State of New York
Public Service Commission

Case 15-E-0751	–	In the Matter of the Value of Distributed Energy Resources.
Matter 17-01278	–	In the Matter of the Value of Distributed Energy Resources Working Group Regarding Low and Moderate Income Customers.
Case 15-E-0082	–	Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions For Implementing a Community Net Metering Program.

STAFF REPORT ON LOW-INCOME COMMUNITY DISTRIBUTED GENERATION PROPOSAL

Dated: December 15, 2017

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INTRODUCTION

In the Value of Distributed Energy Resources (VDER) Transition Order, the Commission directed Staff to consider options to encourage low-income participation in community distributed generation (CDG) under the VDER Phase tariffs, including tailored approaches for CDG projects that comprise a majority of low-income off-takers. The Commission directed that Staff work with utilities and interested stakeholders to consider an interzonal CDG credit program designed to provide benefits from CDG projects interconnected in service territories and load zones other than that of the low-income participant. Finally, the Commission expressed its support of the New York State Energy Research and Development Authority (NYSERDA)'s continued investigation into enabling low-income customer participation in CDG projects, and directed NYSERDA to file Clean Energy Fund (CEF) investment chapters to support programs aimed to encourage and incentivize low-income participation in CDG projects.[1] Specifically, with respect to the matter contained in this report, the Commission directed that

> In consultation with stakeholders, Staff shall develop and file, by September 1, 2017, a Low-Income CDG Proposal, which shall include, at a minimum, information developed through the CDG Low Income Customer Collaborative, a report on the feasibility of an interzonal CDG credit program, and discussion of the other options to encourage and support low-income customer participation discussed above.[2]

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[1] Cases 15-E-0751, et al., In the Matter of the Value of Distributed Energy Resources, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters (issued March 9, 2017) (VDER Transition Order), p. 18.

[2] VDER Transition Order, pp. 155-156.

In accordance with that directive, Staff submits this report and proposal to be filed for public comment and future Commission consideration and action.

BACKGROUND

The VDER and Community Net Metering Cases form part of New York's Reforming the Energy Vision (REV), the strategy to build a clean, resilient and affordable energy system for all New Yorkers.[3] One of the main objectives of REV is ensuring that 50 percent of the state's electricity will come from renewable sources, like wind and solar, by 2030. Among its goals is installing 3,000 megawatts of solar electric capacity through the NYSERDA NY-Sun program by 2023, while achieving a robust, self-sustaining solar market.

The National Renewable Energy Laboratory (NREL) estimates that CDG (often referred to as "community solar") could make up half of the nationwide distributed photovoltaic (PV) market as early as 2020.[4] In New York, CDG projects are defined as consisting of an eligible generating facility located behind a nonresidential host meter. CDG projects are subject to

[3] Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision; Case 15-E-0082, Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program.

[4] Feldman, David, Anna M. Brockway, Elaine Ulrich and Robert Margolis; "Shared Solar: Current Landscape, Market Potential, and the Impact of Federal Securities Regulation," National Renewable Energy Laboratory, U.S. Department of Energy (April 2015).

further eligibility rules as described in the Commission's CDG Order.[5]

Currently, CDG projects must consist of at least 10 off-takers (certain on-site projects on multifamily buildings are excepted), the project size must be no larger than 2 MW AC, there can be a large, non-residential anchor off-taker who uses up to 40 percent of the power produced, and all other off-takers must be residential and small non-residential customers. Participants in CDG projects can either own panels or subscribe to a portion of an array that is owned by a third party. Either way, participants receive credit on their bill for the solar energy that their portion produces. CDG solar projects that are included in VDER Phase One are eligible to receive a Market Transition Credit (MTC), intended to make their estimated initial compensation equal to NEM (Net Energy Metering) in a first tranche (Tranche 1), 10 percent less than NEM in a second tranche (Tranche 2), and 20 percent less than NEM in a third and final tranche (Tranche 3).

In New York, a "low-income" customer is generally defined as a customer who is eligible to receive benefits under the Home Energy Assistance Program (HEAP), i.e., those at or below 60 percent of state median income (SMI).[6] Extending solar access to these low-income customers remains challenging. There

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[5] Case 15-E-0082, Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions For Implementing a Community Net Metering Program, Order Establishing a Community Distributed Generation Program and Making Other Findings (issued July 17, 2015) (CDG Order).

[6] Case 14-M-0565, Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility Customers, Order Instituting Proceeding (issued January 9, 2016).

are a number of obstacles impeding low-income access to solar power. Among the most prominent are:

- Renter vs. Homeowner Status: Low-income customers generally tend to have lower rates of homeownership and are more likely to live in multifamily and affordable housing units, which translate into having less control over decisions about rooftop solar. Even in cases where low-income individuals do own their own homes, if the homes (and particularly the roofs) are not in good condition, rooftop solar may not be a viable option or the best use of funding.
- Lack of Access to Capital: By definition, low-income customers have less disposable income, making higher upfront installation costs or CDG subscription prices prohibitive. Low-income individuals also often tend to have lower credit scores, which can make attaining a loan for solar installation difficult. Even in cases where loans are available, they may not guarantee access for individuals with low credit scores.
- Insufficient Tax Burden: Low-income individuals may not be eligible for (or benefit from) state and federal tax incentives for solar if they do not fall within a qualifying tax bracket or have a high enough tax burden. While tax breaks represent a large incentive driving solar deployment, they have not been comprehensive in terms of extending affordability to low-income customers.

A July 2015 Order established a two-phase process for the CDG program. In Phase 1 (October 19, 2015 – April 30, 2016), priority was given to projects located at sites that provide locational benefits, and those that included at least 20 percent low-income participants.[7] There was no uptake or development of projects under either of these stipulations (possibly due to siting or interconnection challenges).

