STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 20-0097-INV

In re: biennial update of the net-metering program	

Order entered: 11/12/2020

BIENNIAL UPDATE OF THE NET-METERING PROGRAM

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I. INTRODUCTION

Every two years, the Vermont Public Utility Commission ("Commission") is required to assess the incentives offered to new net-metering systems and whether they should be adjusted upward or downward. The purpose of this assessment is to ensure that the pace of net-metering deployment is consistent with Vermont's policy objectives and to ensure that the net-metering program is not having an undue adverse impact on ratepayers. Considerations include the changing cost of installing net-metering systems, the pace of past net-metering deployment, and the impact of net-metering on ratepayers.

In today's order, the Commission decides to adjust the incentives available to new net-metering systems in two steps. Incentives will decrease by two cents per kWh for new systems that apply on and after February 2, 2021, followed by another one-cent per kWh decrease for systems that apply on or after September 1, 2021. At the same time, we are approving an approximately one-cent *increase* in the blended residential rate, which is the value of the bill-credit offered to all net-metering systems, both existing and proposed. As a result, the net-effect of today's decision is that overall net-metering compensation (lower incentives plus the higher blended residential rate) for new systems will decrease by only one cent per kWh in February 2021, and existing systems will actually receive higher compensation. Without the decreases to incentives announced today, the cost of new net-metered power also would have increased, shifting even more costs to ratepayers who do not net-meter and further increasing statewide electric rates.

The Commission's goal is to facilitate the achievement of Vermont's renewable energy requirements and to support Vermont's greenhouse gas emission reduction requirements at the lowest feasible cost. The Comprehensive Energy Plan ("CEP") and Vermont's Renewable Energy Standard ("RES") create an explicit framework for distributed energy to contribute to Vermont's power supply. The CEP recommends planning "carefully to meet all three tiers of the RES in a least-cost manner" and to "strive to lower both energy bills and electric rates."[1] Net-metering is only one of several ways to develop solar and other types of local renewable energy to meet the RES requirements. However, because of the substantial financial incentives that have been available, net-metering has played the most prominent role in the expansion of Vermont's in-state renewable energy portfolio. The utilities have an adequate supply of Tier II resources to meet Vermont's RES in the next several years.[2] These resources include more cost-effective sources of solar and other types of local renewable power available to meet the RES requirements.

There has been robust interest in net-metering since the first biennial review and the rate adjustments made in 2018, and net-metering continues to be the largest and highest-cost source

[1] CEP at 10.

[2] Tier II is a requirement that each utility acquire a certain portion of its power supply from small, in-state renewable energy sources.

of new renewable capacity in Vermont. While the installation of new renewable energy is a positive development, the Commission remains concerned about the overall cost of the net-metering program. It is directly relevant that as the amount of distributed renewable energy in Vermont has grown significantly over the past several years, the cost of installing solar generation has also decreased.

In the first biennial review of the net-metering program in 2018, the Commission found that:

> Financial incentives for net-metered solar, however, have remained high, making it the most expensive of Vermont's renewable energy programs. Solar net-metering systems receive up to 18.9 cents per kilowatt-hour (kWh) compared to solar prices under the State's standard-offer program of 10-13 cents and roughly similar prices for power purchase agreements and utility-built systems.[3]

The same remains true today. Current net-metering compensation is approximately 17.4 cents per kWh, while the price of other in-state solar facilities has fallen further, to less than 9 cents per kWh. According to Green Mountain Power Corporation ("GMP"), the additional cost of net-metering means that each 20 MW of new capacity creates a cost shift of $47.4 million to non-participating customers over 25 years. In 2019, GMP interconnected over 29 MW of new net-metering sytems.

For these reasons and based on our review of the information presented in this proceeding, the Commission has determined that the changes to net-metering compensation announced in today's order are appropriate.

II. PROCEDURAL HISTORY

On or before February 3, 2020, the Vermont electric distribution utilities (collectively the "distribution utilities") filed the information and data required by Commission Rule 5.128(D).

On March 2, 2020, the Department of Public Service ("the Department") and the Agency of Natural Resources ("ANR") filed proposed updates to the items specified in Rule 5.128(A)(1)-(4) and reasons for their proposals.

Pursuant to Commission Rule 5.128(F), comments on the recommendations of the Department and ANR were required to be filed by no later than March 16, 2020. The

[3] *In re biennial update of the net-metering program*, 18-0086-INV, Order of 5/01/2018 at 2.

Commission received approximately 400 comments from individual members of the public, including a number of solar installation company employees and customers. The Commission also received comments from the distribution utilities, numerous solar installation businesses, and other interested organizations.

On April 1, 2020, the Department filed reply comments. In addition to addressing the substance of this proceeding, the Department recommended that this proceeding be stayed pending an assessment of the long-term effects of the COVID-19 pandemic. The Commission granted the request and set a schedule for the utilities to file updated data and for stakeholders to file comments.

On August 3, 2020, the distribution utilities filed updated data on net-metering applications and interconnections.

August 31, 2020, was the deadline for comments on the updated net-metering data and recommendations on whether the Commission should revise the rate adjustors for new net-metering systems. The Commission received filings from the Department; GMP; the Vermont Public Power Supply Authority ("VPPSA"); Vermont Electric Cooperative, Inc. ("VEC"); Renewable Energy Vermont ("REV"); Norwich Technologies; Same Sun of Vermont; and AllEarth Renewables as well as hundreds of emails from members of the public.

On October 2, 2020, REV filed additional comments and a preliminary report by Synapse Energy Economics (the "Synapse Report").

On October 16, 2020, the Department, GMP, VPPSA, VEC, and SunCommon filed responses to REV's October 2 filing. On the same date, REV filed additional comments.

III. BACKGROUND AND LEGAL FRAMEWORK

Net-metering "means measuring the difference between the electricity supplied to a customer and the electricity fed back by the customer's net-metering system during the customer's billing period."[4] In 1998, the General Assembly enacted a net-metering law requiring electric utilities to permit customers to generate their own power using a small-scale renewable energy system with a capacity of up to 15 kW. Larger systems of up to 100 kW were allowed on farms. Any power generated by a net-metering system could be fed back to the

[4] 30 V.S.A. § 8002(15).

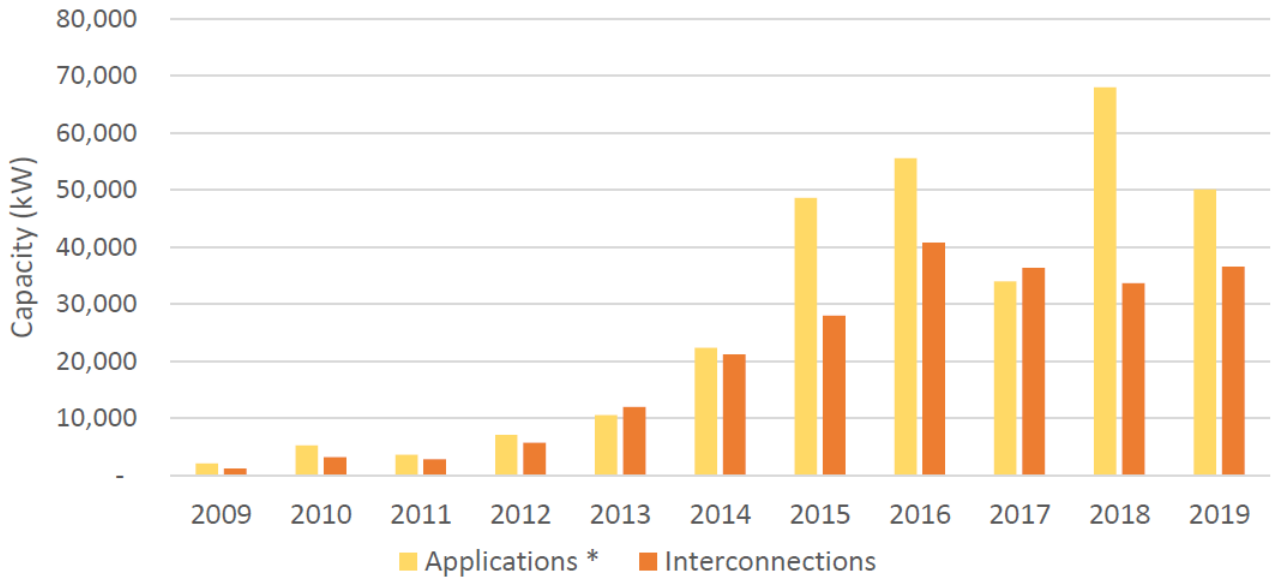
utility, running the customer's electric meter backwards if generation exceeded load at any given time. The cumulative capacity of the program was limited to 1% of a utility's peak capacity.

Amendments to the statute in 1999, 2002, and 2008 increased the allowed cumulative capacity of net-metering systems in a utility's service territory and increased the allowable size of systems. Beginning in 2002, the Legislature authorized so-called "group net-metering," in which the excess generation from a net-metering system could be shared among multiple customers or accounts, but this service was restricted to farmers. By 2008, all customers could participate in group net-metering, the maximum plant capacity was 250 kW, and the ceiling on the total installed capacity was 2% of peak load.

In 2011, the General Assembly increased the allowed capacity of net-metering systems to 500 kW, created a registration process for small solar systems, increased the allowed cumulative net-metering capacity in a utility service territory to 4% of that utility's peak capacity, and created an incentive payment for customers using solar systems. Customers receiving this incentive payment are credited up to 20 cents per kWh for power generated by their solar system for ten years after their system began operating.

Throughout this period, the cost of installing solar systems decreased dramatically. The confluence of declining costs, the expansion of the net-metering program, and increased incentives resulted in the rapid growth of the amount of net-metering capacity installed in Vermont. Figure 1 shows that the annual amount of capacity of interconnected net-metering systems has increased substantially since 2009.

Figure 1.[5] Annual capacity of net-metering applications and interconnections[6]



*Source of applications for 2017, 2018, and 2019 is ePUC. Previous years are consistent with the Department's 2018 Net-metering Biennial Review comments.

In 2014, the Legislature enacted Act 99, which increased the program's cumulative capacity cap to 15% of each utility's peak capacity. The trends described in the preceding paragraph accelerated, and this capacity was rapidly subscribed. After reaching its own 15% capacity cap in 2015, GMP continued to accept small net-metering systems and sought approval to accept a limited number of additional large projects up to 150 kW in capacity, which was granted.[7] VEC closed its net-metering program to projects over 15 kW.[8]

[5] March 16, 2020, Comments of the Department at 18.

