MAINE STATE LEGISLATURE

STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Philip L. Bartlett, II
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Randall D. Davis
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November 10, 2020

Honorable Mark W. Lawrence, Senate Chair
Honorable Seth A. Berry, House Chair
Energy, Utilities and Technology Committee
100 State House Station
Augusta, Maine 04333

Re: Reports on the Effectiveness of Net Energy Billing in Achieving State Policy Goals and Providing Benefits to Ratepayers, and Renewable Distributed Generation Solicitation

Dear Senator Lawrence and Representative Berry:

Pursuant to Public Law 2019, Chapter 478, the "Act To Promote Solar Energy Projects and Distributed Generation Resources in Maine", on February 28, 2020 the Maine Public Utilities Commission issued its Procurement Announcement for the first block of distributed renewable generation projects. As directed by the Act, this solicitation was to be the first in a series of five solicitations that would collectively obtain a total of 375 megawatts (MW) from renewable generation projects, each of less than 5 MW in size.

For reasons explained in the attached report, the Commission, in an Order issued on August 28, 2020, found that the first block procurement was not competitive pursuant to the standards set forth in the Act, Chapter 312 of the Commission's rules, and the Commission's Procurement Announcement. The Act requires that, if no bids are accepted under the first solicitation, the Commission will conduct a new competitive procurement within nine months as well as study the reasons for the inability of the procurement to secure the target amount and submit a report of its findings and any recommended legislation to the Legislature.

The Commission hereby submits its report including recommendations for the Legislature to consider for improving the competitiveness of future solicitations.

At the same time, the Commission hereby submits the report called for by section A-6 of the same Act, which contains an evaluation provision that specifies:

> *The Public Utilities Commission shall evaluate net energy billing under the Maine Revised Statutes, Title 35-A, section 3209-A when the total amount of generation capacity involved in net energy billing in the State reaches 10% of the total maximum load of transmission and distribution utilities in the State or 3 years after the effective date of this Act, whichever comes first. The commission shall evaluate the effectiveness of net energy billing in achieving state policy goals and providing benefits to ratepayers and submit a report to the joint standing committee of the Legislature having jurisdiction over energy matters with its findings.*

Upon notice that the 10% threshold had been met, the Commission initiated its evaluation of the NEB program as required by statute. As required by the Act, the Commission considered State policy goals relevant to the NEB program and examined potential electricity rate impacts resulting from the NEB program.

In the Report on the Effectiveness of Net Energy Billing in Achieving State Policy Goals and Providing Benefits to Ratepayers, the Commission concludes that energy goals of increasing resource diversity through renewable resource generation, the promotion of solar generation and addressing climate change are promoted to a significant degree by the NEB program. However, the Commission also concludes that the current NEB program will result in substantial increases in electric rates. Based on these findings, the Commission identifies several recommendations for your consideration.

If you have any questions about either of these two reports, please do not hesitate to contact us.

Sincerely,

Philip L. Bartlett II, Chairman

On behalf of the Chairman
R. Bruce Williamson, Commissioner
Randall D. Davis, Commissioner
Maine Public Utilities Commission

Attachment
cc: Energy, Utilities and Technology Committee Members
Lucia Nixon, Legislative Analyst

Maine Public Utilities Commission

Report on the Effectiveness of Net Energy Billing in Achieving State Policy Goals and Providing Benefits to Ratepayers

Pursuant to

An Act To Promote Solar Energy Projects and Distributed Generation Resources in Maine

(P.L. 2019, Chapter 478)

Presented to the
Joint Standing Committee on
Energy, Utilities and Technology

November 10, 2020

I. EXECUTIVE SUMMARY

During it 2019 session, the Legislature enacted An Act To Promote Solar Energy Projects and Distributed Generation Resources in Maine, P.L. 2019, Chapter 478 (Act). Part A of the Act, now codified at 35-A M.R.S. §§ 3209-A, 3209-B, made substantial changes to Maine's Net Energy Billing (NEB) program. These changes include: Increasing the maximum capacity of eligible NEB facilities from 660 KW to less than 5 MW; eliminating any limit on the number of meters or accounts that can be associated with an eligible facility (the prior limit was 10 meters or accounts); and adding a "commercial and institutional" category of NEB (referred to as Tariff Rate NEB).

