FEBRUARY 2020

Rate Designs That Work for a Modern, Customer-Oriented Grid

A Look at New England Rate Design: Issue Brief #3

David Littell and Joni Sliger

Technology has evolved faster than utility-offered rate designs have, and consumer choice will continue to grow as advanced energy technologies and smart grid optionality become available. Likewise, new technology capabilities and customer energy choices should prompt advances in electricity pricing, in order to send pricing signals consistent with grid costs and demands. In this paper, we highlight a handful of promising modern rate designs in New England and explore how the region can further adapt to improve customer options and bring electricity pricing into the 21st century.

Introduction

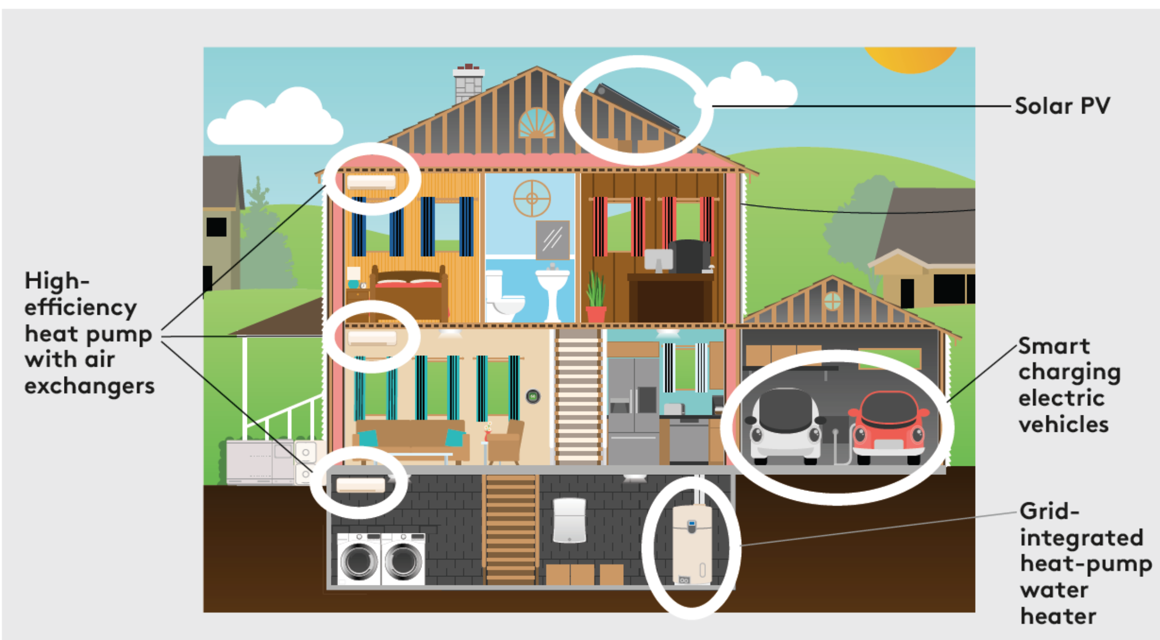
Time-of-use (TOU) — sometimes called time-varying — pricing that reflects sound economics has been underutilized by New England utilities. Most utility rate design in the region yields a price for transmission and distribution and supply that is flat: A customer pays the same charge per kWh regardless of whether the system is operating near its peak design limit, or is in the middle of the night with plenty of unused capacity. By contrast, a TOU rate differentiates between consumption that occurs when system costs are high (peak times) and when system costs are low (off-peak times). During peak times, economic theory suggests that consumers should be charged higher electricity service prices; during off-peak times, they should be charged lower prices. This mirrors system costs: When consumer demand is high, supply is scarce and more costly to serve; when consumer demand is low, supply and capacity are plentiful and less costly to serve. Not only is electricity itself more expensive at peak times, delivery is more expensive, too: Transmission and distribution (T&D) are built to serve peak demand, so increases in peak demand require spending on T&D upgrades. Time-varying pricing encourages consumers to reduce or shift demand during these peak times, helping to save money for both the system and the consumer.

