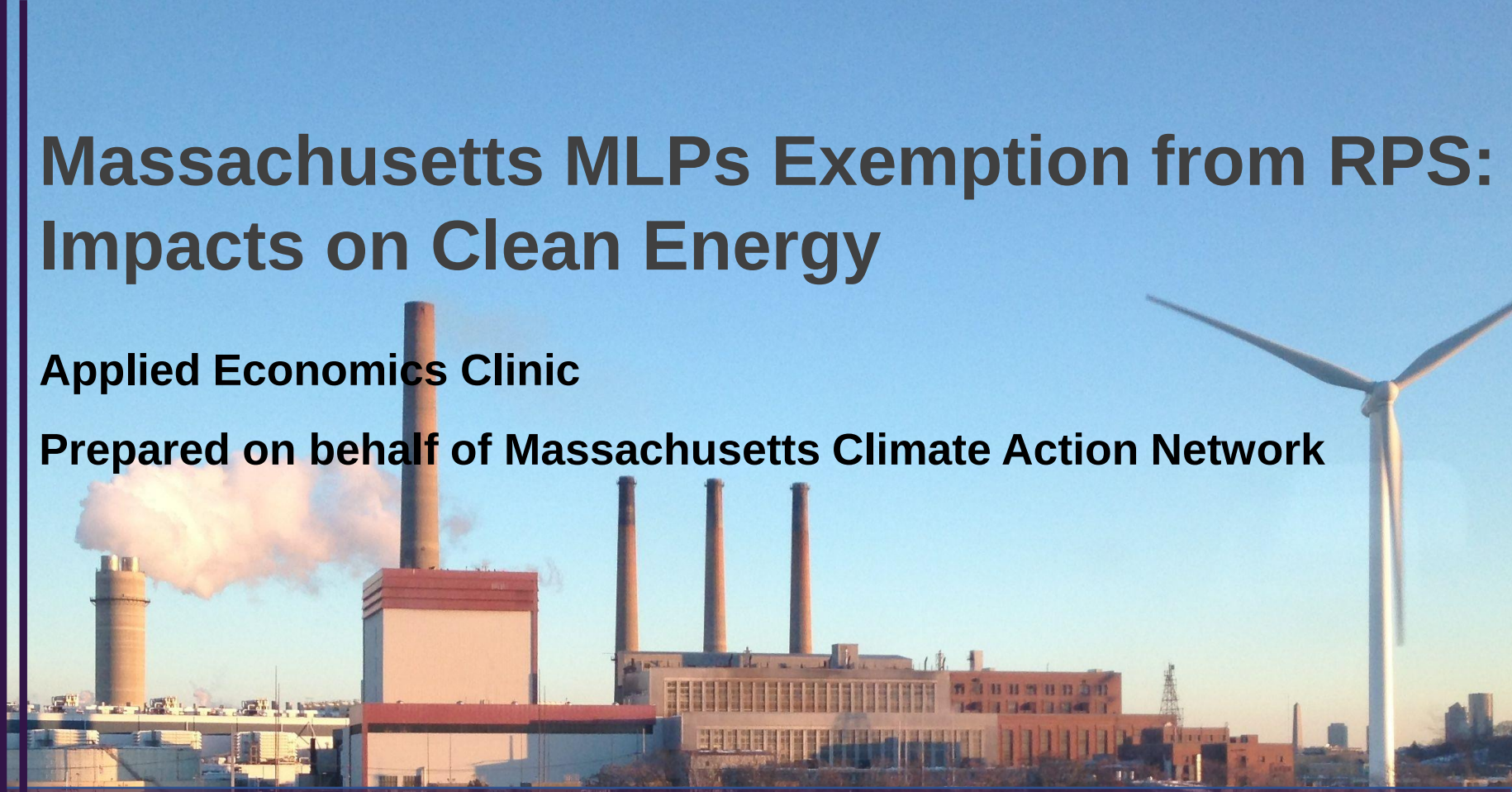
Massachusetts MLPs Exemption from RPS: Impacts on Clean Energy



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Prepared on behalf of Massachusetts Climate Action Network

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About the Applied Economics Clinic

- Applied Economics Clinic (AEC) is a mission-based non-profit consulting group that offers expert services in the areas of energy, environment, consumer protection, and equity.
- AEC's clients are primarily public interest organizations—non-profits, government agencies, and green business associations—who work on issues related to AEC's areas of expertise.
- AEC works proactively to support and promote diversity in our areas of work by providing applied, on-the-job learning experiences to graduate students.
- AEC is committed to a just workplace that is diverse, pays a living wage, and is responsive to the needs of its eight full-time and seven part-time staff.

