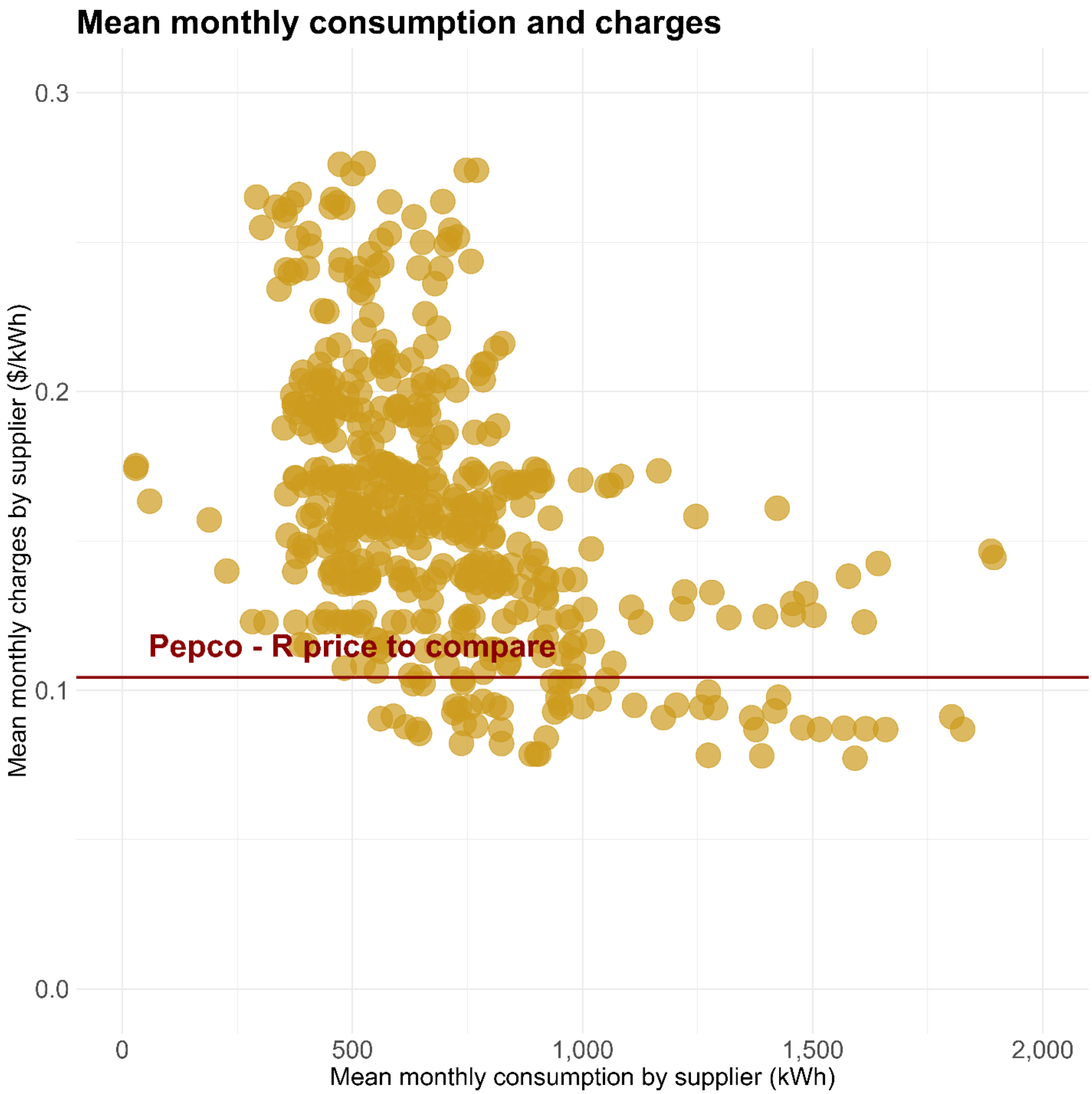

Figure 8. Mean monthly consumption and supply charges among residential customers (July 2023 – Aug. 2024)

Each dot in the figure represents the intersection of mean monthly consumption and mean supply charges for each supplier and month from July 2023 to August 2024. Very few suppliers charged retail customers less than Pepco's price to compare (shown as a red, horizontal line) during the period.

Figure 9 further illustrates the comparison between UA customers and all residential customers. Here we show the percentage of UA customers as a proportion of each supplier's customers each month of the period along the x-axis and average supply prices along the y-axis. Again, not all suppliers provided service to UA customers every month, or at all, during the period; suppliers without UA customers have been excluded from **Figure 9**. We observe in the figure that there was a positive trend of supply prices among suppliers with greater proportions of UA customers. There are a few outliers at the bottom right of the figure, but average supply prices for these suppliers during these few months were still higher than Pepco's price to compare. Overall, as the proportion of UA customers increases, the average supply price also increases. Why this correlative trend exists is not completely clear from the data available.

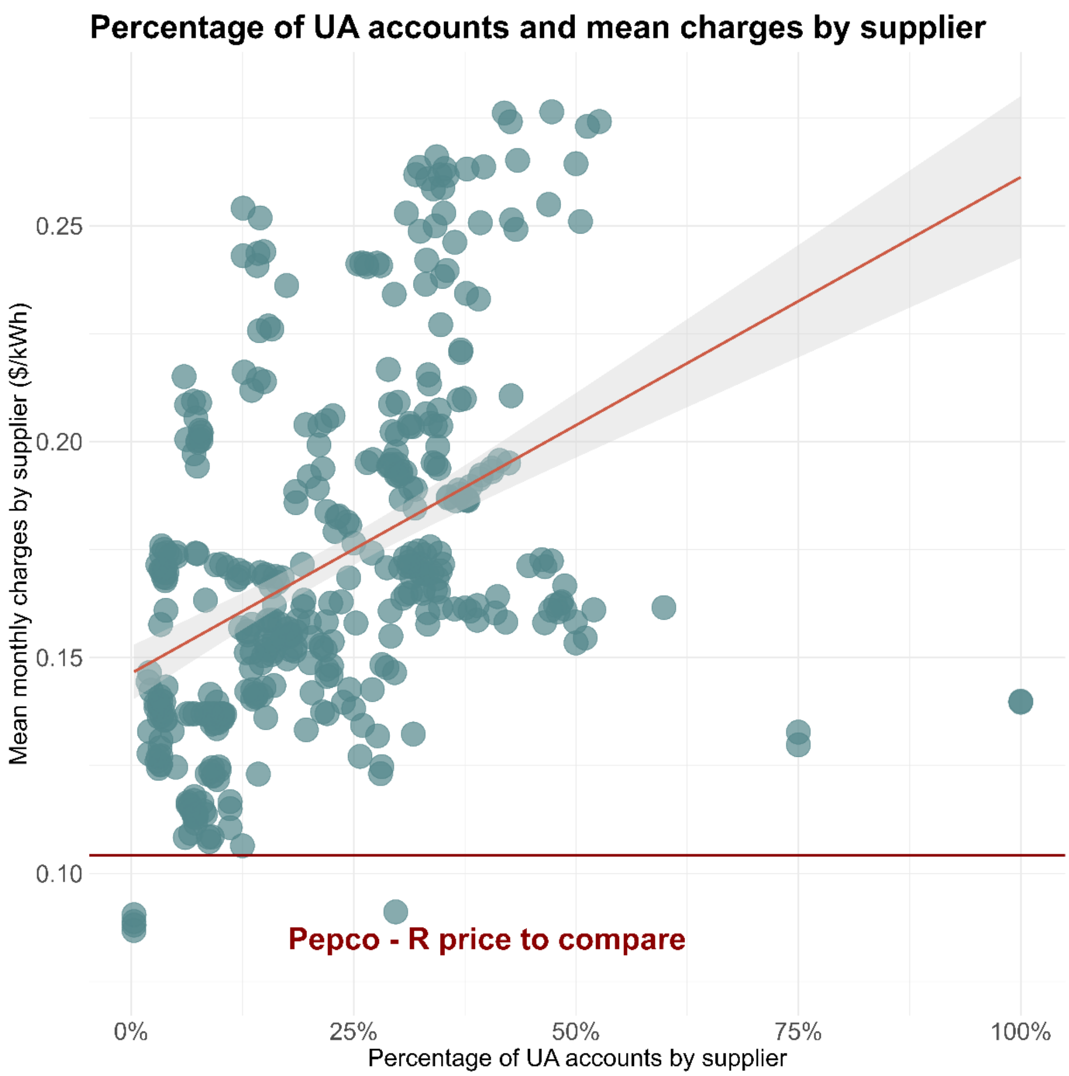

Figure 9. Percentage of UA customers by supplier and supply charges (July 2023 – Aug. 2024)

The shaded area surrounding the linear trend line represents confidence intervals for the true mean of the data. The intervals widen as data points become sparse and separated.

2.4 Residential arrears

Pepco classifies customers as having arrears when customers accrue past-due balances. Residential customers in arrears may continue to accrue more debt even as they continue to make sufficient payments to keep their accounts active. For some customers, these debts can continue to balloon unsustainably without the intervention of utility assistance or debt relief.

DOEE and Pepco offer several utility assistance programs to customers, and Pepco offers arrears management plans to help customers manage debt. Overall, average monthly arrears for Pepco's residential customers were $404 for the period. Strikingly, average monthly arrears for retail supply customers were $760, which is a difference of $356 per month or nearly double the average for SOS customers.[31] There was also a substantial difference in the prevalence of arrears between Pepco customers and retail supply customers. As of August 2024, 25% of Pepco customers were in arrears while 55% of retail supply customers were in arrears – over double the proportion of SOS customers in debt.

Table 1, **Table 2**, and **Table 3** present the total number of customers by group, total number of customers by group in arrears, and the percentage of customers by group in arrears. **Table 1** shows that that the total number of Pepco's SOS customers in arrears ranged from 62,780 to 79,576 throughout the period. Pepco's SOS customers in arrears accounted for between 22-29% of all SOS customers during the period. In other words, about one in four SOS customers were in arrears.

Year	Month	Total SOS customers	SOS customers with arrears	Percentage of SOS customers in arrears
2023	7	279,401	65,537	23%
2023	8	277,110	79,576	29%
2023	9	283,264	64,278	23%
2023	10	280,590	78,273	28%
2023	11	286,428	65,733	23%
2023	12	284,591	69,865	25%
2024	1	284,789	66,747	23%
2024	2	284,842	69,208	24%
2024	3	286,558	69,558	24%
2024	4	284,705	73,309	26%
2024	5	286,822	68,108	24%
2024	6	290,059	62,780	22%
2024	7	286,016	76,776	27%
2024	8	288,837	72,989	25%

Table 1. Pepco's residential SOS accounts in arrears (July 2023 - Aug. 2024)

[31] MMA customers' average monthly arrears during the period were $5,055. MMA arrears were much higher than average monthly arrears for Pepco's SOS customers and retail supply customers because MMA customers are aggregations of units within master-metered apartment buildings.