[6] There is a lag between when an application is filed and when a system is interconnected, so systems that apply in one year may not be interconnected for a year or longer in some cases. Also, some systems that apply are never installed because the applicant decides to withdraw the application due to interconnection issues.

[7] *Petition of Green Mountain Power Corp. for Approval to Offer Customers Net-Metering Above the Statutory Cap Pursuant to 30 V.S.A. S 219a(h)(1)(a)*, Docket 8652, Order of June 24, 2016.

[8] *Application of Fish Hatchery Solar, LLC*, 16-0004-NMP, Order of May 5, 2016, at 1.

Act 99 also repealed the solar incentive payment and directed the Commission to establish a successor net-metering program to go into effect in 2017. Pursuant to State law, the Commission was required to create a net-metering program that:

> (A) advances the goals and total renewables targets of this chapter and the goals of 10 V.S.A. § 578 (greenhouse gas reduction) and is consistent with the criteria of subsection 248(b) of this title;
>
> (B) achieves a level of deployment that is consistent with the recommendations of the Electrical Energy and Comprehensive Energy Plans under sections 202 and 202b of this title, unless the Commission determines that this level is inconsistent with the goals and targets identified in subdivision (1)(A) of this subsection (c). Under this subdivision (B), the Commission shall consider the Plans most recently issued at the time the Commission adopts or amends the rules;
>
> (C) to the extent feasible, ensures that net-metering does not shift costs included in each retail electricity provider's revenue requirement between net-metering customers and other customers;
>
> (D) accounts for all costs and benefits of net-metering, including the potential for net-metering to contribute toward relieving supply constraints in the transmission and distribution systems and to reduce consumption of fossil fuels for heating and transportation;
>
> (E) ensures that all customers who want to participate in net-metering have the opportunity to do so;
>
> (F) balances, over time, the pace of deployment and cost of the program with the program's impact on rates;
>
> (G) accounts for changes over time in the cost of technology; and
>
> (H) allows a customer to retain ownership of the environmental attributes of energy generated by the customer's net-metering system and of any associated tradeable renewable energy credits or to transfer those attributes and credits to the interconnecting retail provider, and:
>
> > (i) if the customer retains the attributes, reduces the value of the credit provided under this section for electricity generated by the customer's net-metering system by an appropriate amount; and

> (ii) if the customer transfers the attributes to the interconnecting provider, requires the provider to retain them for application toward compliance with sections 8004 and 8005 of this title.

On July 1, 2017, the Commission's revised net-metering rule took effect. In adopting the rule, the Commission found that net-metered power was more expensive than comparable alternative sources of renewable energy.[9] The Commission also found that the previous net-metering program was not necessarily effective at supporting Vermont's renewable energy goals because net-metered generators were electing to keep the renewable energy credits ("RECs") generated by their systems. A portion of these RECs were sold out of state, which meant that Vermont could not count the energy generated by those systems toward its renewable energy or greenhouse gas reduction goals.[10]

Accordingly, the new rule was intended to calibrate the incentive payments in a manner that balanced the interests of ratepayers, net-metering customers, and the businesses that install net-metering systems. Despite the dramatic reduction in the cost of installing solar net-metering systems since the program began, the rule made only modest adjustments to net-metering compensation. The Commission created an incentive for new net-metering customers to transfer their RECs to their utility to be retired in furtherance of Vermont's renewable energy goals. In addition, the Commission designed the rule to create incentives for net-metering systems to be installed on previously disturbed terrain, on rooftops, and on sites preferred by municipalities.

The primary mechanism for achieving this balance was the use of "REC adjustors" and "siting adjustors." There are two REC adjustor values: (1) a "positive" REC adjustor for customers who transfer RECs to their utility, and (2) a "negative" adjustor for customers who retain RECs.[11] This feature of the rule implements 30 V.S.A. § 8010(c)(1)(H)(i), which requires the Commission to reduce the value of a net-metering credit by an "appropriate amount" when a customer elects to retain ownership of RECs. In adopting the initial REC adjustor values, the Commission chose a 10-year positive adjustor of $0.03/kWh for customers who transfer RECs to

[9] Vermont Public Utility Commission, *Report to the Vermont General Assembly on the Net-Metering Program Pursuant to Act 99 of 2014* ("Act 99 Report") January 20, 2017, at 5.

[10] *Id*. at 10.

[11] Commission Rule 5.127(B)(1)-(3).

their utility and a negative adjustor of -$0.03/kWh for customers who retain ownership of RECs. The difference between these two values ($0.06) was based on the statutory alternative compliance price for Tier II RECs under the RES. The Commission chose to have positive and negative adjustors (instead of, for example, only a positive adjustor of $0.06) to ensure that the overall incentive available to net-metering customers was appropriate.[12]

The REC adjustors serve purposes beyond reflecting the appropriate value of a REC. First, the REC adjustors allow the Commission to appropriately balance the costs and benefits of net-metering. Second, the Commission can also use the REC adjustors to moderate the pace of development to ensure that rate impacts from the net-metering program are not unreasonable. Therefore, in this proceeding the Commission must consider whether the difference between the positive and negative REC adjustor values remains appropriate. Additionally, the Commission reviews how any changes to the REC adjustors will affect overall net-metering customer incentives, considering the costs and benefits of net-metering and the pace of net-metering development.

Turning to siting adjustors, the Commission's rules define four "categories" of net-metering systems. Category I net-metering systems are residential systems with capacities of 15 kW or less. Category II is comprised of medium-sized facilities (>15 kW to 150 kW) that are located on so-called "preferred sites." Category III is for large net-metering systems (>150 kW to 500 kW) located on preferred sites. Finally, Category IV includes medium-sized facilities that are not located on preferred sites. Each of these categories is subject to a siting adjustor that is intended to reflect whether the project is on a preferred site and the lower cost of development enjoyed by larger projects due to economies of scale.

Accordingly, under the initial siting adjustor values, small and medium-sized projects located on preferred sites (Categories I and II) received the most favorable treatment, each being eligible to receive an additional $0.01/kWh as an incentive to encourage these types of systems. Large systems over 150 kW (Category III) must be located on preferred sites to be eligible to participate in the net-metering program. These systems can be built at an economy of scale more like that of commercial generation systems. Therefore, while they are located on preferred sites,

[12] Act 99 Report at 36.

they were subject to a negative adjustor of -$0.01/kWh. The Commission selected this adjustor value so that the overall compensation received by large net-metering systems was closer to alternative pricing for renewable energy, such as the standard-offer program.[13] Finally, medium-sized systems that are not located on a preferred site (Category IV) may net-meter, but were subject to a negative adjustor of -$0.03. This reflected the fact that these projects have some economy of scale and are located on non-preferred sites, such as greenfields, often far from the load they serve.

The overall purpose of the adjustors is to encourage the beneficial siting of net-metering systems and to provide a mechanism for the Commission to better tailor net-metering compensation to reflect the cost of technology.[14] Additionally, the siting adjustor provides another tool for the Commission to ensure that the overall compensation of net-metering systems is appropriate.

The 2017 incentives resulted in net-metering compensation that still exceeded the cost of other sources of renewable energy, and therefore had the potential to cause additional upward rate pressure.[15] At the same time, however, the Commission received substantial public input that suggested that abrupt decreases in the amount of incentives could harm businesses that install and market net-metering systems. The Commission "recognize[d] that the net-metering program provides benefits to the state through increased economic development and jobs, but these benefits must be balanced against the costs of offering the program."[16] These costs include the potential for higher electric rates for all Vermont businesses. Accordingly, the Commission created a mechanism to reevaluate the initial REC and siting incentive amounts to achieve the goals of Section 8010(c)(1)(A)-(H) as conditions changed.

Commission Rule 5.128 requires the Commission to conduct a biennial update in 2018 and every two years thereafter to update the following: (1) REC adjustors, (2) siting adjustors, (3) the statewide blended residential rate, and (4) the eligibility criteria applicable to Categories

[13] *See Investigation into programmatic adjustments to the standard-offer program*, Docket No. 8817, Order of 6/20/17 (summarizing solar proposals submitted in 2017 RFP process with prices ranging from $0.089/kWh to $0.125/kWh); *see also* Act 99 Report at 36-37.
[14] *Id*.
[15] Act 99 Report at 37.
[16] *Id.* at 39.

I, II, III, and IV net-metering systems. The Commission must consider the following factors when updating the REC adjustors:

> (1) the pace of renewable energy deployment necessary to be consistent with the Renewable Energy Standard program, the Comprehensive Energy Plan, and any other relevant State program;
>
> (2) the total amount of renewable energy capacity commissioned in Vermont in the most recent two years;
>
> (3) the disposition of RECs generated by net-metering systems commissioned in the past two years; and
>
> (4) any other information deemed appropriate by the Commission.[17]

The Commission must consider the following factors when updating the siting adjustors:

> (1) the number and capacity of net-metering systems receiving CPGs in the most recent two years;
>
> (2) the extent to which the current siting adjustors are affecting siting decisions;
>
> (3) whether changes to the qualifying criteria of the categories are necessary;
>
> (4) the overall pace of net-metering deployment; and
>
> (5) any other information deemed appropriate by the Commission.[18]

The Commission must consider the above-listed factors and set any revised adjustor values "to ensure that net-metering deployment occurs at a reasonable pace and in furtherance of State energy goals."[19]

In 2018, the Commission conducted its first biennial update proceeding. After considering the substantial input of stakeholders, including net-metering customers, solar installation companies, electric utilities, and State agencies, the Commission decided to gradually scale back net-metering compensation. The positive REC adjustor was reduced by one cent in 2018 and again in 2019. The siting adjustor for Category 3 systems was also reduced by one cent. These reductions were partly offset by an increase in the blended residential rate. The cumulative effect of the first biennial update proceeding was that the compensation available to new net-metering customers was only modestly less in the first year and then dropped an

[17] Commission Rule 5.128(B)(1)-(4).
[18] Commission Rule 5.128(C)(1)-(5).
[19] Commission Rule 5.128(G).

additional cent the next year. The following table summarizes the historic progression of net-metering compensation, assuming a customer transferred their RECs to their utility and that the utility uses the blended residential rate. [20]

Table 1. Summary of past and current net-metering compensation ($0.00/kWh)

		Category of Net-Metering System			
Program	CPG Application Date	I 15 kW or less	II >15 kW up to 150 kW on a preferred site	III >150 kW up to 500 kW on a preferred site	IV >15 kW up to 150 kW not on a preferred site
NM 1.0	before 1/1/2017	Customers received overall compensation of $0.19/kWh or $0.20/kWh and retained ownership of RECs.			
NM 2.0	1/1/2017 - 6/30/2018	$0.189	$0.189	$0.169	$0.149
NM 2.1	7/1/2018 - 6/30/2019	$0.184	$0.184	$0.154	$0.144
NM 2.2	7/1/2019 - present	$0.174	$0.174	$0.144	$0.134

In the following sections of this order, the Commission reviews the comments submitted by stakeholders in this proceeding (Section IV) and then considers the factors specified in Rule 5.128 and responds to the issues raised by stakeholders (Section V).