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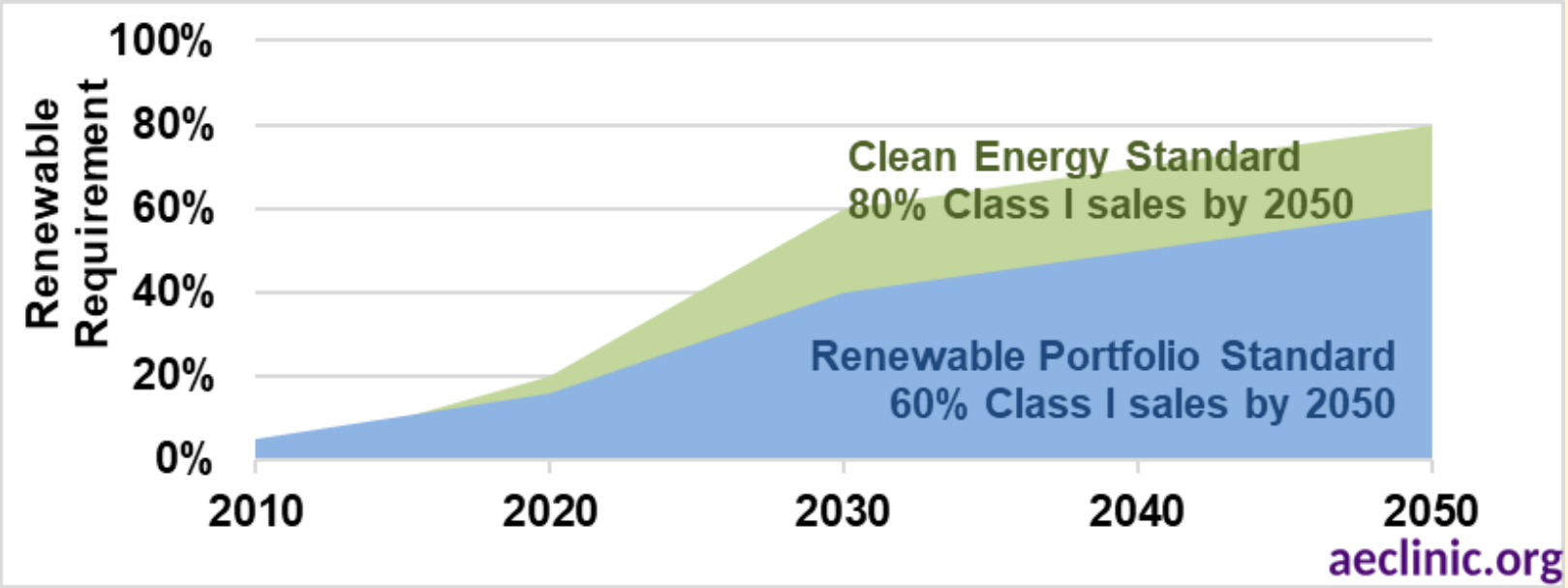
Presentation Overview

- MA RPS/CES targets compared to the MLP GGES
- Towns with MLPs: An Equity Analysis
- MLP Exemption from RPS: Impact on Clean Energy

MA RPS/CES targets compared to the GGES

Massachusetts MLPs are exempted from the RPS



- REC/CECs are issued to renewable energy sources like wind and solar located in the Northeast.
- The 40 towns who get their electric service from municipal electric light plants (MLPs) instead of utilities, however, are exempted from the requirement to support renewable energy by buying REC/CECs.

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As of 2021, Massachusetts MLPs must comply with the Greenhouse Gas Emissions Standard (GGES), with renewable, nuclear, and/or efficient gas purchases equal to 50 percent of sales in 2030, 75 percent in 2040 and 100 percent in 2050.

Massachusetts Standard	Adoption Year	Applicable Technologies	2010	2020	2030	2040	2050
Renewable Porfolio Standard (Class I RPS)	2003	Solar, wind, small hydro, landfill gas, geothermal	5%	16%	40%	50%	60%
Clean Energy Standard (CES)	2018	Solar, wind, small hydro, landfill gas, geothermal		20%	60%	70%	80%
Greenhouse Gas Emissions Standard (GGES)	2030	Solar, wind, small hydro, landfill gas, geothermal, nuclear, efficient gas			50%	75%	Net Zero

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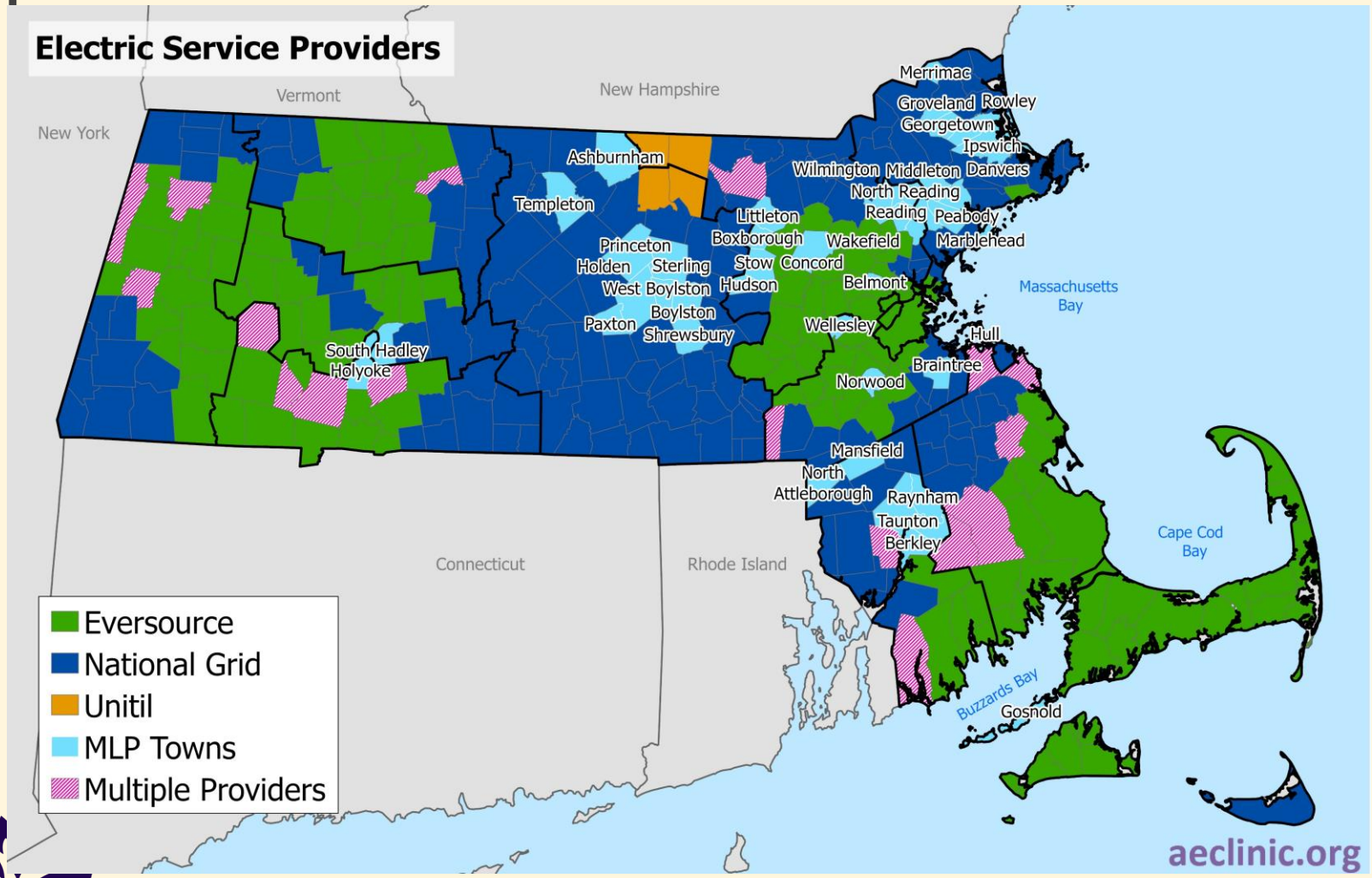
Towns with MLPs:
An Equity Analysis