Today, Jane Smith can put a solar generator on her roof, an electric vehicle and battery in her garage, and a smart thermostat on her wall. Jane can use smart devices to control the timing of efficient home heating, air conditioning, car charging, hot water heating and lighting. She can control almost all of the energy flows in her home based on preset time-of-day settings — or even in response to automated price signals — in order to remain comfortable while avoiding energy waste and expense.

Jane can set the lights to turn on when she approaches her home or enters a room, and to turn off after she leaves. She can make further adjustments to her lighting and heating/cooling system remotely through a smartphone, and monitor her house as needed. If she notes a cold snap approaching her home while she's traveling, she can turn up the heat remotely. Of course, Jane can also just leave her thermostat at a set temperature or override any cost-saving settings if she doesn't care how much she spends on energy, but most customers have some price sensitivity and prefer to save money.

If Jane's utility offers dynamic pricing that reflects real-time electricity and grid costs (more on this later), she can capitalize on real price variations to save money. Jane can program her electric vehicle charger or water heater to switch off if the price of electricity services rises higher than she finds acceptable. She can likewise program her devices to let the house get as cool as 50 degrees or as hot as 80 degrees if electricity hits particularly high prices. Actions like this by consumers like Jane reduce the demand on distribution, transmission and generation when prices indicate demand is high. Similarly, if her rooftop solar array is producing excess electricity at a given time of day, Jane can program her car charger to come on and her hot water heater to cycle to take advantage of that "free" electricity behind her meter. Figure 1 shows some of the advanced consumer energy technologies available for a homeowner.

Figure 1. A Modern "Smart House"



Source: RAP

If Jane does not want to tailor the timing or level of her electricity consumption herself, she can contract with an energy services company to set up her house, program its devices to save her money, and be as comfortable as she wants. A third-party energy services company can even use an electricity storage battery or an EV connected in her garage to provide voltage support or frequency regulation services to the grid and thereby further help reduce her overall costs.

The technologies and services we've described above can provide unparalleled customer and grid value — or impose unnecessary costs – depending on the choices made in integrating them into our power grids.

Regulators regularly face utility proposals to modify electricity rates, but most often those rates fail to facilitate customer choice, encourage least-cost system design and integration, or enhance reliability and resilience. The basic principles and economic theory underlying rate design have not changed, but the structure of energy markets has, and will continue to do so. Modifying traditional approaches to rate design to encourage efficient electricity use is a key feature of grid modernization. Modern rate designs send price signals to encourage the use of new technologies in ways that reduce demand on the electricity grid and correspondingly reduce system costs. This paper examines a handful of leading rate designs in New England that do just that.

Digitalization and Automation Make Economic Rate Designs Easier to Design and Implement

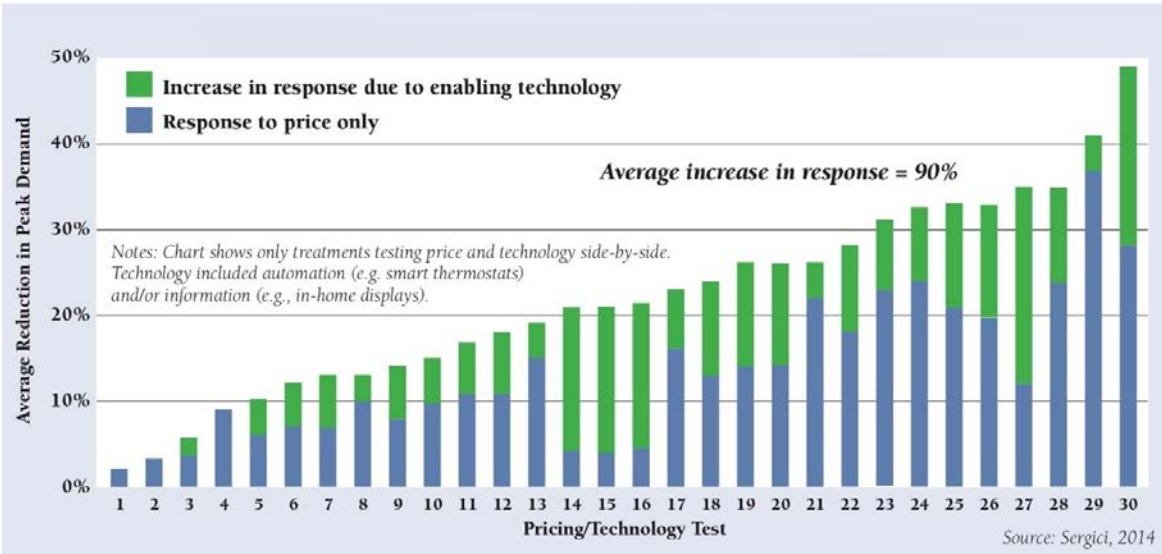
The rise of automation and "smart" tech makes it feasible to have distribution and supply tariffs that reflect distribution investments made to serve peak demand and the peak cost of electricity. This enables the choices a customer makes to minimize their own bill to be consistent with also minimizing system costs (though it should be cautioned that system costs are not necessarily easily conveyed to the average ratepayer). Electricity consumption can now be measured on six-minute or 15-minute periods at the residential meter. Real-time price feedback is possible and can be automated into end-user devices, as described above in the case of Jane. In the past, ratepayers could not adjust consumption remotely, or even with a timer, as simply as they can now. Still, these options all need to be understandable for the average ratepayer; a core principle of good rate design is that rates be simple and easy to understand.[1]

