NEW YORK STATE | Department of Public Service

New York's Approaches to Advance DERs and Provide Distribution-Level Services

Plans, Experience, Lessons

July 24, 2025

Topics

- **Flexibility Programs**
  - Flexibility Program Snapshot
  - Distribution-level Demand Response Programs
- **Non-Wire Alternatives (NWAs)**
  - Process and Regulatory Framework
  - Examples of successful NWAs
  - Lessons Learned
- **The Value Stack**

Flexibility Programs

Flexibility Programs Snapshot

- **Demand Response Programs**
  - *Wholesale DR Programs*
    - Operated by the New York Independent System Operator
    - Special Case Resources
      - Day-ahead (21-hour) Transmission Reliability
  - *Distribution DR Programs*
    - Operated by each Distribution Utility
    - "Commercial" Programs – based on meter data and baselines
    - Mass Market (Residential and Small Commercial) Programs – technology-specific
  - Careful consideration to ensure ability to simultaneously participate in both Wholesale and Distribution programs

- **EV Managed Charging Programs**
  - Operated by each Distribution Utility
    - Residential programs
    - Commercial programs
  - Currently in flux as programs are developed and under review

Utility “Commercial” DR Programs

Commercial System Relief Program (CSRP)

- Day-ahead (21 hour) Peak Shaving
- Specified four-hour Call Windows, location-specific and based on system needs
- All enrolled resources respond when an Event is called
- May through September
- Incentives
  - Reservation Payment = $/kW-month
  - Performance Payment = $/kWh
  - No penalties for non-performance
  - Some locational differences in payment rates
- Can simultaneously participate in DLRP and Wholesale programs
- Participation Requirements
  - Requires advanced metering (e.g. AMI)
  - Any customer can participate through an Aggregator
  - Large customers can enroll directly through utility (50+ kW of load relief)
  - Caveats for Net Energy Metering (NEM) customers

Term-Dynamic Load Management (DLM) Program

- Day-ahead (21 hour) Peak Shaving
- Specified four-hour Call Windows, location-specific and based on system needs
- All enrolled resources respond when an Event is called
- May through September
- Incentives
  - Established in contracting
  - Reservation Payment = $/kW-month
  - Performance Payment = $/kWh
  - Penalties for non-performance
- Can simultaneously participate in DLRP and Wholesale programs
- Participation Requirements
  - Requires advanced metering
  - Customers must enroll through a contracted Aggregator (or directly participate in solicitation)
  - NEM-customer participation not allowed

Utility “Commercial” DR Programs

Distribution Load Relief Program (DLRP)

- Intra-day (2 hour) Reliability
- Events up to 6 hours
- Only available at certain utilities
- Only resources in affected areas must respond
- May through September
- Incentives
  - Reservation Payment = $/kW-month
  - Performance Payment = $/kWh
  - No penalties for non-performance
  - Some locational differences in payment rates
- Can simultaneously participate in CSRP and Wholesale DR Programs
- Participation requirements
  - Requires advanced metering (e.g. AMI)
  - Any customer can participate through an Aggregator
  - Large customers can enroll directly through utility (50+ kW of load relief)
  - Caveats for Net Energy Metering (NEM) customers

Auto-DLM Program

- Intra-day (5-minute) Peak Shaving or Reliability
- Four-hour Events
- Only available in certain specified areas of each utility service territory
  - Location-specific Reliability Events
  - Peak Shaving Events called for all participants
- May through September
- Incentives
  - Established in contracting
  - Reservation Payment = $/kW-month
  - Performance Payment = $/kWh
  - Non-performance Penalties
- Can simultaneously participate in Wholesale DR programs
- Participation Requirements
  - Requires advanced metering
  - Customers must enroll through a contracted Aggregator (or directly participate in solicitation)
  - NEM-customer participation not allowed

Utility Mass Market DR Programs

Bring Your Own Thermostat (BYOT)

- Allows utility to modify Smart thermostat temperature setpoints for central air conditioners
  - Demand reduction based on M&V studies of eligible devices
  - Customer participation measured based on whether thermostat setpoint was overridden
- Can be called for Peak Shaving, Reliability, or wholesale capacity peaks*
- Incentives
  - One-time enrollment incentive: about $50 to $75
  - Annual participation incentive: about $25/year
- No limitations on NEM customer participation

Bring Your Own Battery (BYO-Battery)

- New program currently being rolled out – likely live for 2026/2027 summer season
- Allows utility to control Residential-scale Battery export
  - Participation measured via battery internal metering
- Can be called for Peak Shaving, Reliability, or wholesale capacity peaks**
- Incentives
  - Pay for performance only
  - (Average kW load relief) x ($50/kW-year**)
- No limitation on NEM customer participation

