Massachusetts Electric Choice Empowers Consumers to Navigate Volatile Energy Markets

prepared on behalf of nrg

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I. Executive Summary

America is facing a surge in electricity demand driven by new technologies and the reshoring of American manufacturing. The International Monetary Fund ("IMF") estimates that, worldwide, data centers consumed as much as five hundred TWh in 2023, more than doubling annual levels between 2015 and 2019. At the same time, the Organization of the Petroleum Exporting Countries ("OPEC") projects electric demand could triple by 2030.[1] Here at home, the North American Electric Reliability Corporation ("NERC") concluded as part of its 2024 long-run reliability assessment that the U.S. is facing "mounting resource adequacy challenges," and that the "trends point to critical reliability challenges facing the industry: satisfying escalating energy growth, managing generator retirements, and accelerating resource and transmission development."[2] However, while electric demand is surging, adding electric supply to meet this demand has been hindered by environmental regulations, supply chain challenges and other quandaries. This dichotomy has already culminated in steep capacity price increases across the Northeast and Midwest. **The New England ISO's ("NEISO") 2024 forward capacity auction saw the NEISO clearing price increase 38% from the previous year**[3]. And while NEISO's 2025 forward capacity auction is delayed, **PJM's 2025 forward capacity auction increased capacity prices by over 500% on average across zones**[4].

For electric ratepayers in the Commonwealth, particularly residential customers, increasing capacity prices and rising demand manifest in the form of volatile, unpredictable, and, at times, spiking electric utility default rates, called ***Basic Service*** rates. And, while Basic Service prices have always been unstable, they have been saddling Massachusetts ratepayers with increasing volatility and surging prices in recent years. Unfortunately, Basic Service volatility and associated price shocks are unlikely to abate while electric supply and demand disparities endure. Fortunately for ratepayers, however, Massachusetts electric choice provides tools residential customers can use to escape Basic Service rates for smoother waters. This paper explores these waters and how competitive supply options (both *Municipal Aggregation* and *Direct Choice*) compare to Basic Service rates. Additionally, the paper explains the folly of abolishing residential choice thereby forcing customers to take service from volatile Basic Service rates. Finally, the paper explains how regulatory based electric service adders, particularly renewable energy associated adders, cost the Commonwealth in excess of a billion dollars per year, with total cost since 2018 exceeding $10 billion.

[1] *AI Needs More Abundant Power Supplies to Keep Driving Economic Growth*
[2] *AI's Huge Energy Use Will Strain the Grid Over the Decade: NERC - Markets Insider*
[3] *See Table Appndx.1 in the Appendix section*
[4] *See Table Appndx.2 and Table Appndx.3 in the Appendix section*

II. Massachusetts Residential Electric Choice

Principally, Massachusetts electric choice provides ratepayers with **freely chosen alternatives** to utility Basic Service rates that provide savings opportunities, long term price insurance, green options and other benefits. In fact, electric choice is the only instrument afforded to Massachusetts ratepayers to lessen the impact of volatile and peaking Basic Service rates.

Massachusetts electric choice can be further grouped into two categories including *Municipal Aggregation* (**collective choice**) and *Direct Choice* (**individual choice**). And while both options provide consumer benefits, there are distinct differences between them. Under *Municipal Aggregation*, municipalities negotiate for service with a competitive supplier. Residents can then take advantage of this negotiated rate. *Direct Choice* empowers Massachusetts ratepayers to negotiate directly with a competitive supplier without relying on an intermediary like *Municipal Aggregation*. Direct Choice is customized choice, meaning customers opt for electric service products that best meet their individual needs and preferences.

A. Residential Electric Procurement

In Massachusetts, ratepayers can choose from three electric procurement options including utility Basic Service, Municipal Aggregation and Direct Choice. All three options provide reliable electric service to Massachusetts ratepayers, meaning the lights will stay on regardless of which option they choose. All three options also provide at least a short-term hedge (meaning 6 months or less) against market volatility. ***Table 1.1*** summarizes each residential electric procurement option available in the Commonwealth.

Table 1.B.1

Residential Electric Procurement Options

Electric Service Option	Description	Reliable Electric Service	Provides Short Term Hedge
Utility Basic Service	Regulated utility default service provided to customers that do not choose to take service from a competitive supplier.	Yes	Yes
Municipal Aggregation	Towns (Municipal Aggregators) negotiate for electric service on behalf of their residents with a competitive electric supplier.	Yes	Yes
Direct Choice	Customers negotiate for electric service directly with a competitive electric supplier.	Yes	Yes

1. *Levels of Choice*

Another way to view the three residential electric procurement options in the Commonwealth is through the lens of levels of choice. For example, utility Basic Service is a *no choice* electric procurement option where residential customers that do not opt for competitive service pay for regulated electric tariff charges for barebones service, where prices only remain fixed for 6 months or less, and no add-on services are provided. Municipal Aggregation is a *collective choice* option where a municipality essentially acts as an agent and negotiates group rates for residential customers belonging to the aggregation. This competitive service option can include market hedges for longer than 6 months, as well as increased green, and other add-on services, but only if the municipality negotiates for it. Finally, Direct Choice is an *individual choice* option, where residential customers negotiate for service directly with a competitive supplier. Each electric procurement option serves a different purpose as well as affords customers a varying level of choice. ***Table I.C.1*** summarizes Massachusetts residential procurement options in terms of choice.

Table I.C.1

Residential Procurement Options and Electric Choice

Electric Procurement Option	Level of Choice	Purpose	Electric Service Product Selection Made By
Utility Basic Service	***No Choice***	State mandated default service for customers that do not shop for competitive service	State Regulators
Municipal Aggregation	***Collective Choice***	Collective bargaining option for residential that shop, but do not seek to engage in direct negotiation with a competitive supplier	The Municipality
Direct Choice	***Individual Choice***	residential customer negotiates directly for electric service with a competitive supplier	The Customer

While all three options above provide reliable electric service to residential customers, only Municipal Aggregation and Direct Choice offer long term hedges against market volatility, opportunities to achieve savings over Basic Service, and other benefits. Direct Choice, however, is the only competitive option that empowers residential customers to customize their electric service by selecting price, service term, level of green and add-on services. ***Table I.C.2*** illustrates the consumer benefits of each residential procurement option.

Table I.C.2

Residential Procurement Options and Electric Choice

Consumer Benefits	Utility Basic Service *(No Choice)*	Municipal Aggregation *(Collective Choice)*	Direct Choice *(Individual Choice)*

Reliable Electric Service	✓	✓	✓
Hedge Against Market Volatility for Up to 6-Months	✓	✓	✓
Hedge Against Market Volatility for Terms Over 6-Months	X	✓	✓
Hedge against Basic Service Rates	X	✓	✓
Achieve Savings over Basic Service Rates	X	✓	✓
Electric Rate Price is Known Prior to Service	X	X	✓
Select Market Volatility Hedge for Terms of Up To 36 Months	X	X	✓
Choose Electric Supplier	X	X	✓
Choose Electric Product	X	X	✓
Select Electric Service Term	X	X	✓
Select Level of Renewable Energy	X	X	✓
Select Add-On Services	X	X	✓
Negotiate for Service Directly with the Supplier	X	X	✓
Negotiate Terms of Renewal of Service	X	X	✓

As illustrated by the table above, Massachusetts Electric Choice affords residential customers many benefits that Basic Service does not, but only Direct Choice empowers customers to customize their service. The table also makes clear, and discussed later in this paper, Basic Service rates leave much to be desired in terms of consumer benefit.

III. Benefits of Electric Choice

Massachusetts Electric Choice offers consumers numerous benefits that utility Basic Service does not. These benefits are summarized below in ***Table II.1*** below.

Table II.1

Electric Choice Benefit	Description
Savings	Consumers can shop around for competitive rates, potentially lowering their electricity bills.
Long Term Hedge	Consumers can lock in a fixed price for terms longer than 6 months.
Customized Plans	Consumers can select price, term and add-on services.
Renewable Energy Options	Consumers can access green energy plans powered by solar or wind.
Price Transparency	Competitive suppliers show their price to the consumer prior to service.