Section A-6 of the Act contains an evaluation provision that specifies:

> *The Public Utilities Commission shall evaluate net energy billing under the Maine Revised Statutes, Title 35-A, section 3209-A when the total amount of generation capacity involved in net energy billing in the State reaches 10% of the total maximum load of transmission and distribution utilities in the State or 3 years after the effective date of this Act, whichever comes first. The commission shall evaluate the effectiveness of net energy billing in achieving state policy goals and providing benefits to ratepayers and submit a report to the joint standing committee of the Legislature having jurisdiction over energy matters with its findings.*

Upon notice that the 10% threshold had been met, the Commission initiated its evaluation of the NEB program as required by statute.

The Commission considered the following State policy goals relevant to the NEB program:

- Resource Diversity (RPS Standard)
- Solar Generation Encouragement
- Climate Change
- Oil Dependence Reduction
- Beneficial Electrification

Also, as required by the Act, the Commission examined potential electricity rate impacts resulting from the NEB program.

In this Report, the Commission concludes that energy goals of increasing resource diversity through renewable resource generation, the promotion of solar generation and addressing climate change are promoted to a significant degree by the NEB program. The Commission also concludes that the current NEB program will result in substantial increases in electric rates. Such rate increase would have a negative impact on the State policies of promoting beneficial electrification and reducing oil dependence.

The Commission emphasizes that precise overall ratepayer impacts cannot be known with any certainty. The exact amount of rate increases will depend primarily on the number of NEB projects that actually become operational. Based on the most recent monthly NEB reports provided by the Central Maine Power Company and Versant Power, if the NEB projects with current NEB Agreements become operational, the cumulative total revenue/rate impact on transmission and distribution (T&D) rates would be approximately $161 million annually. For Central Maine Power Company, the revenue impact of the currently pending NEB projects represent an overall T&D rate increase of approximately 21% and for Versant Power, an overall T&D rate increase of approximately 23%. Not all of these projects will necessarily be developed. However, there is another roughly equivalent amount of projects in the utilities' interconnection queues.

The Commission recommends the Legislature consider the following legislative changes that are likely to promote State energy policies at a lower cost to ratepayers.

Rate Impact Cap

A rate impact cap could be in the form of a limit on the total MW allowed under the program, a limit on the Tariff Rate program rates, or a ratepayer dollar increase limit.

Locational Incentives

Because the potential benefits in the form of reductions in transmission and distribution investments are location specific, a revised program could include compensation to projects that varies based on location and timing of generation output.

Single Incentive Program

The Act contains two programs to promote the development of renewable projects of less than 5 MW: i) the NEB program; and ii) the distributed generation (DG) procurement program. A single incentive program for projects under 5 MW could have the advantage of simplifying (and thus reducing the costs) of participation by entities seeking to develop projects in Maine and reducing the administrative costs of such developments.

Discrete DG Facilities

The purpose of the Act is to promote renewable DG facilities that are less than 5 MW. There is a lack of clarity regarding the Legislature's primary goals in promoting facilities of less than 5 MW. The Commission's focus has been to ensure that qualifying facilities are below 5 MW and not actually a part of a larger development. However, there are several areas in the State where clusters of projects are proposed that would cumulatively be much larger than 5 MW. There is no incentive for projects to be developed in diverse areas of the State or in locations that reduce the costs of the transmission and distribution system.

Larger-Scale Projects

The primary purpose of the Act is to incent the development of smaller projects distributed throughout the State. Many of the public policy goals of the Act, as well as economic development benefits, can be achieved at a substantially lower cost through the promotion of alternative programs, such as for those designed for larger scale projects that are not limited to below 5 MW. Future procurements criteria could include factors that would further goals of distributed generation.

II. NET ENERGY BILLING LEGISLATION

During its 2019 session, the Legislature enacted An Act To Promote Solar Energy Projects and Distributed Generation Resources in Maine, P.L. 2019, Chapter 478 (Act). Part A of the Act, now codified at 35-A M.R.S. §§ 3209-A, 3209-B, made substantial changes to Maine's Net Energy Billing (NEB) program.[1] [2] These changes include:

- Increasing the maximum capacity of eligible NEB facilities from 660 KW to less than 5 MW;
- Eliminating any limit on the number of meters or accounts that can be associated with an eligible facility (the prior limit was 10 meters or accounts);[3]
- Adding a "commercial and institutional" category of NEB (referred to as Tariff Rate NEB).

