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OCTOBER 2019

Making Basic Service More Affordable: Electricity Rates for Low- and Moderate-Income Ratepayers

A Look at New England Rate Design: Issue Brief #2

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This policy brief dives deeper into rate design for low- and moderate-income (LMI) ratepayers as an issue distinct from direct assistance programs. LMI rates and assistance vary state by state in what they offer and whether they exist at all in some jurisdictions. As always, effective rate design is crucial to achieving regulatory and public policy goals. Yet achieving broad societal policy goals need not come at the cost of burdening economically vulnerable LMI ratepayers. To design more robust rates at levels customers can afford, regulators need better information about the options available for supporting LMI communities as part of the larger group of ratepayers. One way to obtain better information is by establishing benchmarks that cross utility and state lines to evaluate electricity rates for LMI and all customers.

Introduction

More than three in every 10 households in the United States have difficulty paying basic energy bills.[2] These households suffer "energy insecurity," according to the U.S. Energy Information Administration (EIA). Energy insecurity manifests itself in many ways. Some households forgo food

[1] This paper does not aim to evaluate all LMI energy bill assistance programs in New England. It examines how LMI energy policy is implemented through rate designs.

[2] U.S. Energy Information Administration (EIA). (2018, May 31). *Residential energy consumption survey 2015*. Table HC11.1: Household energy insecurity, 2015. Retrieved from https://www.eia.gov/consumption/residential/data/2015/hc/hc11.1.xlsx; see also U.S. EIA. (2018, September 19). One in three U.S. households faces a challenge in meeting energy needs [web page]. *Today in Energy*. Retrieved from https://www.eia.gov/todayinenergy/detail.php?id=37072

or medicine to pay for energy. Some who cannot pay receive a shut-off notice; and some are unable to use essential heat in winter, run adequate cooling on the hottest summer days, or must leave their houses set at unhealthy temperatures.

New England has states among the wealthiest in the country,[3] yet New England ratepayers suffer the second highest rate of household energy insecurity in the United States.[4] Two million of the 5.6 million households in New England (approximately 36%) have difficulty paying their heating, cooling, and electricity bills. The U.S. government (EIA) finds higher rates of household energy insecurity only in the East South Central states of Alabama, Kentucky, Mississippi, and Tennessee than New England.

Better Rate Designs Can Help

In addition to assistance programs funded at the federal, state, and county level, most of New England's larger utilities are authorized to offer LMI rates, bill credits, or direct payments for LMI customers in their service territories.[5] We have reviewed a sample of six utility LMI assistance tariffs in New England.

Table 1. Assistance Tariff Discounts of Select New England Utilities

State	Utility	Tariff Discount (%)
Massachusetts	Eversource	36%
Massachusetts	National Grid	29%
Massachusetts	Unitil	25%
New Hampshire	Eversource, New Hampshire Electric Co-op, Liberty Utilities, and Unitil	8% to 76%[6]
Rhode Island	National Grid	25% or 30%
Vermont	Green Mountain Power	25%

[3] Guzman, G. G. (2018, September). *Household Income: 2017; American Community Survey Briefs*. Washington, DC: U.S. Department of Congress, U.S. Census Bureau, Retrieved from https://www.census.gov/content/dam/Census/library/publications/2018/acs/acsbr17-01.pdf

[4] U.S. EIA. (2018, May 31). Across the United States, 37 of 118.2 million households suffer energy insecurity (31.3%). EIA reports regionally for the Northeast (New England and the Middle Atlantic), the Midwest (East North Central and West North Central), the South (South Atlantic, East South Central and West South Central) and the West (Mountain North, Mountain South and Pacific). Although other regions have a higher overall number of households suffering energy insecurity, the percentage of households suffering energy insecurity is highest for New England and the East South Central states.

[5] As between rate discounts and bill credits, a bill credit has the advantage of allowing customers to see the full value of the services they are receiving before the credit.

[6] New Hampshire's program offers a sliding scale of assistance based on income level.

Structurally, these six assistance tariffs are similar. Each offers a certain percentage off a customer's total bill. The percentage discount varies across states, generally hovering in the range of 25% to 30%, as set forth in Table 1.[7]

The differences among these rates raise questions. Why might a struggling customer in Massachusetts qualify for a 36% discount from Eversource but only a 25% discount from Unitil? Why might a struggling customer in New Hampshire qualify for a 76% discount but receive no discount in Maine?