There are 320,000 households living within towns with electric service from MLPs; that's about 12 percent of all Massachusetts households.



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On average, MLP service towns are whiter and earn higher incomes compared to utility service towns.

	Population	Median Household Income	EJ Population (%)	Households Below FPL (%)	BIPOC Population (%)	Limited English Speaking Households (%)
Massachusetts	6,856,000	$84,000	40%	9%	31%	2.2%
MLP service towns	931,000	$109,000	23%	7%	19%	1.2%
Utility service towns	5,925,000	$87,000	43%	10%	32%	2.4%

	Annual electricity Consumption (MWh)	Number of Customers	Electricity costs per MWh ($)	Annual consumption per customer (MWh)	Annual bills per customer ($)
Massachusetts	18,969,921	2,801,632	$171	6.8	$1,159
MLP service towns	3,035,285	366,075	$146	8.3	$1,210
Utility service towns	15,934,636	2,435,557	$176	6.5	$1,151

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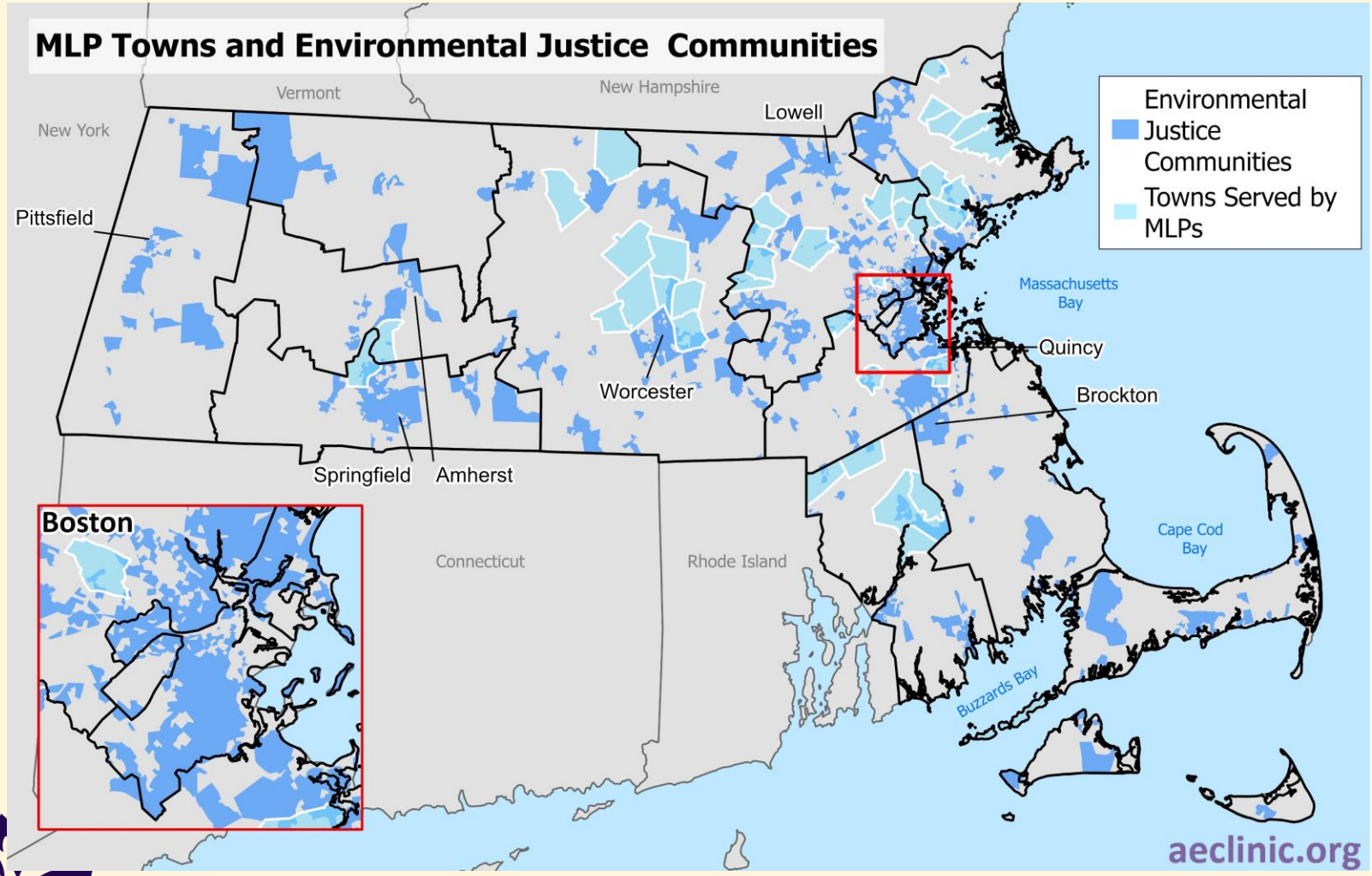
About 9 percent of residents living in Massachusetts' EJ communities (216,000 people) reside in MLP service towns.