As part of CDG adoption, the Commission directed a CDG Low-Income Customer Collaborative to investigate barriers and solutions for low-income customer participation in the anticipated CDG market. While the collaborative parties labored diligently, the collaborative did not result in viable solutions or recommendations for supporting and/or removing barriers to low-income customer participation in CDG. Staff's report on the collaborative's work stated as follows:

> Although, the Collaborative spent a great deal of time and effort investigating the barriers to low-income customer participation in CDG projects, workable solutions have not arisen that would overcome those barriers. Further, the Commission recognized in the REV Track One Order that there may be circumstances where there is not a developing market for DER projects and the public interest warrants utility investment. One such example identified by the Commission is low or moderate income customers that can use DER to moderate their energy bills and take advantage of REV. Moreover, utility ownership of CDG and the issues surrounding low-income participation could be addressed in the context of REV demonstration projects.
>
> In light of the recent Commission actions, Staff proposes that the Collaborative be suspended and that future Commission action on these issues be addressed in a Staff whitepaper. Staff will prepare a whitepaper that addresses, among other things, utility ownership of community distributed generation in order to ensure low-income CDG participation.[8]

[7] CDG Order.

[8] Case 15-E-0082, Staff Report on The Collaborative Regarding Community Distributed Generation for Low-Income Residential Customers (issued August 15, 2016).

The Collaborative nevertheless reached many important findings and conclusions, and this report incorporates those findings and conclusions by reference.

The Commission recently approved a shared solar project for low-income customers sponsored by Consolidated Edison Company of New York, Inc. (Con Edison). The solar panels will be placed on rooftops and property owned by Con Edison. The system will be constructed as a pilot project that could include up to 1,600 customers throughout its service territory. While the pilot project will initially produce 3 MW of power, Con Edison has proposed an expansion to 11 MW that could serve a total of 6,000 customers if the pilot is deemed successful.[9]

The Commission has taken several steps to encourage and facilitate CDG in New York, including updating interconnection requirements to clear out the backlog of inactive project proposals, and granting extensions from payment deadlines for projects subject to local permitting moratoria.[10] In the transition to VDER compensation, the Commission grandfathered certain CDG projects already being developed to receive compensation under NEM; and going forward, has included the MTC in VDER compensation for CDG projects, providing

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[9] Case 16-E-0622, Petition of Consolidated Edison Company of New York, Inc. for Approval of a Pilot Program for Providing Shared Solar to Low-Income Customers, Order Approving Shared Solar Pilot Program with Modification (issued August 2, 2017).

[10] Case 16-E-0560, Joint Petition for Modifications to the New York State Standardized Interconnection Requirements and Application Process For New Distributed Generators 5 MW or Less Connected in Parallel with Utility Distribution Systems, Order Adopting Interconnection Management Plan and Cost Allocation Mechanism, and Making Other Findings (issued January 25, 2017).

compensation for initial projects that is substantially similar in value to compensation under NEM.[11]

CDG has drawn considerable interest from solar developers; however, the CDG market in New York State is nascent, with many projects still in the interconnection queue. As of December 14, 2017, 309 community solar projects totaling 750.6 MW have been approved for NY-Sun incentives, and 13 projects totaling 4.0 MW have been completed. NYSERDA anticipates that a significant portion of the projects remaining in the NY-Sun pipeline will be completed in 2018-2019.

Compared to rooftop solar, CDG has unique potential to benefit low-income communities for a variety of reasons. First, both renters and homeowners can participate, and subscription terms can be customized to individual customers or market segments, including the length of the subscription and any moving or cancellation fees. Second, CDG can be purchased in discrete amounts that are smaller than most rooftop solar systems, making the cost to entry more accessible. Furthermore, because CDG projects are constructed on larger scales than most rooftop units, they can achieve certain economies of scale. Finally, CDG can be installed on land that is otherwise unusable or has low property value. This can reduce the property costs necessary for initial investment and support community redevelopment by increasing the productivity of unused land. For these reasons, CDG offers great potential for broadening access to clean energy to low-income customers.

While the CDG business model has some advantages as a solution for low-income customers, it also faces some particular barriers to greater adoption for these customers. Owing to the

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[11] VDER Transition Order.

infancy of the market, there is a lack of legal precedent, market research, and data on project successes, making it more difficult to assess the risks of a project. Under these circumstances, investors may require underwriting terms that are overly restrictive for many low-income customers. In addition, high expected customer acquisition and management costs can discourage CDG developers from marketing to low-income customers. Finally, CDG may offer limited cost savings compared to many low-income customers' energy burdens. Therefore, it is critical to address the identified issues with near-term interventions in this market segment.

PROCEDURAL HISTORY

On March 16, 2017, following issuance of the VDER Transition Order, a Notice of Technical Conference on Phase One of Value of Distributed Energy Resources was issued, scheduling conferences on April 5, 2017 and April 6, 2017, with Day 2 to focus on broadening low-income access to CDG, among other topics.[12] After feedback was received from interested parties, a Notice of Agenda for Technical Conference was issued on March 30, 2017, scheduling a separate technical conference for April 13, 2017, with issues related to enabling the participation of low-income customers as the sole focus.[13] This conference facilitated stakeholder consultation and elicited comments and

[12] Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Notice of Technical Conference on Phase One of Value of Distributed Energy Resources (issued March 16, 2017).

[13] Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Notice of Technical Conference (issued March 30, 2017).

perspectives on the specific items identified in the VDER Transition Order, and several stakeholders made presentations.

On May 8, 2017, a Notice of Phase Two Organizational Conference was issued. The conference was held on May 23, 2017, and the creation of working groups was discussed. A Notice of Formation of Working Groups and Protocols for Participation in VDER Phase Two was issued on June 22, 2017, detailing the names, matter numbers, contact information, and draft scopes of each group, as well as the dates to declare interest in being an active participant and the organizational meeting of the three groups (July 12, 2017 and July 17 and 18, 2017, respectively).[14] The groups established were the Low and Moderate Income (LMI) Working Group, the Value Stack Working Group, and the Rate Design Working Group.