IV. SUMMARY OF COMMENTS

State Agencies

On March 2, 2020, the Department of Public Service recommended a reduction to the positive and negative REC adjustors by $0.01/kWh in each of the next two years. These adjustments would be partially offset by the Department's recommended increase of approximately $0.01 in the blended residential rate, resulting in very little change to net-metering compensation from existing rates in the first year. However, on August 31, 2020, the Department revised its recommendation, urging that the positive REC adjustor be reduced by $0.02/kWh until July 1, 2021, and then by a further reduction of $0.01/kWh until July 1, 2022.

[20] NM 2.0 refers to the revised net-metering program. It was implemented by Commission order from January 1, 2017, through June 30, 2017, and by an approved final rule starting on July 1, 2017. NM 2.1 and NM 2.2 refer to the annual revisions made to the NM 2.0 adjustors as provided by *In re: biennial update of the net-metering program*, Case No. 18-0086-INV, Order of 05/01/2018.

The Department states that the COVID-19 pandemic "essentially halt[ed] installations from March 25 through April 27, 2020" and "had a significant measurable impact on solar applications and interconnections."[21] The Department notes that June of 2018 and 2019 saw an influx of applications due to the pending decrease in compensation for new net-metering systems that went into effect on July 1 of both years. The Department believes that there was no surge in applications in June of 2020 because of the delay in this biennial review proceeding and the uncertain economic outlook.

The Department contends that the Comprehensive Energy Plan makes clear that the RES sets the pace and amount of renewable energy in utility portfolios. According to the Department, utilities have many options for meeting Tier II of the RES, including net-metering, the standard-offer program, utility power purchase agreements, and utility ownership. The Department states that utilities will sell any Tier II-eligible RECs they have in excess of statutory requirements to reduce ratepayer costs.[22] This means that the increment of net-metering capacity that exceeds Vermont's Tier II requirements does not provide environmental benefits to Vermont. Instead, the environmental benefits of net-metering RECs sold out of state satisfy the regulatory requirements of other states. Consequently, the Department argues that the primary societal benefit of net-metering is the jobs associated with net-metering development but that "the money supporting those jobs comes from Vermont electric customers, rather than through the legislative appropriations of tax and fee revenues by which most other job programs are funded."[23]

The Department states that the clean energy sector is an important part of Vermont's economy that must be considered along with the effect of higher energy costs on the entire economy. The Department argues that net-metering is among the State's least cost-effective pathways to advance Vermont's renewable and environmental objectives.[24] According to the Department, the compensation rates currently paid to net-metering customers substantially exceed the value of the output and the cost of obtaining an equivalent resource elsewhere, resulting in an inequitable cost shift between customers who net-meter and those who do not.

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[21] Department August 31, 2020, Comments at 2.
[22] *Id*. at 6.
[23] *Id*. at 7.
[24] *Id*. at 10 (citing Department of Public Service, *2020 Annual Energy Report: A summary of progress made toward the goals of Vermont's Comprehensive Energy Plan* (Jan. 15, 2020) at 18, *available at* https://publicservice.vermont.gov/sites/dps/files/documents/2020%20Annual%20Energy%20Report.pdf).

The Department estimates that net-metering systems installed through 2018 are costing customers an additional $37 million annually, or $60 per residential customer. The Department contends that this cost shift falls heaviest on lower-income Vermonters who cannot afford the up-front costs of purchasing a net-metering system.

The Department argues that net-metering rates will contribute to continued upward rate pressure for all ratepayers, which will hamper Vermont's beneficial electrification efforts. According to the Department, the electric sector is responsible for only 2% of Vermont's greenhouse gas emissions. The Department contends that because public funds are limited, those funds should be targeted at the transportation and heating sectors, which contribute 77% of Vermont's greenhouse gas emissions, so that these dollars can have the most impact. The Department asserts that keeping retail electric rates low will support the adoption of beneficial electric technologies such as heat pumps and heat-pump water heaters.

The Department argues that the methodology to measure societal costs used in the Synapse Report, which was submitted with Renewable Energy Vermont's late-filed comments in this proceeding, "has been explicitly rejected by the Commission" in other proceedings.[25] The Department asserts that reductions in wholesale prices are not a societal benefit but merely a "redistribution of value between different economic entities and [do] not represent a separate net benefit that should be included in the societal cost test."[26] The Department also points to "the selective consideration of data points included in the Synapse [Report]. . . . Out of 330 potential weeks to examine the demand impacts of behind-the-meter solar, Synapse opted to examine 132 weeks, because these are 'the weeks with the strongest relationship between electricity demand and prices, and thus the most suitable weeks to explore 'but-for' impacts of [behind-the-meter] solar.'" The Department infers from this that a complete study of all the weeks in the year would result in a lower dollar-per-kWh value for behind-the-meter solar.

The Department also calculated an approximately 1-cent increase in the statewide blended residential rate, as required by Commission Rule 5.128. The Department supplied calculations supporting its determination.

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[25] Department Comments dated October 16, 2020 at 2

[26] *Id*. at 3 (citing *Investigation to update screening values for use by the Energy Efficiency Utilities when the perform cost effectiveness screening of energy efficiency measures*, Case No. 19-0397-PET, Order of 7/6/20 at 41.).

The Agency of Natural Resources deferred to the Department about whether to change the REC adjustor value and the statewide blended residential rate. ANR did not recommend any changes to the siting adjustor values.

The Distribution Utilities

Like the Department, GMP recommends that the REC adjustor be reduced first by $0.02/kWh and then by another $0.01/kWh in the following year. GMP states that the pace of completed net-metering project capacity and applications for new projects in GMP's territory during the past year has remained strong despite the pandemic. GMP represents that recent adjustments to net-metering compensation and project eligibility rules have not significantly slowed the pace of Vermont's net-metering industry overall. GMP argues that the estimated value of output from new net-metered solar remains far below the effective cost of new net-metering projects, resulting in a significant cost shift between customers who net-meter and those who do not. GMP recommends that preferred siting should focus on installations on top of and directly next to the load they serve, and that preference should be given to solar installations paired with storage.

VPPSA states that it is concerned that net-metering projects are continuing to displace lower-cost alternatives for in-state renewable generation, requiring electric ratepayers in Vermont to incur costs that are higher than necessary for meeting the State's climate and energy goals. VPPSA contends that the financial cost of net-metering generation currently exceeds the value of the generation to the host utility and creates a cross-subsidy from non-participating customers to those that net-meter.

VPPSA states that recent developments at ISO-New England have put utilities at risk for having the value of net-metering generation eroded further. VPPSA states that ISO-New England's transmission tariff may require that utility loads be reconstituted to include behind-the-meter generation, which would mean that new net-metering projects would not reduce transmission charges. According to VPPSA, the risk to utilities of eliminating the transmission value should be a consideration in this review of net-metering rates.

VEC comments that net-metering has been Vermont's highest-cost source of renewable generation and that net-metering is not needed to meet Vermont's renewable energy goals

because other, lower-cost renewable resources exist. VEC urges the Commission to limit net-metering eligibility for large projects and reduce the subsidies paid for net-metering projects because VEC can negotiate power purchase prices at or below the average standard-offer prices if it needs additional Tier II resources. VEC recommends eliminating preferred-site status for projects located in the Sheffield-Highgate Export Interchange ("SHEI").[27]

Renewable Energy Developers

Renewable Energy Vermont contends that "net-metered solar deployment is no longer happening at a rate necessary to meet the State's renewable energy commitments."[28] REV argues that the most appropriate metric to assess the solar market is the number of CPG applications received. REV states that the number of large net-metering systems has decreased substantially due to reduced compensation and other factors. REV represents that the costs of installing solar have not declined substantially in recent years, citing a study from Lawrence Berkeley National Lab. REV also cites the anticipated decline in the federal solar investment tax credit as a headwind for solar development.

REV states that "[i]t is incontrovertible that any further degradation of net metering adjustors will result in a further decline in renewable energy jobs in Vermont." REV argues that these jobs are even more important due to the COVID-19 pandemic. REV asserts that reducing net-metering compensation will make it difficult for low- and middle-income Vermonters to participate in net-metering and local renewable electricity.

REV argues that net-metering systems bring significant benefits to the local economy through wages, taxes, infrastructure investments, payments to landowners, and improvements of blighted properties. REV asserts that standard-offer bid prices are not an indicator of the feasible price of net-metering solar projects. According to REV, the fair market value of RECs provided to utilities from net-metering customers for the 30-year life of a system far exceeds the adjustor

[27] The SHEI is an area in northern Vermont, including most of the Northeast Kingdom, that is currently experiencing constraints on the electrical transmission system. In this largely rural area, output from existing renewable energy plants often exceeds electric demand. Further, the capacity of the electrical transmission lines leading out of the area is not sufficient to transport the excess power without jeopardizing the reliable operation of the electrical grid. Case No. 17-1247-NMP, Order of 1/24/19 at 1.

[28] REV Comments of March 16, 2020, at 1.

bill credit. REV also requests that the Commission update the blended residential rate annually, rather than every two years.

REV submitted with its supplemental comments the preliminary Synapse Report, which estimates the value of energy, capacity, and market price suppression derived from behind-the-meter solar, including net-metering systems, in New England. The report also provides estimates of the value of avoided emissions from fossil-fuel power plants caused by behind-the-meter solar. Several solar development firms filed comments supporting the consideration of the benefits described in the report.