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MLP Exemption from RPS: Impact on Clean Energy

MA utilities comply with RPS standards by buying RECs equal to the required percentage of their customer sales for that compliance year

- RPS Class I requirements increase one percent annually and are met with RECs created from renewable electric generation (e.g., solar, wind, hydro, biogas, and/or geothermal energy sources) built after 1997. In 2023, the RPS Class I requirement is 18 percent of electric sales.
- In contrast, RPS Class II requirements vary year to year and are met with RECs created from older (pre-1998) renewable generation units (e.g., solar, wind, hydro, biogas, and/or geothermal energy sources) and/or waste energy generation units. Since 2009, the RPS Class II requirement has ranged from 1.5 to 3.6 percent of electric sales.

AEC estimated the amount of **additional Class I renewables that would have been incentivized** in two base case scenarios and two counterfactual scenarios:

#	Scenario	Assumptions		
		Class I sales do not grow	Non-Class I sales do not grow	Nuclear and total MLP sales do not grow
1	MLPs comply with GGES using only Class I renewable energy		X	X
2	MLPs comply with GGES using resources other than Class I renewable energy	X		X
3	MLPs comply with RPS since inception		X	X
4	MLPs comply with RPS in 2030		X	X

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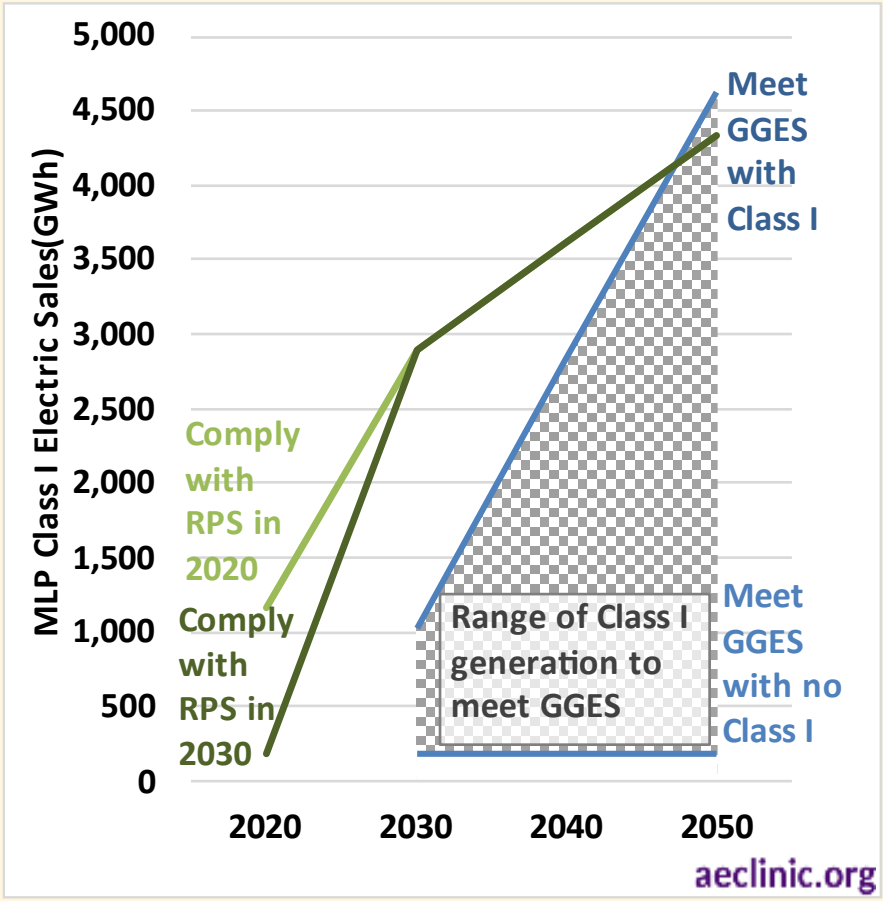
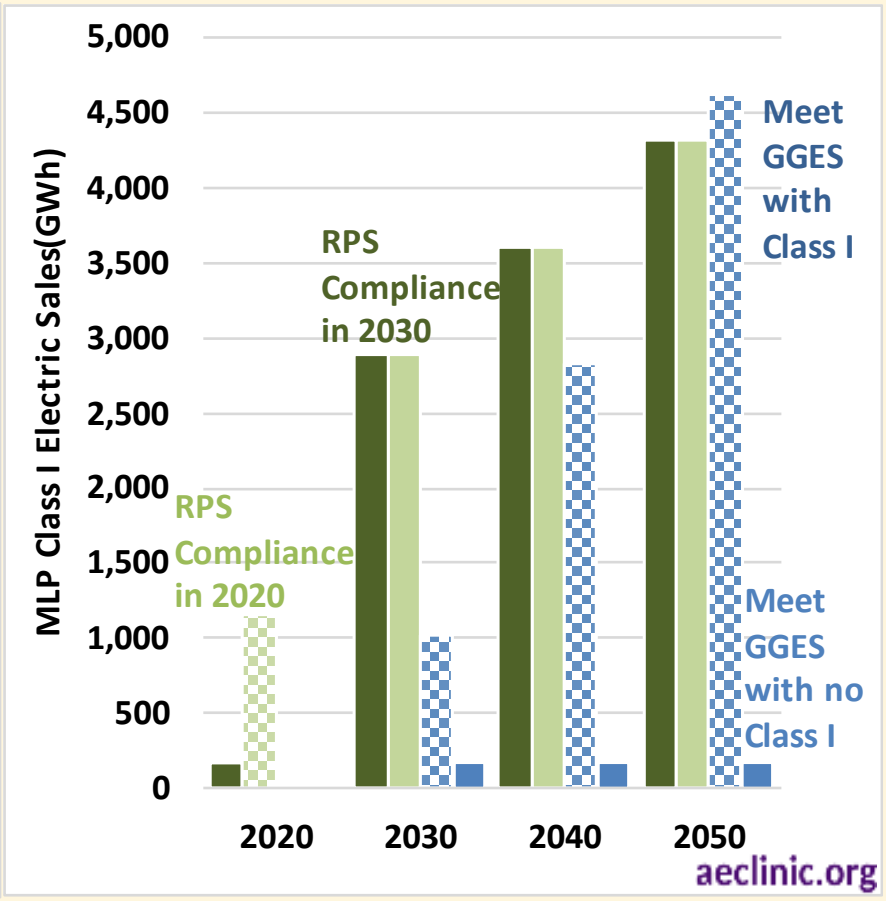
In 2050, MLPs <u>can</u> meet GGES with Class I renewables that exceeds RPS requirements, but they don't have to.