Staff hosted the LMI Working Group portion of this meeting on July 17, 2017 and discussed participation, current priority issues, and scheduling. Following this meeting, a Notice Regarding Working Group Process and Filings was issued on July 20, 2017, which required parties interested in being active participants to declare their status by July 28, 2017, and called for interested stakeholders to submit input on issue prioritization for the groups by July 24, 2017.[15] A Notice of Next Working Group Meetings and Extension to Declare Active Participation was issued on July 26, 2017, wherein the dates for

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[14] Case 15-E-0751, <u>In the Matter of the Value of Distributed Energy Resources</u>, <u>Notice of Formation of Working Groups and Protocols for Participation on VDER Phase Two</u> (issued June 22, 2017).

[15] Case 15-E-0751, <u>In the Matter of the Value of Distributed Energy Resources</u>; Matter 17-01278, <u>In the Matter of the Value of Distributed Energy Resources Working Group Regarding Low and Moderate Income Customers</u> (issued July 20, 2017).

Staff to issue the initial scopes, and for parties to declare active participation, were extended to July 28, 2017 and July 31, 2017, respectively.

A Notice of the Initial Scopes for Phase Two Working Groups was issued on July 28, 2017, and listed the following topics to be addressed by the LMI Working Group, as time allowed: interzonal crediting, low-income adders (i.e., additional payments for CDG projects involving low-income customers); the role of NYSERDA solar programs; eligibility and enrollment mechanisms; on-bill financing; and utility ownership.[16] The list of active participants was posted to the Commission's VDER web page on August 10, 2017.[17]

Over the next several months, an additional nine meetings of the LMI Working Group were held to address these issues. Following the meeting of all the working groups on July 17, LMI group meetings were held on August 4, August 23, September 7, September 19, October 11, October 25, November 6, and December 4, 2017. At the August 4 meeting, the LMI Working Group decided that it would focus its efforts on low-income adders, eligibility and enrollment mechanisms, and the role of NYSERDA solar programs. As further discussed in this report, interzonal crediting was referred to the Value Stack working group, as it is an issue that impacts all customers. Bill consolidation, which addresses the billing of CDG developer fees on the utility bill, was a matter pending before the Commission

[16] Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources; Matter 17-01278, In the Matter of the Value of Distributed Energy Resources Working Group Regarding Low and Moderate Income Customers (issued July 28, 2017).

[17] See http://www3.dps.ny.gov/W/PSCWeb.nsf/All/8A5F3592472A270C8525808800517BDD?OpenDocument.

at that time.[18] The LMI Working Group determined that utility ownership should be regarded as a "backstop" mechanism to ensure low-income participation, in the event other market interventions were unsuccessful, and did not need to be further examined by the group.

The August 23 meeting featured a question and answer session with a group of CDG developers, so that the LMI Working Group could gain a better understanding the issues surrounding the barriers developers face in expanding the solar market to LMI customers. Staff wishes to thank the developers who participated, for providing their insights and expertise.

The next several meetings each were devoted to a specific topic, including the creation of adders (both a low-income adder and an environmental justice adder) to encourage customer and/or developer participation; the factors to determine eligibility of, and methods to enroll low-income customers; and the appropriate role of NYSERDA programs in expanding low-income access to CDG. Prior to each meeting, participants were asked to submit papers to facilitate the discussion of ideas, and brainstorm effective ways to increase low-income access to CDG, and the group provided feedback on the various proposals at the meetings.

On October 25, 2017, the LMI Working Group met and discussed how the various initiatives discussed to date might best be coordinated. On November 6, 2017, Staff presented to

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[18] Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources; Case 15-E-0082, Proceeding on Motion of the Commission as to the Policies, Requirements and Conditions for Implementing a Community Net Metering Program, Order on Phase One Value of Distributed Energy Resources Implementation Proposals, Cost Mitigation Issues, and Related Matters (issued September 14, 2017).

the LMI Working Group its preliminary recommendations for this report. The parties requested, and Staff agreed, to hold an additional meeting, which took place on December 4, 2017, to further discuss the Staff recommendations.

Staff had previously filed a request for an extension of the report due date from September 1, 2017 to November 15, 2017, which was granted by the Secretary on August 31, 2017. Due to the scheduling of the December 4 meeting to extend the discussion of recommendations, Staff filed an additional request for an extension to December 15, 2017, "due to the complexities of options considered for the low-income customer sector and the commitment to provide the Commission with actionable proposals."[19] This request was granted by the Secretary on November 13, 2017.

POSITIONS OF THE PARTIES

During the course of the meetings, the parties advanced a variety of proposals and other positions. The following briefly summarizes the parties' positions.

Aligned Parties

Over the course of the LMI Working Group's activities, a collection of 16 parties developed a consensus proposal, which was filed on December 4, 2017.[20] The proposal was endorsed by representatives of Alliance for a Green Economy, Association for Energy Affordability, Azure Mountain Power, Binghamton Regional

[19] Matter 17-01278, In the Matter of the Value of Distributed Energy Resources Working Group Regarding Low and Moderate Income Customers, Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Request for an Extension (filed November 9, 2017).

[20] Matter 17-01278, LMI WG Aligned Parties Proposal (filed December 4, 2017).

Sustainability Coalition, Citizens for Local Power, Ecogy Solar, Green Street Solar Power LLC, Natural Resources Defense Council, New York City Environmental Justice Alliance, New York Lawyers for the Public Interest, Pace Energy and Climate Center, ProjectEconomics, PUSH Buffalo, Solstice, Vote Solar, and WE ACT for Environmental Justice (together, the Aligned Parties). The Aligned Parties state that there are many barriers to LMI participation in clean energy solutions, and that a suite of approaches are needed to overcome them. Their five main policy recommendations are summarized below.

<u>New Value Stack Components</u>

The Aligned Parties would add two new components to the value stack: one for environmental justice (EJ) and another for LMI. They emphasize that these should be considered as value stack components as opposed to "adders." They propose transitional values to be implemented immediately, while a longer-term valuation process is put in place.