In **Table 2** below are the monthly totals of retail supply customers, retail supply customers in arrears, and the percentage of retail customers in arrears. Retail customers in arrears ranged from 13,637 to 22,305 during the period. The percentage of retail customers in arrears ranged from 46-62% each month. In most months, this is about double or even more than double the percentage of Pepco's SOS customers who were in arrears.

Year	Month	Retail customers	Retail customers in arrears	Percentage of retail customers in arrears
2023	7	33,119	16,146	49%
2023	8	36,072	22,305	62%
2023	9	30,365	14,042	46%
2023	10	33,745	20,016	59%
2023	11	28,671	15,370	54%
2023	12	30,964	17,006	55%
2024	1	31,594	16,990	54%
2024	2	31,970	17,183	54%
2024	3	30,833	17,060	55%
2024	4	32,940	18,459	56%
2024	5	31,168	16,901	54%
2024	6	27,891	13,637	49%
2024	7	32,823	18,517	56%
2024	8	30,294	16,647	55%

Table 2. Residential retail supply accounts in arrears (July 2023 - Aug. 2024)

Table 3 below provides totals for MMA customers, MMA customers in arrears, and the percentage of MMA customers in arrears each month during the period. The total counts were much lower for MMA customers because each customer is an apartment building with tenants who pay their portions of the building's total electric bill to the property manager or owner each month. This is also the reason that average arrears, though not total arrears, were higher than average monthly arrears among customers of Pepco's SOS and retail suppliers. MMA customers in arrears ranged from 86 to 265 during the period. The percentage of MMA customers in arrears was fairly high throughout the period and ranged from 30-91%.

Year	Month	MMA customers	MMA customers in arrears	Percentage of MMA customers in arrears
2023	7	302	147	49%
2023	8	400	195	49%
2023	9	283	86	30%
2023	10	496	187	38%
2023	11	303	126	42%
2023	12	372	148	40%
2024	1	396	139	35%
2024	2	379	153	40%
2024	3	397	121	30%
2024	4	554	183	33%
2024	5	435	190	44%
2024	6	290	265	91%
2024	7	448	203	45%
2024	8	333	201	60%

Table 3. Residential MMA accounts in arrears (July 2023 - Aug. 2024)

Average monthly arrears among Pepco's SOS customers and retail supply customers followed similar patterns during the period, as observed in **Figure 10**. There appears to be a seasonal trend in the arrears data similar to consumption, in which arrears increased during summer months when electricity consumption peaks. There may also be a visible impact from the Low-income Home Energy Assistance Program (LIHEAP) and the Utility Discount Program (UDP). LIHEAP[32] typically begins providing assistance at the start of each fiscal year in October and continues to provide assistance throughout the year or until federal and local funds for the year have been exhausted. UDP[33] provides discounts on customers' electric bills every month by removing distribution charges and exempting customers from several surcharges.

On average, SOS customers owed about half of what retail supply customers owed in arrears each month. SOS customers owed an average of $404 in monthly arrears while retail supply customers owed an average of $760 in monthly arrears during the period. Retail suppliers charged significantly more than Pepco, on average, which could account for part of the difference. Average monthly arrears among MMA customers were much higher than average arrears among Pepco's SOS customers and retail

[32] LIHEAP is administered by DOEE. It provides two types of assistance – monthly credits on electric bills and one-time emergency assistance to keep utility accounts active. LIHEAP can be applied to any utilities with which residents require assistance.

[33] DOEE qualifies residents for UDP based on household size and income. Pepco applies UDP discounts to qualified beneficiaries. Pepco refers to UDP as the Residential Aid Discount (RAD) on customers' bills. UDP can provide discounts on electric, gas, or water and sewer bills as required.

supply customers because the arrears are for entire apartment buildings; therefore, average arrears for MMA customers have been excluded from **Figure 10**.

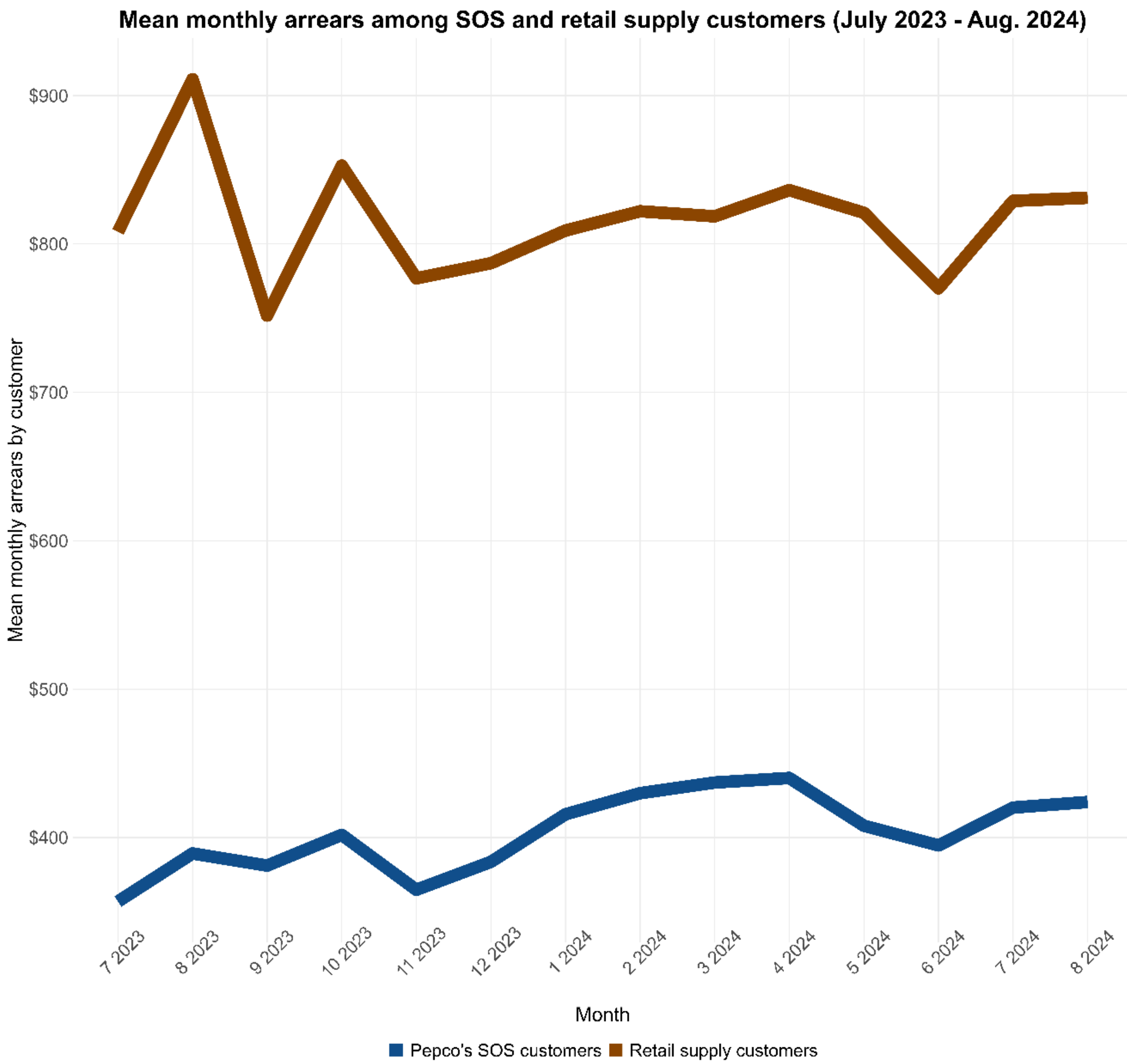

Figure 10. Mean monthly arrears among Pepco's SOS and retail supply customers (July 2023 - Aug. 2024)

Total monthly arrears (**Figure 11**) follow the trends observed in *average* monthly arrears. One difference is that Pepco's SOS total arrears trend line during the period follows retail supply total arrears much more closely than with Pepco's SOS average arrears in **Figure 10**. Pepco's SOS total monthly arrears ranged from $23.4 million to $32.3 million throughout the period. Monthly totals for retail supply customers ranged from $10.6 million to $20.5 million. We have included MMA total monthly arrears here to capture all residential arrears in the market, though MMA totals are a very small portion of all arrears. MMA totals ranged from $376,409 to $862,695 during the period.

Figure 11 is striking because retail suppliers only served about 10% of the residential market during the period, and yet, total arrears among these suppliers only trails Pepco's SOS arrears by about $10 million during the period. Given that Pepco maintained about 90% of market share during the period and retail suppliers maintained about 10% of market share, we might expect total arrears among retail suppliers to average about $3.6 million instead of $15 million, if arrears were proportional to overall market share. Instead, we observe much higher rates and amounts of arrears among customers of retail suppliers compared to SOS customers.[34]