* Except at Con Edison where Residential customers are allowed to simultaneously participate in BYOT and Wholesale DR programs

** May change based on utility-specific implementation

Philosophy and Lessons Learned

- **Balance number of programs and Participation options**
  - Relative handful of programs provide meaningful options for customers without overwhelming with too many different programs
    - From: Highly curated and easy to participate, but less lucrative
    - To: More complex and lucrative programs, without non-performance penalties
    - Then: Lucrative, but complex and carry element of risk
  - Some customers move from more curated programs to more lucrative programs when given the opportunity, others do not

- **Direct enrollment through the Utility for curated programs, enrollment through Aggregators for more advanced programs**

- **Opportunities for simultaneous enrollment in different programs should be maximized**
  - Many commercial and industrial customers simultaneously participate in CSRP/Term-DLM, DLRP, and NYISO SCR Program
  - When considering the Residential market, Programs should “play nice” with Net Energy Metering

Non-Wire Alternatives

What makes Non-Wire Alternative (NWA) projects successful in New York?

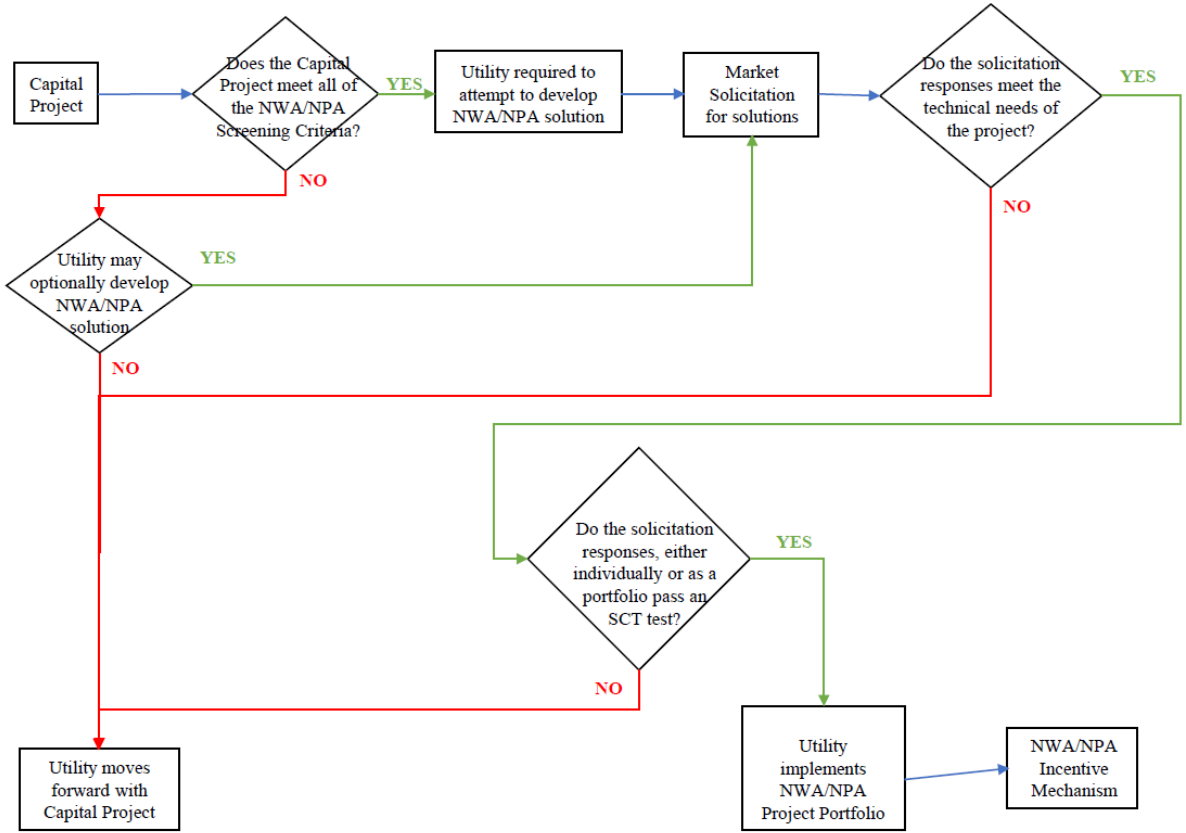
1. Standard process for identifying NWA project opportunities, and requirements that utilities attempt to develop those opportunities.

2. Pre-approval of cost-effective NWA projects, and certainty of recovery of NWA project costs.

3. Level playing field for utility business model incentives for CapEx spending versus NWA Project spending.

4. Shareholder incentives for successfully implementing NWA projects, with enhanced incentives for doing so under-budget.

