



Department  
of Public Service

# VDER Order, REV Demonstrations, and CEAC

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- The Commission's Order can be accessed through the following link:
  - <http://on.ny.gov/2n7xYDR>
  
- Please submit questions to [VDER@dps.ny.gov](mailto:VDER@dps.ny.gov)
  
- All filings in the Value of DER proceeding (Case 15-E-0751) can be accessed through:
  - <http://on.ny.gov/2nBUMyh>

## ➤ What does the Phase One order do?

- Takes the first step in moving beyond NEM towards more accurate valuation and compensation of DER
- Adopts an interim methodology for NEM-eligible DG resources
  - There is a pressing need to move beyond NEM to better target DG deployment to meet REV objectives and to manage impacts on non-participants
  - Non-NEM resources remain eligible for various other programs/tariffs, and further investigation is needed before including in VDER to avoid unintended consequences (Phase 2)

## ➤ Why is the Phase One order necessary?

- “In order to incentivize customers and DER providers to install and operate DER in a manner that maximizes the benefits for themselves, the integrated electric system, and society as a whole, compensation must accurately reflect the values created at a granular level.” VDER order, page 20
- “By failing to accurately reflect the values provided by and to the DER they compensate, [NEM] will neither encourage the high level of DER development necessary for developing a clean, distributed grid nor incentivize the location, design, and operation of DER in a way that maximizes overall value to all utility customers.” VDER order, page 3

## ➤ Intermittent and non-dispatchable technologies

- Solar photovoltaics (PV) generation (less than 2 MW-ac)
- Wind generation (less than 2 MW-ac)
- Micro-hydroelectric generation (less than 2 MW-ac)

## ➤ Dispatchable technologies

- Farm waste generation (less than 2 MW-ac)
- Fuel cell generation (less than 2 MW-ac)
- Micro-combined heat and power (CHP) generation (less than 10 kW)

## ➤ DER technologies not included in Phase One (e.g., DM, DR, EE, non-NEM-eligible DG)

- These tech are already eligible for other tariffs and programs
- VDER Phase 2 will address inclusion of-the broader set of DER technologies

## ➤ **Mass Market**

- On-site projects, behind the meter of a residential or small commercial customers on a non-demand based rate

## ➤ **Large-scale, on-site**

- On-site projects, behind the meter of a large commercial customer on a demand based rate or a mandatory hourly pricing (MHP) customer

## ➤ **Remote Net Metering**

- Off-site projects of non-residential customers or residential customers who own/operate farm operations (hosts); volumetric credits used to offset consumption at multiple host meters

## ➤ **Community Distributed Generation**

- Off-site projects located behind a non-residential host meter that provides bill credits to members subscribed to the project
- In conjunction with VDER order, the Commission approved a waiver of the CDG 10 member minimum requirement for certain projects

- **To manage impacts on non-participants as a result of net utility revenue impacts associated with Phase One:**
  - Commission adopted an incremental net annual revenue impact of approximately 2% for each utility
  - Not a hard cap, but used to inform MW allocations for new 1) mass market and 2) CDG projects
  
- **Using the 2% as a guide, the Commission established MW allocations based upon 2016 utility peak demand**
  - 4% peak demand for O&R and ConEd
  - 7% peak demand for CHG&E, National Grid, NYSEG and RG&E

- A. Net energy metering (NEM)**
- B. VDER Phase One NEM**
- C. VDER Phase One Value Stack**

- **Projects interconnected or completed construction as of 3/9/2017** will retain NEM compensation methodology
  - Must have notified utilities of finished projects by 3/17/2017
  - By 3/31, utilities will submit a filing on all interconnected or constructed systems
  - Compensation term equals life of the system
  
- Previously **grandfathered Remote Net Metering** projects
  - Eligible for monetary crediting for 25-year term if in-service by EOY 2017
  
