Are Consumers Benefiting from Competition?

An Analysis of the Individual Residential Electric Supply Market in Massachusetts

Massachusetts Attorney General's Office
Commonwealth of Massachusetts

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Analysis of the Individual Residential Electric Supply Market in Massachusetts: Are Consumers Benefiting from Competition?

A Report by the Massachusetts Attorney General's Office
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Table of Contents

List of Tables

Executive Summary

Section 2

Section 3

List of Figures

Executive Summary

Section 1

Section 2

Section 3

List of Appendices

Glossary of Terms

Basic service: For those consumers who do not receive their electric supply from a competitive supplier, their electric company purchases their electricity on their behalf, providing them supply services that are known as "basic service."

Electric company (this is also referred to as an "electric distribution company" or "EDC"): In Massachusetts the electric companies are Western Massachusetts Electric Company d/b/a Eversource Energy ("WMECo"); NSTAR Electric Company d/b/a Eversource Energy ("NSTAR"); Massachusetts Electric Company d/b/a National Grid ("MECo"); Nantucket Electric Company d/b/a National Grid ("Nantucket"); and Fitchburg Gas and Electric Light Company d/b/a Unitil ("Fitchburg"). See Appendix 1A for a map of the Massachusetts electric companies' non-overlapping service territories.

Competitive supply market: In this report, we use this term to describe the individual residential electric supply market, the market in which residential customers may choose to purchase electric service from a company other than their electric company.

kWh: A kilowatt hour describes energy used over a period of time, specifically, 1,000 watts per hour.

Low-income: In this report, the term "low-income" refers to customers that receive subsidized electricity rates. In order to qualify for such rate, a customer's annual income may not exceed 60 percent of the median income in Massachusetts. For a family of four, this would translate to a household income of $66,115 or less in fiscal year 2018.[1] The report's analysis of low-income customers does not encompass those customers who may be eligible for subsidized rates but who have not enrolled in the program for subsidized rates.

Municipal aggregation and municipal aggregation suppliers: Municipal aggregations are programs where towns or cities enter into contracts with competitive suppliers for those suppliers to provide electricity supply services to participating residents and businesses in the respective community. This report refers to competitive suppliers that serve municipal aggregations as "municipal aggregation suppliers." Customers residing in towns and cities with municipal aggregations programs can also choose to be served directly by a competitive supplier other than the one that serves the municipal aggregation.

Municipal light plants: A municipal light plant is a municipality-owned distribution company responsible for the transmission and supply of electricity to the residents and businesses in the municipality.

Participation rate: As used in this report, the participation rate is the ratio of the number of customers participating in the competitive supply market to the total number of electric customers. The total number of electric customers includes those purchasing electricity from any of these three sources: competitive suppliers, electric companies, and municipal aggregations. Customers served by municipal light plants are not included in the analyses contained in this report.

Premium: This term is used in the report to denote the difference between the average residential competitive supply rate and the average basic service rate. It could also be referred to as a "mark-up."

Renewable Energy Certificate: The Massachusetts Renewable Energy Portfolio Standard ("RPS") requires retail electricity suppliers (both regulated distribution utilities and competitive suppliers) to obtain a percentage of the electricity they serve to their customers from qualifying renewable energy facilities. Suppliers meet their annual RPS obligations by acquiring a sufficient quantity of RPS-qualified renewable energy certificates ("RECs") that are created, traded, and tracked at the New England Power Pool ("NEPOOL").

Restructuring: In 1997, the Massachusetts Legislature restructured the electricity industry, creating a competitive market for the supply of electricity ("Restructuring"). The purpose of Restructuring was to reduce electricity costs through the new competitive market. In restructuring the electricity industry, the Legislature recognized that "electricity service is essential to the health and well-being of all residents of the commonwealth." St. 1997, c. 164, § 1(a).

Executive Summary

The Massachusetts Attorney General's Office ("AGO") commissioned this report to (1) determine whether residential consumers in Massachusetts pay more or less for their electric supply when they buy it from the competitive marketplace rather than their electric company (such as National Grid, Eversource, and Unitil); and (2) identify remedies if warranted. [2]

My analysis shows that Massachusetts consumers in the competitive supply market paid **$176.8 million** more than they would have paid if they had received electric supply from their electric company during the two-year period from July 2015 to June 2017.

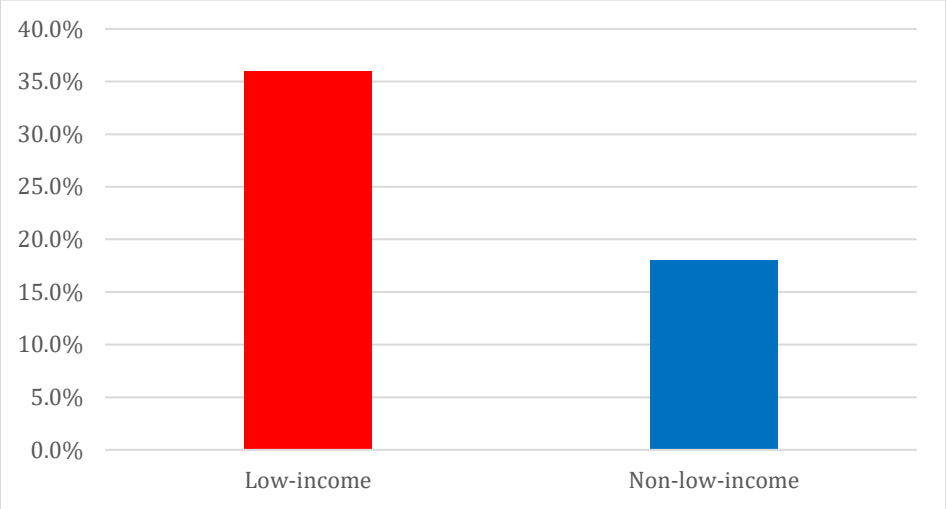
Table ES.1 Net Consumer Loss from Participation in the Individual Residential Electric Supply Market Compared to the Electric Company's Basic Service

	July 2015 – June 2016	July 2016 – June 2017	Two-Year Total Net Loss
Total Net Consumer Loss (millions)	$65.4 m	$111.4 m	**$176.8 m**

Total net consumer loss increased significantly between the first year of the study (July 2015–June 2016) and the second year (July 2016–June 2017) because the gap between the average basic service rate and the average competitive supply rate increased by 72 percent. During the study period, basic service rates decreased by almost 16 percent, while the loss experienced by low-income customers on competitive supply increased by 35 percent.

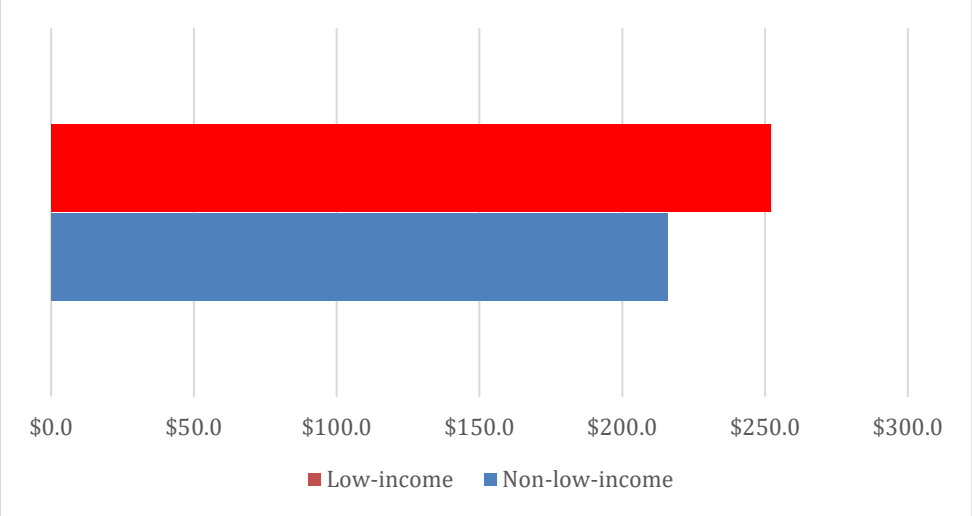
Low-income customers make up a disproportionately large share of the competitive supply market. Figure ES.1, below, shows that low-income households participate in the competitive supply market at twice the rate as non-low-income households.

Figure ES.1 Low-Income and Non-Low-Income Customer Participation Rates



My analysis also shows that these low-income customers pay especially high prices in the competitive supply market. Figure ES.2, below, shows that, assuming an average monthly usage of 600 kWh across both income groups, the annual consumer loss for low-income participants is $252, which is 17 percent higher than the annual consumer loss of $216 for non-low-income participants.

Figure ES.2 Low-Income and Non-Low-Income Customer Average Annual Loss[3]



Moreover, my analysis of the impact of the competitive supply market on each municipality in the Commonwealth served by an electric company shows that *every* municipality experienced, on average, a net consumer loss in the competitive supply market in June of 2017.

I also analyzed the impact of the competitive supply market based on the demographics of the Commonwealth's various communities. My analysis shows that residents in communities with the following demographics *paid higher rates* to competitive suppliers:

- Communities with low median incomes;
- Communities with high percentages of households receiving subsidized low-income rates;
- Communities with high percentages of minority households; and
- Communities with high percentages of households with limited English proficiency.

Further, regression analysis of zip code-level data for the month of June 2017 provides findings that are consistent with disparate targeting of low-income customers for enrollment to competitive supply accounts. Put simply, a consumer who resides in a low-income community is more likely to participate in the competitive market, even if that particular consumer is not a low-income customer herself.

Conclusion and Recommendations

My analysis demonstrates that individual residential customers have suffered large financial losses in the competitive supply market. The size of the harm to consumers, the significant loss in both years of the study, and the increasing loss from one year to the next, strongly suggest that consumer harm is likely to continue.

Although a regulatory environment with stronger consumer protection measures would be preferable to the status quo, experience in Massachusetts and in other states demonstrates that stronger consumer protection measures are insufficient to transform the competitive supply market from one that causes significant net harm to one that provides net benefits.

Accordingly, I strongly recommend that legislators in Massachusetts consider eliminating the electric supply market for individual residential consumers.

The scope of this report is limited to the individual residential electric supply marketplace. I do not analyze or make any recommendations regarding the commercial and industrial market, where, as a general rule, customers are more sophisticated and have benefited from competition in the electric supply market; nor do I analyze or make recommendations regarding the Commonwealth's various municipal aggregations.

Introduction

In 1997, the Massachusetts Legislature restructured the electricity industry, creating a competitive market for the supply of electricity ("Restructuring"). The purpose of Restructuring was to reduce electricity costs through the new competitive market. In restructuring the electricity industry, the Legislature recognized that "electricity service is essential to the health and well-being of all residents of the commonwealth." St. 1997, c. 164, § 1(a). Massachusetts was one of several states that restructured the generation portion of their electric markets, replacing the previously vertically integrated electric utilities with electric utilities that provide distribution and transmission services and that purchase electricity from generation in the competitive marketplace.

Following Restructuring, all Massachusetts electric companies continue to deliver electricity to all Massachusetts electric consumers. For these services, Massachusetts electric companies charge distribution rates to electric consumers. The electric companies' distribution rates are highly regulated and are set by the Department of Public Utilities (the "Department"). Although consumers cannot choose the electric company that provides them with distribution services, Restructuring created a new electric supply market to allow consumers to choose their electric supplier. Accordingly, all Massachusetts electricity consumers pay two rates when they pay their electricity bill: one rate for distribution and one rate for electric supply.

The entities that market and sell electric supply directly to Massachusetts electric consumers are called "competitive suppliers." Competitive suppliers generally do not generate electricity themselves. Rather, they buy electric supply on the wholesale market and sell it to retail consumers. The Department does not regulate the supply rates charged by competitive suppliers. However, competitive suppliers must be licensed by the Department and are subject to certain additional regulations designed to protect consumers.

Electricity consumers taking service from a competitive supplier receive their electric supply from a supplier, but continue to have that electricity delivered to them by their electric company. The electricity delivered to the consumer is exactly the same whether purchased from a supplier or the electric company.[4] Additionally, most, if not all, competitive electric suppliers opt to bill their consumers through the electric company, so to an unknowing consumer it can appear as if the supply is being provided by the electric company.

For those consumers who do not receive their electric supply from a competitive supplier, their electric company purchases their electricity on their behalf, providing them supply services that are now known as "basic service." Residential consumers are automatically placed on the "fixed" basic service rate, which changes once every six months.[5] Basic service is procured through a competitive process in which each electric company solicits and receives bids to provide electric supply to its consumers for certain pre-appointed periods of the year. For example, NSTAR Electric Company, which does business as Eversource Energy, purchases its residential basic service electric supply for the two periods including January 1–June 30 and July 1–December 31.

The Legislature took action to open the electric supply market to competition in 1997, yet competition in the residential electric supply market remained relatively inactive for the first decade. Starting around 2011, the AGO began to receive numerous complaints from consumers about competitive suppliers going door-to-door and conducting telemarketing campaigns. Following an investigation pursuant to Chapter 93A, the Commonwealth's consumer protection law, the AGO entered into an Assurance of Discontinuance with a competitive supplier that was the subject of consumer complaints, Just Energy (2014). The settlement included restitution for consumers that were affected by Just Energy's allegedly misleading representations. The AGO continues to receive a large number of complaints concerning competitive electric suppliers, and as a result the AGO has undertaken additional investigations of other suppliers. From January 1, 2014 through December 31, 2017, the AGO received more than 700 complaints from residential consumers regarding various competitive suppliers. Due to the high number of complaints from consumers, the AGO is concerned that the market as a whole might not be operating as intended by the Legislature.

Accordingly, the AGO commissioned this report to determine whether the competitive supply market does, in fact, lead to reduced electricity costs for Massachusetts consumers. The AGO also commissioned this report to identify legislative and regulatory remedies to protect consumers from market abuses, to enable consumers to make better-informed purchasing decisions, and to increase suppliers' accountability for their practices to the Legislature, regulators, and the general public.

This report is organized as follows:

- In Section 1, I describe my methodology for computing the consumer loss associated with competition in the competitive supply market ("competitive supply market").

- In Section 2, I discuss my findings relative to the entire residential class (with the exception of households participating in a municipal aggregation).

- In Section 3, I discuss the experience of low-income households in the competitive supply market, including analyses regarding suppliers' possible targeting of low-income populations. I also discuss analyses regarding suppliers' presence among the Commonwealth's communities, including analyses regarding suppliers' possible targeting of vulnerable populations.

- In Section 4, I discuss complaints that the AGO has received and also briefly describe its enforcement actions in the competitive supply market.

- Based on my conclusion that competition is harming residential consumers, in Section 5, I propose legislative and regulatory remedies to address the harm that otherwise will likely continue.

- Section 6 concludes my report.

- Appendices provide additional information and analyses.

1. Data examined

The three electric companies that serve Massachusetts provided the AGO with detailed supplier-specific data separately for the two consecutive twelve-month time periods spanning July 2015 – June 2016 and July 2016 – June 2017. These data include monthly information specific to each of the five service territories of Massachusetts' electric companies:

- Western Massachusetts Electric Company d/b/a Eversource Energy ("WMECo");
- NSTAR Electric Company d/b/a Eversource Energy ("NSTAR");
- Massachusetts Electric Company d/b/a National Grid ("MECo");
- Nantucket Electric Company d/b/a National Grid ("Nantucket"); and
- Fitchburg Gas and Electric Light Company d/b/a Unitil ("Fitchburg").[6]

In the course of analyzing the data from the electric companies, my principal question was whether or not residential consumers are saving money by purchasing their electric supply in Massachusetts' competitive market.[7] I provide this analysis in Section 2 of my report.

Based on the electric companies' dataset, I was able to deduce a number of statistics concerning the size and scope of the Massachusetts competitive supply market:[8]

- Suppliers, in the aggregate, bill Massachusetts customers more than $430 million annually.

- Suppliers issued 5,920,193 monthly bills to all Massachusetts residential customers during a twelve-month period, suggesting that suppliers serve an average of approximately 493,349 households in Massachusetts, of which approximately 102,000 are low-income households.

- Low-income households make up approximately 21 percent of the residential competitive supply market, yet make up only 12 percent of the market for all electric customers.[9]

- Over one-third (36 percent) of *all* low-income customers take service from a competitive electric supplier.

- More than 50 different suppliers are active in the Massachusetts market.[10]

- The average usage for all households that participated in the competitive supply market during the study period was 607 kWh.[11]

Figure 1.1, Figure 1.2, and Figure 1.3, below, show the participation rates separately for all customers, low-income customers, and non-low-income customers, respectively. Figure 1.1 shows that approximately 493,000 customers (20 percent of all residential customers) participate in the competitive supply market in Massachusetts. The average monthly numbers of customers shown in these three figures correspond with the average of twelve months of data for the period spanning July 2016 through June 2017.

Figure 1.1 Average Monthly Numbers of Households Purchasing from Competitive Suppliers, Electric Companies, and Municipal Aggregations[12]

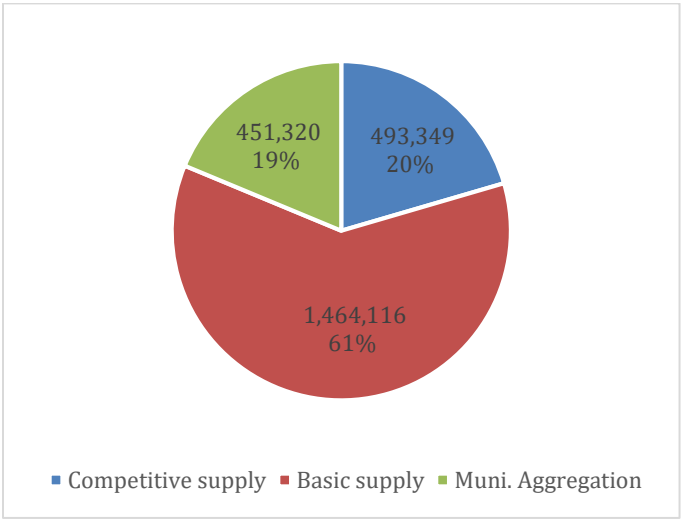


Figure 1.2 and Figure 1.3 show comparable information separately for low-income customers (as defined by receiving subsidized electricity rates) and non-low-income customers. Low-income customers and non-low income customers have participation rates of 36 percent and 18 percent, respectively.

Figure 1.2 Average Numbers of Low-Income Households Purchasing from Competitive Suppliers, Electric Companies, and Municipal Aggregation

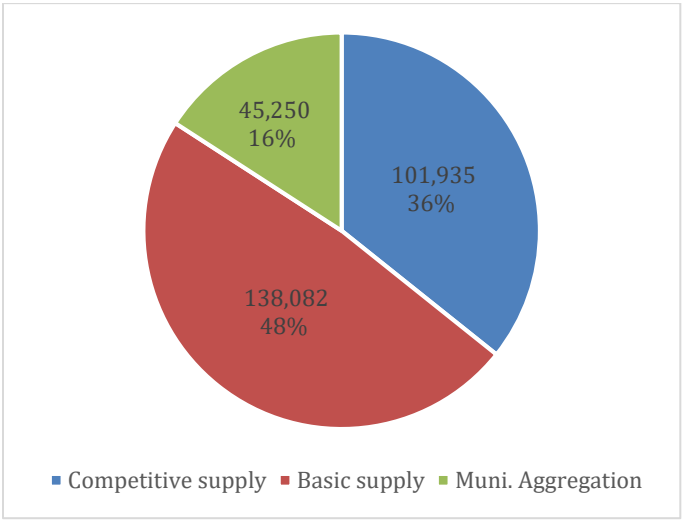
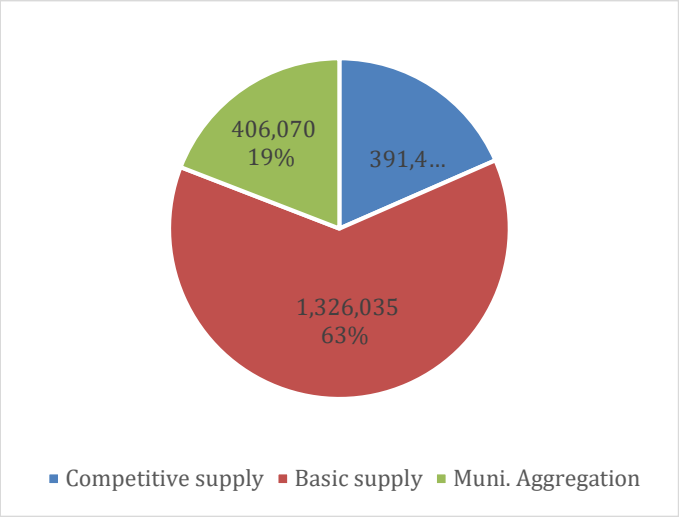


Figure 1.3 Average Numbers of Non-Low-Income Households Purchasing from Competitive Suppliers, Electric Companies, and Municipal Aggregation



The electric companies also provided supplier-specific data disaggregated to the zip code level for the most recent month of the second twelve-month study period (June 2017), as well as electric company-specific counts of bills for both low-income and all other residential consumers at the zip code level.[13] I used these geographically granular data to examine competitive suppliers' presence among the Commonwealth's communities and to compare participation in the competitive supply market between low-income consumers and all other residential consumers. I discuss my findings based on my zip code analysis in Section 3, below, and provide more detailed findings in the corresponding appendices. I found patterns of apparent targeting of economically disadvantaged communities and households by suppliers consistent with those shown by my analysis of corresponding zip code data for June 2016.

2. Are residential consumers benefiting from competition in the electric supply market in Massachusetts?

2.1 Introduction

In this section, I summarize my findings about the price of competition in the competitive supply market.

For the purposes of this Section 2, I analyzed suppliers' billing data in order to

(1) compute the total annual consumer gain or loss associated with the participation by households in the competitive supply market in Massachusetts;[14]

(2) analyze average consumer loss, when expressed on a per-household basis; and

(3) analyze the range of average rates charged by suppliers.

2.2 What is the annual consumer gain or loss associated with households' participation in the competitive supply market?

Massachusetts residential electricity consumers who took service from a competitive supplier paid a total of $176.8 million more than they would have paid if they had received basic service from their electric company over the course of the two study periods. Specifically, customers overpaid by $65.4 million during the 2015–2016 study period and by $111.4 million during the 2016–2017 study period. The increase in losses from the 2015–2016 study period to the 2016–2017 study period suggests that customer losses are getting worse and not better.

These losses translate into an average household loss of $134 during the 2015–2016 study period and an average household loss of $226 during the 2016–2017 study period.

The size of the competitive supply market was relatively stable between the two study periods. The number of average customers participating in the market increased by approximately 1.0 percent and the total amount of electricity served to residential competitive supply customers increased by only 0.3 percent.

By contrast, the difference between the average residential competitive supply rate and the average basic service rate—which I also refer to as the "premium"—increased by 72 percent between the 12-month period spanning July 2015 to June 2016 and the following 12-month period, spanning July 2016 to June 2017. Accordingly, the increase in the total loss between the two study periods is almost entirely due to suppliers charging higher premiums for their electricity, rather than suppliers simply providing service to more customers. The gap between the rates that consumers pay suppliers and the rates that they would have paid their electric companies for the same usage occurring in the same time periods has increased significantly. During the 2016–2017 study period, the average rate that suppliers charged all of their consumers in the Commonwealth was $0.1219 per kWh, which was 35 percent higher than the

average rate of $0.0905 that these same consumers would have paid for the same usage had they taken service from their electric companies.

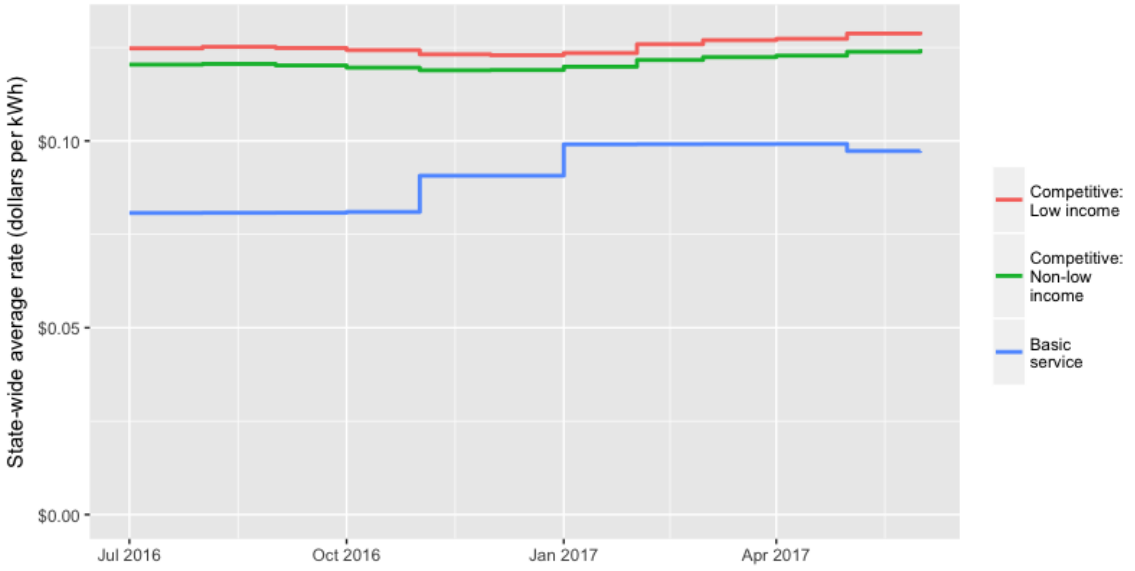
I summarize these findings in Table 2.1, below.

Table 2.1 Overview of Competitive Supply Market – Two-Year Comparison

Attribute of Market	July 2015 - June 2016	July 2016 - June 2017	Absolute Change	Percent Change
Average number of customers per month	488,336	493,275	4,939	1.0%
Total supply (kWh)	3,581,962,995	3,593,084,986	11,121,991	0.3%
Total charges	$450,704,148	$437,948,033	$(12,756,115)	-2.8%
Weighted Average Competitive Supplier Rate	$0.12583	$0.12189	$(0.0039)	-3.1%
Weighted Average electric company Rate	$0.10757	$0.09047	$(0.0171)	-15.9%
Average premium to participate (per kWh) (rounded to 1/100th of penny)	$0.0183	$0.0314	$0.0132	72.0%
Average Annual Premium to participate per HH	$134	$226	$92	68.5%
Statewide Total Net Consumer Loss	$65,406,644	$111,400,843	$45,994,199	70.3%
Statewide Total Net Consumer Loss - Low-Income	$17,400,000	$23,562,438	$6,162,438	35.4%

Figure 2.1, below, shows that the gap between the average monthly rate paid to competitive suppliers and the average monthly rate assuming the customers had purchased electric companies' service[15] was sustained during each of the twelve months spanning July 2016 through June 2017. Moreover, Figure 2.1 shows that low-income participants in the competitive supply market consistently pay more for electricity than do other participants in the competitive supply market.

Figure 2.1 Gap Between Average Rate Paid to Competitive Suppliers and Rate Had Participants Purchased from Electric Companies



Methodology

In order to compute the impact on consumers of their participation in the competitive supply market, I compared the rates consumers paid to suppliers with the rates they would have paid had they taken service from their electric companies,[16] accounting for the fact that electric companies charge different rates for basic service during any given 12-month period.[17] Because the electric companies provided monthly data regarding competitive supply rates, I was able to compare each competitive supply rate with the actual electric company basic service rate that was then in effect. Because I also had granular, monthly consumption data, I was able to calculate what all customers of a given competitive supplier would have paid if they had paid their electric companies' basic service rates instead of the supplier's rates.[18] Finally, after calculating the total loss or gain over the two-year period for each supplier, I aggregated all gains and losses to calculate the total net consumer loss.

During the twelve-month time period, it is of course possible that a single consumer might have had, for example, three months with savings and nine months with losses. For the first year, because supplier-specific data was aggregated across all customers, I cannot precisely determine how many consumers paid too much during a given year and how many consumers saved by participating in the competitive supply market. The data for the second year were more granular, however, which permits a calculation of the number of bills rendered to customers who saved money, and, in this report, I discuss the results of this more disaggregated analysis of the consumer impact of the competitive supply market. In Appendix 2B, I describe my methodology for computing net consumer loss for the two study years in more detail.

Appendix 2C shows, separately by municipality, the average number of households participating in the competitive supply market, the average per-household net consumer loss, and the aggregate consumer loss for June 2017. This information is shown for all households and also separately for low-income households. In Section 3, below, Table 3.1 shows the ten municipalities and neighborhoods with the highest aggregate net consumer loss in June 2017 (the most recent month of the study period).

2.3 What is the consumer harm to individual households that purchase electricity from competitive suppliers?

Individual suppliers' average rates per kWh vary widely (and so, too, subsequently, do the average supplier-specific consumer losses and gains), as do the numbers of consumers that they serve.

During the test period, some suppliers charged extremely high rates; some suppliers served a much larger share of the market than did others; some suppliers charged low rates; and some suppliers served few consumers. Also, suppliers do not charge uniform rates. Indeed, they charge a wide range of rates to their various customers.

Although individual consumer harm (measured as consumer loss) and gains vary significantly, the vast majority of consumers lost money during the two study periods. On average, throughout the year, 88 percent of households participating in the competitive supply market lost money, and 90 percent of low-income households participating in the competitive supply market lost money.

Figure 2.2, below shows the frequency of various increments of the differential between the electric company rates and the competitive suppliers' rates (i.e., the premium), with the frequency measured by kWh purchased in the market.

Figure 2.2 Frequency of varying levels of premium paid: all households

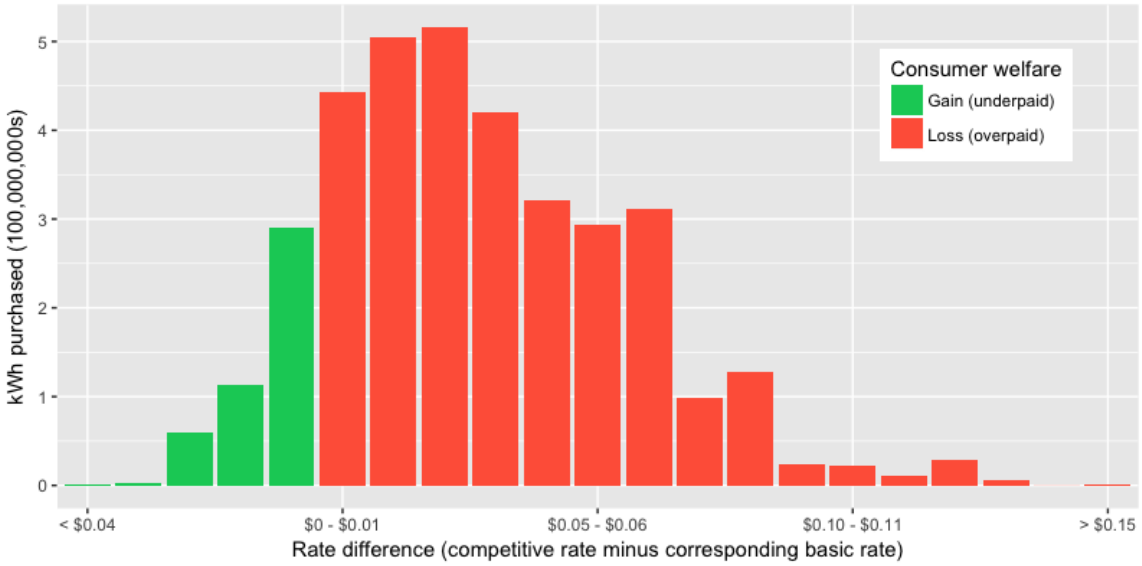
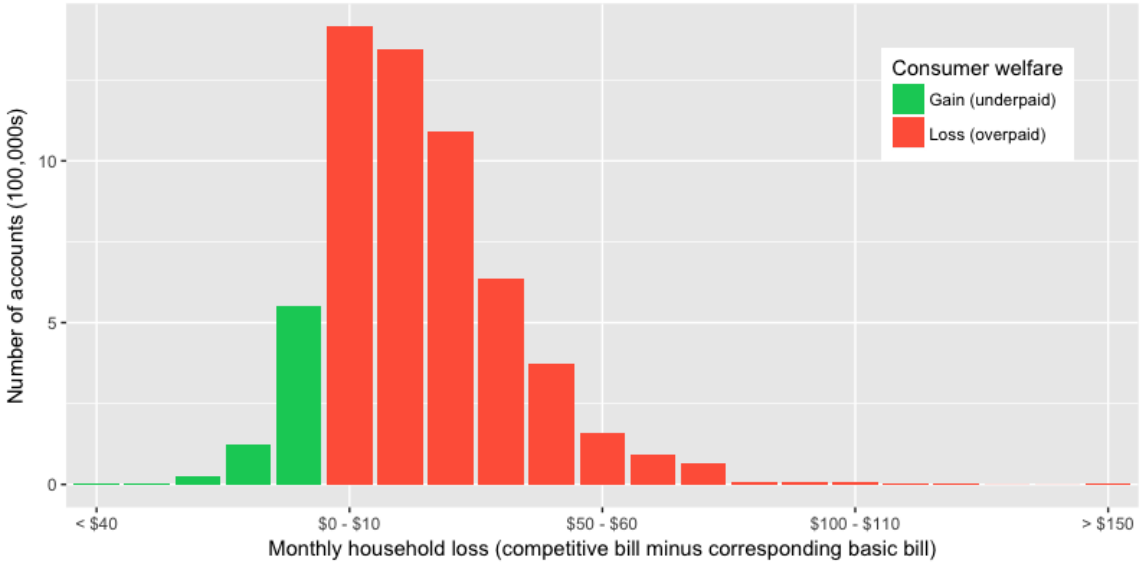


Figure 2.3, below, shows the frequency of various increments of consumer loss (and in some instances savings) that customers experience, expressed on a monthly, per-household basis.

Figure 2.3 Frequency of varying levels of consumer loss: all households



2.4 Minority of suppliers who provided limited consumer gains

Twelve percent of bills are associated with competitive suppliers who charged rates that would provide savings relative to the electric company rates. For this small group of customers, savings are, on average, $74.56 per year, or less than a third of the average annual overpayment of $269.[19]

These numbers suggest that the "upside" of participation in the competitive supply market is very limited. Specifically, the numbers suggest that a customer who participates in the competitive supply market has relatively low odds of saving a small amount of money and relatively high odds of paying significantly more money.

Moreover, many of the customers who experienced savings during the two study periods may not save long-term. Some consumers pay less than electric company rates for some of the time but these lower rates may be "teaser" rates, meaning that the rates may start low and then increase in subsequent months.[20] Accordingly, it is possible that a significant portion of the customers who take service from suppliers who charged less than basic service during the two study periods will ultimately pay more than basic service in the future.