A. Savings

Although savings with electric choice are not guaranteed, substantial evidence exists that Massachusetts residential customers save money with competitive choice. This, despite the fact that residential customer data is considered confidential and is therefore not made publicly available. As part of this paper, Intelometry analyzed data from the Energy Information Administration ("EIA"), residential customer data provided directly to Intelometry by NRG, and competitive residential electric offers posted by competitive suppliers on the Energy Switch Massachusetts ("ESM") website[5]. All three sources make clear that many residential customers opting for electric choice have achieved savings over utility Basic Service rates.

1. EIA Data

EIA publishes state level retail electricity data that shows the number of customers, MWh sales, and revenue for electric companies operating in the Commonwealth. The data further breaks down customers by class including residential, commercial, industrial and transportation. This data table, called Form EIA-861S, was most recently published for 2023. According to the EIA website, the 2024 table will be published in October 2025. As such, residential customer savings in the Commonwealth was assessed for 2023 (the most recent year for which EIA data is available).

The EIA data shows that in 2023 approximately 1.4 million residential customers saved money with REP service. Total REP service-based savings for Massachusetts residential customers totaled over $600 million, with annual savings per customer averaging $435 for the year (See ***Table 1***).

Table II.A.2

2023 Massachusetts Residential Choice Savings

Source: Form EIA-861S for 2023 *(EIA will not publish 2024 until October 2025. 2025 data will not be available until late 2026)*

# of MA CES Serving Residential Customers	# of MA CES That Saved Their Residential Customers Money	% of MA CES That Saved Their Residential Customers Money	# of MA Residential Customers that Saved Money with CES Service	Total MA CES Service-Based Residential Customer Savings	Average CES Service-Based Savings per MA Residential Customers
40	22	55%	1,398,715	$608,038,158	$435

2. NRG Residential Data for the Company's Massachusetts Electricity Brands

While EIA data is not yet available for 2024, Massachusetts residential customer data provided to Intelometry by NRG shows that NRG's residential customers residing in the Commonwealth saved a collective $115 million in 2023 and $52 million in 2024 (see ***Table II.A.3*** **and Table** ***II.A.4***)

Table II.A.3

NRG Brand Massachusetts Residential Choice Savings - 2023

[5] https://energyswitchma.gov

Year	Competitive Electric Supplier	Utility Service Area	Savings (in %)	Savings (Total $)
2023	NRG	NSTAR	35%	$95,803,674
		MECO/Nantucket	7%	$15,700,787
		WMECO	15%	$3,825,445
Total				**$115,329,905**

Table II.A.4

NRG Brand Massachusetts Residential Choice Savings - 2024

Year	Competitive Electric Supplier	Utility Service Area	Savings (in %)	Savings (Total $)
2024	NRG	NSTAR	9%	$43,009,989
		MECO/Nantucket	4%	$8,770,816
		WMECO	8%	$707,169
Total				**$52,487,974**

3. Competitive Supplier Offer Data

Despite false claims to the contrary, competitive electric choice delivers continual savings opportunities to residential customers over Basic Service rates. A historical comparison of competitive residential electric offers posted on ESM to their corresponding Basic Service rate for the period of 2018 through February 2025, shows that the lowest posted residential offer beats the corresponding Basic Service rate 76% to 98% of the time depending on utility (see ***Table III.A.1***). Further, savings with the lowest offer averaged 16% to 24%, with the highest savings in a single Basic Service period measuring 45% to 64% depending on utility. That means that residential customers who opted for the lowest posted offer during the analysis period (2018-2025), likely saved between 16% and 64% over the Basic Service rate for the prevailing period. ***Table II.A.5*** summarizes residential savings for the analysis period by utility.

Table II.A.5

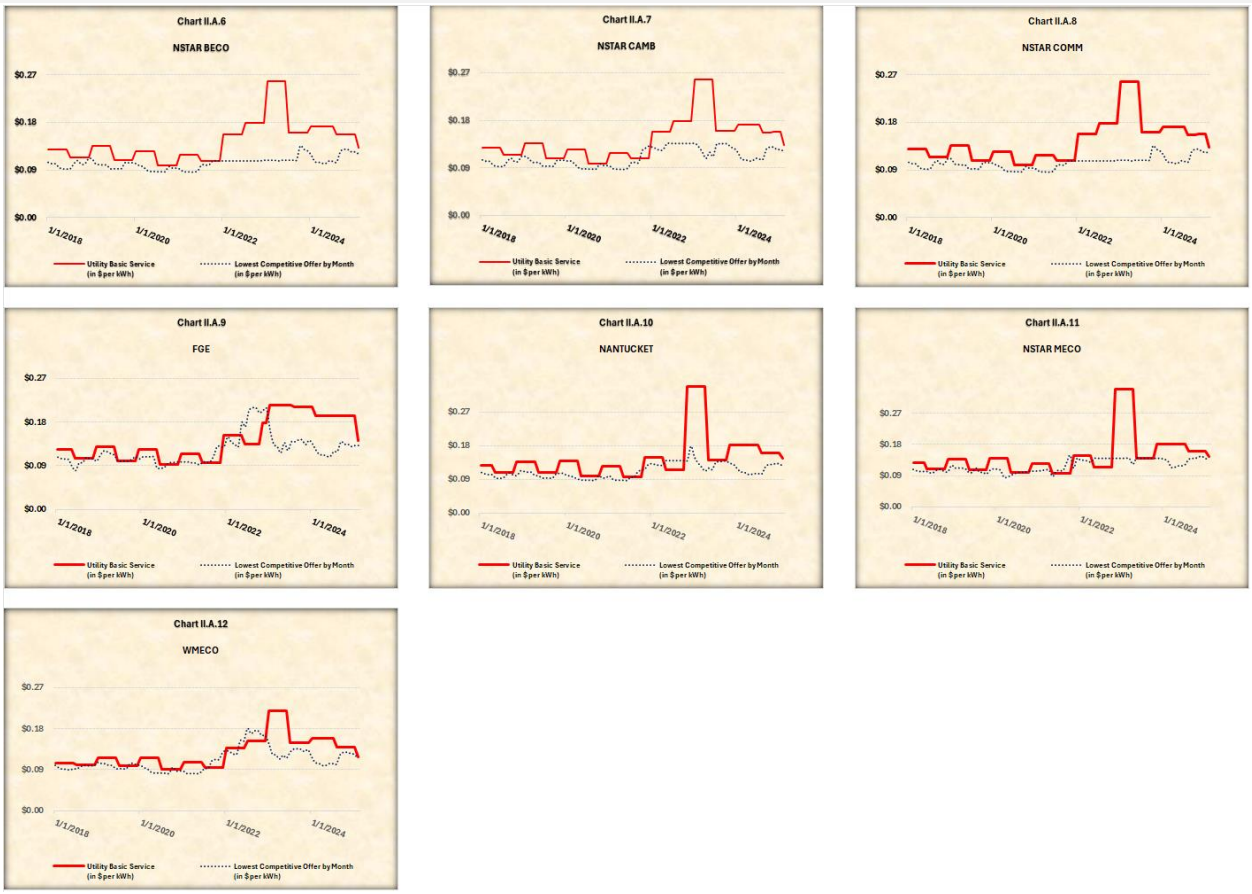
Percentage of Time Lowest Competitive Offers Beat the Prevailing Basic Service Rate

Utility	% of Time Lowest Offer Beat the Utility Basic Service for the Prevailing Basic Service Period 1/1/2018 through 2//28/2025 (in %)	Average Savings for Prevailing Basic Service Period when Lowest Offer Savings was Priced Below Utility Basic Service 1/1/2018 through 2//28/2025 (in %)	Maximum Savings in a Prevailing Basic Service Period with Lowest Offer 1/1/2018 through 2//28/2025 (in %)
NSTAR Utilities	98%	24%	59%
FGE	76%	21%	45%
MECO/Nantucket	86%	19%	64%
WMECO	81%	16%	48%
Average across Utilities	**85%**	**20%**	**54%**

To underscore residential customer savings opportunities with electric choice, ***Charts II.A.6 to II.A.12*** illustrate how the lowest competitive residential offers compare to their corresponding Basic Service rate over time. Charts are broken down by utility.

