NEW YORK STATE OF OPPORTUNITY. | Department of Public Service

Low Income Access to Solar

LIFE 2018 Statewide Conference
May 22, 2018, 2:15pm
Albany Capital Center

Reforming the Energy Vision (REV)

- Strategy to build a clean, resilient and affordable energy system for all New Yorkers
  - One of REV's main objectives is "50 x '30"
    - obtain 50% of the state's electricity from renewable sources by 2030
  - Install 3,000 MW of solar by 2023
    - NYSERDA NY-Sun program
    - achieve a robust, self-sustaining solar market
- Maintaining universal, affordable service is a key driver of REV
- Value of *Distributed Energy Resources* (VDER) and Community Distributed Generation (CDG) Cases are part of REV

Barriers to Low-income Solar

- Renter vs. Homeowner
  - Low-income customers tend to be renters
    - more likely to live in multifamily and affordable housing
    - have less control over decisions about rooftop mounting
  - For low-income homeowners, rooftop solar may not be a viable option (or the best use of funding) if home (esp. roof) is not in good condition
- Lack of Access to Capital
  - Low-income customers have less disposable income – can't afford upfront costs
  - Low-income individuals tend to have lower credit scores – can't get a loan
- Insufficient Tax Burden
  - Tax breaks are a large incentive driving rooftop solar deployment
  - Low-income individuals may not be eligible for (or benefit from) state/federal tax incentives

Rooftop Solar vs. CDG

- Rooftop solar -- panels mounted on the rooftop of a building
  - Installation of a rooftop solar system costs an average of $20,000 (as of May 2017)
  - VDER sets new compensation scheme ("value stack") for DER
    - will replace net energy metering (NEM) for rooftop in 2020
    - value stack compensation recognizes additional value of DER, but is less than NEM

- CDG -- an eligible (solar) generating facility located behind a host meter
  - Project sizes up to 5 MW AC (recently increased from 2 MW)
  - Must have at least 10 off-takers (certain on-site projects on multifamily buildings are excepted)
    - a large non-residential "anchor" customer can take up to 40% of power produced
    - all others must be residential and small non-residential customers

  - Participants in can either own panels or purchase subscriptions to an array owned by third party
  - Participants receive utility bill credits for the solar energy that their portion produces
  - Eligible to receive a Market Transition Credit (MTC)
    - provides compensation roughly equal to net energy metering (NEM in first tranche)
    - 10% less than NEM in second tranche
    - 20% less than NEM in third and final tranche

CDG Potential in NYS

- National Renewable Energy Laboratory (NREL) estimates that CDG could make up half of the nationwide distributed PV market as early as 2020

- Factors influencing solar potential in NYS
  - Low insolation level -- decreases PV panel efficiency, increases the payback period
    - annual average solar radiation in NYS is ~2/3 that of Southern Cal. (~4.2 - 4.7 kWh/m^2/day).
  - Relatively low capacity factors (25% or less)

- More expensive than conventional generation
  - Upfront costs are higher
  - Operation and maintenance costs are relatively low, and fuel is free

- Solar currently makes up <2% of generating power in NYS
  - Significantly smaller than other renewable resources like hydropower and wind
  - Hydro + wind = >7,000 MW

NEW YORK STATE OF OPPORTUNITY. | Department of Public Service

Potential for CDG to Benefit Low-income Communities

- Both renters and homeowners can participate
- Subscriptions can be purchased in discrete amounts that are smaller than rooftop solar
- Subscription length/other terms can be customized for low-income market segment
- CDG projects can achieve certain economies of scale
  - are constructed on larger scales than rooftop units
  - still less economic compared to utility-scale projects
- CDG can be installed on land that is otherwise unusable or has low property value
  - reduces property costs
  - supports community redevelopment by increasing productivity of unused land

Barriers to CDG Adoption For Low-income Customers

- Infancy of the market -- a lack of legal precedent, market research, and data on CDG project successes
  – more difficult to assess project risks
  – investors requiring overly restrictive underwriting terms

- High customer acquisition and project management costs
  – discourage CDG developers from marketing to low-income

- CDG may offer limited cost savings
  – not as cost-effective as other measures for low-income customers
  – *e.g.*, weatherization and lighting.