The LMI customer-based component would be available for each LMI customer a project subscribes. The LMI component would be included in the value stack on a per kWh basis. LMI customers would include those with household annual income at or below 80 percent of the Area Median Income (AMI) or SMI, whichever is greater; as well as any meter in an affordable multifamily building (including common load meters or master meters).

The EJ component would be available for all off-takers of a designated EJ Project, and would be included in the value stack on a per kWh basis. A project would be designated an EJ Project by meeting any one of certain outlined criteria, including that (a) the project is sponsored by a community-based organization located in and serving an EJ community; (b) at least 50 percent of the project’s subscribers, owners, members are LMI customers that live in an EJ community; or (c) the project is located in an EJ community, and at least 50 percent of the project’s subscribers, owners, or members are LMI customers not necessarily living in an EJ community.

A transitional value of $0.06/kWh would be established for both the LMI value stack component and the EJ value stack component, to support the development of projects that serve LMI customers, while longer-term values are being determined. During the transitional period, if a project demonstrates eligibility to receive both the LMI and EJ components, it would receive value of $0.09/kWh.

The New York State Department of Environmental Conservation (DEC)’s Potential EJ Areas definition and mapping tool would be used as a transitional definition of eligible EJ communities. This would also be used as a starting point for the development of a more targeted screening tool, with additional indicators to create a more targeted definition and accompanying map of EJ communities for the purposes of applying the EJ value stack component.

The transitional values and definitions would remain in place while a strategy for longer-term implementation, both related to quantification of value, definitions, and methodologies, is taking place. The Aligned Parties state that additional research support and analysis will be required to establish long term values and definitions, which will likely require further work by the Value Stack Working Group, input from state agencies including NYSERDA and DEC, and the convening of other relevant stakeholders and experts. Specifically, the Aligned Parties state that additional research and quantification is needed around the following: (a) development of a screening tool and indicators to identify targeted EJ communities (the Aligned Parties recommend starting with the DEC Potential EJ Areas tool and definition, and utilizing other existing and soon to be underway models and processes, including CalEnviroScreen and New York City's City EJ community identification process, established pursuant to Local Laws 60 and 64); (b) establishment of a methodology to determine the nexus between the development of a particular project and its potential to offset the use of a local polluting energy infrastructure, such as a peaker plant, in an EJ community; and (c) calculation of the appropriate long-term value for EJ, LMI, and affordable multifamily building value stack components, to replace the interim transitional values.

NYSERDA and NY Green Bank

The Aligned Parties support NYSERDA to move forward with the implementation of its Low Income Community Solar Initiative (further described below), and include within the solicitation components and criteria that would leverage maximum community and customer benefit.[21] Aligned Parties state that NYSERDA and the New York Green Bank (NY Green Bank) should develop programming that would complement that program, by providing specific supplementary support to overcome other identified barriers to development of CDG that serves LMI customers and EJ communities. This includes the following: (a) provide financial support for the development of pilots throughout New York to test deployment of CDG in a variety of geographies and utility service areas, project sizes and

[21] Matter 16-00681, In the Matter of the Clean Energy Fund Investment Plan, Clean Energy Fund Investment Plan: Low- to Moderate-Income Chapter (filed November 29, 2017).

capacities, and that use different business and service models to collect data and better understand how to serve LMI and environmental justice communities through CDG; (b) expand and streamline pre-development assistance to include the full range of pre-development costs and to allow for start-up funding at contract signing; and (c) develop LMI CDG credit and project support mechanisms to facilitate low-cost project finance and no-credit score customer enrollment, including credit enhancement mechanisms such as a loan loss reserve.

Local Community-based Generation Through Community Choice Aggr1egation

The Aligned Parties state that a model for communities interested in Community Choice Aggregation (CCA) that allows for integration with a local clean energy project would support the development of local sources of clean energy for communities that choose to participate in a CCA program, and create a streamlined mechanism to facilitate the flow of benefits from clean distributed resources to customers.

Market Transformation Adders

Finally, the Aligned Parties state that there are a range of additional social and economic benefits and goods that CDG can support, such as local hiring and workforce development, as well as the use of brownfields and other under-utilized space. While this may not be best captured within the value stack scheme, the Aligned Parties seek to have these benefits and goods studied and accounted for in state programs and policy.

City of New York

The City of New York (City) advocates for an EJ adder to the value stack calculation.[22] The City submits that injections from CDG projects sited in a designated EJ community should receive a volumetric adder as a fixed component of the VDER compensation scheme. The City believes determination of the value of the EJ adder is, by its nature, imprecise. The City proposes that the initial amount should be substantial enough to shape investment decisions and incentivize development and participation in CDG projects sited in EJ communities; and that the adder may be adjusted over time to assure that the objective of levelizing deployment rates in these communities is being achieved. The City believes that an incentive that is split between the developer and customer is most likely to incentivize both developer siting decisions and customer enrollment decisions that together drive LMI participation; however, customers receiving such an incentive should not be charged higher rates by the CDG administrator.

The City notes that many LMI Working Group discussions centered on the perceived credit risk posed by LMI customers when compared to customers of other income levels. The City proposes exploring ways to address these concerns, including: (a) gathering and analyzing data about LMI customers to demonstrate the extent to which the perceived credit risk associated with these customers is correlated with likelihood to pay energy bills; and (b) collaborating with NYSERDA and the NY Green Bank to provide financial backstop mechanisms, until it can be demonstrated to the market that LMI customers do not provide the credit risk that many believe.

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[22] Matter 17-01278, City of New York Discussion Topics for 10-25 LMI Meeting.

Joint Utilities

The Joint Utilities state that credit enhancements that would protect financiers if a low-income customer is unable to pay should be explored.[23] For example, products such as loan insurance and/or support provided by governmental entities such as NYSERDA and/or NY Green Bank could provide a more effective way to encourage CDG projects to target low-income customers. Joint Utilities believe that the challenge of developing workable credit enhancements that increase the participation of low-income customers in CDG projects appears to be something that the NY Green Bank is uniquely qualified to address.