One obvious explanation is that these rates do not exist in isolation. Some states have higher rates overall, and since rate cases occur periodically, some rates may be older vintages than others. Further, rate tariffs may be paired with other benefits, such as arrearage forgiveness. Eligibility requirements may also vary. For instance, Rhode Island's National Grid offers an additional 5% discount for customers enrolled in certain benefit programs, such as Medicaid (hence the 25% or 30% discount).[8] Customers' ease of access to discounts may vary too. The funding available in different states or for different utilities may vary as well. Finally, our snapshot may not capture the trajectory of a state's or utility's offerings; utilities in Massachusetts appear to be increasing their discounts as they proceed with rate cases based on the outcome of the recent Eversource decision.

Bill Discounts through Rate Design Offer Help to LMI Households

A threshold question worth addressing is whether utility rate designs actually help. Take a hypothetical low-income household served by Green Mountain Power (GMP) in Vermont using 600 kWh each month. Rather than paying $113.08 on the standard rate, the LMI household would pay $84.80 on GMP's 25% discounted assistance rate, for a savings of $28.27. This is illustrated in the table below.

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[7] We reviewed utility tariffs effective as of January 14, 2019. Tariffs may have changed since then. This is not intended to serve as a comprehensive list of tariffs in New England but rather to illustrate the existence and range of assistance tariffs. NSTAR Electric d/b/a Eversource Energy. M.D.P.U. No. 8B. Residential assistance: Rate R-2. Retrieved from https://www.eversource.com/content/docs/default-source/rates-tariffs/8-tariff-ma.pdf; NSTAR Electric d/b/a Eversource Energy. Residential space heating assistance: Rate R-4. M.D.P.U. No. 10B. Retrieved from https://www.eversource.com/content/docs/default-source/rates-tariffs/10-tariff-ma.pdf; Nantucket Electric Company d/b/a National Grid. M.D.P.U. No. 589. Residential Low income R-2: Retail delivery service. Retrieved from http://www9.nationalgridus.com/non_html/589%20-%20nantoct2016%20R-2.pdf; Massachusetts Electric d/b/a National Grid. M.D.P.U. No. 1306. Retrieved from http://www9.nationalgridus.com/non_html/1306%20-%20mecooct2016%20R-2.pdf; Fitchburg Gas and Electric Light d/b/a Unitil. M.D.P.U. No. 322. Residential assistance adjustment clause. Retrieved from https://unitil.com/sites/default/files/tariffs/E_dpu322_RAAC.pdf; New Hampshire. Electric Assistance Program. Retrieved from https://www.puc.nh.gov/consumer/NHEAP-brochure.pdf; Narragansett Electric Company d/b/a National Grid. RIPUC No. 2210. Residential Assistance Provision. Retrieved from https://www.nationalgridus.com/media/pdfs/billing-payments/tariffs/ri/a60_ripuc_2184.pdf; Green Mountain Power. V.P.S.B. No. 9. Residential Electric Assistance Program Rider. Retrieved from https://greenmountainpower.com/wp-content/uploads/2019/01/EAP-1-3-19.pdf.

[8] Narragansett Electric Company d/b/a National Grid. RIPUC No. 2210. Residential Assistance Provision.

Table 2: Illustrative Monthly Bill for Hypothetical GMP Ratepayer

Tariff	Customer Charge		Energy Charge		Total Bill
Rate 1 – Residential Service	$0.480 / day x 30 days	$14.40	$0.16446/ kWh x 600 kWh	$98.68	$113.08
Rate 1 – Residential Service – Electric Assistance Rate	$0.360 / day x 30 days	$10.80	$0.12334 / kWh, up to 600 kWh x 600 kWh	$74.00	$84.80

Saving about $28 per month may not seem like much, but it reduces annual energy expenses by $339 each year for an LMI Vermont household. For a struggling household, that money might be used for food, rent, or medical expenses — $339 could buy a month of groceries for an LMI household at 150% of the poverty line, assuming they spend $82 a week on groceries. This annual savings is roughly half of a monthly TANF (Temporary Assistance for Needy Families) benefit in Vermont for a single parent with two children.[9] On an annual basis, GMP's rate relief would supplement TANF benefits by 4.4% for a single-parent family of three.[10] To qualify, GMP ratepayers must earn no more than 150% of the federal poverty guidelines, so the upper income limit for a three-person household would be $31,170, or about $2,598 each month.[11] Saving $28.27 each month, then, amounts to a 1.09% or more increase in household income for such families.

