Interim Report of the Distributed Generation Stakeholder Group

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

January 20, 2022

Background

The 130th Legislature enacted P.L. 2021 Chapter 390 (LD 936 – An Act To Amend State Laws Relating to Net Energy Billing and the Procurement of Distributed Generation) on July 1, 2021.

- Established additional eligibility requirements for distributed generation resources enrolling in the net energy billing programs (35-A MRS §3209-A and §3209-B).
- Repealed the requirement that the PUC conduct procurements for distributed generation resources under 35-A MRS §3482.
- Directed the GEO, in collaboration with the PUC, to convene a stakeholder group to "consider various distributed generation project programs to be implemented **between 2024 and 2028** and the need for improved grid planning."
  - Two reports required from the stakeholder group, the **first interim report to be submitted by January 1, 2022**, and the second final report to be submitted by January 1, 2023.
  - The interim report was submitted on December 31, 2021.

Interim report direction – P.L. 2021 Chapter 390

Submit **an interim report… that identifies issues that need further consideration or require additional resources including funding** to complete and…

A. How the State should undertake the adoption and implementation of a forward looking, **holistic grid planning process** that allows for input from stakeholders and provides key actors with the ability to more strategically make system operations, planning and investment decisions;

B. The optimum total amount of distributed generation for the program period calculated using **7% of total load** based on operational capacity;

C. How to cost-effectively incentivize net energy billing arrangement **project diversity** by:

1. Identifying the percentage of the optimum total amount of distributed generation that should be allocated to net energy billing arrangement projects;
2. Developing a mechanism to adjust the calculated optimum total amount of distributed generation described in paragraph B by subtracting the total amount of megawatts of commercially operational distributed generation resources developed in excess of the goal established in the Maine Revised Statutes, Title 35-A, section 3209-A, subsection 7 [750 megawatts];
3. Considering all types of distributed generation, including, but not limited to, net energy billing arrangements paired with energy storage;
4. Determining the appropriate duration for long-term contracts;
5. Identifying mechanisms that prioritize distributed generation that are sited to:
    a. Limit impacts by being located on previously developed or impacted land, including areas covered by impervious surfaces, reclaimed gravel pits, capped landfills or brownfield sites as defined by the Department of Environmental Protection;
    b. Serve load within a low-income to moderate-income community;
    c. Directly serve customer load; or
    d. Optimize grid performance or serve a nonwires alternative function; and
    e. Including recommendations regarding how information from a holistic grid planning process can be included to improve a distributed generation project program until its conclusion; and

D. How to support the **successful development** of distributed generation **by small companies** based in the State.

Stakeholder Group Members

- Dan Burgess, Governor's Energy Office
- Philip Bartlett, Public Utilities Commission
- Andrew Landry, Office of the Public Advocate
- Anthony Buxton, Preti Flaherty Beliveau & Pachios on behalf of Industrial Energy Consumers Group
- Bob Cleaves, Dirigo Solar
- Neal Goldberg, Maine Municipal Association
- Arielle Silver Karsh/David Norman, Versant Power
- Sharon Klein, University of Maine School of Economics
- Fortunat Mueller, ReVision Energy
- Kaitlin Kelly O'Neill, Coalition for Community Solar Access
- Jeremy Payne, Maine Renewable Energy Association
- Jason Rauch, Central Maine Power
- Jessica Robertson, Borrego
- Phelps Turner, Conservation Law Foundation
- Amy Winston/Neils Zellers, Coastal Enterprises, Inc.

