



Town of Stowe Electric Department 2020 Tier 3 Annual Plan

BACKGROUND

Pursuant to the Vermont Public Utility Commission (“PUC”) Order in Docket 8550, the Town of Stowe Electric Department (“Stowe”) submits the following Renewable Energy Standard (“RES”) Tier 3 informational filing. Established following the passage of Act 56 in 2015 and codified in 30 V.S.A. § 8005(a), the RES requires that electric distribution utilities (“DU”) demonstrate ownership of specified amounts of renewable energy within their power supply portfolios beginning in 2017. These annual mandates are divided into categories for overall renewability (“Tier 1”), distributed renewable resources located sited in Vermont (“Tier 2”), and an energy transformation category (“Tier 3”). This Annual Plan will describe how Stowe plans to meet its Tier 3 target for 2020.

TIER 3 TARGET FOR 2020

Distribution utilities may satisfy their Tier 3 requirements through either additional qualified Tier 2 qualifying distributed renewable generation credits in excess of the utility’s annual requirement, by implementing energy transformation projects, or by paying an Alternative Compliance Payment (“ACP”). The statute also included a provision saying, “in the case of a provider that is a municipal electric utility serving no more than 6,000 customers, the required amount shall be two percent of the provider’s annual retail sales beginning on January 1, 2019.”¹ Per this provision, this document serves as Stowe’s second Tier 3 annual plan.

Stowe’s most recent forecasts anticipate retail sales of 78,441 MWh in 2020 with relatively muted future load growth. As such, Stowe’s Tier 3 requirement is approximately 2,092 MWh for the 2020 program year. Stowe expects to have an excess of Tier 2 qualifying credits that would be eligible for 2020 T3 compliance due in part to banked RECs from the 2017 and 2018 compliance

¹ 30 V.S.A. § 8005(a)(3)(B)

years. However, it is Stowe’s intention to meet its entire 2020 requirement through energy transformation projects.

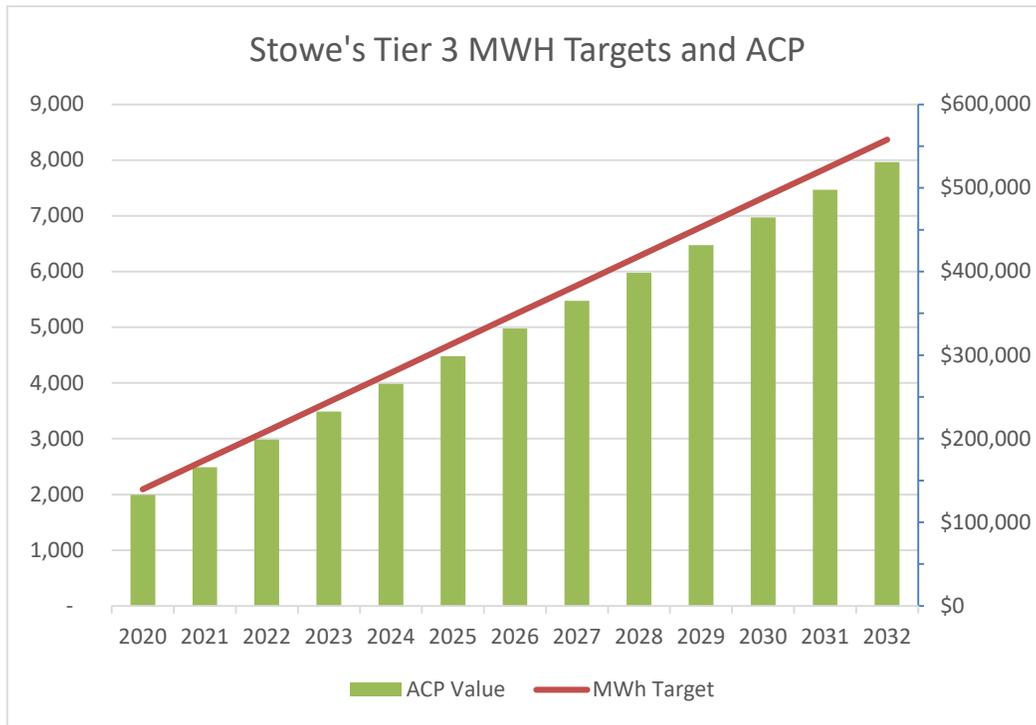


Figure 1 Projected Stowe Electric Tier 3 MWh Targets and ACP

When a DU’s annual Tier 3 strategy includes the implementation of an energy transformation project, the annual plan must provide certain information:

- A description of the energy transformation projects planned for the program year and anticipated number of participants
- How the DU will ensure that all ratepayers have an equitable opportunity to participate in, and benefit from, energy transformation projects regardless of rate class or income level
- A description of collaborative efforts with other energy service providers in the delivery of these programs, or an explanation of why it is most cost-effective for the utility to provide the program alone, or that there is no other entity with the capability to deliver the service
- A description of best management practices for demand management when implementing projects that are likely to increase electricity consumption, as well as strategies for encouraging the installation of technologies in buildings that meet minimum energy performance standards, and strategies for customer education, outreach, and marketing.

PROGRAM OFFERINGS

Stowe's 2020 was designed to build upon the successes and experience gained from the 2019 plan. The overall approach is to provide meaningful opportunities for Stowe customers that encourage them to adopt a measure to reduce their fossil fuel consumption.

The 2020 plan also offers a much broader array of measures compared to 2019. Stowe anticipates that certain measures will result in the bulk of Stowe's Tier 3 MWh claims while others will likely have comparatively limited participation. However, Stowe still believes there is a value to offering such measures beyond the marginal effect on the utility's annual MWh requirements. There are likely to be certain customers who will never elect to purchase a ccHP or an electric vehicle for any number of reasons despite their desire to reduce their fossil fuel consumption and reduce the associated carbon emissions. A larger suite of measures that includes pellet stoves, heat pump water heaters, and electric lawnmowers, increases the chances that Stowe will offer something that suits those customers' particular needs and promotes equitable opportunity in its service territory.

PARTNERSHIP WITH EFFICIENCY VERMONT

Stowe will be expanding its partnership with Efficiency Vermont in 2020 to include three measures: cold climate heat pumps ("ccHP"), heat pump water heaters ("HPWH"), whole building heat pumps ("WBHP") and pellet stoves. Last year, Stowe recognized ccHPs as an opportunity to partner with Efficiency Vermont ("EVT") and leverage the momentum their organization had created in this space to further promote the technology and encourage adoption among Vermonters. EVT's program capabilities and relationships with contractors and suppliers helped to ensure highest efficiency and least-cost for Stowe Electric customers. Stowe also elected to engage in a collaborative effort with EVT to ensure maximum benefit for their shared customers. Stowe and EVT will both market the technologies, programs, and best practices to customers through their existing marketing platforms and provide customer support for general inquiries about the offerings. Stowe staff will also provide a level of technical assistance to current or potential customer participants while forwarding on in-depth technical questions to EVT staff with more specific training and knowledge.

The relationship will involve an MOU to memorialize the shared marketing, tracking, and evaluation of Tier 3 savings associated with HPWH, pellet stoves, and WBHP. Measure savings will only be shared in the case where the measure offsets a device that consumes fossil fuel. The allocation of savings between SED and EVT from that measure will be based solely on the financial contribution from each entity and proportionate to the total incentive amount

available to the participating customer. The general roles of both entities are further detailed below.

Town of Stowe Electric	Efficiency Vermont
<ul style="list-style-type: none"> • Marketing Paths <ul style="list-style-type: none"> ○ Online (website, Front Porch Forum, social media) ○ Bill stuffers and joint mailers ○ Local relationships (local media, town permitting review, local building contractors) • Customer support, assisted by EVT when necessary • Inform participating customers of benefits from residential TOU/CPP • Verification of installation and delivery of incentive 	<ul style="list-style-type: none"> • Marketing Paths <ul style="list-style-type: none"> ○ Website ○ Joint mailers ○ Customer support, direct and referred by Stowe staff • Existing network of certified installers and distributors • Capture install data

Cold Climate Heat Pumps

Avg MWh per Unit	2020 Forecasted Units	Forecasted MWh Savings	% of 2020 Target
29	50	1,435	69%

Stowe will be offering a direct rebate incentive for all participating customers that purchase and install a cold-climate heat pump (“cCHP”). The total incentive amount for 2020 will be increased to \$675 per outdoor condenser unit. Stowe decided to incorporate cCHPs into its first annual plan due to a series of factors including the Comprehensive Energy Plan (“CEP”) which established an ambitious goal of 35,000 cCHP installed in Vermont by 2025. As with all of Stowe’s electrification measures, Stowe will inform eligible residential customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage usage during off-peak periods and reduce the cost of operation of their cCHP.