There are examples outside the power sector that can help convey this understanding. In fact, consumers encounter time-varying pricing frequently. Movie tickets are less expensive for matinees than evening shows, for instance, because demand is higher in the evening. Early bird specials and happy hour pricing provide discounted food and drink when restaurants are less busy. A restaurant putting such deals in place can more efficiently manage its physical infrastructure, electricity, heat and labor costs if they are deployed to provide additional service revenue outside the evening dinner "peak" of 6:00 PM to 8:00 PM— from, say, 4:00 PM to 8:00 PM.

[1] Lazar, J., and Gonzalez, W. (2015, July). *Smart Rate Design for a Smart Future*, p. 6. Montpelier, VT: Regulatory Assistance Project. Retrieved from https://www.raponline.org/knowledge-center/smart-rate-design-for-a-smart-future/

In the power sector, new technologies, including digital displays and automated controls, can help consumers use electricity in ways that meet their needs while also responding to system prices. Figure 2[2] illustrates how consumers respond to time-varying pricing. This graphic shows the results from a number of pilot programs testing peak demand reduction based on price alone (in blue) and pricing paired with technology (in green). In short, customers respond to prices, but they respond even more effectively when they are assisted by enabling technologies.

Figure 2. Impact of Enabling Technologies on Customer Price Response



The following sections highlight four New England programs with cost-reflective electricity pricing for electric vehicles (EVs) and home battery storage devices. Most EVs and battery storage devices are flexible electric loads capable of "smart charging." That is, they have automation technology that enables charging to be shifted to times when the cost to produce and deliver electricity is lower, without compromising consumers' needs.[3] In addition, both are capable of discharging power to the grid when needed.[4]

These rate offerings are designed to optimize consumption — and, for storage, discharge — so that both consumers and the system benefit from the presence of these new electric loads that can also operate as distributed, demand-side or as supply-side resources.

[2] Lazar and Gonzalez, 2015, p. 60. Source on chart: Sergici, S. (2014, August 6). *Dynamic Pricing: Transitioning from Experiments to Full Scale Deployments* [Presentation]. The Brattle Group.

[3] Hildermeier, J., Kolokathis, C., Rosenow, J., Hogan, M., Wiese, C., and Jahn, A. (2019). *Start with smart: Promising practices for integrating electric vehicles into the grid,* p. 11. Brussels, Belgium: Regulatory Assistance Project. Retrieved from https://www.raponline.org/wp-content/uploads/2019/03/rap-start-with-smart-ev-integration-policies-2019-mar-28-final.pdf

[4] Vehicle-to-grid applications have yet to be realized at scale, in part due to car manufacturers potentially voiding battery warranties if EVs are utilized for grid support.

Modern Rates for Transportation Electrification

Here we explore two pilot rate offerings in New England designed specifically for smart EV charging, and compare them with two rate designs now in effect in Maryland — one for EV charging and the second a full time-varying rate being piloted now by three of Maryland's investor-owned utilities.