Presentations and Meetings

- The Stakeholder Group met eight times between September and December 2021
- Presentations included:
  - Barbara Alexander of AARP Maine
  - Sarah Haggerty of Maine Audubon
  - Lon Huber of Duke Energy and Thad Culley of Sunrun (Carolina solar tariffs settlement)
  - Todd Olinsky-Paul of Clean Energy States Alliance
  - Karl Rabago of Rabago Energy
  - Dr. Richard Silkman of Competitive Energy Services
  - Eric Steltzer of the Massachusetts Department of Energy Resources
- During the process of drafting the interim report, a number of sub-groups formed to prepare language for consideration by the full Stakeholder Group. Their focuses included:
  - Holistic grid planning
  - Successor program design process

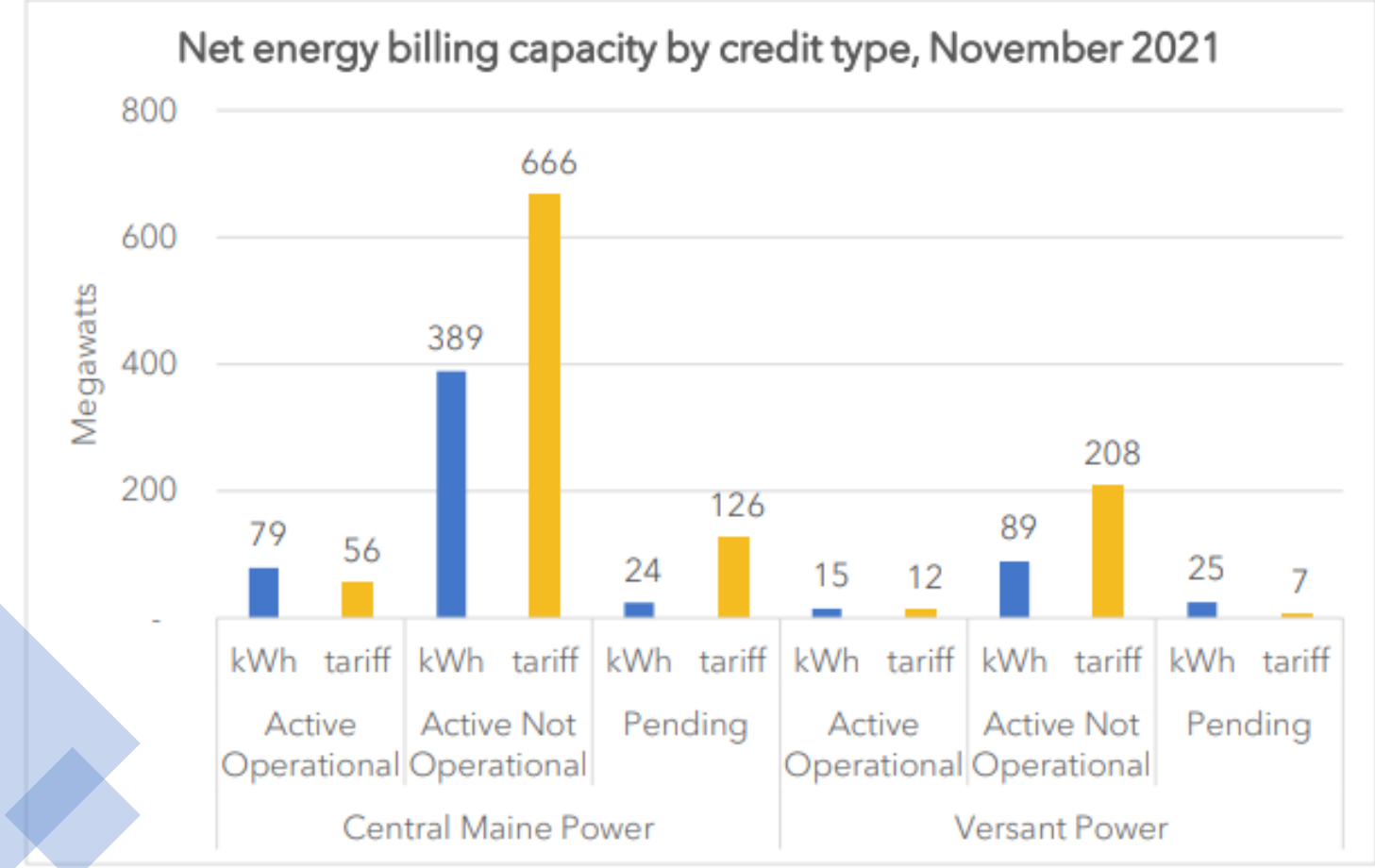
Initial areas of consensus

The Stakeholder Group agreed to the following consensus areas that will guide the Group's continuing work:

- Distributed generation resources will **play an important role in the state's achievement** of greenhouse gas reduction requirements, renewable energy requirements, and goals for continued growth of the clean energy sector.
- Distributed generation resources have the potential to **produce benefits to the electric system, as well as to the state**, through avoided costs as well as resilience, environmental, public health, and economic benefits. The extent to which these benefits should be incorporated as objectives of a successor program **requires additional analysis and discussion**.
- Any program to promote distributed generation resources should be designed in a manner that **optimizes net benefits and ratepayer cost-effectiveness** and **considers resources developed through existing net energy billing programs** – as well as considers input from a broad range of stakeholders, and specifically accounts for barriers faced by low- and moderate-income, fixed-income, and historically marginalized communities.
- The Stakeholder Group intends to continue working in 2022 to **refine the approach for optimizing cost-effectiveness** and the manner by which a successor program should pursue these objectives.

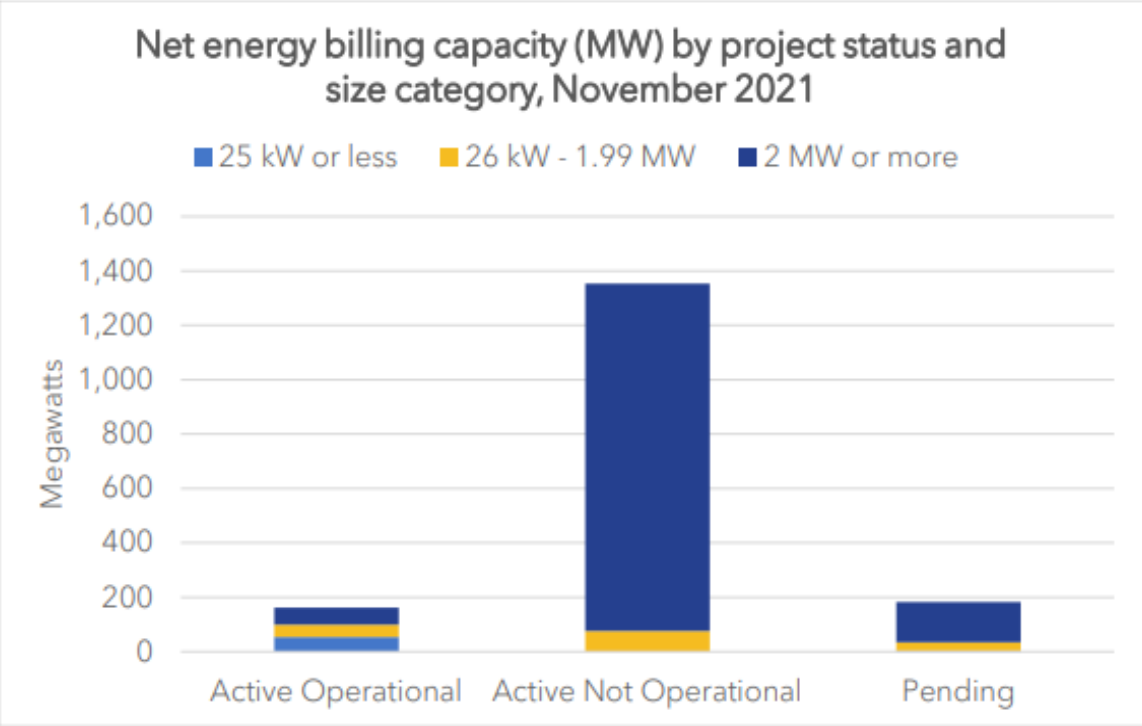
Net energy billing status update (November 2021)