- Projects continue to be **subject to rate design** modifications



- **Identical to NEM compensation** (i.e., volumetric crediting)
- Except that projects under Phase One NEM will be subject to a **compensation term length of 20-years**
  - After 20 years projects are moved onto the then applicable compensation mechanism
- Projects, other than mass market, must be equipped with **utility metering capable of recording net hourly** consumption and injection
- **Excess credits eligible for carry-over** to subsequent billing and annual periods, with the exception of excess credits held by CDG sponsors (discussed further below)

- **Projects installed after 3/9/2017 but before 1/1/2020** eligible for Phase One NEM
- **Subject to MW allocation limits** specified by Order and guided by Commission decision on 2% net revenue impact

- **Opportunity for Phase One NEM** during the 90 business-day window from the date of the Order
- **Eligibility limited** to projects that moved forward with development
  - Have made payment of at least 25% of interconnection upgrade costs, or have executed an interconnection contract if no upgrade payments are required
- Non-grandfathered **RNM and large-scale, on-site projects are eligible**
- **CDG projects are eligible** subject to available capacity in Tranche 0

- **Applied to projects not eligible for NEM or Phase One NEM**
- Compensation based on **monetary crediting for net-hourly injections**
  - Based on calculations of specific, hourly values of exported generation
- Projects compensated by the Value Stack will be subject to a **compensation term length of 25-years**, after which they are moved onto the then applicable compensation mechanism
  - The Commission determined that a 25-year term provides appropriate certainty and predictability under this new compensation mechanism
- **Excess credits eligible for carry-over** to subsequent billing and annual periods, with the exception of excess credits held by CDG sponsors (discussed further below)

### ➤ **Community Distributed Generation**

- With limited opportunity for Phase One NEM

### ➤ **Remote Net Metering**

- Previously grandfathered RNM projects under monetary crediting are not included

### ➤ **Large onsite projects**

- Demand metered or mandatory hourly pricing customers

### ➤ **Mass market**

- One time opt-in onto Value Stack is available

### ➤ Opt-in onto Value Stack

- All projects entitled to receive NEM or Phase One NEM are allowed to elect a one-time opt-in onto the Value Stack tariff

### ➤ Metering Requirements

- Projects must be equipped with a utility meter capable of measuring net hourly import or export to participate in Value Stack
  - Many larger DG projects are already equipped with the necessary metering
  - For new RNM & CDG projects, metering must be installed at installation
  - For large-scale, on-site projects, where an insufficient meter is already present, advanced hourly metering must be installed as soon as practical

- **Initial Estimates of the Value Stack are less than NEM credits would be for Mass Market Customers**
- **Thus, Mass Market Customers that participate in NEM-eligible CDG, or Mass Market Customers with NEM-eligible onsite resources that opt-in to the Value Stack (VS), will also receive an MTC**
  - To avoid market disturbances in the transition away from NEM
  - To reflect values that are not identified or calculable at this time, especially value of D
- **Cases where the MTC is not appropriate**
  - Mass market, on-site projects that choose to go on, or remain on, NEM
  - Large, on-site or RNM commercial projects – Will be better off under Value Stack than under NEM
- **MTC applied to actual CDG customer composition**
  - Ex. if a project has 70% mass-market off-takers and 30% large commercial off-takers, project gets 70% MTC, and the remaining 30% would receive DRV (i.e., value of D)
- **The MTC will be calculated by each utility and set one time following the issuance of Commission’s Phase One Order and applies for the full 25 years**
  - $MTC = \text{Difference between “Base Retail Rate” and “Estimated Value Stack”}$