Rhode Island: National Grid's Pilot Off-Peak Charging Discount for Electric Vehicles

In the fall of 2019, regulators in Rhode Island gave National Grid the green light on its Off-Peak Charging Rebate Pilot for electric vehicles.[5] Participating customers can expect to receive a rebate — 6 cents per kWh in summer and 4 cents per kWh during the rest of the year — for charging their electric vehicles between the hours of 9:00 PM and 1:00 PM, avoiding the late afternoon and early evening peak.[6] Many EVs come with automation technology as standard equipment, so that drivers can program the charger not to start charging until the off-peak period begins.

Residential customers of National Grid participating in this EV charging pilot can realize savings by shifting their usage to the off-peak time window. Instead of paying the usual 21 cents per kWh to charge their EV,[7] participants can pay 15 or 17 cents per kWh. That said, National Grid's peak-to-off-peak ratio is less than the 2:1 or 3:1 difference that produces the best customer response. In addition, National Grid's peak period of eight hours is of longer duration than is ideal.

While National Grid's pilot rate in Rhode Island is a good start, other utilities in other regions are already far ahead in rate design. Contrast National Grid's EV rate with Maryland's Baltimore Gas & Electric EV rate, which is more reflective of system costs and likely to elicit greater customer response because it can save customers more money.

As a general matter, a deep literature review of rate pilots suggests that making the peak to off-peak price ratio more consistent with system costs and thus a higher peak to off-peak difference elicits greater customer response. Evidence from multiple pilots suggests that the higher the ratio, the more consumers will adjust their behavior (and again, having enabling technology further allows consumers to adjust). The following figure illustrates these findings based on actual pilots or tariffs.

---

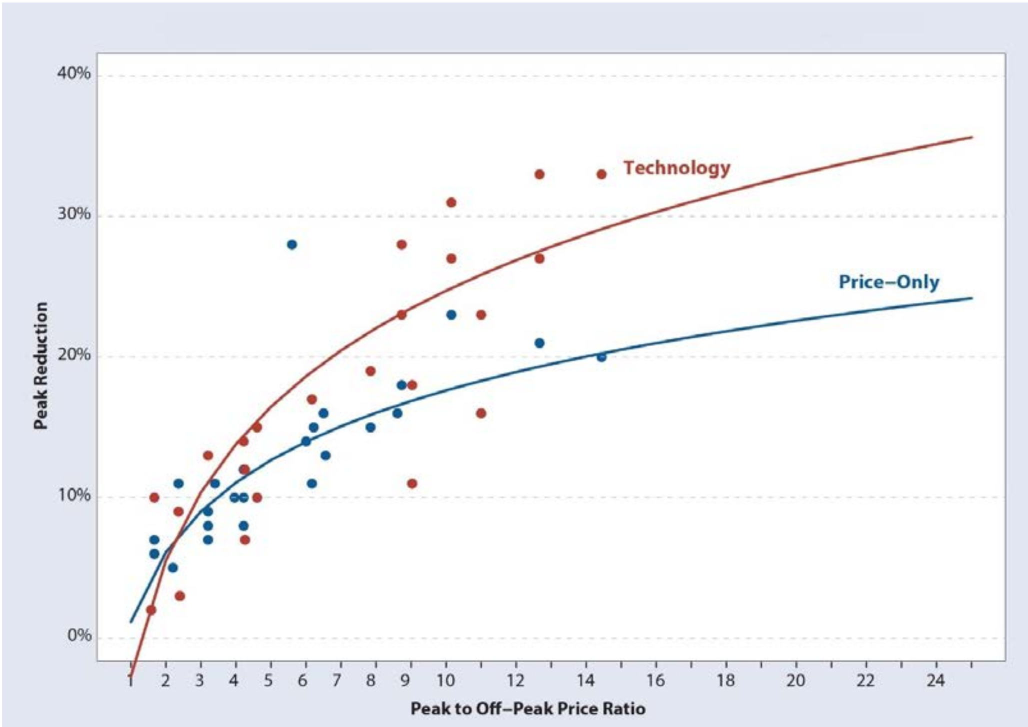
[5] See Rhode Island Division of Public Utilities & Carriers. (2016, August 20). Docket 4770-4780. Compliance Filing, Amended Settlement Agreement, p. 57. Retrieved from http://www.ripuc.org/eventsactions/docket/4770-4780-NGrid-Compliance%20Filing%20Book%201%20-%20August%2016,%202018.pdf. Regulators approved this settlement agreement in an open meeting on August 24, 2018. See Rhode Island Division of Public Utilities & Carriers. (2018, August 24). Public Utilities Commission Approves Power Sector Transformation Settlement in National Grid Rate Case [Press release]. Retrieved from http://www.ripuc.ri.gov/consumerinfo/Settlement_Release.pdf