Overview of Non-Wire Alternative Process



NWA Screening Process

- Series of questions that is asked about each CapEx project
  - Questions are differentiated depending on whether the project is considered a Large or Small project

- The utility **must** attempt to develop an NWA project to defer or in lieu of the associated CapEx project if **all** of the answers to the questions are affirmative.
  - The utility **may** attempt to develop an NWA project if **any** of the questions are negative.

- Following NWA screening, NWA Opportunities are identified and brought to the market for solutions.
  - Typically procured through a Request for Proposals (RFP)
  - Can also leverage existing Energy Efficiency, Demand Response, load management, or electrification programs using location-specific “kickers”

NWA Screening Criteria

- **Project Need Type**
  - *Focus on grid needs which can be most readily provided by customer-sited load reductions and flexibility*
    - Load Relief and/or Reliability Projects are well suited for replacement with an NWA
    - Asset Condition replacements and New Business projects cannot be eliminated
- **Timeline Available**
  - *Focus on projects with enough runway to allow time to procure alternate resources and implement solutions*
    - Need about three years for Large projects
    - Need about a year and a half for Small projects
- **Minimum Cost Threshold**
  - *Focus on projects with enough value to have cost-effective alternatives*
    - About $1 million minimum for Large projects
    - Between $0.3 million to $0.5 million minimum for Small projects, depending on utility

Successful NWA Projects

- Con Edison
  - **Brooklyn-Queens Demand Management Program (60 MW)** – *deferred the need for a >$1 Billion substation for about 10 years*
  - **Newtown Project (40 MW)** – *currently deferring need for a 40 MW load transfer*
  - **Plymouth Street, Water Street, and Williamsburg (43 MW)** – *Simultaneously met primary feeder load relief needs in Williamsburg while permanently eliminating the need for transformer cooling equipment and sub-transmission feeder upgrades while a new switching station was being built*
- Central Hudson
  - **Targeted Demand Management Program (18 MW)** – *Three NWA projects in one portfolio, designed to defer the need for transmission upgrade projects, distribution feeders, and ease overload conditions at a substation*
- National Grid
  - **Pine Grove Area (10 MW)** – *Provides load relief to two proximate Substations as well as addressing distribution feeder thermal overloads*
- NYSEG
  - **Stillwater Substation Project (0.5 MW)** – *Avoided the need to upgrade and replace an existing transformer bank at a substation, as well as the need to run new distribution circuits*
- Orange and Rockland
  - **Pomona Program (4 MW)** – *Avoided the need to build a new substation.*

Lessons Learned

- Despite sending the right price signals, NWA projects are difficult to implement
- Small projects are notoriously difficult to implement, especially in networked (as opposed to radial) grids
- Site control is critically important when selecting winning RFP respondents
- NWA project participants are uneasy about taking responsibility for reliability issues

The Value Stack

Value Stack Basics

Net Energy Metering (NEM)

- Volumetric compensation
  - Net exports create kWh offsets against net usage
  - Compelling message – “spin the meter backward”
- Significant potential for unreasonable cost-shifts from participants to non-participants due to volumetric rates
  - Most fixed Customer Charges do not recover the full amount of per-customer fixed costs of the grid
  - Most public policy program costs are recovered through per-kWh surcharges, which NEM avoids
  - Offset by Customer Benefit Contribution charge
    - Small monthly charge based on kW of nameplate capacity
    - Established for new installations as of January 1, 2022
- Available for new eligible customers for a 20-year period
- Who is eligible?
  - Mass market customers (e.g., rooftop solar)
  - Customers that were already participating in a NEM option before the Value Stack was developed (March 2017)