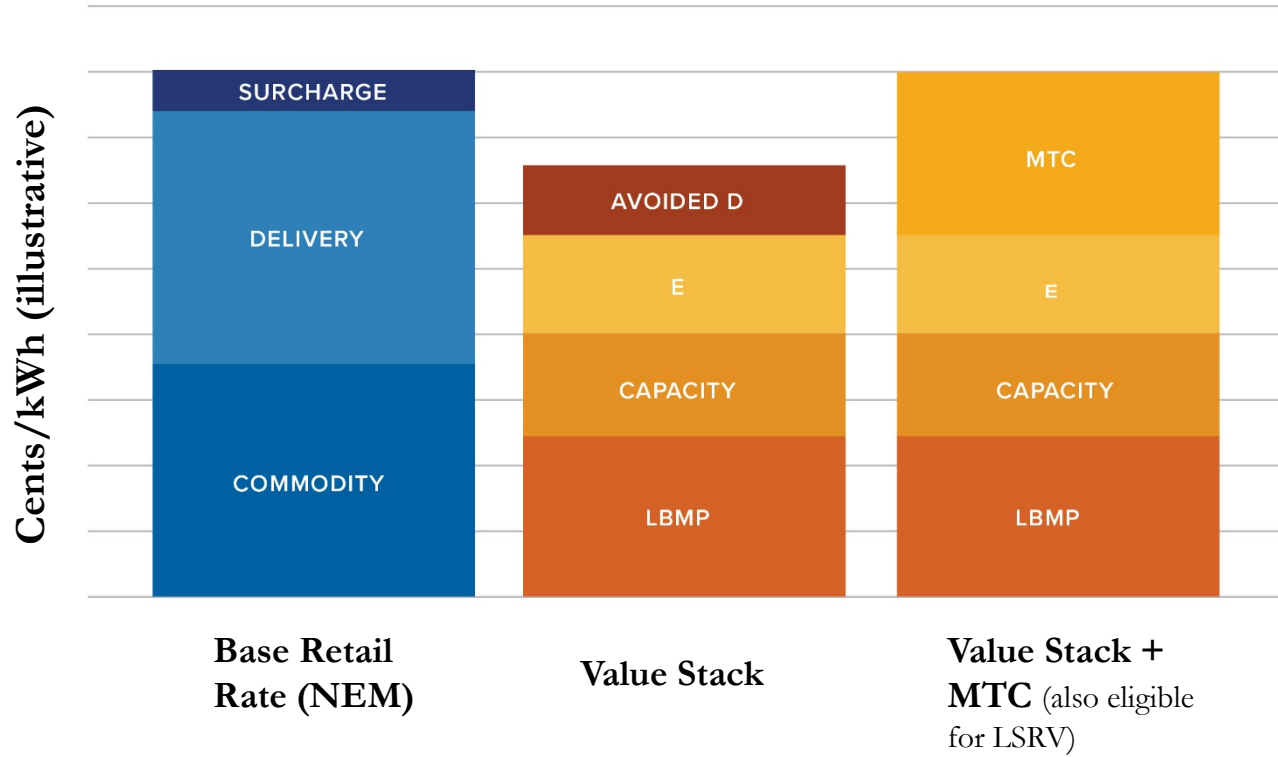
## ➤ **Excess credits in a billing period**

- Carried over to the next billing period as a monetary credit for Value Stack, a volumetric credit for Phase One NEM
- No payout of credits at any time

## ➤ **Annual rollover of excess credits**

- For excess credits that are assigned to a customer/subscriber - rollover of monetary credits until end of compensation term (20 or 25 years)
- Any volumetric credits converted to monetary for annual rollover
- CDG sponsors have 2 years to allocate any annual excess credits that are not assigned to a subscriber





- **Avoided D** – Includes demand reduction value (DRV) & locational system relief value (LSRV)
- **E** – environmental benefit
- **Capacity** – ICAP
- **LBMP** – energy commodity
- **MTC** – market transition credit for mass market portion of CDG projects, non-mass market portion receives DRV

- Scheduling conference will be held in May 2017
- Establish framework for the consideration of rate design and development of network access charges
- Improvements and modifications to the value stack, including components related to the bulk system, distribution system and societal values
- Application of VDER to projects and technologies not eligible for Phase One (e.g., NEM projects larger than 2 MW, CHP larger than 10 kW, non-NEM eligible technologies, non-generation DERs, stand-alone energy storage technologies)
- Transitioning of mass market projects beginning January 2020

## ➤ **DSIPs**

- Utility DSIPs will serve as the venue for pursuing increased DSP functionality
- Increased DSP functionality and capabilities are key for granular pricing of DER