[6] The rebate amounts are subject to change. See Rhode Island Division of Public Utilities & Carriers, 2016, p. 58.

[7] These numbers are drawn from National Grid's residential tariff documents effective as of January 14, 2019: The Narragansett Electric Company. (2019, Jan. 1). Summary of Retail Delivery Rates and Summary of Rates - Standard Offer Service. The standard residential delivery charge as of January 14, 2019, was $0.10083 per kWh and the standard offer service charge was $0.10990 per kWh, for a total $0.21073 per kWh.

In Figure 3, the dots are findings on peak reduction, shown on the vertical axis, while the horizontal axis shows variations in the peak-to-off-peak price ratio. The dots reflect the peak reductions (y-axis) seen for a given peak-to-off-peak pricing ratio (x-axis):

Figure 3: Comparison of Rate Pilot Results (With and Without Technology Enhancement)



The National Grid pilot has a peak-to-off-peak price ratio of 1.24 to 1 (21¢/kWh:17¢/kWh) or 1.4 to 1 (21¢/kWh:15¢/kWh). In contrast, Baltimore Gas & Electric offers an EV time-varying rate with a peak-to-off-peak ratio of 3.2 to 1 (12.3¢/kWh:3.9¢/kWh); this is substantially higher than the ratio for BG&E's general TOU rate of 1.5 to 1 (8.5¢/kWh:5.7¢/kWh).[8] BGE is now piloting a TOU rate, for any consumer, with an even higher ratio of 5.4 to 1 (23.3¢/kWh:4.3¢/kWh). These Maryland rates are notably based on all grid costs, not just electricity supply costs. In designing these rates, the Maryland utilities and stakeholders unanimously agreed to allocate PJM's capacity charges and transmission charges (both peak-oriented) to the peak periods, along with the primary distribution system capacity costs. The rationale for this is that these costs largely relate to meeting transmission and distribution system peak demand, and thus are appropriately allocated to peak periods. So the more shallow the peak-to-off-peak ratio, the lower the consumer response one would expect. Maryland's experience suggests that decent-sized and cost-based peak and off-peak pricing results in a likewise decent-sized behavioral response by customers.

Why is this a fair cost allocation? Because when customers turn up air conditioners or electric heaters during the system peak, they should pay for the transmission and distribution built to

[8] Baltimore Gas & Electric. (2019, June 5). Current Market-Priced Service Rate Components, p. 77-A. Retrieved from https://www.bge.com/MyAccount/MyBillUsage/Documents/Electric/Rdr_1.pdf

accommodate their increased electricity use during the more expensive hours of that system peak, as well as the higher peak costs of electricity supply during those times. Likewise, a customer who turns down air conditioners or electric heaters at system peak, should pay much less of the transmission and distribution built to serve peak.

In contrast, the National Grid off-peak discount takes a more constrained view of costs allocable to peak and off-peak. However, National Grid has signaled that it is open to a less constrained view of cost allocation for TOU pricing in Rhode Island.

If customer response is similar to that represented in Figure 3 above, National Grid should expect a customer response to its current EV rate of about a 3% peak demand reduction, whereas Baltimore Gas & Electric should expect a customer response of about 10% peak demand reduction. Increasing National Grid's peak to off-peak ratio would almost certainly elicit greater customer response.

Vermont: Green Mountain Power's EV Unlimited Plan

Improving on the National Grid EV pilot, Green Mountain Power (GMP) is also taking advantage of smart charging capabilities in its EV charging rate design. GMP's EV Unlimited Plan[9] offers a monthly subscription cost for off-peak charging. Like going to an all-you-can-eat buffet for a flat fee (that is not offered at peak dinner and lunch times), GMP's ratepayers can get all-they-can-charge — when grid demand is low — for a monthly fee.