2.5 Consumer loss examined at the supplier level

I computed net consumer loss and average premiums separately by supplier. Because some may consider this information competitively sensitive, I provide a summary of my analysis without reference to specific suppliers' names. I reviewed data for a total of 56 suppliers.

Table 2.2, below, shows the ten suppliers[21] (with their identities withheld) who charged the highest average premium over basic service during the 2016–2017 study period.[22] In short, Table 2.2 shows which suppliers charged the most for electric supply on average during the 2016–2017 study period. Table 2.2 shows that the three suppliers with the highest rankings charged premiums of more than $0.0650 per kWh and charged average rates of more than $0.1500 per kWh. Because electric company rates vary throughout the Commonwealth, I rank suppliers based on the premiums they charge relative to the electric companies' rates rather than ranking them based on the suppliers' rates.

Table 2.2. Ten Suppliers with the Highest Average Premium – All Households.

Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #1	$0.1697	58,892	$0.0797	1.00%	$2,799,826	2.51%
Supplier #18	$0.1571	130,806	$0.0657	2.21%	$4,443,744	3.99%
Supplier #47	$0.1561	108,393	$0.0657	1.83%	$3,751,646	3.37%
Supplier #39	$0.1452	38,021	$0.0552	0.64%	$1,079,459	0.97%
Supplier #37	$0.1450	611,891	$0.0546	10.35%	$20,571,677	18.47%
Supplier #12	$0.1417	362,897	$0.0511	6.14%	$8,763,432	7.87%
Supplier #41	$0.1382	462,750	$0.0484	7.83%	$12,970,332	11.64%
Supplier #25	$0.1449	61,886	$0.0477	1.05%	$1,104,503	0.99%
Supplier #15	$0.1376	213,518	$0.0458	3.61%	$4,648,970	4.17%
Supplier #6	$0.1282	284,867	$0.0381	4.82%	$6,237,222	5.60%
Total associated with top 10		2,333,921		39%	$66,370,811	60%

Table 2.3, below, shows the ten suppliers for which electric companies rendered the most bills. These ten suppliers account for 67 percent of the bills rendered in the competitive supply market and 74 percent of the net consumer loss.

Table 2.3. Ten Suppliers with the Highest Number of Bills – All Households.

Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #32	$0.1196	623,020	$0.0290	10.54%	$12,035,815	10.81%
Supplier #37	$0.1450	611,891	$0.0546	10.35%	$20,571,677	18.47%
Supplier #42	$0.1082	573,887	$0.0170	9.71%	$6,429,872	5.77%
Supplier #41	$0.1382	462,750	$0.0484	7.83%	$12,970,332	11.64%
Supplier #12	$0.1417	362,897	$0.0511	6.14%	$8,763,432	7.87%
Supplier #23	$0.1109	338,309	$0.0203	5.72%	$3,778,146	3.39%
Supplier #34	$0.1079	295,967	$0.0168	5.01%	$3,379,955	3.03%
Supplier #6	$0.1282	284,867	$0.0381	4.82%	$6,237,222	5.60%
Supplier #29	$0.1240	213,923	$0.0341	3.62%	$3,596,144	3.23%
Supplier #15	$0.1376	213,518	$0.0458	3.61%	$4,648,970	4.17%
Total associated with top 10		3,981,029		67%	$82,411,565	74%

Table 2.4, below, shows the ten suppliers responsible for the largest absolute consumer loss in Massachusetts. In aggregate, they account for 75 percent of the net consumer loss, with some suppliers accounting disproportionately for consumer loss. For example, Table 2.4, below, shows that approximately 10 percent of all bills are rendered on behalf of Supplier #37, and yet Supplier #37's consumers account for 18 percent of net consumer loss in the Commonwealth.

Table 2.4. Ten Suppliers Responsible for the Greatest Aggregate Consumer Loss – All Households.

Supplier ID	Average Rate	Number of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #37	$0.1450	611,891	$0.0546	10.35%	$20,571,677	18.47%
Supplier #41	$0.1382	462,750	$0.0484	7.83%	$12,970,332	11.64%
Supplier #32	$0.1196	623,020	$0.0290	10.54%	$12,035,815	10.81%
Supplier #12	$0.1417	362,897	$0.0511	6.14%	$8,763,432	7.87%
Supplier #42	$0.1082	573,887	$0.0170	9.71%	$6,429,872	5.77%
Supplier #6	$0.1282	284,867	$0.0381	4.82%	$6,237,222	5.60%
Supplier #15	$0.1376	213,518	$0.0458	3.61%	$4,648,970	4.17%
Supplier #18	$0.1571	130,806	$0.0657	2.21%	$4,443,744	3.99%
Supplier #23	$0.1109	338,309	$0.0203	5.72%	$3,778,146	3.39%
Supplier #47	$0.1561	108,393	$0.0657	1.83%	$3,751,646	3.37%
Total associated with Top 10		3,710,338		63%	$83,630,855	75%

2.6 Do other benefits from competitive supply contracts account for the consumer loss?

Other benefits may accrue from competition in the competitive supply market that my calculations exclude. For example, some suppliers offer gift cards, rebates, or rewards programs.[23] I am unaware of any evidence that would demonstrate that these "additional products and services" would offset annual average losses of $226, nor losses that can exceed $500, depending on a consumer's supplier.[24]

I have also considered whether suppliers' reliance on renewable energy may explain the large gap between electric companies' basic service rates and those of many suppliers. Some suppliers offer contracts that obligate them to purchase and retire renewable energy certificates in excess of renewable energy purchases dictated by Massachusetts' Renewable Energy Portfolio Standard. Existing law does not require suppliers to report this "extra" renewable energy (also known as the suppliers' "voluntary demand") and, to the best of my knowledge, no reliable statistics or information on these purchases exists for suppliers in Massachusetts.

Some customers may pay rates that are higher than the electric companies' rates because they are willing to pay a premium for greener, cleaner energy. However, it seems highly unlikely that the purchase of "green power" accounts for the large premiums that Massachusetts customers pay for competitive supply.

First, it appears unlikely that all or even most customers taking service from a competitive supplier receive a "green product." For example, a search on Massachusetts' Shopping for Competitive Supply website, energyswitchma.gov, showed that, as of December 2017, only approximately 27 percent of offers include an additional green element.[25]

Moreover, a comparison between comparable "renewable" and "non-renewable" offers in Massachusetts makes clear that a renewable energy "premium" cannot account for the large premiums charged by most suppliers in Massachusetts. Massachusetts' Shopping for Competitive Supply website, energyswitchma.gov, shows that, as of March 2017, three companies offered both a renewable and a non-renewable product at a fixed rate for twelve months. The following table presents the comparison:

Table 2.5. A comparison between non-renewable and renewable 12-month fixed-rate contracts at www.energyswitchma.gov [26]

Supplier	Non-Renewable (cents/kWh)	Renewable (cents/kWh)	Renewable Premium (cents/kWh)
Constellation Energy	$0.1099	$0.1089	($0.0010)
Discount Power	$0.1200	$0.1250	$0.0050
Ambit Energy	$0.0950	$0.1150	$0.0200

The low premium that suppliers appear to place on their own "renewable"[27] offerings strongly suggests that the renewable content of competitive suppliers' service has little to nothing to do with the high rates that they charge to customers. Tables 2.2 through 2.4 above show differentials relative to basic service rates that are much higher than a hypothetical half-cent ($0.0050 per kWh) renewable energy premium and many also exceed even a hypothetical two-cent ($0.0200 per kWh) renewable energy premium. Indeed, the average premium for the 2016–2017 study period, as seen in Table 2.1, was $0.0314 per kWh.

Accordingly, I believe it is reasonable to assume that the $176.8-million net overpayment during the two-study periods is mostly pure consumer loss.

2.7 Residential customers are not benefiting from electric supply competition.

Based on my examination of competitive supplier data, I conclude that, when viewed in the aggregate, residential consumers suffer large net losses as a result of electric supply competition. Specifically, customers during the 2016–2017 study period paid *an additional* $111.4 million per year as a result of competitive choice, a substantial increase relative to the net consumer loss of $65.4 million during the prior twelve-month study period. Although competitive supply, as a share of the total market of electric customers in Massachusetts, has grown relatively slowly, the premium for participation increased by about two-thirds. In other words, the gap between the rates paid to competitive suppliers and electric companies' basic service rates has increased. These consumer losses during the study periods are net of the relatively small gains that a minority of consumers experienced. In addition, it is unlikely that these consumers' overpayment is a fair exchange for some additional benefit, such as the "green power" marketed by suppliers.

Unlike the commercial and industrial market, where sophisticated buyers with demands for large volumes are likely able to negotiate more favorable rates, individual residential consumers are not getting a bargain.

3. What is the consumer loss associated with low-income households' participation in the competitive supply market?

3.1 Introduction

Section 2 discussed my findings regarding the residential competitive supply market as a whole (with the exception of households participating in a municipal aggregation and those customers located in towns served by municipal light plants[28]). In this section, I discuss various attributes of a subset of this market, specifically households that receive a low-income rate from their electric companies.

The rates that low-income households pay for electricity, an essential service,[29] significantly affect these households. Low-income households' monthly electricity expenditure represents monies that they cannot allocate to other goods and services (housing, food, transportation, etc.). Due to these customers' severe budget constraints, high electricity costs could have direct and serious consequences on their well-being and quality of life.

Additionally, increased costs for low-income consumers also have implications for non-low-income residential ratepayers. The electric bills for low-income ratepayers are subsidized by all of the electric companies' ratepayers. Because the electric companies calculate the size of each low-income consumer's subsidy by taking a percentage of the consumer's total bill (which includes any rates and charges from competitive suppliers), higher electricity bills for low-income consumers also result in higher subsidies paid by all other residential electricity consumers—including those who do not participate in the competitive supply market. Moreover, due to a purchase of receivables program established in 2014, the electric companies' ratepayers must also subsidize a significant portion of any billed amounts that consumers of competitive suppliers are unable to pay.[30]

I analyzed suppliers' billing data to (1) quantify the consumer loss (or gain) associated with the participation by low-income households in the competitive supply market in Massachusetts; (2) compare average rates charged to low-income consumers with those charged all other residential consumers; and (3) assess whether there is any evidence of competitive suppliers targeting low-income households.

As I demonstrate in Section 3.2, below, living in low-income communities increases the probability of participation in the over-priced competitive supply market, and also increases the size of the premium for such participation.

3.2 What is the consumer loss associated with low-income households' participation in the competitive supply market?

The annual consumer loss associated with competitive suppliers' electricity sales to low-income consumers was $23.6 million during the 2016–2017 study period.

The total annual loss increased by approximately 40 percent relative to the $17 million net consumer loss in the competitive supply market for low-income households in the previous twelve-month period (spanning July 2015 to June 2016).

The competitive supply market in Massachusetts for low-income households experienced only small growth between the two study periods.[31] However, the gap between the rates that consumers pay suppliers and the rates that they would have paid their electric companies for the same usage occurring in the same time periods has increased significantly. The cost of participation—the premium—for low-income consumers has increased substantially between the twelve-month period spanning July 2015 to June 2016 and the following twelve-month period, spanning July 2016 to June 2017. The average annual consumer loss for low-income households was $231 in the 2016–2017 study period and the average annual consumer loss for all low-income households was $145 in 2015–2016 study period.

3.3 What is the consumer harm to low-income households that purchase electricity from competitive suppliers?

Massachusetts low-income households, on average, paid significantly more to competitive suppliers than if they had taken service from their respective electric companies. Specifically, low-income customers paid an average premium of $0.035 per kWh over what they would have paid for basic service electric supply during the 2016–2017 study period. Moreover, the average premium that low-income customers paid for competitive service was higher than the average premium that non-low-income customers paid during the same period (non-low-income customers paid a premium of "only" $0.030 per kWh).

Accordingly, low-income households *pay an extra 17 percent* to participate, and therefore, unlike other households, low-income households pay a larger premium to purchase electricity in the competitive supply market. These higher rates translate, on an annual basis (and accounting for differing average kWh usage), to an average premium of $231 for low-income consumers to participate in the competitive supply market as compared to an average annual premium of $224 for non-low-income consumers.[32] Notably, this premium reflects those who saved money as well as those who were charged rates higher than those that the electric companies would have charged.

I examined losses at a supplier-specific level and determined that the highest *average* supplier-specific annual loss for low-income consumers was $541 (compared with $538 in the preceding 12-month study period). In other words, low-income customers served by one of the suppliers paid, on average, $541 *more* per year than if they had purchased the electric company's basic service. Only two out of 40 suppliers charged rates yielding annual savings (low-income customers served by the other 38 suppliers all experienced net consumer losses), and the average annual savings for those two suppliers were only $16 and $26, respectively.

Savings Estimates

As described in Section 2, above, most suppliers did not provide savings on average to residential competitive electric households during the study periods, and those that did provided relatively small average savings. The same dynamic also holds true for low-income households specifically.

Ten percent of bills are associated with charges that yield savings relative to the electric company rates that would have applied had the low-income households not taken service from a competitive electric supplier. These savings are, on average, $69 per year, or approximately one-fourth of the average annual overpayment of $265 that correspond with above-electric company rates.[33] The consequence is that, on balance, low-income consumers paid $23.6 million more as a result of competition than they would pay if the competitive supply market were not an option.

3.4 Low-income customers are overrepresented in the competitive supply market.

My analysis demonstrates that low-income households are overrepresented in the competitive supply market relative to their representation in the general population of households receiving electricity.

Low-income households, on average, represent only 12 percent of electric customers. However, according to data received from the electric companies, low-income households represented 21 percent of all competitive supply customers during the 2016–2017 study period.

The electric companies' data also shows that 36 percent—more than a third of *all* Massachusetts low-income households—participated in the competitive supply market (the remaining 64 percent received basic service or participated in a municipal aggregation) during the 2016–2017 study period. By contrast, only 18 percent of Massachusetts non-low-income households participated in the competitive supply market—*half* of the participation rate of low-income households.

Although, on average, both low-income and non-low-income customers suffer harm as a result of the competitive supply market, my analysis suggests that the competitive supply market has a disproportionate impact on low-income customers. As discussed in Section 3.2 above, during the 2016–2017 study period, low-income households paid a premium of 17 percent relative to other households.

Participation rates vary among municipalities and across income groups. I include three maps below that show statewide participation rates. I also include maps that show participation rates across income groups for the Boston area, the Springfield area, and the Worcester area. All twelve maps are based on information for June 2017. Each set of three maps shows participation rates for:

- All households;
- Low-income households; and
- Non-low-income households.

The twelve maps below reflect the higher participation rates by low-income households and also show those households' varying levels of participation throughout the state. The competitive supply market is equally active in towns with municipal aggregations.[34] The gray areas generally correspond with municipalities that are served by municipal light plants.[35]

Figure 3.1 shows participation rates for all residential customers throughout the state. This figure shows that the levels of participation in the competitive supply market vary significantly among the Commonwealth's various communities.

Figure 3.1 Participation in the individual residential market for electric supply, June 2017: Percent of all electric consumers enrolled in competitive supply.

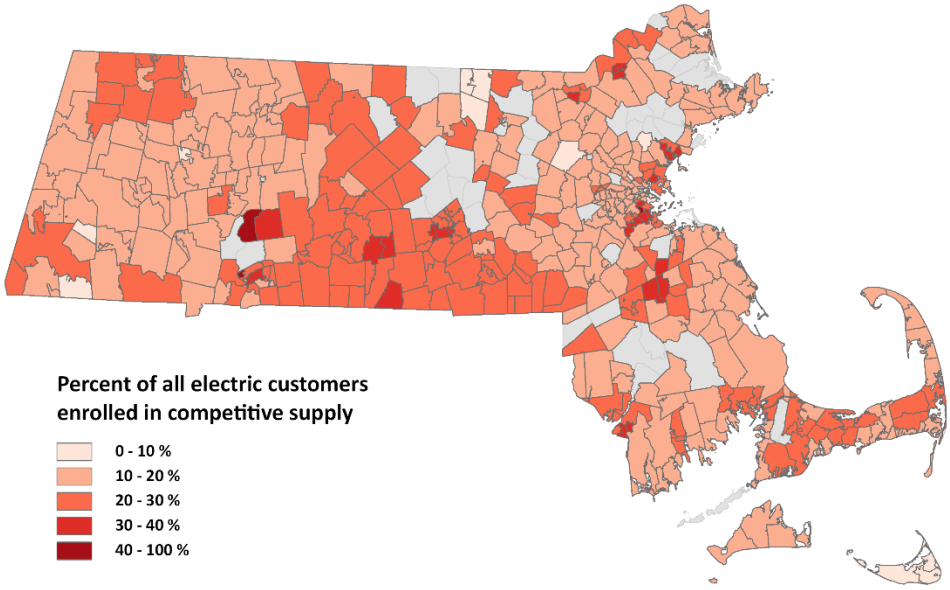


Figure 3.2 below shows statewide participation rates just for low-income households, and Figure 3.3 below shows statewide participation rates just for non-low-income households. Comparing these two maps shows the stark difference in participation rates, depending on household incomes, with much higher concentrations of participation by low-income household than by non-low-income households.

Figure 3.2 Participation in the individual residential market for electric supply, June 2017: Percent of all low-income electric consumers enrolled in competitive supply

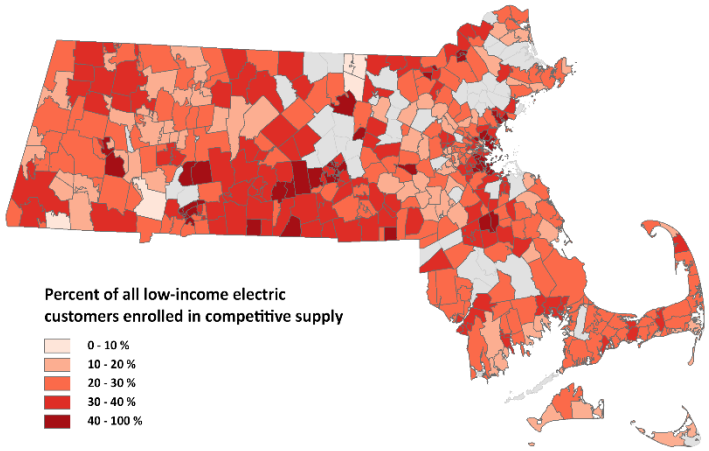
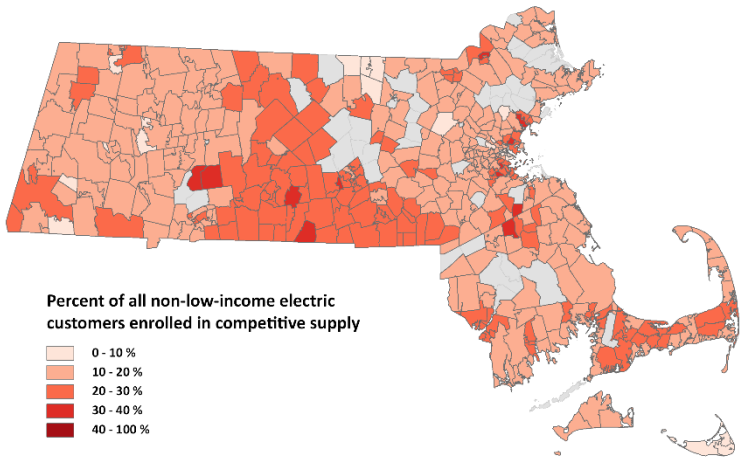


Figure 3.3 Participation in the individual residential market for electric supply, June 2017: Percent of all non-low-income electric consumers enrolled in competitive supply



Participation in the Boston area

Figure 3.4 shows participation rates across all incomes for the Boston area and shows varying levels of participation.

Figure 3.4 Boston-area participation in the individual residential market for electric supply, June 2017: Percent of all electric consumers enrolled in competitive supply

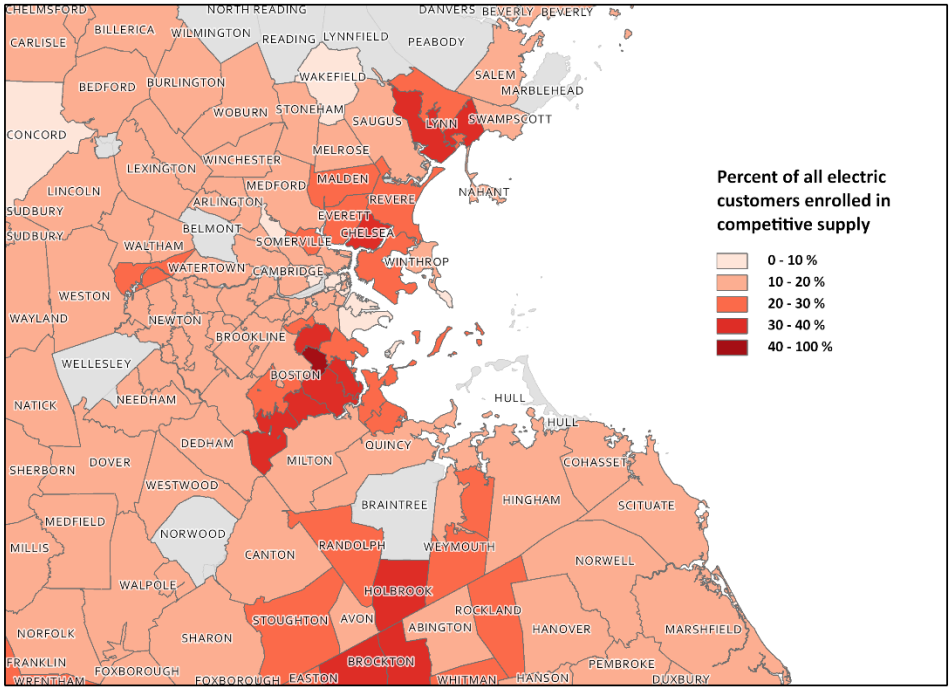


Figure 3.5 shows Boston area participation rates just for low-income households, and Figure 3.6 below shows Boston-area participation rates for non-low-income households. Comparing these two maps shows the stark difference in participation rates between high- and low-income communities.

Figure 3.5 Boston-area participation in the individual residential market for electric supply, June 2017: Percent of all low-income electric consumers enrolled in competitive supply

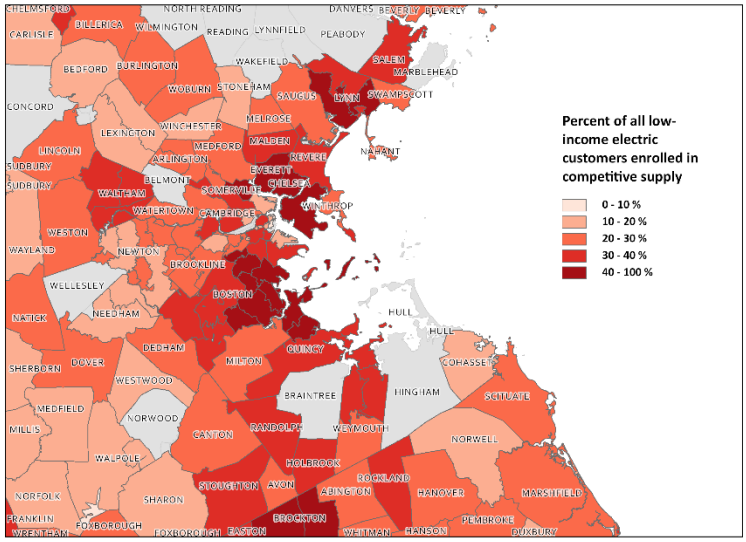
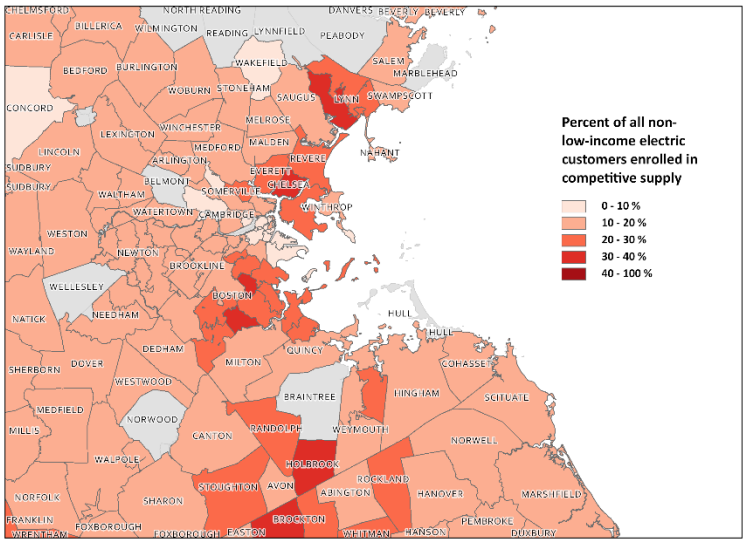


Figure 3.6 Boston-area participation in the individual residential market for electric supply June 2017: Percent of all non-low-income electric consumers enrolled in competitive supply



Participation in the Springfield area

Figure 3.7 shows participation rates across all incomes for the Springfield area and shows varying levels of participation.

Figure 3.7 Springfield-area participation in the individual residential market for electric supply, June 2017: Percent of all electric consumers enrolled in competitive supply

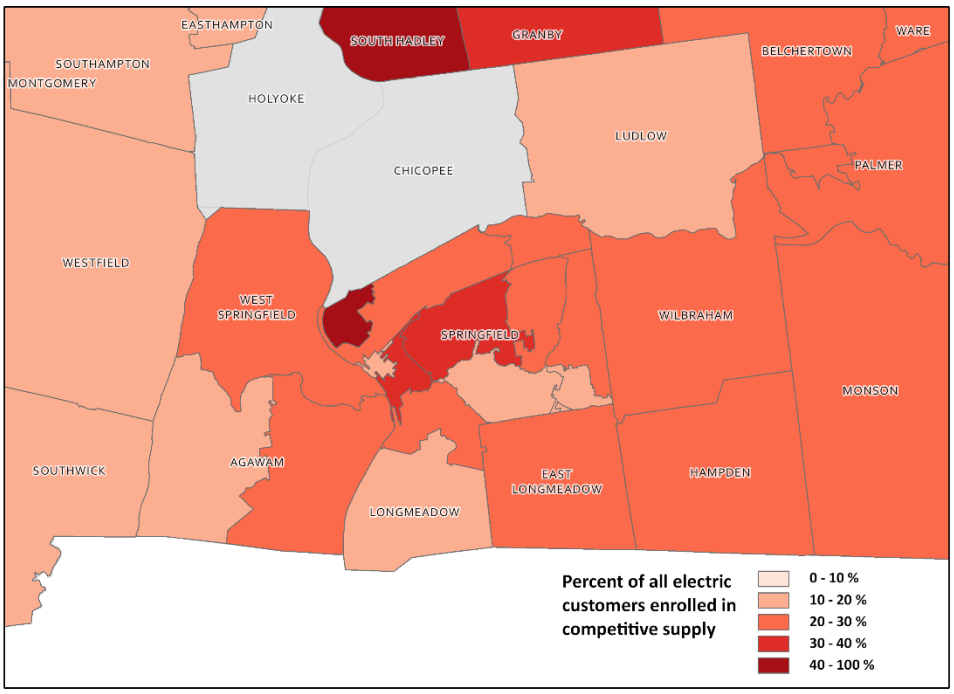


Figure 3.8 shows Springfield area participation rates just for low-income households, and Figure 3.9 below shows Springfield-area participation rates for non-low-income households. Comparing these two maps shows that the stark difference in participation rates between high- and low-income communities holds true in Springfield as well.

Figure 3.8 Springfield-area participation in the individual residential market for electric supply, June 2017: Percent of all low-income electric consumers enrolled in competitive supply

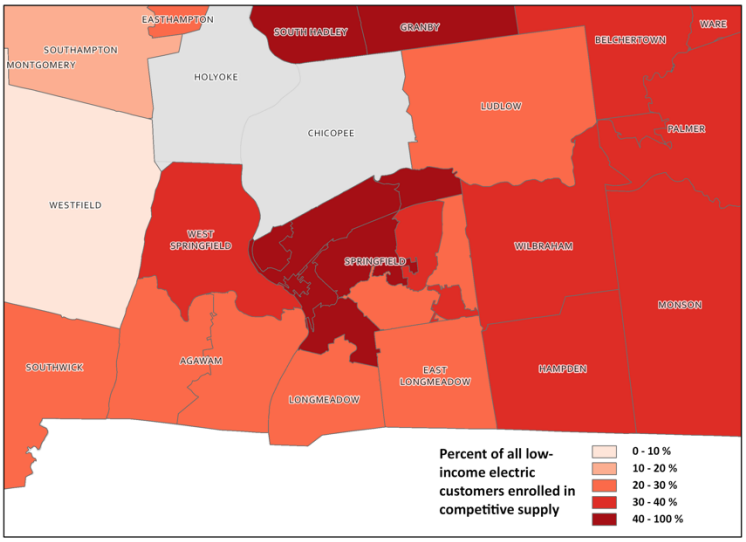
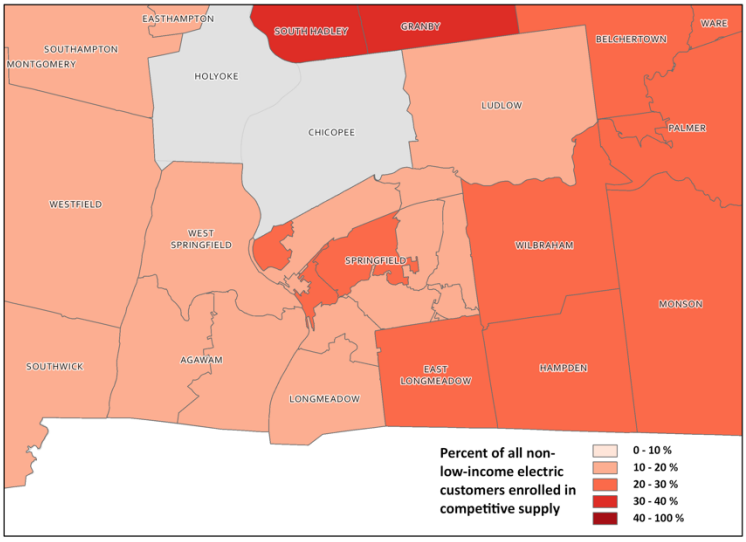


Figure 3.9 Springfield-area participation in the individual residential market for electric supply June 2017: Percent of all non-low-income electric consumers enrolled in competitive supply



Participation in the Worcester area

Figure 3.10 shows participation rates across all incomes for the Worcester area and shows varying levels of participation.

Figure 3.10 Worcester-area participation in the individual residential market for electric supply, June 2017: Percent of all electric consumers enrolled in competitive supply

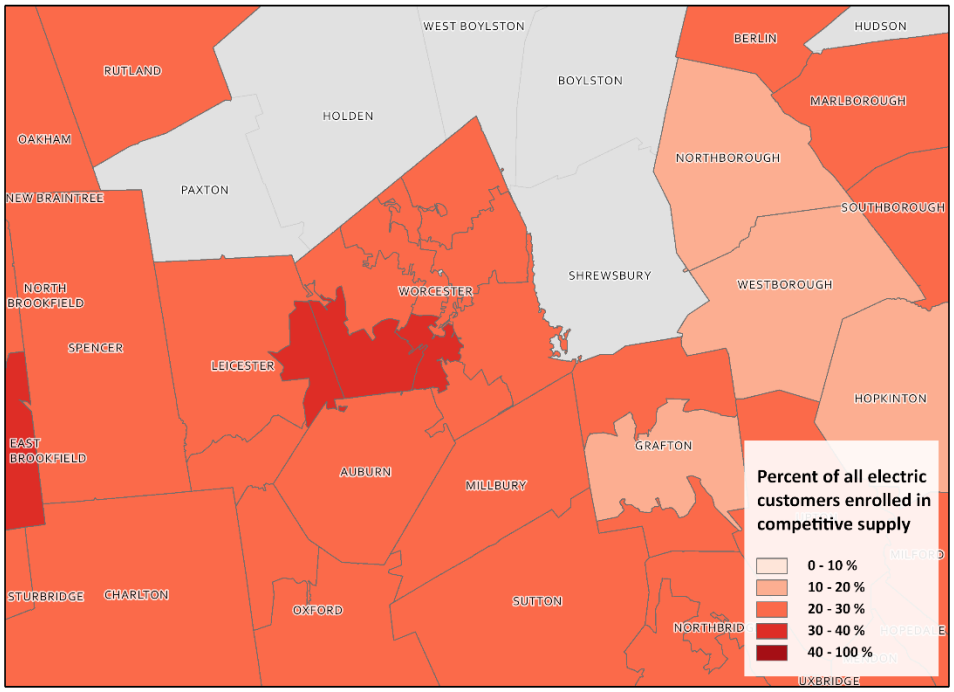


Figure 3.11 shows Worcester area participation rates just for low-income households, and Figure 3.12 below shows Worcester-area participation rates for non-low-income households. As in the Boston and Springfield areas, participation rates in the Worcester area by low-income households are substantially higher than by non-low-income households.

Figure 3.11 Worcester-area participation in the individual residential market for electric supply, June 2017: Percent of all low-income electric consumers enrolled in competitive supply

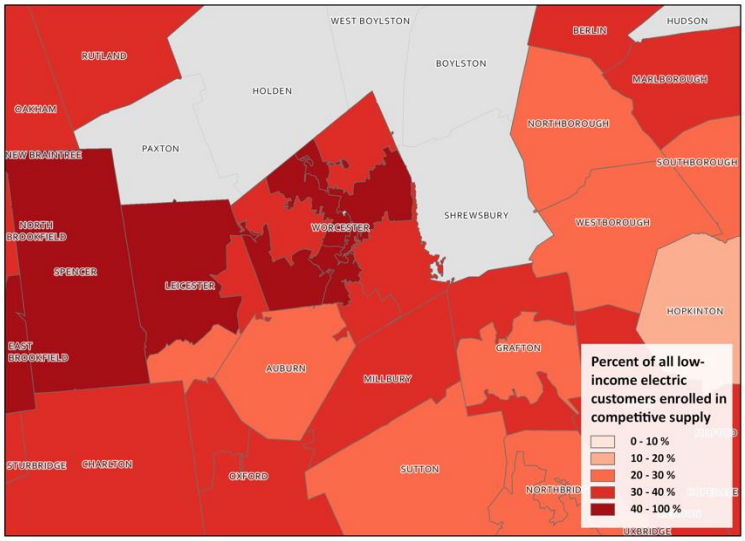
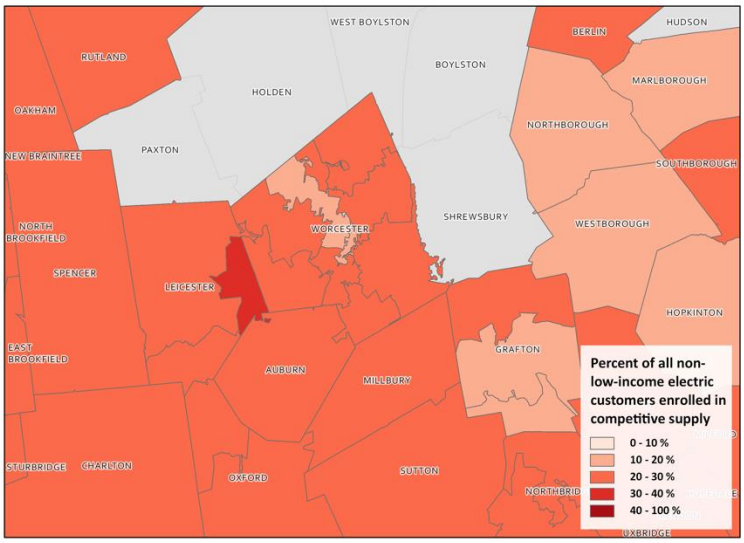


Figure 3.12 Worcester-area participation in the individual residential market for electric supply June 2017: Percent of all non-low-income electric consumers enrolled in competitive supply



In summary, the four sets of maps viewed side-by-side clearly show a pattern of higher participation by low-income households than by other households. This differential is especially concerning given the larger premium paid by low-income households who participate in the competitive supply market, as detailed in Section 3.3 above.