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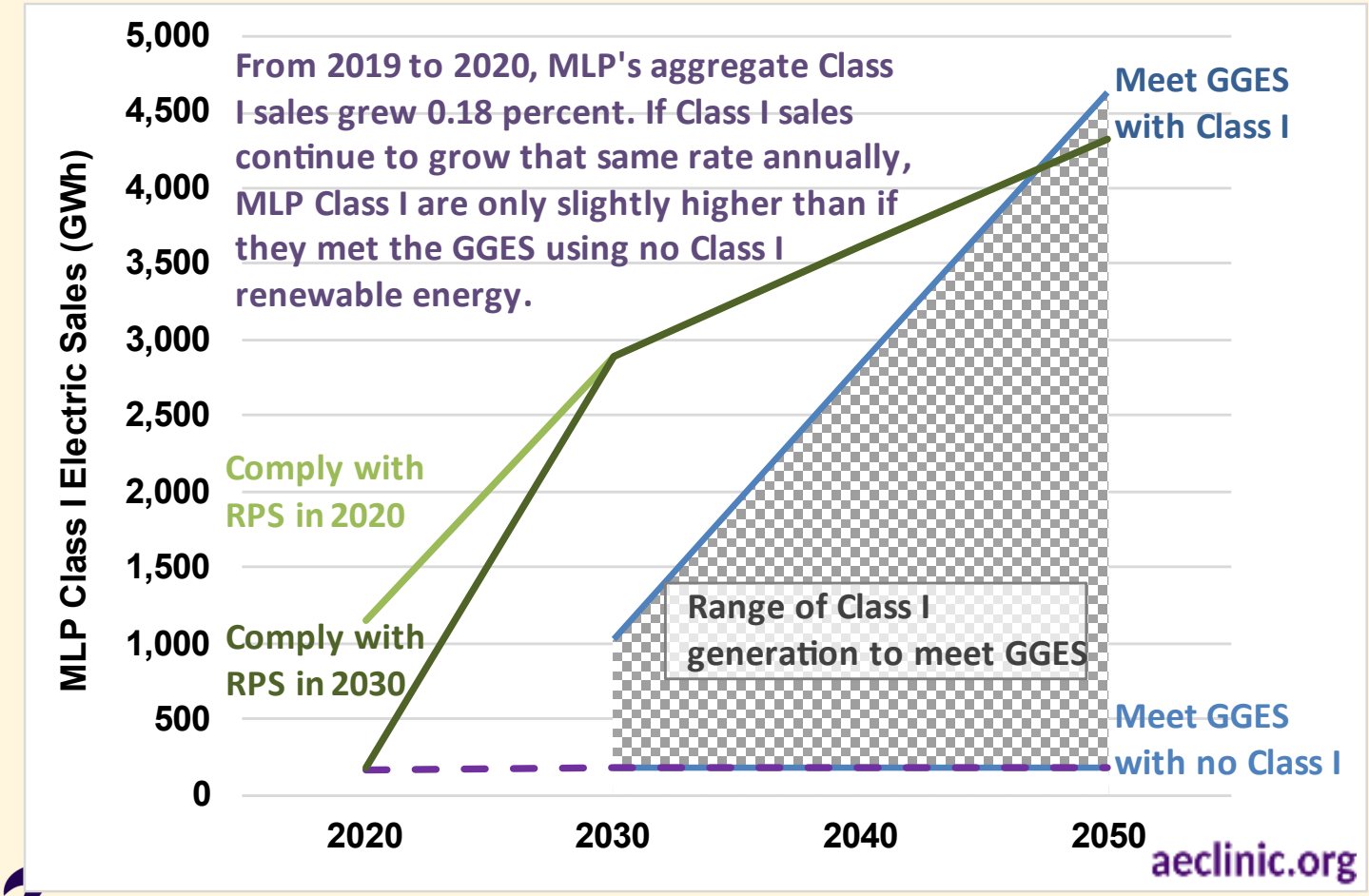
Class I REC grow less than 0.2 precent per year, suggesting MLP compliance with GGES with rely largely on non-Class I resources