## ➤ **DER Oversight & Consumer Protection**

- Staff whitepaper filed within 30 days of Phase One Order for public comment
- Commission consideration of provisions in conjunction with Phase One implementation

## ➤ **Benefit-Cost Analysis Handbooks**

- Staff plan to engage with stakeholder over the coming year to work through aspects of the BCA handbooks

## ➤ **Low-income CDG collaborative and Clean Energy Fund**

- Staff low-income proposal to be filed by September 1, 2017
- NYSERDA to consider options via CEF

In 2015, the Commission directed the six large investor owned electric utilities to:

- develop projects that demonstrate new REV business models allowing new revenue stream opportunities for third parties and the electric utilities, and to test new technology and approaches to assess value, explore options, and stimulate innovation before committing to full-scale implementation.
- New York State is seeking demonstration projects to show how new products and services can capture latent value on the grid, and how new business models can monetize and distribute that value across third parties, utilities and customers.
- If you have a REV demonstration project or are interested in partnering with a New York State distribution utility on a project, submit your idea at the link below and it will be shared with all of the New York State investor-owned utilities as well as a State team that is supporting the exploration of demonstration project ideas.

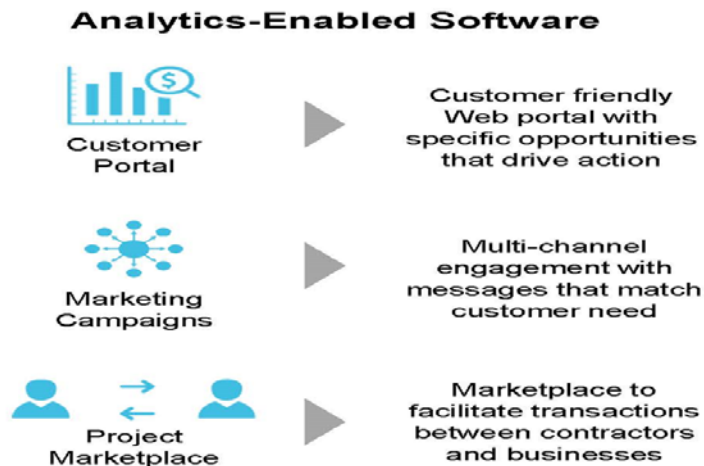
[https://nyscrda.seamlessdocs.com/f/rev\\_demo\\_project](https://nyscrda.seamlessdocs.com/f/rev_demo_project)

# Categories of Projects

| <i>Customer Engagement</i>             | <i>Modifying Grid Operations</i>                                      | <i>Community / LMI Engagement</i>              |
|--|---|--|
| CenHub Marketplace                     | Clean Virtual Power Plant   | Fruit Belt Neighborhood Solar                  |
| CONnectED Homes Platform               | Buffalo Niagara Medical Campus Distributed System Platform Engagement | Demand Reduction Demonstration in Clifton Park |
| O&R Residential Customer Marketplace   | Resiliency Demonstration in Potsdam                                   | Community Energy Coordination                  |
| RG&E Energy Marketplace                |   |  |
| Con Ed Building Efficiency Marketplace | Flexible Interconnect Capacity Solution                               |  |