Section 3.5, below, analyzes other demographic aspects of the competitive supply market.

3.5 Potential targeting of vulnerable communities.

I also examined whether the electric companies' billing data provides demographic evidence that competitive suppliers have targeted certain demographic populations in Massachusetts. I examined data at the geographically granular level[36] corresponding with zip codes,[37] paying special attention to demographics such as the prevalence of households with limited English proficiency,[38] the percent designated as minority,[39] and the percent of low-income customers.

As part of my analyses of various demographic characteristics, I also assessed participation rates by (1) all households; (2) low-income households;[40] and (3) non-low-income households. Also, because the participation rate in municipalities that are served by municipal aggregation suppliers is approximately the same as that in municipalities without municipal aggregations,[41] I included those towns as well (excluding from my analysis those consumers served by municipal aggregation suppliers).

I found that participation rates are significantly higher (and thus consumer harm disproportionately occurring) in areas with certain demographics (or overlapping combinations of these demographics). Specifically, a community's percentage of minority households; African American households; Hispanic households; households with limited English proficiency; and low-income households correlates with higher rates of participation in the individual residential market for electric supply. Conversely, communities with higher median incomes tended to have significantly lower participation rates than more economically disadvantaged communities.

Not only are participation rates significantly higher in communities with five of the six demographic attributes I analyzed, but also the premiums that residents in these communities pay as a result of choosing competitive suppliers is greater than in other areas of Massachusetts. Therefore, these communities are harmed not only as a result of disproportionately higher levels of participation in the individual residential market for electric supply, but also as a result of paying larger premiums for their participation.

Table 3.1 below shows the ten municipalities and neighborhoods with the highest aggregate net consumer monthly loss.

Table 3.1 Ten Municipalities with the Highest Aggregate Net Consumer Loss (all incomes, monthly loss (June 2017))[42]

Municipality/ Neighborhood	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Worcester	$274,749	$14.42	28%	19,055
Springfield	$273,201	$17.74	28%	15,403
Dorchester	$208,823	$12.69	33%	16,461
Brockton	$180,573	$16.24	33%	11,122
Lynn	$167,567	$15.48	32%	10,823
Lowell	$163,967	$15.72	26%	10,430
Lawrence	$153,228	$17.26	35%	8,878
Fall River	$151,610	$13.92	28%	10,888
Quincy	$134,899	$14.52	21%	9,288
New Bedford	$108,881	$11.15	24%	9,765

In fact, as shown in Appendix 2C, all municipalities experienced net consumer loss in June 2017.

Table 3.2, below, summarizes the participation rates for the demographics discussed above for households of all incomes. Table 3.2 shows higher percentage participation rates in the individual residential supply market in communities with certain demographic attributes. Generally, these communities participate significantly more in the competitive supply market and pay higher premiums than do other communities. For example, communities with the highest percentage of Hispanic households have a participation rate in the competitive supply market of 33 percent across all incomes, and the average premium paid by consumers in these communities is $0.0352, which is 18 percent higher than the premium of $0.0299 paid in the Commonwealth's other communities. Isolating other demographics using the filters described above produces similar results, as seen in Appendices 3B-3I.

Table 3.2 Participation Rates Based on Various Demographics: All Households [43]

Participation Rates - All Households		
Demographics	**Demographic-Specific Communities**	**All Other Communities**
Majority-Minority	30%	19%
African American – Top 20	32%	20%
Hispanic – Top 20	33%	20%
Limited English Proficiency – Top 20	30%	20%
Bottom 20 Median Income	31%	20%
Percent receiving low-income subsidy – Top 20	32%	20%
Top 20 Median Income	15%	21%

Statewide, across all demographic groups, the participation rates for low-income households and non-low-income households are 36 percent and 18 percent respectively.

Table 3.3, below, shows that the participation rates for low-income households located in communities with certain demographic attributes range between 44 percent and 47 percent, significantly higher than the low-income participation rate in other communities in Massachusetts. For example, Table 3.3 shows that in the 20 communities with the highest levels of limited English proficiency, the participation by low-income households in the individual residential supply market is 45% whereas the participation by low-income households in all other Massachusetts communities is 34%.

Table 3.3 Participation Rates Based on Various Demographics: Low-Income Households

Participation Rates – Low-Income		
Demographics	**Demographic-Specific Communities**	**All Other Communities**
Majority-Minority	45%	31%
African American – Top 20	46%	33%
Hispanic – Top 20	47%	33%
Limited English Proficiency – Top 20	45%	34%
Bottom 20 Median Income	44%	34%
Percent receiving low-income subsidy – Top 20	44%	34%
Top 20 Median Income	18%	35%

Table 3.4, below, shows that the pattern of substantially higher participation rates in minority communities persists for both low-income and non-low-income electric customers. For example, the participation rate by non-low-income households in the twenty communities with the highest percentages of African Americans is 27 percent whereas the participation rate by non-low-income households in the rest of the state is 18 percent.

Table 3.4 Participation Rates Based on Various Demographics: Non-Low-Income Households

Participation Rates – Non-Low-Income		
Demographics	**Demographic-Specific Communities**	**All Other Communities**
Majority-Minority	25%	17%
African American – Top 20	27%	18%
Hispanic – Top 20	27%	18%
Limited English Proficiency – Top 20	25%	18%
Bottom 20 Median Income	25%	18%
Percent receiving low-income subsidy – Top 20	25%	18%
Top 20 Median Income	15%	19%

Table 3.5, below, summarizes the premiums for the demographic groups discussed above. Table 3.5 shows that some communities and households pay higher premiums than do others. As reflected in Table 3.5, it is generally more expensive to participate in the competitive supply market for households that are located in communities that have a majority of minority households, have relatively higher numbers of households with limited English proficiency, and with relatively higher percentages of low-income people.

Table 3.5 Premium paid for participation in competitive supply market based on various demographics

	Premium		
Demographics	**Demographic-Specific Communities**	**All Other Communities**	**Demographic Premium**
Majority-Minority	$0.03328	$0.02953	13%
African American – Top 20	$0.03220	$0.03010	7%
Hispanic – Top 20	$0.03521	$0.02986	18%
Limited English Proficiency – Top 20	$0.03442	$0.02990	15%
Bottom 20 Median Income	$0.03427	$0.03000	14%
Percent receiving low-income subsidy – Top 20	$0.03487	$0.02999	16%
Top 20 Median Income	$0.02933	$0.03034	-3%

3.6 Statistical analysis shows correlation between income and participation.

Participation rates in the competitive supply market vary substantially across Massachusetts. Following this report's findings of substantial consumer loss from competitive supply, I analyzed whether any observable characteristics of individual zip codes predict higher participation rates with statistical significance.

Approach

Competitive supply participation rates are defined as the number of accounts billed by competitive suppliers divided by the total number of accounts, and correspondingly for just the subset of low-income accounts. These rates are zip code- and municipality-specific and were derived from June 2017 data.

I considered socio-demographic characteristics of zip codes as possible predictors of participation rates. For each zip code, the median household income approximates the income of a typical customer. An additional indicator for neighborhood affluence (or poverty) is the share of all electric accounts that are identified as low-income; in general, more affluent neighborhoods have higher median incomes and lower shares of low-income accounts.

Zip code-level variation in race and English proficiency were also considered in the analysis. Regressions controlled for the total number of accounts in each zip code and whether a municipal aggregator was available to consumers. They included electric company-level fixed effects to account for regional differences in average consumer behavior and standard errors were clustered at the municipality.

Findings

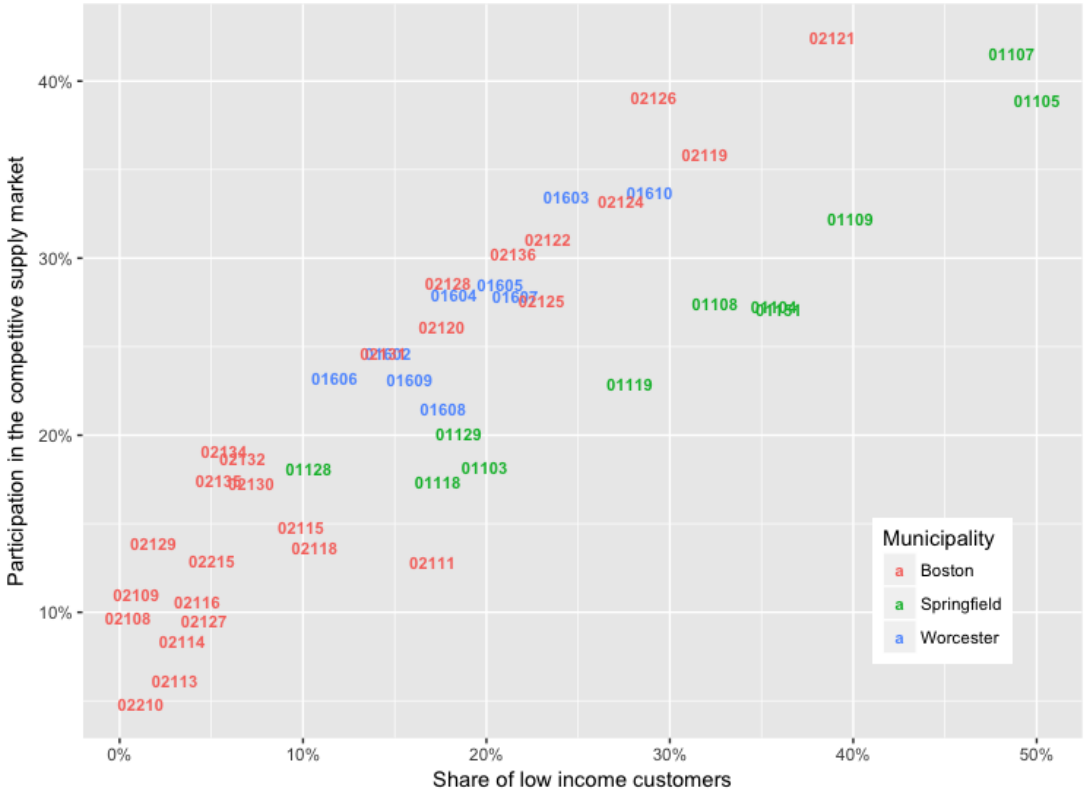
Analysis of the zip code-level data for the month of June 2017 provides findings that are consistent with disparate targeting of low-income customers for enrollment in competitive supply accounts. There is a negative relationship between a zip code's typical income level—as measured by either median household income, or the proportion of all accounts that are low-income—and its participation in the competitive supply market. In other words, neighborhoods with lower incomes tend to have higher rates of participation in the competitive supply market among *both* low-income customers *and* all other customers.

This association between greater low-income populations and market participation rates is supported by multiple regression analysis, including as additional covariates (a covariate is a variable that is possibly predictive of the outcome under study) the total number of accounts in a zip code, differences in levels of participation among the different electric company service areas, and the presence of a municipal aggregator. Variation in the shares of low-income accounts alone predicts approximately one third of the variation in how many low-income households participate in the competitive supply market at the zip code level (r-squared = 0.3).

This finding—that the share of low-income customers in a zip code predicts the rate at which consumers participate in the competitive market—is not causal; the data do not allow us to determine what drives customers to enter the market for competitive supply. However, it merits further investigation, since the observed pattern is consistent with suppliers targeting economically disadvantaged areas for marketing and advertising, which may drive higher sign-ups. (Conversely, if suppliers targeted all areas of Massachusetts equally, one would not necessarily expect a low-income customer in Dover, a high-income community, to be more or less likely to purchase electricity from a competitive supplier than a low-income customer in Springfield.)

Figure 3.13, below, is a scatter plot that shows that as the percentage of low-income households in a zip code increases, so, too, does the level of participation in the competitive supply market.

Figure 3.13 Boston, Springfield, and Worcester Zip Codes by Share of Low-Income Customers and Rate of Participation in the Competitive Supply Market (June 2017)



Finally, my regression analysis shows that neither the magnitude of the higher rates charged in the competitive supply market nor the number of suppliers operating in a given zip code was strongly predicted by zip code incomes or anything else in the set of demographic variables considered. However, although neither the income or any other demographic variable associated with a zip code predicts the size of the premium to participate in the competitive supply market in that particular zip code, my analysis of rates paid shows that, on average, low-income households pay more to participate in the market than do non-low-income households.

3.7 Consumer loss examined at the supplier level

I also computed net loss and average premiums for low-income customers separately by supplier.[44] I analyzed various attributes of the competitive suppliers serving low-income households: their average premiums (weighted by usage), the number and percent of bills associated with each supplier, and the amount and percent of consumer loss (or gain) associated with each supplier.[45]

Table 3.6 below shows the ten suppliers (with their identities concealed), for which at least 100 total bills were rendered to low-income consumers, who charged the highest premiums during the 2016–2017 study period.[46]

Table 3.6 Ten suppliers with the highest average premium – low-income households

Masked Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #1	$0.1671	2,635	$0.0778	0.22%	$118,919	0.50%
Supplier #18	$0.1648	34,096	$0.0738	2.79%	$1,229,851	5.22%
Supplier #47	$0.1547	36,739	$0.0648	3.01%	$1,327,411	5.63%
Supplier #39	$0.1471	10,720	$0.0580	0.88%	$355,810	1.51%
Supplier #12	$0.1416	136,009	$0.0516	11.13%	$3,449,749	14.64%
Supplier #41	$0.1391	105,476	$0.0502	8.63%	$2,862,367	12.15%
Supplier #37	$0.1394	56,781	$0.0502	4.65%	$1,644,197	6.98%
Supplier #15	$0.1391	88,406	$0.0476	7.24%	$2,034,689	8.64%
Supplier #25	$0.1404	9,600	$0.0436	0.79%	$157,136	0.67%
Supplier #29	$0.1282	74,480	$0.0394	6.10%	$1,448,851	6.15%
Total associated with top 10		554,942		45%	$14,628,982	62%

Table 3.7 below shows the ten suppliers for which electric companies rendered the most bills to low-income households. These ten suppliers account for 67 percent of the bills rendered in the competitive supply market and 74 percent of the net consumer loss. The ten suppliers and their respective rankings differs from those shown in Table 2.6 above, which corresponds with all households.

Table 3.7 Ten suppliers with the highest number of bills – low-income households

Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #12	$0.1416	136,009	$0.0516	11.13%	$3,449,749	14.64%
Supplier #42	$0.1108	106,105	$0.0191	8.69%	$1,187,957	5.04%
Supplier #41	$0.1391	105,476	$0.0502	8.63%	$2,862,367	12.15%
Supplier #15	$0.1391	88,406	$0.0476	7.24%	$2,034,689	8.64%
Supplier #32	$0.1225	82,977	$0.0328	6.79%	$1,696,511	7.20%
Supplier #6	$0.1264	76,048	$0.0364	6.23%	$1,554,980	6.60%
Supplier #29	$0.1282	74,480	$0.0394	6.10%	$1,448,851	6.15%
Supplier #37	$0.1394	56,781	$0.0502	4.65%	$1,644,197	6.98%
Supplier #34	$0.1081	48,707	$0.0178	3.99%	$527,076	2.24%
Supplier #43	$0.1273	45,184	$0.0351	3.70%	$939,809	3.99%
Total associated with top 10		820,173		67%	$17,346,187	74%

Table 3.8 below shows the ten suppliers responsible for the largest absolute net low-income consumer loss in Massachusetts. In the aggregate, they account for 78 percent of the net consumer low-income loss although they account for only 65 percent of the bills rendered to households receiving subsidized rates on behalf of competitive suppliers. The column "Ratio of % Loss to % of Accounts" shows that many of the suppliers' shares of net consumer loss greatly exceed their corresponding shares of bills. For example, Table 3.8 shows that approximately 11 percent of all bills are rendered on behalf of Supplier #12, and yet Supplier #12's consumers account for 15 percent of net consumer loss.

Table 3.8 Ten suppliers responsible for the greatest aggregate consumer loss: low-income households

Supplier ID	Average Rate	Number of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss	Ratio of % Loss to % of Accounts
Supplier #12	$0.1416	136,009	$0.0516	11.13%	$3,449,749	14.64%	132%
Supplier #41	$0.1391	105,476	$0.0502	8.63%	$2,862,367	12.15%	141%
Supplier #15	$0.1391	88,406	$0.0476	7.24%	$2,034,689	8.64%	119%
Supplier #32	$0.1225	82,977	$0.0328	6.79%	$1,696,511	7.20%	106%
Supplier #37	$0.1394	56,781	$0.0502	4.65%	$1,644,197	6.98%	150%
Supplier #6	$0.1264	76,048	$0.0364	6.23%	$1,554,980	6.60%	106%
Supplier #29	$0.1282	74,480	$0.0394	6.10%	$1,448,851	6.15%	101%
Supplier #47	$0.1547	36,739	$0.0648	3.01%	$1,327,411	5.63%	187%
Supplier #18	$0.1648	34,096	$0.0738	2.79%	$1,229,851	5.22%	187%
Supplier #42	$0.1108	106,105	$0.0191	8.69%	$1,187,957	5.04%	58%
Total associated with top 10		797,117		65%	$18,436,565	78%	120%

3.8 Conclusions about the low-income market

Based on my examination of competitive supplier data, I found that, on average, 101,922 low-income households paid $23.6 million more over the July 2016 – June 2017 study period than they would have paid if they had paid their electric companies' fixed basic service rates. The average low-income household on competitive supply lost $231 over the course of the year. Some households lost more than $541.

The evidence of harm to low-income households is overwhelming—the participation rate is double that of all other households, and low-income households pay a larger premium to participate because the rates they are charged are higher than the rates charged to non-low-income households. These results are particularly alarming due to the disproportionate real-world impact of consumer loss in connection with the payment of an essential service—electricity—for these households with limited incomes where expenditures on utilities represent a larger share of the household budget.

4. Reports of Unfair or Deceptive Acts or Practices

Complaints regarding the practices of competitive suppliers have increased significantly in recent years. In the seven years from 2006 to 2013, the AGO received approximately 215 complaints about competitive suppliers. Since 2014, however, the AGO has received more than 700 complaints regarding competitive suppliers. The complaints often allege a variety of unfair or deceptive acts or practices, many times alleging more than one type of misconduct per complaint.

The complaints typically include one or more of the following common allegations:

- the competitive supplier promised savings, but the consumer ultimately pays substantially more for electric supply than he or she did before;
- the competitive supplier falsely represented an affiliation with the consumer's electric company;
- the competitive supplier falsely represented that it was "with" a state program (or the electric company) and contacted the consumer in order to "reduce" the consumer's electricity bill;
- the competitive supplier, once provided with the consumer's account number, switched the consumer's account to the supplier without the consumer's affirmative consent;
- the competitive supplier took advantage of the consumer's age, disability, or language barrier in order to sign the consumer up for the supplier's product;
- competitive suppliers employing high-pressure, aggressive sales tactics, including harassing consumers by coming to their door or calling their phone over and over again in a short time span;
- the competitive supplier solicited the consumer on the phone, even where the consumer is on the "Do Not Call" list;
- competitive suppliers going door-to-door ignore "No Solicitation" signs;
- the competitive supplier's lack of customer service makes it difficult or impossible for a consumer to cancel their contract;
- the competitive supplier requires a high termination fee to cancel the contract;
- the competitive supplier promised a certain rate, but the consumer was charged a higher rate instead; and
- the competitive supplier made misleading claims about the sources and amounts of renewable energy it provides to its customers.

These allegations are not just common in Massachusetts, but across the fourteen states and jurisdictions in which the electric supply market was deregulated for residential consumers (the "deregulated states"). A perfunctory internet search indicates that in the last five years, thirteen of the fourteen deregulated states have launched investigations regarding unfair or deceptive acts or practices by electric suppliers who also are licensed to do business in Massachusetts. This includes at least 35 investigations or lawsuits by state public utility commissions and state attorneys general and/or consumer advocates. Moreover, suppliers who are licensed to do business in Massachusetts have been the subject of at least 59 class action lawsuits, as well as numerous individual lawsuits—all alleging unfair and deceptive acts and practices consistent with the types of complaints regularly received by the AGO.[47] Unfortunately, the investigations and lawsuits appear to have little deterrent effect—rather, they seem to be borne by the suppliers as a mere cost of doing business.

5. Remedies

5.1 End the individual residential market for electric supply[48]

My analysis shows that almost 500,000 Massachusetts consumers overpaid $176.8 million over a two-year period for electricity, an essential service. The impact of this overpayment is disproportionately felt by low-income customers, economically disadvantaged communities, and other vulnerable populations. Moreover, as discussed in Sections 2 and 3, above, the benefits that these customers received from the additional amounts paid to competitive suppliers are small to non-existent.

Accordingly, I find that the individual residential market for electric supply causes significant net harm to Massachusetts consumers, and I strongly recommend that the Legislature end the individual residential market for electric supply.[49]

I also believe that implementing stronger consumer protection measures, although preferable to the status quo, would be insufficient to prevent further substantial net harm to Massachusetts consumers. Based on the experiences of other restructured states, as well as the basic economics of the individual residential market, I believe that it is not possible to transform the individual residential market from one that causes significant net harm to Massachusetts consumers to one that provides net benefits.

Other restructured states have implemented a variety of strict legislative and regulatory measures, but consumer harm continues to occur. In its February 2016 Order (discussed in Section 5.2.3, below), the New York Public Service Commission ("NYPSC") noted that an earlier attempt to strengthen rules regarding competitive supplier (referred to in New York as "ESCOs" or energy supply companies) business practices had not reduced complaints:

> Despite the [NYPSC]'s recent modifications to the [Uniform Business Practices] to strengthen and enhance customer protections through changes in the marketing standards and customer enrollment procedures that ESCOs and their representatives must follow, abuses continue. These abuses lead to customer complaints filed with the [NYPSC], which have been steadily increasing. The total number of initial complaints received by the [NYPSC] against ESCOs in 2015 was 5,044.[50]

In December 2016, the NYPSC issued a notice launching an investigation into whether competitive suppliers should continue to market to residential and small business consumers.[51]

In Connecticut, the legislature and Public Utility Regulatory Authority ("PURA") strengthened consumer protection through the adoption of a number of comprehensive measures, including a ban on variable rates.[52] However, these measures have merely mitigated the loss and not transformed the market into one that provides net benefits. Before these measures were adopted, I computed a *net* monthly "overpayment" of $13.7 million by Connecticut's households, or as much as $164 million *annually* in 2014.[53] After substantial regulatory and legislative effort to establish additional consumer safeguards, the consumer loss in Connecticut declined to "only" $58 million during 2015[54] and $46 million during 2017.[55]

Moreover, as recently as January 2017, the Connecticut Consumer Counsel called for an investigation into abusive and deceptive marketing practices by competitive electric suppliers who target vulnerable consumers,[56] although PURA has thus far declined to open an investigation.

In Maryland, the Public Service Commission has found that some suppliers fail to comply with the provisions of Maryland's Door-to-Door Sales Act. In its 2014 decision fining one supplier for various violations, the Commission stated, among other things: "we conclude that [the supplier] committed at least hundreds of violations of the Door-to-Door Sales Act by not providing consumers with contracts that contain the required language in that Act" and "there is no dispute that [the supplier's] door-to-door solicitations were in violation of this Act over many months. Considering how significantly [the supplier] relied upon this type of solicitation to attract new consumers, its ongoing failure to comply with this law is remarkable. . . . The record clearly establishes that these violations of Maryland law were an ongoing practice in [the supplier's] door-to-door solicitations."[57]

Complaints and issues with marketing practices across jurisdictions, as seen in further detail in Appendix 4, are so consistent because the economics of the competitive supply market suggest that the market will always fail individual residential consumers:

- Suppliers compete with the electric companies' basic service, which is a wholesale price that tracks current wholesale market prices relatively closely and is bought in bulk without any profit mark-up.

- The electricity delivered to the consumer is exactly the same whether purchased from a supplier or the electric company.

- Suppliers have significant expenses for overhead (marketing, multiple employees).

- Due to these structural disadvantages, suppliers cannot, on average, "beat" basic service long-term.

- Suppliers, however, have a high level of sophistication relative to residential consumers regarding the relatively complex energy supply markets.

These factors create a harmful combination that results in consumers overpaying for sometimes absolutely no benefit.[58] And, as discussed in detail in Section 2.5 above, when suppliers claim to offer benefits, those benefits are rarely, if ever, commensurate with the premium charged by those suppliers.

Rather than wait for more consumers to be harmed, the Massachusetts Legislature should seriously consider whether the competitive supply market lends itself to competition. The large and growing annual consumer losses (which disproportionately harm low-income and minority communities) suggest that suppliers have found Massachusetts markets to be attractive precisely because they are able to charge high rates.

Moreover, the end of the competitive supply market would not end or even harm consumer choice. Those consumers interested in paying variable rates that follow approximate monthly market prices can elect the variable basic service rate. Consumers who have an interest in fixing their rate for a year's time can participate in their electric companies' budget billing programs. Finally, consumers who would like to purchase "green" or renewable energy can elect to purchase renewable energy through a "green button" program whereby they send their consumption to a third-party that will then bill them for REC (renewable energy certificate) purchases, or they may participate in any town-run green program.

Accordingly, because consumer harm—and especially consumer harm to vulnerable populations—is likely to continue even with the most stringent legislative and regulatory measures and oversight, I recommend that the Legislature end the practice of marketing and selling electric supply to residential consumers on an individual basis (*i.e.*, those residential consumers who do not participate in a municipal aggregation or other group-buying collaborative).

5.2 If the market continues to operate, take action to address imbalances.

Although my primary recommendation is that the Legislature end the practice of marketing and selling electric supply to residential consumers on an individual basis, I have also considered ways to enhance consumer safeguards that may mitigate the consumer harm that would result if the competitive supply market were to continue.

My research and analysis shows that Massachusetts lacks several consumer protection measures that have been implemented in other states. I recommend that regulators and legislators implement consumer protection safeguards to deter, mitigate, and prevent further consumer harm. I discuss these safeguards below. Moreover, as I demonstrate below, it is essential to allocate and fund sufficient resources to enforce consumer protection safeguards.

5.2.1 Well-functioning markets require transparency and informed decision-making.

It seems improbable that if consumers fully understood the options available to them, they would choose to pay, on balance, tens of millions of dollars more each year for electricity than they would if they stayed with electric companies. Going forward, it is critically important that suppliers be fully accountable to the Legislature, the Department, and consumers for the prices they charge and the practices they use to market and sell electricity. As regulators in another state aptly observed: "In a deregulated market, a consumer's ability to make rational, well-informed choices among competing suppliers – and indeed the stability and growth of the supplier marketplace itself – is directly undermined by deceptive misrepresentations . . . ."[59]

Prior to this report, it was largely unknown what, if any, benefits the competitive electric supply marketplace delivered to Massachusetts consumers. As currently constructed, the Massachusetts market operates largely in a "black box." This lack of transparency makes it infinitely more difficult to hold bad actors in the marketplace accountable for their abuses. Accordingly, going forward, critical information about the market should be publicly provided. The information should be clear, accurate, comprehensive, and easily accessible.

I recommend, at minimum, making publicly available (ideally in one location) the following information about the competitive supply market:

- Each supplier's historical rates by product for the prior 24 months;
- The current and historical residential fixed basic service rates for each electric company for the last 24 months.[60] This disclosure should also include key information about residential fixed basic service, which most consumers do not know, but which is critical to assessing the viability of many long-term, fixed rate product offers—the pattern of basic service rates in the summer and winter months.[61]
- Aggregated complaint data for each supplier based on complaints received by the Department, the AGO, and the electric companies.

Additionally, each electric company should be required to submit a monthly report for publication on the Department's website (either in a Department docket or elsewhere), which details the following:

- All suppliers in each electric company's service territory who billed consumers for the prior month;
- All the rates charged by each supplier for the prior month; and
- The number of residential consumers charged per supplier, per rate.[62]

I recommend implementing monthly reports because this will enable those charged with oversight of the market to regularly assess and report on the current state of the market. Reports such as the Electric Supplier Market Fact Sheets generated in Connecticut by the Office of Consumer Counsel provide the type of transparency needed for the competitive supply marketplace.[63] The most recent Connecticut report shows that, in the aggregate, Connecticut consumers paid $46 million more during 2017 to suppliers than if they were served by their electric companies. The Connecticut fact sheet (included as Appendix 5A) also disaggregates this amount to show, by supplier, the annual payment that the suppliers' consumers paid either above or below what they would have paid if they stayed with the electric companies' basic service. Massachusetts policy makers and consumers merit the same level of accountability and information as are provided policy makers and consumers in Connecticut.

The Legislature and the Department should also take steps to ensure that the Commonwealth's most vulnerable consumers are not taken advantage of by suppliers. Among other things, electric companies should report semi-annually to the Department and the AGO the numbers of low-income consumers and all other residential consumers by supplier, and by electric company, separately by zip code. This information should help the Department and the AGO monitor whether any particular suppliers are targeting vulnerable populations. Appendix 2C shows household participation in the competitive supply market by zip code-municipality and Appendix 3B through 3I shows household participation separately for all households, low-income households, and non-low-income households for certain municipalities.

The disproportionately higher participation by low-income households in the competitive supply market merits scrutiny. Moreover, it may be appropriate for municipal leaders, local agencies, and community organizations to monitor suppliers' practices in those communities with particularly high levels of consumer participation. I recommend that the Department maintain a page on its Shopping for Competitive Supply website, energyswitchma.gov, that shows which suppliers are active in which communities based on billing data provided by electric companies.

5.2.2 Adequate oversight and enforcement are essential

Currently, competitive electric suppliers must comply with various consumer protection laws and regulations in Massachusetts, including G.L. c. 164, § 1F and G.L. c. 102C; Department regulations at 220 CMR 11.00; and AGO regulations at 940 CMR 19.00.[64] However, the mere existence of regulations and laws is insufficient to protect consumers. Although I support the implementation of stronger legislative and regulatory measures, I also caution legislators and regulators that significant consumer harm likely will continue. As discussed in Section 6.1, above, the existence of Maryland's Door-to-Door Sales Act did not prevent deceptive sales practices or consumer harm, nor did the measures implemented by the NY PSC or the CT PURA.

As some competitive suppliers continue to operate in violation of existing laws and regulations, strong and timely enforcement via supplier-specific investigations is needed to ensure compliance. The experience of consumer advocates and regulators in Massachusetts and in other states demonstrates that it is time-consuming and resource-intensive to investigate suppliers that may engage in deceptive and aggressive sales practices, representing yet more costs of competition for taxpayer-funded public agencies with limited budgets.

In order to allow for more efficient and timely investigations and enforcement measures, the Legislature should consider legislation that authorizes the Department to assess all suppliers for the purposes of establishing an enforcement fund for regulators to dedicate a team to enforce applicable laws and regulations.[65]

Finally, last year the Department issued an order in a proceeding, D.P.U. 16-156, which I believe should allow for more rigorous oversight of competitive suppliers. The Department adopted interim guidelines for formal investigations and proceedings regarding competitive suppliers ("Interim Guidelines"). The intent of these Interim Guidelines is to provide a process and procedure that will be uniformly implemented when a competitive supplier has allegedly violated the Department's regulations, and will apply to all competitive supply proceedings that require compliance with G.L. c. 30A. Under G.L. c. 164, § 1F and, more specifically, 220 CMR § 11.07(4)(c), the Department has the authority to assess penalties in connection with violations of its regulations, as well as the authority to revoke or place conditions on a supplier's license for non-compliance.

In summary, if competition in the competitive supply market is permitted to continue, I recommend the establishment of a dedicated enforcement team funded by competitive suppliers.

5.2.3 The Legislature should strongly consider more targeted remedies.

My analysis shows that consumers overpaid by $176.8 million from July 2015—June 2017 for an essential service. Other states have found that residential customers who receive competitive supply in their states pay more than default service but do not necessarily derive any (or derive negligible) value from some of these products. Accordingly, the Legislature may want to consider enacting some of the targeted remedies proposed or enacted elsewhere, such as in New York[66] and Connecticut, which require that competitive suppliers who do not guarantee savings provide something of actual value to the consumer.

The New York PSC, in addition to considering whether suppliers should be completely prohibited from serving their current products to mass-market consumers, issued an order prohibiting service to low-income customers by competitive suppliers in December 2016.[67]

In Connecticut, the legislature and PURA prohibited suppliers from charging variable rates due to findings that variable rates caused significant harm to consumers.[68] As detailed in Section 4 above, many Massachusetts consumer complaints concern suppliers that offer low introductory rates to consumers and then subsequently increase them significantly, often without warning. Low initial rates attract consumers who may not understand or have been informed adequately that the rates are variable and may increase. The Legislature should thus consider prohibiting variable rates.

Another source of consumer complaints concerns slamming—the practice of switching a consumer to a supplier without the consumer's explicit authorization to do so. Slamming can occur when a sales representative acquires the consumer's account number from the consumer or the consumer's bill. All electric companies should be required to develop plans to implement a "do not switch" option for consumers to block their accounts from unauthorized switching from basic service, including a robust program to educate consumers about the availability of the no-switch option.

5.3 Summary

Absent legislative and regulatory intervention, the existing competitive supply market will continue to lead to substantial and unwarranted consumer harm. Implementing strong consumer measures and enforcing these measures are time-consuming and resource-intensive. These costs should not be overlooked when weighing the costs and benefits of residential electric supply competition. Until such time as the Commonwealth's policy makers take steps to protect consumers, annual consumer losses in the tens of millions likely will continue and low-income consumers will continue to spend millions more for an essential service than they would have if they had stayed with their electric companies.