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Key Takeaways

- Far from incentivizing renewable energy purchases, GGES (and the RPS exemption) permit MLPs to remain at today's level of Class I renewables
- In 2030 (or 2040 or 2050), MLPs are not required to add any additional Class I renewables to meet the GGES
- By 2050, MLP compliance with GGES results in 4,200 GWh (18 percent of 2021 MA RECs) less Class I renewables than would be required by the RPS.

Thank you!

Questions?

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Acronyms

CES – Clean Energy Standard

GGES – Greenhouse Gas Emissions Standard

MLP – Municipal Light Plant

RPS – Renewable Portfolio Standard

APPENDIX: Assumptions and Data Sources

Utility service rate components: Definitions

Basic Service Charge – Cost of electricity provided by utilities.

Distribution Charge – The cost of local delivery of electricity to customers.

Distributed Solar Charge – State-mandated charge for behind-the-meter solar incentives (e.g., SMART program).

Energy Efficiency (EE) Charge – State-mandated charge for utility energy efficiency programs.

Monthly Fixed Cost – Constant dollar value charged to customers each month in addition to the rate per kilowatt-hour.

Utility service rate components: Definitions

Other Charges – Varies by utility. For Eversource, several charges including residential assistance and a storm cost adjustment. For National Grid, the electric vehicle program charge.

Renewable Energy (RE) Charge – Funds collected by utilities and paid to MassCEC's Renewable Energy Trust Fund to support renewable/clean energy investments/incentives.

Renewable Energy Certificate (REC) Charge – Share of the basic service charge equal to the cost of RECs.

Transmission Charge – The cost to build, operate, and maintain long-distance transmission lines that bring electricity from power generators to the distribution system.

Utility service rate components: Data sources

Basic service, monthly fixed cost, distribution, transmission, distributed solar, other, and RE: Summer 2020 utility rate summaries

REC Charge: $0.0255 per kWh based on the REC costs of a MA competitive supplier provided by Larry Chretien (GECA)

2020 MLP rates: MCAN

Methodology: Calculating per month cost to MLP customers of RE charge

Per EIA Form 861, Massachusetts' MLPs total sales to residential customers was 10,957,220 MWh and total residential customers served was 1,618,004 households in 2019.

Annual average electric usage was 10,957,220/1,618,004 = 6.8 MWh per residential customer in 2019. Average monthly electric usage was 6.8/12 = 0.60 MWh per residential customer.

The RE Charge is $0.50 per MWh. The monthly RE Charge for the average Massachusetts MLP residential customer is 0.60*0.50 = $0.30 per month.

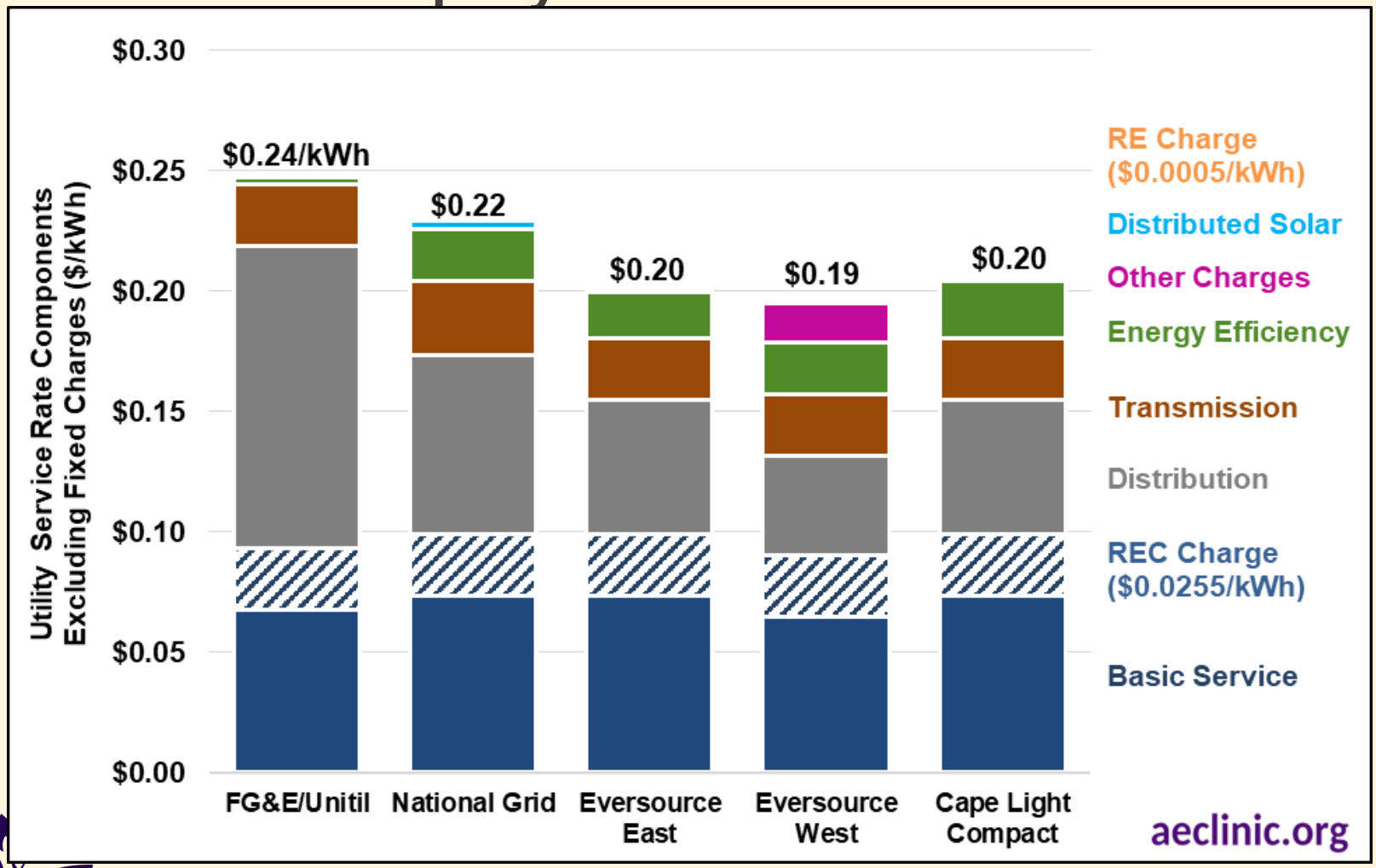
Methodology: Calculating per month cost to MLP customers of RPS compliance