What makes this rate design smart is that the subscription charging must occur off-peak. Charging on-peak is available for subscribers, but they must pay a higher on-peak rate per kWh. These peaks are not preset; they are determined by the utility based on actual grid conditions. GMP notifies program participants when a peak will occur, sending a notice 8-24 hours in advance. Peak events occur an average of 5-10 times a month and may last for 2-6 hours at a time.[10]

Charging off-peak is assisted by advanced technology offered by GMP: ratepayers allow the utility to control their EV chargers. GMP can turn off their charger during grid peaks and turn it on for off-peak charging without the customer doing anything. This solution combines the advanced technology of smart chargers with communications, utility-operated demand-side grid management, automation and smart rates that allow consumers to align their charging with lower grid demand and lower price periods.

This subscription plan was piloted at a cost of $30 a month with an on-peak EV charge of $0.60 per kWh, and GMP has indicated it will offer a similar EV subscription on a permanent basis.[11] During

[9] This name may change. It described a pilot GMP finished in early 2019; they intend to have a similar offering, but it is unclear if it will be under the same name or a different one.

[10] Dostis, R. (2019, March 1). *Green Mountain Power Electric Vehicle Programs & Outlook* [Presentation]. Retrieved from https://legislature.vermont.gov/Documents/2020/WorkGroups/Senate%20Transportation/Electric%20Vehicle%20Charging%20Tariff%20Testimony/W~Robert%20Dostis~Green%20Mountain%20Power%20Electric%20Vehicle%20Programs%20Outlook~3-1-2019.pdf

[11] Green Mountain Power. (2018). *2018 Integrated Resource Plan*, pp. 2-16. Retrieved from https://greenmountainpower.com/wp-content/uploads/2019/03/IRP-Innovative-Customer-Programs.pdf

The IRP notes: "The e-Charger Pilot will come to an end at the beginning of 2019. We are planning to transition to an EV Tariff that will allow customers who prefer it to pay a flat fee rate for 100% renewable energy charging."

the pilot, GMP found that participants charged off-peak more than anticipated.[12] To reflect high levels of customer price response, the utility will likely adjust the subscription plan rate design to raise more revenue off-peak.

A challenge of the flat fee is that it could encourage some amount of uneconomic consumption. A consumer would pay the same amount regardless of whether she uses 1 kWh off-peak or 100 kWh off-peak. This works if there is no long-term marginal cost for off-peak charging, but there may be a long-term marginal cost. Beyond economic efficiency, the flat fee prompts questions of equity. A family with a Tesla could use almost 20 times as much electricity for the same cost as a neighboring family charging their plug-in hybrid Prius, and a family with two Teslas, charging each one after the other off-peak, would still pay the same as the owner of a single Nissan Leaf consuming far less.

Modern Rates for Customer-Sited Battery Storage

Batteries designed to both charge and discharge present a slightly different set of capabilities than EVs do. To take advantage of electric battery technologies' new capabilities, we identify two model battery rate offerings in New England.

GMP's Multiple Battery Storage Programs and Associated Rate Designs

In 2016, GMP launched an innovative pilot program offering customers a distributed storage option in the form of a Tesla Powerwall battery.[13] GMP has offered modified versions of this program ever since, all of which offer a battery from the utility at a set monthly cost.[14] For customers who do not want a utility-provided battery, GMP offers a "Bring Your Own Device" (BYOD) pilot program which allows customers to install any type of distributed electric storage technology.[15]

For consumers, a key value of distributed storage is that it can provide backup power for a number of circuits in the event of an outage. GMP's program recognizes that customers may only want this electricity outage safety net.[16] Beyond this safety net, however, participating consumers can receive

---

[12] Dostis, 2019.