6. Conclusion

The goal of a competitive supply market should be to encourage efficient suppliers to stay in the market and inefficient ones to exit the market. However, the typical scenario experienced by other states is one in which there is substantial consumer harm prompting extensive regulatory and legislative intervention, only to see consumer harm continue. The most effective action, therefore, would be to end the competitive supply market.

If, on the other hand, competitive suppliers were to continue to operate in the competitive supply market, timely action is necessary to mitigate consumer harm in Massachusetts. Such action would include taking steps to monitor whether any particular suppliers are targeting vulnerable populations through increased transparency and oversight. Public accountability is essential. Information regarding suppliers' rates and complaints by supplier and by category should be easily accessible. Finally, regulations without sufficient enforcement are meaningless. Accordingly, the Legislature should ensure that regulators are provided with the authority and resources necessary to pursue those suppliers who violate Massachusetts law.

Endnotes

[1] https://www.mass.gov/files/documents/2018/01/05/FY2018LIHEAPIncomeEligibility.pdf.

[2] Sarah M. Bosley, who has been active in utility regulation since 1999, contributed to this report. See Exhibit ES1 for Ms. Baldwin's experience and qualifications.

[3] Actual consumer losses depend on customers' usage, their choice of supplier, and the rate that the supplier charges (individual suppliers charge a wide range of rates to their various customers).

[4] In some instances, the competitive supplier may offer "green" or "renewable" electricity, which entails both the purchase of electricity from the grid as well as Renewable Energy Certificates that may "offset" some or all of the consumer's electricity use.

[5] Residential consumers also have the choice to sign up for a variable basic service rate.

[6] Although three electric companies serve Massachusetts, the billing data correspond with five non-overlapping territories because some mergers within the industry retained the separate billing of the acquired utilities.

[7] The electric companies' monthly billing data show separately for each supplier (and for the most recent twelve-month period, the electric companies provided information separately for each of the different rates that the supplier charged its consumer base during the month): the number of bills rendered, the total amount charged, and the total kWh associated with each distinct rate. I was able to isolate those bills with charges greater than if the usage had been billed at EDC rates from those bills with charges less than if the usage had been billed at electric company rates.

[8] All data in the bulleted list below is based on the 2016–2017 study period unless otherwise noted.

[9] Low-income households can apply for reduced electricity distribution rates. Eligibility for the discount rates is based upon verification of a low-income customer's receipt of any means-tested public benefit, or verification of eligibility for the low-income home energy assistance program, or its successor program, for which eligibility does not exceed 60 percent of the state median income for the size of the household. G.L. c. 164, § 1F(4); http://www.mass.gov/hed/docs/dhcd/cd/liheap/liheapbenefit.pdf. Thus, "any household that receives help from an income-tested government assistance program — whether Food Stamps, public housing, Medicaid, free school lunch, etc. — and whose income is at or below 60% of median income qualifies for the discount rates." Charlie Harak, Utility Advocacy for Low-Income Households in Massachusetts (National Consumer Law Center 3rd ed. 2013), available at https://www.nclc.org/images/pdf/energy_utility_telecom/stay%20connected/utility-handbook-2d-ed.pdf.

The low-income rate provides a discount of approximately 25 percent to 35 percent off the entire electric bill, which includes both distribution and supply charges. *See* https://www.eversource.com/Content/docs/default-source/rates-tariffs/ema-greater-boston-rates.pdf?sfvrsn=10; https://www9.nationalgridus.com/masselectric/home/rates/4_res.asp. The electricity consumption for income-qualified households is billed at distribution rates that are lower than distribution rates for other residential customers. However, as described above, they receive a subsidy calculated as a percentage of the customer's total bill. The customer's total bill includes the customer's supply charge, regardless of whether the customer receives basic service or competitive supply.

[10] Because, in some instances, the electric companies' billing records show slightly different spellings of suppliers' names, I had to make assumptions about whether similar, but not identical, names likely corresponded with the same supplier. As a general rule, if the first five letters were the same, I treated the suppliers as the same.

[11] Average monthly usage among low-income households participating in the competitive supply market is 552 kWh in comparison with average monthly usage of 621 kWh among non-low-income households—this difference affects the calculation of annual average per-household losses for the two groups.

[12] Municipalities with municipal aggregations do not have trivial participation in the individual residential electric supply market. For this group in June 2017, the participation rate in the individual residential electric supply market is 20 percent of total accounts (where the total is the sum of basic service accounts, competitive supply accounts, and accounts served by municipal aggregation suppliers, i.e., all households in the community), which is similar to

the participation rate for the rest of the state (21 percent during this month). This group has about 140,000 accounts served by competitive suppliers, accounting for approximately 28 percent of the approximate 497,000 accounts associated with the June 2017 zip code data.

[13] The AGO requested granular data for June 2017 because this was the most recent data point at the time of the request.

[14] In this section and in subsequent sections of the report, I compare the market during the July 2016 through June 2017 period with the market from the prior twelve-month period (July 2015 through June 2016). The data set from the prior year does not include the granular information regarding the differing rates charged by individual suppliers, but instead permits the calculation of the average rate charged by supplier in any given month. My analysis of the market based on data from two consecutive years shows that the most recent year continues a pattern that persists and is a harbinger of future continuing harm to households throughout the state absent prompt and effective intervention.

[15] The EDC rate shown is a statewide average computed based on the competitive suppliers' customers' actual usage and the rates that their respective electric companies would have charged in each of the months for that usage.

[16] EDC rates vary among the service territories and during the year. I computed a statewide average EDC rate of $0.0905 (that is, the average rate that customers of competitive suppliers would have paid their electric companies) based on the locations of the suppliers' customers (which determines the electric companies that offer basic service), the months corresponding to their usage (because electric companies' rates vary throughout the year), and the amount of their usage during the relevant time periods.

[17] During the first study period, Eversource charged two different rates, National Grid charged three different rates, and Fitchburg charged three different rates. During the second study period, Eversource charged two different rates, National Grid charged four different rates, and Fitchburg charged three different rates. See Appendix 2A for the EDC's basic rates during the study period, and see Appendix 1A for a map of their service territories.

[18] I do not include supplier-specific results in my report to err on the side of caution in maintaining confidentiality. As Section 5, below, discusses, the Connecticut Office of Consumer Counsel distributes an annual fact sheet with supplier-specific consumer gains and losses. I recommend that similarly comprehensive and supplier-specific information be made public in Massachusetts to allow for informed decision-making by consumers and policy makers and to increase accountability by suppliers to policy makers and the general public.

[19] By contrast, the average annual consumer loss of $226 takes into consideration the groups of consumers who overpay and those who underpay. The average annual overpayment of $269 corresponds with only those bills associated with competitive suppliers whose rates are more than the corresponding EDC basic service rate.

[20] It is also possible for suppliers to design fixed-rate electricity contracts to work in similar way to variable rate contracts with a teaser. For example, the customer may save money during the initial period of the fixed-rate contract, but ultimately end up paying more than he or she would have otherwise later in the contract due to a drop in wholesale costs and basic service rates.

[21] I limited the supplier group to only those suppliers who rendered at least 100 bills during the 2016–2017 study period. I used 100 total bills in a year as a cut-off for identifying suppliers with a non-trivial participation. Appendix 2D provides complete information for all suppliers that served consumers for all twelve months of the study period, and for which at least 100 bills were rendered during this time period.

[22] See Section 3 for a parallel analysis of suppliers and low-income households.

[23] *See, e.g.*, suppliers' offers of cash back cards and diner rewards cards. http://www.energyswitchma.gov/#/compare/1/1 site visited March 30, 2017.

[24] *See, e.g., Angela Wise, et al. v. Energy Plus Holdings LLC*, Case No. 1:11-cv-07345, in the U.S. District Court for the Southern District of New York; https://topclassactions.com/lawsuit-settlements/lawsuit-news/4945-judge-oks-14m-energy-plus-class-action-settlement/ ($14 million settlement resolved allegations that a competitive supplier deceived customers into signing contracts by luring them with promises of rewards.) (last visited January 26, 2018).

[25] Specifically, a search for electric supply offerings at zip code 02108 on December 6, 2017, showed that only 15 of 56 offerings had a renewable element.

[26] http://energyswtichma.gov/#/, visited on March 7, 2017.

[27] The premium may be low at least in part to "greenwashing." Greenwashing is a phenomenon whereby suppliers claim to be "green" but are purchasing low-cost renewable energy certificates from sources that are not eligible under the Renewable Portfolio Standard. Although these purchases allow a supplier to market its product as "green" they often have limited environmental benefits because they originate from older or out-of-region sources that do not promote "additionality," *i.e.*, additional renewable energy on the grid. *See, e.g.*, http://blog.massenergy.org/blog/competitive-electricity-suppliers; *See also* http://blog.massenergy.org/blog/class-i-recs.

[28] The data provided by the electric companies included a small number of customers who reside in a municipality with a municipal light plant but are nonetheless served by an EDC and take service from a competitive supplier. Due to their small sample and their potential to skew the data, I have excluded them from my municipal-level analyses.

[29] A necessity does not have as much price elasticity of demand as do other normal goods (although it is a normal good) because, although consumers can curtail their usage to some extent, they cannot curtail their usage entirely.

[30] *See* Investigation by the Department of Public Utilities regarding Purchase of Receivables pursuant to G.L. c. 164, § 1D and G.L. c. 164, § 76, D.P.U. 10-53 (2014).

[31] I estimated the size of the market by comparing the number of bills rendered and kWh purchased in each of the two study periods.

[32] Average monthly usage among low-income households participating in the competitive supply market is 552 kWh in comparison with average monthly usage of 621 kWh among non-low-income households, which affects the calculation of annual average per-household losses for the two groups.

[33] By contrast, the average annual consumer loss of $231 for low-income households takes into consideration the groups of consumers who overpay and those who underpay. The overpayment of $265 corresponds with only those bills associated with competitive suppliers whose rates are more than the corresponding EDC basic service rate.

[34] The scope of this report does not include an analysis of the consumer loss (or gain) associated with households' purchase of municipal aggregation (that is, a comparison of the rates that households pay municipal aggregation suppliers with the rates they would pay electric companies).

[35] The gray areas generally correspond with municipalities that are served by municipal light plants, however, there are some zip code portions of some municipalities that are mainly served by municipal power plants where there are non-municipal accounts (i.e., where customers are served by electric companies or competitive suppliers). Those instances where areas are gray in the maps that depict low-income participation and are not gray in the maps that depict participation by all customers correspond to the few instances where there are not any low-income customers in the zip code.

[36] The electric companies provided data with rate and usage information corresponding with approximately 500,0000 bills rendered on behalf of competitive suppliers during June 2017 disaggregated to the geographically granular level corresponding with zip codes.

[37] Zip code shapefiles are from MassGIS (http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/zipcodes.html), to which Census data at the ZCTA level was joined using a publicly available crosswalk (https://www.udsmapper.org/zcta-crosswalk.cfm).

[38] As used in 2011–2015 American Community Survey 5-Year Estimates from the U.S. Census Bureau, a limited English household is "one in which no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English very well. In other words, all members 14 years old and over have at least

some difficulty with English. By definition, English-only households cannot belong to this group." (From https://www.census.gov/topics/population/language-use/about/faqs.html.)

[39] Using the same data, "percent minority" was constructed as the percentage of the population who are not both White *and* non-Hispanic, so this group captures non-White races and/or Hispanic ethnicities.

[40] For the purpose of comparing participation rates, low-income corresponds with those households receiving discounted electricity rates. For the purpose of identifying the 20 town-zip code areas with the lowest incomes, I examined municipalities' median incomes.

[41] *See* Section 1, above.

[42] See Appendix 2C for a complete list of municipalities and associated net consumer losses.

[43] For the purpose of identifying the 20 poorest communities, median incomes are used. For the purpose of computing participation rates by low-income households, I examined households that receive subsidized electric rates.

[44] See Section 2.5, above, for the corresponding analysis for all residential customers.

[45] Appendix 2D provides complete information for all suppliers that served consumers for all twelve months of the 2016–2017 study period, and for which at least 100 bills were rendered.

[46] I chose a cut-off of 100 total bills during the 12-month study period in order to exclude suppliers who serve very few low-income customers.

[47] See Appendix 4A for more detailed information regarding the investigations and lawsuits.

[48] This recommendation does not apply to the commercial and industrial market for competitive electric supply, nor does it apply to municipal aggregations or private aggregators who purchase residential competitive supply as part of a procurement of small and/or large commercial industrial supply.

[49] I do not, at this time, recommend any other changes to other sectors of the electric supply market.

[50] New York Public Service Commission Case 15-M-0127 (In the Matter of Eligibility Criteria for Energy Service Companies), Case 12-M-0476 (Proceeding on Motion of the Commission to Assess Certain Aspects of the Residential and Small Non-Residential Retail Energy Markets in New York State, Case 98-M-1343 (In the Matter of Retail Access Business Rules), Order Resetting Retail Energy Markets and Establishing Further Process, issued and effective February 23, 2016 ("NYPSC Order"), at 12–13, footnote omitted. As discussed in more detail in Section 5.2.3, below, the decision was vacated but the NY PSC has issued another order indicating that it intends to further pursue the issue. *See Retail Energy Supply Ass'n* v. *Pub. Serv. Comm'n of State*, 152 A.D.3d 1133, 1137–38, 59 N.Y.S.3d 590, 595 (N.Y. App. Div. 2017) ("We do find, however, that the PSC's broad statutory jurisdiction and authority over the sale of gas and electricity authorized it to impose the limitations set forth in the Reset Order."); s*ee also* Robert Walton, "New York Supreme Court Upholds State Prohibition on ESCO Sales to Low-Income Customers," Utility Dive (July 5, 2017), https://www.utilitydive.com/news/new-york-supreme-court-upholds-state-prohibition-on-esco-sales-to-low-incom/446380/.

[51] NYPSC, Case 12-M-0476, Notice of Evidentiary and Collaborative Tracks and Deadline for Initial Testimony and Exhibits, Issued December 2, 2106, at 3. ("After considerable experience with the offering of retail service to mass market customers by ESCOs, the Commission has determined that the retail markets serving mass-market customers are not providing sufficient competition or innovation to properly serve consumers. Despite efforts to realign the retail market, customer abuses and overcharging persist, and there has been little innovation . . . .")

[52] Connecticut Public Act No. 14-75, AN ACT CONCERNING ELECTRIC CUSTOMER CONSUMER PROTECTION, signed into law, June 3, 2014.
https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Public+Act&bill_num=75&

PURA Establishment of Rules for Electric Suppliers and EDCs Concerning Operations and Marketing in the Electric Retail Market, Connecticut Public Regulatory Authority Docket No. 13-07-18, *Decision*, November 5, 2014 (Connecticut Decision).

[53] PURA Establishment of Rules for Electric Suppliers and EDCs Concerning Operations and Marketing in the Electric Retail Market, Connecticut Public Utilities Regulatory Authority Docket No. 13-07-18, testimony of Susan M. Baldwin and Helen E. Golding on behalf of the Connecticut Office of Consumer Counsel, March 10, 2014, at p. 82.

[54] Connecticut Office of Consumer Counsel, News Release, April 20, 2016, "Connecticut Residential Customers of Electric Suppliers Paid $58 Million More Than Standard Service in 2015."

[55] See OCC fact sheet, included as Appendix 5A: Connecticut Office of Consumer Counsel, "OCC Fact Sheet: Electric Supplier Market, January 2017 through December 2017," updated on February 6, 2018. http://www.ct.gov/occ/lib/occ/fact_sheet_electric_supplier_market_december_2017.pdf

[56] "State Urged To Probe Abusive Electricity Suppliers," Gregory B. Hladky, *Hartford Courant*, January 31, 2017, http://www.courant.com/news/connecticut/hc-call-to-probe-abusive-electric-suppliers-20170130-story.html (reproduced in Appendix 5B).

[57] Maryland Public Service Commission Case No. 9324, Order 86211, issued March 7, 2014 ("Maryland Order"), at 21-22, 25. As summarized by the Maryland PSC: "Maryland's 'Door-to-Door Sales Act' states that it is an 'unfair or deceptive trade practice' for a seller to fail to provide a consumer with: 1) A fully completed receipt or copy of the contract at the time of its execution, which 'is in the same language as that principally used in the oral sales presentation;' 2) A statement on the receipt or contract of the customer's right to cancel the transaction within three days of the transaction which must be in bold and near the signature line; and 3) A separate 'Notice of Cancellation' form containing the statutorily required language." Maryland Order at 21, footnotes, omitted.

[58] Indeed, the NYPSC similarly attributes the unabated complaints it receives to a fundamental deficit in the existing competitive supplier (ESCO) model, finding "mass market customers purchasing commodity only from ESCOs are unlikely to obtain value commensurate with the premium paid in excess of the cost that would be paid as a full service customer of the utility." NYPSC Order at 12.

[59] Maryland Order, at 3.

[60] In 2017, the Department of Public Utilities created a webpage "Basic service information and rates," found at: https://www.mass.gov/service-details/basic-service-information-and-rates.

[61] During the past few years in Massachusetts, basic service rates have generally tended to go up during the cold winter months and go down during the warm summer months. This type of information, which is readily available to those in the industry, should also be readily available to consumers shopping for supply.

[62] Electric companies in Connecticut currently provide this information to the Connecticut PURA under Docket 06-10-22. The information can be accessed by all members of the public. Appendix 5C includes an excerpt of a report filed by Eversource for January 2017.

[63] See Appendix 5A.

[64] The AGO is currently revising its regulations to strengthen disclosure requirements.

[65] In Connecticut, as part of a settlement agreement with Energy Plus Holdings, LLC, the Public Utilities Regulatory Authority was provided with $4.5 million for consumer assistance and education and enforcement activity regarding third party electric suppliers. http://www.ct.gov/ag/cwp/view.asp?A=2341&Q=545458

[66] In February 2016, the NYPSC issued an order intended to implement immediate reforms in the practices of the state's energy service companies (ESCOs). Those reforms were intended to 1) "address the unfair business practices" and 2) "ensure residential and small nonresidential commercial customers (mass market customers) are receiving value from the retail energy markets." NYPSC Order at 1. In July 2016, the NYPSC order was partially vacated for failure to provide due process to the affected ESCOs and remanded to the agency for further proceedings. *National Energy Marketers Assn. v. New York State Pub. Serv. Commn.*, 2016 NY Slip Op. 26233 Decided on July 22, 2016, Supreme Court, Albany County (Zwack, J.). On appeal, the judgment regarding due process was upheld, but, notably, the appeals court did affirm that the PSC had the authority to issue the rules set forth in the February 2016 order. *See Retail Energy Supply Ass'n* v. *Pub. Serv. Comm'n of State*, 152 A.D.3d 1133, 1137–38, 59 N.Y.S.3d 590, 595 (N.Y. App. Div. 2017). Although the specific remedies are in abeyance, the

NYPSC's December 2016 Notice in the continuing investigation makes clear that the Commission retains the original concerns about the failure of competition in the retail energy market for mass market consumers and about the negative impact of industry practices on those consumers. Notice of Evidentiary and Collaborative Tracks and Deadline for Initial Testimony and Exhibits, Issued December 2, 2106, at 3.

[67] NYPSC Case 15-M-0127 (In the Matter of Eligibility Criteria for Energy Service Companies), Case 12-M-0476 (Proceeding on Motion of the Commission to Assess Certain Aspects of the Residential and Small Non-Residential Retail Energy Markets in New York State, Case 98-M-1343 (In the Matter of Retail Access Business Rules), Order Adopting a Prohibition on Service to Low-Income Customers by Energy Service Companies, issued and effective December 16, 2016.

[68] Connecticut regulators stated: "Thousands of residential and business customers experienced significant rate increases under variable plans during late 2013 and early 2014. Some customers only learned about rate increases after service had been rendered and the cost incurred. The lack of notification regarding a change to the customer's electric generation price when a fixed plan converted to a variable plan or when rates increased under a variable plan was unreasonable and contributed to the problems and issues identified in this proceeding." PURA Establishment of Rules for Electric Suppliers and EDCs Concerning Operations and Marketing in the Electric Retail Market, Connecticut Public Regulatory Authority Docket No. 13-07-18, *Decision*, November 5, 2014 (Connecticut Decision), at 1.

Appendix ES1

Experience and Qualifications of Susan M. Baldwin

Experience and Qualifications of Susan M. Baldwin

Susan M. Baldwin specializes in utility economics, regulation, and public policy, with a long-standing focus on telecommunications markets and with a more recent focus on consumer issues in electric and gas markets. Ms. Baldwin has been actively involved in public policy for forty years. Since 2001, she has been consulting to public sector agencies, consumer advocates, and others as an independent consultant. Ms. Baldwin received her Master of Economics from Boston University, her Master of Public Policy from the Harvard Kennedy School, and her Bachelor of Arts degree in Mathematics and English from Wellesley College. Ms. Baldwin has extensive experience both in government and in the private sector.

Ms. Baldwin has testified before 23 state public utility commissions on matters relating to telecommunications, electric and gas matters, and has also authored numerous comments and declarations submitted in various Federal Communications Commission proceedings on behalf of, among others, the National Association of State Utility Consumer Advocates. Ms. Baldwin analyzed the Connecticut residential retail electric market in 2013–2014 on behalf of the Connecticut Office of Consumer Counsel ("OCC"). She co-sponsored testimony with Helen E. Golding on behalf of the OCC in Connecticut Department of Public Utility Control Docket No. 13-07-18 that summarized these analyses and that proposed regulatory remedies for the residential retail electric market in Connecticut. Ms. Baldwin also analyzed approximately 800 individual complaints submitted to the Connecticut DPUC by consumers about the practices of retail electric suppliers.

Ms. Baldwin has served in a direct advisory capacity to public utility commissions in five states, testified before state legislative committees in four states, and has sponsored expert reports in several state taxation proceedings. Ms. Baldwin has contributed to numerous comments submitted to the FCC on diverse aspects of broadband in various proceedings on topics such as data collection, mapping, deployment, universal service, affordability, consumer protection, and network management. Also, in state regulatory proceedings that have examined carriers' proposals for spin-offs and for mergers, she has recommended conditions concerning broadband deployment and adoption. Ms. Baldwin has participated in more than twenty state and federal regulatory investigations of the impact of proposed transfers of control on consumers. Ms. Baldwin has been an invited speaker at more than 40 conferences.

Ms. Baldwin served as a direct advisor to the then Massachusetts Department of Telecommunications and Energy (DTE) between August 2001 and July 2003, in Massachusetts DTE Docket 01-20, an investigation of Verizon's total element long run incremental cost studies for recurring and nonrecurring unbundled network elements. She assisted with all aspects of this comprehensive case in Massachusetts. Ms. Baldwin analyzed recurring and nonrecurring cost studies, ran cost models, reviewed parties' testimony, cross-examined witnesses, trained staff, met with the members of the Commission, assisted with drafting substantial portions of the major orders issued by the DTE, and also assisted with the compliance phase of the proceeding.

Ms. Baldwin worked with Economics and Technology, Inc. for twelve years (1984 to 1988 and 1992-2000), most recently as a Senior Vice President. Among her numerous projects was the

responsibility of advising the Vermont Public Service Board in matters relating to a comprehensive investigation of NYNEX's revenue requirement and proposed alternative regulation plan, and participating in all phases of that in-depth investigation. During her first years at ETI, Ms. Baldwin was the Director of Publications and Tariff Research, and, in that capacity, she trained and supervised staff in the analysis of telecommunications rate structures, services, and regulation.

Ms. Baldwin served four years (1988-1992) as the Director of the Telecommunications Division for the Massachusetts Department of Public Utilities (now the Department of Telecommunications & Cable), where she directed a staff of nine, and acted in a direct advisory capacity to the DPU Commissioners. (The Massachusetts DTC maintains a non-separated staff, which directly interacts with the Commission, rather than taking an advocacy role of its own in proceedings). Ms. Baldwin advised and drafted decisions for the Commission in numerous DPU proceedings including investigations of a comprehensive restructuring of New England Telephone Company's rates, an audit of NET's transactions with its NYNEX affiliates, collocation, ISDN, Caller ID, 900-type services, AT&T's request for a change in regulatory treatment, pay telephone and alternative operator services, increased accessibility to the network by disabled persons, conduit rates charged by NET to cable companies, and quality of service. Under her supervision, staff analyzed all telecommunications matters relating to the regulation of the then $1.7-billion telecommunications industry in Massachusetts, including the review of all telecommunications tariff filings; petitions; cost, revenue, and quality of service data; and certification applications. As a member of the Telecommunications Staff Committees of the New England Conference of Public Utility Commissioners (NECPUC) and the National Association of Regulatory Utility Commissioners (NARUC), she contributed to the development of telecommunications policy on state, regional, and national levels.

Ms. Baldwin has worked with local, state, and federal officials on energy, environmental, budget, welfare, and telecommunications issues. As a policy analyst for the New England Regional Commission (NERCOM), Massachusetts Department of Public Welfare (DPW), and Massachusetts Office of Energy Resources (MOER), she acquired extensive experience working with governors' offices, state legislatures, congressional offices, and industry and advocacy groups. As an energy analyst for NERCOM, Ms. Baldwin coordinated New England's first regional seminar on low-level radioactive waste, analyzed federal and state energy policies, and wrote several reports on regional energy issues. As a budget analyst for the DPW, she forecast expenditures, developed low-income policy, negotiated contracts, prepared and defended budget requests, and monitored expenditures of over $100 million. While working with the MOER, Ms. Baldwin conducted a statewide survey of the solar industry and analyzed federal solar legislation.

Ms. Baldwin received Boston University's Dean's Fellowship and received her Master of Economics from Boston University. She received her Master of Public Policy from the Harvard Kennedy School and while attending the Harvard Kennedy School, Ms. Baldwin served as a teaching assistant for a graduate course in microeconomics and as a research assistant for the school's Energy and Environmental Policy Center. Ms. Baldwin received her Bachelor of Arts

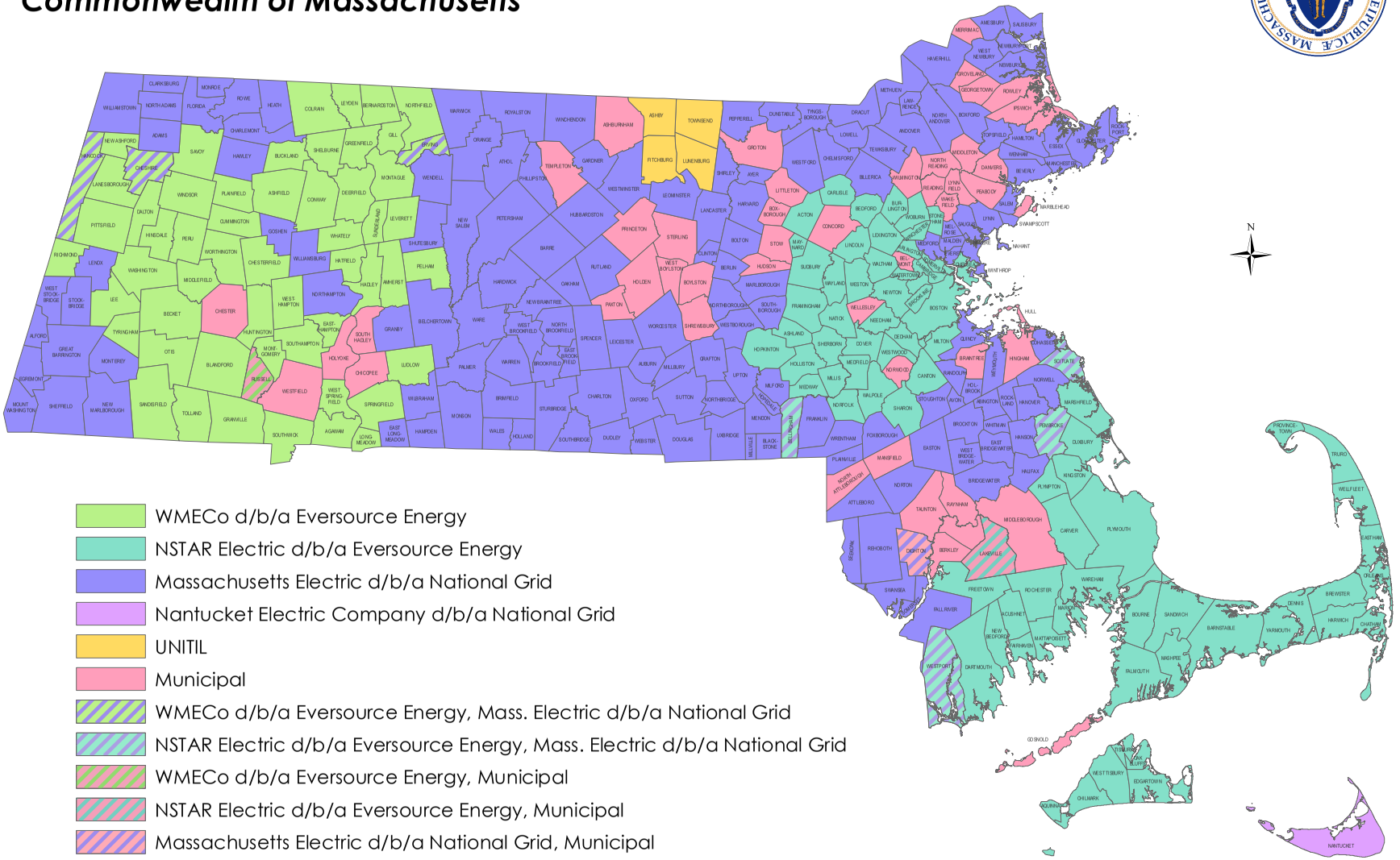
degree in Mathematics and English from Wellesley College, and at Wellesley College was a Rhodes Scholar nominee. She has also studied in Ghent, Belgium.

Appendix 1A

Map of EDC service areas and municipal light plant towns

Electricity Providers by Municipality

Commonwealth of Massachusetts



Source: Massachusetts Department of Public Utilities, September 2015

Map by MassGIS, 5/31/2016

Appendix 2A

EDC rates during study period: July 2015 – June 2016 and July 2016 – June 2017

EDC rates during study period:
July 2015 – June 2016 and July 2016 – June 2017

		Rate	
Months	**Number of Months**	**July 2015 - June 2016**	**July 2016- June 2017**
National Grid			
July - Sept	3	$0.09257	$ 0.08042
Oct	1	$0.09257	$ 0.08084
Nov - April	6	$0.13038	$ 0.09787
May - June	2	$0.08042	$ 0.09432
Nstar			
July - Dec	6	$0.10050	$ 0.08208
Jan - June	6	$0.10844	$ 0.10318
WMECo			
July - Dec	6	$0.09767	$ 0.07708
Jan - June	6	$0.10426	$ 0.09126
Fitchburg			
July - Nov	5	$0.07878	$ 0.07878
Dec - May	6	$0.12239	$ 0.09704
June	1	$0.11191	$ 0.09934

Appendix 2B

Methodology for computing consumer loss

Methodology for Computing Consumer Loss

Overview

This report analyzes detailed residential billing data rendered on behalf of competitive suppliers by EDCs for two different consecutive twelve-month time periods – the first time period spans July 2015 through June 2016 and the second time period spans July 2016 through June 2017. For each of these two data sets, the EDCs provided supplier-specific and monthly-specific data. The data for the second time period are more granular than for the first time period, and enable, among other things, a separate analysis of customers who saved versus those who lost by participating in the market. Both years' sets of data allow for approximations of the *net* consumer impact for each supplier and also statewide. A brief description follows that explains my methodology for computing the consumer loss associated with the individual residential electric supply market in Massachusetts. The end of this appendix includes two tables based on excerpts from the actual data provided by the EDCs to illustrate further my methodology.

Study Year 1: July 2015 – June 2016

The billing data provided by EDCs to the AGO for the first of the two years that this report encompasses (that is July 2015 through June 2016) includes monthly data by supplier (separately for each EDC region) and separately for each of the twelve months, a total count of the customers served, a total count of the usage, and a total count of the dollar amount paid. From this information, one can compute the average rate per kWh by supplier and by month, as well as the average residential usage. Comparing these rates with the hypothetical rate that these customers would have paid had they been served instead by their EDC, assuming the same usage, yields an approximation of consumer loss, which I sum to compute the aggregate statewide loss. However, these data did not contain information about the spread of specific rates billed by individual suppliers (which, as evidenced in subsequent data, can be quite substantial), and how usage varied across those different rates. The table at the end of this appendix shows my methodology for computing the consumer impact, based on actual data for an unnamed supplier in a specific region during the 12-month period corresponding with "Study Year 1," that is July 2015 through June 2016.

Study Year 2: July 2016 – June 2017

My methodology for computing the consumer impact for "Study Year 2" (July 2016 through June 2017) is similar in approach. With higher-resolution data showing the number of accounts billed and the kWh purchased from each supplier at each distinct rate, I was able to compare the actual rates charged by competitive suppliers with the hypothetical rate that would have applied in a given month if the customers had remained on basic service from the regional EDCs. The spread of rates offered throughout the study year reveals that some customers saved money relative to the EDC rates, and others lost money relative to the EDCs' rates. An excerpt from source data for one competitive

supplier for March 2017 is attached and shows the wide variety of rates that suppliers charge their customer base. In order to compute consumer loss for the second study year, I compared the counterfactual bill each group of customers would have paid their EDC during the corresponding time period, again assuming no change in usage, with the actual bill rendered for each competitive supplier at each distinct rate. Net consumer loss is the sum of all these gains or losses.