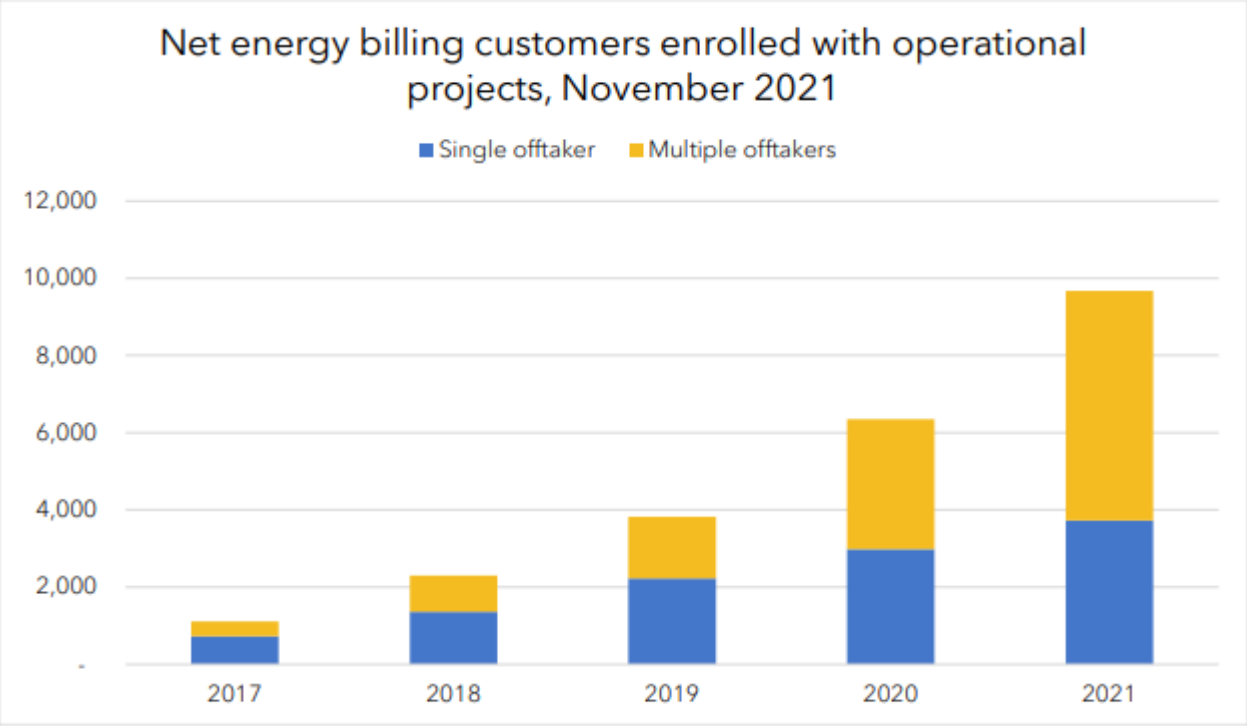
Net energy billing update – November 2021



Net energy billing resources	Total capacity (MW)
Active Operational	**161.4**
Hydro	29.1
Solar	124.5
Wind	5.5
Biofuels and CHP	2.4
Active Not Operational	**1,353.1**
Solar	1,353.1
Pending	**182.0**
Hydro	0.4
Solar	181.3
Biofuels and CHP	0.3
Total	**1,696.5**

Net energy billing update – November 2021





Successor program framework

Successor program framework

The Stakeholder Group is charged by the Act to "consider various distributed generation project programs to be implemented between 2024 and 2028."

The Stakeholder Group developed the following considerations related to the development of a successor program:

- Target locations with highest value to grid to the extent possible, recognizing this objective is dependent on an ongoing, iterative, complex process.
    - Highest value to the grid could include values attributed to increasing reliability, resiliency, and avoiding higher cost alternatives. These values depend heavily on both locational and temporal aspects of distributed generation projects as well as the potential alternatives which they may be designed to avoid.
    - Highest value to the grid should also be determined in part with consideration given to expected load growth, expectations of which should be informed by a holistic grid planning process.
- Recognize the expected increasing opportunities for energy storage, with attention given to maximizing the value of energy storage deployments.
- Broader, targeted stakeholder engagement with more time is necessary to inform inclusion of additional specific policy considerations, including land use, equity and access, and billing and crediting.
- Achieve the objectives of the program, including co-benefits, at the lowest cost to ratepayers possible. The Stakeholder Group will discuss in the coming year how to measure benefits and cost.