With respect to low-income adders, Joint Utilities state that a competitive process should be used to determine the magnitude of adder that CDG developers would need in order to achieve an appropriate level of low-income participation. In order to more directly and precisely incentivize low-income customer participation in CDG projects, any such adder should be applied on a per project or per low-income customer basis, rather than per kWh. Finally, Joint Utilities state that the level of non-participant costs should be considered in any option to increase low-income customer participation in CDG; and that utility ownership of CDG for the benefit of low-income customers may prove to be a more cost-effective alternative.

[23] Matter 17-01278, Joint Utilities Comments (filed September 9, 2017). Joint Utilities include Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation, Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation.

Multiple Intervenors

While not active participants in the LMI Working Group, Multiple Intervenors (MI) provided written comments.[24] MI states that it does not favor proposals that would create new, customer-funded subsidies designed to promote participation in CDG projects by LMI customers. MI notes that in Case 14-M-0565, the Commission greatly increased customer funding of low-income Affordability programs, which will result in material rate impacts on other ratepayers. MI states that the Commission attempted to balance competing concerns relating to assisting low-income customers and the resulting rate impacts on other customers; and while MI does not agree with the Commission's balancing, the potential adoption of new adders to subsidize LMI customers' participation in CDG would upset that balance. In addition, MI argues that LMI participation in a CDG project does not increase its economic benefits.

MI recommends that Staff focus on ways of eliminating or reducing artificial barriers to participation in CDG projects in a manner that does not seek to create new subsidies. Alternatively, if new subsidies are created, then MI recommends that the associated costs should be recovered solely from residential customers.

STAFF PROPOSAL

In the sections that follow, this Report discusses various Staff proposals for market interventions that have the potential to encourage and support low-income customer participation in CDG.

[24] Matter 17-01278, Comments of Multiple Intervenors (dated September 6, 2017).

Interzonal Credit

The VDER Transition Order envisioned that an interzonal CDG credit program could provide benefits to low-income customers from CDG projects interconnected in service territories and load zones other than their own. Such a program would offer the potential to serve low-income customers in areas, such as New York City, that have proven challenging for development of larger scale CDG projects. As part of this Working Group effort, Staff was specifically directed to work with the stakeholders to develop and report on the feasibility of an interzonal CDG credit program.

Early in the working group process, the parties concluded that interzonal crediting was not specifically a low-income issue; i.e., if interzonal crediting is feasible, it is feasible for all customers. To determine feasibility requires development of mechanisms and standards as well as analysis of costs and benefits. The Staff Working Group Chairs therefore determined that interzonal crediting would best be further explored in the Value Stack Working Group. If that work results in a positive assessment, it would be appropriate at that time to assess the suitability of that mechanism for low-income customers.

Bill Discount Pledge Program

The Aligned Parties, among others, urged Staff to include some form of direct incentive or value-stack additive component to incentivize low-income customer participation. Such direct incentives could include subsidizing the subscription price, supplementing the bill credit the customers receive, or direct cash payments to CDG projects serving low-income customers. Whether placed within the Value Stack tariff, or treated as a separate "adder", any consideration of such an incentive must take into account ratepayer cost, effectiveness compared to other options to support low-income cost savings and participation, and rules and procedures needed to ensure customer protection and benefit.

To address this need, Staff proposes a low-income bill discount pledge (BDP) program that is modeled after the "CleanCARE" program proposal advanced in California by the Interstate Renewable Energy Council (IREC). CleanCARE would allow utility low-income program participants "to redirect their share of low-income program funds towards the purchase of renewable generation from a third-party owned renewable energy facility [under the CleanCARE proposal, the program would be limited to projects located in a disadvantaged community] and receive the resulting net energy metering bill credits on their electricity bills."[25]

Staff's BDP program proposal envisions relying on the funding stream associated with utility low-income Affordability bill discount programs.[26] The BDP program would allow low-income customers to redirect all or a portion of their discount to investments in CDG projects, thereby reducing or eliminating the need for subscription payments by low-income subscribers. Participants in the BDP program would use this share of their monthly bill discount towards the purchase of bill credits from

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[25] Interstate Renewable Energy Council (IREC), Shared Renewable Energy for Low- to Moderate-Income Consumers: Policy Guidelines and Model Provisions (March 2016). Available at www. irecusa.org/publications/shared-renewable-energy-for-low-tomoderate- income-consumers-policy-guidelines-and-model-provisions.

[26] Case 14-M-0565, Proceeding on Motion of the Commission to Examine Programs to Address Energy Affordability for Low Income Utility Customers, Order Approving Implementation Plans with Modifications (issued February 17, 2017).

a CDG project. Low-income customers electing the BDP option would then offset a portion of their monthly bills through value stack and MTC bill credits.

The BDP program would require that the bill reduction would be the same or greater than the foregone portion of the bill discount, as further discussed below. Although the bill discount itself would be reduced for these participants, they would also receive commensurate bill credits from the CDG project, resulting in the same or lower electricity bills as they would have under utility’s low-income program.

Fundamentally, BDP relies on the funding associated with the Affordability program rate discounts to support investment in CDG for the benefit of participants via value-stack bill credits. In this way, the BDP option would increase low-income consumer choice, and expand opportunities for low-income households to subscribe to CDG projects while maintaining the rate levels and benefits of the current Affordability program, and further would be revenue-neutral for ratepayers. Participants in the BDP program would have to meet the eligibility requirements for the utility’s Affordability program, but would choose the BDP program’s alternative bill reduction option instead of receiving the Affordability rate discount, and would be guaranteed the same or better bill reductions as they would receive under the utility’s discounted rates.