[9] The TANF benefit for Vermont for a single-parent family of three is $640 monthly. Burnside, A., and Floyd, I. (2019, January 22). *TANF benefits remain low despite recent increases in some states.* Washington, DC: Center on Budget and Policy Priorities. Appendix table 1: Monthly TANF benefit levels (single-parent family of three). Retrieved from https://www.cbpp.org/research/family-income-support/tanf-benefits-remain-low-despite-recent-increases-in-some-states

[10] $339 annual for rate relief divided by ($640 monthly multiplied by 12 months) = about 4.4%.

[11] Although the federal guidelines have changed for 2019, as of January 14, the states had not yet revised their program eligibility data; we therefore use the 2018 data. U.S. Department of Health and Human Services (2018, January 18). *Annual update of the HHS poverty guidelines.* Washington, DC: Author. Retrieved from https://aspe.hhs.gov/poverty-guidelines; and Vermont Department for Children and Families (2018, March 1). *Vermont Fuel and Utility Programs Income Guidelines 2018–19.* Montpelier, VT: Author. Retrieved from https://dcf.vermont.gov/sites/dcf/files/ESD/Docs/EAP/EAP-Income-Guidelines.pdf.

New Hampshire's Coordinated and Tiered Assistance Program Offers a Good Model

New Hampshire's Electric Assistance Program (EAP) is coordinated across four service territories, one of which is an electricity cooperative. The program is funded by customers of the four providers, and any one of their customers may qualify for the assistance program if their household income falls below 200% of the federal poverty guideline.[12] By coordinating across service territories, New Hampshire's program both distributes the cost of the LMI rate discounts across more customers and provides certainty for customers who may move across service territories.

Unlike most other assistance programs, New Hampshire's program offers a variable discount based on a customer's household income. A customer who earns substantially below the federal poverty threshold will receive a greater discount — 76% for a household whose income is less than 75% of the federal poverty guideline. The sliding scale extends up to an 8% discount for a household whose income is between 150% and 200% of the guideline.[13]

This variable discount approach targets greater relief to ratepayers who need it most. A 76% discount for households well under the federal poverty guideline offers a significantly increased opportunity for the customer to be able to make payments and avoid disconnection. New Hampshire's program offers a model rate design structure for LMI ratepayers in several regards:

- New Hampshire's LMI rate recognizes that very low-income households need significantly higher levels of support, thus a discount of 76% is possible for households at less than 75% of the federal poverty guideline.
- New Hampshire's LMI program is statewide, so it coordinates across service territories for a consistent state-wide approach.
- New Hampshire's LMI program distributes the cost across all NH utility ratepayers, which tends to even out any disproportionate impact of one utility serving relatively higher numbers of LMI customers than others.
- New Hampshire's LMI program provides more certainty for LMI ratepayers who move from one utility service area to another.[14]

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[12] Compare New Hampshire Public Utility Commission. Electric assistance program [web page]. Retrieved from https://www.puc.nh.gov/consumer/electricassistanceprogram.htm; and U.S. Department of Health and Human Services, 2018.

[13] Compare New Hampshire. 2018 EAP income eligibility guidelines by discount tier. Retrieved from https://www.puc.nh.gov/consumer/eap_income_eligibility_guidelines_by_discount_tier_2018_fpg.pdf. With U.S. Department of Health and Human Services. Annual 2018 poverty guidelines for the 48 continental United States. Washington, DC: Author. Retrieved from https://aspe.hhs.gov/system/files/aspe-files/107166/2018-pctpovertytool.xlsx

[14] On the other hand, since rates vary between NH utilities, only the amount of LMI support would be consistent, not the whole rate or bill.