Successor program framework

The Stakeholder Group discussed various structures for a successor program, including a procurement model with competitive bids, a feed-in tariff model, a combined model incorporating elements of both. Although this Stakeholder Group does not yet recommend one approach above the others, the interim report summarizes some considerations related to each structure.

The Stakeholder Group discussed additional policy priorities that could be incorporated into a successor program, including a general sense that additional complexity associated with incorporating other policy considerations into the design of a successor program may result in increased costs.

However, the Stakeholder Group also discussed the need to engage additional perspectives to inform consideration of other policy objectives which could be incorporated into a successor program framework to more clearly understand and weigh any potential tradeoffs.

Successor program target

The group discussed an estimate (158 MW per year over five years, for a total of 790 MW) of the 'optimum total amount of distributed generation' contemplated by the Act.

The estimate was intended to be illustrative. It relied on load growth projections prepared for the Maine Climate Council and assumed a representative 4.99 MW distributed solar facility to determine the total capacity needed to satisfy 7% of load during the program period.

The group agreed an alternative that considers a broader range of benefits, costs, and other considerations including results of the net energy billing program would be better suited to determining a program target.

Successor program eligibility

The Stakeholder Group understood its charge, consistent with the Act, to be a successor program for distributed generation projects specifically ranging from 2 to 5 MW.

- The Stakeholder Group did discuss certain factors that could suggest alterations to the 2-5 MW range, including:
  - Whether allowing larger projects to participate in a competitive procurement could capture additional economies of scale and therefore achieve more generation at a lower price.
  - How to treat projects smaller than 2 megawatts.

The Stakeholder Group also discussed whether distinguishing eligibility for the successor program based on whether or not a project is collocated with load might more effectively target certain desirable benefits associated with distributed generation. Options discussed for defining "collocated with load" included

- Behind a customer meter
- Interconnected on the same circuit, or
- Occupying the same or an adjacent parcel.

Successor program eligibility

The Stakeholder Group also discussed whether a successor program would more efficiently achieve its objectives if output were purchased directly by transmission and distribution utilities and allocated uniformly or automatically to all customers, or to certain targeted customer classes, rather than allocated specifically through bill credits as under the existing net energy billing programs.

- Potential advantages could include:
  - Reduced customer acquisition and retention costs
  - Reduced costs associated with billing and crediting complexity
  - Reduced customer confusion and protection enforcement, and
  - More efficient targeting of benefits to hard-to-reach or historically underserved customers who are often less likely to participate in opt-in programs.
- Potential disadvantages could include:
  - Perceived lack of opportunities for customers to participate directly in supporting renewable energy deployment in their communities.

Successor program design process

Successor program design process

The Stakeholder Group recommends the following process to structure its work in 2022:

- Formation of issue-focused working sessions
  - Organized as needed to provide final recommendations on design criteria for policy focused components of the successor program by mid-2022
  - Governor's Energy Office should contract with an expert team as needed to facilitate the activities of these work sessions
  - Equity and access and Land use are envisioned as two issue-focused work session topics described in the interim report
  - Additional topics could include energy storage and billing and crediting

Successor program design process

Expert technical and economic analyses:

- The Governor's Energy Office should contract with an expert team to provide technical and economic analyses to support the Stakeholder Group's achievement of certain additional requirements for the Stakeholder Group's final report consistent with the Act (§4 subsection 3 (A) through (G))

Final report requirements specified in the Act:

A. Identification of the recommended optimum total amount of distributed generation for the program period represented as a percentage of total load;

B. An estimation of the net ratepayer impacts, including all on-bill benefits and costs, expected as a result of the development of distributed generation resources under the Maine Revised Statutes, Title 35-A, section 3209-A, subsection 7 and Title 35-A, section 3209-B, subsection 7, accounting for projects that have reached or are expected to reach full maturity and load growth trends;