Although the BDP program would provide CDG developers with a reliable revenue stream associated with low-income subscribers, the outcomes for BDP are likely to vary across utility service territories and Affordability program discount levels. Affordability program discount levels are based on an “affordability block” of energy (defined as 110 percent of the average participant bill) and are designed to reduce the costs of the affordability block to the average level of 6 percent of household income. By the end of 2018, when the Affordability discounts will be fully implemented statewide, four levels of discount will be available, corresponding to four levels of household need.[27] Low-income customers located in utility service territories with higher CDG Value Stack compensation and/or larger discount levels, and those receiving the larger Tier 2, 3 and 4 bill discounts are likely to be the most attractive to developers as BDP subscribers. In cases where the BDP amount is insufficient to fully cover subscription costs, some additional customer contribution may be required.

To increase its effectiveness as an affordability tool, BDP should be marketed to high-usage electric customers; as these customers would likely stand to benefit the most from BDP. To the extent possible, the marketing of multiple low-income programs should be coordinated. Participation in EmPower-NY could be coordinated with the BDP program enrollment process to encourage BDP enrollees who have not previously participated in EmPower-NY to receive energy efficiency upgrades to reduce their consumption. Low-income subscribers should also be informed of any other programs and/or incentives for which they may be eligible.

In addition to each utility's existing Affordability program participants, other means of identifying customers for the BDP program could also be developed. For CDG developers who are developing a project by or for a particular geographic area

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[27] Monthly discounts under the Affordability bill discount programs will range from $4 (Tier 1, NYSEG/RG&E) to $76 (Tier 3, O&R). Tier 2 and Tier 4 discounts are similar, and Tier 3 is the highest discount level.

(e.g., within a disadvantaged community) the CDG developer could coordinate and work in partnership with community action agencies to sign up low-income subscribers. Marketing and outreach for the program could also be coordinated with other entities with experience in this area, to identify the most effective strategies and ensure positive uptake. CDG developers could contract with such partner organizations to administer marketing, education and outreach for low-income customers. For such organizations, subscribers' CDG subscriptions and benefits could be an integral piece of their overall energy assistance and work.

CDG developers conducting marketing, education and outreach in association with community-based organizations or other partners may identify eligible households who are not currently enrolled in the local utility's Affordability program. Such customers could be enrolled as subscribers in the BDP program, provided they can demonstrate income eligibility to participate in the utility's Affordability program. Customers may have to complete paperwork to demonstrate eligibility and get approved to participate. Once eligibility is established, the customer would be enrolled in the utility's Affordability program as well as the BDP program, and eligibility on an ongoing basis would be demonstrated through the utility's Affordability program rules (generally, through annually applying for and receiving a HEAP grant). BDP therefore could enhance efforts to reach all eligible low-income customers, as well as help achieve Affordability program penetration goals.[28]

[28] Not all utility Affordability programs currently allow enrollment by non-HEAP recipients. For those that do not, in adopting the BDP program, the Commission should also modify those programs to do so.

The utilities would necessarily play an important role in BDP implementation and administration. A framework for appropriate information-sharing between CDG developers and the utility (and as appropriate, NYSERDA) would need to be put in place, since the utilities have information on current Affordability program enrollees' locations and energy usage. Among the issues that will need to be further addressed are data privacy and customer consent, utility billing and crediting, and the potential role of the utility in maintaining the wait-list discussed below.

It is expected that low-income subscribers would be added or removed regularly, both during the planning and development phases and during the operation of a CDG project. Indeed, the BDP program might need to anticipate shorter subscription and participation periods than for a typical, non-BDP CDG contract. When a customer is no longer eligible for the Affordability program and leaves the program, the customer should be permitted the option to remain as a subscriber of the CDG project. From this point, the customer would be subject to the same rules as other residential subscribers.

Conversations with developers have indicated that some have challenges qualifying, recruiting, and retaining eligible customers. With the ability for other participants to assume the subscription, there would be interest by developers to seek a wait-list of backup subscribers. These backup subscribers would assume the subscription for low-income participants that move outside the utility service territory or are unable to make their payments, either to the utility (thus resulting in termination of service) or to the developer, if the amount of the BDP pledge is insufficient to cover total subscription costs. When this occurs, a new customer could participate, drawn from a wait-list maintained by the developer (or potentially by the utility). Such transfers could occur at the beginning of each billing cycle.

This feature of the BDP program could reduce initial customer acquisition costs as well as those re-marketing costs associated with customer turnover. The backup framework also might reduce concerns about taking on subscribers otherwise deemed risky by lenders, by allowing new low-income subscribers to quickly replace those who leave the program or default on payments. Staff requests that, in their comments on this report, the utilities and other parties comment on the benefits, costs and risks presented by the wait-list procedures, particularly with respect to utility maintenance of such a list.

While Affordability program funding would provide an important funding source for encouraging CDG participation, diverting them is a sensitive matter, and ensuring low-income customers are protected is paramount. Given the goals of the BDP program, it is vital that the program should not create opportunities for predatory sales and marketing practices or exploitation of low-income communities for financial gain. In addition to the requirements put in place by the DER Oversight Order, the BDP program must have program-specific rules and consumer protection measures, disclosures, and accountability measures to ensure that financially vulnerable customers are not taken advantage of or otherwise compromised.[29]

Guaranteeing that participants receive, on an annual basis, the same or better bill discount as under the

[29] CASE 15-M-0180, In the Matter of Regulation and Oversight of Distributed Energy Resource Providers and Products, Order Establishing Oversight Framework and Uniform Business Practices for Distributed Energy Resource Suppliers (issued October 19, 2017).

Affordability program is fundamental to BDP. CDG developers would either (a) sign up interested low-income customers only after evaluating whether, by participating in BDP, customers would save the same or more money as they would have under the traditional Affordability program, based on their past 12 months of energy consumption; or (b) offer to provide guaranteed savings to low-income consumers, similar to the guarantee required for ESCOs.[30] Alternatively, the Commission may require one of these approaches. Under the former approach, at the end of the program year, the developer would evaluate each participant customer's results under BDP. If the developer determines that a customer did not achieve the BDP bill savings on average across the year, the customer would be removed from the program and notified accordingly. CDG developers that fail to follow through on the annual savings guarantee would face discontinuation of BDP payments from the utility going forward.