A. NEB Programs

The Act resulted in the creation of two basic categories of NEB:

1) Kilowatt-hour (kWh) Credit NEB. kWh Credit NEB allows customers that have a financial interest in the eligible facility to receive kWh credits on their utility bills. Thus, for example, if a customer's usage in a month is 500 kWhs and that customer is entitled to 100 kWhs in NEB credits, the customer is billed for 400 kWhs. This approach is consistent with traditional NEB.

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[1] These new NEB requirements apply only to investor-owned utilities.

[2] As required by the Act, the Commission conducted a rulemaking proceeding to consider amendments to the existing NEB rule (Chapter 313) to conform the rule to the provisions of the Act. By Order dated November 25, 2019, the Commission adopted the amended rule. (Docket No. 2019-00197).

[3] The limit of 10 meters or accounts remain for facilities located in an area administered by the independent system administrator for northern Maine, unless the Commission determines that the utility's billing system can accommodate more than 10 meters or accounts.

2) Tariff Rate NEB. Tariff Rate NEB is a new concept and is applicable only to non-residential customers of investor-own transmission and distribution (T&D) utilities. Tariff Rate NEB provides for a "bill credit" as opposed to the traditional kWh credit. Pursuant to the Act, the Tariff Rate equals the standard offer rate applicable to the customer plus 75% of the effective T&D rate for the smallest commercial customer rate class. The Tariff Rates are required to be revised every year. The current rates are in the range of 12 cents/kWh to 15 cents/kWh.

B. Program Evaluation

Section A-6 of the Act contains an evaluation provision that specifies:

> *The Public Utilities Commission shall evaluate net energy billing under the Maine Revised Statutes, Title 35-A, section 3209-A when the total amount of generation capacity involved in net energy billing in the State reaches 10% of the total maximum load of transmission and distribution utilities in the State or 3 years after the effective date of this Act, whichever comes first. The commission shall evaluate the effectiveness of net energy billing in achieving state policy goals and providing benefits to ratepayers and submit a report to the joint standing committee of the Legislature having jurisdiction over energy matters with its findings.*

III. STATE POLICY GOALS

State policy goals relevant to the increase in the development of NEB facilities include those discussed below.

A. RPS Standard

Title 35-A, Section 3210 governs Maine's renewable portfolio standards (RPS). Section 3210(1) states:

> *In order to ensure an adequate and reliable supply of electricity for Maine residents and to encourage the use of renewable, efficient and indigenous resources, it is the policy of this State to encourage the generation of electricity from renewable and efficient sources and to diversify electricity production on which residents of this State rely in a manner consistent with this section.*

B. Solar Generation

The Maine Solar Energy Act, 35-A M.R.S. § 3472 *et. seq*. advances the goals of "[e]nsuring that solar electricity generation, along with electricity generation from other renewable energy technologies, meaningfully contributes to the generation capacity of the State through increasing private investment in solar capacity in the State." In furtherance of these and other goals, the Act creates a State policy of "encourag[ing] the attraction of appropriately-sited development related to solar energy generation,

including any additional transmission, distribution and other energy infrastructure needed to transport additional solar energy to market . . . for the benefit of all ratepayers."

C. Climate Change

Chapter 3-A of Title 38 sets forth Maine's initiatives with respect to climate change, including, section 576-A which contains Maine's ambitious greenhouse gas emissions reduction targets. These are:

> *1. 2030 annual emissions level*. By January 1, 2030, the State shall reduce gross annual greenhouse gas emissions to at least 45% below the 1990 gross annual greenhouse gas emissions level.
>
> 2. *Interim emissions level*. By January 1, 2040, the gross annual greenhouse gas emissions level must, at a minimum, be on an annual trajectory sufficient to achieve the 2050 annual emissions level in accordance with subsection 3.
>
> *3. 2050 annual emissions level.* By January 1, 2050, the State shall reduce gross annual greenhouse gas emissions to at least 80% below the 1990 gross annual greenhouse gas emissions level.

D. Oil Dependence Reduction

Title 2, Section 9(5) tasks the Governor's Energy Office with developing a plan (with input from stakeholders and in consultation with Efficiency Maine Trust (EMT)) to achieve the targets of reducing the State's consumption of oil by at least 30% from the 2007 levels by 2030 and by at least 50% from 2007 levels by 2050;

E. Beneficial Electrification

Title 35-A, Sections 10102 and 10110 contain provisions intended to promote "beneficial electrification." Beneficial electrification is defined in statute as "electrification of a technology that would otherwise require energy from a fossil fuel, and that provides a benefit to a utility, a ratepayer or the environment, without causing harm to utilities, ratepayers or the environment, by improving the efficiency of the electricity grid or reducing consumer costs or emissions, including carbon emissions." Such technologies include electric vehicles and heat pumps. In addition, pursuant to An Act to Transform Maine's Heat Pump Market to Advance Economic Security and Climate Objective"[4] the Legislature enacted specific provisions to encourage and provide funding for heat pumps.