AllEarth Renewables requests that the REC adjustors be increased by one cent in each of the next two years, in addition to the anticipated increase in the blended residential rate. In support of increasing incentives for net-metering, AllEarth Renewables cites the urgency of climate change, planned reductions in the federal solar tax credit, the slowing pace of net-metering deployment, federal tariffs, and supply-chain disruptions due to the coronavirus. AllEarth Renewables argues that utility retail rates will likely rise during the next two years while the blended residential rate used by Rule 5.100 will stay fixed. AllEarth Renewables also contends that the Commission should consider the potential enactment of the Global Warming Solutions Act.[29]

SunCommon comments that it had to furlough 90% of its staff during the height of the pandemic. SunCommon states that it will be hard to rebuild a viable solar industry in Vermont after the coronavirus and that any further reductions in the "customer value proposition" will add to that challenge. SunCommon asserts that the benefits of behind-the-meter solar described in the Synapse Report justify current net-metering compensation.

Norwich Solar Technologies ("Norwich Solar") criticizes GMP's application data, stating that actual applications have decreased significantly during 2019/2020. Norwich Solar asserts that the decline in larger systems is reflective of increasing development and implementation costs and lower net-metering compensation. Norwich Solar also cites federal tariffs and reductions in the federal investment tax credit as factors reducing solar deployment. Norwich

[29] The Global Warming Solutions Act was enacted on September 22, 2020. Act No. 153 (2020 Vt. Adj. Sess.).

Solar represents that 53% of the customers receiving credits from its installations are low-income residents.

Aegis Renewable Energy argues that there is no proof that net-metering causes a ratepayer impact as the Department contends and that the value of net-metering to Vermont far exceeds its cost. Aegis Renewable Energy asserts that any negative change to net-metering compensation would signal that the Commission and the administration are not acting in the public interest.

Aegis Renewable Energy also states that the cost of line extensions has increased substantially since 2018 in GMP's service territory, challenging project economics. Aegis Renewable Energy states that if the Commission takes "any action to further degrade [n]et [m]etering there is a very real possibility that those actions would force our highly valued and important renewable energy businesses to leave the state."[30] Aegis Renewable Energy asks that the Commission increase the REC adjustor to $0.03/kWh.

General Public Comments

The Commission acknowledges the hundreds of public comments filed in this proceeding. Most of these comments were general in nature. Given the number of these comments, the Commission cannot respond individually to each of them. The general sentiment expressed was that the Commission should "hold the solar adder steady." Many of these comments were submitted by customers who have net-metering systems. The comments cited factors like the step-down of the federal investment tax credit and the COVID-19 pandemic as reasons that the Commission should continue to provide support for the solar industry in Vermont. Most of the public comments also focused on the importance of addressing climate change and reducing Vermont's greenhouse gas emissions.

V. REC ADJUSTOR FACTORS

In this section, the Commission discusses each of the factors that the Commission must consider in determining the appropriate value of the REC adjustors. Additionally, the

[30] Aegis Renewable Energy Comments dated August 31, 2020, at 6.

Commission responds to the comments of the stakeholders that were relevant to the Commission's consideration of these factors.

(1) The pace of renewable energy deployment necessary to be consistent with the Renewable Energy Standard, the Comprehensive Energy Plan, and any other relevant State program:

Background

Under this factor, the Commission must consider what pace of renewable deployment is necessary to be consistent with the Comprehensive Energy Plan ("CEP") and the Renewable Energy Standard ("RES"). In considering this question, it is important to emphasize that net-metering is only one of several ways to deploy renewable energy. What follows is a brief overview of the CEP and the RES, followed by a discussion of the pace of renewable energy deployment that will be necessary to be consistent with them. Finally, we discuss what role net-metering should play in meeting the applicable goals and requirements.

The Department is required by statute to adopt a CEP at least every six years. The CEP is a 20-year plan that must contain an analysis of "the use, cost, supply, and environmental effects of all forms of energy resources used within Vermont."[31] The CEP must include recommendations for how the plan can be implemented by the State and local governments and private actors. More fundamentally, the purpose of the CEP is to implement Vermont's general policy to "meet its energy service needs in a manner that is adequate, reliable, secure, and sustainable; that [en]sures affordability and encourages the State's economic vitality, the efficient use of energy resources, and cost-effective demand-side management; and that is environmentally sound."[32] Accordingly, the CEP is meant to guide how to best "identify and evaluate . . . resources that will meet Vermont's energy service needs in accordance with the principles of least-cost integrated planning, including efficiency, conservation, and load management alternatives, wise use of renewable resources, and environmentally sound energy supply."[33]

[31] 30 V.S.A. § 202b(a)(1).
[32] 30 V.S.A. § 202a(1).
[33] 30 V.S.A. § 202a(2); *id.* § 202b(a).

The most recent CEP was adopted in 2016.[34] The CEP establishes an ambitious goal of sourcing 90% of Vermont's energy from renewable resources by 2050.[35] It is also the CEP's goal to achieve a 40% reduction in greenhouse gas emissions below 1990 levels by 2030 and an 80% to 95% reduction by 2050.[36] The CEP examines a wide range of energy topics, including electric supply, heating, energy efficiency, and transportation. It also makes recommendations about specific steps that can be taken in each of these sectors to ultimately achieve the State's renewable energy and greenhouse gas goals.

With respect to electric supply, the CEP recognizes that the consideration of future supply should be done in the context of the RES.[37] Accordingly, the CEP states that "[p]ower supply questions now revolve around the most cost-effective way to meet the RES requirements, not around how much renewable energy to acquire."[38] The CEP recommends planning "carefully to meet all three tiers of the RES in a least-cost manner" and to "strive to lower both energy bills and electric rates."[39]

Accordingly, before reviewing the portions of the CEP that discuss distributed renewable energy and net-metering specifically, it is useful to discuss the RES. Under the RES, a utility "shall not sell or otherwise provide or offer to sell or provide electricity in the State of Vermont without ownership of sufficient energy produced by renewable energy plants or sufficient tradeable renewable energy credits from plants whose energy is capable of delivery in New England."[40] The RES establishes three categories of compliance requirements, which are commonly referred to as "Tiers." Tier I is a total renewable energy requirement.[41] Starting in 2017, each utility must obtain a quantity of renewable energy credits ("RECs") that equals at least 55% of the utility's portfolio, climbing 4% every three years to 75% in 2032.[42] Tier II is a carve-out of Tier I that requires utilities to obtain a quantity of RECs from new distributed

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[34] The CEP, along with documents related to its development, can be viewed online at: http://publicservice.vermont.gov/publications-resources/publications/energy_plan/2015_plan.
[35] CEP at 1.
[36] *Id*. Executive Summary at 4.
[37] CEP at 233 ("This chapter first describes the state's future electricity supply, in the context of Act 56's new requirements for electric portfolios.").
[38] *Id*. at 277.
[39] *Id*. at 10.
[40] 30 V.S.A. § 8004(a).
[41] CEP at 234.
[42] 30 V.S.A. § 8005(a)(1)(a).

renewable generators (5 MW or smaller) located in Vermont equal to 1% of retail electric sales in 2017, rising 0.6% each year to 10% in 2032.[43] Net-metering systems qualify as Tier II resources, and pursuant to State law, utilities must retire RECs received from net-metering systems toward compliance with the RES.[44] Finally, Tier III of the RES relates to what are known as "energy transformation projects."

With this context in mind, we return to the CEP, which discusses distributed generation and net-metering extensively. The CEP states that the RES "sets an explicit structure for distributed generation resources to support the grid."[45] The Department estimates that 25 to 27 MW of new distributed generation will be needed annually to comply with Tier II. The CEP states that net-metering provides "an appropriate tool to develop a significant portion of this generation" but also states that "it is critical that the state implement a [net-metering] program that is financially sustainable over the long term and avoids boom-and-bust cycles."[46] The CEP recognizes that "the question of appropriate and fair monetary compensation for net metered generation has risen in prominence" as the program has expanded.[47] For these reasons, the CEP recommends that the Commission create a "financially sustainable" net-metering program.[48]

Discussion

The Commission has been tasked with moving toward a carbon-free energy future, as outlined in the CEP and the RES, at a reasonable cost to ratepayers. In 1999, net-metering was the first in-state program to be made available for small, new renewable resources, and it now accounts for the largest portion of solar power in Vermont. However, other renewable resource programs, such as the standard-offer program, now provide renewable resources at a materially lower cost than net-metering, as do utility-built systems and merchant generators that enter into power purchase agreements. Thus, the question presented in this proceeding is not what economic incentives the Commission should set to promote the maximum amount of net-

[43] 30 V.S.A. § 8005(a)(2)(B)(ii).
[44] 30 V.S.A. §§ 8005(a)(2)(B)(ii) & 8010(c)(1)(H)(ii); *see also* Commission Rule 5.127(B) (requiring retirement of RECs).
[45] CEP at 195.
[46] *Id*. at 257.
[47] *Id.* at 255.
[48] *Id*. at 257.

metering, but rather what incentives are necessary to meet the CEP and RES renewable goals while protecting the interests of ratepayers.

The Commission concludes that to balance the costs and benefits of net-metering, it is appropriate to reduce the difference between the cost of net-metered power and other Tier II renewable resources. This may have the effect of slowing the pace of new net-metering systems while utilities pursue less costly sources of renewable generation (such as bilateral contracts or utility-sponsored projects). The utilities have a legal obligation to procure a certain amount of in-state renewable energy, and the record in this proceeding shows that they can procure those resources at a lower cost than current net-metering rates. Therefore, reducing net-metering compensation is consistent with the CEP's instruction that utilities must design their Tier II portfolios in a cost-effective manner.

(2) The total amount of renewable energy capacity commissioned in Vermont in the most recent two years:

The amount of renewable energy capacity commissioned in Vermont is summarized in the following table.[49]

Table 2. Amount of renewable energy capacity commissioned in 2018 and 2019 (MW)[50]

	2018	**2019**
Net-Metering	33.7 MW	36.6 MW
Standard Offer	2.5 MW	5.3 MW
Utility Owned and PPAs	7.0 MW	14.4 MW
Total	**43.1 MW**	**56.2 MW**

These figures show the amount of renewable energy resources commissioned in Vermont in the past two years. It is worth noting that the amount of net-metering capacity commissioned

[49] Pursuant to 30 V.S.A. § 8002, "commissioned" means "the first time a plant is put into operation following initial construction or modernization if the costs of modernization are at least 50 percent of the costs that would be required to build a new plant including all buildings and structures technically required for the new plant's operation."

[50] Department Comments of March 16, 2020, at 15.

in the past two years exceeded the capacity and pace of all other sources combined. The past pace of net-metering development has also exceeded the pace necessary to meet the utilities' Tier II obligations (25 to 27 MW per year). This portfolio mix is not optimal given the fact that net-metering is the most expensive of the resources shown above.[51] Net-metered solar should not displace lower-cost solar alternatives (e.g., power-purchase agreements, utility-sponsored projects, and the standard-offer program).