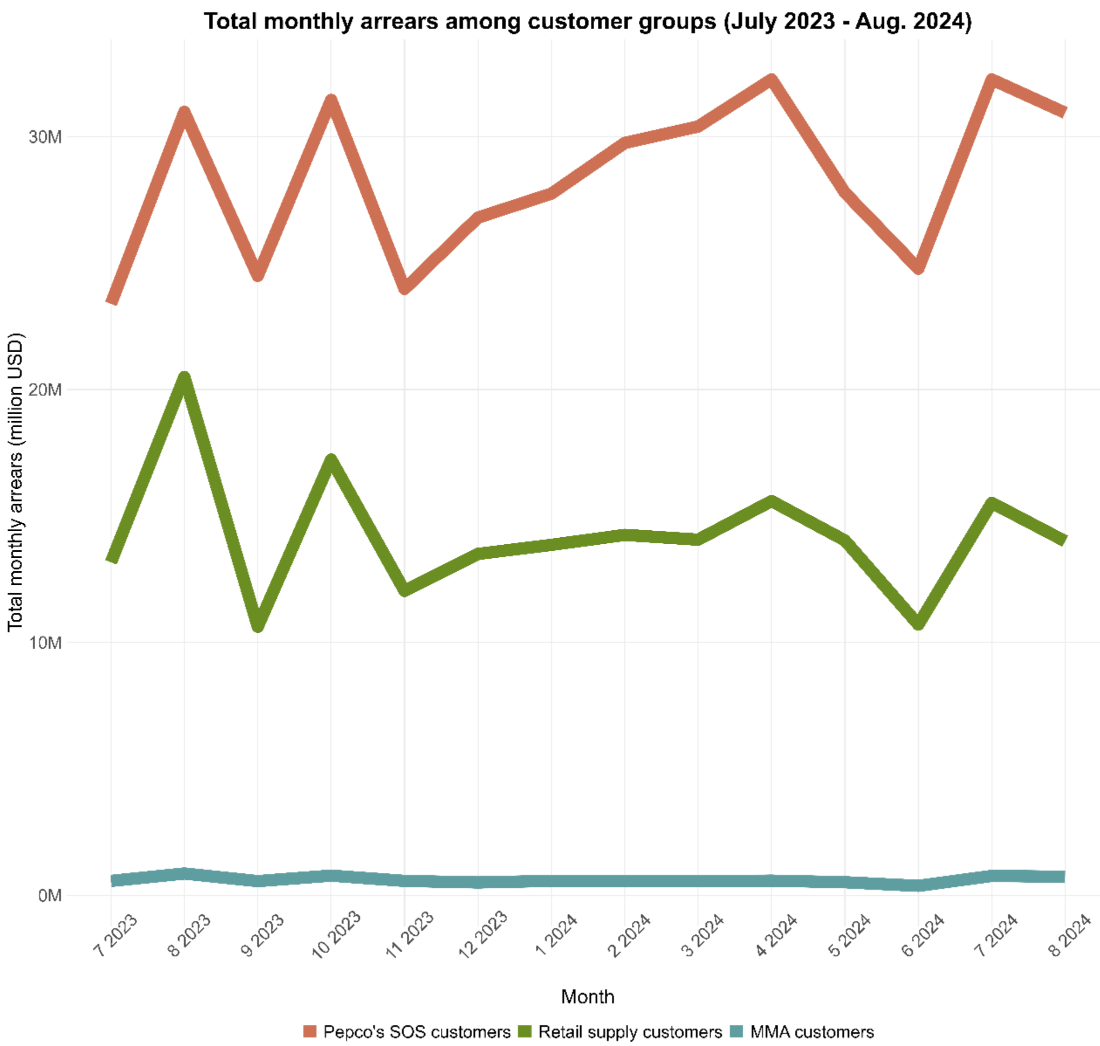

Figure 11. Total monthly arrears among different customer groups (July 2023 - Aug. 2024)

[34] If we set the highest monthly SOS arrears of $32.3 million during the period over 90% and cross multiply with $*x* million over 10% to solve for *x*, we might expect that arrears proportional to market share should be closer to $3.6 million for retail suppliers.

From the aggregated data used in this analysis, we can only observe the overall average monthly arrears among all of Pepco's SOS customers, which was $404 during the period. Within the overall average for retail supply customers, which was $760, we can observe the difference in averages across suppliers, as shown in **Figure 12**. The median average arrears by supplier remained between $750 and $1,000 throughout the period. There appears to be a greater range of average arrears among suppliers during summer months compared to the rest of the year. There are some extreme outliers in **Figure 12**. Average arrears above $3,000 represent suppliers with only a handful of customers that had very high arrears. Overall, average arrears among all retail suppliers were quite high, with at least 50% of all monthly distributions of suppliers exhibiting average arrears above $500.

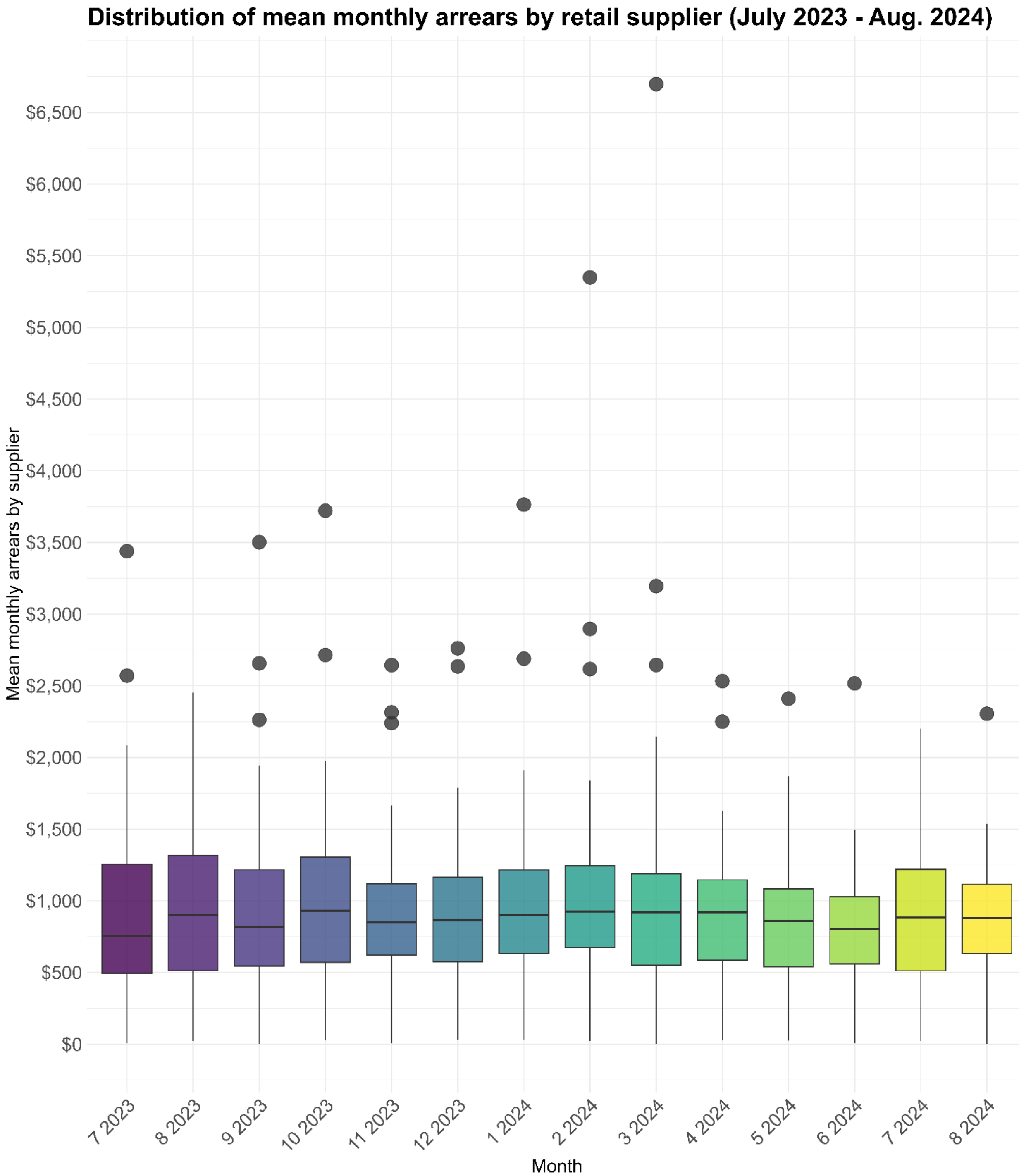

Figure 12. Distribution of average monthly arrears by supplier (July 2023 - Aug. 2024)

The box-and-whisker plot here represents monthly distributions of retail suppliers' average monthly arrears among customers. The boxes and whiskers represent quartiles of the data. The box represents the interquartile range or the middle half of the distribution of retail suppliers' average arrears. The whiskers represent the first and fourth quartiles of the distribution, and the dots indicate outliers. Outliers are any average arrears that lie beyond 1.5 times the interquartile range on either end of the distribution. Median values are represented by the lines in the middle of the boxes.

2.5 Residential disconnections

Pepco was able to provide disconnections data for two groups of customers: 1) customers whose debts were purchased by Pepco through the “Purchase of Receivables” (POR) program and 2) UA customers. The Purchase of Receivables program requires Pepco to purchase suppliers’ receivables, which can be at a fixed discount rate. This means that when customers of retail suppliers accrue unpaid debts, retail suppliers are allowed to sell these debts and transfer the balances to Pepco, which then assumes responsibility for collecting on unpaid debts. The debts that Pepco purchases are referred to as “receivables.” The discount rate and other rules governing the POR program are regulated by the Public Service Commission. The discount rate is updated periodically to reflect market trends (Public Service Commission, 2024).

In **Table 4**, we observe that between 3,226 and 6,414 POR customers[35] received disconnection notices each month throughout the period.[36] Of these notices, between 58 and 862 customers actually experienced disconnections each month. Pepco must deliver disconnection notices to customers at least 15 days prior to planned disconnections. The number of residential POR disconnection notices remained fairly stable over the period with an average of 4,151 disconnection notices per month and a median of 3,888 disconnection notices per month. Typically, a small percentage of POR customers who were put on notice were ultimately disconnected, ranging from only 2% in March 2024 to a high of 19% in August 2023; the average monthly disconnection percentage was 7% for POR customers. Monthly POR disconnections averaged 302 with a median of 251. The percentage of customers disconnected was highest in August of 2023 and 2024 and lowest in December 2023 and March 2024.

Year	Month	Total POR disconnection notices	Total POR disconnections	Percentage POR disconnections from notices
2023	7	4,862	431	9%
2023	8	3,830	734	19%
2023	9	4,197	302	7%
2023	10	3,903	344	9%
2023	11	3,873	122	3%
2023	12	3,705	58	2%
2024	1	4,960	246	5%
2024	2	3,226	180	6%
2024	3	4,108	81	2%
2024	4	4,165	146	4%
2024	5	3,675	208	6%
2024	6	3,385	256	8%
2024	7	3,812	257	7%
2024	8	6,414	862	13%

[35] POR customers are those whose debts to retail suppliers were sold at a discounted rate to Pepco.
[36] There were no moratoriums on disconnections during the study period, but there have been moratoriums on disconnections historically during periods of extreme hot, extreme cold, and during the Covid-19 pandemic. Moratoriums are passed into law by the DC Council and are regulated by the Public Service Commission.

Table 4. Purchase of Receivables (POR) disconnection notices and disconnections (July 2023 – August 2024)

Shown above are the total number of disconnection notices, disconnections, and percentage of disconnections among POR customers (those customers in arrears with retail suppliers).

Table 5 shows disconnection data among customers receiving Pepco's Residential Aid Discount (RAD), which is synonymous with DOEE's Utility Discount Program for electricity, and a subset of POR customers receiving RAD. The total number of RAD customers during the period ranged from 20,036 in June 2024 to 23,848 in October 2023. The total number of RAD and POR customers during the period ranged from 7,357 in September 2023 to 9,309 in April 2024. Disconnections among RAD and POR customers were low during the period, averaging 92 monthly disconnections and ranging from 0-2% of all RAD and POR customers.