[4] P.L. 2019, Chapter 306.

IV. COMMISSION EVALUATION

On May 20, 2020, Central Maine Power Company (CMP) provided notice that, at that time, the cumulative capacity of the generating facilities for which CMP has executed NEB arrangements under Chapter 313 was approximately 10.1% of CMP's annual peak demand. On September 15, 2020, Versant Power (Versant) provide notice that the 10% threshold had been met in its service territory. As noted above, reaching this 10% threshold requires the Commission to conduct an evaluation of NEB to consider the effectiveness of NEB in "achieving state policy goals and providing benefits to ratepayers."[5]

To inform this evaluation, the Commission, on July 6, 2020, initiated an Inquiry[6] to obtain periodic reports, on a monthly basis, from CMP and Versant regarding NEB facilities that include: (1) projects that are operational; (2) projects that are not yet operational but have an executed NEB Agreement; and (3) projects that have submitted an NEB Application but with which an NEB Agreement has not yet been executed. Through the Inquiry, CMP and Versant were further directed to categorize the NEB projects into those participating or planning to participate in: (1) the kWh Credit Program and (2) the Tariff Rate Program. The Commission also directed the utilities to provide the following information:

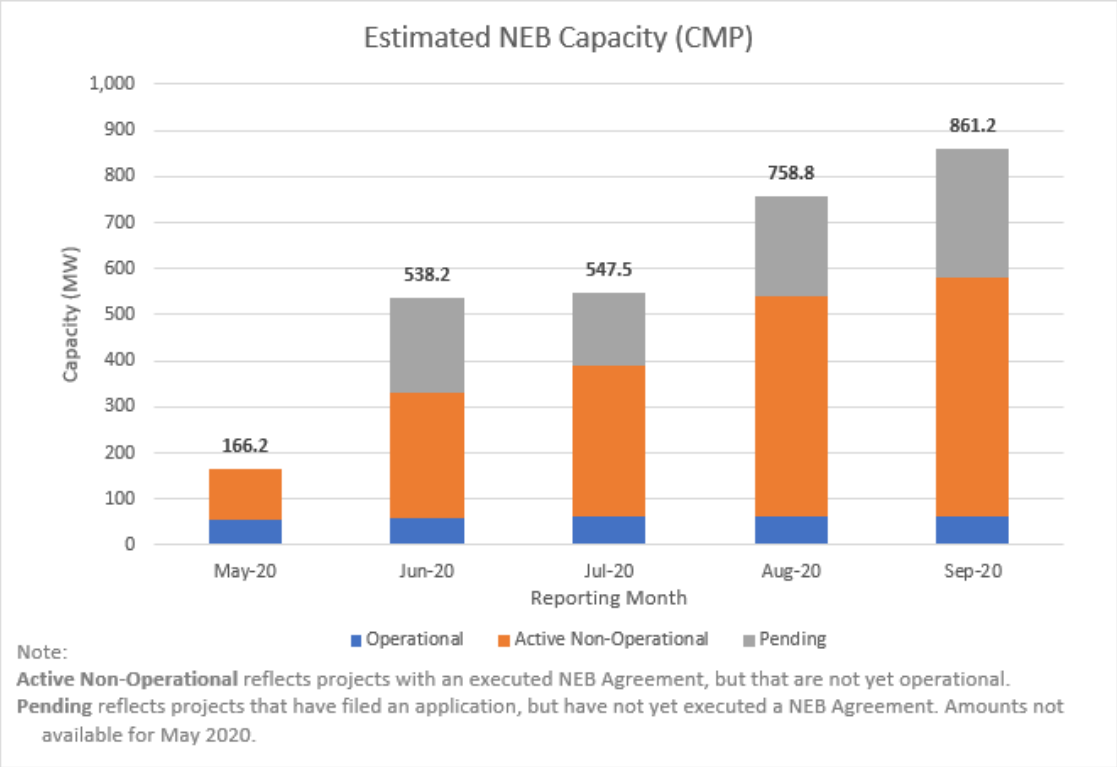
1. Actual or expected in-service dates;
2. For NEB kWh Credit projects, estimated lost revenue ($/year);
3. For Tariff Rate projects, estimated costs (gross and net) of the credits ($/year);
4. Estimated incremental administrative costs associated with each of the two programs, by category ($/year);
5. Information about T&D system benefits (e.g., avoided distribution upgrades), or system costs (e.g., required system reinforcements associated with NEB projects).