[13] Green Mountain Power. (2015, December 2). Letter to Vermont Public Service Board regarding launch of Tesla Powerwall Innovative Pilot. Retrieved from https://greenmountainpower.com/wp-content/uploads/2017/01/Hudson-12.02.2015-Tesla-Pilot-Filing.pdf
Also see Green Mountain Power. (2016, May 4). *Green Mountain Power Begins Installs of the Tesla Powerwall Home Battery for Customers* [Press release]. Retrieved from https://greenmountainpower.com/news/green-mountain-power-begins-installs-tesla-powerwall-home-battery-customers/

[14] See, e.g., Green Mountain Power. (2017, May 12). *GMP Launches New Comprehensive Energy Home Solution from Tesla to Lower Costs for Customers* [Press Release]. Retrieved from https://greenmountainpower.com/news/gmp-launches-new-comprehensive-energy-home-solution-tesla-lower-costs-customers/

[15] Green Mountain Power. *Bring Your Own Device* [Web page]. Retrieved from https://greenmountainpower.com/bring-your-own-device/

[16] E.g., Green Mountain Power. (2018, December 13). *GMP Customers Keep Lights on With Stored Low Carbon Energy During Storm Outages* [Press Release]. Retrieved from https://greenmountainpower.com/news/gmp-customers-keep-lights-on-with-stored-low-carbon-energy-during-storm-outages/

greater value from their distributed storage if they also sign up for one of GMP's time-varying rate designs. On these rates, pilot participants can use their batteries during non-emergencies for what experts call pricing arbitrage: buying power cheap and using the stored power to reduce buying at more expensive times each day.

For example, consider GMP's basic TOU rate. The peak times are weekdays from 1:00 PM to 9:00 PM. During off-peak hours, TOU consumers pay only 11 cents per kWh. During on-peak hours, TOU consumers pay 26 cents per kWh *consumed from the grid*. Consumers do not pay to consume power from their battery; they only pay when they charge their battery from the grid. By charging a battery during off-peak hours and using that stored energy during on-peak times, participants can save 15 cents per kWh (minus battery round-trip charging and discharge losses).

GMP has a separate program that provides a credit to customers that allow GMP to access and control their battery during emergencies and critical peaks. The battery owners receive a direct payment, and both battery owners and non-participating customers benefit because the program reduces overall system costs. This program offering aligns the customer benefits of distributed storage with system-wide savings. GMP offers pilot participants a respectable bill credit in exchange for allowing the utility to share access to the device when it is needed for grid purposes. In 2017, customers that shared access to their Tesla Powerwall received a monthly bill credit of $31.76. Today, the bill credit is calculated based on the size of the device enrolled in the program. This program allows GMP to use customer batteries under its control as a "virtual power plant" in the aggregate.

In 2018, GMP estimated the program would save customers — including non-participating consumers — more than $2 million over 10 years.[17] Because GMP was able to save its ratepayers $450,000 in supply costs in a single event, this $2 million savings estimate is likely be conservative. These savings arise from reduced energy charges and avoided grid costs. The ISO-NE market (which serves GMP) charges participants for their use of New England's pooled transmission fund (PTF) transmission infrastructure through a capacity charge, set at their highest demand for the year (i.e., their capacity usage in kilowatts, not kilowatt-hours).

By reducing its peak demand, GMP reduces all regional grid costs to ISO-NE. For example, GMP reports saving $500,000 in one 2018 heat wave;[18] the utility reduced both expensive power purchases as well as its ISO-NE PTF costs. There is a third regional savings as well: reducing monthly peaks avoids setting a higher capacity tag[19] for the year's demand, thus reducing the share the utility must pay of ISO-NE's capacity market charges for the next year.

GMP's regional costs savings are enabled by its innovative pilot program offerings, combined with a storage TOU rate that provides customers with a price signal to reduce usage consistent with reducing system costs.

---

[17] Green Mountain Power, 2018.

[18] E.g., Brooks, D. (2018, July 23). Using customer batteries as a power source saved Vt. utility $500K [Blog post]. *Concord Monitor*. Retrieved from https://granitegeek.concordmonitor.com/2018/07/23/using-customer-batteries-as-a-power-source-saved-vt-utility-500k/

[19] A capacity tag is a measure of peak utility or customer demand to serve their load, which is used to assess capacity market cost allocation within New England.