Charts II.A.6 - II.A.12

Comparison of Lowest Competitive Offers to Prevailing Basic Service Rate



To put the above charts in perspective, if all Massachusetts residential customers took service under the lowest competitive offer in 2018, remained on that offer for the offer term, and then moved to the next prevailing lowest offer until 2025, market wide savings would have been nearly $2.7 billion. ***Table II.A.13*** provides a breakdown of this savings by utility. More detailed data is provided in the Appendix section.

Table II.A.13

Total Residential Class Savings with Lowest CES Offer 2018-2025

Utility	Residential Class Savings with Lowest CES Offer 1/1/2018 through 2//28/2025 (in $)

NSTAR Utilities	$1,505,401,607
FGE	$31,472,253
MECO/Nantucket	$1,120,195,626
WMECO	$37,225,279
All Utilities	**$2,694,294,766**

B. Long Term Hedge

While Basic Service rates only protect residential customers from market volatility for a maximum of 6 months, electric choice offers plans that protect residential customers from market volatility for up to 36 months, or a market volatility hedge six times longer than even the most optimistic Basic Service hedge period. Long-term hedges also protect the customer against electric utility cost overruns and even mismanagement by the competitive supplier offering the service. This is because competitive suppliers can't change a contract price after a deal has been executed, meaning the customer will receive electric service at the contract price come-rain-or-shine. Basic Service rates, on the other hand, have changed mid fixed-price period[6].

C. Customized Plans

The latest ***Intelometry Market Report***[7] shows that in April 2025 there were at least 250 residential offers posted on ESM. Of those, 48 (19%) fell below their associated prevailing Basic Service rate. In addition, there were fixed price offers for terms as long as 36 months (again, Basic Service is set for a maximum 6 months). Additionally, the customer is free to contact any retail electric supplier directly and ask for a customized deal. None of these options exist with Basic Service, whose structure is set via a regulatory process.

D. Renewable Energy Options

The ***Intelometry Market Report*** for April 2025 also shows that 137 of the 250 residential offers posted were green offers, meaning they provide more green energy than the minimum state requirement. And, again, if posted green energy plans are insufficient for any customer, they are free to contact any competitive energy supplier directly and ask for a customized green product.

E. Price Transparency

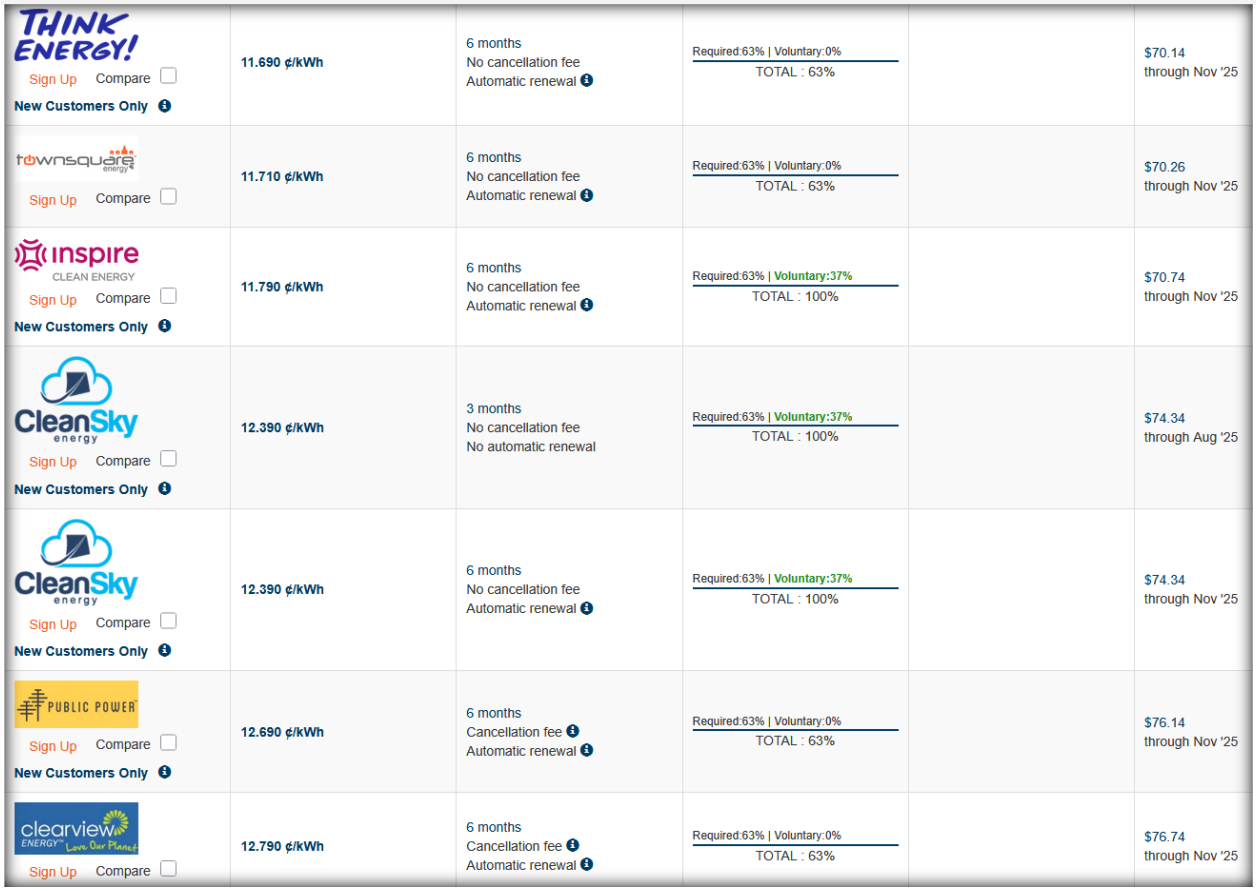
As discussed later in this paper, regulated utility Basic Service rates change every 6 months (or less), change significantly when they change, and change with many customers unaware of the change until they see it on their electric bill. Massachusetts electric choice offers a completely different paradigm to residential customers in the Commonwealth where fixed price, fixed price term, green percentage, terms of renewal, cancelation provisions and other information is provided to a prospective customer prior to signing up for service. ***Figure II.E.1*** below shows a sample from an ESM search. Note, that this is just the basic information a customer sees prior to even clicking on an offer to get more information. Yet, it

[6] *See Table Appndx.4 in the Appendix section*
[7] *See Table Appndx.5 in the Appendix section*

provides the deal price, price term, cancellation and renewal provisions, and even shows a breakdown of the mandatory and additional voluntary green energy associated with postings.

Figure II.E.1

Screenshot from ESM (https://energyswitchma.gov) taken 5/28/2025



For full transparency, ESM even displays the prevailing Basic Service rate, so residential customers can compare competitive supplier offers directly to the Basic Service for the prevailing Basic Service term (see ***Figure II.E.2***).