The NEB reports which reflect activity through September 2020, indicate total NEB facility capacity of 52% and 37% of peak load for and CMP and Versant, respectively. Figure 1 shows the NEB MW growth in CMP's service territory observed over the past few months.

[5] ReVision Energy and SEAM commented that that the Commission's NEB review is premature and should occur when the capacity of operating facilities reaches 10% of peak demand. The purpose of the 10% report trigger is to assure the impacts of the NEB program are reviewed in a timeframe that would allow for necessary legislative modifications to occur. Thus, the timing of this review is appropriate.

[6] Docket No. 2020-00199.

Figure 1



In addition, the Commission reviewed the utilities' interconnection request queues which include a number of additional projects beyond those included in the NEB reports.

On October 14, 2020, the Commission requested comments from interested persons on issues relevant to its NEB evaluation; in particular, the likelihood of projects that currently have NEB Agreements being developed and becoming operational. The Commission received comments from Maine Renewable Energy Association and Coalition for Community Solar Access (MREA/CCSA); Solar Energy Association of Maine (SEAM); Revision Energy; and Competitive Energy Services (CES). These comments can be found on the Commission's website under Docket No. 2020-00199.

A. Ratepayer Impacts

Maine's ratepayers that participate in the State's NEB programs do realize benefits through reductions in their utility bills. The Commission notes, however, that, based on the structure of arrangements observed to-date in marketing materials for NEB facilities, it appears that NEB customers will receive a small portion of the value associated with their share of the facility (e.g.,10%-15%), while project developers or sponsors who will finance and construct the facilities receive the remaining value (e.g., 85%-90%). Moreover, individual ratepayer savings resulting from participation in the NEB program will be offset to a substantial degree by rate increases resulting from lost

utility revenues that are ultimately paid for by the general body of ratepayers. These overall customer rates impacts are discussed below.

At the outset, as noted above, the Commission emphasizes that overall ratepayer impacts cannot be known with any certainty. The precise amount of rate increases will depend primarily on the number of projects that become operational. Based on the most recent monthly NEB reports provided by CMP and Versant, if all of the NEB projects with current NEB Agreements become operational, the cumulative total revenue/rate impact on transmission and distribution (T&D) rates would be approximately $161 million annually.[7] [8] For CMP, the revenue impact if the currently pending projects represent an overall T&D rate increase of approximately 21% and for Versant, an overall T&D rate increase of approximately 23%.

Figure 2 (below) provides an illustrative example of how the revenue/rate impact amount from the most recent utility NEB reports could be expected to translate into typical residential, commercial, and industrial customer rate changes and bill impacts, assuming all of the projects with NEB Agreements become operational. These values are only illustrative examples of potential T&D bill impacts. Many factors, such as the number of NEB projects that ultimately become operational, market prices and individual customer usage characteristics will affect the actual level of bill impacts seen by individual customers.

[7] The utilities calculate the rate impacts for the kilowatt-hour credit program based on the lost T&D revenues and for the tariff rate program based on the difference between the tariff rate and the NYMEX Forward Energy Prices for delivery at the MA Hub.

[8] MREA/CCSA notes that the utilities monthly reports assume a 20% capacity factor, while a recent ISO-NE forecast assumes a 14.5% capacity factor for Maine. CMP's monthly NEB reports indicate that it uses a 15% capacity factor for projects of 660 kW or less and 20% for projects between 660 kW and 5 MW based on the PVWatts calculator from the National Renewable Energy Laboratory website for 4.0 kW and 5 MW facilities, respectively. The Commission notes that the rate impacts of the current NEB program remain substantial even assuming lower capacity factors.