Year	Month	Total RAD Residential Customers	Total RAD POR customers	Total RAD POR disconnections	Percentage RAD POR disconnections
2023	7	21,903	7,633	127	2%
2023	8	22,511 22,511	8,317	195	2%
2023	9	23,137	7,357	85	1%
2023	10	23,848	8,388	114	1%
2023	11	22,126	7,792	32	0%
2023	12	20,191	8,477	134	2%
2024	1	20,063	8,449	68	1%
2024	2	21,226	8,843	39	0%
2024	3	21,678	8,992	26	0%
2024	4	22,606	9,309	47	1%
2024	5	22,488	9,226	53	1%
2024	6	20,036	8,280	75	1%
2024	7	22,281	9,078	76	1%
2024	8	22,035	8,969	217	2%

Table 5. Residential Aid Discount (RAD) and Purchase of Receivables (POR) customers with disconnections (July 2023 – August 2024)

Shown above are the total number of RAD customers, RAD POR customers, RAD POR customers disconnected, and the percentage of RAD POR customers disconnected each month. RAD is synonymous with DOEE's Utility Discount Program for electricity.

We present in **Table 6** that UA disconnection notices averaged 2,856 with a median of 2,662 during the period. Monthly notices ranged from 2,231 to 5,337. Monthly disconnections averaged 187 with a median of 150. Disconnections ranged from 50 to 488 throughout the period. Disconnections as a percentage of notices ranged from 2% in November 2023 and March 2024 to 19% in August 2023; the average monthly percentage of disconnections among UA customers who received notices was 7% during the period. Again, we observe that disconnections are highest in summer months and lowest in winter months.

Year	Month	Total UA disconnection notices	Total UA disconnections	Percentage UA disconnections compared to notices
2023	7	2,655	208	8%
2023	8	2,519	488	19%
2023	9	2,425	155	6%
2023	10	2,852	222	8%
2023	11	2,231	50	2%
2023	12	2,360	245	10%
2024	1	3,393	133	4%
2024	2	2,284	105	5%
2024	3	3,322	50	2%
2024	4	2,919	92	3%
2024	5	2,668	137	5%
2024	6	2,234	164	7%
2024	7	2,778	144	5%
2024	8	5,337	418	8%

Table 6. UA disconnection notices and disconnections

The total number of UA customers varies over time. It depends on when customers actively receive utility assistance from DOEE or Pepco. For a reference point, DOEE generally provides assistance to about 20,000-25,000 customers in DC annually. This means that about 10-20% of UA customers per month may receive disconnection notices. However, typically fewer than 10% of these notices appear to lead to disconnections.

3 Commercial market trends

When comparing average supply prices between customers of retail suppliers and Pepco's SOS, commercial customers appear to benefit more from the retail electricity market. Commercial customers experienced a net consumer gain of $193.5 million, which, for reference, corresponds to about 45% of total commercial supply charges during the period.[37] Commercial buyers, especially larger entities, often have more bargaining power, economies of scale, and specialized knowledge that may enable them to take advantage of the competitive supply market. Bargaining power to negotiate lower rates for set contract periods may incentivize a larger proportion of commercial customers – compared to residential customers – to participate in the retail electricity market. As a result, more commercial customers participate in the retail supply market than residential customers.

The following sections detail trends among commercial suppliers, including customer accounts and market share, supply charges, consumption, and arrears. For more information on broader electricity consumption trends in the commercial market, please refer to **Appendix IV: Residential and commercial consumption**.

3.1 Customer accounts and market share

There was not much change in the total number of commercial accounts during the study period; there were 29,109 commercial accounts in July 2023 and 29,227 as of August 2024. Among those, 11,540 customers (i.e. about 39% of commercial customers) purchased electricity from retail suppliers as of August 2024. There were 50 retail suppliers providing service to commercial customers during the period (though not all 50 retail suppliers maintained commercial customers throughout the entire period).

The number of commercial retail suppliers with active accounts ranged from 45 to 49 suppliers with slight monthly fluctuations throughout the period. There were 40 retail suppliers providing service during the period for the residential retail supply market. There were 53 distinct retail suppliers providing service to residential and/or commercial customers during the period. Retail suppliers provided electricity for about 39% of commercial market consumption in DC during the 14-month period. Commercial consumption dramatically eclipses residential consumption in the market. At its summer peak in August 2023, total monthly residential consumption among retail customers was only about 11% of total retail commercial consumption in the same month. See **Table 7** below for more summary statistics on the commercial retail market.

[37] We estimated net consumer gain by adding all supply charges from retail suppliers and then adding all supply charges for Pepco's SOS during the period. We then divided Pepco's SOS total supply charges by total SOS consumption to produce the average SOS supply price during the period, which was $0.138/kWh. We then multiplied total retail supply consumption by $0.138 and subtracted this product from the actual retail supply charges for the period.

Commercial retail market summary statistics	Statistics by month and supplier
Mean number of accounts	242
Mean consumption	45.85 GWh
Mean supply charges	$0.095/kWh (compared to Pepco's SOS commercial mean supply charge of $0.138/kWh)
Mean number of accounts in arrears	41
Mean arrears	$463,630

Table 7. Summary of commercial retail market figures (July 2023 – August 2024)

The statistics above are aggregated means by month throughout the 14-month period and by supplier. For example, the first row reports the mean number of accounts for a supplier each month throughout the period.

As of August 2024, retail suppliers provided service to 32.29% of commercial customers and Pepco's SOS provided service to the remaining 67.71% of commercial customers. By comparison, retail suppliers provided service to only 10.09% of residential customers and Pepco's SOS provided service to the remaining 89.91% of residential customers. However, commercial customers with retail suppliers consumed about 83.15% of the total commercial electricity sold in August 2024, despite only making up 32.29% of all commercial customers. This suggests that commercial customers with greater electricity demand prefer to purchase from retail suppliers.

Figure 13 shows the change in each supplier's number of commercial accounts – or customers – during the period. Overall, there was a small increase in the number of total commercial accounts with retail suppliers from July 2023 to August 2024. One supplier (coded as S0038) had a substantial increase in its accounts during the period, but otherwise, most suppliers did not exhibit much change in accounts. There were 50 suppliers providing service to commercial customers for at least part of the period. Similar to the residential market, there were a handful of dominant suppliers with much larger numbers of accounts compared to the majority of suppliers. Two dominant commercial retail suppliers, S0269 and S0014, also had large numbers of residential accounts, but other dominant commercial retail suppliers did not have large numbers of residential accounts.

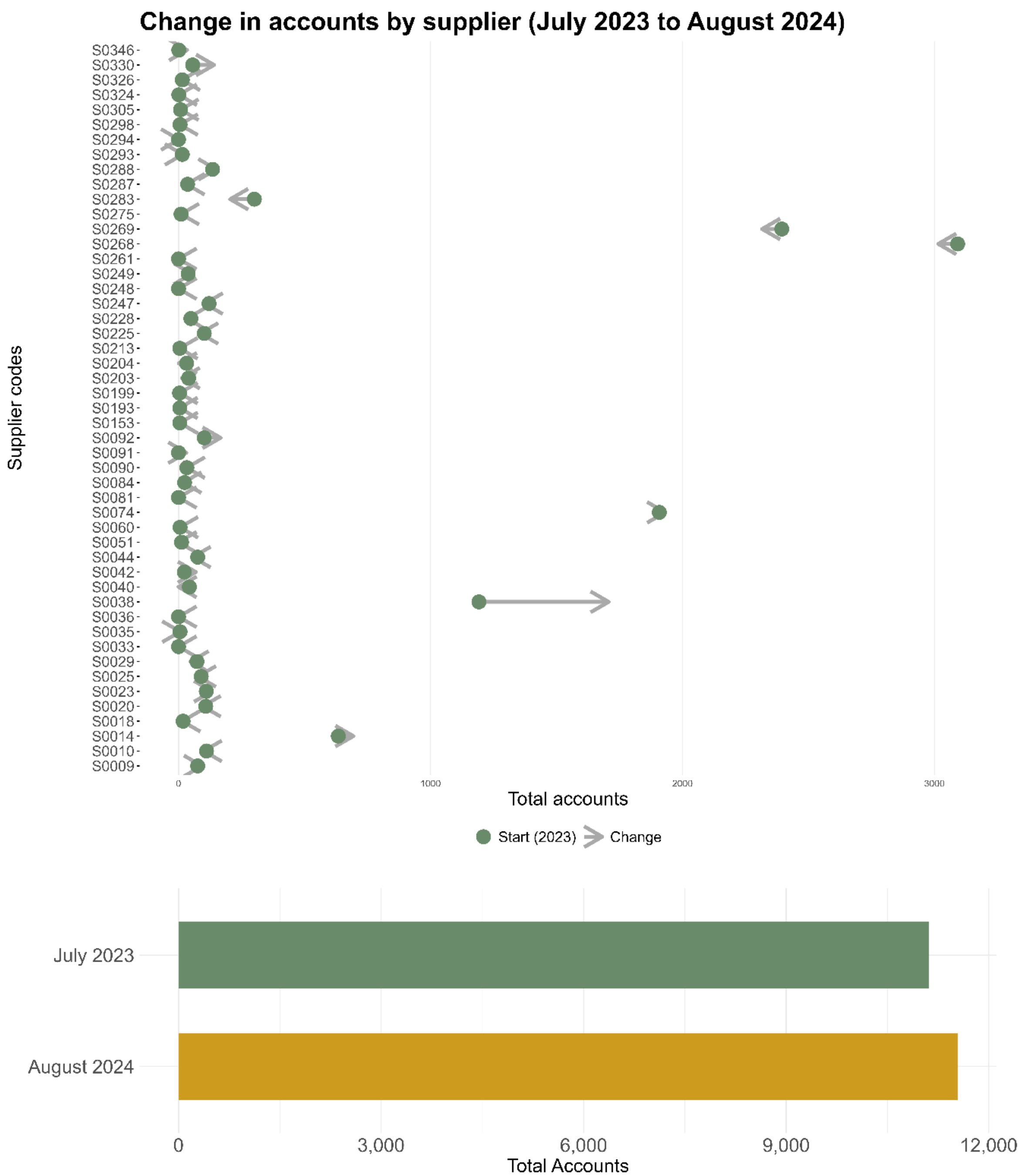

Figure 13. Change in commercial accounts by supplier (July 2023-August 2024)

Arrows in the plot above show the direction and number of accounts added or lost for each supplier from July 2023 to August 2024. Only one commercial supplier appears to have had a substantial shift in the number of accounts, with all other suppliers having very similar numbers of accounts in July 2023 as in August 2024.

The vast majority of commercial retail suppliers had low average numbers of customers and low average consumption per customer. However, as observed in **Figure 14** below, there were a handful of suppliers that are outliers. Specifically, one supplier has very few customers, on average, but has the highest average consumption among all suppliers. One supplier has higher average consumption and more accounts than most suppliers. Four suppliers have many more accounts than most suppliers but with relatively typical average consumption. The observations in **Figure 14** suggest that it may be difficult for most retail suppliers to break away from the cluster with low numbers of accounts that have relatively low consumption.