Heat Pump Water Heaters

MWh per Unit	2020 Forecasted Units	Forecasted MWh Savings	% of 2020 Target
16	6	99	5%

As part of the MOU with Efficiency Vermont, Stowe will be offering a new \$650 incentive towards the purchase of a heat pump water heater. Starting in 2020, EVT and Stowe will both offer incentives towards HPWH but there will not be a savings split for any of the new units. Instead, EVT will claim the savings associated with the replacement of an electric resistance water heater and Stowe will claim the savings from units that replace existing fossil fueled water heaters. As with all of Stowe’s electrification measures, Stowe will inform eligible residential customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage usage during off-peak periods and reduce the cost of operation of their HPWH.

Pellet Stoves

MWh per Unit	2020 Forecasted Units	Forecasted MWh Savings	% of 2020 Target
12	5	60	3%

Stowe will offer a new incentive of \$150 for the purchase of a pellet stove that replaces a fossil-fired space heating system. The total available savings will be split between Stowe and EVT. In this case, EVT provides a \$650 “upstream” incentive and SED will provide a \$150 post-purchase rebate. Stowe’s incentive is equal to 19% of the total incentive contribution to the customer and therefore the Utility will claim Pellet stoves, similar to cCHP, serve as a primary thermal space heating source and the existing fossil fuel system provide supplementary heat. Although these measures are not strictly an electrification measure as they rely upon wood pellets to provide thermal space heating, they are likely to increase electric usage. Stowe therefore will inform eligible residential customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage usage during off-peak periods and reduce the cost of operation of their pellet stove.

Whole Building Heat Pump

Stowe is partnering with EVT to offer a new incentive for the 2020 program year towards the purchase and installation of whole building heat pumps (“WBHP”) to offset thermal fossil fuel usage. As with the pellet stove and HPWH programs, this program will be subject to an MOU that will define the savings split between the two entities. Stowe will file an update to this Tier 3 Plan when the details of the new program have been finalized. As with all of Stowe’s electrification measures, Stowe will inform eligible residential customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage usage during off-peak periods and reduce the cost of operation of their WBHP.

TRANSPORTATION INITIATIVES

Electric Vehicle Incentives

Technology	MWh per Unit	2020 Forecasted Units	Forecasted MWh Savings
New All Electric Vehicle	34	4	137
New Plug-in Hybrid Vehicle	26	5	130
Used All Electric Vehicle	17	1	17
Used Plug-in Hybrid Vehicle	13	2	26
% of 2020 Target			15%

The Comprehensive Energy Plan determined that nearly 50% of Vermont’s greenhouse gas emissions are attributable to transportation. Electric vehicles have garnered considerable attention in recent years. Though sales of all-electric vehicles (“AEVs”) and plug-in hybrid electric vehicles (“PHEVs”) have been steadily increasing in part due to their lower operating and maintenance cost, the upfront costs remain a barrier to adoption for many Vermonters and the state has not achieved the rate of adoption needed to meet the targets set out in the CEP.

Stowe will offer a rebate for customers to purchase or lease a new electric vehicle (“EV”). Customers will be eligible for a \$1,000 incentive for the purchase or lease a new all-electric vehicle (“AEV”), and \$750 for the purchase or lease of a plug-in hybrid vehicle (“PHV”). Income-qualifying customers will also be able to apply an additional \$250 towards the purchase of a new EV or PHV.²

Recognizing the growing used EV market in the region, Stowe will also be offering incentives to help keep them on the road and encourage them to stay in Vermont. A used AEV will be qualify for a \$400 incentive and a used PHV will qualify for a \$300 incentive.

Customers interested in the program will be directed to existing EV resources such as Drive Electric Vermont’s website which provides a comparison of vehicle models available in Vermont, US Department of Energy tools that calculate the cost of operating an EV and estimate the greenhouse gas emissions per EV mile driven, and other tools that will allow customers to learn the potential impacts of transitioning to an EV. As with all of Stowe’s electrification measures, Stowe will inform eligible customers of its voluntary Residential TOU/Critical Peak Pricing rate in order to encourage usage during off-peak periods and reduce the cost of operation of their EV.

² As per PUC Order in Docket 8550 dated June 28, 2016, “A low-income customer shall be defined as a customer whose household income is at or below 80% of Vermont statewide median household income.”