Per Massachusetts Department of Energy Resources' annual Alternative Compliance Payment rates, the compliance payment required for electric utilities that have not met their RPS Class I requirements was $70.44 per MWh in 2019.

The Alternative Compliance Payment represents a maximum per MWh cost of RPS compliance.

APPENDIX:
MLP Exemption from RPS:
Impact on Customer Rates

Basic service and distribution charges are the largest components of Massachusetts electric distribution company customers.



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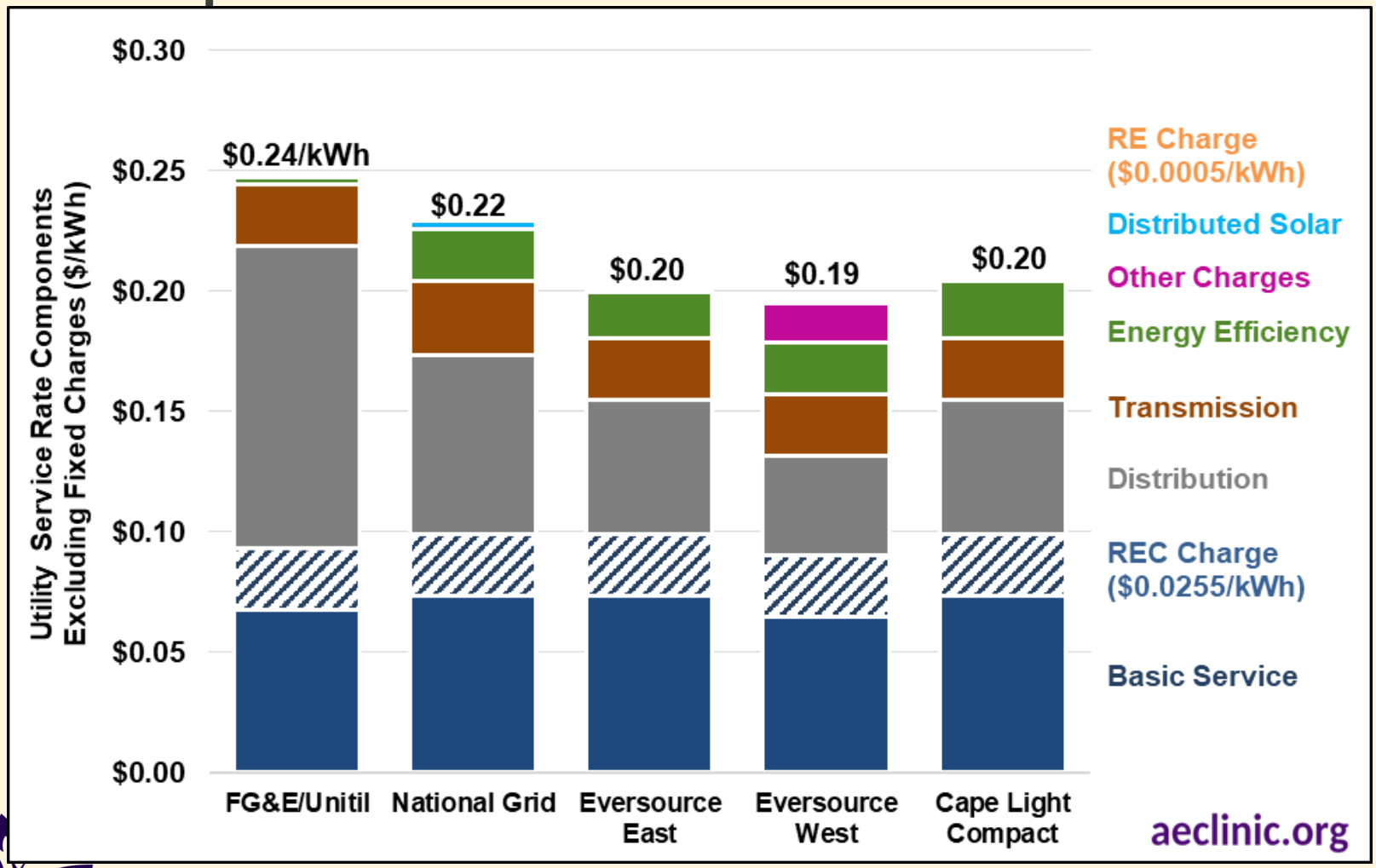
Massachusetts utility service customers pay the least for the RPS-required renewable energy charge in their per kilowatt-hour electric rates.