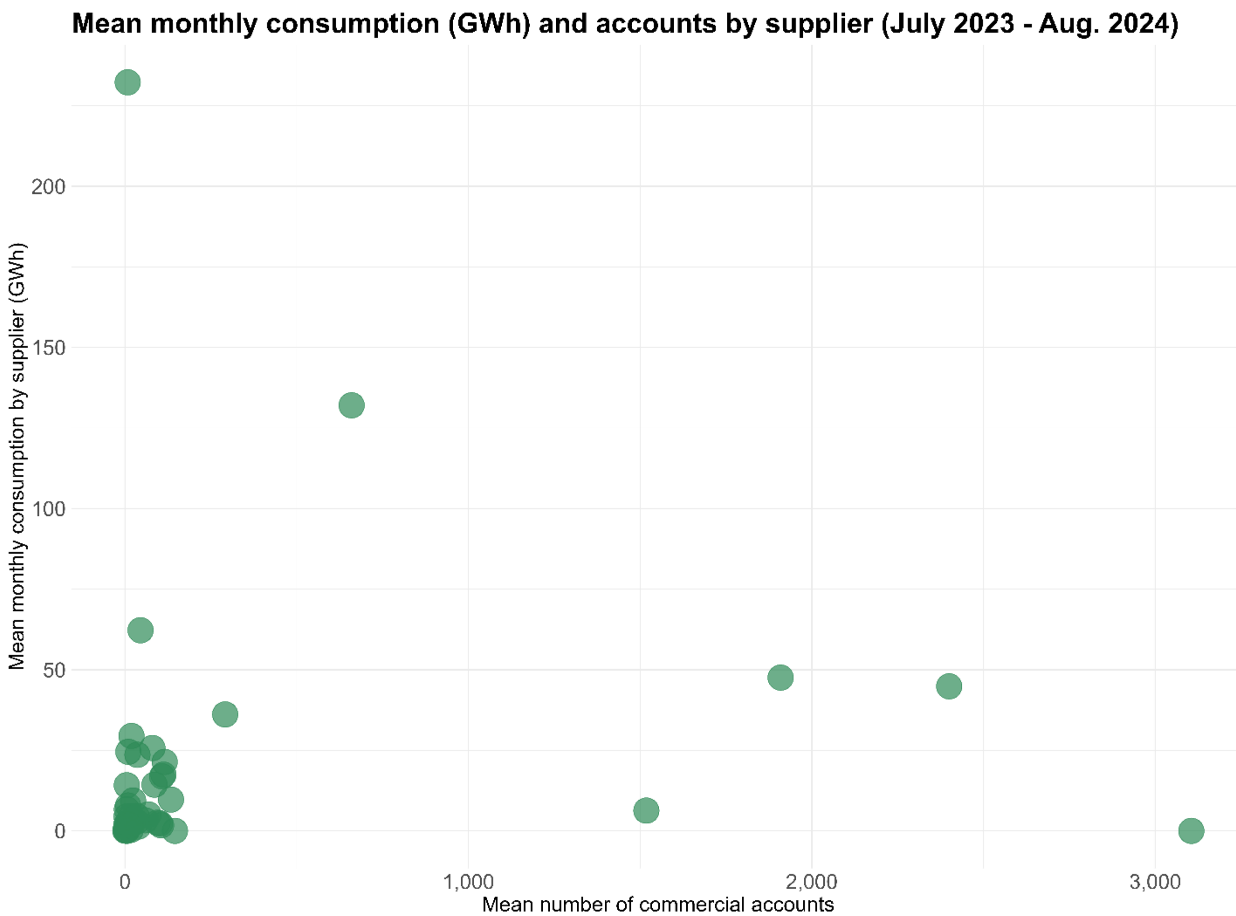

Figure 14. Mean monthly consumption (GWh) and accounts by supplier (July 2023 – Aug. 2024)

Each dot in the figure above represents the intersection of a supplier's mean monthly consumption in gigawatt-hours (GWh) and its mean number of accounts. There is only one observation per supplier for the period.

3.2 Variation in charges by retail suppliers

Figure 15 presents monthly distributions of average retail supply charges for commercial customers compared to the average charges that customers paid for Pepco's SOS (displayed as the red trend line). Except for June through August 2024, commercial customers paid more, on average, for Pepco's SOS compared to the median of average commercial retail supply charges. This is in stark contrast to the difference between average residential retail supply charges and Pepco's residential SOS, as shown in **Figure 4**. Almost all suppliers' average residential retail supply charges were higher than Pepco's SOS for the entire period.

Commercial supply charges exhibited a much greater range in price, though the outliers shown in the upper ranges between $0.30 and $1.24 were among suppliers with only one to four accounts that have extremely low consumption (between 5 and 139 kWh for the month), causing average supply charges to appear high. This could be because administrative charges have not been smoothed, or distributed, over higher monthly consumption as they are with other accounts. This is why the upper range of outliers has been compressed in **Figure 15** to maintain the focus on the majority of supply charge distributions across suppliers each month.

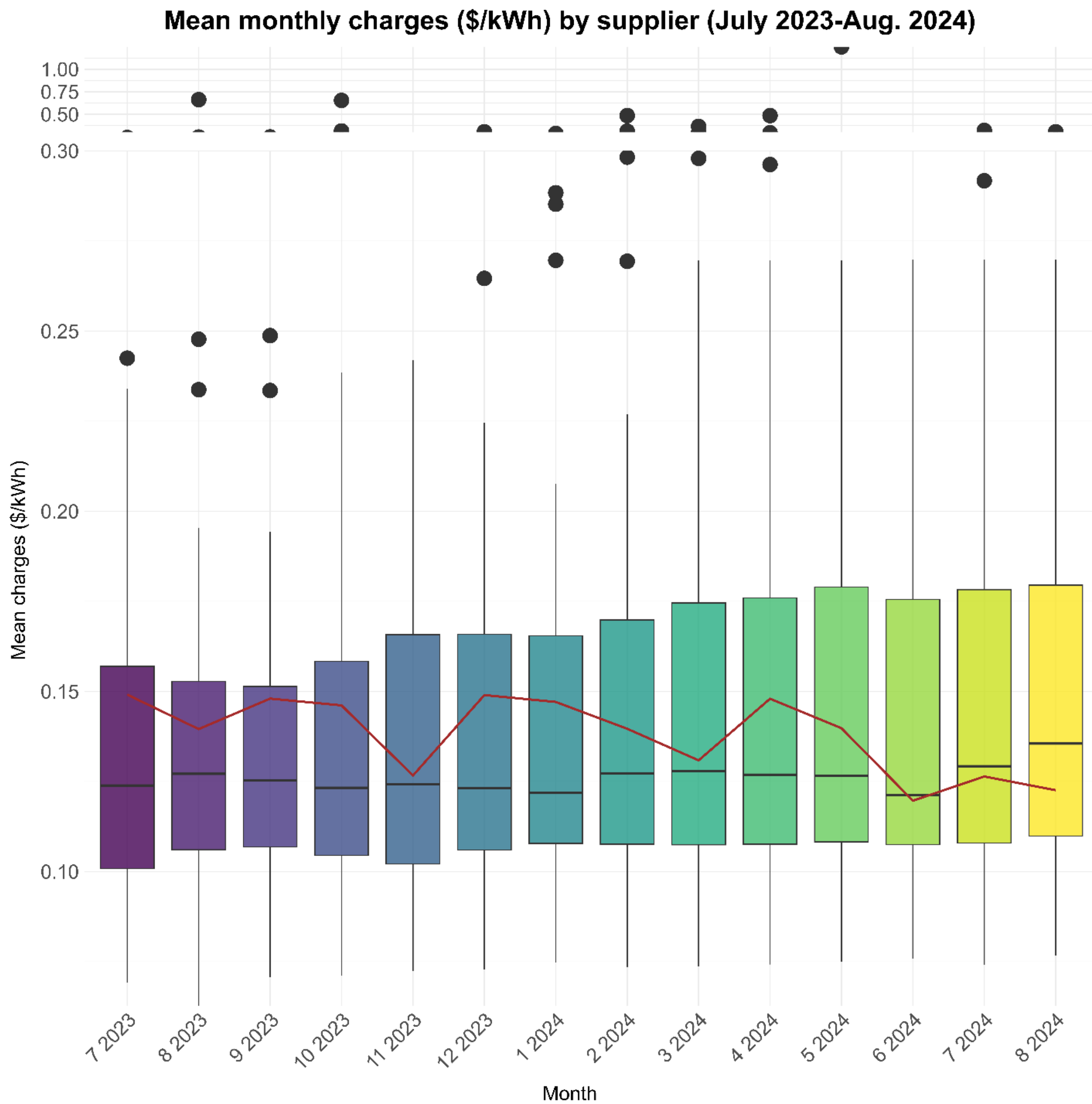

Figure 15. Distribution of suppliers' average monthly supply rates ($/kWh)

Shown here are average supply charges among all commercial retail suppliers with active customers each month. The red trend line represents the average price Pepco charged commercial SOS customers during the period. Box-and-whisker plots illustrate the distribution of values with the median represented as the line in the middle of the box and outliers represented as dots beyond either end of the distribution. Outliers are calculated as 1.5 times the interquartile range. The upper range of outliers has been compressed to keep the focus on the majority of monthly supply charge distributions across suppliers.

As shown in **Figure 16**, average monthly supply charges differ somewhat by average monthly consumption. A few suppliers exhibit very high average consumption and low average supply charges during the period. A majority of suppliers have customers with relatively low average consumption and relatively low average supply charges for the commercial market. There are also several suppliers with very low average consumption but relatively high average supply charges. Without more information, it is difficult to suggest what may be the cause of significantly higher supply charges for a handful of suppliers' customers with very low consumption.