In addition to the bill savings guarantee discussed above, Staff invites comments on what additional consumer program-specific protections should be considered in the context of the BDP program proposal. The following is a list of matters for potential consideration:

- Clear review of qualifications for participating developers and community partner organizations.
- Appropriate steps, fees, or implications for early termination of BDP subscriptions.
- Protections against hidden fees (late payment, contract termination, etc.) or unreasonable fee or rate escalators.

[30] Case 12-M-0476, Proceeding on Motion of the Commission to Assess Certain Aspects of the Residential and Small Non-Residential Retail Energy Markets in New York State, Order Adopting a Prohibition On Service To Low-Income Customers By Energy Service Companies (issued December 16, 2016).

- Checks and balances for each developer's BDP program, and statewide assistance to BDP subscribers as required.

Role of NYSERDA Programs

NYSERDA has a commitment to increasing access to clean energy solutions for low-income customers, including uptake under the NY-Sun initiative, and identifying new ways to encourage and incentivize low-income customer participation in CDG projects. NYSERDA's efforts will be critical to ensuring successful market intervention in this sector.

NYSERDA recently filed a revised CEF Low-to-Moderate Income Chapter, with a new Low-Income Community Solar initiative. The initiative was developed and will be implemented with the benefit of extensive stakeholder feedback, including feedback NYSERDA has received while participating in the LMI Working Group.

Under the Low-Income Community Solar initiative, NYSERDA will develop a CDG subscription model specifically for low-income customers, with subscriptions offered either at no cost, or where low-income participants pay a portion of their savings to the sponsor to receive other benefits.[31] NYSERDA will issue a solicitation for CDG projects targeting 10,000 subscriptions for low-income customers. NYSERDA will allocate the committed capacity to low-income customers using the program's subscription model, and manage customer enrollment and subscription allocation on an ongoing basis. Among other things, NYSERDA has committed to consider policy factors, in addition to pricing, in the evaluation of solicitation

[31] While the NYSERDA filing did not contemplate the proposed BDP program above, NYSERDA-sponsored CDG projects where some participant payments are required could utilize BDP to cover all or some portion of such payments.

responses, including geographic diversity, local-level project support, options to extend customer participation, and other factors.

By letter dated December 6, 2017, Staff notified NYSERDA that the chapter complies with the requirements of the CEF Order, and that NYSERDA may begin to access the budget and advance the identified activities.

NYSERDA Income Verification Service

As discussed above, CDG developers may identify eligible households who are not currently enrolled in the utility Affordability programs. Customers not currently enrolled in the utility Affordability programs must demonstrate eligibility to participate in the BDP program. Participants may have to complete paperwork to demonstrate eligibility and get approved to participate; however, since for most utilities, eligibility for the Affordability program is limited to HEAP recipients, enrollment is seasonal and limited to the period that the HEAP program is open.

NYSERDA currently conducts income verification for its income-eligible programs, and is already examining ways to lower the costs of such verifications. In order to facilitate the BDP program, Staff proposes that NYSERDA extend its income verification service to developers seeking to secure BDP subscribers for their CDG projects. Such verification would be required only for customers not enrolled in the utilities' Affordability programs.

The New York State Office of Temporary and Disability Assistance (OTDA) maintains a system that allows telephone companies to determine subscriber eligibility for the telephone Lifeline Program. The system relies on databases that include information on households enrolled in a variety of assistance programs administered by OTDA, to establish income eligibility for telephone Lifeline.[32] Staff encourages NYSERDA to explore the potential for NYSERDA to access this system as an efficient way to verify customer income eligibility, or to propose other cost-effective solutions.

NYSERDA would develop appropriate program rules to ensure that its services are used only for qualifying CDG projects, and that appropriate pre-qualification is conducted by the developer or their partner organization. The program must be designed to limit and dissuade speculative customer outreach, where developers blanket neighborhoods and seek income determinations for large volumes of customers who are not low-income.

NYSERDA and utilities must work together to accomplish enrollment into the utility Affordability programs of eligible customers identified through NYSERDA verification. Also, as discussed above, once determined to be qualified and enrolled in the utility's Affordability program, the customer would be subject to the Affordability program's rules for continuing eligibility; generally, that the customer must annually apply for and receive HEAP or another qualifying social services program.

Loss Reserve

Policies that directly address the issue of financing and credit risk will likely have a significant impact on increasing low-income participation in CDG. Therefore, it will be essential to also consider solutions for credit issues related to the low-income customer segment.

[32] Staff's understanding is that eligibility criteria for each of these programs requires income at or below 60 percent of SMI.

Credit scores are used by lenders to evaluate the risk of financing a solar system. Credit requirements vary among lenders and programs, but scores of at least 650–680 are often required. There is furthermore a market perception that low-income consumers suffer from low credit scores, which often prevents CDG developers from marketing to low-income customers; and some low-income customers may have insufficient lending activity to generate a credit score, automatically barring them from CDG offerings. Some parties believe the correlation between income and credit quality may not be as strong as has sometimes been assumed.

A loss reserve is a fixed or renewable account that contains funds set aside to cover eligible losses incurred by a project or portfolio over a determined period of time. The loss reserve account may lessen the risk that a given asset may underperform, and in turn be unable to meet the asset's financing terms. Loss reserve funds have long been used to reduce risks from both conventional and novel investments, and could be used to attract financing for CDG projects serving low-income participants.

Under a loss reserve program, public funds would be held in reserve to cover potential losses that project owners and lenders may incur, if low-income CDG subscribers default on or terminate CDG subscriptions at a higher rate than other customers. This can mitigate perceived risk and make it easier for low-income customers with no or low credit scores to purchase a CDG subscription. Additionally, providing a loss reserve for low-income CDG subscriptions could reduce financing barriers for the developer.