Low-Income CDG Development

- Initial Phase of CDG (October 2015 – April 2016)
  - priority given to projects with >20% low-income participants (or located at sites providing locational benefits)
  - No uptake (possibly due to siting or interconnection challenges)

- CDG Low-Income Customer Collaborative (2016)
  - did not result in viable solutions or recommendations
  - Commission has recognized (REV Track One Order) that there may be circumstances where there is not a developing market for DER
    - public interest warrants utility investment
    - one example identified is low-income customers

  - Staff Report (August 2016) recommended examining utility ownership of CDG for low-income

Utility-owned CDG

- Con Edison low-income shared solar project
  - Solar panels placed on Con Edison properties
  - Initial pilot will produce 3 MW, include ~1,600 customers
  - Possible expansion to 11 MW / 6,000 customers

- Niagara Mohawk “Fruit Belt” REV Demo Project
  - located on Buffalo’s East Side (known as the Fruit Belt)
  - Installed rooftop solar panels on ~170 low- and moderate-income homes (and a few community organizations)
  - Project producing ~500 kW

Staff Low-income CDG Proposal

- Commission directed Staff (VDER Order) to consider options to encourage low-income participation in CDG under VDER tariffs

- Series of Staff-led workshops (latter part of 2017) led to December 2017 Staff report (issued for comment)
  - Proposals for market interventions to encourage and support low-income customer participation in CDG
  - Comments received -- Joint Utilities, NYC, Utility Intervention Unit (DOS), Citizens for Local Power, “Aligned Parties”
  - Expected to be calendared for Commission action soon

Bill Discount Pledge (BDP)

- Subsidize subscription fees for low-income customers
  - reduce or eliminate the need for low-income customers to pay subscription fees out of pocket
  - incentivizes CDG developers to serve low-income customers

- Allow low-income customers to use a share of their monthly Affordability program bill discount towards the purchase of CDG subscription
  - expands opportunities for low-income households to subscribe to CDG projects
    - increases low-income consumer choice
  - offset a portion of their monthly bills through CDG bill credits

- Relies on Affordability program bill discount funding to support CDG investment
  - maintains the rate levels and benefits of the current Affordability program
  - revenue-neutral for other ratepayers

Participant Protections

- CDG developers would have to guarantee that CDG credits, on an annual basis, would be equal to or greater than the foregone portion of the bill discount
  - Offer to provide guaranteed savings to low-income consumers, similar to the guarantee required for ESCOs
  - Sign up interested low-income customers only after evaluating whether, based on their past 12 months of energy consumption, they would save the same or more than they would have under the traditional Affordability program

- Program-specific rules and consumer protection measures, disclosures, and accountability measures needed to protect financially vulnerable customers
  - Clear qualifications for participating developers and partner community organizations.
  - Appropriate subscription terms and rules and fees for early termination
  - Protections against hidden fees or unreasonable fee or rate escalators
  - Availability of PSC Helpline assistance to BDP subscribers

Is this a Material Incentive?

- Outcomes for BDP are likely to vary across utility service territories/Affordability program discount levels
  - Some low-income customers are likely to be more attractive to CDG developers as BDP subscribers than others
    - those located in utility service territories with higher CDG Value Stack compensation
    - those receiving larger discount levels and/or the higher Tier 2, 3 and 4 bill discounts
      - monthly discounts range from $4 (Tier 1, NYSEG) to $76 (Tier 3, O&R)
  - In cases where the BDP amount is insufficient to fully cover subscription costs, some additional customer contribution may be required

Expanding Participation

- Other means of identifying/enrolling low-income customers should also be developed
  - Potential role for community-based organizations -- For CDG developers who are developing a project by or for a particular geographic area (e.g., within a disadvantaged community)
  - Eligible households who are not currently enrolled in the utility's Affordability program could be enrolled, provided they can demonstrate eligibility