Illustrative Calculations Based on the Actual Billing of Supplier "A"

	MONTH	YEAR	COUNT	KWH	BILLED AMT	Average rate during month (per kWh)
a	AUG	2015	29,610	25,378,965	$3,939,181.64	$0.155214
b	DEC	2015	28,585	16,737,528	$2,511,319.43	$0.150041
c	JUL	2015	30,269	22,432,947	$3,498,868.56	$0.155970
d	NOV	2015	28,868	15,387,081	$2,329,527.67	$0.151395
e	OCT	2015	29,449	16,994,615	$2,579,689.20	$0.151795
f	SEP	2015	29,887	24,230,597	$3,707,343.10	$0.153003
g	APR	2016	27,332	14,050,030	$2,160,098.38	$0.153743
h	FEB	2016	27,903	17,326,927	$2,584,814.07	$0.149179
i	JAN	2016	28,260	18,622,963	$2,785,582.17	$0.149578
j	JUN	2016	27,010	14,598,573	$2,259,329.73	$0.154764
k	MAR	2016	27,607	15,443,273	$2,336,325.05	$0.151284
l	MAY	2016	27,165	13,016,451	$2,008,726.63	$0.154322

m	2015	176,668	121,161,733	$18,565,929.60
n	2016	165,277	93,058,217	$14,134,876.03
o	Total	341,945	214,219,950	$32,700,805.63

p	Avg # of customers	28,495
q	Avg usage per bill	626

				Hypothetical EDC billing
r	2015	NSTAR	$0.100500	$12,176,754
s	2016	NSTAR	$0.108440	$10,091,233
t		Total		$22,267,987

	Total Consumer loss	$10,432,818
v	Supplier A average rate	$0.152651
w	NSTAR averate rate	$0.103949
x	Amount above EDC	47%
y	Consumer Loss - annual per customer	$366.12

Rows a through l are ordered alphabetically and include source data from NSTAR.
Rows m and n compute half-year totals.
Row o computes 12-month total.
Row p computes the average number of customers served by Supplier A during any month.
Row q computes the average usage per bill rendered to Supplier A's customers.
Rows r through t compute the hypothetical billing had the customers been served by NSTAR.
Row u computes the total consumer loss by comparing total actual billing with hypothetical NSTAR billing.
Row v computes Supplier A's average rate during the 12-month period.
Row w computes NSTAR's hypothetical rate based on when the usage occurred.
Row x shows the "premium" that Supplier A's customers paid relative to NSTAR's rate.
Row y expresses the annual consumer loss on a per-consumer basis.
The "average rate per month" is computed.

Supplier X: March 2017, MeCO Region (subset of Supplier X's Bills in March 2017)			
Rate class ($/kwh)	**Total kWh billed to residential accounts**	**Total amount ($) billed to residential accounts**	**# of Residential Accounts Billed**
$0.15480	1,011	$156.50	1
$0.15487	1,195	$185.07	2
$0.15493	2,951	$457.20	3
$0.15509	953	$147.80	1
$0.15524	928	$144.06	1
$0.15535	908	$141.06	1
$0.15537	905	$140.61	1
$0.15538	1,293	$200.91	3
$0.15542	897	$139.41	1
$0.15547	888	$138.06	1
$0.15564	862	$134.16	1
$0.15565	860	$133.86	1
$0.15574	849	$132.22	1
$0.15579	841	$131.02	1
$0.15583	1,671	$260.39	2
$0.15590	825	$128.62	1
$0.15610	798	$124.57	1
$0.15617	789	$123.22	1
$0.15628	775	$121.12	1
$0.15647	187	$29.26	1
$0.15662	737	$115.43	1
$0.15663	736	$115.28	1
$0.15671	727	$113.93	1
$0.15675	723	$113.33	1
$0.15689	708	$111.08	1
$0.15690	707	$110.93	1
$0.15693	704	$110.48	1
$0.15699	698	$109.58	1
$0.15704	1,386	$217.66	2
$0.15711	686	$107.78	1
$0.15714	683	$107.33	1
$0.15737	1,324	$208.36	2
$0.15755	1,296	$204.18	2
$0.15773	633	$99.84	1
$0.15779	628	$99.09	1
$0.15793	617	$97.44	1

Rate class ($/kwh)	Total kWh billed to residential accounts	Total amount ($) billed to residential accounts	# of Residential Accounts Billed
$0.15808	605	$95.64	1
$0.15818	598	$94.59	1
$0.15829	175	$27.70	1
$0.15849	576	$91.29	1
$0.15891	1,100	$174.80	2
$0.15896	1,094	$173.90	2
$0.15909	539	$85.75	1
$0.15911	538	$85.60	1
$0.15914	1,072	$170.60	2
$0.15963	509	$81.25	1
$0.15966	507	$80.95	1
$0.15972	504	$80.50	1
$0.15974	503	$80.35	1
$0.15978	501	$80.05	1
$0.15984	996	$159.20	2
$0.15986	1,988	$317.80	4
$0.16000	980	$156.80	2
$0.16004	1,952	$312.40	4
$0.16014	483	$77.35	1
$0.16019	962	$154.10	2
$0.16023	958	$153.50	2
$0.16027	477	$76.45	1
$0.16047	468	$75.10	1
$0.16049	1,401	$224.85	3
$0.16054	930	$149.30	2
$0.16058	463	$74.35	1
$0.16061	462	$74.20	1
$0.16063	461	$74.05	1
$0.16065	920	$147.80	2
$0.16075	456	$73.30	1
$0.16077	455	$73.15	1
$0.16094	1,347	$216.78	3
$0.16096	896	$144.22	2
$0.16113	882	$142.12	2
$0.16118	439	$70.76	1
$0.16122	526	$84.80	1
$0.16126	436	$70.31	1
$0.16183	1,245	$201.48	3
$0.16203	816	$132.22	2
$0.16221	402	$65.21	1

Rate class ($/kWh)	Total kWh billed to residential accounts	Total amount ($) billed to residential accounts	# of Residential Accounts Billed
$0.16224	401	$65.06	1
$0.16249	1,179	$191.58	3
$0.16253	392	$63.71	1
$0.16262	778	$126.52	2
$0.16265	1,552	$252.44	4
$0.16269	387	$62.96	1
$0.16279	1,152	$187.53	3
$0.16292	1,900	$309.55	5
$0.16302	754	$122.92	2
$0.16309	750	$122.32	2
$0.16320	744	$121.42	2
$0.16372	358	$58.61	1
$0.16375	714	$116.92	2
$0.16379	356	$58.31	1
$0.16387	354	$58.01	1
$0.16422	346	$56.82	1
$0.16443	341	$56.07	1
$0.16464	1,008	$165.96	3
$0.16486	331	$54.57	1
$0.16491	330	$54.42	1
$0.16542	638	$105.54	2
$0.16552	317	$52.47	1
$0.16577	312	$51.72	1
$0.16597	616	$102.24	2
$0.16629	906	$150.66	3
$0.16645	598	$99.54	2
$0.16732	284	$47.52	1
$0.16739	283	$47.37	1
$0.16763	279	$46.77	1
$0.16802	546	$91.74	2
$0.16815	271	$45.57	1
$0.16992	124	$21.07	1
$0.17020	732	$124.59	3
$0.17063	717	$122.34	3
$0.17080	237	$40.48	1
$0.17098	235	$40.18	1
$0.17107	468	$80.06	2
$0.17162	228	$39.13	1
$0.17221	444	$76.46	2
$0.17251	219	$37.78	1

Rate class ($/kwh)	Total kWh billed to residential accounts	Total amount ($) billed to residential accounts	# of Residential Accounts Billed
$0.17315	426	$73.76	2
$0.17348	840	$145.72	4
$0.17477	199	$34.78	1
$0.17503	1,182	$206.88	6
$0.17528	585	$102.54	3
$0.17679	552	$97.59	3
$0.17724	362	$64.16	2
$0.17917	676	$121.12	4
$0.18081	160	$28.93	1
$0.18293	300	$54.88	2
$0.18384	292	$53.68	2
$0.18440	91	$16.78	1
$0.18632	136	$25.34	1
$0.19532	218	$42.58	2
$0.19750	104	$20.54	1
$0.20041	196	$39.28	2
$0.20489	90	$18.44	1
$0.21717	53	$11.51	1
$0.22600	130	$29.38	1
$0.25532	47	$12.00	1
$0.26786	42	$11.25	1

Note: The numbers above are an excerpt from 1056 rows of billing data for Supplier X. The totals below correspond with the billing information in all 1056 rows.

$/ kWh, Supplier X in March 2017	Total kWh billed to residential accounts	Total amount ($) billed to residential accounts	# of Residential Accounts Billed
$0.12426	2,016,726	$ 250,600.61	3,178

Appendix 2C

Consumer loss by municipality – aggregate and average per-household

Appendix 2C

Consumer Loss by Municipality in June 2017: All Households and Low-Income Households (Sorted Alphabetically)

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Abington	all	$ 19,065	$ 15.51	$ 0.0265	19%	1,229
Abington	low	$ 2,015	$ 14.19	$ 0.0281	26%	142
Acton	all	$ 14,132	$ 11.22	$ 0.0250	14%	1,259
Acton	low	$ 1,190	$ 15.26	$ 0.0363	19%	78
Acushnet	all	$ 8,643	$ 10.41	$ 0.0230	20%	830
Acushnet	low	$ 1,808	$ 12.56	$ 0.0289	27%	144
Adams	all	$ 12,667	$ 11.35	$ 0.0248	26%	1,116
Adams	low	$ 3,872	$ 12.41	$ 0.0280	37%	312
Agawam	all	$ 21,227	$ 14.54	$ 0.0269	20%	1,460
Agawam	low	$ 3,782	$ 15.37	$ 0.0287	28%	246
Alford	all	$ 2,000	$ 21.98	$ 0.0348	25%	91
Alford	low	$ 65	$ 21.54	$ 0.0464	38%	3
Allston	all	$ 22,383	$ 12.11	$ 0.0308	19%	1,848
Allston	low	$ 2,262	$ 12.78	$ 0.0331	32%	177
Amesbury	all	$ 17,342	$ 15.39	$ 0.0293	16%	1,127
Amesbury	low	$ 3,081	$ 15.88	$ 0.0362	29%	194
Amherst	all	$ 23,502	$ 15.34	$ 0.0297	15%	1,532
Amherst	low	$ 3,833	$ 18.79	$ 0.0355	26%	204
Andover	all	$ 31,233	$ 15.19	$ 0.0251	16%	2,056
Andover	low	$ 1,207	$ 12.84	$ 0.0218	22%	94
Aquinnah	all	$ 580	$ 8.41	$ 0.0205	14%	69
Aquinnah	low	$ 98	$ 32.66	$ 0.0743	17%	3
Arlington	all	$ 31,478	$ 12.39	$ 0.0260	13%	2,541
Arlington	low	$ 3,306	$ 14.44	$ 0.0351	25%	229
Ashby	all	$ 44	$ 7.35	$ 0.0139	1%	6
Ashfield	all	$ 2,476	$ 17.31	$ 0.0316	15%	143
Ashfield	low	$ 527	$ 20.28	$ 0.0404	31%	26
Ashland	all	$ 12,736	$ 11.55	$ 0.0255	16%	1,103
Ashland	low	$ 1,344	$ 15.63	$ 0.0357	21%	86
Assonet	all	$ 1,784	$ 6.54	$ 0.0147	18%	273
Assonet	low	$ 454	$ 11.65	$ 0.0266	30%	39
Athol	all	$ 20,398	$ 14.81	$ 0.0278	27%	1,377
Athol	low	$ 6,985	$ 15.98	$ 0.0311	36%	437
Attleboro	all	$ 62,318	$ 16.92	$ 0.0298	21%	3,683
Attleboro	low	$ 12,944	$ 17.35	$ 0.0354	32%	746

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Auburn	all	$ 22,087	$ 13.94	$ 0.0235	23%	1,584
Auburn	low	$ 2,559	$ 13.76	$ 0.0240	27%	186
Auburndale	all	$ 3,360	$ 11.91	$ 0.0280	12%	282
Auburndale	low	$ 165	$ 14.98	$ 0.0390	13%	11
Avon	all	$ 4,927	$ 14.80	$ 0.0250	19%	333
Avon	low	$ 896	$ 17.23	$ 0.0305	29%	52
Ayer	all	$ 10,521	$ 14.82	$ 0.0258	20%	710
Ayer	low	$ 1,588	$ 13.46	$ 0.0294	37%	118
Barnstable	all	$ 1,885	$ 7.31	$ 0.0166	23%	258
Barnstable	low	$ 98	$ 12.27	$ 0.0285	31%	8
Barre	all	$ 8,174	$ 14.04	$ 0.0249	27%	582
Barre	low	$ 1,342	$ 12.43	$ 0.0239	37%	108
Bass River	all	$ 2,061	$ 7.69	$ 0.0176	15%	268
Bass River	low	$ 212	$ 11.18	$ 0.0240	22%	19
Becket	all	$ 3,628	$ 15.57	$ 0.0288	13%	233
Becket	low	$ 475	$ 11.86	$ 0.0208	26%	40
Bedford	all	$ 6,438	$ 9.43	$ 0.0206	13%	683
Bedford	low	$ 684	$ 18.99	$ 0.0453	15%	36
Belchertown	all	$ 20,441	$ 14.67	$ 0.0252	22%	1,393
Belchertown	low	$ 3,555	$ 14.00	$ 0.0278	36%	254
Bellingham	all	$ 20,556	$ 13.88	$ 0.0258	23%	1,481
Bellingham	low	$ 2,653	$ 18.69	$ 0.0336	29%	142
Berlin	all	$ 3,623	$ 13.03	$ 0.0198	23%	278
Berlin	low	$ 209	$ 10.43	$ 0.0205	30%	20
Bernardston	all	$ 2,184	$ 14.66	$ 0.0261	15%	149
Bernardston	low	$ 336	$ 17.66	$ 0.0340	15%	19
Beverly	all	$ 43,351	$ 16.06	$ 0.0308	17%	2,699
Beverly	low	$ 5,498	$ 15.40	$ 0.0373	27%	357
Billerica	all	$ 43,562	$ 17.37	$ 0.0308	17%	2,508
Billerica	low	$ 5,373	$ 21.84	$ 0.0404	30%	246
Blackstone	all	$ 12,454	$ 11.54	$ 0.0224	30%	1,079
Blackstone	low	$ 1,949	$ 13.17	$ 0.0282	41%	148
Blandford	all	$ 1,361	$ 15.65	$ 0.0282	13%	87
Blandford	low	$ 151	$ 12.59	$ 0.0232	22%	12
Bolton	all	$ 4,945	$ 14.13	$ 0.0198	19%	350
Bolton	low	$ 268	$ 22.37	$ 0.0346	35%	12
Boston	all	$ 76,476	$ 9.82	$ 0.0209	11%	7,784
Boston	low	$ 15,832	$ 11.46	$ 0.0285	31%	1,382
Bourne	all	$ 5,141	$ 9.16	$ 0.0206	21%	561

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Bourne	low	$ 848	$ 13.46	$ 0.0306	26%	63
Boxford	all	$ 11,280	$ 22.97	$ 0.0317	17%	491
Boxford	low	$ 113	$ 18.81	$ 0.0381	13%	6
Brant Rock	all	$ 324	$ 9.82	$ 0.0207	14%	33
Brant Rock	low	$ 95	$ 13.57	$ 0.0266	37%	7
Brewster	all	$ 11,340	$ 6.81	$ 0.0168	20%	1,666
Brewster	low	$ 919	$ 11.49	$ 0.0256	21%	80
Bridgewater	all	$ 25,930	$ 17.32	$ 0.0268	17%	1,497
Bridgewater	low	$ 3,085	$ 18.58	$ 0.0332	26%	166
Brighton	all	$ 32,625	$ 9.93	$ 0.0233	17%	3,284
Brighton	low	$ 3,550	$ 13.50	$ 0.0330	26%	263
Brimfield	all	$ 5,929	$ 14.19	$ 0.0221	26%	418
Brimfield	low	$ 723	$ 13.15	$ 0.0219	30%	55
Brockton	all	$ 180,573	$ 16.24	$ 0.0325	33%	11,122
Brockton	low	$ 59,507	$ 16.82	$ 0.0354	45%	3,538
Brookfield	all	$ 6,535	$ 12.91	$ 0.0222	32%	506
Brookfield	low	$ 1,388	$ 13.48	$ 0.0242	41%	103
Brookline	all	$ 29,523	$ 12.52	$ 0.0278	11%	2,359
Brookline	low	$ 1,446	$ 15.22	$ 0.0371	15%	95
Buckland	all	$ 2,595	$ 18.41	$ 0.0341	16%	141
Buckland	low	$ 446	$ 17.82	$ 0.0331	20%	25
Burlington	all	$ 17,004	$ 11.84	$ 0.0256	15%	1,436
Burlington	low	$ 2,127	$ 15.41	$ 0.0351	25%	138
Buzzards Bay	all	$ 3,238	$ 8.18	$ 0.0192	22%	396
Buzzards Bay	low	$ 600	$ 13.96	$ 0.0331	24%	43
Cambridge	all	$ 50,183	$ 14.78	$ 0.0350	11%	3,395
Cambridge	low	$ 10,084	$ 17.82	$ 0.0439	32%	566
Canton	all	$ 15,459	$ 11.17	$ 0.0246	15%	1,384
Canton	low	$ 1,945	$ 14.85	$ 0.0344	21%	131
Carlisle	all	$ 2,356	$ 8.10	$ 0.0171	15%	291
Carlisle	low	$ 120	$ 24.00	$ 0.0520	19%	5
Carver	all	$ 6,777	$ 9.20	$ 0.0192	18%	737
Carver	low	$ 1,656	$ 12.08	$ 0.0270	26%	137
Cataumet	all	$ 786	$ 6.14	$ 0.0188	18%	128
Cataumet	low	$ (7)	$ (6.95)	$ (0.0150)	4%	1
Centerville	all	$ 8,920	$ 7.02	$ 0.0161	21%	1,270
Centerville	low	$ 1,046	$ 13.58	$ 0.0288	21%	77
Charlemont	all	$ 2,682	$ 18.50	$ 0.0342	21%	145
Charlemont	low	$ 772	$ 20.88	$ 0.0407	33%	37

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Charlestown	all	$ 9,590	$ 9.07	$ 0.0171	14%	1,057
Charlestown	low	$ 286	$ 12.45	$ 0.0288	17%	23
Charlton	all	$ 19,103	$ 13.89	$ 0.0218	27%	1,375
Charlton	low	$ 1,563	$ 13.25	$ 0.0235	31%	118
Chatham	all	$ 5,758	$ 8.68	$ 0.0230	17%	663
Chatham	low	$ 261	$ 13.74	$ 0.0316	18%	19
Chelmsford	all	$ 31,851	$ 15.38	$ 0.0280	15%	2,071
Chelmsford	low	$ 3,286	$ 17.20	$ 0.0341	24%	191
Chelsea	all	$ 61,037	$ 13.22	$ 0.0301	36%	4,616
Chelsea	low	$ 19,559	$ 14.51	$ 0.0348	47%	1,348
Cheshire	all	$ 4,821	$ 13.47	$ 0.0263	23%	358
Cheshire	low	$ 1,055	$ 13.18	$ 0.0299	36%	80
Chesterfield	all	$ 1,246	$ 18.32	$ 0.0335	11%	68
Chesterfield	low	$ 283	$ 21.77	$ 0.0422	20%	13
Chestnut Hill	all	$ 11,608	$ 12.22	$ 0.0237	14%	950
Chestnut Hill	low	$ 687	$ 18.07	$ 0.0432	20%	38
Chilmark	all	$ 1,111	$ 6.04	$ 0.0183	12%	184
Chilmark	low	$ 30	$ 14.83	$ 0.0324	14%	2
Clarksburg	all	$ 1,620	$ 12.36	$ 0.0258	18%	131
Clarksburg	low	$ 385	$ 11.65	$ 0.0240	24%	33
Clinton	all	$ 24,332	$ 13.87	$ 0.0276	27%	1,754
Clinton	low	$ 4,434	$ 13.48	$ 0.0290	42%	329
Cohasset	all	$ 9,864	$ 21.58	$ 0.0317	14%	457
Cohasset	low	$ 140	$ 9.33	$ 0.0168	19%	15
Colrain	all	$ 2,772	$ 16.70	$ 0.0310	19%	166
Colrain	low	$ 547	$ 17.11	$ 0.0312	26%	32
Conway	all	$ 2,316	$ 18.53	$ 0.0345	15%	125
Conway	low	$ 319	$ 19.95	$ 0.0387	28%	16
Cotuit	all	$ 2,800	$ 6.50	$ 0.0160	18%	431
Cotuit	low	$ 483	$ 16.64	$ 0.0372	31%	29
Cummaquid	all	$ 1,093	$ 8.28	$ 0.0192	26%	132
Cummaquid	low	$ (7)	$ (6.95)	$ (0.0150)	6%	1
Cummington	all	$ 949	$ 13.56	$ 0.0258	13%	70
Cummington	low	$ 41	$ 8.15	$ 0.0142	14%	5
Dalton	all	$ 7,546	$ 14.88	$ 0.0275	17%	507
Dalton	low	$ 1,176	$ 14.34	$ 0.0269	21%	82
Dartmouth	all	$ 33	$ 33.17	$ 0.0541	33%	1
Dedham	all	$ 16,958	$ 11.26	$ 0.0242	15%	1,506
Dedham	low	$ 2,672	$ 14.44	$ 0.0337	25%	185

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Deerfield	all	$ 912	$ 11.26	$ 0.0193	15%	81
Deerfield	low	$ 85	$ 14.21	$ 0.0264	18%	6
Dennis	all	$ 3,766	$ 6.33	$ 0.0159	19%	595
Dennis	low	$ 261	$ 12.45	$ 0.0279	22%	21
Dennis Port	all	$ 3,882	$ 6.70	$ 0.0162	13%	579
Dennis Port	low	$ 540	$ 10.20	$ 0.0226	23%	53
Dorchester	all	$ 208,823	$ 12.69	$ 0.0288	33%	16,461
Dorchester	low	$ 89,206	$ 13.30	$ 0.0324	49%	6,705
Douglas	all	$ 10,493	$ 13.07	$ 0.0224	22%	803
Douglas	low	$ 1,305	$ 13.60	$ 0.0266	32%	96
Dover	all	$ 2,067	$ 7.01	$ 0.0134	14%	295
Dover	low	$ 59	$ 14.84	$ 0.0322	25%	4
Dracut	all	$ 34,437	$ 15.75	$ 0.0276	18%	2,186
Dracut	low	$ 5,022	$ 15.55	$ 0.0290	26%	323
Dudley	all	$ 16,141	$ 12.85	$ 0.0223	28%	1,256
Dudley	low	$ 3,237	$ 15.64	$ 0.0296	38%	207
Dunstable	all	$ 3,259	$ 13.99	$ 0.0216	20%	233
Dunstable	low	$ 399	$ 33.26	$ 0.0483	38%	12
Duxbury	all	$ 6,919	$ 8.34	$ 0.0180	13%	830
Duxbury	low	$ 366	$ 13.07	$ 0.0293	13%	28
E Cambridge	all	$ 11,826	$ 14.42	$ 0.0317	12%	820
E Cambridge	low	$ 2,019	$ 17.41	$ 0.0431	29%	116
E Harwich	all	$ 3,645	$ 8.26	$ 0.0194	21%	441
E Harwich	low	$ 352	$ 14.09	$ 0.0320	25%	25
E. Bridgewater	all	$ 18,198	$ 16.12	$ 0.0269	22%	1,129
E. Bridgewater	low	$ 2,346	$ 17.38	$ 0.0323	32%	135
E. Brookfield	all	$ 3,686	$ 12.29	$ 0.0213	30%	300
E. Brookfield	low	$ 756	$ 18.43	$ 0.0348	45%	41
East Boston	all	$ 64,650	$ 15.22	$ 0.0358	29%	4,249
East Boston	low	$ 17,948	$ 15.63	$ 0.0385	43%	1,148
East Dennis	all	$ 2,006	$ 7.04	$ 0.0170	16%	285
East Dennis	low	$ 153	$ 16.99	$ 0.0350	27%	9
East Falmouth	all	$ 14,375	$ 8.00	$ 0.0189	21%	1,797
East Falmouth	low	$ 1,811	$ 10.84	$ 0.0237	28%	167
East Freetown	all	$ 2,340	$ 7.70	$ 0.0161	15%	304
East Freetown	low	$ 548	$ 11.18	$ 0.0249	27%	49
East Longmeadow	all	$ 22,994	$ 15.97	$ 0.0278	24%	1,440
East Longmeadow	low	$ 2,188	$ 15.30	$ 0.0331	29%	143
East Orleans	all	$ 1,677	$ 7.77	$ 0.0204	16%	216

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
East Orleans	low	$ 57	$ 14.37	$ 0.0324	17%	4
East Otis	all	$ 1,597	$ 18.15	$ 0.0321	9%	88
East Otis	low	$ 126	$ 41.97	$ 0.0820	11%	3
East Sandwich	all	$ 3,391	$ 6.03	$ 0.0144	20%	562
East Sandwich	low	$ 535	$ 15.29	$ 0.0340	24%	35
East Walpole	all	$ 2,803	$ 11.68	$ 0.0259	14%	240
East Walpole	low	$ 266	$ 17.72	$ 0.0435	17%	15
East Wareham	all	$ 4,665	$ 9.37	$ 0.0217	24%	498
East Wareham	low	$ 1,745	$ 9.64	$ 0.0227	38%	181
Eastham	all	$ 4,248	$ 7.13	$ 0.0184	17%	596
Eastham	low	$ 376	$ 14.45	$ 0.0332	21%	26
Easthampton	all	$ 21,694	$ 17.22	$ 0.0309	16%	1,260
Easthampton	low	$ 4,247	$ 17.26	$ 0.0319	25%	246
Easton	all	$ 33,708	$ 18.72	$ 0.0290	20%	1,801
Easton	low	$ 2,812	$ 17.25	$ 0.0310	34%	163
Edgartown	all	$ 4,719	$ 5.53	$ 0.0137	17%	854
Edgartown	low	$ 275	$ 9.47	$ 0.0162	20%	29
Egremont	all	$ 2,931	$ 15.26	$ 0.0261	20%	192
Egremont	low	$ 91	$ 6.96	$ 0.0145	30%	13
Erving	all	$ 2,216	$ 16.17	$ 0.0320	19%	137
Erving	low	$ 496	$ 13.78	$ 0.0298	27%	36
Essex	all	$ 4,469	$ 16.86	$ 0.0298	16%	265
Essex	low	$ 398	$ 28.40	$ 0.0546	25%	14
Everett	all	$ 72,935	$ 15.06	$ 0.0309	29%	4,843
Everett	low	$ 16,642	$ 14.93	$ 0.0313	40%	1,115
Fairhaven	all	$ 11,017	$ 9.34	$ 0.0211	16%	1,180
Fairhaven	low	$ 2,291	$ 10.91	$ 0.0252	21%	210
Fall River	all	$ 151,610	$ 13.92	$ 0.0323	28%	10,888
Fall River	low	$ 57,762	$ 13.67	$ 0.0338	35%	4,224
Falmouth	all	$ 8,480	$ 8.80	$ 0.0214	18%	964
Falmouth	low	$ 724	$ 12.93	$ 0.0292	23%	56
Feeding Hills	all	$ 11,190	$ 12.88	$ 0.0233	19%	869
Feeding Hills	low	$ 2,298	$ 14.27	$ 0.0267	25%	161
Fitchburg	all	$ 14,191	$ 5.40	$ 0.0115	16%	2,626
Fitchburg	low	$ 6,124	$ 5.92	$ 0.0140	27%	1,035
Florida-Drury	all	$ 1,033	$ 15.65	$ 0.0301	17%	66
Florida-Drury	low	$ 221	$ 13.80	$ 0.0324	19%	16
Forestdale	all	$ 1,697	$ 5.44	$ 0.0124	20%	312
Forestdale	low	$ 303	$ 10.43	$ 0.0208	24%	29

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Foxboro	all	$ 20,617	$ 16.64	$ 0.0273	17%	1,239
Foxboro	low	$ 1,896	$ 15.80	$ 0.0310	29%	120
Framingham	all	$ 89,377	$ 14.30	$ 0.0313	24%	6,252
Framingham	low	$ 17,651	$ 17.37	$ 0.0407	36%	1,016
Franklin	all	$ 37,987	$ 15.62	$ 0.0260	21%	2,432
Franklin	low	$ 2,891	$ 16.81	$ 0.0345	31%	172
Gardner	all	$ 28,645	$ 12.55	$ 0.0258	25%	2,282
Gardner	low	$ 8,147	$ 13.42	$ 0.0294	35%	607
Gill	all	$ 1,820	$ 17.33	$ 0.0317	16%	105
Gill	low	$ 253	$ 28.16	$ 0.0537	13%	9
Gloucester	all	$ 48,607	$ 16.69	$ 0.0322	20%	2,912
Gloucester	low	$ 8,943	$ 18.55	$ 0.0387	29%	482
Goshen	all	$ 1,070	$ 18.45	$ 0.0338	9%	58
Goshen	low	$ 237	$ 29.56	$ 0.0529	21%	8
Grafton	all	$ 23,788	$ 15.22	$ 0.0244	20%	1,563
Grafton	low	$ 1,975	$ 15.92	$ 0.0298	34%	124
Granby	all	$ 15,516	$ 15.98	$ 0.0272	34%	971
Granby	low	$ 2,012	$ 16.36	$ 0.0290	44%	123
Granville	all	$ 4,488	$ 13.89	$ 0.0239	24%	323
Granville	low	$ 364	$ 11.04	$ 0.0205	33%	33
Green Harbor	all	$ 274	$ 15.20	$ 0.0320	8%	18
Green Harbor	low	$ 55	$ 27.27	$ 0.0654	15%	2
Greenfield	all	$ 20,852	$ 16.39	$ 0.0307	15%	1,272
Greenfield	low	$ 7,209	$ 16.69	$ 0.0320	27%	432
Gt. Barrington	all	$ 11,523	$ 13.28	$ 0.0252	24%	868
Gt. Barrington	low	$ 1,413	$ 12.62	$ 0.0288	35%	112
Hadley	all	$ 11,050	$ 16.35	$ 0.0299	14%	676
Hadley	low	$ 1,534	$ 18.04	$ 0.0371	23%	85
Halifax	all	$ 9,897	$ 16.17	$ 0.0248	20%	612
Halifax	low	$ 1,865	$ 21.19	$ 0.0359	30%	88
Hamilton	all	$ 10,655	$ 21.52	$ 0.0339	18%	495
Hamilton	low	$ 647	$ 28.15	$ 0.0456	23%	23
Hampden	all	$ 7,906	$ 16.37	$ 0.0250	24%	483
Hampden	low	$ 812	$ 17.27	$ 0.0263	33%	47
Hancock	all	$ 1,078	$ 10.08	$ 0.0187	15%	107
Hancock	low	$ 40	$ 13.45	$ 0.0211	9%	3
Hanover	all	$ 13,441	$ 15.43	$ 0.0239	18%	871
Hanover	low	$ 790	$ 16.81	$ 0.0325	26%	47
Hanson	all	$ 11,848	$ 16.21	$ 0.0251	19%	731

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Hanson	low	$ 845	$ 16.24	$ 0.0279	20%	52
Hardwick	all	$ 4,335	$ 15.76	$ 0.0293	22%	275
Hardwick	low	$ 979	$ 15.79	$ 0.0296	30%	62
Harvard	all	$ 4,999	$ 15.24	$ 0.0239	16%	328
Harvard	low	$ 32	$ 10.80	$ 0.0182	14%	3
Harwich	all	$ 5,285	$ 6.31	$ 0.0162	22%	838
Harwich	low	$ 772	$ 11.19	$ 0.0252	27%	69
Harwich Port	all	$ 2,533	$ 6.74	$ 0.0175	17%	376
Harwich Port	low	$ 82	$ 9.14	$ 0.0211	16%	9
Hatfield	all	$ 3,035	$ 19.97	$ 0.0378	13%	152
Hatfield	low	$ 290	$ 22.33	$ 0.0408	17%	13
Haverhill	all	$ 85,273	$ 16.97	$ 0.0320	20%	5,024
Haverhill	low	$ 26,971	$ 18.93	$ 0.0369	31%	1,425
Hawley	all	$ 450	$ 9.79	$ 0.0211	23%	46
Hawley	low	$ 145	$ 10.37	$ 0.0233	44%	14
Heath	all	$ 1,976	$ 20.59	$ 0.0367	17%	96
Heath	low	$ 586	$ 30.86	$ 0.0545	35%	19
Hinsdale	all	$ 2,876	$ 16.63	$ 0.0308	14%	173
Hinsdale	low	$ 702	$ 20.63	$ 0.0403	20%	34
Holbrook	all	$ 25,126	$ 15.70	$ 0.0278	33%	1,600
Holbrook	low	$ 5,238	$ 20.70	$ 0.0371	40%	253
Holland	all	$ 4,517	$ 12.62	$ 0.0208	25%	358
Holland	low	$ 647	$ 13.21	$ 0.0239	33%	49
Holliston	all	$ 7,671	$ 11.66	$ 0.0247	12%	658
Holliston	low	$ 491	$ 13.64	$ 0.0301	15%	36
Hopedale	all	$ 8,499	$ 14.07	$ 0.0237	27%	604
Hopedale	low	$ 624	$ 14.85	$ 0.0280	30%	42
Hopkinton	all	$ 7,647	$ 9.43	$ 0.0200	13%	811
Hopkinton	low	$ 467	$ 12.97	$ 0.0260	20%	36
Hubbardston	all	$ 5,742	$ 13.11	$ 0.0227	25%	438
Hubbardston	low	$ 710	$ 16.90	$ 0.0303	30%	42
Humarock	all	$ 546	$ 8.53	$ 0.0208	9%	64
Humarock	low	$ 32	$ 32.21	$ 0.0769	11%	1
Huntington	all	$ 2,430	$ 18.99	$ 0.0358	13%	128
Huntington	low	$ 301	$ 15.83	$ 0.0293	17%	19
Hyannis	all	$ 17,608	$ 9.01	$ 0.0192	26%	1,955
Hyannis	low	$ 5,383	$ 12.94	$ 0.0298	33%	416
Hyannis Port	all	$ 149	$ 3.38	$ 0.0097	12%	44
Hyannis Port	low	$ (3)	$ (3.03)	$ (0.0082)	17%	1