Electric Vehicle Charging Stations

Technology	Unit MWH value	2020 Forecasted Units	Forecasted MWh Savings
Workplace and Public EVSE	15	4	59
		% of 2020 Target	3%

Following Stowe's previous EVSE efforts, more customers have come forward expressing an interest in purchasing their own EVSE for the benefit of their employees, customers, and the public. There is already a high number of EVSE within our service territory so we do not anticipate many qualifying participants in the first year. But this project will serve to lay the groundwork for future efforts more supply equipment is needed to serve the growing number of EVs on the road.

Electric Lawnmowers

Technology	Unit MWH value	2020 Forecasted Units	Forecasted MWh Savings
Residential E- Lawnmower	2	3	5
Commercial E- Lawnmower	71	2	143
		% of 2020 Goal	7%

Stowe will introduce a new offering for residential and commercial lawnmowers in 2020. We will be reaching out to resorts, property managers, and grounds-keepers to promote the commercial e-lawnmower program. The residential offering will also present an opportunity for customers to reduce their fossil fuel usage who may otherwise not be able to participate in our other residentially-focused measures.

Total Tier 3 Program Summary

Energy Transformation Programs			
Program	Forecasted MWh Savings	Incentive Per Unit	Forecasted Incentive
Cold Climate Heat Pump	1,435	\$675.00	\$33,750.00
New All Electric Vehicle	137	\$1,000.00	\$4,000.00
New Plug-in Hybrid Vehicle	130	\$750.00	\$3,750.00
Used All Electric Vehicle	17	\$400.00	\$400.00
Used Plug-in Hybrid Vehicle	26	\$300.00	\$600.00
Heat Pump Water Heater	109	\$650.00	\$3,900.00
Pellet Stove	60	\$150.00	\$750.00
Workplace and Public EVSE	59	\$500.00	\$2,000.00
Residential E-Lawnmower	5	\$75.00	\$225.00
Commercial E-Lawnmower	143	\$1,500.00	\$3,000.00
Forecasted MWh Savings	2,121		
Total Incentive Cost	\$52,375.00		
Projected 2020 Admin Cost	\$10,380.06		
Total Plan Cost	\$62,755.06		

Other Statutory Considerations

Collaboration and Exclusive Delivery

Stowe's partnership with Efficiency Vermont in the delivery of its ccHP project in 2019 has been positive. This experience influenced Stowe's decision to partner with the organization in the delivery of two more projects for 2020. Stowe believes that EVT's familiarity with these technologies and existing industry relationships will ensure that the projects will have the greatest impact for our customers. It will help to ensure the dissemination of best available information regarding ccHPs, such as identifying the best candidates for participation and best practices for operation, and will also allow Stowe to tap in to EVT's existing network of certified installers.

Stowe is not aware of any energy service providers who are currently offering vehicle incentives specific to its service territory. This may be due largely to its small size and lack of auto-dealerships. Stowe also believes that Vermont's distribution utilities are uniquely suited to promote transportation electrification among their customers while also accounting for the additional demand on the electric grid.

Stowe is partnering with the Vermont Agency of Transportation (“AOT”) to administer a statewide EV incentive program that will provide Vermonters will receive a reduced sticker price on a new EV. These incentive amounts will be invoiced by participating auto dealer to the electric utility that serves the participating customer. Stowe Electric will then batch and invoice AOT for payment in the corresponding amount that will then be remitted to the auto dealer. This statewide program will increase awareness and participation in Stowe’s distinct EV program.

Best Management Practices, Outreach, and Marketing

Stowe’s 2020 Tier 3 offerings are likely to increase consumption for the participating customer. As the servicing electric utility, Stowe is acutely aware of the potential impacts from the increased demand. Stowe and EVT have both committed to providing thorough information on net energy cost savings to customers who are interested in our ccHP, heat pump water heater, or pellet stove offerings. Partnering with EVT also helps our customers to make use of their existing network of certified installers who have been trained to identify homes that meet building performance standards and are therefore suitable candidates for these measures.

In addition to the cost savings of switching from fossil fuels to electricity or wood pellets to meet their energy needs, there are potential additional cost savings for customers who elect to switch to Stowe’s voluntary Residential TOU/Critical Peak Pricing rate. As the servicing electric utility, Stowe can play a crucial role to ensure that program participants receive the best available information about these technologies. These efforts will be rolled into Stowe’s Tier 3 marketing efforts.