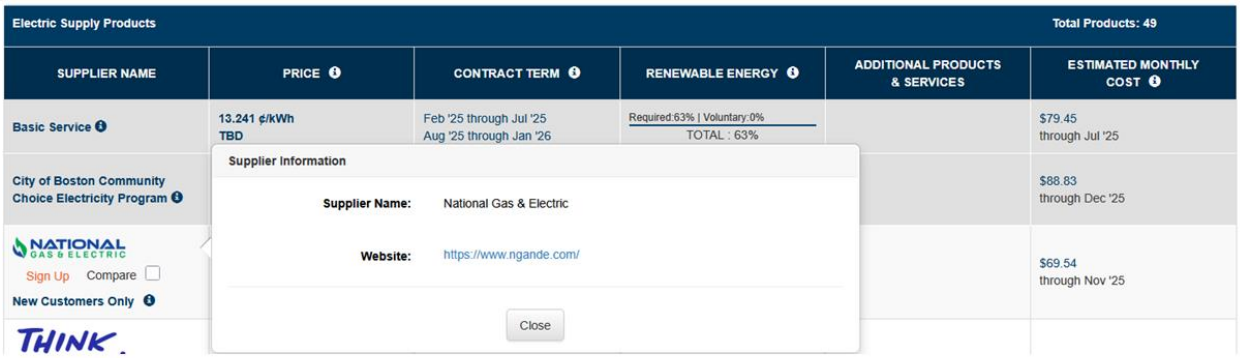
Figure II.E.2

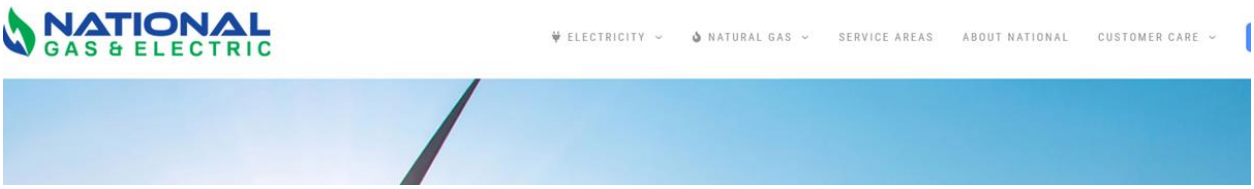
Screenshot from ESM (https://energyswitchma.gov) taken 5/28/2025

Finally, a customer can click on a posted offer and get more detailed more information about the offer directly from the competitive supplier, as well as sign up for the offer if they so choose (see ***Figure II.E.3***).

Figure II.E.3

Screenshot from Energy Switch Massachusetts (https://energyswitchma.gov) taken 5/28/2025





IV. Regulated Utility Service is Not the Answer

Despite false claims to the contrary, utility Basic Service is most often **NOT** a residential customer's best option or even a good option. Basic Service is highly volatile, unpredictable, and provides virtually no consumer protection against market volatility, regulatory uncertainty or even utility mismanagement. Massachusetts utility monopoly electric delivery rates are even worse, continually increasing in price over time since no market exists to keep them in check.

A. Basic Service Rates are Unstable and Unpredictable

A review of Massachusetts utility residential Basic Service rates published from January 2018 through February 2025 found that Massachusetts utility residential PTCs changed an average of 21 times across utilities. During this same timeframe, PTC price volatility averaged 31% across utilities, with the largest single month price increase ranging from 60% to 195% depending on utility (see ***Table III.A.1***). That means Basic Service customers see their electric rates change often and change significantly.

Table III.A.1

Massachusetts Residential PTC Instability

Utility	Number of PTC Price Changes Jan 2018 through Feb 2025	PTC Price Volatility Jan 2018 through Feb 2025 (in %)	Most Extreme One Month Change in PTC Price Jan 2018 through Feb 2025 (in %)
NSTAR Utilities	20	28%	47%
FGE	16	30%	60%
MECO/Nantucket	22	40%	195%
WMECO	24	26%	45%
Average across Utilities	**21**	**31%**	**87%**

B. Basic Service does Not Shield Consumers from Cost Increases

Basic Service rates also fail to shield residential customers from cost increases due to electric utility mismanagement, market volatility, or regulatory and legislative orders that increase the cost of electric service. This is because Massachusetts utilities take no risk and pass through any increase in costs (large or small) to their customers. When Massachusetts utilities fail to recover their full cost of service in any period, they simply add the shortfall to future periods, meaning customers pay the tab, not the utilities. As such, Massachusetts utilities have no incentive to improve their offerings or increase operational efficiency. Massachusetts utilities also lobby regulators for competitive advantages such as limiting or even abolishing competitive electric choice in the Commonwealth.

C. Monopoly Delivery Prices Only Increase Over Time

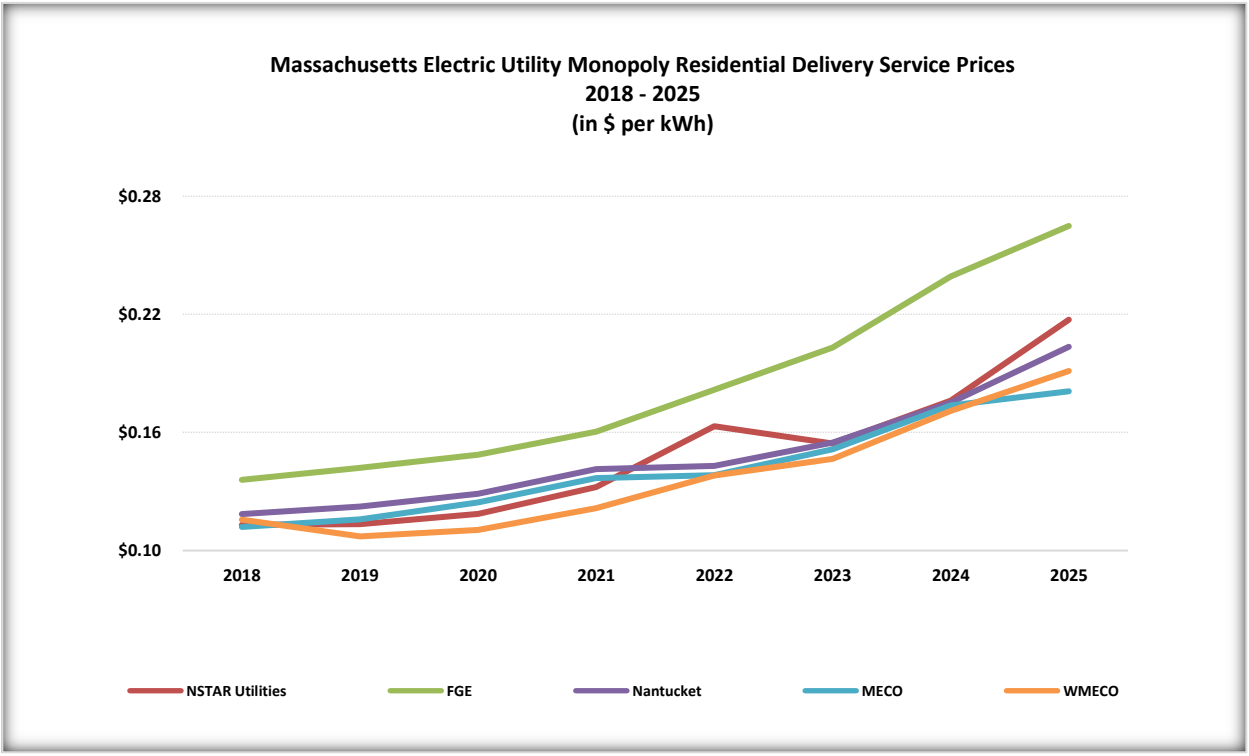
While Basic Service rates are both volatile and unpredictable, Massachusetts electric choice serves as a check against Basic Service prices by offering alternative products and pricing to Basic Service. Unfortunately for ratepayers, however, no check exists against monopoly utility delivery services rates. Delivery rates cover the cost of delivering electricity to the consumer through transmission and distribution lines. Delivery rates are also sometimes referred to as *wires charges*. Unlike Basic Service rates, delivery rates are monopoly rates, meaning ratepayers have no alternative delivery service options other than the local regulated utility. This is important to note since monopoly delivery rates illustrate

what happens to consumer prices when no competitive alternatives exist. For the most part, Massachusetts delivery rates increase over time, as utilities continually lobby the Massachusetts Department of Public Utilities ("DPU") for rate increases. Since 2018 the Commonwealth's major investor-owned utilities have increased their delivery service rates by an average of 77% across utilities, with annual rate increases averaging 8% per year (see ***Table II.C.1*** and ***Chart II.C.2***).