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Hyde Park	all	$ 47,409	$ 12.92	$ 0.0300	30%	3,670
Hyde Park	low	$ 14,489	$ 14.39	$ 0.0358	39%	1,007
Indian Orchard	all	$ 16,801	$ 16.49	$ 0.0311	27%	1,019
Indian Orchard	low	$ 9,851	$ 17.91	$ 0.0324	41%	550
Jamaica Plain	all	$ 34,108	$ 12.71	$ 0.0299	17%	2,683
Jamaica Plain	low	$ 6,452	$ 15.85	$ 0.0385	36%	407
Kingston	all	$ 6,389	$ 8.07	$ 0.0169	15%	792
Kingston	low	$ 972	$ 11.18	$ 0.0247	21%	87
Lake Pleasant	all	$ 97	$ 9.69	$ 0.0191	11%	10
Lake Pleasant	low	$ 30	$ 14.84	$ 0.0257	13%	2
Lancaster	all	$ 6,240	$ 13.22	$ 0.0177	17%	472
Lancaster	low	$ 482	$ 12.05	$ 0.0235	25%	40
Lanesborough	all	$ 2,890	$ 13.26	$ 0.0241	14%	218
Lanesborough	low	$ 464	$ 15.48	$ 0.0292	17%	30
Lawrence	all	$ 153,228	$ 17.26	$ 0.0361	35%	8,878
Lawrence	low	$ 76,935	$ 18.58	$ 0.0387	46%	4,141
Lee	all	$ 6,056	$ 12.02	$ 0.0218	17%	504
Lee	low	$ 718	$ 11.58	$ 0.0229	20%	62
Leicester	all	$ 18,752	$ 15.15	$ 0.0241	29%	1,238
Leicester	low	$ 2,904	$ 16.99	$ 0.0293	36%	171
Lenox	all	$ 5,835	$ 15.52	$ 0.0260	14%	376
Lenox	low	$ 430	$ 15.35	$ 0.0369	24%	28
Lenoxdale	all	$ 432	$ 20.57	$ 0.0347	9%	21
Lenoxdale	low	$ 11	$ 5.75	$ 0.0098	10%	2
Leominster	all	$ 64,559	$ 13.50	$ 0.0256	28%	4,781
Leominster	low	$ 12,990	$ 13.17	$ 0.0290	41%	986
Leverett	all	$ 2,925	$ 19.37	$ 0.0340	18%	151
Leverett	low	$ 311	$ 22.23	$ 0.0354	21%	14
Lexington	all	$ 17,143	$ 10.31	$ 0.0209	14%	1,662
Lexington	low	$ 914	$ 14.99	$ 0.0345	16%	61
Leyden	all	$ 924	$ 16.21	$ 0.0318	16%	57
Leyden	low	$ 165	$ 32.93	$ 0.0667	17%	5
Lincoln	all	$ 3,948	$ 10.53	$ 0.0240	17%	375
Lincoln	low	$ 257	$ 19.76	$ 0.0458	22%	13
Longmeadow	all	$ 21,140	$ 18.66	$ 0.0326	20%	1,133
Longmeadow	low	$ 840	$ 14.00	$ 0.0267	22%	60
Lowell	all	$ 163,967	$ 15.72	$ 0.0325	26%	10,430
Lowell	low	$ 55,097	$ 16.85	$ 0.0352	41%	3,270
Ludlow	all	$ 23,494	$ 16.67	$ 0.0300	17%	1,409

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Ludlow	low	$ 4,055	$ 17.04	$ 0.0303	22%	238
Lunenburg	all	$ 686	$ 6.72	$ 0.0123	2%	102
Lunenburg	low	$ 66	$ 10.96	$ 0.0260	2%	6
Lynn	all	$ 167,567	$ 15.48	$ 0.0313	32%	10,823
Lynn	low	$ 50,279	$ 15.29	$ 0.0333	47%	3,289
Malden	all	$ 83,431	$ 15.46	$ 0.0319	21%	5,398
Malden	low	$ 16,922	$ 15.77	$ 0.0337	34%	1,073
Manchester	all	$ 6,281	$ 17.74	$ 0.0305	15%	354
Manchester	low	$ 44	$ 6.28	$ 0.0105	13%	7
Manomet	all	$ 356	$ 9.12	$ 0.0215	13%	39
Manomet	low	$ 45	$ 22.55	$ 0.0489	13%	2
Marion	all	$ 2,489	$ 6.10	$ 0.0147	15%	408
Marion	low	$ 316	$ 10.54	$ 0.0235	16%	30
Marlboro	all	$ 54,504	$ 15.35	$ 0.0293	21%	3,551
Marlboro	low	$ 7,915	$ 15.55	$ 0.0317	35%	509
Marshfield	all	$ 13,835	$ 8.48	$ 0.0173	16%	1,631
Marshfield	low	$ 1,393	$ 11.06	$ 0.0258	20%	126
Marshfld Hls	all	$ 170	$ 10.02	$ 0.0202	12%	17
Marshfld Hls	low	$ 27	$ 26.65	$ 0.0602	20%	1
Marstons Mls	all	$ 4,476	$ 6.22	$ 0.0137	22%	720
Marstons Mls	low	$ 480	$ 10.90	$ 0.0231	20%	44
Mashpee	all	$ 16,889	$ 7.62	$ 0.0171	21%	2,216
Mashpee	low	$ 2,569	$ 12.78	$ 0.0280	27%	201
Mattapan	all	$ 44,323	$ 13.99	$ 0.0324	39%	3,168
Mattapan	low	$ 16,669	$ 14.76	$ 0.0357	48%	1,129
Mattapoisett	all	$ 3,823	$ 7.62	$ 0.0169	15%	502
Mattapoisett	low	$ 275	$ 9.16	$ 0.0194	20%	30
Maynard	all	$ 8,487	$ 13.80	$ 0.0304	14%	615
Maynard	low	$ 1,231	$ 18.37	$ 0.0436	22%	67
Medfield	all	$ 6,295	$ 10.32	$ 0.0221	14%	610
Medfield	low	$ 262	$ 12.50	$ 0.0289	15%	21
Medford	all	$ 62,281	$ 15.30	$ 0.0306	17%	4,070
Medford	low	$ 5,360	$ 14.49	$ 0.0322	27%	370
Medway	all	$ 7,464	$ 11.17	$ 0.0238	15%	668
Medway	low	$ 869	$ 19.75	$ 0.0445	21%	44
Melrose	all	$ 21,095	$ 15.80	$ 0.0298	11%	1,335
Melrose	low	$ 1,955	$ 13.58	$ 0.0308	21%	144
Mendon	all	$ 7,160	$ 14.41	$ 0.0219	22%	497
Mendon	low	$ 424	$ 12.48	$ 0.0203	32%	34

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Methuen	all	$ 63,573	$ 15.40	$ 0.0285	22%	4,129
Methuen	low	$ 13,738	$ 16.32	$ 0.0343	34%	842
Middlefield	all	$ 402	$ 12.56	$ 0.0256	11%	32
Middlefield	low	$ 26	$ 3.66	$ 0.0075	39%	7
Milford	all	$ 44,399	$ 15.13	$ 0.0280	26%	2,935
Milford	low	$ 6,159	$ 16.34	$ 0.0333	39%	377
Millbury	all	$ 20,602	$ 13.35	$ 0.0208	27%	1,543
Millbury	low	$ 2,414	$ 13.12	$ 0.0234	37%	184
Millers Falls	all	$ 617	$ 11.02	$ 0.0204	15%	56
Millers Falls	low	$ 91	$ 6.49	$ 0.0115	17%	14
Millis	all	$ 5,852	$ 11.94	$ 0.0246	15%	490
Millis	low	$ 243	$ 7.84	$ 0.0168	18%	31
Millville	all	$ 4,501	$ 13.64	$ 0.0249	28%	330
Millville	low	$ 465	$ 15.48	$ 0.0274	28%	30
Milton	all	$ 16,755	$ 11.01	$ 0.0235	16%	1,522
Milton	low	$ 1,079	$ 12.26	$ 0.0287	22%	88
Monroe	all	$ 195	$ 11.49	$ 0.0257	23%	17
Monroe	low	$ 6	$ 3.23	$ 0.0141	25%	2
Monson	all	$ 13,468	$ 15.96	$ 0.0273	24%	844
Monson	low	$ 1,826	$ 15.60	$ 0.0288	31%	117
Montague	all	$ 2,536	$ 18.38	$ 0.0348	14%	138
Montague	low	$ 279	$ 17.41	$ 0.0345	18%	16
Monterey	all	$ 2,317	$ 20.15	$ 0.0362	13%	115
Monterey	low	$ 147	$ 36.70	$ 0.0540	15%	4
Montgomery	all	$ 1,080	$ 17.15	$ 0.0305	17%	63
Montgomery	low	$ (12)	$ (11.91)	$ (0.0214)	5%	1
Monument Bch	all	$ 1,733	$ 9.79	$ 0.0222	21%	177
Monument Bch	low	$ 271	$ 14.25	$ 0.0306	41%	19
Mt.Washington	all	$ 575	$ 15.96	$ 0.0269	23%	36
Mt.Washington	low	$ 11	$ 3.75	$ 0.0061	43%	3
N Cambridge	all	$ 17,650	$ 16.40	$ 0.0369	12%	1,076
N Cambridge	low	$ 3,468	$ 18.35	$ 0.0432	34%	189
N Dartmouth	all	$ 8,870	$ 8.92	$ 0.0202	14%	994
N Dartmouth	low	$ 2,062	$ 14.32	$ 0.0318	18%	144
N Falmouth	all	$ 3,327	$ 7.76	$ 0.0199	16%	429
N Falmouth	low	$ 123	$ 8.22	$ 0.0155	22%	15
N. Adams	all	$ 18,425	$ 13.08	$ 0.0272	23%	1,409
N. Adams	low	$ 6,599	$ 13.55	$ 0.0272	31%	487
N. Andover	all	$ 32,723	$ 16.63	$ 0.0257	17%	1,968

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N. Andover	low	$ 2,246	$ 17.02	$ 0.0325	21%	132
N. Brookfield	all	$ 7,357	$ 13.35	$ 0.0237	27%	551
N. Brookfield	low	$ 1,407	$ 16.36	$ 0.0306	33%	86
Nahant	all	$ 3,969	$ 16.40	$ 0.0305	15%	242
Nahant	low	$ 238	$ 12.55	$ 0.0253	28%	19
Nantucket	all	$ 5,859	$ 6.93	$ 0.0095	7%	845
Nantucket	low	$ 202	$ 8.42	$ 0.0103	11%	24
Natick	all	$ 26,434	$ 11.19	$ 0.0228	16%	2,362
Natick	low	$ 3,499	$ 19.02	$ 0.0428	21%	184
Needham	all	$ 12,993	$ 9.32	$ 0.0204	13%	1,394
Needham	low	$ 635	$ 14.43	$ 0.0346	18%	44
New Ashford	all	$ 247	$ 12.36	$ 0.0222	17%	20
New Ashford	low	$ 3	$ 2.68	$ 0.0046	13%	1
New Bedford	all	$ 108,881	$ 11.15	$ 0.0261	24%	9,765
New Bedford	low	$ 46,793	$ 12.25	$ 0.0301	32%	3,821
New Braintree	all	$ 1,291	$ 14.03	$ 0.0243	22%	92
New Braintree	low	$ 205	$ 20.46	$ 0.0341	30%	10
New Marlboro	all	$ 2,190	$ 16.22	$ 0.0275	12%	135
New Marlboro	low	$ 99	$ 10.99	$ 0.0238	12%	9
New Salem	all	$ 1,267	$ 14.08	$ 0.0271	19%	90
New Salem	low	$ 83	$ 11.82	$ 0.0250	16%	7
Newbury	all	$ 7,236	$ 16.45	$ 0.0274	15%	440
Newbury	low	$ 440	$ 16.28	$ 0.0295	20%	27
Newburyport	all	$ 18,401	$ 14.32	$ 0.0286	15%	1,285
Newburyport	low	$ 1,213	$ 11.03	$ 0.0271	26%	110
Newton	all	$ 8,192	$ 11.01	$ 0.0245	15%	744
Newton	low	$ 570	$ 9.99	$ 0.0239	26%	57
Newton Center	all	$ 9,223	$ 10.02	$ 0.0192	14%	920
Newton Center	low	$ 363	$ 13.45	$ 0.0298	16%	27
Newton Hlds	all	$ 4,627	$ 11.77	$ 0.0260	14%	393
Newton Hlds	low	$ 534	$ 16.18	$ 0.0382	23%	33
Newton L F	all	$ 822	$ 13.05	$ 0.0319	13%	63
Newton L F	low	$ 176	$ 25.10	$ 0.0624	22%	7
Newton U F	all	$ 1,811	$ 12.24	$ 0.0280	12%	148
Newton U F	low	$ 192	$ 11.27	$ 0.0274	25%	17
Newtonvlle	all	$ 6,406	$ 12.54	$ 0.0276	14%	511
Newtonvlle	low	$ 398	$ 14.76	$ 0.0351	20%	27
Norfolk	all	$ 4,562	$ 9.11	$ 0.0188	14%	501
Norfolk	low	$ 130	$ 11.82	$ 0.0270	10%	11

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North Carver	all	$ 434	$ 10.59	$ 0.0217	19%	41
North Carver	low	$ 13	$ 2.09	$ 0.0046	26%	6
North Chatham	all	$ 1,362	$ 7.28	$ 0.0221	17%	187
North Chatham	low	$ 27	$ 26.65	$ 0.0602	6%	1
North Eastham	all	$ 2,566	$ 6.45	$ 0.0181	15%	398
North Eastham	low	$ 391	$ 17.78	$ 0.0399	25%	22
North Easton	all	$ 2	$ 1.88	$ 0.0032	20%	1
North Hatfield	all	$ 197	$ 19.74	$ 0.0353	7%	10
North Truro	all	$ 1,817	$ 7.77	$ 0.0204	14%	234
North Truro	low	$ 103	$ 17.17	$ 0.0377	11%	6
Northampton	all	$ 34,101	$ 15.74	$ 0.0328	17%	2,166
Northampton	low	$ 6,795	$ 16.90	$ 0.0403	31%	402
Northboro	all	$ 17,051	$ 15.47	$ 0.0245	19%	1,102
Northboro	low	$ 1,244	$ 18.02	$ 0.0308	28%	69
Northfield	all	$ 3,476	$ 16.24	$ 0.0305	15%	214
Northfield	low	$ 630	$ 15.00	$ 0.0298	29%	42
Norton	all	$ 21,519	$ 17.01	$ 0.0262	18%	1,265
Norton	low	$ 2,533	$ 16.03	$ 0.0310	23%	158
Norwell	all	$ 11,613	$ 17.54	$ 0.0257	18%	662
Norwell	low	$ 291	$ 18.20	$ 0.0392	20%	16
Oak Bluffs	all	$ 6,084	$ 8.46	$ 0.0204	17%	719
Oak Bluffs	low	$ 580	$ 16.58	$ 0.0346	26%	35
Oakham	all	$ 3,448	$ 13.63	$ 0.0243	29%	253
Oakham	low	$ 417	$ 16.70	$ 0.0333	38%	25
Ocean Bluff	all	$ 83	$ 4.13	$ 0.0096	12%	20
Onset	all	$ 4,362	$ 9.85	$ 0.0222	19%	443
Onset	low	$ 609	$ 8.95	$ 0.0201	30%	68
Orange	all	$ 13,348	$ 13.78	$ 0.0272	27%	969
Orange	low	$ 5,755	$ 15.31	$ 0.0319	39%	376
Orleans	all	$ 4,823	$ 7.31	$ 0.0164	21%	660
Orleans	low	$ 544	$ 13.59	$ 0.0319	20%	40
Osterville	all	$ 3,663	$ 7.54	$ 0.0167	17%	486
Osterville	low	$ 196	$ 11.51	$ 0.0252	20%	17
Otis	all	$ 1,509	$ 12.68	$ 0.0217	13%	119
Otis	low	$ 152	$ 21.77	$ 0.0440	13%	7
Oxford	all	$ 20,000	$ 12.66	$ 0.0213	28%	1,580
Oxford	low	$ 3,432	$ 14.73	$ 0.0264	36%	233
Palmer-3Rivers	all	$ 19,125	$ 13.91	$ 0.0254	24%	1,375
Palmer-3Rivers	low	$ 5,309	$ 14.87	$ 0.0277	35%	357

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Pelham	all	$ 1,478	$ 15.89	$ 0.0288	15%	93
Pelham	low	$ 36	$ 8.93	$ 0.0141	9%	4
Pembroke	all	$ 20,598	$ 15.94	$ 0.0255	19%	1,292
Pembroke	low	$ 1,432	$ 13.64	$ 0.0245	25%	105
Pepperell	all	$ 12,708	$ 13.89	$ 0.0237	20%	915
Pepperell	low	$ 1,629	$ 14.17	$ 0.0283	32%	115
Peru	all	$ 1,267	$ 17.36	$ 0.0299	17%	73
Peru	low	$ 266	$ 22.13	$ 0.0380	23%	12
Petersham	all	$ 1,735	$ 13.25	$ 0.0214	22%	131
Petersham	low	$ 74	$ 9.30	$ 0.0199	18%	8
Phillipston	all	$ 2,711	$ 15.40	$ 0.0262	21%	176
Phillipston	low	$ 457	$ 16.33	$ 0.0261	37%	28
Pittsfield	all	$ 64,271	$ 16.83	$ 0.0319	18%	3,818
Pittsfield	low	$ 19,698	$ 18.06	$ 0.0341	27%	1,091
Plainfield	all	$ 1,038	$ 15.04	$ 0.0274	19%	69
Plainfield	low	$ 148	$ 9.89	$ 0.0173	33%	15
Plainville	all	$ 11,123	$ 16.14	$ 0.0257	17%	689
Plainville	low	$ 1,462	$ 15.89	$ 0.0304	26%	92
Plymouth	all	$ 36,254	$ 8.19	$ 0.0170	17%	4,428
Plymouth	low	$ 6,068	$ 10.84	$ 0.0244	25%	560
Plympton	all	$ 813	$ 5.05	$ 0.0104	15%	161
Plympton	low	$ 17	$ 2.08	$ 0.0041	16%	8
Pocasset	all	$ 4,539	$ 9.76	$ 0.0248	20%	465
Pocasset	low	$ 700	$ 19.43	$ 0.0466	28%	36
Provincetown	all	$ 5,049	$ 7.42	$ 0.0188	15%	680
Provincetown	low	$ 798	$ 14.51	$ 0.0331	25%	55
Quincy	all	$ 134,899	$ 14.52	$ 0.0291	21%	9,288
Quincy	low	$ 22,529	$ 14.44	$ 0.0300	39%	1,560
Randolph	all	$ 54,122	$ 15.59	$ 0.0295	29%	3,472
Randolph	low	$ 11,323	$ 16.06	$ 0.0309	37%	705
Rehoboth	all	$ 13,701	$ 15.97	$ 0.0258	18%	858
Rehoboth	low	$ 1,515	$ 18.04	$ 0.0291	27%	84
Revere	all	$ 79,144	$ 15.42	$ 0.0303	25%	5,132
Revere	low	$ 16,572	$ 16.54	$ 0.0335	37%	1,002
Richmond	all	$ 1,586	$ 13.10	$ 0.0230	13%	121
Richmond	low	$ 101	$ 12.56	$ 0.0231	20%	8
Rochester	all	$ 2,133	$ 6.52	$ 0.0134	15%	327
Rochester	low	$ 294	$ 10.51	$ 0.0230	24%	28
Rockland	all	$ 22,438	$ 13.74	$ 0.0252	23%	1,633

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Rockland	low	$ 3,007	$ 14.67	$ 0.0294	32%	205
Rockport	all	$ 9,337	$ 14.37	$ 0.0269	14%	650
Rockport	low	$ 625	$ 12.02	$ 0.0262	19%	52
Roslindale	all	$ 34,043	$ 11.71	$ 0.0266	25%	2,907
Roslindale	low	$ 9,165	$ 14.08	$ 0.0341	38%	651
Rowe	all	$ 661	$ 14.38	$ 0.0246	21%	46
Rowe	low	$ 112	$ 22.34	$ 0.0357	24%	5
Roxbry Xng	all	$ 14,955	$ 12.40	$ 0.0297	26%	1,206
Roxbry Xng	low	$ 5,673	$ 13.94	$ 0.0349	50%	407
Roxbury	all	$ 48,009	$ 13.23	$ 0.0298	36%	3,630
Roxbury	low	$ 22,029	$ 13.95	$ 0.0344	49%	1,579
Royalston	all	$ 1,965	$ 16.10	$ 0.0279	19%	122
Royalston	low	$ 407	$ 19.39	$ 0.0321	25%	21
Rutland	all	$ 11,163	$ 13.24	$ 0.0225	26%	843
Rutland	low	$ 1,287	$ 14.96	$ 0.0292	39%	86
S Boston	all	$ 1,903	$ 12.86	$ 0.0233	5%	148
S Boston	low	$ 75	$ 15.08	$ 0.0391	14%	5
S Dartmouth	all	$ 6,674	$ 8.51	$ 0.0203	13%	784
S Dartmouth	low	$ 1,563	$ 13.25	$ 0.0306	19%	118
S Wellfleet	all	$ 1,063	$ 6.44	$ 0.0186	16%	165
S Wellfleet	low	$ 219	$ 18.26	$ 0.0455	28%	12
S Yarmouth	all	$ 8,840	$ 8.40	$ 0.0193	22%	1,052
S Yarmouth	low	$ 1,789	$ 13.76	$ 0.0329	28%	130
Sagamore	all	$ 778	$ 7.01	$ 0.0162	19%	111
Sagamore	low	$ 151	$ 12.61	$ 0.0328	15%	12
Sagamore Bch	all	$ 1,700	$ 6.05	$ 0.0153	19%	281
Sagamore Bch	low	$ 292	$ 12.68	$ 0.0266	27%	23
Salem	all	$ 49,150	$ 14.18	$ 0.0296	19%	3,466
Salem	low	$ 11,322	$ 15.02	$ 0.0343	33%	754
Salisbury	all	$ 11,482	$ 14.19	$ 0.0263	17%	809
Salisbury	low	$ 2,152	$ 17.08	$ 0.0310	27%	126
Sandisfield	all	$ 2,688	$ 12.05	$ 0.0214	17%	223
Sandisfield	low	$ 337	$ 21.09	$ 0.0376	16%	16
Sandwich	all	$ 7,290	$ 7.04	$ 0.0159	20%	1,035
Sandwich	low	$ 906	$ 12.77	$ 0.0268	22%	71
Saugus	all	$ 27,767	$ 13.61	$ 0.0251	19%	2,040
Saugus	low	$ 3,188	$ 14.17	$ 0.0280	25%	225
Savoy	all	$ 1,072	$ 14.48	$ 0.0263	20%	74
Savoy	low	$ 166	$ 7.53	$ 0.0133	34%	22

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Scituate	all	$ 22,221	$ 17.03	$ 0.0281	17%	1,305
Scituate	low	$ 889	$ 16.16	$ 0.0318	22%	55
Seekonk	all	$ 17,540	$ 16.77	$ 0.0295	19%	1,046
Seekonk	low	$ 2,731	$ 20.53	$ 0.0375	25%	133
Sharon	all	$ 8,036	$ 9.80	$ 0.0198	13%	820
Sharon	low	$ 545	$ 13.64	$ 0.0277	17%	40
Sheffield	all	$ 6,296	$ 18.46	$ 0.0317	19%	341
Sheffield	low	$ 1,241	$ 20.01	$ 0.0355	29%	62
Shelburne	all	$ 345	$ 12.78	$ 0.0242	12%	27
Shelburne	low	$ 30	$ 10.04	$ 0.0174	21%	3
Shelburne Fls	all	$ 1,781	$ 14.60	$ 0.0279	16%	122
Shelburne Fls	low	$ 156	$ 11.17	$ 0.0193	16%	14
Sherborn	all	$ 2,208	$ 9.99	$ 0.0211	14%	221
Sherborn	low	$ 107	$ 21.45	$ 0.0459	20%	5
Shirley	all	$ 7,679	$ 14.46	$ 0.0246	20%	531
Shirley	low	$ 1,446	$ 14.76	$ 0.0291	33%	98
Shutesbury	all	$ 2,268	$ 14.92	$ 0.0284	17%	152
Shutesbury	low	$ 183	$ 12.21	$ 0.0270	18%	15
Somerset	all	$ 26,570	$ 15.46	$ 0.0315	23%	1,719
Somerset	low	$ 4,153	$ 15.97	$ 0.0328	26%	260
Somerville	all	$ 56,762	$ 13.52	$ 0.0313	18%	4,199
Somerville	low	$ 12,079	$ 14.28	$ 0.0343	42%	846
South Boston	all	$ 22,162	$ 14.34	$ 0.0317	10%	1,545
South Boston	low	$ 3,532	$ 15.16	$ 0.0383	31%	233
South Carver	all	$ 547	$ 9.12	$ 0.0198	12%	60
South Carver	low	$ (3)	$ (0.70)	$ (0.0017)	13%	4
South Chatham	all	$ 1,294	$ 6.81	$ 0.0199	13%	190
South Chatham	low	$ 92	$ 9.16	$ 0.0181	28%	10
South Deerfield	all	$ 3,909	$ 14.69	$ 0.0270	15%	266
South Deerfield	low	$ 401	$ 11.14	$ 0.0222	25%	36
South Dennis	all	$ 5,159	$ 7.27	$ 0.0178	19%	710
South Dennis	low	$ 1,266	$ 13.19	$ 0.0288	34%	96
South Harwich	all	$ 824	$ 8.68	$ 0.0216	15%	95
South Harwich	low	$ 51	$ 12.69	$ 0.0356	33%	4
South Lee	all	$ 114	$ 19.05	$ 0.0373	10%	6
South Lee	low	$ 40	$ 39.60	$ 0.0685	13%	1
South Orleans	all	$ 853	$ 6.28	$ 0.0180	18%	136
South Orleans	low	$ 5	$ 5.36	$ 0.0127	6%	1
South Walpole	all	$ 451	$ 11.00	$ 0.0237	12%	41

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
South Walpole	low	$ 18	$ 17.70	$ 0.0424	5%	1
Southampton	all	$ 5,719	$ 15.29	$ 0.0276	15%	374
Southampton	low	$ 470	$ 15.17	$ 0.0268	18%	31
Southboro	all	$ 10,507	$ 12.91	$ 0.0177	22%	814
Southboro	low	$ 232	$ 14.53	$ 0.0254	25%	16
Southbridge	all	$ 39,447	$ 15.50	$ 0.0272	35%	2,545
Southbridge	low	$ 15,246	$ 17.71	$ 0.0319	49%	861
Southwick	all	$ 12,034	$ 16.90	$ 0.0302	18%	712
Southwick	low	$ 1,667	$ 18.32	$ 0.0332	25%	91
Spencer	all	$ 20,414	$ 13.49	$ 0.0237	29%	1,513
Spencer	low	$ 4,350	$ 14.79	$ 0.0287	41%	294
Springfield	all	$ 273,201	$ 17.74	$ 0.0341	28%	15,403
Springfield	low	$ 153,731	$ 18.72	$ 0.0350	45%	8,213
Stockbridge	all	$ 4,058	$ 16.10	$ 0.0288	16%	252
Stockbridge	low	$ 202	$ 14.43	$ 0.0275	22%	14
Stoneham	all	$ 19,338	$ 13.93	$ 0.0298	14%	1,388
Stoneham	low	$ 2,307	$ 18.31	$ 0.0423	19%	126
Stoughton	all	$ 38,826	$ 15.44	$ 0.0293	22%	2,514
Stoughton	low	$ 5,100	$ 15.41	$ 0.0316	31%	331
Sturbridge	all	$ 14,867	$ 13.02	$ 0.0206	27%	1,142
Sturbridge	low	$ 1,527	$ 11.14	$ 0.0222	35%	137
Sudbury	all	$ 8,743	$ 9.91	$ 0.0219	14%	882
Sudbury	low	$ 765	$ 21.24	$ 0.0469	19%	36
Sunderland	all	$ 3,608	$ 16.03	$ 0.0301	12%	225
Sunderland	low	$ 555	$ 16.81	$ 0.0317	24%	33
Sutton	all	$ 12,818	$ 14.39	$ 0.0229	25%	891
Sutton	low	$ 680	$ 13.08	$ 0.0227	32%	52
Swampscott	all	$ 15,045	$ 16.66	$ 0.0282	15%	903
Swampscott	low	$ 1,271	$ 18.97	$ 0.0390	25%	67
Swansea	all	$ 23,519	$ 16.39	$ 0.0322	22%	1,435
Swansea	low	$ 4,163	$ 15.95	$ 0.0346	28%	261
Teaticket	all	$ 3,729	$ 8.63	$ 0.0200	21%	432
Teaticket	low	$ 673	$ 12.24	$ 0.0270	32%	55
Tewksbury	all	$ 29,374	$ 16.31	$ 0.0287	16%	1,801
Tewksbury	low	$ 2,575	$ 15.99	$ 0.0293	23%	161
Tolland	all	$ 1,311	$ 13.51	$ 0.0238	18%	97
Tolland	low	$ 104	$ 20.87	$ 0.0351	29%	5
Topsfield	all	$ 6,085	$ 16.10	$ 0.0261	16%	378
Topsfield	low	$ 215	$ 19.52	$ 0.0357	32%	11

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Townsend	all	$ 1,788	$ 7.74	$ 0.0160	7%	231
Townsend	low	$ 273	$ 9.75	$ 0.0228	8%	28
Truro	all	$ 1,493	$ 6.33	$ 0.0178	17%	236
Truro	low	$ 138	$ 11.50	$ 0.0271	31%	12
Turners Falls	all	$ 4,991	$ 11.83	$ 0.0221	16%	422
Turners Falls	low	$ 1,843	$ 13.17	$ 0.0249	24%	140
Tyngsboro	all	$ 14,158	$ 16.79	$ 0.0274	19%	843
Tyngsboro	low	$ 2,035	$ 16.96	$ 0.0321	35%	120
Tyringham	all	$ 461	$ 17.72	$ 0.0185	8%	26
Tyringham	low	$ 38	$ 37.86	$ 0.0727	20%	1
Upton	all	$ 10,518	$ 16.06	$ 0.0252	22%	655
Upton	low	$ 664	$ 13.83	$ 0.0276	33%	48
Uxbridge	all	$ 18,693	$ 13.43	$ 0.0219	25%	1,392
Uxbridge	low	$ 1,892	$ 13.81	$ 0.0259	35%	137
Vineyard Hvn	all	$ 4,679	$ 7.70	$ 0.0191	19%	608
Vineyard Hvn	low	$ 532	$ 11.31	$ 0.0224	29%	47
Vlg Nag Wd	all	$ 405	$ 10.67	$ 0.0275	14%	38
Vlg Nag Wd	low	$ 6	$ 3.06	$ 0.0082	40%	2
W Barnstable	all	$ 2,174	$ 6.84	$ 0.0159	23%	318
W Barnstable	low	$ 309	$ 16.29	$ 0.0383	29%	19
W Hyannisprt	all	$ 1,120	$ 9.10	$ 0.0217	17%	123
W Hyannisprt	low	$ 166	$ 15.07	$ 0.0345	38%	11
W Somerville	all	$ 13,729	$ 14.47	$ 0.0342	9%	949
W Somerville	low	$ 1,074	$ 16.03	$ 0.0368	22%	67
W. Bridgewater	all	$ 8,523	$ 16.42	$ 0.0277	18%	519
W. Bridgewater	low	$ 1,377	$ 18.36	$ 0.0326	32%	75
W. Brookfield	all	$ 6,583	$ 13.83	$ 0.0250	28%	476
W. Brookfield	low	$ 994	$ 16.30	$ 0.0323	34%	61
W. Newbury	all	$ 4,083	$ 13.04	$ 0.0205	19%	313
W. Newbury	low	$ 7	$ 1.44	$ 0.0018	10%	5
W.Stockbridge	all	$ 2,328	$ 14.83	$ 0.0273	18%	157
W.Stockbridge	low	$ 113	$ 11.32	$ 0.0243	15%	10
Waban	all	$ 2,940	$ 10.03	$ 0.0224	13%	293
Waban	low	$ 74	$ 7.41	$ 0.0187	20%	10
Wales	all	$ 2,588	$ 10.70	$ 0.0180	26%	242
Wales	low	$ 948	$ 16.93	$ 0.0281	42%	56
Walpole	all	$ 11,654	$ 11.05	$ 0.0242	15%	1,055
Walpole	low	$ 1,016	$ 17.51	$ 0.0411	18%	58
Waltham	all	$ 54,801	$ 11.10	$ 0.0252	19%	4,936

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Waltham	low	$ 8,184	$ 14.59	$ 0.0347	33%	561
Waquoit	all	$ 1,733	$ 6.28	$ 0.0143	23%	276
Waquoit	low	$ 454	$ 11.96	$ 0.0257	30%	38
Ware	all	$ 17,496	$ 14.02	$ 0.0265	27%	1,248
Ware	low	$ 5,972	$ 15.84	$ 0.0303	38%	377
Wareham	all	$ 13,250	$ 9.16	$ 0.0203	22%	1,446
Wareham	low	$ 3,639	$ 11.63	$ 0.0270	35%	313
Warren	all	$ 8,453	$ 13.72	$ 0.0231	29%	616
Warren	low	$ 2,007	$ 13.29	$ 0.0249	38%	151
Warwick	all	$ 1,712	$ 16.79	$ 0.0341	24%	102
Warwick	low	$ 412	$ 17.15	$ 0.0404	35%	24
Washington	all	$ 770	$ 16.75	$ 0.0305	16%	46
Washington	low	$ 105	$ 15.02	$ 0.0298	27%	7
Watertown	all	$ 28,853	$ 12.34	$ 0.0277	15%	2,339
Watertown	low	$ 3,929	$ 15.17	$ 0.0345	26%	259
Wayland	all	$ 7,383	$ 9.53	$ 0.0204	15%	775
Wayland	low	$ 297	$ 12.39	$ 0.0284	19%	24
Webster	all	$ 27,939	$ 12.36	$ 0.0226	28%	2,261
Webster	low	$ 7,145	$ 12.38	$ 0.0244	38%	577
Wellfleet	all	$ 3,719	$ 7.28	$ 0.0201	16%	511
Wellfleet	low	$ 285	$ 12.40	$ 0.0269	20%	23
Wendall	all	$ 1,592	$ 14.60	$ 0.0283	25%	109
Wendall	low	$ 445	$ 13.08	$ 0.0258	36%	34
Wenham	all	$ 1,433	$ 16.10	$ 0.0233	19%	89
Wenham	low	$ 8	$ 8.16	$ 0.0123	17%	1
West Chatham	all	$ 950	$ 7.72	$ 0.0199	14%	123
West Chatham	low	$ 76	$ 25.43	$ 0.0527	15%	3
West Dennis	all	$ 2,085	$ 6.54	$ 0.0175	14%	319
West Dennis	low	$ 81	$ 7.37	$ 0.0181	15%	11
West Falmouth	all	$ 1,592	$ 10.83	$ 0.0260	14%	147
West Falmouth	low	$ 24	$ 12.23	$ 0.0264	18%	2
West Harwich	all	$ 1,736	$ 7.58	$ 0.0194	15%	229
West Harwich	low	$ 180	$ 11.98	$ 0.0268	24%	15
West Hatfield	all	$ 732	$ 17.43	$ 0.0328	13%	42
West Hatfield	low	$ 138	$ 19.72	$ 0.0381	16%	7
West Newton	all	$ 6,742	$ 10.84	$ 0.0233	14%	622
West Newton	low	$ 485	$ 16.73	$ 0.0392	18%	29
West Roxbury	all	$ 27,187	$ 12.88	$ 0.0279	19%	2,110
West Roxbury	low	$ 3,613	$ 15.71	$ 0.0369	30%	230