In addition to the amount of renewable energy capacity commissioned, there are several other potentially relevant data sources for evaluating the net-metering program. These include the number and capacity of net-metering CPG applications filed, interconnection applications filed, and systems interconnected.[52]

[51] For example, standard-offer projects now bid into the program at between $0.087/kWh and $0.09/kWh. *Investigation to review the avoided costs that serve as prices for the standard-offer program in 2020*, Case No. 19-4466-INV, Order of 9/17/2020. Utilities have also signed power purchase agreements outside of the standard-offer program for distributed solar generation that costs less than net-metering projects. *ER Jericho Gravel Solar, LLC request for a certificate of public good*, Case No. 19-3257-PET, Order of 4/1/2020. Utilities also have constructed their own solar facilities with battery storage for less than the cost of net-metering facilities without storage. *Petition of GMPSolar-Williamstown, LLC*, Docket No. 8682, Order of 4/24/2016.

[52] The annual number of CPG applications and systems interconnected can be seen in Figure 1 on page 2, above.

Figure 2. Pace of Net-Metering CPG Applications by Month for 2018-2020[53]

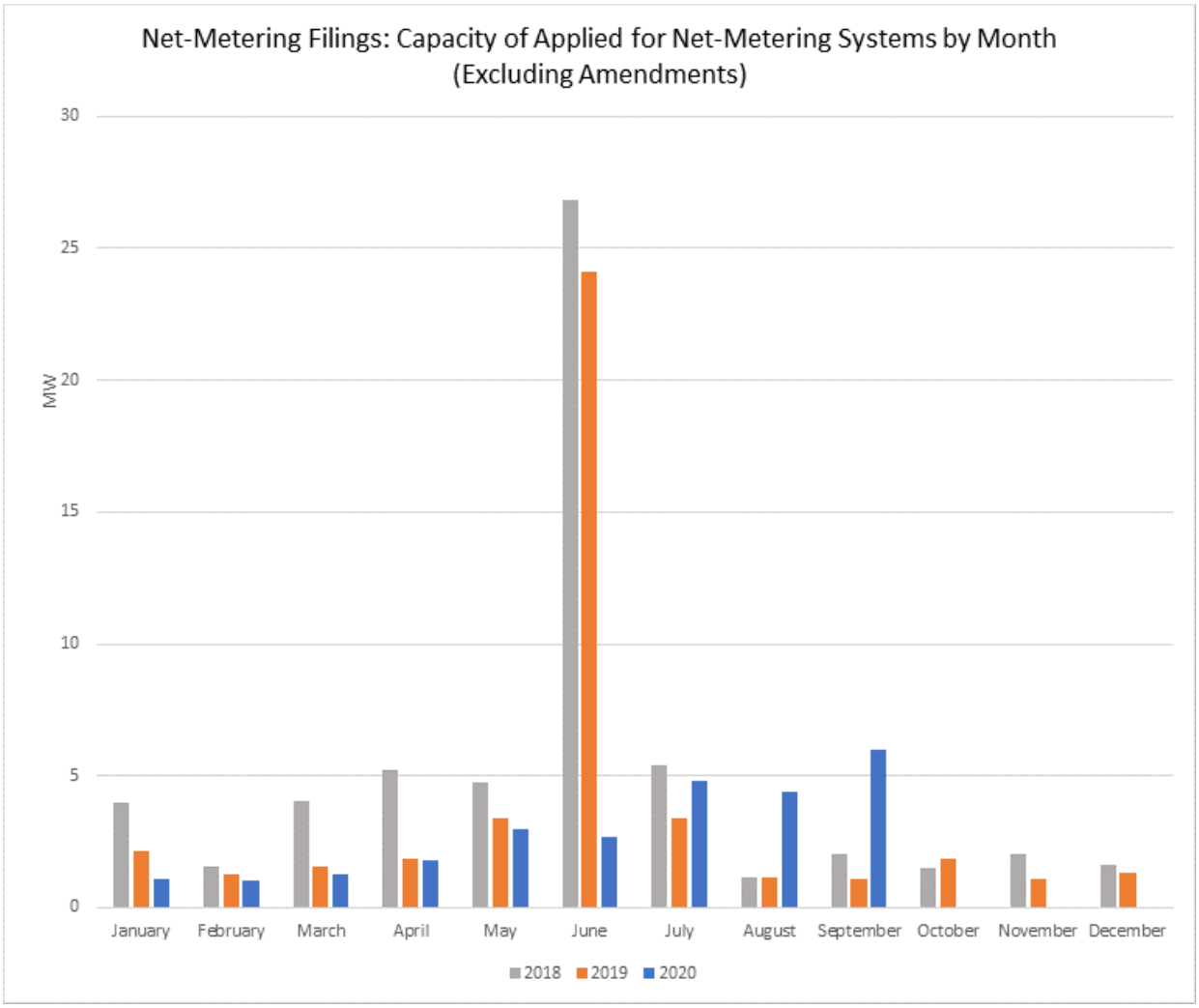

Table 3. Summary of Capacity of Interconnection Applications Received by Utilities[54]

Project Size	0-15 kW	>15 - 150 kW	>150 - 500 kW	Total
2018	16,086	14,999	25,999	57,085
2019	17,014	13,3546	16,880	47,450

[53] Data for 2020 is through September 30, 2020. CPG application records are available online at https://epuc.vermont.gov/?q=node/95. Please note that ePUC can only return up to 2,000 results in a single query. Therefore, multiple queries may be necessary to retrieve an entire year's worth of data.

[54] Department Comments of March 2, 2020 at 17.

Looking at the number of CPG applications filed in 2018, 2019, and 2020 by month, Figure 2 shows a distinct pattern of a June "bubble" as applicants rushed to avoid the gradual reductions in net-metering compensation announced in our 2018 biennial update order. This pattern did not occur in 2020 because the COVID-19 pandemic delayed this proceeding and any potential changes in rates. As a result, the rush to avoid decreasing incentives did not occur in June of 2020. However, the following months of 2020 have shown above-average CPG application activity, likely because applications were not accelerated to meet a July deadline. Based on the number of advance notices pending for large net-metering projects filed, we expect a significant number of applications for such projects to be filed later in 2020 before the changes announced in this Order take effect.[55] In summary, despite the pandemic and previous decreases in net-metering compensation, the pace of net-metering CPG applications has remained strong.

As we have previously stated, "the incentive system for net-metering is not failing if net-metering applications, CPGs, or total capacity commissioned do not increase as rapidly in the next year as it did in previous years."[56] One purpose of these biennial update proceedings is to find the proper balance between the pace of net-metering and the cost to ratepayers. The current pace of applications, even considering the effect of the pandemic, is still exceeding the pace necessary to meet the utilities' needs for Tier II resources. Therefore, it is appropriate to reduce net-metering compensation to help reduce the cost of the program.

(3) The disposition of RECs generated by net-metering systems commissioned in the past two years:

The disposition of RECs generated by net-metering systems is summarized below. The results are sorted by the successive iterations of incentive levels. Net-metering 1.0 did not differentiate compensation based on REC disposition. As a result, most net-metering systems retained ownership of their RECs, with many sold out of state instead of being transferred to their utility to be retired – and thus could not be counted towards State renewable energy requirements.

[55] According to ePUC, there are at least 20 pending advance notices for large net-metering systems.
[56] *In re: biennial update of the net-metering program*, Case No. 18-0086-INV, Order of May 1, 2018, at 39.

Table 4. Net-Metering Deployment (kW) REC Dispositions.[57]

	REC Disposition	NM 1.0	NM 2.0	NM 2.1	NM2.2	Total
2018	Retain	8,679	79	17	0	**8,775**
	Transfer	15	22,014	2,835	0	**24,864**
2019	Retain	1,153	62	97	10	**1,322**
	Transfer	133	15,868	16,897	2,362	**35,260**
Total	Retain	9,832	141	114	10	**10,097**
	Transfer	148	37,882	19,732	2,362	**60,124**

This table shows that the current REC adjustor differential of $0.04 has been effective at causing net-metering customers to transfer their RECs to their utility to be retired, in furtherance of State renewable energy requirements.

(4) Any other information deemed appropriate by the Commission:

The Commission received substantial comments from stakeholders raising issues relevant to the Commission's determination of the appropriate REC adjustor and net-metering compensation generally, including: (1) the importance of addressing climate change, (2) the effect of the COVID-19 pandemic on the economy and solar development, (3) the value of new solar generation resources, (4) the market value of RECs, and (5) the cost of installing solar. We address each of these issues in turn.

<u>The Importance of Addressing Climate Change</u>

Many commenters raised the urgency of addressing climate change as a reason to not reduce incentives for new net-metering systems. They argue that the RES statute is not a ceiling on net-metering and the amount of renewable energy developed in Vermont. The Commission agrees that addressing climate change is an urgent issue. The State of Vermont has taken several positive steps to reduce greenhouse gas emissions from the electric sector. One of the most

[57] Department Comments of March 16, 2020, at 20.

important of these was the adoption of the RES. As a result, emissions due to electric generation (including the portion of Vermont's electricity that is produced by fossil fuels at plants outside Vermont) has shrunk to only 2% of Vermont's emissions.[58]

Further reducing Vermont's emissions will require focusing on the transportation and heating sectors, which, according to the Department, accounted for 77% of Vermont's emissions in 2018.[59] The Legislature recently enacted the Global Warming Solutions Act of 2020, which creates a 23-member Climate Council to identify cost-effective strategies to reduce greenhouse gas emissions by December 1, 2021.[60] Those strategies will be implemented by rules to be adopted by the Agency of Natural Resources by December 1, 2022.[61] The strategies recommended by the Climate Council will probably rely on electrifying substantial portions of Vermont's energy consumption, which, in turn, could create the need for new generation resources and distribution system investments. However, it will be two years before a Climate Action Plan is developed by the Climate Council and rules are adopted to implement it. There is still much uncertainty about which strategies to address Vermont's greenhouse gas emissions will be chosen and what rules will be adopted to implement them.

What is not uncertain is that both the Global Warming Solutions Act and State energy policy favor using the most cost-effective measures to reduce greenhouse gas emissions.[62] The electric distribution utilities are required by statute to develop least-cost integrated resource plans for meeting their electricity needs, including Vermont's renewable energy requirements.[63] These plans include a forecast of anticipated demand. For example, GMP's most recent integrated resource plan contains a 10-year load forecast that accounted for the adoption of energy

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[58] Department Comments dated April 1, 2020, at 9.