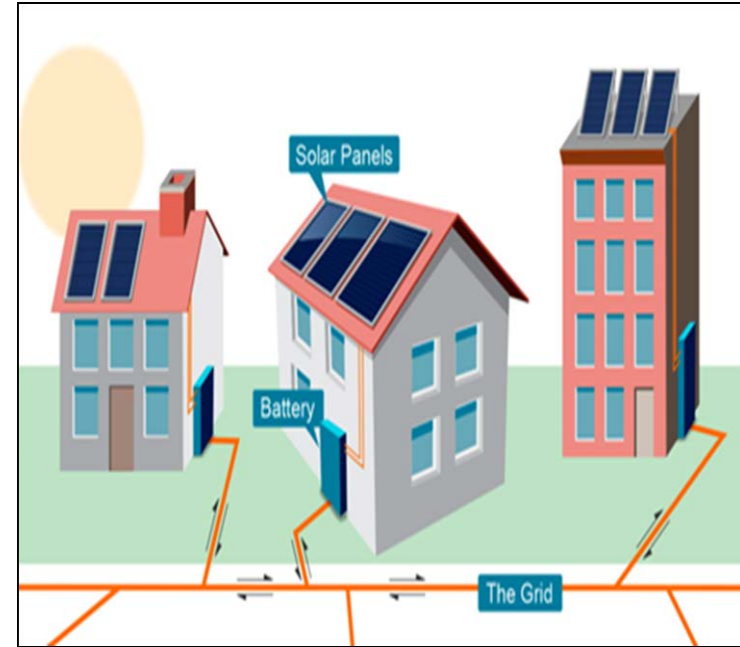
# Con Edison Building Efficiency Marketplace

- Interval meter data and virtual energy assessments are used to develop EE projects for commercial customers



# Con Ed Virtual Power Plant

- Solar plus storage assets in hundreds of homes can collectively act as a virtual power plant
- Total capacity of 1.8 MW
- Dispatchable resource can be deployed to help reduce load in a constrained area
- Potential to defer or avoid capital investments.
- Offers customers resiliency service in lieu of having to purchase generator for backup power



# Background

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- Clean Energy Advisory Council was established by the PSC in the CEF Order (1/21/16).
- Purpose - Initial objective is to create a forum that supports innovation and collaboration between NYSERDA, utilities and other parties leading to impactful clean energy programs and to reduce cost and achieve scale for these resources, including an effective transition from current clean energy program offerings.
- Structure – Steering Committee (6 utilities, LIPA, NYPA, PSEG, DPS, NYSERDA, and 6 Working Group Chairs) and 6 Working Groups (total of 123 individuals representing 57 distinct entities) convened by the Steering Committee to address specific areas of focus



| Working Group   | Purpose   |
|---|---|
| Clean Energy Implementation & Coordination (CEIC)       | Coordinate planning and implementation among New York’s clean energy program administrators, in consultation with DPS Staff to better support New York’s clean energy policy objectives, provide clarity to the market, and serve ratepayers.   |
| Energy Efficiency Procurement & Markets (EPPM)          | Develop strategies to create vibrant markets for energy efficiency as an attractive business opportunity, resulting in greater market-wide levels of energy efficiency with less need for direct ratepayer support. A focal point for this work will be investigating promising market mechanisms, standards, and business models that can realize the value of energy efficiency to participating customers, as a system resource, and as a cost effective means of achieving State Energy Plan goals – in a manner that is responsive to customer needs for distributed energy solutions. |
| Voluntary Investment & Other Market Development (VIOMD) | Develop strategies to maximize energy efficiency, renewable energy and distributed energy resources deployment, identifying approaches for adoption in the non-residential sectors, which may also include approaches that encourage and recognize voluntary investments in clean energy technology and solutions that help accelerate and increase achievement of CES and SEP goals  |

| Working Group  | Purpose   |
|--|---|
| Low & Moderate Income Clean Energy Initiatives (LMI) | Provide the venue for NYSERDA, the Utilities, and other interested stakeholders to actively evaluate alternative approaches for the delivery of services to LMI customers that can improve consumer value, for the customers served as well as for the rate-payer funding invested.   |
| Metrics, Tracking & Performance Assessment (MTPA)    | Develop recommendations for a consistent approach to metrics, data tracking, and performance assessment, inclusive of evaluation, measurement & verification (EM&V) that looks to advances in technology and approaches to reduce and limit the dollars needed for these functions while maintaining needed reliability, thereby increasing the dollars available for program delivery. The Working Group will also identify and recommend metrics and approaches for evaluating market development and transformation. |
| REV Energy Efficiency Best Practices (REV EE BP)     | Share the most promising practices for learning, replication, and impact across service territories as the REV framework is implemented. The Working Group will also consider successful approaches employed in other states and countries.   |

**THANK YOU!**

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