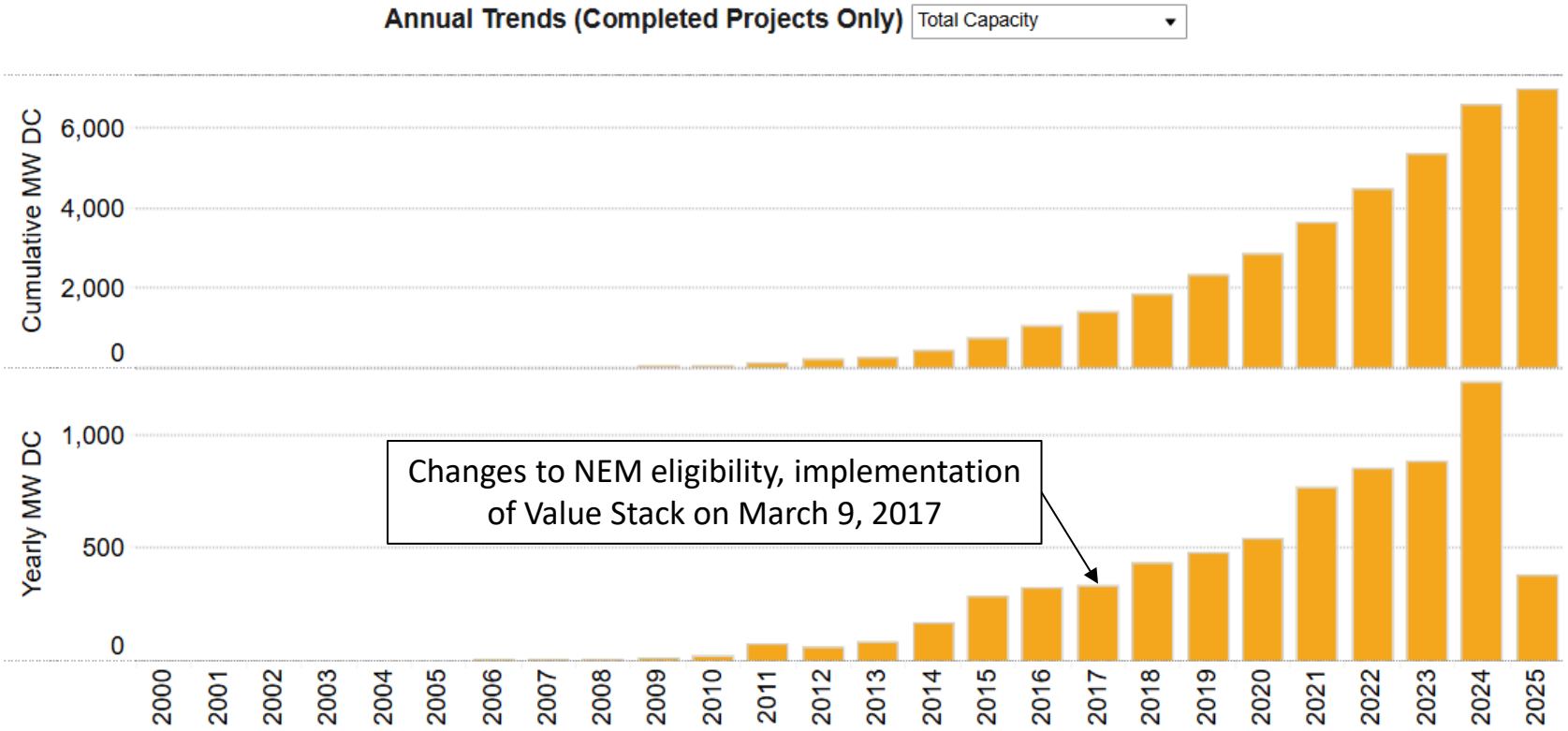
The Value Stack

- Financial compensation
  - Net exports valued and converted into a $ credit against customer bills
- Five core components
  - Some components only for clean technologies
  - Other components with locational eligibility requirements
  - Additional conditional components for market transition from NEM and other policy goals
- Certain values float with market prices, others are locked in for at least 10 years
- Who is eligible?
  - NEM customers can opt-in (one-time irrevocable choice)
  - Community Distributed Generation
  - Large commercial Solar farms
  - Statewide Solar for All

Core Value Stack Components

- **Wholesale Energy value**
  - Actual hourly NYISO market prices - Location-Based Marginal Price (LBMP) plus Losses
- **Wholesale Capacity value**
  - Three Alternatives
    - **Alternative 1**: Averaged $/kWh value based avoided Installed Capacity (ICAP) value using typical solar generation profile
    - **Alternative 2**: Similar to Alt. 1, but focused on summer afternoon values – 2 PM to 6:59 PM, June 24 through August 31
    - **Alternative 3**: $/kW, matching methodology for how ICAP tags are set – highest non-weekend hour during July or August
  - Eligibility requirements vary by technology
    - Solar can choose from any of the three alternatives
    - Energy Storage and most others must take Alternative 3
- **Environmental value**: based on societal value of avoided carbon emissions – about $0.03/kWh
- **Demand Reduction Value (DRV)**
  - Based on avoided marginal costs of Utility Transmission and Distribution equipment
    - Value varies significantly from utility to utility
  - Only applicable between specified hours – Summer weekdays during 4- or 5-hour peak periods
- **Locational System Relief Value**
  - Only in certain designated high-value areas, and for a specified amount of capacity
  - Event-based compensation
    - Minimum 10 events per year
    - $/kW per event, based on minimum kW of capacity delivered during event

Value Stack Outcomes



Source: https://www.nyserda.ny.gov/All-Programs/NY-Sun/Solar-Data-Maps/Statewide-Distributed-Solar-Projects (accessed July 17, 2025)

Thank You