Figure 2

CMP and Versant NEB programs (as of 9/30/2020)*

		Illustrative Ratepayer Cost per Year		
	Annual Lost Revenue & Above Market Costs ($)	Residential Customer ~ 550 kWh/mnth	Commercial Customer ~ 200 kW Demand	Industrial Customer ~ 1 MW Demand
Central Maine Power				
NEB kWh Netting Agreements	$ 50,430,773			
Tariff Rate Agreements	$ 71,416,119			
Total Central Maine Power	**$ 121,846,892**	**$ 89**	**$ 16,535**	**$ 82,677**
Versant Power				
NEB kWh Netting Agreements	$ 11,412,608			
Tariff Rate Agreements	$ 27,550,872			
Total Versant Power	**$ 38,963,480**	**$ 139**	**$ 25,795**	**$ 128,976**
TOTAL NEB PROGRAM (from known projects as of 8/31/2020)	**$ 160,810,372**	**$ 97**	**$ 18,111**	**$ 90,554**

* - Based on CMP & Versant Power NEB October, 2020 reports. Includes Operational, Active Non-Operational, and Pending projects

Importantly, the Commission notes that the rate impacts contained in this Report are associated only with current NEB Agreements. If the majority of projects included in the NEB reports and only a portion of the additional projects in the interconnection queues become operational and participate in NEB, the ratepayer impacts may be well in excess of the amounts specified above. Figure 1 (above) shows the recent monthly increases in NEB capacity associated with NEB Agreements.

There may also be additional areas of costs associated with the NEB programs. Significant expansion of the NEB program may introduce additional risk to electricity suppliers and could result in increases to standard offer supply rates.

Finally, in its monthly reports, CMP indicates that it currently estimates slightly more than $2 million in administrative costs associated with the NEB program. As CMP notes, these costs are preliminary estimates and will be updated as actual costs become known. Versant has not provided an estimate of administrative costs.

B. Effectiveness of NEB in Achieving State Policy Goals

The Commission notes that nearly all of the NEB projects proposed after the enactment of the Act are solar projects.

The substantial increase in the number and size of NEB projects resulting from the Act serves to promote State policies of enhancing resource diversity by increasing renewable power development, increasing solar installations and reducing electric sector greenhouse emissions. However, the resulting substantial increase in electric rates from the NEB program if the pace of development continues under current law

(discussed above) may have a serious negative impact on enhancing beneficial electrification and reducing oil dependence to the extent it changes the financial impact of switching fuels. Because the electric power industry contributes only 7% of the State's CO_2 emissions while the Transportation and Residential sectors contribute 54% and 19%, respectively,[9] rate increases that impede beneficial electrification efforts in transportation and residential heating would be detrimental to the State's CO_2 reduction goals.

C. Value of Solar

1) Direct Ratepayer Impacts

The operation of solar distributed generation (DG) facilities can have value in addition to the avoidance of energy market costs. In 2015, the Commission engaged consultants to provide a "value of solar" study.[10] Although this study is now significantly out of date, it does illustrate potential value of small-scale solar installation to Maine's ratepayers and citizens.

In addition to avoided energy costs, the study places a value on avoided generation capacity and transmission capacity costs. In total, the study places a year-one value of these avoided costs at 9 cents/kWh. While the report's savings figures are out of date, in some instances reflect temporary savings associated with the allocation of regional costs, and may not all flow directly to ratepayers, savings in the areas identified by the report would serve to offset the revenue/rate impact on T&D rates from the NEB program. However, virtually all of these categories of savings are equally applicable to other solar and renewable facilities, including larger, less expensive, solar facilities such as those recently procured in the RPS Procurement.

The study does note the possibility of avoided distribution capacity or voltage regulation costs that would be applicable to smaller facilities, such as NEB facilities, but does not quantify such avoided costs. We note that any such savings are likely to be location- and utility-specific and should be determined based on engineering and system studies of the CMP and Versant systems.

Finally, as noted above, the capacity of NEB facilities pending in the service territories of CMP and Versant is already significant and appears to be on an upward trajectory. For CMP, the capacity of these facilities was in excess of 50% its peak load as of the end of September. This suggests that there could be NEB facility capacity in excess of system load at certain times. The consequences of this have not yet been examined and appears worthy of further study. Based on information presented to the Small Generator Interconnection Stakeholder group,[11] it appears that the utilities may

[9] Maine Department of Environmental Protection Eighth Biennial Report on Progress toward Greenhouse Gas Reduction Goals, dated January 13, 2020

[10] https://www.maine.gov/mpuc/electricity/elect_generation/valueofsolar.shtml

[11] See Docket No. 2020-00004.

have this same or related concerns and have indicated the potential that additional equipment and associated costs may be needed to address reliability and operational issues. The potential magnitude of these costs is not readily quantifiable.