In the Transition Order, the Commission directed Staff to work with NYSERDA to continue to explore NY Green Bank options, including but not limited to developing solutions to lower the cost of capital and provide credit support for CDG projects that are either fully or proportionally comprised of low-income customers.[33]

The NY Green Bank is a $1 billion state-sponsored specialized finance entity working in partnership with the private sector to address and alleviate specific gaps and increase investments into New York’s clean energy markets, while also creating a more efficient, reliable and sustainable energy system. Such interventions specifically could include credit enhancement tools such as loan guarantees and loss reserves.

Staff proposes that NYSERDA explore the potential for a loss reserve for CDG projects serving low-income subscribers, and if financially viable, establish such a loss reserve. NYSERDA advises that it is developing such a strategy in collaboration with NY Green Bank. Such a loss reserve is expected to reduce the credit requirements necessary for low-income consumers to access subscriptions to CDG projects. While the amount of funding required is not yet determined, a relatively modest amount, in proportion to contributions by low-income customers, could provide surety for hundreds or thousands of subscriptions.

Environmental Justice Location Incentive

The geographic location of CDG projects, and/or the low-income communities they serve, could also be a factor in defining the projects that should be the target of market intervention. For some policymakers, advocates, community-based organizations, and other stakeholders, locating a CDG project within or near a particular EJ community may be a program design

[33] Transition Order, p. 140.

priority because it establishes a nexus to the electric system. Alternatively, the priority may be on CDG projects that are designed to serve customers who reside in such an EJ community, rather than the location of the CDG installation itself. In either case, the focus on location typically comes in response to the disproportionately high impact on these communities by environmental pollution. Where those impacts stem from traditional electric generation and other energy-related industries, providing these communities with robust incentives for CDG deployment can ensure that the REV agenda proceeds in an inclusive manner.

The VDER framework already provides payment streams to encourage CDG deployments in specific areas, due to locational values that provide additional value from a public policy perspective. Similarly, an EJ component of the VDER tariff could potentially incentivize CDG development in communities that have historically benefited least from emerging clean energy technology, and instead have traditionally borne a disproportionate burden of pollution, and attendant public health consequences.

While the notion of an EJ location incentive is conceptually straightforward, implementing such a mechanism requires examination of the size, location, and other attributes of the CDG project, to ensure the facilities are truly benefiting those communities. Staff proposes further development of this topic, specifically, to identify cases where environmental impacts result from an electric generating plant or other electric facilities, thus justifying additional payments to a CDG project.

The Value Stack Working Group has already begun to delve into the issues surrounding EJ, and has scheduled an upcoming meeting at which EJ experts will present to the Value Stack Working Group. This report is intended to lay out, in broad form, a roadmap for the issues that must be resolved to present a viable EJ incentive proposal to the Commission for consideration. Such issues will include the following:

- Identifying the appropriate screening tools or criteria to target an EJ incentive; e.g., whether an eligible project must be physically located within an EJ community; serve low-income customers, some or all of whom are located within an EJ community (and if some, what is the minimum percentage which would qualify); or both.
- Calculation of the appropriate value of an EJ incentive. Local environmental and health benefits resulting from shared renewable energy facilities may be difficult to measure, especially if facilities are necessarily smaller due to their location in urban areas. Such values further are likely to differ by community and over time.
- How such an incentive would be distributed between CDG developers and customers. An approach that provides incentives to both developers and customers is the most likely construct to incentivize both developer siting decisions and customer enrollment decisions that together drive low-income participation.
- Identifying a source of funding. Such funding would further need to be secured for the duration of time that the incentive would be paid. A related question is whether an EJ incentive should only be made

available within the existing annual 2 percent bill cap established in the VDER Transition Order.[34]

OTHER WORK REQUIRED

While on-site CDG installations on multi-unit housing are exempt from the minimum ten membership requirement, the Commission declined to expand the MTC beyond mass market customers, as was requested in a recent petition for rehearing of the Commission's VDER Order. In its Order denying the petition for rehearing, the Commission recognized that

> "tenants in master-metered buildings, whether submetered or not, face barriers to participating in DER… Staff is therefore directed to consider methods for reducing or eliminating these barriers, including through discussion in the VDER Working Groups. Staff, in consultation with stakeholders and the VDER Working Groups, shall evaluate strategies to address the barriers to participation faced by tenants in master-metered buildings… Staff shall thereafter report its findings and recommendations to the Commission for consideration."[35]

This work will require continued effort in this or other VDER Working Groups.

The proposal of the Aligned Parties to combine CDG projects with community choice aggregation (CCA) suggests that at least two policy/programmatic modifications are needed: (a) implementation of consolidated billing, and (b) reduction of the 1,000 kWh annual usage subscription threshold. The former is under consideration in the VDER case, and the Joint Utilities

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[34] VDER Transition Order, p. 17.

[35] Cases 15-E-0751, et al., In the Matter of the Value of Distributed Energy Resources, Order Denying Petition for Rehearing and Making Other Findings (issued October 24, 2017), pp. 12-13.

filed their consolidated billing proposal on November 13, 2017. The latter is under discussion in the Value Stack Working Group.

CONCLUSION

The low-income market for solar is challenging, but offers the potential for significant opportunity. The Commission and parties will need to be strategic, patient, and diligent, and commit to investing time and resources, if we hope to make a meaningful impact on the penetration of solar in low-income communities. The low-income customer segment further may require a level of support traditionally not required for other CDG initiatives. Such support may include funding at a higher level (with lower leverage ratios); budgeting for programmatic and marketing initiatives; and dedicating other resources, including potentially additional staff or partnership support. Under any circumstances, the low-income CDG market will need continued attention, including ongoing assessment of the effectiveness and impact of approaches that are implemented, and further development of efficient, impactful and novel approaches.

As initial steps in this effort, Staff requests public comment on the proposals for encouraging low-income participation contained in this report followed by Commission consideration and action.