The principles embodied in New Hampshire's program together with those discussed below offer a good example for the design of LMI rate programs. An area of potential improvement is participation rates, which are below 50% of eligible households. Nonetheless, the program is successful and in fact was extended in 2018 to customers of competitive electricity supplies (CESs) by the NH PUC based on the recommendation of the NH Electric Assistance Advisory Board.[15] It stands as a model for LMI rate designs in New England and perhaps nationally.

Observations on Rate Discounts and Utility Marginal Cost of Service

As states consider the design and implementation of bill credits, price discounts, or direct payments for LMI customers, we observe that the net effect may or may not drop prices below the long-run marginal cost of service. That is an empirical question. A bedrock principle of rate design is that the rates that ratepayers pay should reflect the long-run marginal cost of service. Long-run marginal costs can notably diverge, however, from short-run marginal costs offered in rate cases and rate design proceedings.

The rationale for rate discounts for LMI customers may well be analogous to the rationale for offering special industrial and commercial rate plans for businesses at risk of closing or located in designated economic development zones: while rates among customers in the same rate class should be consistent, there are other policy and social goals, such as maintaining and expanding jobs, supporting economic growth, providing affordable basic energy service to all customers, and keeping customers from freezing in the winter. One policy motivation behind all three discounts discussed is that the utility is better off if customers are not disconnected in that they can continue to collect revenue that would be lost if service were disconnected. As long as short-run marginal costs are covered, and no additional long-term costs are incurred to maintain service, the utility (and its other ratepayers) is better off by maintaining some additional revenue. So for some customers, the utility might maintain service so long as customers pay their share of any stranded costs and the costs of serving their house or business; those customers are thereby still contributing additional utility revenue that might be lost entirely by cutting off service.[16] Preserving that additional revenue is a benefit to the utility and ultimately other ratepayers, as it is reflected in rate case revenue. Given adequate statutory authorization, regulators may appropriately take policy and societal goals into account in designing rates.

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[15] New Hampshire Public Utility Commission, Order No. 26,132, May 4, 2018.

[16] Some energy regulators set recovery of volumetric contribution to stranded costs as a minimal revenue expectation for a customer to maintain service, primarily in the context of commercial and industrial customers that otherwise would leave the system due to financial distress..

Conclusions on LMI Rates in New England States

Because they are closest to the details of rate design, utility revenue determinations, and evaluations of special needs discounts, utility regulators are best suited to make the difficult determinations of whether discounts are appropriate for a distressed company or the LMI segment of a residential rate class. Notably, New Hampshire's EAP takes this expertise one step further. The NH PUC benefits from a dedicated Electric Assistance Advisory Board with representatives from the PUC, Office of Consumer Advocate, community action agencies, the utilities, NH Legal Assistance, and the NH Municipal Welfare directors. This advisory board focuses on the details of the NH Energy Assistance Program and develops program recommendations for the NH PUC reflecting broad multiagency expertise and useful program expertise.

To the extent that state regulators allow rate discounts and credits, they may be better expressed in the form of bill credits rather than straight discounted rates. Bill credits allow customers to see the full cost of their consumption decisions.

Utility rate designs for LMI customers can be robust, as the New Hampshire program demonstrates. These rate designs are less likely to depend on federal or state appropriations, for example, or the availability of one-time settlement proceeds that fund specific LMI assistance programs. Given New England's second highest rate of energy insecurity in the United States, programs providing reliable discounts for LMI customers can help meet the need for basic energy service for all. The disparity in programs across states suggests that lessons can be learned about which rate designs are most effective at providing customer stability and support. Data can be collected to assess success, failures, and areas for improvement. This means tracking basic metrics across states, such as:

- Numbers of LMI customers served,
- LMI customers as a percentage of the rate class and percentage of all customers,
- Percentage discount(s) by numbers of customers,
- Average and median support to participating LMI customers,
- Number of disconnections (and trends),
- Average and median time of disconnection,
- Percentage of bad utility debt from each rate class,
- Number of customers in arrears broken down by 30, 60, 90, and 120 days, and
- Arrearage totals and trends by rate class.

Ideally, similar definitions and classes of LMI ratepayers could be identified and analyzed across each state, allowing data comparability in assessing successes, failures, and opportunities for improvement.

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