2) Emission Impacts

The Value of Solar Study also quantifies the net social cost of carbon, SO2 and NO2 and estimates the value to be 9.2 cents/kWh. Other more recent studies have sought to estimate the environmental value of DG resources. For example, NYU's Institute of Policy Integrity recently conducted an analysis of the environmental value of DG resources by region,[12] and, for the northeast, it estimated the value to range between 3.9 cents/kWh and 7.2 cents/kWh depending on time of day and season.

The Commission notes that such cents/kWh value estimates are, by their nature, speculative and, as noted above, rate increases may limit the effectiveness of other emission-reducing strategies such as beneficial electrification. Moreover, the societal value of emissions reductions is not reflected as reduction on utility bills.

To conclude, the Commission emphasizes that incentive programs should not be evaluated solely on whether costs to ratepayers are simply lower than that value, but also on whether the program design achieves that value at the lowest possible cost. An important question the Legislature may want to consider is whether the value sought from the NEB program can be obtained at a lower cost (see section III.E below).

III. ALTERNATIVE OPTIONS AND RECOMMENDATIONS

The Commission suggests that the Legislature consider changes to the current NEB program. Due to the potential substantial impact the current program can have on electricity rates, the Commission urges the Legislature to act quickly with respect to program changes. The Commission notes that, in the event the Legislature significantly alters the NEB program, it would need to decide the status of projects with existing NEB Agreements. As stated, if a large number of projects with existing agreements become operational, there will be a substantial increase to electricity rates. However, projects with existing agreements are likely to have already incurred significant expenses based on current law, which could raise fairness and legal issues if the existing agreements are terminated.

A. Rate Impacts

The Commission recommends that the Legislature consider some form of a cap on ratepayer exposure to increased costs. Such a cap could be in the form of a limit on

[12] https://policyintegrity.org/files/publications/Making_the_Most_of_Distributed_Energy_Resources.pdf.

the total MW allowed under the program, a limit on the Tariff Rate program rates, or a ratepayer dollar increase limit.[13]

B. Locational Incentives

As discussed above, potential benefits in the form of transmission and distribution investments are location specific. The development of DG in a particular area could lower future costs, while development in another area could actually increase costs.

The New York Public Service Commission has recently replaced NEB with what is referred to as "Value of Distributed Energy Resources" or the "Value Stack."[14] Under this approach, compensation to projects varies based on location and timing of generation output.

Thus, the Commission recommends that the Legislature consider such a location-specific approach.

C. Single Incentive Program

The Act contains two programs to promote the development of renewable projects of less than 5 MW. As discussed in this Report, Part A of the Act significantly expanded the NEB program, including increasing eligibility 660 kW to less than 5 MW. Part B of the Act, now codified at 35-A M.R.S. §§ 3481-3488, created a DG procurement process that requires the Commission to solicit and procure targeted amounts of energy, capacity and renewable energy credits from developers of renewable distributed generation facilities of less than 5 MWs.

The Commission recommends that the Legislature consider a single incentive program for projects under 5 MW. Doing so could have the advantage of simplifying (and thus reducing the costs) of participation by entities seeking to develop projects in Maine and reducing the administrative costs of such developments.

Both the NEB and DG procurement programs have their advantages and disadvantages. Periodic procurement auctions, properly designed, should result in contract prices that mirror the costs of development. However, periodic procurements are time consuming, administratively costly, and create uncertainty as to the ultimate pricing. NEB is relatively simple to administer and creates greater certainty for developers. However, NEB prices are based on retail electricity rates and do not reflect project costs.

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[13] For example, the Legislature enacted the Community-Based Renewable Energy Pilot Program, 35-A M.R.S. §§ 3601-3610 that contained a total program capacity limit, an individual project capacity limit and a cap on the long-term contract price.

[14] https://www.nyserda.ny.gov/All%20Programs/Programs/NY%20Sun/Contractors/Value%20of%20Distributed%20Energy%20Resources.

In the event the Legislature determines that NEB is the preferable approach to incentivize smaller projects, the Commission recommends several changes to the current structure. First, as an alternative, the Commission recommends the NEB Tariff Rate price structure be administratively established to mirror project development costs. This can be determined based on publicly available reports and data and updated on a periodic basis.

The Commission also recommends that the NEB Tariff Rate prices that exist when a project enters the program be fixed for a 20-year period, rather than changing every year as under the current legislation. This is consistent with other procurements and may facilitate project financing at lower project costs.