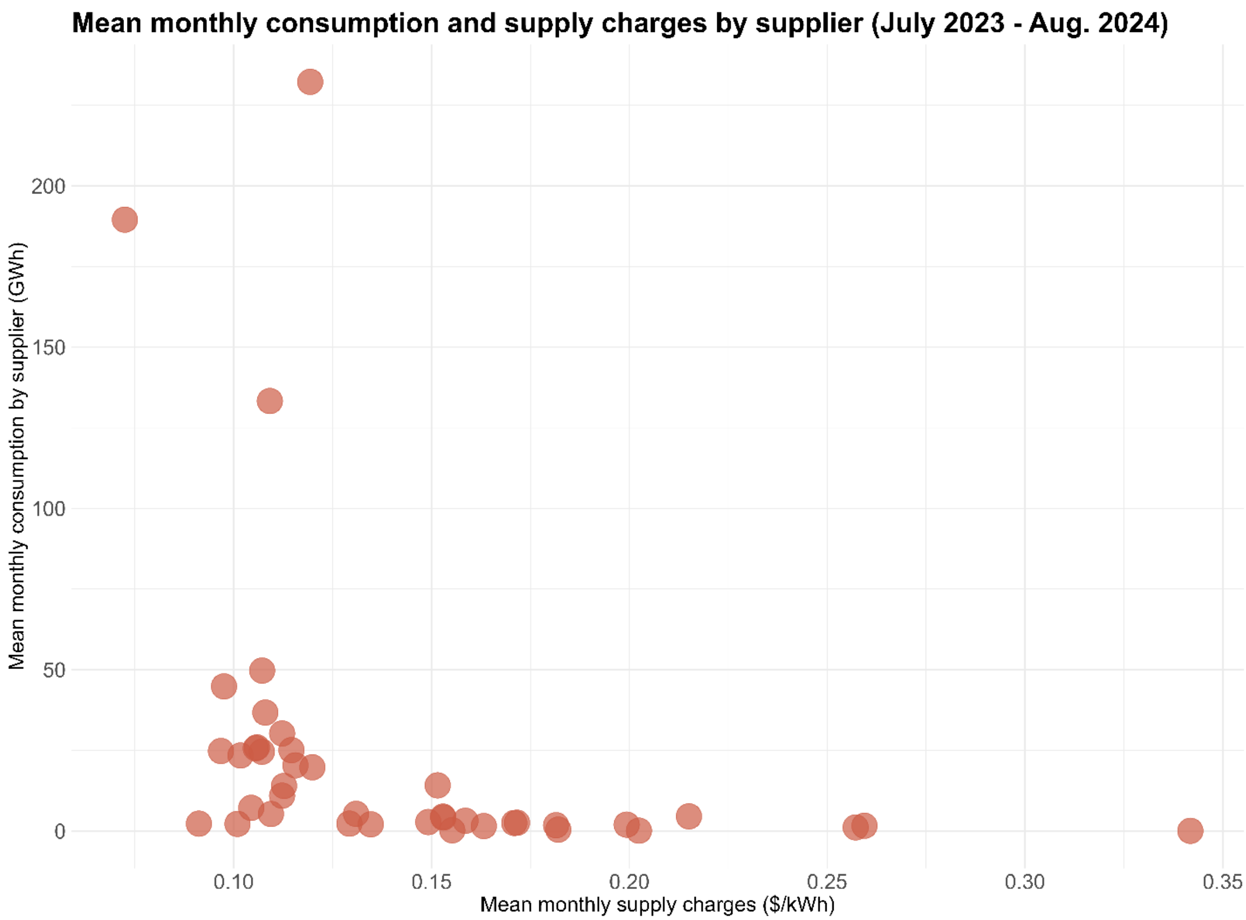

Figure 16. Mean monthly consumption and supply charges by supplier (July 2023 - Aug. 2024)

Each dot in the figure above represents the intersection of a supplier's mean monthly consumption (GWh) and mean monthly supply charges ($/kWh) averaged across the 14-month period. There is only one observation per supplier for the period.

3.3 Commercial arrears

Total monthly commercial accounts in arrears among customers of Pepco's SOS were significantly higher throughout the period compared total monthly accounts in arrears among retail suppliers. **Figure 17** shows that total monthly accounts in arrears among retail commercial customers ranged between 1,265 to 2,725, whereas total monthly accounts in arrears with Pepco's SOS ranged between 4,010 to 5,584.

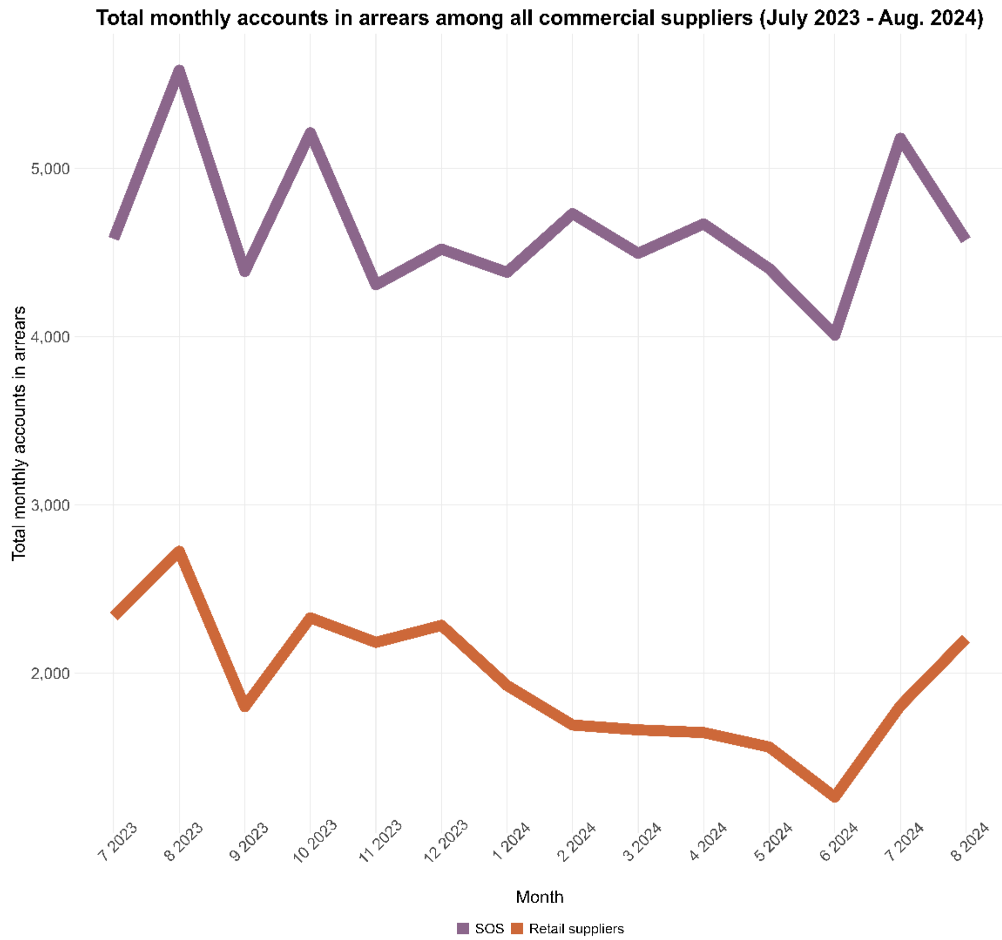

Figure 17. Total monthly commercial accounts in arrears with Pepco's SOS and retail suppliers

Figure 18 shows that total arrears among commercial customers of Pepco's SOS and retail suppliers remained relatively stable throughout the period; exceptions to this stability included a significant spike in arrears among Pepco's SOS customers in August 2023 and a significant dip in arrears among retail customers in the spring of 2024. Arrears for both groups of customers totaled nearly the same at the close of the period, however, demonstrating that these deviations from the relatively similar trends in arrears among both groups were short-term and not sustained. Despite there being more customers of Pepco's SOS (though retail suppliers provided a large majority of electricity for commercial consumption), customers of Pepco's SOS and retail suppliers accrued about the same monthly total of arrears during the period. In fact, total monthly arrears were lower among customers of retail suppliers, on average, than those of Pepco's SOS during most of the period.

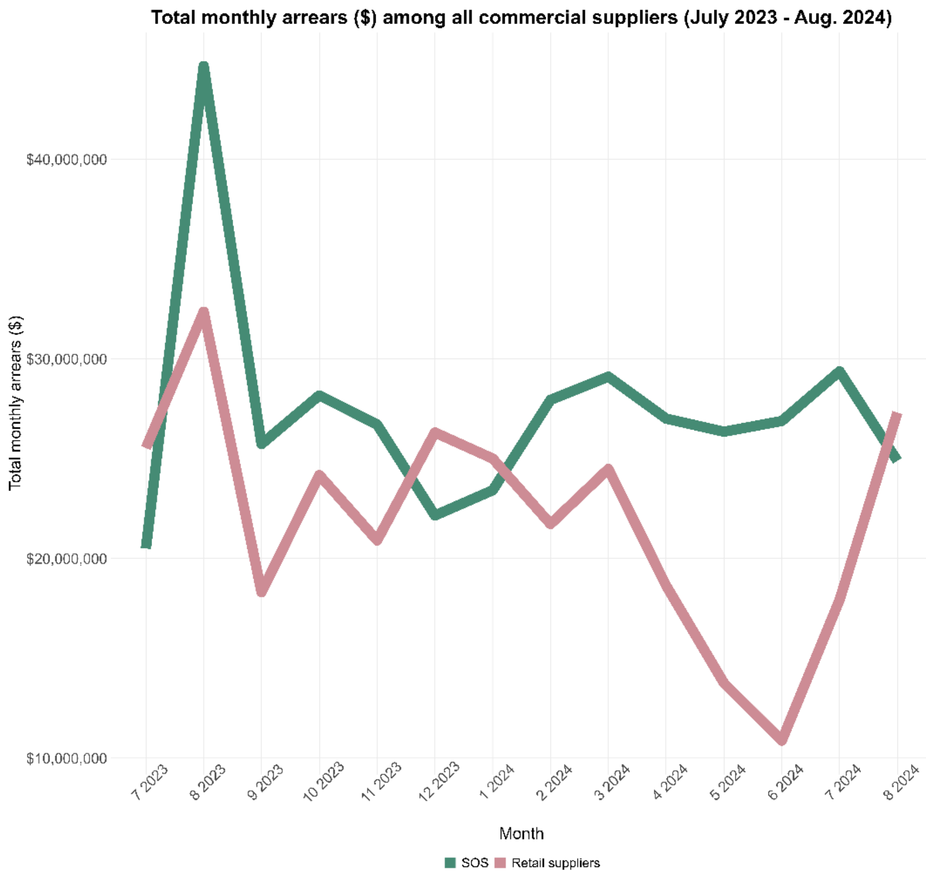

Figure 18. Total monthly arrears among retail commercial customers and Pepco's SOS commercial customers

As shown in **Figure 19**, we observe that, on average, Pepco's SOS customers' arrears remained near or below $7,500 during the 14 months observed. Average monthly arrears among retail supply customers were typically higher than $10,000 during the period. Understanding the total monthly arrears for both groups are relatively similar, the average difference occurs because there are about half as many retail commercial customers in arrears compared to the number of SOS commercial customers in arrears, which equates to higher average arrears each month for retail supply customers. This could potentially be due to the larger consumption of individual commercial customers in arrears, which subsequently leads to higher bills and arrears; however, data linking consumption of those customers in arrears and the amount of arrears are not available to us, preventing a metric showing arrears related to units of consumption rather than the number of customers in arrears.