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West Springfield	all	$ 37,637	$ 15.77	$ 0.0296	21%	2,387
West Springfield	low	$ 10,783	$ 15.27	$ 0.0286	36%	706
West Tisbury	all	$ 2,983	$ 8.15	$ 0.0205	17%	366
West Tisbury	low	$ 200	$ 18.18	$ 0.0368	15%	11
West Wareham	all	$ 3,805	$ 10.66	$ 0.0234	23%	357
West Wareham	low	$ 1,024	$ 12.65	$ 0.0297	34%	81
West Yarmouth	all	$ 11,603	$ 9.76	$ 0.0225	19%	1,189
West Yarmouth	low	$ 2,210	$ 15.78	$ 0.0353	26%	140
Westboro	all	$ 15,953	$ 14.81	$ 0.0248	15%	1,077
Westboro	low	$ 752	$ 15.67	$ 0.0315	21%	48
Westford	all	$ 23,313	$ 18.50	$ 0.0284	14%	1,260
Westford	low	$ 1,155	$ 17.50	$ 0.0340	20%	66
Westhampton	all	$ 2,207	$ 17.24	$ 0.0311	16%	128
Westhampton	low	$ 167	$ 23.91	$ 0.0456	17%	7
Westminster	all	$ 10,368	$ 17.02	$ 0.0273	20%	609
Westminster	low	$ 1,115	$ 23.24	$ 0.0393	24%	48
Weston	all	$ 6,048	$ 9.62	$ 0.0201	16%	629
Weston	low	$ 237	$ 11.87	$ 0.0283	29%	20
Westport	all	$ 18,859	$ 13.39	$ 0.0276	19%	1,408
Westport	low	$ 3,418	$ 14.92	$ 0.0310	30%	229
Westport Pt	all	$ 345	$ 10.14	$ 0.0340	14%	34
Westwood	all	$ 6,888	$ 9.88	$ 0.0210	12%	697
Westwood	low	$ 374	$ 16.24	$ 0.0385	14%	23
Weymouth	all	$ 71,820	$ 15.06	$ 0.0280	21%	4,768
Weymouth	low	$ 9,665	$ 15.97	$ 0.0335	31%	605
Whately	all	$ 1,210	$ 17.04	$ 0.0299	11%	71
Whately	low	$ 153	$ 19.14	$ 0.0364	15%	8
Whitinsville	all	$ 26,138	$ 15.32	$ 0.0264	26%	1,706
Whitinsville	low	$ 3,487	$ 15.92	$ 0.0297	27%	219
Whitman	all	$ 21,546	$ 17.85	$ 0.0297	21%	1,207
Whitman	low	$ 2,821	$ 17.85	$ 0.0319	28%	158
Wht Horse Bch	all	$ 228	$ 9.92	$ 0.0194	10%	23
Wht Horse Bch	low	$ 7	$ 6.60	$ 0.0155	17%	1
Wilbraham	all	$ 22,728	$ 16.97	$ 0.0258	24%	1,339
Wilbraham	low	$ 2,098	$ 15.31	$ 0.0296	32%	137
Williamsburg	all	$ 3,508	$ 17.20	$ 0.0314	16%	204
Williamsburg	low	$ 320	$ 21.35	$ 0.0387	14%	15
Williamstown	all	$ 6,305	$ 13.86	$ 0.0259	15%	455
Williamstown	low	$ 503	$ 10.93	$ 0.0239	23%	46

Municipality	Income	Total Consumer Loss in Month	Average Per Household Loss (Monthly)	Premium (per kWh)	% of Households Participating in Competitive Supply Market	# Competitive Supply Accounts
Winchendon	all	$ 14,031	$ 15.69	$ 0.0291	22%	894
Winchendon	low	$ 3,659	$ 17.02	$ 0.0312	34%	215
Winchester	all	$ 10,211	$ 10.35	$ 0.0236	13%	987
Winchester	low	$ 398	$ 12.84	$ 0.0288	17%	31
Windsor	all	$ 1,237	$ 13.90	$ 0.0240	18%	89
Windsor	low	$ 208	$ 14.88	$ 0.0273	36%	14
Winthrop	all	$ 20,274	$ 14.94	$ 0.0298	18%	1,357
Winthrop	low	$ 2,129	$ 14.19	$ 0.0311	24%	150
Woburn	all	$ 35,894	$ 13.29	$ 0.0292	17%	2,701
Woburn	low	$ 6,365	$ 16.49	$ 0.0376	28%	386
Woods Hole	all	$ 819	$ 7.38	$ 0.0197	13%	111
Woods Hole	low	$ 40	$ 19.90	$ 0.0566	17%	2
Worcester	all	$ 274,749	$ 14.42	$ 0.0284	28%	19,055
Worcester	low	$ 83,212	$ 15.24	$ 0.0323	42%	5,459
Woronoco	all	$ 155	$ 8.63	$ 0.0140	15%	18
Woronoco	low	$ 31	$ 15.49	$ 0.0282	10%	2
Worthington	all	$ 1,717	$ 15.61	$ 0.0306	16%	110
Worthington	low	$ 324	$ 27.00	$ 0.0406	20%	12
Wrentham	all	$ 13,311	$ 15.04	$ 0.0232	21%	885
Wrentham	low	$ 869	$ 15.52	$ 0.0263	28%	56
Yarmouth Port	all	$ 6,800	$ 7.85	$ 0.0180	23%	866
Yarmouth Port	low	$ 650	$ 13.00	$ 0.0297	28%	50

Note: Average per household loss is computed over those households participating in the market (that is not across all households in municipality).

Appendix 2D

Supplier-specific information (share of market, average premium, etc.) for all households

Suppliers Ranked by Weighted Average Premium: July 2016 - June 2017 - All Households						
Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #1	$ 0.1697	58,892	$ 0.0797	1.00%	$ 2,799,826	2.51%
Supplier #18	$ 0.1571	130,806	$ 0.0657	2.21%	$ 4,443,744	3.99%
Supplier #47	$ 0.1561	108,393	$ 0.0657	1.83%	$ 3,751,646	3.37%
Supplier #39	$ 0.1452	38,021	$ 0.0552	0.64%	$ 1,079,459	0.97%
Supplier #37	$ 0.1450	611,891	$ 0.0546	10.35%	$ 20,571,677	18.47%
Supplier #12	$ 0.1417	362,897	$ 0.0511	6.14%	$ 8,763,432	7.87%
Supplier #41	$ 0.1382	462,750	$ 0.0484	7.83%	$ 12,970,332	11.64%
Supplier #25	$ 0.1449	61,886	$ 0.0477	1.05%	$ 1,104,503	0.99%
Supplier #15	$ 0.1376	213,518	$ 0.0458	3.61%	$ 4,648,970	4.17%
Supplier #6	$ 0.1282	284,867	$ 0.0381	4.82%	$ 6,237,222	5.60%
Supplier #20	$ 0.1282	29,505	$ 0.0374	0.50%	$ 624,413	0.56%
Supplier #43	$ 0.1265	159,306	$ 0.0345	2.69%	$ 3,098,412	2.78%
Supplier #29	$ 0.1240	213,923	$ 0.0341	3.62%	$ 3,596,144	3.23%
Supplier #31	$ 0.1234	65,938	$ 0.0297	1.12%	$ 1,171,382	1.05%
Supplier #32	$ 0.1196	623,020	$ 0.0290	10.54%	$ 12,035,815	10.81%
Supplier #22	$ 0.1193	73,432	$ 0.0270	1.24%	$ 1,146,036	1.03%
Supplier #19	$ 0.1174	23,492	$ 0.0262	0.40%	$ 369,553	0.33%
Supplier #24	$ 0.1169	88,272	$ 0.0250	1.49%	$ 1,191,389	1.07%
Supplier #13	$ 0.1153	92,681	$ 0.0249	1.57%	$ 1,408,879	1.26%
Supplier #30	$ 0.1121	27,880	$ 0.0228	0.47%	$ 327,252	0.29%
Supplier #3	$ 0.1128	10,671	$ 0.0225	0.18%	$ 130,314	0.12%
Supplier #23	$ 0.1109	338,309	$ 0.0203	5.72%	$ 3,778,146	3.39%
Supplier #26	$ 0.1105	35,550	$ 0.0188	0.60%	$ 498,606	0.45%
Supplier #46	$ 0.1110	11,677	$ 0.0186	0.20%	$ 101,757	0.09%
Supplier #4	$ 0.1098	72,038	$ 0.0181	1.22%	$ 727,835	0.65%
Supplier #27	$ 0.1119	33,272	$ 0.0177	0.56%	$ 312,916	0.28%
Supplier #14	$ 0.1096	7,170	$ 0.0171	0.12%	$ 79,739	0.07%
Supplier #42	$ 0.1082	573,887	$ 0.0170	9.71%	$ 6,429,872	5.77%
Supplier #34	$ 0.1079	295,967	$ 0.0168	5.01%	$ 3,379,955	3.03%
Supplier #11	$ 0.1093	6,979	$ 0.0162	0.12%	$ 115,496	0.10%
Supplier #44	$ 0.1033	837	$ 0.0150	0.01%	$ 9,338	0.01%
Supplier #10	$ 0.1051	29,947	$ 0.0146	0.51%	$ 431,659	0.39%
Supplier #45	$ 0.1033	7,113	$ 0.0144	0.12%	$ 91,124	0.08%
Supplier #7	$ 0.1028	158,203	$ 0.0121	2.68%	$ 1,483,557	1.33%
Supplier #2	$ 0.1007	146,034	$ 0.0111	2.47%	$ 1,282,170	1.15%
Supplier #35	$ 0.1009	179,346	$ 0.0104	3.03%	$ 1,221,951	1.10%
Supplier #28	$ 0.1012	23,327	$ 0.0094	0.39%	$ 286,322	0.26%
Supplier #8	$ 0.1009	13,873	$ 0.0078	0.23%	$ 74,409	0.07%
Supplier #21	$ 0.0954	4,372	$ 0.0064	0.07%	$ 32,395	0.03%
Supplier #16	$ 0.0987	458	$ 0.0054	0.01%	$ 4,315	0.00%

Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #33	$ 0.0950	1,873	$ 0.0037	0.03%	$ 7,255	0.01%
Supplier #38	$ 0.0944	4,297	$ 0.0019	0.07%	$ 8,742	0.01%
Supplier #9	$ 0.0899	163,131	$ (0.0026)	2.76%	$ (274,277)	-0.25%
Supplier #36	$ 0.0903	62,229	$ (0.0045)	1.05%	$ (169,726)	-0.15%
Supplier #17	$ 0.0900	114	$ (0.0050)	0.00%	$ (1,355)	0.00%
Supplier #5	$ 0.0930	285	$ (0.0064)	0.00%	$ (1,031)	0.00%
All Suppliers		5,912,329		100.00%	$ 111,381,567	100%

Table includes those suppliers that served customers all twelve months of the year. The average rates shown are weighted by usage. The premium is the difference between the supplier's average rate and the hypothetical average rate that would have applied if the EDC had provided the same kWh during the same time periods.

Appendix 3A

Supplier-specific information (share of market, average premium, etc.) for low-income households

Suppliers Ranked by Weighted Average Premium: July 2016 - June 2017 - Low-Income Households						
Masked Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #1	$ 0.1671	2,635	$ 0.0778	0.22%	$ 118,919	0.50%
Supplier #18	$ 0.1648	34,096	$ 0.0738	2.79%	$ 1,229,851	5.22%
Supplier #47	$ 0.1547	36,739	$ 0.0648	3.01%	$ 1,327,411	5.63%
Supplier #39	$ 0.1471	10,720	$ 0.0580	0.88%	$ 355,810	1.51%
Supplier #12	$ 0.1416	136,009	$ 0.0516	11.13%	$ 3,449,749	14.64%
Supplier #41	$ 0.1391	105,476	$ 0.0502	8.63%	$ 2,862,367	12.15%
Supplier #37	$ 0.1394	56,781	$ 0.0502	4.65%	$ 1,644,197	6.98%
Supplier #15	$ 0.1391	88,406	$ 0.0476	7.24%	$ 2,034,689	8.64%
Supplier #25	$ 0.1404	9,600	$ 0.0436	0.79%	$ 157,136	0.67%
Supplier #29	$ 0.1282	74,480	$ 0.0394	6.10%	$ 1,448,851	6.15%
Supplier #20	$ 0.1297	6,880	$ 0.0390	0.56%	$ 144,095	0.61%
Supplier #6	$ 0.1264	76,048	$ 0.0364	6.23%	$ 1,554,980	6.60%
Supplier #31	$ 0.1291	17,534	$ 0.0363	1.44%	$ 360,426	1.53%
Supplier #43	$ 0.1273	45,184	$ 0.0351	3.70%	$ 939,809	3.99%
Supplier #32	$ 0.1225	82,977	$ 0.0328	6.79%	$ 1,696,511	7.20%
Supplier #24	$ 0.1190	19,311	$ 0.0277	1.58%	$ 276,628	1.17%
Supplier #44	$ 0.1113	74	$ 0.0272	0.01%	$ 1,119	0.00%
Supplier #22	$ 0.1193	23,376	$ 0.0272	1.91%	$ 363,828	1.54%
Supplier #19	$ 0.1178	7,210	$ 0.0266	0.59%	$ 111,366	0.47%
Supplier #3	$ 0.1135	3,418	$ 0.0264	0.28%	$ 43,951	0.19%
Supplier #30	$ 0.1126	7,846	$ 0.0239	0.64%	$ 96,573	0.41%
Supplier #13	$ 0.1135	21,883	$ 0.0235	1.79%	$ 301,658	1.28%
Supplier #23	$ 0.1125	40,691	$ 0.0227	3.33%	$ 489,414	2.08%
Supplier #27	$ 0.1151	11,841	$ 0.0209	0.97%	$ 122,471	0.52%
Supplier #26	$ 0.1118	2,318	$ 0.0197	0.19%	$ 32,928	0.14%
Supplier #42	$ 0.1108	106,105	$ 0.0191	8.69%	$ 1,187,957	5.04%
Supplier #4	$ 0.1098	25,201	$ 0.0184	2.06%	$ 257,136	1.09%
Supplier #8	$ 0.1095	2,421	$ 0.0180	0.20%	$ 26,873	0.11%
Supplier #46	$ 0.1094	5,714	$ 0.0179	0.47%	$ 51,738	0.22%
Supplier #34	$ 0.1081	48,707	$ 0.0178	3.99%	$ 527,076	2.24%
Supplier #45	$ 0.1058	603	$ 0.0156	0.05%	$ 7,178	0.03%
Supplier #10	$ 0.1045	589	$ 0.0156	0.05%	$ 7,255	0.03%
Supplier #14	$ 0.1075	775	$ 0.0154	0.06%	$ 7,731	0.03%
Supplier #35	$ 0.1008	39,362	$ 0.0107	3.22%	$ 260,940	1.11%
Supplier #2	$ 0.1001	8,824	$ 0.0097	0.72%	$ 59,660	0.25%
Supplier #38	$ 0.0988	38	$ 0.0088	0.00%	$ 225	0.00%
Supplier #28	$ 0.0996	410	$ 0.0083	0.03%	$ 2,779	0.01%
Supplier #7	$ 0.1000	15,068	$ 0.0073	1.23%	$ 69,701	0.30%

Masked Supplier ID	Average Rate	# of Bills	Average Premium	Share of Accounts	Net Consumer Loss	Share of Loss
Supplier #9	$ 0.0905	35,918	$ (0.0022)	2.94%	$ (47,153)	-0.20%
Supplier #36	$ 0.0909	10,342	$ (0.0037)	0.85%	$ (22,110)	-0.09%
All Suppliers		1,221,610		100%	23,561,724	100%

Table includes those suppliers that served customers all twelve months of the year. The average rates shown are weighted by usage. The premium is the difference between the supplier's average rate and the hypothetical average rate that would have applied if the EDC had provided the same kWh during the same time periods.

Appendix 3B

Zip code and municipality participation in the market for competitive retail electric, June 2017: Majority-Minority Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Majority-Minority vs. Rest of State

Zip	Municipality	Percent nonwhite and/or Hispanic	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Majority Minority		68%	351,819	25%	$ 0.0333	30%	45%	25%
Rest of State		18%	2,082,079	10%	$ 0.0295	19%	31%	17%
02121	Dorchester	97%	9,881	39%	$ 0.0328	42%	53%	36%
02126	Mattapan	96%	8,106	29%	$ 0.0341	39%	48%	35%
01840	Lawrence	91%	2,332	39%	$ 0.0380	36%	50%	27%
02119	Roxbury	90%	10,130	32%	$ 0.0328	36%	49%	30%
01107	Springfield	88%	4,069	49%	$ 0.0379	42%	58%	26%
01841	Lawrence	86%	14,349	39%	$ 0.0387	37%	47%	30%
01841	Methuen	86%	55	35%	$ 0.0403	24%	26%	22%
01105	Springfield	85%	4,857	50%	$ 0.0373	39%	54%	24%
02124	Dorchester	83%	17,342	27%	$ 0.0318	33%	46%	28%
01561	Lancaster	82%	351	10%	$ 0.0190	15%	22%	14%
01103	Springfield	80%	1,281	20%	$ 0.0304	18%	45%	12%
01109	Springfield	78%	10,384	40%	$ 0.0337	32%	47%	22%
02150	Chelsea	76%	12,777	22%	$ 0.0329	36%	47%	33%
01608	Worcester	75%	1,106	18%	$ 0.0378	22%	49%	16%
01843	Lawrence	75%	8,848	28%	$ 0.0329	31%	43%	27%
02136	Hyde Park	74%	12,126	21%	$ 0.0327	30%	39%	28%
02125	Dorchester	69%	13,408	23%	$ 0.0328	28%	46%	22%
02122	Dorchester	68%	9,021	23%	$ 0.0278	31%	51%	25%
01902	Lynn	68%	16,278	24%	$ 0.0334	33%	48%	29%
01104	Springfield	68%	8,284	36%	$ 0.0368	27%	41%	20%
02128	East Boston	68%	14,862	18%	$ 0.0382	29%	43%	25%
01901	Lynn	67%	1,226	38%	$ 0.0405	27%	35%	22%

Zip	Municipality	Percent nonwhite and/or Hispanic	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
01108	Springfield	66%	10,459	32%	$ 0.0342	27%	44%	20%
01905	Lynn	65%	8,990	22%	$ 0.0336	37%	51%	33%
02366	South Carver	64%	497	6%	$ 0.0246	12%	13%	12%
02368	Randolph	63%	12,076	16%	$ 0.0276	29%	37%	27%
02301	Brockton	63%	22,235	24%	$ 0.0337	34%	47%	30%
01610	Worcester	61%	7,910	29%	$ 0.0343	34%	49%	27%
01151	Indian Orchard	60%	3,759	36%	$ 0.0316	27%	41%	19%
01151	Springfield	60%	24	17%	$ 0.0307	29%	0%	35%
01851	Lowell	60%	10,503	21%	$ 0.0334	31%	45%	27%
02120	Roxbry Xng	60%	4,624	18%	$ 0.0309	26%	50%	21%
02111	Boston	60%	4,510	17%	$ 0.0262	13%	35%	8%
01605	Worcester	54%	8,464	21%	$ 0.0315	28%	44%	24%
02118	Boston	53%	11,707	11%	$ 0.0315	14%	35%	11%
02148	Malden	53%	25,123	12%	$ 0.0334	21%	34%	20%
01119	Springfield	53%	5,348	28%	$ 0.0330	23%	34%	19%
01854	Lowell	53%	8,922	19%	$ 0.0316	24%	39%	20%
02302	Brockton	52%	11,463	23%	$ 0.0307	31%	41%	28%
02131	Roslindale	51%	11,784	14%	$ 0.0296	25%	38%	22%
02142	Cambridge	50%	2,348	3%	$ 0.0352	6%	20%	6%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 46 rows with missing demographic data were dropped

Appendix 3C

Zip code and municipality participation in the market for competitive retail electric, June 2017: Top 20 Percent African-American Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Top 20 Percent African-American vs. Rest of State

Zip	Municipality	Percent African-American	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Top 20: percent African-American		44%	166,239	26%	$ 0.0322	32%	46%	27%
Rest of State		4%	2,267,659	11%	$ 0.0301	20%	33%	18%
02126	Mattapan	86%	8,106	29%	$ 0.0341	39%	48%	35%
02121	Dorchester	69%	9,881	39%	$ 0.0328	42%	53%	36%
02124	Dorchester	64%	17,342	27%	$ 0.0318	33%	46%	28%
02119	Roxbury	59%	10,130	32%	$ 0.0328	36%	49%	30%
02136	Hyde Park	46%	12,126	21%	$ 0.0327	30%	39%	28%
02301	Brockton	44%	22,235	24%	$ 0.0337	34%	47%	30%
02368	Randolph	42%	12,076	16%	$ 0.0276	29%	37%	27%
01109	Springfield	39%	10,384	40%	$ 0.0337	32%	47%	22%
02302	Brockton	34%	11,463	23%	$ 0.0307	31%	41%	28%
02122	Dorchester	32%	9,021	23%	$ 0.0278	31%	51%	25%
02125	Dorchester	27%	13,408	23%	$ 0.0328	28%	46%	22%
02131	Roslindale	27%	11,784	14%	$ 0.0296	25%	38%	22%
02366	South Carver	26%	497	6%	$ 0.0246	12%	13%	12%
01119	Springfield	25%	5,348	28%	$ 0.0330	23%	34%	19%
02120	Roxbry Xng	25%	4,624	18%	$ 0.0309	26%	50%	21%
01901	Lynn	23%	1,226	38%	$ 0.0405	27%	35%	22%
01608	Worcester	23%	1,106	18%	$ 0.0378	22%	49%	16%
01718	Vlg Nag Wd	22%	279	2%	$ 0.0370	14%	40%	13%
01105	Springfield	21%	4,857	50%	$ 0.0373	39%	54%	24%
02071	South Walpole	20%	346	5%	$ 0.0314	12%	5%	12%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 46 rows with missing demographic data were dropped

Appendix 3D

Zip code and municipality participation in the market for competitive retail electric, June 2017: Top 20 Percent Hispanic Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Top 20 Percent Hispanic vs. Rest of State

Zip	Municipality	Percent Hispanic	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Top 20: percent Hispanic		55%	131,870	30%	$ 0.0352	33%	47%	27%
Rest of State		8%	2,302,028	11%	$ 0.0299	20%	33%	18%
01840	Lawrence	86%	2,332	39%	$ 0.0380	36%	50%	27%
01841	Lawrence	82%	14,349	39%	$ 0.0387	37%	47%	30%
01841	Methuen	82%	55	35%	$ 0.0403	24%	26%	22%
01107	Springfield	80%	4,069	49%	$ 0.0379	42%	58%	26%
02150	Chelsea	64%	12,777	22%	$ 0.0329	36%	47%	33%
01105	Springfield	64%	4,857	50%	$ 0.0373	39%	54%	24%
01103	Springfield	63%	1,281	20%	$ 0.0304	18%	45%	12%
01843	Lawrence	63%	8,848	28%	$ 0.0329	31%	43%	27%
02128	East Boston	58%	14,862	18%	$ 0.0382	29%	43%	25%
01104	Springfield	55%	8,284	36%	$ 0.0368	27%	41%	20%
01608	Worcester	54%	1,106	18%	$ 0.0378	22%	49%	16%
01108	Springfield	43%	10,459	32%	$ 0.0342	27%	44%	20%
01902	Lynn	43%	16,278	24%	$ 0.0334	33%	48%	29%
01109	Springfield	38%	10,384	40%	$ 0.0337	32%	47%	22%
01905	Lynn	38%	8,990	22%	$ 0.0336	37%	51%	33%
01610	Worcester	38%	7,910	29%	$ 0.0343	34%	49%	27%
01151	Indian Orchard	37%	3,759	36%	$ 0.0316	27%	41%	19%
01151	Springfield	37%	24	17%	$ 0.0307	29%	0%	35%
01901	Lynn	37%	1,226	38%	$ 0.0405	27%	35%	22%
01550	Charlton	32%	20	15%	$ 0.0155	25%	0%	29%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 46 rows with missing demographic data were dropped

Appendix 3E

Zip code and municipality participation in the market for competitive retail electric, June 2017: Top 20 Percent Limited English Proficiency Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Top 20 Percent Limited English Proficiency vs. Rest of State

Zip	Municipality	Percent limited English proficiency	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Top 20: pct. limited English		22%	158,850	25%	$ 0.0344	30%	45%	25%
Rest of State		5%	2,274,551	11%	$ 0.0299	20%	34%	18%
01840	Lawrence	43%	2,332	39%	$ 0.0380	36%	50%	27%
01608	Worcester	41%	1,106	18%	$ 0.0378	22%	49%	16%
01901	Lynn	33%	1,226	38%	$ 0.0405	27%	35%	22%
01841	Lawrence	30%	14,349	39%	$ 0.0387	37%	47%	30%
01841	Methuen	30%	55	35%	$ 0.0403	24%	26%	22%
01107	Springfield	30%	4,069	49%	$ 0.0379	42%	58%	26%
02128	East Boston	29%	14,862	18%	$ 0.0382	29%	43%	25%
01103	Springfield	29%	1,281	20%	$ 0.0304	18%	45%	12%
02111	Boston	28%	4,510	17%	$ 0.0262	13%	35%	8%
02150	Chelsea	27%	12,777	22%	$ 0.0329	36%	47%	33%
02744	New Bedford	22%	5,155	37%	$ 0.0316	27%	37%	21%
02746	New Bedford	20%	6,353	37%	$ 0.0277	28%	35%	25%
01105	Springfield	20%	4,857	50%	$ 0.0373	39%	54%	24%
01610	Worcester	18%	7,910	29%	$ 0.0343	34%	49%	27%
01702	Framingham	18%	13,720	15%	$ 0.0374	29%	40%	27%
01104	Springfield	17%	8,284	36%	$ 0.0368	27%	41%	20%
02115	Boston	17%	9,844	10%	$ 0.0230	15%	27%	13%
02149	Everett	17%	16,474	17%	$ 0.0310	29%	40%	27%
01902	Lynn	17%	16,278	24%	$ 0.0334	33%	48%	29%
02125	Dorchester	17%	13,408	23%	$ 0.0328	28%	46%	22%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 48 rows with missing demographic data were dropped

Appendix 3F

Zip code and municipality participation in the market for competitive retail electric, June 2017: Bottom 20 Median Income Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Bottom 20 Median Income vs. Rest of State

Zip	Municipality	Median household income	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Bottom 20: med. income		$28,769	117,836	33%	$ 0.0343	31%	44%	25%
Rest of State		$74,282	2,306,506	11%	$ 0.0300	20%	34%	18%
01103	Springfield	$15,558	1,281	20%	$ 0.0304	18%	45%	12%
01105	Springfield	$16,845	4,857	50%	$ 0.0373	39%	54%	24%
01094	Hardwick	$17,708	164	38%	$ 0.0224	24%	27%	23%
01840	Lawrence	$18,291	2,332	39%	$ 0.0380	36%	50%	27%
01901	Lynn	$21,605	1,226	38%	$ 0.0405	27%	35%	22%
01107	Springfield	$22,288	4,069	49%	$ 0.0379	42%	58%	26%
01608	Worcester	$22,789	1,106	18%	$ 0.0378	22%	49%	16%
02121	Dorchester	$26,150	9,881	39%	$ 0.0328	42%	53%	36%
02746	New Bedford	$26,705	6,353	37%	$ 0.0277	28%	35%	25%
01104	Springfield	$28,858	8,284	36%	$ 0.0368	27%	41%	20%
02119	Roxbury	$28,885	10,130	32%	$ 0.0328	36%	49%	30%
02721	Fall River	$29,684	11,445	35%	$ 0.0325	30%	38%	26%
02120	Roxbry Xng	$30,487	4,624	18%	$ 0.0309	26%	50%	21%
02724	Fall River	$30,688	7,363	34%	$ 0.0344	28%	34%	26%
01610	Worcester	$31,019	7,910	29%	$ 0.0343	34%	49%	27%
02047	Humarock	$31,302	686	1%	$ 0.0319	9%	11%	9%
02744	New Bedford	$31,709	5,155	37%	$ 0.0316	27%	37%	21%
02115	Boston	$31,737	9,844	10%	$ 0.0230	15%	27%	13%
02723	Fall River	$32,275	6,777	34%	$ 0.0378	31%	40%	26%
01841	Lawrence	$32,928	14,349	39%	$ 0.0387	37%	47%	30%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 63 rows with missing demographic data were dropped

Appendix 3G

Zip code and municipality participation in the market for competitive retail electric, June 2017: Top 20 Percent Participating in Low-Income Program Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Top 20 Percent Participating in Low-Income Program vs. Rest of State

Zip	Municipality	Total accounts	Percent low income accounts	All - Mark-Up	Low-Income Mark-Up	Percent of accounts in competitive supply: All	Low income	Non - L.I.
	Top 20: Pct LI	107,102	38%	$ 0.0349	$ 0.0363	32%	44%	25%
	Rest of State	2,333,080	10%	$ 0.0300	$ 0.0340	20%	34%	18%
01105	Springfield	4,857	50%	$ 0.0373	$ 0.0379	39%	54%	24%
01107	Springfield	4,069	49%	$ 0.0379	$ 0.0389	42%	58%	26%
01367	Charlemont	12	42%	$ 0.0415	$ 0.0415	17%	40%	0%
01109	Springfield	10,384	40%	$ 0.0337	$ 0.0355	32%	47%	22%
01840	Lawrence	2,332	39%	$ 0.0380	$ 0.0384	36%	50%	27%
01841	Lawrence	14,349	39%	$ 0.0387	$ 0.0410	37%	47%	30%
02121	Dorchester	9,881	39%	$ 0.0328	$ 0.0344	42%	53%	36%
01862	Tewksbury	137	39%	$ 0.0340	$ 0.0343	41%	51%	35%
01094	Hardwick	164	38%	$ 0.0224	$ 0.0296	24%	27%	23%
01901	Lynn	1,226	38%	$ 0.0405	$ 0.0453	27%	35%	22%
02744	New Bedford	5,155	37%	$ 0.0316	$ 0.0327	27%	37%	21%
02746	New Bedford	6,353	37%	$ 0.0277	$ 0.0294	28%	35%	25%
01151	Indian Orchard	3,759	36%	$ 0.0316	$ 0.0331	27%	41%	19%
01104	Springfield	8,284	36%	$ 0.0368	$ 0.0368	27%	41%	20%
02721	Fall River	11,445	35%	$ 0.0325	$ 0.0342	30%	38%	26%
01841	Methuen	55	35%	$ 0.0403	$ 0.0293	24%	26%	22%
01607	Auburn	41	34%	$ 0.0261	$ 0.0168	24%	36%	19%
02724	Fall River	7,363	34%	$ 0.0344	$ 0.0384	28%	34%	26%
02723	Fall River	6,777	34%	$ 0.0378	$ 0.0342	31%	40%	26%
01108	Springfield	10,459	32%	$ 0.0342	$ 0.0349	27%	44%	20%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 63 rows with missing demographic data were dropped

Appendix 3H

Zip code and municipality participation in the market for competitive retail electric, June 2017: Top 20 Median Income Vs. Rest of State

Zip code and municipality participation in the competitive supply market, June 2017: Top 20 Median Income vs. Rest of State

Zip	Municipality	Median household income	Total accounts	Percent low income accounts	Average markup over basic	Percent of accounts in competitive supply: All	Low income	Non - L.I.
Top 20: med. income		$151,800	76,753	3%	$ 0.0293	15%	18%	15%
Rest of State		$69,463	2,347,589	12%	$ 0.0303	21%	35%	19%
02493	Weston	$199,519	3,926	2%	$ 0.0306	16%	29%	16%
02468	Waban	$196,250	2,321	2%	$ 0.0315	13%	20%	12%
02030	Dover	$185,542	2,088	1%	$ 0.0245	14%	25%	14%
01467	Harvard	$183,750	73	4%	$ 0.0073	16%	0%	17%
01741	Carlisle	$166,111	1,895	1%	$ 0.0269	15%	19%	15%
01776	Sudbury	$165,745	6,196	3%	$ 0.0311	14%	19%	14%
01770	Sherborn	$155,956	1,570	2%	$ 0.0289	14%	20%	14%
01773	Lincoln	$153,438	2,255	3%	$ 0.0347	17%	22%	16%
02420	Lexington	$151,607	5,482	3%	$ 0.0310	14%	18%	14%
01740	Bolton	$147,446	1,848	2%	$ 0.0177	19%	35%	19%
02421	Lexington	$147,335	6,376	4%	$ 0.0328	14%	14%	14%
01772	Southboro	$145,179	3,523	2%	$ 0.0177	22%	24%	22%
01778	Wayland	$143,616	5,112	3%	$ 0.0303	15%	19%	15%
01890	Winchester	$143,017	7,697	2%	$ 0.0324	13%	17%	13%
02056	Norfolk	$141,278	3,503	3%	$ 0.0274	14%	10%	14%
02492	Needham	$140,734	6,707	2%	$ 0.0301	14%	16%	14%
02461	Newton Hlds	$140,733	2,856	5%	$ 0.0351	14%	23%	13%
01921	Boxford	$140,268	2,783	2%	$ 0.0297	17%	11%	17%
01748	Hopkinton	$138,551	6,119	3%	$ 0.0286	13%	20%	13%
02052	Medfield	$138,036	4,423	3%	$ 0.0308	14%	15%	14%

Source: Basic supply providers and ZCTA data from the U.S. Census 2015 American Community Survey

Note: Places with fewer than 10 total accounts were dropped; 63 rows with missing demographic data were dropped