[59] Department Comments dated August 31, 2020, at 14 (citing Department of Public Service, *2020 Annual Energy Report: A summary of progress made toward the goals of Vermont's Comprehensive Energy Plan* (Jan. 15, 2020) at 7-8, *available at* https://publicservice.vermont.gov/sites/dps/files/documents/2020%20Annual%20Energy%20Report.pdf).

[60] 10 V.S.A. § 591.

[61] 10 V.S.A. § 593.

[62] *See* 10 V.S.A. § 592(d)(1) (requiring that the "specific initiatives, programs, and strategies contained" in the Climate Action Plan further the objective of "prioritiz[ing] the most cost-effective, technologically feasible, and equitable greenhouse gas emissions reduction pathways"); 30 V.S.A. § 202a(2) (stating that it is the general policy of Vermont "to identify and evaluate, on an ongoing basis, resources that will meet Vermont's energy service needs in accordance with the principles of reducing greenhouse gas emissions and least-cost integrated planning; including efficiency, conservation, and load management alternatives, wise use of renewable resources, and environmentally sound energy supply").

[63] 30 V.S.A. § 218c(b).

efficiency measures; distributed energy resources; and beneficial electrification measures, including electric vehicles and cold-climate heat pumps.[64] The Commission will continue to use the integrated resource planning process to ensure that Vermont's utilities have adequate renewable-energy supplies to meet demand, including any new demand resulting from beneficial electrification or rules adopted by the Agency of Natural Resources. In doing so, the Commission expects that utilities will use least-cost planning principles for resource selection.

Accordingly, net-metering should not continue to play the largest role in meeting Vermont's need for in-state renewable energy unless the cost of net-metering is reduced so that it is not significantly more expensive than other sources. As stated in the CEP, "[p]ower supply questions now revolve around the most cost-effective way to meet the RES requirements, not around how much renewable energy to acquire."[65] The same logic applies to Vermont greenhouse gas reduction requirements under the Global Warming Solutions Act. Continuing to offer large incentives for net-metering is driving significant development of net-metering projects but displacing other, lower-cost sources of renewable energy. Therefore, our decision to reduce net-metering compensation is consistent with Vermont's greenhouse gas requirements and the CEP's and RES's focus on obtaining significant amounts of renewable energy in a cost-effective manner.

The Effect of the COVID-19 Pandemic on the Economy and Solar Development

One reason why the Department recommended that the Commission reduce the REC adjustors by $0.02/kWh this year was because of the economic challenges faced by Vermonters affected by the COVID-19 pandemic. The Department acknowledges that the clean energy sector is an important part of Vermont's economy, but argues that it is more important to control the cost of energy and electricity for consumers because the underlying costs of energy are an important driver of the economy and transformation to a lower-carbon future. According to the Department, the economic vitality of Vermont is best served by keeping electric rates as low as reasonably possible while meeting renewable energy requirements. The Department argues that

[64] *Petition of Green Mountain Power Corporation for approval of its 2018 Integrated Resource Plan*, Case No. 18-4166-PET, Order of 9/26/2019 at 6.

[65] CEP at 277.

it is not appropriate to subsidize short-term gains in solar jobs by shifting costs to already struggling non-participating customers.

In contrast, comments of REV and the solar developers stress the important economic benefits provided by net-metering, such as wages, taxes, and the redevelopment of distressed properties. They state that the pandemic has dampened customer demand and challenged their businesses.

The Commission recognizes the important economic benefits provided by solar development in Vermont. However, net-metering is not the only, or most cost-effective, way to obtain those benefits. Firms that develop net-metering facilities have also developed distributed solar generation projects using utility power purchase agreements, the standard-offer program, and special contracts.[66] For this reason, the Commission agrees with the Department's general argument that it is more important to focus on the effect of net-metering on retail rates, which affects the whole economy, than on the continued growth of jobs related to net-metering.

The Market Value of RECs

REV asserts that the fair-market value of RECs provided to utilities from net-metering customers for the 30-year life of renewable energy generation far exceeds the adjustor bill credit. REV included with its comments a sample of quotes from a REC broker with recent REC prices in New England.

Section 8010(c)(1)(H)(i) of Title 30 directs the Commission to "reduce[] the value of the [net-metering] credit provided under this section for electricity generated by the customer's net metering system by an appropriate amount" for customers who choose to retain ownership of their RECs. As announced in today's Order, customers who transfer their RECs to their utility for retirement will receive no adjustment, while customers who retain ownership of their RECs will be subject to a negative rate adjustment of $0.04/kWh. This amount is based in part on the market value of RECs but also on the overall compensation that net-metering customers receive.

[66] For example, Encore Renewable Energy, a company that has developed many net-metering systems, has developed projects using standard-offer contracts, direct utility contracts, and special contracts between a retail customer and the utility. *Petition of ER Sand Hill Solar, LLC*, Case No. 20-0955-PET; *Green Mountain Power Corporation and the President and Fellows of Middlebury College-request for special contract approval*, Case No. 20-1231-SC, Order of 9/04/2020 at 1.

The Department and the utilities have persuasively argued that the value of solar generation, including the value of RECs, is substantially less than the residential rate. This means that it is not appropriate to include any additional payment for RECs above the residential rate. It also means that the reduction in the value of a net-metering credit should not be determined solely by the market value of RECs, which fluctuates significantly over time, but also with consideration of how overall net-metering compensation compares to the value ratepayers derive from new net-metering systems.

Net-metering is a voluntary program for generators and is not the only option for generators to sell their output. For example, small renewable generators are entitled to sell their energy and capacity to the interconnecting utility at fixed, avoided-cost rates under Commission Rule 4.100.[67] If a generator opts for such a contract, the generator retains ownership of its RECs and may sell them in the market. In contrast to a fixed-cost contract, net-metering customers receive bill credits that are valued at the blended residential rate, which is significantly more than a utility's avoided cost and which fluctuates in value over time as residential rates change.[68] In exchange for this preferential pricing arrangement, generators must agree to transfer their RECs to the utility. If a net-metering customer chooses to retain ownership of the RECs, then it is subject to a negative adjustment that is based in part on the value of the REC and also ensures that the customer's overall compensation is not excessive.

Finally, the price quotes provided by REV show that prevailing REC prices in New England are generally consistent with a $0.04 reduction in the value of net-metering credits when a customer chooses to retain ownership of its RECs. Specifically, the most comparable REC price quotes provided by REV include Massachusetts and Connecticut Class I RECs, the prices of which range from $0.03 to $0.037/kWh.[69] Therefore, the Commission is not persuaded by REV's comments regarding the market value of RECs.

The Value of Solar

[67] Avoided cost in Commission Rule 4.100 means "the incremental costs to an electric utility of electric energy or capacity or both which, but for the purchase from the qualifying facility or qualifying facilities, such utility would generate itself or purchase from another source." 18 CFR 292.101(b)(6).

[68] As the Department notes, the increase in the blended residential rate will affect the cost of all net-metering systems, not just new systems. Department Comments dated March 16, 2020, at 22.

[69] REV Comments dated March 16, 2020, at attachment.

In the 2018 biennial update, the Commission found that "the value of new net-metering resources is not proportional to the current cost of obtaining such resources."[70] The Commission found this because the substantial amount of distributed generation that has been installed in Vermont in recent years has had a profound effect on the operation of the grid and on the shape of Vermont's load, and system peaks now frequently occur in the evening, when net-metered solar is not available.[71] As a result, the Commission found that new net-metering projects were not likely to provide a benefit in the next two years through avoided transmission and distribution costs.

In this proceeding, REV argues that "net metering projects provide numerous values besides local renewable energy including: lease income to Vermont landowners; direct economic benefits to residents, towns, schools, and Vermont businesses who utilize net metering credits; property taxes to municipalities and additional taxes to the State; and revitalize and create economic value from impaired and blighted properties such as brownfields, landfills and gravel pits."[72] In addition to these economic benefits, REV provided the Synapse Report to address power supply and environmental benefits. The Synapse Report estimated that behind-the-meter solar, which includes net-metered facilities, has avoided $47.4 million in energy purchases between 2014 and 2019.[73] The Synapse Report also estimated that during summer months, the energy-savings value of behind-the-meter solar was approximately $90/MWh or $0.09/kWh in 2019.[74] The report also estimated the value of avoided pollution due to reduced fossil-fuel consumption.

Before we address the substance of the Synapse Report, we remind REV that it should have sought permission to file late comments in this proceeding if it was aware that relevant information would not be available within the timeframes for stakeholder participation set by the Commission. Many stakeholders objected to REV's late submission, contending that the data used in the Synapse Report were available on July 24, 2020, well before the Commission's August 31, 2020, comment deadline.[75] VPPSA has argued that REV must show excusable

[70] *In re: biennial update of the net-metering program*, 18-0086-INV, Order of 5/01/2018 at 44.
[71] *Id*.
[72] REV Comments dated August 31, 2020, at 4.
[73] Synapse Report at Table 1.
[74] Synapse Report at Figure 5.
[75] VEC Comments, dated October 16, 2020, at 1.

neglect, pursuant to Rule 6 of the Vermont Rules of Civil Procedure, to file late comments and that no showing has been made.[76] The Department did not object to the untimely comments but noted that the Synapse Report is "only preliminary" and "subject to change" and that the Synapse Report does not identify in what ways the results are preliminary, thus making it impossible to determine how significant any future changes to the report might be.[77] The Commission's net-metering rule sets a schedule for stakeholder participation in this proceeding.[78] The Commission extended these deadlines due to the COVID-19 pandemic, and the Commission has granted reasonable extensions to these deadlines for good cause.[79] REV did not request additional time and has not shown good cause for its late filing.

Leaving procedural issues aside, the preliminary Synapse Report generally supports our conclusion that net-metering compensation should be decreased because the costs of net-metering outweigh the benefits and because the benefits of behind-the-meter solar can be achieved through more competitively priced forms of solar. The Synapse Report estimates the value of benefits from all "behind-the-meter solar" in New England, which means that the report includes the benefits of other types of solar besides net-metering, such as merchant plants and utility-owned projects. The Synapse Report notes that any solar array with a capacity of 5 MW or less may be considered behind-the-meter.[80] It is difficult to give much weight to the overall value estimates contained in the Synapse Report because they do not describe the benefits attributable to net-metering systems versus other forms of solar development. The Synapse Report is informative to the extent that it suggests that the benefits of net-metering and other forms of behind-the-meter solar are similar. Accordingly, the Synapse Report supports the arguments of the Department and the distribution utilities that it would be more cost-effective to focus on developing solar using arrangements that cost less than net-metering.