Table III.C.1

Utility	Utility Monopoly Residential Delivery Services Price Increase 1/1/2018 through 2//28/2025 (in %)	CAGR[8] 1/1/2018 through 2//28/2025 (in %)
NSTAR Utilities	92%	10%
FGE	95%	10%
Nantucket	72%	8%
MECO	62%	7%
WMECO	65%	7%
Average across Utilities	**77%**	**8%**

Chart III.C.2



8 "CAGR" means the compounded annual growth rate, which illustrates the annual percentage increase over time

V. Regulatory Policies that Increase Costs to the Consumer

While demand and supply incongruences continue to make residential electricity prices unstable, there are certain regulatory mandated requirements, particularly green energy related requirements, that add significant cost to Massachusetts consumers. This section covers a number of these costs including:

- Massachusetts Renewable Portfolio Standards
- Alternative Energy Portfolio Standard ("APS")
- Clean Energy Standard (CES)
- Renewable Energy Charge

The remainder of this section details the costs associated with each cost item above.

A. Massachusetts Renewable Portfolio Standards

Massachusetts Renewable Portfolio Standards ("RPS") are regulatory rules mandating that a percentage of the Commonwealth's electricity requirement must come from clean energy. The RPS breaks down clean energy into five groupings or classes of generation types. The RPS then assigns a requirement percentage for each class at annually increasing amounts. ***Table IV.A.1*** below provides each RPS class, the type of generation that qualifies for the class, as well as the class requirement for 2024.

Table IV.A.1[9]

Massachusetts RPS REC Category	Qualifying Generation Resources	2025 Percentage Requirement
RPS Class I	wind, solar, landfill gas	24.0%
CES Clean Generation	wind, solar, landfill gas	4.0%
CES-E	nuclear and large hydro	27.0%
RPS Class II	hydroelectric, landfill gas	3.6%
RPS Class II Waste Energy	trash burning facilities	3.7%
Total 2025 RPS Requirement		**62.3%**

As illustrated by the table above, Massachusetts RPS mandates a different percentage requirement for each class, the sum of which represents the full RPS requirement. For 2024, the Massachusetts RPS requirement was over 62% of total load, accounting for over ***$1.25 billion dollars*** in electric service costs assessed to consumers in the Commonwealth. In fact, over the past 7 years, RPS has cost Massachusetts ratepayers over ***$9 billion dollars.***[10] This year (2025) and beyond, however, RPS will, by law, continue to

[9] MA RENEWABLE ENERGY REQUIREMENT | Community Choice Electricity

[10] *See Table Appndx.6 in the Appendix section*

increase each year without end. Ratepayers will be saddled with ever increasing costs as a result. ***Table IV.A.2*** illustrates the RPS percentage requirement schedule though 2028.

Table IV.A.2[11]

	Clean Energy Standard (CES) [1]							Other Mandates (Excluded)**	
	"Clean Generation"			"Clean Existing Generation"					
Year	RPS Class I [2]	Other "Clean Generation"	Total CES	CES-E	RPS Class II	RPS Class II Waste Energy [3]	MA Renewable Energy Requirement*	APS [4]	CPES [5]
2021	18%	4%	22%	20%	3.6%	3.7%	49.3%	5.25%	3.0%
2022	20%	4%	24%	20%	3.6%	3.7%	51.3%	5.50%	4.5%
2023	22%	4%	26%	26%	3.5%	3.7%	59.2%	5.75%	6.0%
2024	24%	4%	28%	27%	3.6%	3.7%	62.3%	6.00%	4.0%
2025	27%	3%	30%	26%	3.6%	3.7%	63.3%	6.25%	5.5%
2026	30%	6%	36%	*26%*	3.6%	3.5%	*69.1%*	6.50%	7.0%
2027	33%	9%	42%	*27%*	*3.5%*	3.5%	*76.0%*	6.75%	9.0%
2028	36%	12%	48%	*26%*	*3.5%*	3.5%	*81.0%*	7.00%	13.0%

* MA Renewable Energy Requirement ("MA REQ") = (CES) + (CES-E) + (RPS Class II) + (RPS Class II Waste Energy)
** The state Department of Public Utilities excludes APS and CPES from its definition of "MA Renewable Energy Requirement"
Values in red italics are estimates

B. Alternative Energy Portfolio Standard ("APS")

While not considered part of Massachusetts RPS, the Alternative Energy Portfolio Standard ("APS") was levied to fund alternative energy technologies that are not necessarily "renewable". The APS requirement for 2024 was 6% (see ***Table IV.A.2***) of load, with the requirement increasing in subsequent years. In 2024 the total APS cost to Massachusetts ratepayers exceeded ***$82 million***, with total APS cost over the past 7 years exceeding ***$450 million***[12].

C. Clean Peak Energy Standard ("CPES")

Another mandatory cost not included as part of RPS is the Clean Peak Energy Standard ("CPES"). As with RPS and APS, the CPES is a green energy-based cost assessed on an escalating basis to Massachusetts load. The CPES requirement in 2024 was 3.7% of load, with the requirement increasing in subsequent years. In 2024 total CPES cost to Massachusetts consumers exceeded ***$90 million***, with total CPES cost over the past 7 years exceeding ***$430 million*** [13].

D. Renewable Energy Charge

The Renewable Energy Charge is a system benefits charge that funds the Massachusetts Renewable Energy Trust Fund. The charge is billed per kilowatt-hour basis and applies to all retail delivery tariffs. The Renewable Energy Charge is an unavoidable charge which assessed to all customers. In 2024 total the Renewable Energy Charge cost to Massachusetts consumers exceeded ***$26 million***, with total CPES cost over the past 7 years exceeding ***$177 million*** [14].

[11] MA RENEWABLE ENERGY REQUIREMENT | Community Choice Electricity
[12] *See Table Appndx.7 in the Appendix section*
[13] *See Table Appndx.8 in the Appendix section*
[14] *See Table Appndx.9 in the Appendix section*

Appendix

Intelometry Inc.

Intelometry, Inc. is a leading energy software and data company specializing in the retail energy arena, and particularly in U.S. markets. Founded in 2003, Intelometry has offices in Houston TX, Nashville TN, and Tallinn Estonia.

Energy Software

Intelometry's energy software supports front, mid and back-office operations for load serving entities operating in the Commonwealth and throughout the United States.

Data Services

Intelometry's Market Analytics Group ("MAG") produces data sets utilized by energy suppliers to support daily operations and ensure critical data is always kept up to date.

Consulting

Intelometry consultants specialize in retail energy operations, valuations, and regulatory matters.