- Some CDG developers have challenges qualifying, recruiting, and retaining eligible customers
  - There would be interest by developers to seek a wait-list of backup subscribers with the ability to assume the subscription if customers drop out
  - Reduce initial customer acquisition costs as well as re-marketing costs associated with customer turnover
  - Reduce concerns about taking on subscribers otherwise deemed risky by lenders

- Utilities likely to play an important role in BDP implementation and administration
  - 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 above

Role for NYSERDA Programs

- Implement proposed Low Income Community Solar Initiative
  - 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
  - NYSERDA-sponsored CDG projects where some participant payments are required could utilize BDP to cover all or some portion of such payments

- NYSERDA will issue a solicitation for CDG projects targeting 10,000 subscriptions for low-income customers

- NYSERDA has committed to consider policy factors, in addition to pricing, in the evaluation of solicitation responses
  - geographic diversity
  - local-level project support
  - options to extend customer participation

NYSERDA Income Verification Service

- CDG developers may identify eligible households who are not currently enrolled in the utility Affordability programs
- NYSERDA currently conducts income verification for its income-eligible programs
  - Currently examining ways to lower costs
- NYSERDA should extend its income verification service to developers seeking to verify eligibility of low-income subscribers
  - Would be required only for customers not enrolled in the utilities' Affordability programs
  - Customers would be enrolled in the utility Affordability program to access BDP
- 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
  - NYSERDA should explore the potential to access this system as an efficient way to verify customer income eligibility

Loan Loss Reserve

- Policies that directly address the issue of financing and credit risk would have a significant impact on increasing low-income participation

- Credit scores are used by lenders to evaluate the risk of financing a solar project
  - Credit requirements vary among lenders and programs, but scores of at least 650–680 are often required
  - Some parties believe the correlation between income and credit quality may not be as strong as has sometimes been assumed

- Loan loss reserve -- funds set aside to cover eligible losses incurred under a portfolio of loans over a determined period of time
  - Have long been used to reduce risks from both conventional and novel investments
  - Could be used to attract financing for CDG projects serving low-income participants

- Public funds 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
  - Mitigate perceived risk/reduce financing barriers for the developer
  - Reduce the credit requirements/make it easier for low-income customers with no or low credit scores to purchase a CDG subscription

- Amount of funding required not yet determined
  - A relatively modest amount could provide surety for hundreds or thousands of subscriptions

- NY Green Bank – “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
  - Commission (VDER Order) directed Staff to continue to explore NY Green Bank options, including developing solutions to lower the cost of capital and provide credit support for CDG projects comprised of low-income customers

Environmental Justice Connection?

- The geographic location of CDG projects, and/or the communities they serve could be a factor in justifying market intervention
  - Locating a CDG project within or near a particular EJ community may be a program design priority if it establishes a nexus to the electric system
    - Landfills, industrial plants, truck depots, etc.
- VDER framework already provides payment streams to encourage CDG deployments in specific areas
  - Locational criteria that identify additional value from a public policy perspective (load pocket relief)
- Needs more work -- to identify the attributes of CDG projects to ensure the facilities are truly benefiting those communities
  - Identifying the appropriate screening tools or criteria to target an EJ incentive
  - Calculation of the appropriate value
    - Local environmental and health benefits may be difficult to measure, especially for smaller facilities
    - Such values further are likely to differ by community and over time
  - How such an incentive would be distributed between CDG developers and customers
  - Identifying a source of funding
    - funding would need to be secured for the duration of time that the incentive would be paid
    - whether an EJ incentive should be subject to the existing annual 2% bill cap (VDER Order)

Questions?

Marty Insogna
Chief, Consumer Advocacy
Department of Public Service
3 Empire State Plaza, Albany, NY 12223
(518) 486-2493 | Fax # (518) 473-5685
martin.insogna@dps.ny.gov