The primary argument the Synapse Report makes is that net-metering creates savings for utilities through avoided energy and capacity purchases and through market price suppression. However, the Synapse Report's estimate of benefits does not compare those benefits to the costs

[76] VPPSA Comments, dated October 16, 2020, at 1.
[77] Department Comments, dated October 16, 2020, at 1.
[78] Commission Rule 5.128(D)-(I).
[79] Case No 20-0097-INV, Order of 4/16/2020 (staying proceeding due to pandemic); Order of 8/18/20 (granting request for extension of time to file reply comments).
[80] Synapse Report at 11.

incurred by the utilities in acquiring the net-metering power.[81] This cost is mostly attributable to lost utility revenues that occur when the utility must issue credits to its net-metering customers that then offset retail sales of electricity. Because utility retail rates are calculated to recover a utility's cost to operate and maintain the electric system and not just the costs of buying or producing electricity, the lost revenue must be made up from other utility customers to cover the fixed costs of operating the electric system. The utilities have analyzed the net effect of the avoided power supply costs and lost revenues and found that the costs of net-metering at current rates outweigh the power supply benefits.[82] In a recent GMP rate case, REV litigated the question of whether net-metering was a net cost to GMP, and the Commission found that the costs of net-metering were greater than the power supply benefits.[83] Therefore, REV's overall argument that net-metering provides significant benefits to ratepayers is not persuasive because REV has not shown how those benefits compare to the costs.

Further, a significant portion of the energy savings attributed to solar by the Synapse Report are due to price suppression. However, the Synapse Report acknowledges that estimating price suppression is uncertain:

> [T]he savings calculated in this document do not consider how the grid might have been different if there were no [behind-the-meter] solar. For example, it is possible that as a result of the energy savings described in this analysis (or through other impacts not quantified in this analysis, such as capacity price impacts), some power plants would not have retired, or other power plants might have been built. Quantifying what these changes [might be], and how they might impact the savings described here, would likely be an iterative process involving a production cost model. It is unclear whether these impacts would be small or large, or whether they would consistently lead to higher or lower energy savings than those described here.[84]

Additionally, as the Department notes, price suppression "represents a redistribution of value between different economic entities and does not represent a separate net benefit that should be

[81] Department Comments, dated October 16, 2020, at 2.

[82] *See, e.g.*, GMP Comments, dated March 15, 2020, at 4 ("[T]he estimated annual cost of additional net metering at current compensation rates exceeds the power supply benefits by between $2.4 and $5.3 million in nominal dollars in each year over the twenty-five year period of operation of the net metered facilities.").

[83] *Petition of Green Mountain Power Corp.*, Case No. 173112-INV, Order of 12/21/2017 at 10.

[84] Synapse Report at 11.

included in the societal cost test."[85] Therefore, it is not clear that the estimated price-suppressive effects of existing solar in New England is indicative of the potential benefit that new net-metering systems would bring to customers, particularly when other, less expensive options exist for supplying solar power to Vermont.

The Synapse Report also supports the Commission's conclusion that the future benefits of new solar installations will be less than in the past. The Synapse Report estimated the benefits of a hypothetical doubling of the amount of solar during a typical July week. The Report concluded that a 100% increase in solar installations resulted in an 80% increase in benefits.[86] In other words, the benefit of the second increment of solar was materially less than the benefit of the first increment because additional solar generation would be less likely to occur at peak times. This is consistent with our determination that future net-metering systems should receive less compensation than previous installations because the new systems will likely generate fewer benefits than in the past.

The Synapse Report's estimates of energy savings support our determination that net-metering compensation is not well aligned with the value of net-metered energy. The Synapse Report estimates that the average value of energy savings between 2014 and 2019, including price-suppressive effects, was $128/MWh or $0.128/kWh. The trend of the value of energy savings during the time period studied in the Synapse Report appears to be decreasing, and the 2019 value was approximately $90/MWh or $0.09/kWh.[87] Current net-metering compensation for most systems is significantly higher than these estimates.[88] The Synapse Report's analysis was limited to summer periods, when the value of solar is likely greater than other periods of the year because solar resources coincide better with system peaks during summer.[89] Therefore, we conclude that the estimated per-unit value of energy savings on an annual basis is likely to be less. In summary, the data presented in the Synapse Report do not support maintaining current compensation levels.

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[85] Department Reply Comments dated October 16, 2020, at 4 (citing *Investigation to update screening values for use by the Energy Efficiency Utilities when the perform cost effectiveness screening of energy efficiency measures*, Case No. 19-0397-PET, Order of 7/6/20 at 41).

[86] Synapse Report at 7.

[87] Synapse Report at Figure 5.

[88] *See* Table 1 at 11, *supra*.

[89] Synapse Report at 3-4.

Lastly, the Synapse Report estimates the value of avoided pollution due to behind-the-meter solar. The Commission recognizes that solar creates environmental benefits. The Synapse Report's estimates of pollution benefits are New England-wide totals and include the benefits provided by solar installations that are not net-metered. Therefore, these figures are not informative for determining the compensation level for new net-metering facilities in Vermont. Instead, the Synapse Report confirms the Commission's conclusion that the environmental benefits of solar are not limited to net-metering systems and can be obtained from other, lower-cost forms of solar development.

In summary, we agree with REV that solar development provides significant economic, power supply, and environmental benefits. What REV has not persuasively shown is why Vermont ratepayers should pay such a large premium for net-metering systems when the value of those benefits is not commensurate with the cost of net-metered power and when solar can be developed in Vermont using more cost-effective strategies. The Commission's decision in this case takes into consideration the jobs that net-metering firms provide. Like our last biennial update, our changes are measured and intended to gradually reduce net-metering compensation while still providing an opportunity for net-metering firms to adjust their business models to account for lower compensation rates. As mentioned above, it appears that some firms have already begun the transition to developing solar using business models other than net-metering.[90]

The Cost of Installing Solar

The Department notes that installation costs continue to decrease, though at more modest rates than previously experienced. According to the Department, from 2009 through 2014, there were significant annual declines in the installed price of solar, but such declines have since been modest.[91] Looking forward, the Department expects solar installation costs to continue to decline modestly, like the declines experienced in recent years. The Department argues that recent decreases in net-metering compensation adjustors have been more than offset by the decreasing installation costs and higher retail rates, making net-metering increasingly profitable for both participating customers and developers over the years. The Department also asserts that

[90] *See* note 66, *supra*.
[91] Department Comments, dated March 16, 2020, at 15.

REV has testified to the Legislature that the costs of installing solar technology is going down "every single year."[92]

In contrast, REV and the solar developers assert that installation costs have increased because of interconnection costs, the reduction of the federal investment tax credit, and federal tariffs. REV provided a copy of a Lawrence Berkeley National Laboratory report to support its position.

The Lawrence Berkeley National Laboratory report cited by both the Department and REV states that installed-price declines in 2018 maintained their recent downward trajectory.[93] The cost of solar technology has fallen precipitously over the last decade, but the pace of this decline has slowed in recent years.[94] In Vermont, the cost of standard-offer solar projects has continued to decline, with this year's winning bids costing only $0.087 to $0.091/kWh.[95] Therefore, the Commission is not convinced that the tariffs and tax changes cited by REV are fundamentally challenging all solar development. The Commission observes that some of the companies that specialize in large net-metering projects have also been able to develop solar projects using power purchase agreements for solar arrays that cost less than net-metering.[96]

The increases in interconnection costs cited by REV reflect the increasing saturation of solar in Vermont's grid. Larger facilities may be better positioned to handle increased interconnection costs than small projects. As net-metering compensation decreases, Vermont solar installers may need to use other business models to adapt to these changing conditions. The utilities' obligation to obtain in-state renewable power is set by statute.[97] If net-metering development decreases, they will need to negotiate more power purchase agreements or build their own projects. This will bring the economic benefits of solar but at a lower cost than net-metering due to efficiency and scale.

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[92] Department Comments, dated April 1, 2020, at 4.

[93] Lawrence Berkeley National Laboratory, *Tracking the Sun* (October 2019) at 18 (filed with REV Comments, dated March 16, 2020).

[94] *Id*.

[95] 19-4466-INV, Order of 9/17/2020 at 2.

[96] *Petition of ER Jericho Landfill Solar, LLC*, Case No. 19-1774-PET, Order of 12/05/2019 at 3; *Petition of ER Lawrence Brook Solar*, LLC, Case No. 19-0735-PET, Order of 8/29/2020, at 3.

[97] 30 V.S.A. § 8004.

Conclusion

The Commission agrees with the Department and with the utilities that recommended a decrease in the value of the REC adjustor. The Department recommended a total reduction of $0.03/kWh in both the positive and negative REC adjustors. However, the Department also recommended that "[m]odifications could be made to the siting adjustors to modulate the pace of net-metering if the Commission desired more, or less, deployment . . . instead of using the REC adjustor for this purpose."[98] The Commission agrees that a decrease in net-metering compensation is appropriate but determines that it is better to accomplish a reduction by changing the values of both the REC and siting adjustors. The REC adjustor represents the amount by which the Commission determines it is appropriate to reduce the net-metering credit for customers who retain their RECs.[99] It is potentially confusing to have a negative value also apply when customers transfer their RECs to their utilities. Accordingly, both of the current REC adjustors (positive and negative) will be reduced by one cent to $0.00/kWh and negative $0.04/kWh, respectively. The remaining reduction to net-metering incentives will be accomplished using the siting adjustors. As discussed below, a portion of the decreases to net-metering incentives will be offset by the increase in the blended residential rate.

VI. SITING ADJUSTOR FACTORS

(1) The number and capacity of net-metering systems receiving CPGs in the most recent two years:

The following tables summarize the Commission's records with respect to the number and capacity of net-metering systems that received a CPG.[100]

[98] Department Comments dated March 16, 2020, at 24.

[99] 30 V.S.A. § 8010(c)(1)(H)(i).

[100] The number of CPG applications received is different from the number of CPGs issued because a portion of CPG applications are withdrawn before a decision is made on whether or not to issue a CPG.