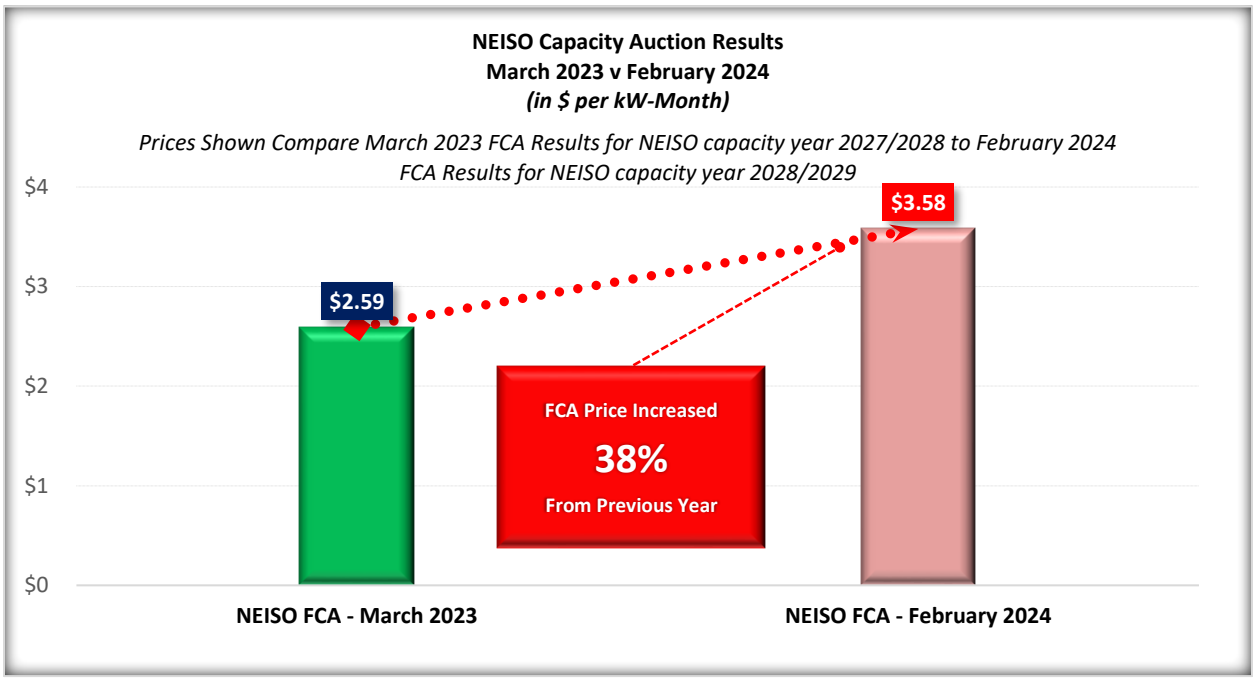
About the Author

Guy Sharfman is Vice President of Market Analytics and co-founder of Intelometry. Guy has over twenty years of operational and consulting experience in the energy industry in areas of risk management, structuring and pricing, hedging and position management, and wholesale and retail market development and expansion. Guy has also testified before numerous state utility commissions as well as the Massachusetts and Maine legislatures.

Capacity Price Increases

NEISO

Table Appndx.1



PJM

Table Appndx.2

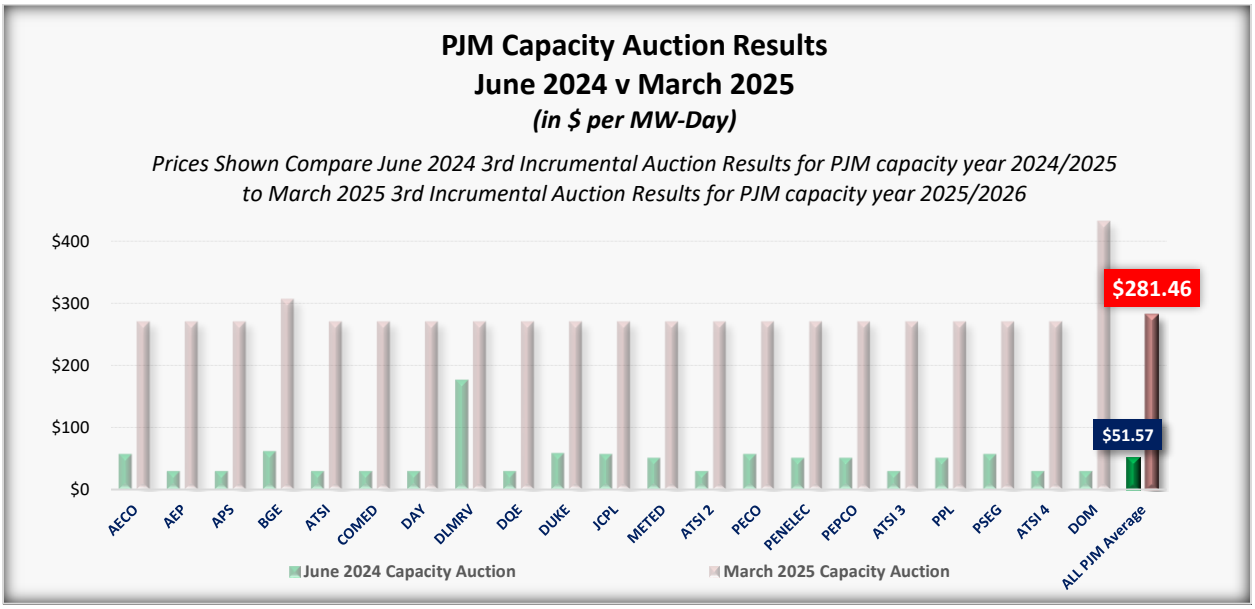
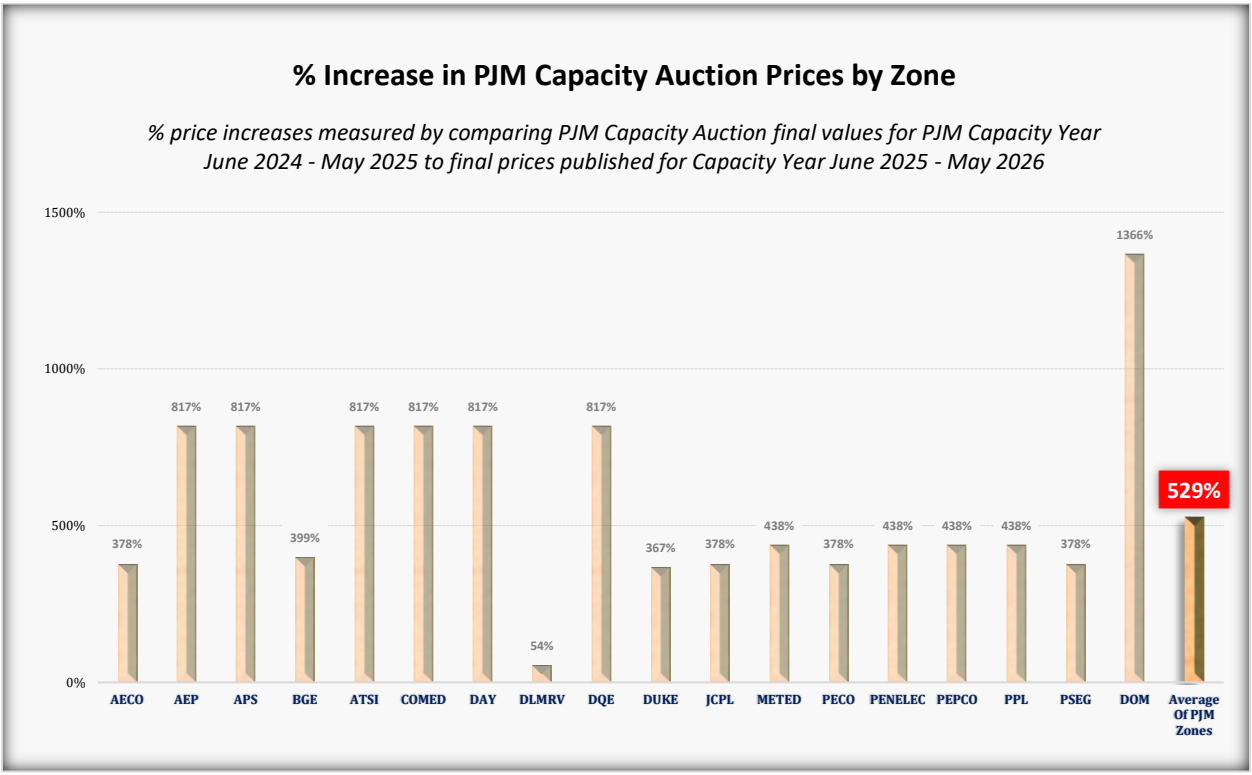