Moreover, the Commission recommends that any future NEB program be limited to new or substantially refurbished facilities. Without such a limitation, and as is the case with the current program, an existing generation facility that has operated for many years based on the market price of its output will receive a substantially higher price by choosing to be in the NEB program. The difference between the market price and the substantially higher NEB program price received by the facility is ultimately paid for by ratepayers without any corresponding benefit.

Finally, in the event that the Legislature decided to promote DG through a periodic procurement, the Commission recommends that the NEB program be revised to serve its initial purpose to incent small behind-the-meter facilities, such as rooftop solar.

D. Discrete DG Facilities

The purpose of the Act is to promote renewable DG facilities that are less than 5 MW. To ensure that facilities that receive benefits under the Act are actually below 5 MW, the Commission rules governing NEB (Chapter 313) and DG procurement (Chapter 312) contain similar definitions of " Discrete Electric Generation Facility." The NEB rule, Ch 313, sec. 2(E), specifies that discrete electric generating facility means:

> *a facility that is not co-located with or otherwise in geographic proximity to (i) another eligible facility or (ii) a distributed generation resource as defined in Chapter 312 of the Commission's rules in which there is a common financial or other interest that is contrary to the purpose of Title 35-A, sections 3209-A, 3209-B, chapter 34-C.*

The Commission has received numerous requests for advisory rulings to clarify the meaning of discrete electric generating facility. The Commission's focus has been to ensure that qualifying facilities are below 5 MW and not actually part of a larger development. Therefore, as long as the facility is not in geographic proximity or does not share a common interest with another facility, it qualifies for the incentives contained in the Act.

While the Commission limits developers with common interests from developing multiple, proximate 5 MW projects, currently there are no similar restrictions on unaffiliate entities and no incentives for projects to be developed in diverse areas of the State or in locations that reduce the costs of the transmission and distribution system. Having clusters of small projects together would be the functional equivalent of having a single, larger project that does not provide the grid benefits of small, distributed projects nor the lower costs associated with larger projects. CMP's queue, for example, demonstrates a substantial number of DG facilities are proposing development in relatively close proximity to each other in certain areas and at certain substations.[15]

The Legislature may want to take the opportunity to clarify the policy goal of promoting DG facilities of below 5 MW and determine whether additional incentives, requirements, or limitations are appropriate.

E. Larger Scale Projects

The primary purpose of the Act is to incent the development of smaller projects throughout the State. Many of the public policy goals of the Act, as well as economic development benefits can be achieved at a much lower cost through the promotion of larger scale projects. These policy goals include:

- Encouraging resource diversity through the development of renewable resources;
- Encouraging solar energy development in the State;
- Reducing greenhouse gas emissions;
- Reducing oil dependence; and
- Encouraging beneficial electrification

Significant numbers of solar and other renewable projects in Maine have recently been awarded long-term contracts pursuant to other legislatively established programs at prices significantly below the compensation provide through the NEB programs. In September 2020, the Commission completed a procurement process for the first tranche of Maine Class IA RPS-eligible projects (RPS Procurement) in accordance with 35-A M.R.S. § 3210-G. The projects selected in this process include 14 solar projects, for facilities ranging in size from 16 MW to 100 MW, all of which will be developed in Maine. The aggregate capacity of the selected projects is 536 MW, and the first-year prices for the energy from the new facilities chosen under the RFP ranged from 2.975 cents/kWh to 4.0 cents/kWh, reflecting a weighted average price of just under 3.5 cents/KWh. This is in sharp contrast to the compensation levels under the NEB programs, which are in the range of 15.0 cents/kWh, or more than four times greater than the prices for energy obtained in the RPS Procurement. The Commission expects to obtain additional capacity in the range of 250 MW in the second tranche of the solicitation pursuant to this legislation.

[15] CMP's queue has several substations that have more than 10 projects requesting interconnection with cumulative totals of more than 50 MWs.

In addition, the Commission previously approved a long-term contract pursuant to Title 35-A, section 3210-C with Dirigo Solar to procure solar energy from a set of projects ranging from 4.99 MW to 20 MW in size for a price of 3.4 cents/kWh escalated at 2.5% annually.[16]

In future procurements, evaluation of projects could include preference for diversity in location and/or size as well as consideration of any quantifiable benefits to the transmission or distribution system.

[16] *Maine Public Utilities Commission, Long-term Contracting*, Docket No. 2015-00026, Order Approving Agreement (Dec. 18, 2017).