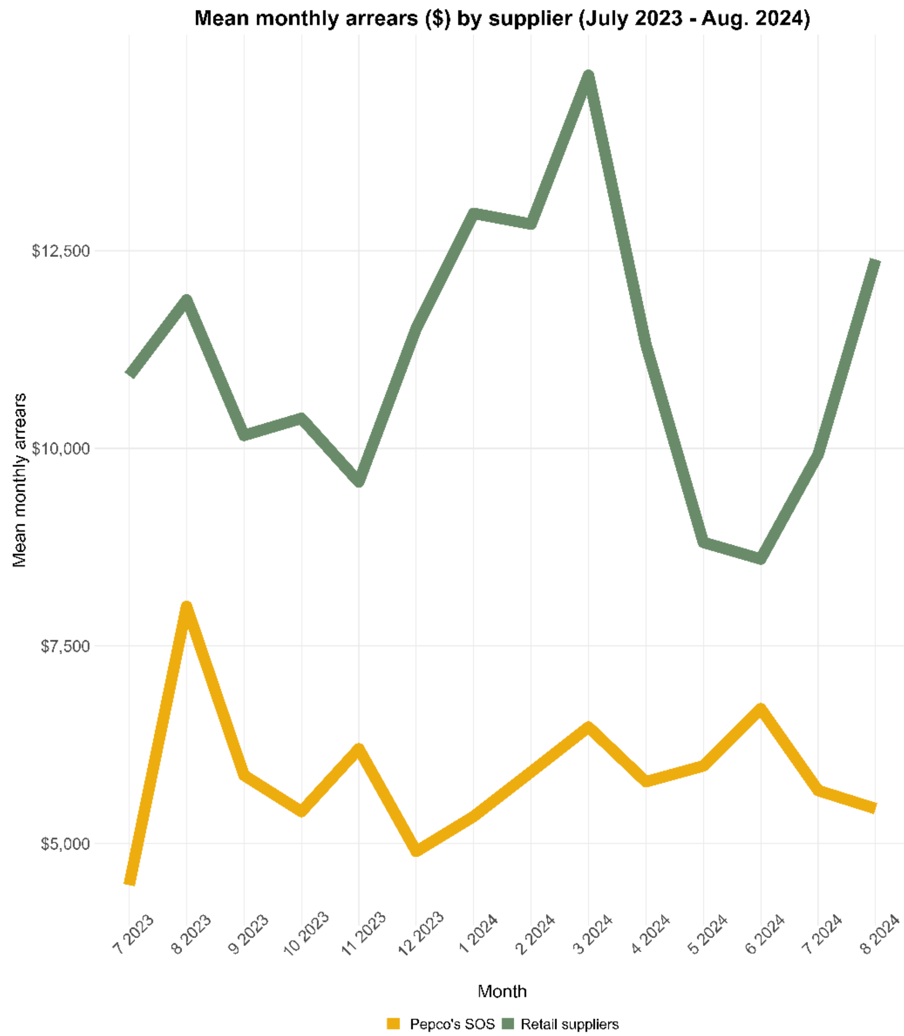

Figure 19. Mean monthly arrears among Pepco's SOS commercial customers and retail commercial customers

4 Discussion and conclusions

Trends among residential and commercial suppliers from July 2023 to August 2024 underscore ongoing inequities among different groups of electricity customers in DC. Residential customers of retail suppliers pay significantly higher prices for supply compared to residential customers of Pepco's SOS and commercial customers of both retail suppliers and Pepco's SOS. Residential customers who received utility assistance during the study period paid the highest average supply price among all customer groups analyzed here. In other words, customers who needed assistance paying their electric bills were the customers most likely to pay the highest price for supply, on average. Therefore, we conclude that retail choice has benefited commercial customers significantly, on average, while it has adversely impacted residential customers and, especially, customers receiving utility assistance.

There are legitimate differences between several retail suppliers' services and Pepco's SOS. For instance, retail suppliers can offer benefits, such as different quantities and types of guaranteed renewable energy, gift cards, credit cards, rewards programs, energy efficiency offerings or equipment, more personalized customer service, and flexibility in contract length. Although there are benefits that may be worth a premium to some customers, it is unclear whether customers are always aware of the price difference between retail suppliers or how the difference in prices is accounted for by retail suppliers.

There could be several reasons why there are inequities among different customer groups in the retail market. As complaints to DOEE and the District of Columbia's Office of the People's Counsel have illustrated, there have been consumer abuses in the retail market, including door-to-door marketing pressure or harassment, fraudulent marketing or false representation of marketers, enrollment of customers without consent or knowledge (i.e. slamming), and enrollment of customers at low introductory rates that increase quickly and without explanation (i.e. teaser rates). These types of consumer abuses have been documented in other retail choice jurisdictions, such as Maryland, Massachusetts, Maine, Connecticut, New York, Pennsylvania, and several other states and countries (Baldwin and Howington, 2023; Baldwin, 2018; Tsai and Tsai, 2018). UA customers are more likely to live in densely-populated, low-income neighborhoods where in-person marketing is relatively cheap and households are more receptive (or really less unreceptive) to marketing (Kahn-Lang, 2024).

Several retail suppliers have unexpectedly high proportions of UA customers. There may be different reasons for this. One reason may be that features of certain retail suppliers attract UA customers at a higher rate than non-UA customers. It could also be possible that some UA customers are more interested in getting the best deal on electricity and they shop around more often as a result. Due to market complexity and information asymmetries among different customers, shopping or willingness to switch suppliers more frequently may not lead to more optimal outcomes.

Another reason for suppliers having higher proportions of UA customers could be that certain retail suppliers may be targeting UA customers with marketing in low-income neighborhoods. It may also be the case that these customers are attracted to certain features of more expensive contracts that cause these customers to accrue unmanageable debt and sign up for utility assistance. In other words, households that are not UA customers become so after enrolling with certain suppliers. It could also be a combination of these factors. Without more information and data, we are unable to empirically test these theories with causal methods.

Market liberalization in the 1990s and 2000s enabled unbundling of energy utility monopolies in several US states and countries globally. Energy market restructuring was intended to lower consumer prices and drive innovation through competition. These impacts appear to be largely realized for commercial retail electricity customers in DC; many of these customers have lower average supply prices, take advantage of time-of-use pricing, and consume additional renewable energy compared to commercial customers of Pepco's SOS.[38] Other innovations among suppliers are not evaluated here. However, outcomes among residential customers are more complicated. Residential customers of retail suppliers pay significantly more for electricity, on average, compared to residential customers of Pepco's SOS. Many suppliers do offer additional services, benefits, and renewable energy as part of their electricity supply options, but evidence of high rates and amounts of arrears suggests that the premiums customers pay for these services may be unsustainable for many, especially customers in need of utility assistance.

[38] In 2022, DC consumed more than twice the amount of renewables compared to consumers in the regional PJM grid, of which DC is a part. PJM provided 6.8% renewables as part of its electricity supply mix, whereas DC consumed 15.7% renewables. This is due to the renewable portfolio standard (RPS) requiring DC to consume progressively more renewable energy over time and additional renewable energy in the market from retail suppliers. Three of five retail suppliers with the largest market shares in 2022 provided additional renewable generation compared to PJM's mix. Large commercial customers, such as universities, may have power purchase agreements that supply additional renewable energy generation not captured in annual accounting (Public Service Commission, 2023).

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Appendix I: Residential data

DOEE requested and received electricity market data from Pepco. The data are aggregated and anonymized at the supplier level. Note that billing data provided are for billing that occurred during the calendar month, which can include periods in which customers were no longer active with the supplier during the billing month. There may also be accounts that were enrolled during the billing month but not yet billed.

These data may be used for replication or additional analyses with proper attribution. Please use the following citation for these purposes:

Richmond, Jennifer and Andrew Held. September 2025. Retail electricity competition in DC: market trends and analysis. District of Columbia Department of Energy and Environment (DOEE). https://doee.dc.gov/service/third-party-energy-suppliers-district.

Residential data for this period may be accessed and downloaded from this Box folder: https://app.box.com/s/ibxxwa1ehzmq957kuko4hyzff9mtjxmp

Appendix II: Commercial data

DOEE requested and received electricity market data from Pepco. The data are aggregated and anonymized at the supplier level. These data may be used for replication or additional analyses with proper attribution. Please use the following citation for these purposes:

Richmond, Jennifer and Andrew Held. September 2025. Retail electricity competition in DC: market trends and analysis. District of Columbia Department of Energy and Environment (DOEE). https://doee.dc.gov/service/third-party-energy-suppliers-district.

Commercial data for this period can be accessed and downloaded from this Box folder: https://app.box.com/s/87ibc4o0bjiy0u3gnrfvqn86aekevxuq

Appendix III: Mean monthly consumption and charges

Figure 20 below is the full version of **Figure 8**. Each dot represents average electricity consumption and average supply charges by supplier and month in the period of July 2023 to August 2024. Compared to **Figure 8**, there were several suppliers in **Figure 20** with much higher average consumption among their customers. These high-consumption months are attributed to only three suppliers, and nearly all of these high-consumption months were among suppliers with fewer than 25 customers. (A dot represents one supplier during one month of the period.)