Table Appndx.3



Examples of Off-Cycle Changes to Basic Service Prices

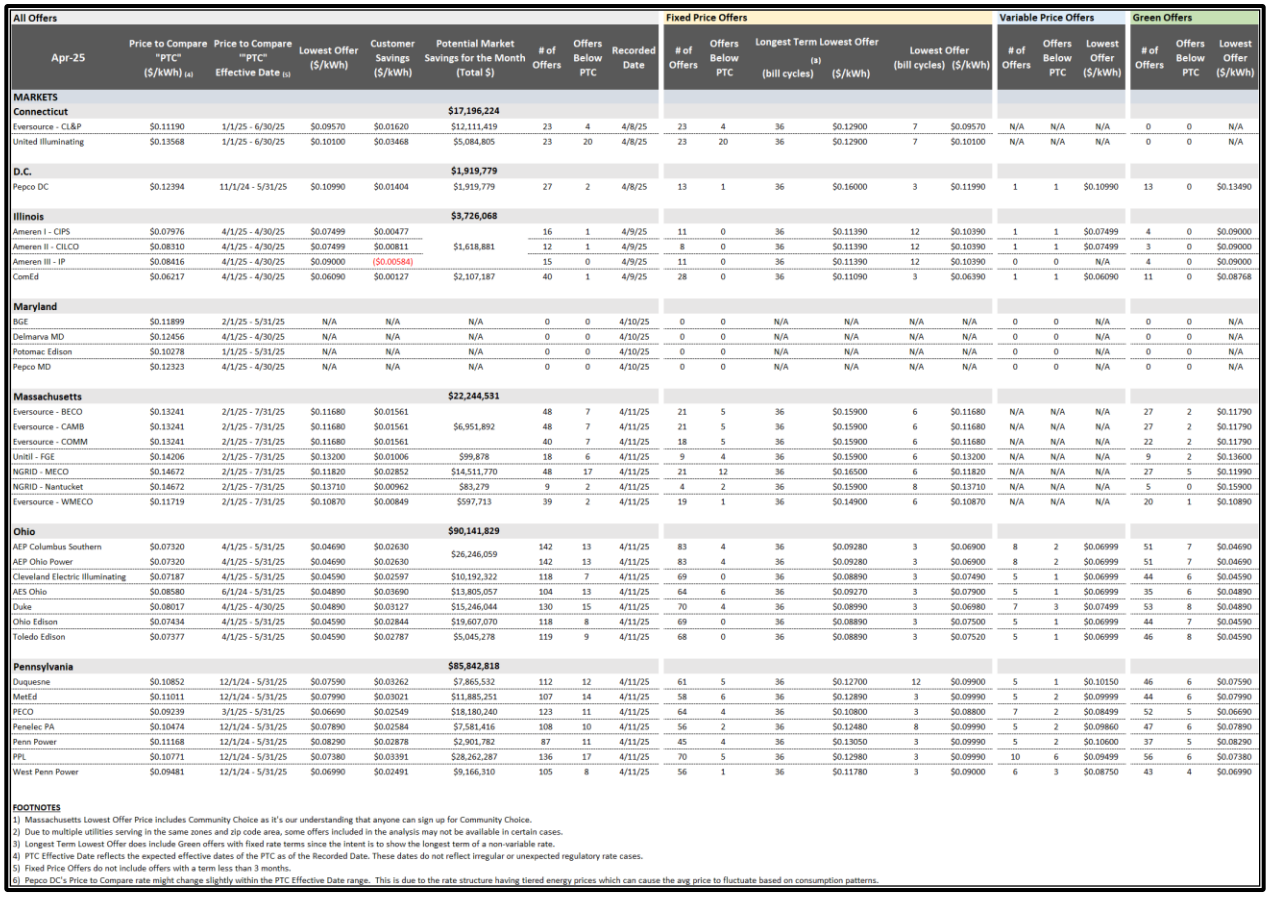
Table Appndx.4

Sample of Basic Service Price Changes in the Middle of the Basic Service Fixed Price Period

Utility	Basic Service Fixed Price Period	Mid-Period Basic Service Price Changes
NSTAR	1/1/2018 - 6/30/2018	2/1/2018
FGE	6/1/2022 - 11/30/2022	11/1/2022
MECO/Nantucket	8/1/2024 - 1/31/2025	11/1/2024
WMECO	1/1/2018 - 6/30/2018	2/1/2018

Sample of April 2025 Intelometry Market Report

Table Appndx.5



All Offers									Fixed Price Offers						Variable Price Offers			Green Offers		
Apr-25	Price to Compare "PTC" ($/kWh) [4]	Price to Compare "PTC" Effective Date [5]	Lowest Offer ($/kWh)	Customer Savings ($/kWh)	Potential Market Savings for the Month (Total $)	# of Offers	Offers Below PTC	Recorded Date	# of Offers	Offers Below PTC	Longest Term Lowest Offer [3] (bill cycles)	Longest Term Lowest Offer [3] ($/kWh)	Lowest Offer (bill cycles)	Lowest Offer ($/kWh)	# of Offers	Offers Below PTC	Lowest Offer ($/kWh)	# of Offers	Offers Below PTC	Lowest Offer ($/kWh)
MARKETS																				
Connecticut					**$17,196,224**															
Eversource - CL&P	$0.11190	1/1/25 - 6/30/25	$0.09570	$0.01620	$12,111,419	23	4	4/8/25	23	4	36	$0.12900	7	$0.09570	N/A	N/A	N/A	0	0	N/A
United Illuminating	$0.13568	1/1/25 - 6/30/25	$0.10100	$0.03468	$5,084,805	23	20	4/8/25	23	20	36	$0.12900	7	$0.10100	N/A	N/A	N/A	0	0	N/A
D.C.					**$1,919,779**															
Pepco DC	$0.12394	11/1/24 - 5/31/25	$0.10990	$0.01404	$1,919,779	27	2	4/8/25	13	1	36	$0.16000	3	$0.11990	1	1	$0.10990	13	0	$0.13490
Illinois					**$3,726,068**															
Ameren I - CIPS	$0.07976	4/1/25 - 4/30/25	$0.07499	$0.00477		16	1	4/9/25	11	0	36	$0.11390	12	$0.10390	1	1	$0.07499	4	0	$0.09000
Ameren II - CILCO	$0.08310	4/1/25 - 4/30/25	$0.07499	$0.00811	$1,618,881	12	1	4/9/25	8	0	36	$0.11390	12	$0.10390	1	1	$0.07499	3	0	$0.09000
Ameren III - IP	$0.08416	4/1/25 - 4/30/25	$0.09000	($0.00584)		15	0	4/9/25	11	0	36	$0.11390	12	$0.10390	0	0	N/A	4	0	$0.09000
ComEd	$0.06217	4/1/25 - 4/30/25	$0.06090	$0.00127	$2,107,187	40	1	4/9/25	28	0	36	$0.11090	3	$0.06390	1	1	$0.06090	11	0	$0.08768
Maryland																				
BGE	$0.11899	2/1/25 - 5/31/25	N/A	N/A	N/A	0	0	4/10/25	0	0	N/A	N/A	N/A	N/A	0	0	N/A	0	0	N/A
Delmarva MD	$0.12456	4/1/25 - 4/30/25	N/A	N/A	N/A	0	0	4/10/25	0	0	N/A	N/A	N/A	N/A	0	0	N/A	0	0	N/A
Potomac Edison	$0.10278	1/1/25 - 5/31/25	N/A	N/A	N/A	0	0	4/10/25	0	0	N/A	N/A	N/A	N/A	0	0	N/A	0	0	N/A
Pepco MD	$0.12323	4/1/25 - 4/30/25	N/A	N/A	N/A	0	0	4/10/25	0	0	N/A	N/A	N/A	N/A	0	0	N/A	0	0	N/A
Massachusetts					**$22,244,531**															
Eversource - BECO	$0.13241	2/1/25 - 7/31/25	$0.11680	$0.01561		48	7	4/11/25	21	5	36	$0.15900	6	$0.11680	N/A	N/A	N/A	27	2	$0.11790
Eversource - CAMB	$0.13241	2/1/25 - 7/31/25	$0.11680	$0.01561	$6,951,892	48	7	4/11/25	21	5	36	$0.15900	6	$0.11680	N/A	N/A	N/A	27	2	$0.11790
Eversource - COMM	$0.13241	2/1/25 - 7/31/25	$0.11680	$0.01561		40	7	4/11/25	18	5	36	$0.15900	6	$0.11680	N/A	N/A	N/A	22	2	$0.11790
Unitil - FGE	$0.14206	2/1/25 - 7/31/25	$0.13200	$0.01006	$99,878	18	6	4/11/25	9	4	36	$0.15900	6	$0.13200	N/A	N/A	N/A	9	2	$0.13600
NGRID - MECO	$0.14672	2/1/25 - 7/31/25	$0.11820	$0.02852	$14,511,770	48	17	4/11/25	21	12	36	$0.16500	6	$0.11820	N/A	N/A	N/A	27	5	$0.11990
NGRID - Nantucket	$0.14672	2/1/25 - 7/31/25	$0.13710	$0.00962	$83,279	9	2	4/11/25	4	2	36	$0.15900	8	$0.13710	N/A	N/A	N/A	5	0	$0.15900
Eversource - WMECO	$0.11719	2/1/25 - 7/31/25	$0.10870	$0.00849	$597,713	39	2	4/11/25	19	1	36	$0.14900	6	$0.10870	N/A	N/A	N/A	20	1	$0.10890
Ohio					**$90,141,829**															
AEP Columbus Southern	$0.07320	4/1/25 - 5/31/25	$0.04690	$0.02630		142	13	4/11/25	83	4	36	$0.09280	3	$0.06900	8	2	$0.06999	51	7	$0.04690
AEP Ohio Power	$0.07320	4/1/25 - 5/31/25	$0.04690	$0.02630	$26,246,059	142	13	4/11/25	83	4	36	$0.09280	3	$0.06900	8	2	$0.06999	51	7	$0.04690
Cleveland Electric Illuminating	$0.07187	4/1/25 - 5/31/25	$0.04590	$0.02597	$10,192,322	118	7	4/11/25	69	0	36	$0.08890	3	$0.07490	5	1	$0.06999	44	6	$0.04590
AES Ohio	$0.08580	6/1/24 - 5/31/25	$0.04890	$0.03690	$13,805,057	104	13	4/11/25	64	6	36	$0.09270	3	$0.07900	5	1	$0.06999	35	6	$0.04890
Duke	$0.08017	4/1/25 - 4/30/25	$0.04890	$0.03127	$15,246,044	130	15	4/11/25	70	4	36	$0.08990	3	$0.06980	7	3	$0.07499	53	8	$0.04890
Ohio Edison	$0.07434	4/1/25 - 5/31/25	$0.04590	$0.02844	$19,607,070	118	8	4/11/25	69	0	36	$0.08890	3	$0.07500	5	1	$0.06999	44	7	$0.04590
Toledo Edison	$0.07377	4/1/25 - 5/31/25	$0.04590	$0.02787	$5,045,278	119	9	4/11/25	68	0	36	$0.08890	3	$0.07520	5	1	$0.06999	46	8	$0.04590
Pennsylvania					**$85,842,818**															
Duquesne	$0.10852	12/1/24 - 5/31/25	$0.07590	$0.03262	$7,865,532	112	12	4/11/25	61	5	36	$0.12700	12	$0.09900	5	1	$0.10150	46	6	$0.07590
MetEd	$0.11011	12/1/24 - 5/31/25	$0.07990	$0.03021	$11,885,251	107	14	4/11/25	58	6	36	$0.12890	3	$0.09990	5	2	$0.09999	44	6	$0.07990
PECO	$0.09239	3/1/25 - 5/31/25	$0.06690	$0.02549	$18,180,240	123	11	4/11/25	64	4	36	$0.10800	3	$0.08800	7	2	$0.08499	52	5	$0.06690
Penelec PA	$0.10474	12/1/24 - 5/31/25	$0.07890	$0.02584	$7,581,416	108	10	4/11/25	56	2	36	$0.12480	8	$0.09990	5	2	$0.09860	47	6	$0.07890
Penn Power	$0.11168	12/1/24 - 5/31/25	$0.08290	$0.02878	$2,901,782	87	11	4/11/25	45	4	36	$0.13050	3	$0.09990	5	2	$0.10600	37	5	$0.08290
PPL	$0.10771	12/1/24 - 5/31/25	$0.07380	$0.03391	$28,262,287	136	17	4/11/25	70	5	36	$0.12980	3	$0.09990	10	6	$0.09499	56	6	$0.07380
West Penn Power	$0.09481	12/1/24 - 5/31/25	$0.06990	$0.02491	$9,166,310	105	8	4/11/25	56	1	36	$0.11780	3	$0.09000	6	3	$0.08750	43	4	$0.06990