Appendix 3I

45 zip-municipalities with the highest mark-up (premium) relative to basic rates

45 zip-municipalities with the highest mark-up (premium) relative to basic rates

Top 45 by mark-up:		Low income accounts			Top 45 by mark-up:		All other accounts		
Zip	Municipality	Total	Percent in CS market	Average mark-up over basic	Zip	Municipality	Total	Percent in CS market	Average mark-up over basic
01236	Gt. Barrington	90	32%	$0.1386	01074	Barre	203	31%	$0.1100
01821	Billerica	640	30%	$0.0800	01230	New Marlboro	720	13%	$0.0982
01929	Essex	57	25%	$0.0709	01525	Uxbridge	122	19%	$0.0737
02142	Cambridge	65	20%	$0.0552	01531	New Braintree	391	21%	$0.0608
01339	Heath	13	77%	$0.0546	01844	Lawrence	72	22%	$0.0483
01982	Hamilton	98	23%	$0.0521	01982	Hamilton	2,552	18%	$0.0479
01776	Sudbury	185	19%	$0.0512	02791	Westport Pt	240	14%	$0.0474
02138	Cambridge	441	24%	$0.0505	01050	Montgomery	41	27%	$0.0469
01773	Lincoln	58	22%	$0.0493	01220	Adams	3,451	23%	$0.0445
02725	Somerset	169	36%	$0.0488	02140	N Cambridge	8,373	11%	$0.0436
01240	Lenox	111	24%	$0.0485	01242	Lenoxdale	209	9%	$0.0428
02053	Medway	207	21%	$0.0476	02138	Cambridge	12,873	10%	$0.0412
02559	Pocasset	130	28%	$0.0471	02723	Fall River	4,487	26%	$0.0407
02032	East Walpole	89	17%	$0.0467	02139	Cambridge	13,750	11%	$0.0406
01730	Bedford	235	15%	$0.0454	02144	W Somerville	10,137	9%	$0.0401
01901	Lynn	461	35%	$0.0453	01038	Hatfield	1,101	12%	$0.0396
01754	Maynard	300	22%	$0.0451	01852	Lowell	11,349	20%	$0.0395
01760	Natick	893	21%	$0.0451	01608	Worcester	911	16%	$0.0391
01038	Hatfield	75	17%	$0.0447	02189	Weymouth	5,372	22%	$0.0390
02140	N Cambridge	564	34%	$0.0444	01267	Williamstown	2,750	15%	$0.0389
01560	Grafton	121	39%	$0.0443	01718	Vlg Nag Wd	274	13%	$0.0386
01098	Worthington	59	20%	$0.0441	01944	Manchester	2,370	15%	$0.0386
02467	Chestnut Hill	186	20%	$0.0440	01850	Lowell	4,437	25%	$0.0383
02141	E Cambridge	406	29%	$0.0438	01835	Haverhill	4,971	17%	$0.0381
02139	Cambridge	1,236	36%	$0.0438	01050	Huntington	913	12%	$0.0381

Top 45 by mark-up:		Low income accounts		
Zip	Municipality	Total	Percent in CS market	Average mark-up over basic
02180	Stoneham	666	19%	$0.0433
01827	Dunstable	31	39%	$0.0431
02081	Walpole	327	18%	$0.0428
02663	S Wellfleet	43	28%	$0.0425
01012	Chesterfield	64	20%	$0.0424
01702	Framingham	2,082	40%	$0.0422
01473	Westminster	203	24%	$0.0421
01701	Framingham	708	24%	$0.0420
01930	Gloucester	1,633	30%	$0.0417
01255	Sandisfield	98	16%	$0.0415
01983	Topsfield	34	32%	$0.0411
01915	Beverly	1,301	27%	$0.0411
01863	Chelmsford	256	21%	$0.0410
01841	Lawrence	5,601	47%	$0.0410
02651	North Eastham	87	25%	$0.0410
02492	Needham	111	16%	$0.0407
01862	Billerica	193	29%	$0.0407
01235	Hinsdale	169	20%	$0.0406
02720	Fall River	3,148	30%	$0.0405
02420	Lexington	152	18%	$0.0405

Top 45 by mark-up:		All other accounts		
Zip	Municipality	Total	Percent in CS market	Average mark-up over basic
02141	E Cambridge	6,467	11%	$0.0381
01338	Buckland	759	15%	$0.0379
02143	Somerville	11,158	11%	$0.0379
02108	Boston	2,176	10%	$0.0379
02650	North Chatham	1,086	17%	$0.0378
02128	East Boston	12,202	25%	$0.0378
02565	N Falmouth	497	10%	$0.0378
02445	Brookline	8,258	11%	$0.0377
02534	Cataumet	703	18%	$0.0376
01754	Maynard	4,229	13%	$0.0376
01066	North Hatfield	134	7%	$0.0376
02725	Somerset	835	26%	$0.0376
01840	Lawrence	1,420	27%	$0.0375
02127	South Boston	15,431	9%	$0.0373
01609	Worcester	6,287	20%	$0.0373
01351	Montague	894	14%	$0.0373
02659	South Chatham	1,416	13%	$0.0372
01201	Lanesborough	195	11%	$0.0371
01104	Springfield	5,328	20%	$0.0368
01054	Leverett	788	17%	$0.0368

Source: Basic supply providers

Note: Places with fewer than 10 competitive supplier accounts (low income or all other income) were dropped

Appendix 4A

State Investigations and Class Action Lawsuits Alleging Unfair or Deceptive Acts or Practices by Suppliers Licensed to Operate in the Commonwealth of Massachusetts

STATE INVESTIGATIONS AND CLASS ACTION LAWSUITS ALLEGING UNFAIR OR DECEPTIVE ACTS OR PRACTICES BY SUPPLIERS LICENSED TO OPERATE IN THE COMMONWEALTH OF MASSACHUSETTS[1]

AMBIT NORTHEAST, LLC d/b/a AMBIT ENERGY

State Investigations

- New York Department of Public Service: investigation of Ambit (2015).[2]

Lawsuits

- Kostovetsky vs. Ambit Energy Holdings, LLC, et al. U.S. District Court for the Northern District of Illinois, docket 1:15-cv-02553.
- Urbino v. Ambit Energy Holdings LLC, et al. U.S. District Court for the District of New Jersey, docket 3:14-cv-05184.
- Little, et al. v. Ambit Northeast, LLC, et al. U.S. District Court for the District of New Jersey, docket 3:16-cv-08800-PGS-LHG.
- Simmons v. Ambit Energy Holdings LLC. Supreme Court of the State of New York, County of Kings, docket 503285/2015.
- Lazarek et al v. Ambit Energy Holdings, LLC et al. U.S. District Court for the Western District of New York, docket 6:15-cv-06361-FPG-MWP.
- Silvis v. Ambit Energy LP. U.S. District Court for the Eastern District of Pennsylvania, docket 2:14-cv-05005; Third Circuit Court of Appeals, docket 16-1976.

CLEANCHOICE ENERGY, INC.
Formerly Ethical Electric, Inc., d/b/a Clean Energy Option

State Investigations

- Illinois Attorney General announced a settlement with Ethical Electric (2017).[3]
- Pennsylvania Attorney General announced an assurance of voluntary compliance with Ethical Electric (2015).[4]

CLEARVIEW ELECTRIC, INC. d/b/a CLEARVIEW ENERGY

State Investigations

[1] This list is meant to be illustrative rather than exhaustive. There may be additional lawsuits and state investigations that were not easily located via internet search.
[2] *See* https://www.governor.ny.gov/news/governor-cuomo-announces-energy-bill-refunds-more-1500-new-yorkers (last visited February 12, 2018).
[3] *See* http://www.illinoisattorneygeneral.gov/pressroom/2016_08/20160808b.html (last visited February 5, 2018).
[4] *See* https://legalnewsline.com/stories/510549039-pennsylvania-electric-supplier-faces-legal-action-over-solicitation-pieces (last visited February 5, 2018).

- Maine Public Utilities Commission: investigation of Clearview (2015). Docket 2015-00297.
- New Hampshire Public Utilities Commission: investigation of Clearview (2017). Docket DE 17-002**.**

CONSTELLATION ENERGY POWER CHOICE, LLC
CONSTELLATION ENERGY SERVICES, INC./INTEGRYS ENERGY SERV., INC.
CONSTELLATION NEW ENERGY, INC.
Parent Company: Exelon

State Investigations

- Pennsylvania Public Utilities Commission: investigation of MXenergy (2012).[5] Docket M-2012-2201861.

Lawsuits

- Coda v. Constellation Energy Power Choice, LLC. U.S. District Court for the District of New Jersey, docket 2:17-cv-03437-JMV-MF.

DIRECT ENERGY SERVICES, LLC
DIRECT ENERGY BUSINESS, LLC
Parent Company: Centrica, plc

State Investigations

- Connecticut Public Utilities Regulatory Authority: investigation of Direct Energy (2013). Docket No. 13-07-17.
- Public Utilities Commission of Texas: investigation of Direct Energy (2014). Docket No. 42524.

Lawsuits

- Richards v. Direct Energy Services, LLC. U.S. District Court in the District of Connecticut, docket 3:14-cv-01724-VAB; Second Circuit Court of Appeals, docket 17-1003.
- Dolemba v. Direct Energy Services, LLC. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:14-cv-09677.
- Sevugan v. Direct Energy Services, LLC. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:17-cv-06569.
- Forte v. Direct Energy Services, LLC. U.S. District Court for the Northern District of New York, docket 6:17-cv-00264-FJS-ATB.

[5] MXenergy was acquired by Constellation in 2011.

- Wilson v. Direct Energy Services, LLC. U.S. District Court for the Southern District of Ohio Western Division at Cincinnati, docket 1:16-cv-00454.
- Getso v. Direct Energy. U.S. District Court for the Northern District of Texas, docket 3:16-cv-02142-K.

DISCOUNT POWER, INC.
Parent Company: Spark Energy, Inc.

Lawsuits

- Chandler et al. v. Discount Power, Inc. State of Connecticut Superior Court, Judicial District of Hartford docket HHD-CV-14-6055537-S.

ENERGY PLUS HOLDINGS MA
Parent Company: NRG Energy, Inc.

State Investigations

- Connecticut Attorney General and Office of Consumer Counsel announce a settlement with Energy Plus Holdings, LLC (2014). CT PURA Docket No. 12-07-13.
- New York Attorney General announced a settlement with Energy Plus (2017).[6]

Lawsuits

- Fortney v. Energy Plus Holdings, LLC. U.S. District Court for the District of Maryland Greenbelt Division, docket 1:12-cv-08119-WHP.
- Wise et al. v. Energy Plus Holdings LLC. U.S. District Court for the Southern District of New York, docket 1:11-cv-07345-WHP.
- Faistl v. Energy Plus Holdings, LLC et al. U.S. District Court for the District of New Jersey Newark Division, docket 2:12-cv-02879-JLL-MAH.
- Yu v. Energy Plus Holdings, LLC. U.S. District Court for the District of New Jersey, docket 2:12-cv-02627-JLL-JAD.

JUST ENERGY MASSACHUSETTS CORP. d/b/a JUST ENERGY
Parent Company: Just Energy Group, formerly d/b/a U.S. Energy Savings

State Investigations

- Massachusetts Attorney General announced a settlement with Just Energy (2014).[7]
- Public Utilities Commission of Ohio: investigation into Commerce Energy, d/b/a Just Energy (2016). Docket Case No. 16-2006-GE-UNC.

[6] *See* https://ag.ny.gov/press-release/ag-schneiderman-announces-800k-settlement-energy-service-company-falsely-advertised (last visited February 5, 2018).
[7] *See* http://www.mass.gov/ago/news-and-updates/press-releases/2015/2015-01-06-just-energy.html (last visited February 5, 2018).

Lawsuits

- Nieves v. Just Energy New York Corp. U.S. District Court for the Western District of New York, docket 1:17-cv-00561-WMS.
- Donin et al v. Just Energy Group Inc. et al. U.S. District Court for the Eastern District of New York, docket 1:17-cv-05787-WFK-SJB.

LIBERTY POWER HOLDINGS, LLC

State Investigations

- Connecticut Public Utilities Regulatory Authority announced a settlement with Liberty Power (2016). Docket No. 06-12-07-RE06.
- Connecticut Public Utilities Regulatory Authority: investigation of Liberty Power (2017). Docket No. 06-12-07-RE07.
- Public Utilities Commission of Texas: investigation of Liberty Power Holdings, LLC (2016). Docket No. 45215.
- New York Public Service Commission: investigation of Liberty Power (2013). Case No. 13-E-0062.

Lawsuits

- Dolemba v. Liberty Power Corp., LLC et al. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:13-cv-05429.
- Moore v. Liberty Power Holdings LLC. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:16-cv-07553.
- Kreke v. Liberty Power Holdings LLC. U.S. District Court for the Southern District of Illinois, docket 3:17-cv-00808-DRH-RJD.

MAJOR ENERGY ELECTRIC SERVICES LLC
Parent Company: Spark Energy, Inc.

State Investigations

- Illinois Commerce Commission: investigation of Major Energy (2014).[8]
- Maryland Public Service Commission: investigation of Major Energy Electric Service, LLC and Major Energy Services, LLC (2014). Case No. 9346.

Lawsuits

[8] *See* https://www.icc.illinois.gov/downloads/public/Major%20Energy%20Press%20Release%20FINAL%205%206%2015.doc (last visited February 13, 2018).

- Carrera v. Major Energy Services, LLC et al. U.S. District Court for the District of New Jersey, docket 3:15-cv-03208-MAS-LHG.
- Gillis et al v. Major Energy et al. U.S. District Court for the Eastern District of Pennsylvania, docket 2:14-cv-03856-MSG.

MASSACHUSETTS GAS & ELECTRIC
Local Subsidiary of: U.S. Gas & Electric
Parent Company: Crius Energy

State Investigations

- Connecticut Public Utilities Regulatory Authority: investigation of Connecticut Gas & Electric (2013). Docket No. 13-07-15.
- Maryland Public Service Commission: investigation of U.S. Gas & Electric and Energy Service Providers, Inc. d/b/a Maryland Gas & Electric (2014). Case No. 9347.
- Pennsylvania Attorney General and Pennsylvania Office of Consumer Advocate announced settlement with Pennsylvania Gas & Electric (2015).[9]

Lawsuits

- Sobeich v. U.S. Gas & Electric, Inc. et al. U.S. District Court for the Eastern District of Pennsylvania, docket 2:14-cv-04464.

PALMCO POWER MA LLC

State Investigations

- Connecticut Public Utilities Regulatory Authority investigation of Palmco (2017).[10] Docket No. 10-01-24RE01.
- New Jersey Attorney General, New Jersey Board of Public Utilities, and New Jersey Division of Consumer Affairs announce settlement with Palmco Power NJ, LLC and Palmco Energy NJ, LLC (2016).[11]

Lawsuits

- The People of the State of Illinois v. Palmco Power IL, LLC. The State of Illinois Circuit Court of the Seventh Judicial Circuit, Sangamon County, docket 2017-CH-00099.
- Komoda v. Palmco Energy NJ, LLC et al. U.S. District Court for the Eastern District of New York, docket 1:14-cv-01679-KAM-VVP.

PROVIDER POWER MASS, LLC

[9] *See* http://www.oca.state.pa.us/Industry/Electric/Attorney%20General%20Kane%20Press%20Release.pdf (last visited February 5, 2018).
[10] *See* http://www.ct.gov/occ/lib/occ/8-17-17_palmco_settlement.pdf (last visited February 12, 2018).
[11] *See* http://www.nj.gov/oag/newsreleases16/pr20160623b.html (last visited February 5, 2018).

Parent Company: Spark Energy, Inc.

Lawsuits

- Veilleux et al v. Electricity Maine, LLC et al. U.S. District Court for the District of Maine, docket 1:16-cv-00571-NT.

PUBLIC POWER, LLC
Parent Company: Crius Energy

State Investigations

- Connecticut Public Utilities Regulatory Authority investigation of Public Power (2016). Docket 13-02-08.
- Connecticut Public Utilities Regulatory Authority investigation of Public Power (2013). Docket 11-10-06.
- Pennsylvania Public Utilities Commission investigation of Public Power (2013). Docket M-2012-2257858.
- Pennsylvania Public Utilities Commission investigation of Public Power (2016). Docket No. M-2015-2439492.

SPARK ENERGY, INC.

Lawsuits

- Ortiz et al v. Spark Energy, LLC. U.S. District Court for the Northern District of California, docket 4:15-cv-02326-JSW.
- Hoy v. Spark Energy Gas, LLC et al. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:14-cv-09579.
- Ballantyne v. Spark Energy, Inc. U.S. District Court for the Eastern District of Michigan, docket 2:17-cv-11018-MFL-SDD.
- Melville v. Spark Energy, Inc. et al. U.S. District Court for the District of New Jersey, docket 1:15-cv-08706-RBK-JS.
- Rolland v. Spark Energy, LLC. U.S. District Court for the District of New Jersey, docket 3:17-cv-02680-MAS-LHG.
- Bank v. Spark Energy Holdings, LLC et al. U.S. District Court for the Eastern District of New York, docket 1:13-cv-06130-JG-VMS.
- Markey et al v. Spark Energy, LLC et al. U.S. District Court for the Eastern District of Pennsylvania, docket 2:16-cv-01597-MSG.

STARION ENERGY, INC.

State Investigations

- Connecticut Public Utilities Regulatory Authority investigation of Starion Energy (2015). Docket No. 09-10-10.
- District of Columbia Office of the People's Counsel announced a settlement with Starion (2014). Formal Case No. 1105.
- Delaware Public Services Commission investigation of Starion Energy (2013). PSC DOCKET NO. 395-13.
- Maryland Public Service Commission investigation of Starion Energy (2013). Case No. 9324.

Lawsuits

- Gruber v. Starion Energy, Inc. U.S. District Court for the District of Connecticut, docket 3:14-cv-01828-SRU.
- Owens v. Starion Energy, Inc. U.S. District Court for the District of Connecticut New Haven Division, docket 3:16-cv-01912-VAB.
- Primack v. Starion Energy PA, Inc. et al. U.S. District Court for the Northern District of Illinois Eastern Division, docket 1:14-cv-08772.
- Camuso et al v. Starion Energy Inc. U.S. District Court for the District of Massachusetts, docket 1:17-cv-12215.
- Windley v. Starion Enery Inc., et al. U.S. District Court for the Southern District of New York, docket 1:14-cv-09053.
- Orange v. Starion Energy PA, Inc. et al. U.S. District Court for the Eastern District of Pennsylvania, docket 2:15-cv-00773-CDJ; Third Circuit Court of Appeals, docket 16-1949.
- Eisenband v. Starion Energy, Inc. U.S. District Court for the Southern District of Florida, docket 9:17-cv-80195-KAM.

VERDE ENERGY USA MASS LLC
Parent Company: Spark Energy, Inc.

Lawsuits

- Roberts v. Verde Energy USA, Inc. U.S. District Court for the District of Connecticut, docket 3:15-cv-00312-VLB.
- Vebell v. Verde Energy USA, Inc. U.S. District Court for the District of Connecticut, docket 3:15-cv-00008-JBA.
- Coleman v. Verde Energy USA, Inc. U.S. District Court for the Southern District of Illinois, docket 3:17-cv-00062-DRH-SCW.
- Bunnell v. Verde Energy USA, Inc. U.S. District Court for the District of Massachusetts, docket 3:15-cv-30220-MGM.
- Schley v. Verde Energy USA, Inc. U.S. District Court for the District of New Jersey, docket 2:17-cv-00887-LS.
- Richardson et al v. Verde Energy USA, Inc. U.S. District Court for the Eastern District of Pennsylvania, docket 5:15-cv-06325-LS.

- Wachstock v. Verde Energy USA, Inc. U.S. District Court for the Eastern District of New York, docket 1:14-cv-04082-WFK-JMA.
- Bowser v. Verde Energy USA, Inc. U.S. District Court for the Southern District of New York, docket 7:15-cv-09471-CS.

VIRIDIAN ENERGY, INC.
Parent Company: Crius Energy

State Investigations

- Connecticut Public Utilities Regulatory Authority investigation of Viridian Energy (2015). Docket No. 09-04-15RE03.
- Maryland Public Service Commission investigation of Viridian Energy (2012). Case No. 9255.[12]

Lawsuits

- Sanborn v. Viridian Energy, Inc. U.S. District Court for the District of Connecticut, docket 3:14-cv-01731.
- Steketee v. Viridian Energy, Inc. U.S. District Court for the District of Connecticut, docket 3:15-cv-00585-SRU.
- Mirkin et al v. Viridian Energy, Inc. U.S. District Court for the District of Connecticut, docket 3:15-cv-01057-SRU.
- Hembling et al v. Viridian Energy, LLC et al. U.S. District Court for the District of Connecticut, docket 3:15-cv-01258-SRU.
- Lempert v. Viridian Energy, Inc. et al. U.S. District Court for the District of Connecticut, docket 3:15-cv-00703-VLB.
- Daniyan v. Viridian Energy, LLC. U.S. District Court for the District of Maryland, docket 1:14-cv-02715-GLR.
- Landau v. Viridian Energy PA, LLC. U.S. District Court for the Eastern District of Pennsylvania, docket 2:16-cv-02383-GAM.

XOOM ENERGY MASSACHUSETTS, LLC
Parent Company: ACN, Inc.

State Investigations

- The Maryland Public Service Commission investigation of Xoom Energy (2014). Case No. 9346.

Lawsuits

[12] http://webapp.psc.state.md.us/newIntranet/sitesearch/Press%20Releases/Maryland%20PSC%20Issues%20$60,000%20Civil%20Penalty%20Against%20Viridian%20Energy.pdf (last visited February 12, 2018).

- Adesina v. ACN, Inc. et al. U.S. District Court for the Western District of North Carolina, docket 3:14-cv-00562-GCM.
- Todd et al v. ACN, Inc. et al. U.S. District Court for the District of Maryland, docket 8:15-cv-00154-GJH.

Appendix 5A

Connecticut Office of Consumer Counsel Summary for January 2017 through December 2017 – Fact Sheet

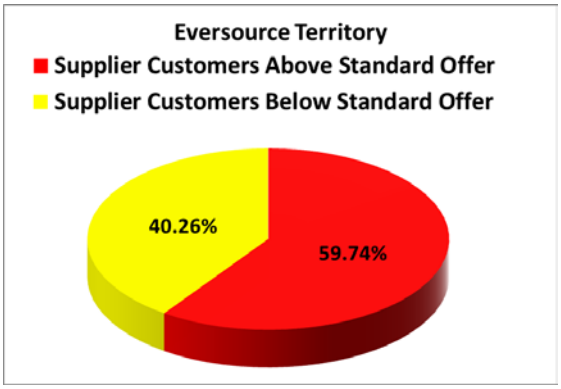
Updated on
February 6, 2018

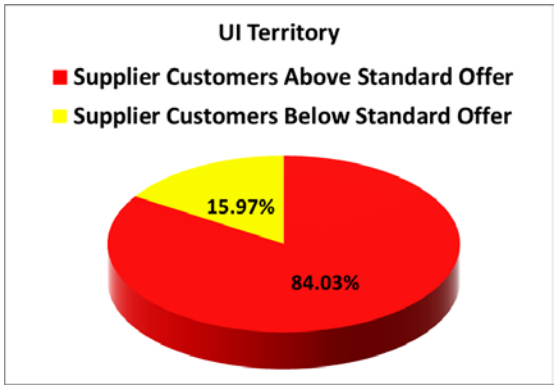
OCC FACT SHEET: ELECTRIC SUPPLIER MARKET, JANUARY 2017 THROUGH DECEMBER 2017

The following is an update to the Office of Consumer Counsel's (OCC's) Electric Supplier Market Fact Sheet, originally created in 2014. The numbers provided herein are based on data submitted as compliance filings in the Public Utilities Regulatory Authority's Docket Number 06-10-22.

- Retail suppliers serve 26.4% of Eversource Energy (Eversource) residential customers and 32.7% of United Illuminating (UI) residential customers, in December 2017.

- In the month of December 2017, nearly **six out of ten** residential supplier customers paid more than the Standard Offer in Eversource territory, and **eight out of ten** residential supplier customers paid more than the Standard Offer in UI territory.[1]





- In the month December 2017, residential Eversource customers who chose suppliers paid in aggregate **$3,043,199.42 more** than the Standard Offer for their electric generation, and residential UI customers who chose suppliers paid in aggregate **$1,598,120.23 more** than the Standard Offer.[2]

- For the rolling year of January 2017 through December 2017, residential consumers who chose a retail supplier paid, in aggregate, **$46,298,211.20 more** than the Standard Offer.

[1] This Fact Sheet only examines available data regarding pricing by electric suppliers. While some suppliers may offer products or services to customers such as airline miles or a product with additional renewable energy content, there is no data available to quantify the value of such offers. OCC recommends that customers look carefully at the fine print for offers for additional products or services that come with higher prices, to ensure they are getting sufficient value to justify the higher price tag.

[2] These calculations are based on an assumption of 750/month kWh usage.

- The Standard Offer for Eversource customers from January 1, 2017 through June 30, 2017, was 7.87 cents/kWh. From July 1, 2017 through December 31, 2017, the Standard Offer for Eversource customers is 8.01 cents/kWh.
- The Standard Offer for UI customers from January 1, 2017 through June 30, 2017, was 9.26 cents/kWh. From July 1, 2017 through December 31, 2017, the Standard Offer for UI customers is 7.59 cents/kWh.
- The following table lists all electric suppliers who charged at least 20% of their residential customers 12.021 cents/kWh (50% higher than Eversource standard service) or 11.399 cents/kWh (50% higher than UI standard service) or more in the month of July. The phone numbers for each supplier are taken from those listed at energizect.com or the website for that supplier.

Suppliers Charging at Least 20% of their Customers 50% or more than Standard Offer in December			
Electric Suppliers	% of Eversource Customers paying over 12.021 cents	% of UI Customers paying over 11.399 cents	Supplier Phone Number
Aequitas Energy, Inc.	N/A	35.73%	(855) 799-8200
Choice Energy	90.18%	92.82%	(888) 565-4490
Direct Energy Services	37.68%	41.98%	1(800) 348-2999
Energy Plus Holdings, LLC	92.61%	91.41%	(888) 766-3509
Liberty Power Holdings LLC	48.18%	91.10%	1(866) 769-3799
Major Energy Electric Services, LLC	66.67%	N/A	(888) 625-6760
North American Power and Gas LLC	33.13%	48.31%	(888)313-9086
NRG Retail Solutions	88.10%	90.30%	1(855) 457-5700
Public Power, LLC	23.77%	39.34%	(844) 585-8900
Spark Energy LP	45.27%	37.64%	(877) 374-8013
Starion Energy Inc.	27.79%	31.22%	(800) 600-3040
Viridian Energy Inc.	24.48%	51.15%	(866) 663-2508

Please feel free to contact the Office of Consumer Counsel at 860-827-2900 or occ.info@ct.gov if you have any questions about this information.

Appendix 5B

"State Urged To Probe Abusive Electricity Suppliers," Gregory B. Hladky, *Hartford Courant*, January 31, 2017

State Urged To Probe Abusive Electricity Suppliers

Consumer Counsel Elin Swanson Katz talking about complaints from electric customers.

By **Gregory B. Hladky**

JANUARY 31, 2017, 2:15 PM | HARTFORD

A new state investigation is needed into abusive and deceptive marketing practices by electricity suppliers who target vulnerable consumers, Connecticut's consumer counsel and several Democratic lawmakers said Monday.

Consumer Counsel Elin Swanson Katz said the companies con or lie to potential customers to get them to switch electric providers, then charge them higher rates. The companies have targeted elderly homeowners,

low-income residents, people with disabilities and non-English speaking immigrants, Katz said.

Katz said her office is seeking an in-depth probe by the state Public Utilities Regulatory Authority (PURA) to determine if there is a pattern of targeting certain consumers using high-pressure tactics and deceptive practices. Key legislative Democrats backed her request.

"We also can't forget that, when those facing financial difficulties cannot pay their bills, the unpaid amounts are collected from other ratepayers," Katz said. Last year, consumers who chose a third-party retail supplier paid a total of $59 million more than they would have under the standard service rates, Katz said.

But a spokesman for the Retail Energy Supply Association said there is no need for an investigation. "We believe PURA has all the authority it needs to respond to any problems they may identify," said Bryan Lee, a spokesman for the industry group.

Lee said state statistics show there were fewer consumer complaints about third-party energy suppliers between July and November than about Connecticut's standard suppliers, Eversource and United Illuminating.

Connecticut's deregulated energy system allows consumers to choose independent or third-party electricity suppliers rather than pay the standard rate for power with Eversource or UI.

Katz said available data "demonstrates that, overall, customers using a supplier have been paying millions more than customers on utility standard-service rates" through Eversource and UI.

In 2014, a supplier called Energy Plus settled state charges of deceptive practices and agreed to pay a penalty of $4.5 million. Michael Coyle, a PURA spokesman, said Monday that Energy Plus is no longer operating in Connecticut.

A state investigation was launched in 2015 into allegedly deceptive practices by another supplier, Palmco Power CT. At the time, Katz charged that many of Palmco's customers were subjected to "outrageous and intimidating marketing practices." A state ruling on that probe is now pending.

At least two other energy suppliers, Direct Energy Services and Choice Energy Review, are also under review.

The Senate's top Democrat, President Pro Tem Martin Looney of New Haven, said a full investigation is needed to see if legislation passed in 2014 aimed at halting such practices is working. The 2014 law provided a range of potential sanctions for violators including fines and the suspension of licenses.

http://www.courant.com/news/connecticut/hc-call-to-probe-abusive-electric-suppliers-20170130-story.html

Katz acknowledged that the law gives state regulators broad powers to act against companies using deceptive or illegal practices, but said a probe is needed to determine if these are isolated cases or a pattern within the industry.

Sen. Terry Gerratana, D-New Britain, said many elderly people simply don't understand what's happening when they are pressured by electric company sales representatives. Gerratana said that when she decided to switch to Medicare for health insurance, she was inundated by calls from energy suppliers urging her to switch to their companies.

"It becomes overwhelming to try and deal with these phone calls and understand what these people are talking about," Gerratana said.

Katz offered a series of examples of complaints to her office by consumers or their relatives about representatives of third-party suppliers claiming to work for Eversource or United Illuminating and using high-pressure tactics on consumers.

In one case, two women working for a third-party energy supplier talked their way into the home of two sisters aged 97 and 99 by claiming they worked for Eversource, Katz said.

Katz said another complaint involved energy company representatives contacting refugees from Burma living in one building and telling them they all had to switch from Eversource to the representative's firm.

"There are too many stories not to be concerned," Katz said.

Lee said reputable energy suppliers are worried that theactions of a few companies will sully the reputation of the industry.

"We don't want those actions to paint the whole industry with a broad brush," Lee said.

This article is related to: Martin M Looney

Appendix 5C

Illustrative report filed by an EDC in Connecticut pursuant to PURA Docket No. 06-10-22. (Eversource for January 2017)

(Appendix includes excerpt: first and last page)

Connecticut Light and Power
dba Eversource Energy

Supplier Code	Supplier Name	Price $/kWh	Number of Residential customers by price January 2017
GI	ABEST POWER & GAS LLC	0.0499	5
GI	ABEST POWER & GAS LLC	0.0549	16
GI	ABEST POWER & GAS LLC	0.0588	6
GI	ABEST POWER & GAS LLC	0.0599	6
GI	ABEST POWER & GAS LLC	0.0629	2
GI	ABEST POWER & GAS LLC	0.0699	4
GI	ABEST POWER & GAS LLC	0.0729	14
GI	ABEST POWER & GAS LLC	0.0749	5
GI	ABEST POWER & GAS LLC	0.0759	19
GI	ABEST POWER & GAS LLC	0.0769	45
GI	ABEST POWER & GAS LLC	0.0774	6
GI	ABEST POWER & GAS LLC	0.0779	4
GI	ABEST POWER & GAS LLC	0.0789	1
GI	ABEST POWER & GAS LLC	0.0795	2
GI	ABEST POWER & GAS LLC	0.0798	5
GI	ABEST POWER & GAS LLC	0.0799	47
GI	ABEST POWER & GAS LLC	0.08	1
GI	ABEST POWER & GAS LLC	0.0805	1
GI	ABEST POWER & GAS LLC	0.081	1
GI	ABEST POWER & GAS LLC	0.08149	111
GI	ABEST POWER & GAS LLC	0.0815	10
GI	ABEST POWER & GAS LLC	0.0818	3
GI	ABEST POWER & GAS LLC	0.0819	15
GI	ABEST POWER & GAS LLC	0.082	1
GI	ABEST POWER & GAS LLC	0.0825	2
GI	ABEST POWER & GAS LLC	0.083	2
GI	ABEST POWER & GAS LLC	0.0834	18
GI	ABEST POWER & GAS LLC	0.0835	3
GI	ABEST POWER & GAS LLC	0.0836	1
GI	ABEST POWER & GAS LLC	0.0839	260
GI	ABEST POWER & GAS LLC	0.0843	4
GI	ABEST POWER & GAS LLC	0.0845	2
GI	ABEST POWER & GAS LLC	0.0846	1
GI	ABEST POWER & GAS LLC	0.0849	1
GI	ABEST POWER & GAS LLC	0.085	1
GI	ABEST POWER & GAS LLC	0.0853	3
GI	ABEST POWER & GAS LLC	0.0854	3
GI	ABEST POWER & GAS LLC	0.0855	4
GI	ABEST POWER & GAS LLC	0.0857	1
GI	ABEST POWER & GAS LLC	0.0858	2
GI	ABEST POWER & GAS LLC	0.086	12
GI	ABEST POWER & GAS LLC	0.0862	1
GI	ABEST POWER & GAS LLC	0.0864	1
GI	ABEST POWER & GAS LLC	0.0865	118

Connecticut Light and Power
dba Eversource Energy

Supplier Code	Supplier Name	Price $/kWh	Number of Residential customers by price January 2017
ED	VIRIDIAN ENERGY INC	0.1168	7
ED	VIRIDIAN ENERGY INC	0.1169	27
ED	VIRIDIAN ENERGY INC	0.1199	2602
ED	VIRIDIAN ENERGY INC	0.1299	80
EV	XOOM ENERGY CONNECTICUT LLC	0.0649	114
EV	XOOM ENERGY CONNECTICUT LLC	0.0781	2
EV	XOOM ENERGY CONNECTICUT LLC	0.0799	69
EV	XOOM ENERGY CONNECTICUT LLC	0.0829	292
EV	XOOM ENERGY CONNECTICUT LLC	0.0839	1
EV	XOOM ENERGY CONNECTICUT LLC	0.0849	231
EV	XOOM ENERGY CONNECTICUT LLC	0.0869	105
EV	XOOM ENERGY CONNECTICUT LLC	0.088	1
EV	XOOM ENERGY CONNECTICUT LLC	0.0899	504
EV	XOOM ENERGY CONNECTICUT LLC	0.0919	30
EV	XOOM ENERGY CONNECTICUT LLC	0.0929	27
EV	XOOM ENERGY CONNECTICUT LLC	0.0949	736
EV	XOOM ENERGY CONNECTICUT LLC	0.0969	6
EV	XOOM ENERGY CONNECTICUT LLC	0.0975	33
EV	XOOM ENERGY CONNECTICUT LLC	0.0989	1
EV	XOOM ENERGY CONNECTICUT LLC	0.0999	758
EV	XOOM ENERGY CONNECTICUT LLC	0.1049	157
EV	XOOM ENERGY CONNECTICUT LLC	0.1079	13
EV	XOOM ENERGY CONNECTICUT LLC	0.1099	506
EV	XOOM ENERGY CONNECTICUT LLC	0.1119	75
EV	XOOM ENERGY CONNECTICUT LLC	0.1129	239
EV	XOOM ENERGY CONNECTICUT LLC	0.1149	129
EV	XOOM ENERGY CONNECTICUT LLC	0.1199	202