New Hampshire: Liberty Utilities' Pilot Program for Battery Storage

Improving on Vermont's Green Mountain Power storage offerings, New Hampshire regulators approved a battery storage pilot program for Liberty Utilities early in 2019.[20]

Liberty's pilot program has two phases. The first is a "proof of concept" phase to demonstrate that savings to Liberty's ratepayers will be substantial enough to justify the program. Liberty estimates that over 15 years (a typical battery's lifespan), ratepayers could receive $1.8 million in nominal benefits from the two-phase pilot program. The first phase is intended to verify these savings from the batteries as deployed. The program's second phase will involve implementation of TOU rates.

Like the Vermont program, the New Hampshire program is offered as an option to Liberty's customers. Pilot participants must enroll in Liberty's TOU rate. The TOU rate varies seasonally and includes three hourly periods each season: critical-peak, mid-peak, and off-peak periods. The following table provides details.

Table 1: Liberty Utilities' TOU Rates

Summer period (May 1 to October 31)		
Off-peak:	8 p.m. through 8 a.m. (all days)	$0.0683 per kWh
Mid-peak:	8 a.m. through 3 p.m. (non-holiday M-F)	$0.1526 per kWh
	8 a.m. through 8 p.m. (weekends and holidays)	
Critical peak:	3 p.m. through 8 p.m. (non-holiday M-F)	$0.3644 per kWh
Winter period (November 1 to April 30)		
Off-peak:	8 p.m. through 8 a.m. (all days)	$0.1302 per kWh
Mid-peak:	8 a.m. through 3 p.m. (non-holiday M-F)	$0.1668 per kWh
	8 a.m. through 8 p.m. (weekends and holidays)	
Critical peak:	3 p.m. through 8 p.m. (non-holiday M-F)	$0.3567 per kWh

These rates are consistent with good rate design for customer response, with a critical peak period of no more than five hours, and a peak-to-off-peak price ratio of more than 3:1. They are also cost-

[20] New Hampshire Public Utilities Commission. (2019, January 17). Order No. 26,209. Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities. Petition to Approve Battery Storage Pilot Program, Order Approving Settlement Agreement and Implementation of Pilot Program and Granting Motions for Confidential Treatment. Retrieved from https://www.puc.nh.gov/regulatory/Orders/2019Orders/26209e.pdf

based, grounded on a Liberty consultant's analysis accepted by the New Hampshire's Office of the Consumer Advocate and the Public Utilities Commission in a settlement. Liberty will update these TOU rates over time.

These Liberty rates will encourage consumers to shift consumption toward off-peak times, and the battery devices make this easier for consumers to do. With a summer season peak-to-off-peak price ratio of roughly 5:1 (0.36¢/kWh to $0.068¢/kWh) and a winter season peak-to-off-peak price ratio of roughly 3:1 ($0.36¢/kWh to $0.13¢/kWh), this pricing will encourage customers to economize during peak usage times and to shift usage to mid-peak or off-peak hours. Combined with battery storage, these pricing ratios will test whether additional customer capabilities can help reduce Liberty Utilities' system peaks.

Conclusion

Of the examples of modern rate design being deployed in New England that we have examined here, the Green Mountain Power EV rate appears to be the most effective to date in New England — though the Baltimore Gas & Electric EV rate design to which we compared it is better yet as an example among East Coast restructured utilities for an innovative rate design. The Liberty storage pilot rate design accepted by the New Hampshire PUC is the most advanced modern rate design in New England, and closest to the Maryland rate designs, but it will not be fully implemented until Phase II of the pilot. When this pilot is successfully implemented, we will then be able to examine its performance.

We have spotlighted the few "smart rates" introduced in New England that take advantage of advanced technology capabilities offered by investor-owned utilities in the region and provide customers with the opportunity to save money and reduce their grid impact at the same time.[21] In the next and final issue brief in this series, we will explore existing New England time-varying rates — the older ones on the books, which by and large do not attract new participants — and consider how they might be improved.

[21] We examined major utilities' residential tariff documents effective as of January 14, 2019. New tariffs may have emerged since then.

RAP® Energy Solutions for a Changing World

The Regulatory Assistance Project (RAP)®
Belgium · China · Germany · India · United States

50 State Street, Suite 3
Montpelier, Vermont 05602
USA

1 802-223-8199
info@raponline.org
raponline.org