FOOTNOTES

1) Massachusetts Lowest Offer Price includes Community Choice as it's our understanding that anyone can sign up for Community Choice.
2) Due to multiple utilities serving in the same zones and zip code area, some offers included in the analysis may not be available in certain cases.
3) Longest Term Lowest Offer does include Green offers with fixed rate terms since the intent is to show the longest term of a non-variable rate.
4) PTC Effective Date reflects the expected effective dates of the PTC as of the Recorded Date. These dates do not reflect irregular or unexpected regulatory rate cases.
5) Fixed Price Offers do not include offers with a term less than 3 months.
6) Pepco DC's Price to Compare rate might change slightly within the PTC Effective Date range. This is due to the rate structure having tiered energy prices which can cause the avg price to fluctuate based on consumption patterns.

Annual Cost of Mandated Renewables to the Commonwealth

RPS

Table Appndx.6

Total Annual RPS Cost to Massachusetts Ratepayers
2018 - 2024

Year	Total Sales All Classes[15] (in MWh)	Average annual REC Cost[16] (in $ per MWh)	Total Cost to Commonwealth Taxpayers (in $)
2024	50,011,964[17]	$24.98	$1,249,519,774
2023	50,011,964	$27.12	$1,356,564,445
2022	50,983,440	$29.87	$1,522,981,683
2021	50,798,388	$23.52	$1,194,749,936
2020	50,009,341	$28.70	$1,435,366,947

[15] Historical State Data - U.S. Energy Information Administration (EIA)
[16] Historical SNL REC index data provided by S&P Global (CIQ Pro: Energy & Utilities News & Analysis)
[17] Intelometry did not have a value for 2024, so the 2023 value was used.

2019	51,336,598	$26.07	$1,338,566,813
2018	53,285,029	$21.09	$1,123,590,312
Total			**$9,221,339,910**

APS

Table Appndx.7

APS Cost to Massachusetts Ratepayers
2018 - 2024

Year	Total Sales All Classes (in MWh)	APS Annual Requirement (in %)	APS Compliance[18] Payment (in $ per MWh)	Renewable Energy Charge Cost (in $)
2024	50,011,964	4.50%	$27.37	$26,642,515
2023	50,011,964	4.75%	$26.46	$25,668,299
2022	50,983,440	5.00%	$24.74	$25,004,671
2021	50,798,388	5.25%	$23.81	$25,399,194
2020	50,009,341	5.50%	$23.50	$25,491,720
2019	51,336,598	5.75%	$23.13	$25,005,982
2018	53,285,029	6.00%	$22.64	$25,005,982
Total				**$454,908,255**

CPES

Table Appndx.8

CPES Cost to Massachusetts Ratepayers
2020 – 2024

Year	Total Sales All Classes (in MWh)	CPES Annual Requirement (in %)	CPES Compliance Payment (in $ per MWh)	Renewable Energy Charge Cost (in $)
2024	50,011,964	4.00%	$45.00	$90,021,535
2023	50,011,964	6.00%	$45.00	$135,032,303
2022	50,983,440	4.50%	$45.00	$103,241,466
2021	50,798,388	3.00%	$45.00	$68,577,824
2020	50,009,341	1.50%	$45.00	$33,756,305
Total				**$430,629,433**

[18] MA Minimum Standards Through 2030_20250513.xlsx | Mass.gov

Renewable Energy Charge

Table Appndx.9

Renewable Energy Charge Cost to Massachusetts Ratepayers
2018 - 2024

Year	Total Sales All Classes (in MWh)	Renewable Energy Charge[19] (in $ per MWh)	Renewable Energy Charge Cost (in $)
2024	50,011,964	$0.00050	$26,642,515
2023	50,011,964	$0.00050	$25,668,299
2022	50,983,440	$0.00050	$25,004,671
2021	50,798,388	$0.00050	$25,399,194
2020	50,009,341	$0.00050	$25,491,720
2019	51,336,598	$0.00050	$25,005,982
2018	53,285,029	$0.00050	$25,005,982
Total			**$177,832,508**

[19] As provided in Massachusetts electric utility tariffs