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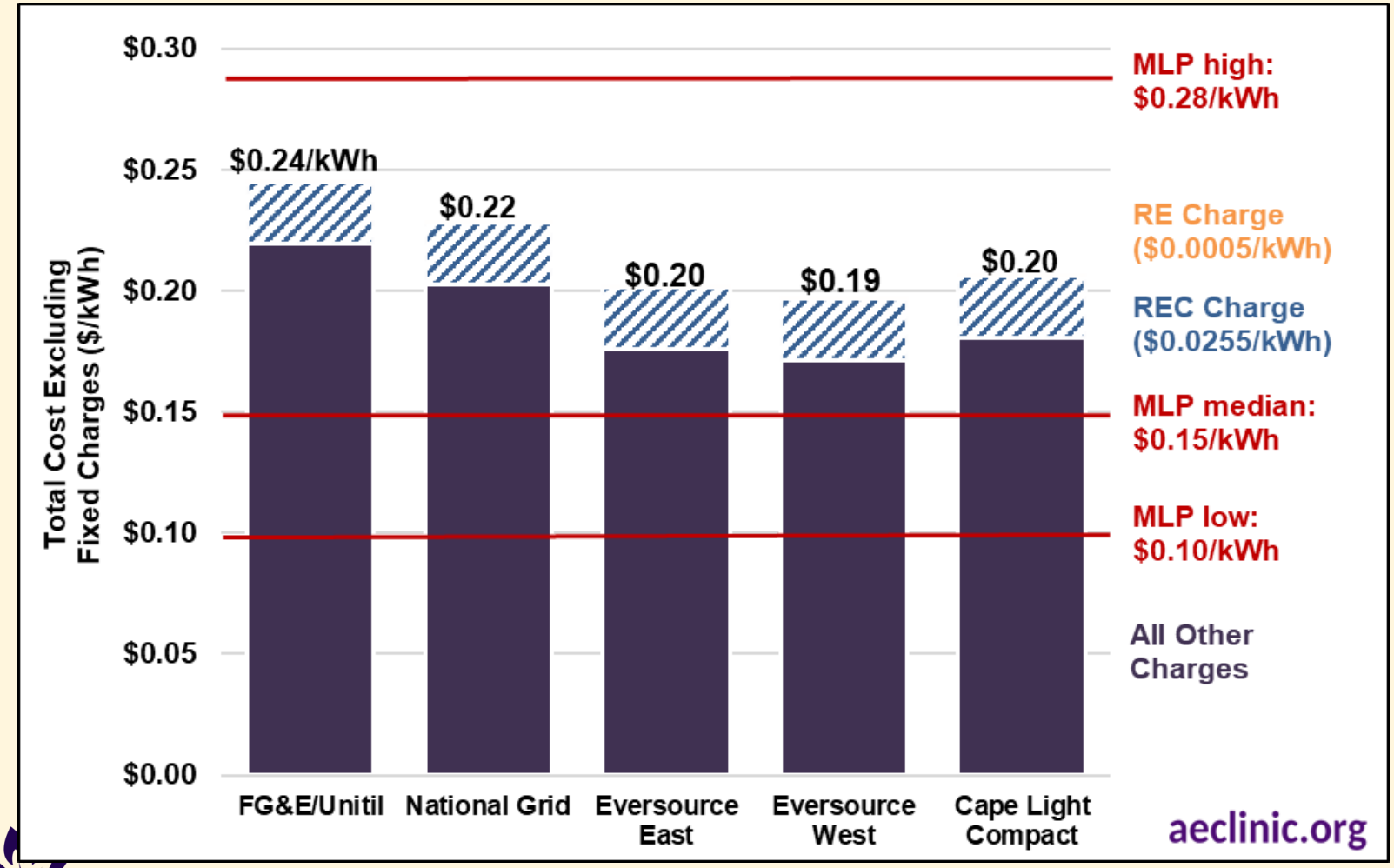
Despite not contributing the RPS, most MLP towns pay less for electricity on per kilowatt-hour basis.



Note: Hudson Light and Power Department, which charged $0.69 per kWh in 2020, was identified as an outlier and was not included in designation of MLP high, median, and low costs.

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If MLPs were required to comply with RPS Class I requirements, towns with relatively low amounts of clean energy sales would be face substantial REC charges.

- REC charges are folded into Basic Service charges for MA IOUs and MA MLP rates vary greatly, making estimating the cost to customers challenging.
- Utilities that do not met their RPS Class I requirements, are required to pay the RPS Alternative Compliance Payment rate for RPS Class I, which was $70.44 per MWh in 2019.

If ALL MLPs paid the RE Charge almost $15 million additional funds would be collected for the Renewable Energy Trust Fund from 2010 to 2040.

Time Period	Uncollected RE Charges by MLPs (million $)
2010s	$4.1
2020s	$3.6
2030s	$3.6
2040s	$3.6
2010-2040	**$14.9**

The cost to MLP customers? 30 cents per month, or 0.3 percent of an MLP customers' average monthly bill.

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