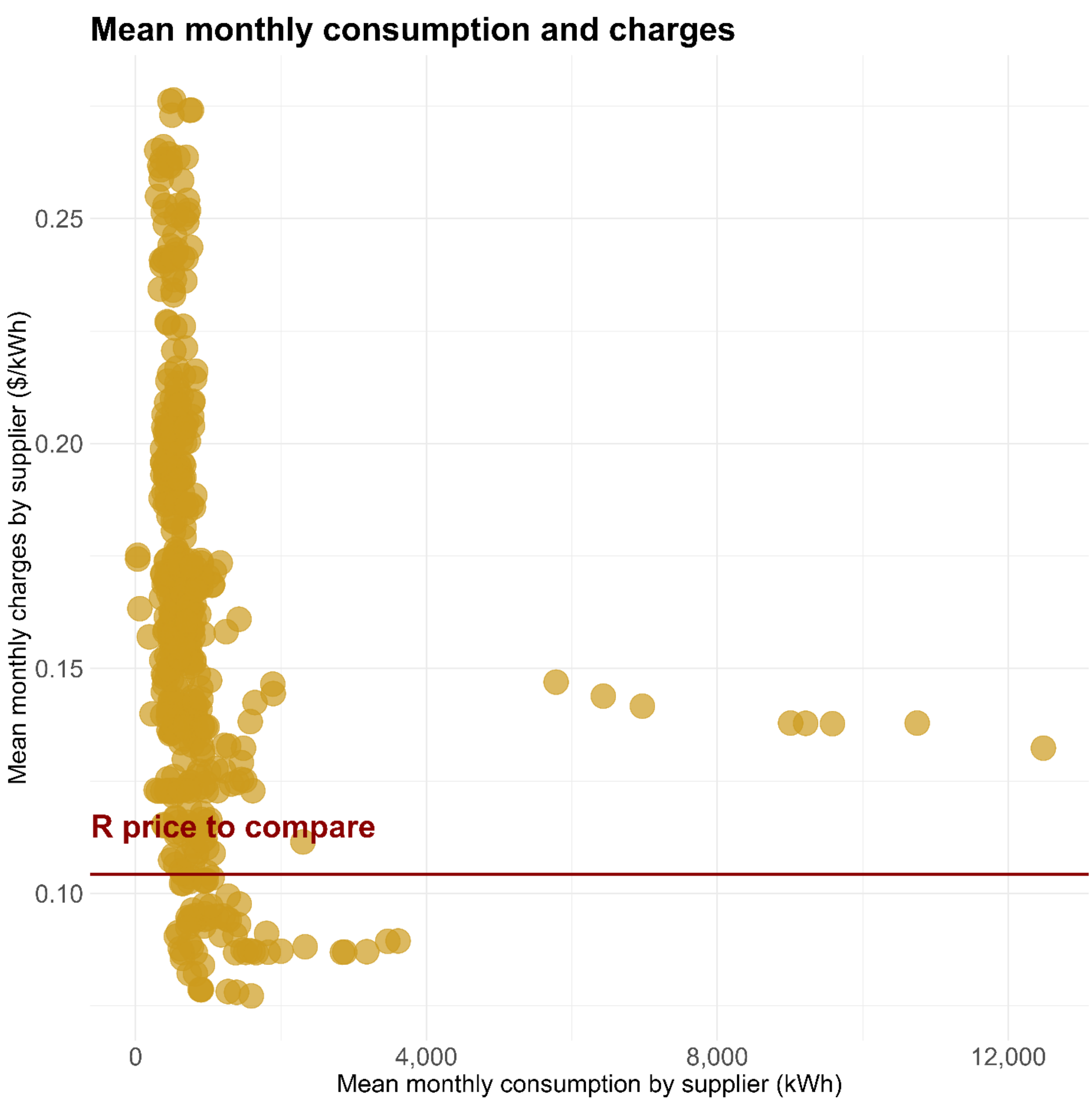

Figure 20. Mean monthly residential consumption and supply charges with unlimited scales (July 2023-Aug. 2024)

Appendix IV: Residential and commercial consumption

As shown in **Figure 21**, total consumption among all residential customers of retail suppliers hovered around 30-40 GWh during the summer months of June through August. Consumption is high during these months due to increased use of home air conditioning and cooling devices. Consumption dipped in fall and spring months due to more comfortable outdoor and indoor temperatures without temperature-control mediation. Consumption reached a slight second peak in the winter, likely as a result of buildings relying on electric heating systems. The winter peak was not as high as in the summer months because many buildings in DC rely on gas and other fuels for heating.

Contrasted against residential consumption among customers of retail suppliers in **Figure 21** are cooling degree days (CDD) and heating degree days (HDD). CDD and HDD are the difference between the average temperature each day and 65 degrees Fahrenheit (NOAA, 2025). Each degree under 65 is counted as HDD and each degree above 65 is counted as CDD for each day. CDD and HDD in **Figure 21** are included as monthly averages during the period. CDD and HDD help in understanding when indoor heating and cooling are necessary and to what extent they may be necessary.

NOAA's HDD and CDD data for this period can be accessed and downloaded from this Box folder:

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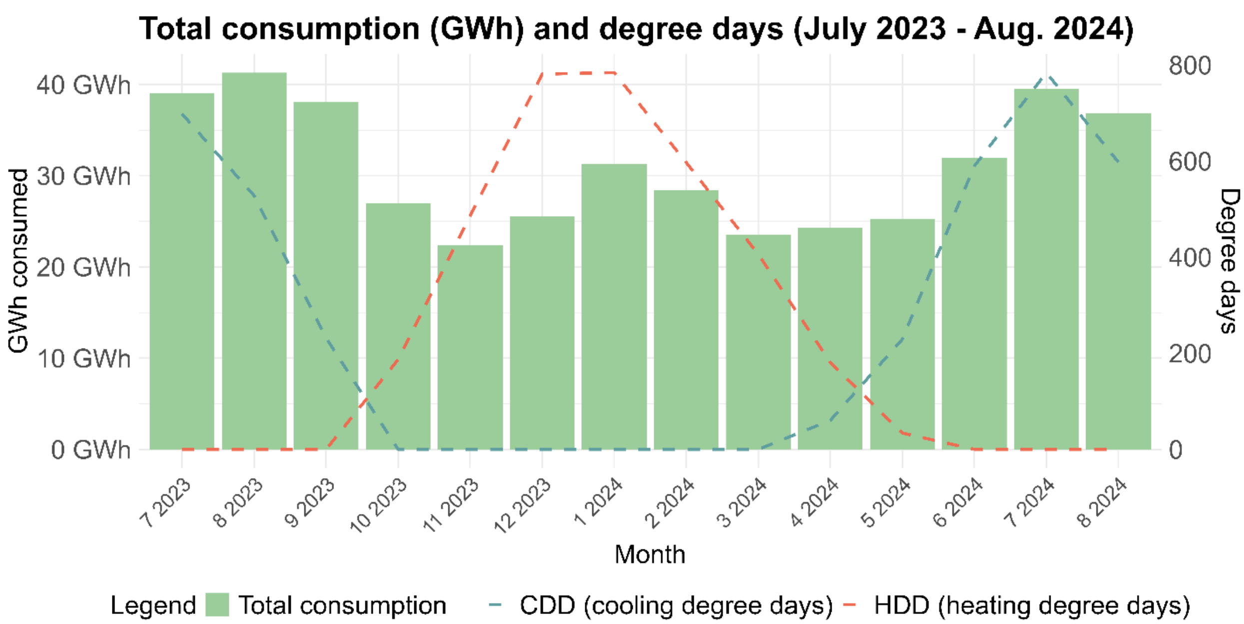

Figure 21. Total residential consumption (July 2023-Aug. 2024)

Shown here is monthly consumption (gigawatt-hours (GWh)) among customers with retail suppliers. Consumption peaks mainly in the summer months due to electric cooling demand but also peaks to a lesser extent in the winter months due to electric heating demand. To illustrate the correlation with heating and cooling demand, we have imposed monthly averages of cooling degree days (CDD) and heating degree days (HDD) to show that hotter temperatures correspond with greater consumption and cooler temperatures correspond with somewhat greater consumption.

Commercial consumption fluctuates seasonally, similarly to residential consumption. **Figure 22** shows monthly electricity consumption among *all* commercial customers during the period, not only those with retail suppliers. Monthly average heating degree days (HDD) and cooling degree days (CDD) data for DC have been superimposed on consumption in **Figure 22** to illustrate the correlation of heating and cooling demand for buildings with consumption (NOAA, 2025). Similar to the consumption pattern observed among residential customers in **Figure 21**, consumption peaked in the summer months and had smaller peaks in winter. The winter peak for commercial customers was slightly higher relative to the winter peak for residential customers, which is likely due to greater reliance on electric heating among commercial customers.

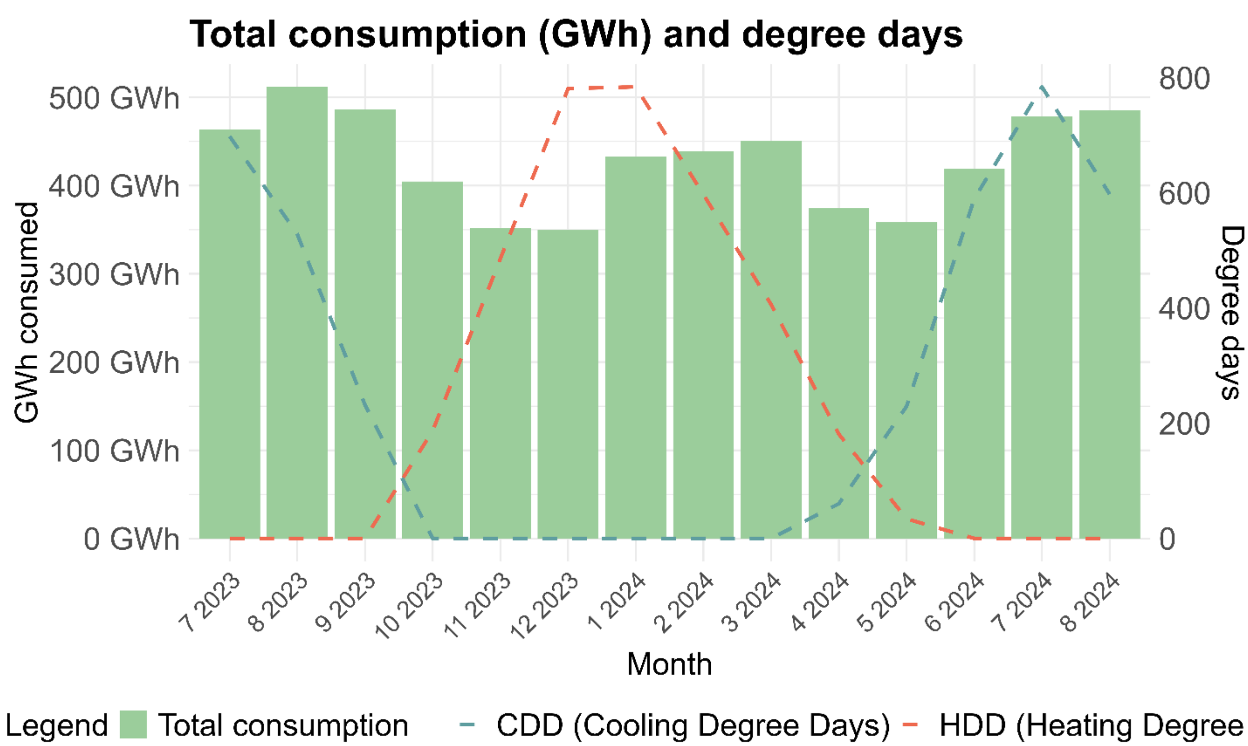

Figure 22. Total commercial consumption (GWh) (July 2023 – Aug. 2024)

Shown here is total monthly consumption (gigawatt-hours (GWh) among all commercial customers in the market. Consumption peaks mainly in the summer months due to electric cooling demand but also peaks to a lesser extent in the winter months due to electric heating demand. To illustrate the correlation with heating and cooling demand, we have imposed monthly averages of cooling degree days (CDD) and heating degree days (HDD) to show that hotter temperatures correspond with greater consumption and cooler temperatures correspond with somewhat greater consumption.