Table 5. Annual Number and Capacity of Systems Receiving CPGs in 2018 and 2019[101]

	2018 CPGs	2018 Capacity (kW)	2019 CPGs	2019 Capacity (kW)
0-15 kW	2,512	19,150	2,455	17,951
>15 - 150 kW	187	11,576	203	15,881
>150 – 500 kW	51	23,265	42	18,809
Cumulative	2,750	53,991	2,700	52,641

When considering these data, it is also important to acknowledge that there is a lag between when an application is filed and when it is approved. For example, a significant number of CPG applications filed in 2017 were not approved until 2018. Therefore, these figures are more backward-looking and reflect some development activity that occurred before our last biennial update. It is also important to remember that some number of these systems will not be constructed despite receiving a CPG. The capacity of systems interconnected in 2018 and 2019 was over 30,000 kW for each year, which exceeded the total amount of Tier II resources needed.[102] The Commission also expects some of the capacity approved in 2019 will not be installed until 2020.

For the same reasons discussed above related to REC adjustors, the Commission finds that the current pace of net-metering deployment is more than adequate to meet the State's renewable energy requirements. It is not consistent with State energy policy to have net-metering systems displacing more cost-effective Tier II resources.[103] Accordingly, it is appropriate to reduce net-metering compensation to ensure that the program does not cause an undue cost-shift between customers who net-meter and those who do not. In the future, the Commission expects that net-metering compensation will become more competitive with other Tier II resources, either through future biennial updates or through a rulemaking that aligns net-metering compensation with the value of net-metered power.

[101] All data concerning net-metering CPGs were retrieved from ePUC.

[102] *See supra* at 2.

[103] *See* CEP at 10 (stating that one of the primary recommended strategies for electric power is: "Plan carefully to meet all three tiers of the RES in a least-cost manner. Strive to lower both energy bills and electric rates.").

(2) The extent to which the current siting adjustors are affecting siting decisions:

Based on our review of the Commission's records for CPG applications filed in 2018 and 2019, it appears that the siting adjustors are encouraging a significant number of both residential-sized and large roof-mounted net-metering systems. For example, the Commission issued CPGs to a significant number of roof-mounted Category II (>15-150 kW) and Category III (>150-500 kW) systems in 2018 and 2019.[104] In contrast, the Commission has received very few applications for systems not located on preferred sites. The siting adjustors are accomplishing the goal of steering development to better locations.

The Commission agrees with the Department that siting adjustors "should be designed to encourage well-sited projects and not be designed to make construction on a specific type of preferred site cost-effective for the developer."[105] The Commission concludes that the siting adjustors are successfully driving development towards less environmentally sensitive sites. The Commission will continue to examine possible improvements to the siting adjustor framework in our review of the net-metering rule.

(3) Whether changes to the qualifying criteria of the categories are necessary:

Pursuant to Commission Rule 5.128(A), the Commission may make changes to the eligibility criteria for Category I, II, III, and IV net-metering systems. For example, Category I systems must have a capacity of 15 kW or less. VEC recommended that projects located in the SHEI not be considered preferred sites. While the Commission agrees with VEC that developing projects in the SHEI raises significant issues, the Commission thinks it is better to address this issue in the Commission's ongoing review of the net-metering rule. The geographic area of the SHEI is not fixed and changes over time. The Commission also does not think it will be administratively efficient to make a determination about whether a project is located in the SHEI for every net-metering case.

(4) The overall pace of net-metering deployment:

[104] For example, in 2018 the Commission issued 111 CPGs to roof-mounted systems with a capacity over 50 kW, representing more than 15 MW of net-metering projects. In 2019, the Commission issued 113 CPGs to more than 13 MW of roof-mounted systems with a capacity over 50 kW.

[105] Department Comments dated March 16, 2020, at 24.

The data discussed above, including the number of CPG applications filed in 2018 and 2019, suggest that the pace of net-metering continues to be robust and in excess of what is necessary for utilities to meet their Tier II obligations under the RES. In 2020, the pandemic and the resulting delay in this proceeding appear to have delayed a certain number of net-metering projects. However, the Commission's concern about the cost to ratepayers of net-metering relative to the cost of other available Tier II resources, such as standard-offer, bilateral contracts, and utility projects, supports our decision to continue to reduce net-metering compensation in an incremental manner.

(5) Any other information deemed appropriate by the Commission:

Our discussion of other relevant factors in the REC adjustor section, above, applies equally here and supports our overall conclusion that net-metering compensation is creating a cost shift and driving levels of net-metering deployment that is displacing more cost-effective in-state solar resources.

Conclusion

Having considered the factors discussed above, the Commission determines that it is appropriate to reduce the siting adjustor applicable to all categories of net-metering systems. This will help better align the cost of net-metering and the value that new net-metering systems provide, while narrowing the gap between the cost of net-metering and the cost of other sources of in-state distributed renewable energy. The Commission will decrease all siting adjustors by one cent effective February 2, 2021, followed by an additional one-cent reduction effective September 1, 2021. The exact timing of these changes is discussed in Section VIII of this Order.

VII. DETERMINATION OF THE STATEWIDE BLENDED RESIDENTIAL RATE

The Department recommended that the statewide blended residential rate be recalculated because of rate increases by several utilities in the intervening years. Specifically, the Department recommended an increase of $0.01/kWh, for a new statewide blended residential rate of $0.16413/kWh. No party has objected to the Department's recommendation, and we find

the recommendation reasonable. Therefore, it is adopted. This change will offset some of the changes made to the REC and siting adjustors. This rate will replace the existing blended residential rate for all—both existing and new—net-metering customers, increasing the overall cost of the net-metering program.

Table 6, below, illustrates the cumulative effect of the changes described in this Order. The figures in this table illustrate the experience of a net-metering customer located in the service territory of a distribution utility that applies the blended residential rate. Actual experiences may vary if the retail rates offered by a customer's utility are less than the blended residential rate. The figures are also based on the customer choosing to transfer RECs to the utility. The precise timing of these changes is discussed in more detail in the next section of this Order.

Table 6. Summary of Changes to Net-Metering Compensation[106]

Category	Current	February 2, 2021 -August 31, 2021	September 1, 2021
Category I (up to 15 kW)	$0.17417	$0.16413/kWh	$0.15413/kWh
Category II (>15 to 150 kW on preferred site)	$0.17417	$0.16413/kWh	$0.15413/kWh
Category III (>150 to 500 kW on preferred site)	$0.14417	$0.13413/kWh	$0.12413/kWh
Category IV (>15 to 150 kW on non-preferred site)	$0.13417	$0.12413/kWh	$0.11413/kWh

[106] Assumes that utility uses the statewide blended residential rate; some utilities' rates will differ if their residential rate is less than the statewide blended residential rate.

VIII. TIMING OF THE CHANGES ANNOUNCED IN THIS ORDER

Rule 5.128 specifies timeframes for the adoption of tariffs that would implement the changes announced in a biennial update. However, the delays caused by the pandemic and the upcoming holiday season necessitate a revised schedule. The dates selected by the Commission were chosen so that the 2022 biennial update proceeding can proceed according to the schedule set in Rule 5.128, while allowing for a gradual change in net-metering rates. The Commission directs the electric distribution utilities to file tariffs within 15 days of this Order, on November 27, 2020, to take effect on February 2, 2021. That means that complete CPG applications must be filed on or before February 1, 2021, to qualify for the incentives that are available today. The second round of siting adjustor changes will take effect on September 1, 2021.

IX. ORDER

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the Vermont Public Utility Commission ("Commission") that:

1. The blended residential rate will be $0.16413/kWh, effective February 2, 2021.

2. The renewable energy credit ("REC") adjustor applicable to customers who elect to transfer RECs to their utility shall be $0.00 kWh for the period beginning February 2, 2021.

3. The REC adjustor applicable to customers who elect to retain RECs shall be negative $0.04 kWh for the period beginning February 2, 2021.

4. The siting adjustor for Category I net-metering systems shall be $0.00/kWh for the period beginning February 2, 2021 and ending August 31, 2021.

5. The siting adjustor for Category I net-metering systems shall be negative $0.01/kWh for the period beginning September 1, 2021.

6. The siting adjustor for Category II net-metering systems shall be $0.00/kWh for the period beginning February 2, 2021, and ending August 31, 2021.

7. The siting adjustor for Category II net-metering systems shall be negative $0.01/kWh for the period beginning September 1, 2021.

8. The siting adjustor for Category III net-metering systems shall be negative $0.03/kWh for the period beginning February 2, 2021, and ending August 31, 2021.

9. The siting adjustor for Category III net-metering systems shall be negative $0.04/kWh for the period beginning September 1, 2021.

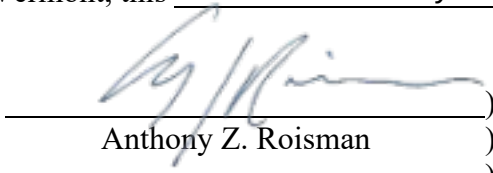
10. The siting adjustor for Category IV net-metering systems shall be negative $0.04/kWh for the period beginning February 2, 2021, and ending August 31, 2021.

11. The siting adjustor for Category IV net-metering systems shall be negative $0.05/kWh for the period beginning September 1, 2021.

12. The Commission makes no changes to the eligibility criteria for Category I, II, III, and IV net-metering systems.

13. The Vermont electric distribution utilities shall file proposed tariffs to implement this Order by November 27, 2020.

Dated at Montpelier, Vermont, this 12th day of November, 2020.



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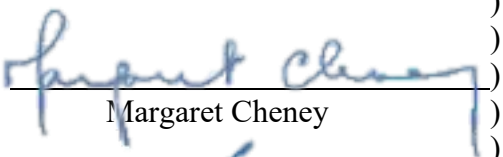
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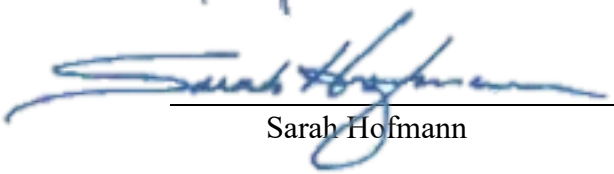
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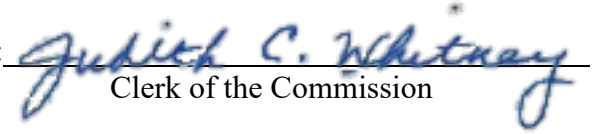
OFFICE OF THE CLERK

Filed: November 12, 2020

Attest: 
Clerk of the Commission

Notice to Readers: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Commission (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: puc.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Commission within 30 days. Appeal will not stay the effect of this Order, absent further order by this Commission or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Commission within 28 days of the date of this decision and Order.

PUC Case No. 20-0097-INV - SERVICE LIST

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