C. Identification of a method or methods that can be used to balance the impact of the development of distributed generation resources under the Maine Revised Statutes, Title 35-A, sections 3209-A and 3209-B with load growth to mitigate potential electricity rate increases as a result of this development of distributed generation resources;

D. Updates to the finance enabling policies in the "Maine Distributed Solar Valuation Study" prepared for the Public Utilities Commission by Clean Power Research, including the costs and benefits of on-bill and off-bill financing;

E. Consideration of the feasibility of implementing innovations to increase the net ratepayer value of distributed generation, including, but not limited to, time differentiated rates and 2-way energy flows;

F. Consideration of the use of declining net energy billing arrangement bill credit rates, including the use of reduced bill credit rates for distributed generation that is not located on one of the prioritized sites identified in the interim report pursuant to subsection 2, paragraph C, subparagraph (5); and

G. Consideration of the feasibility of standardizing the classification of distributed generation as load reducers, regardless of whether the bill credit is in the form of kilowatt-hour credits or monetary credits.

Successor program design process

- Straw proposal and final report
  - The Governor's Energy Office, in collaboration with the Stakeholder Group and considering any recommendations identified through working sessions, information as available from relevant planning work, and results of technical and economic analyses as applicable and available, will craft a straw proposal for the successor program to be released in 2022.
  - The straw proposal would be issued for public comment, with at least a 30-day period for interested members of the public to provide written comments.
  - The Stakeholder Group, considering feedback provided from the public comments, will craft a final successor program proposal to be included in the final report delivered to the Legislature in 2023 consistent with the Act.

Holistic grid planning

Holistic grid planning

The Stakeholder Group is charged by the Act to "consider… the need for improved grid planning." Specifically, the Group is charged with two sets of recommendations related to holistic grid planning:

1. How the state should undertake the adoption and implementation of a forward-looking, holistic grid planning process;
2. How information from a holistic grid planning process can be included to improve a distributed generation project program.

The Stakeholder Group views the establishment of a holistic grid planning process as important to the State, as well as important to a future distributed generation program.

The interim report contains a summary of the Stakeholder Group's discussion on this topic, including various ideas discussed by the group, considerations for implementing such a process, and identification of recent, ongoing, and forthcoming related efforts.

Holistic grid planning

Ideas discussed regarding how the state should undertake the adoption and implementation of a forward-looking, holistic grid planning process:

- Initiation of the Power Sector Transformation Process recommended by the Maine Climate Council;
- Review findings of PUC grid modernization investigation (2021-00039), particularly report due February 2022;
- Build upon work of Maine Utility/Regulatory Reform Initiative (MURRDI) report released April 2021.

Additional potential considerations regarding implementation of such a process discussed by the stakeholder group:

- Opportunity for public review and comment
- Expedient implementation
- Potential funding for expanded staff capacity at PUC and GEO to include technical staff dedicated to planning
- Potential requirement that electric distribution companies file periodic (e.g. 10-year) grid modernization plans, updated on a rolling basis (e.g. every 3 years)
- Potential funding sources could include fees paid by interconnecting customers, utility cost recovery, general fund allocations, and/or federal infrastructure funding.

Holistic grid planning

Ideas discussed regarding how information from a holistic grid planning process can be included to improve a distributed generation project program:

- Incorporating location-based price signals, given current planning and regulatory capacity, may be challenging. However, a holistic grid planning process could enable program-specific location-based price signals that could increase benefits associated with distributed generation.

Specific types of information from holistic grid planning that should inform a distributed generation program:

- Load forecasting that accounts for electrification
- Load flexibility mechanisms and impacts thereof
- The state's economic, equity, clean energy and climate objectives

Inclusion of this information will inform more accurate identification of and planning for:

- The amount of DG that will be required
- The most cost-effective locations for future DG
- The most cost-effective distribution system upgrades required to serve future DG
- Methods of interconnection of DG
- Allocation of costs of DG development.

Thank you