Attachment #9.1
Return to Agenda

De-Carbonization / DER Report for NYSRC Executive Committee Meeting 4/10/2026

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The April 2026 edition of the De-Carbonization / Distributed 6 Resources (DER) Report includes these articles:

- Recent NERC Large Load Activities – Website, Whitepapers, Conferences, Letter to FERC
- ENTSO-E Publishes Expert Panel Final Report on 28 April 2025 Blackout in Spain and Portugal
- Multiple Articles: Buildings in New York City Using Geothermal Energy
- A Closer Look at Large Loads in the NYISO Interconnection Queue
- Snapshots of the NYISO Interconnection Queue and Cluster Queue: Storage / Solar / Wind / Co-located

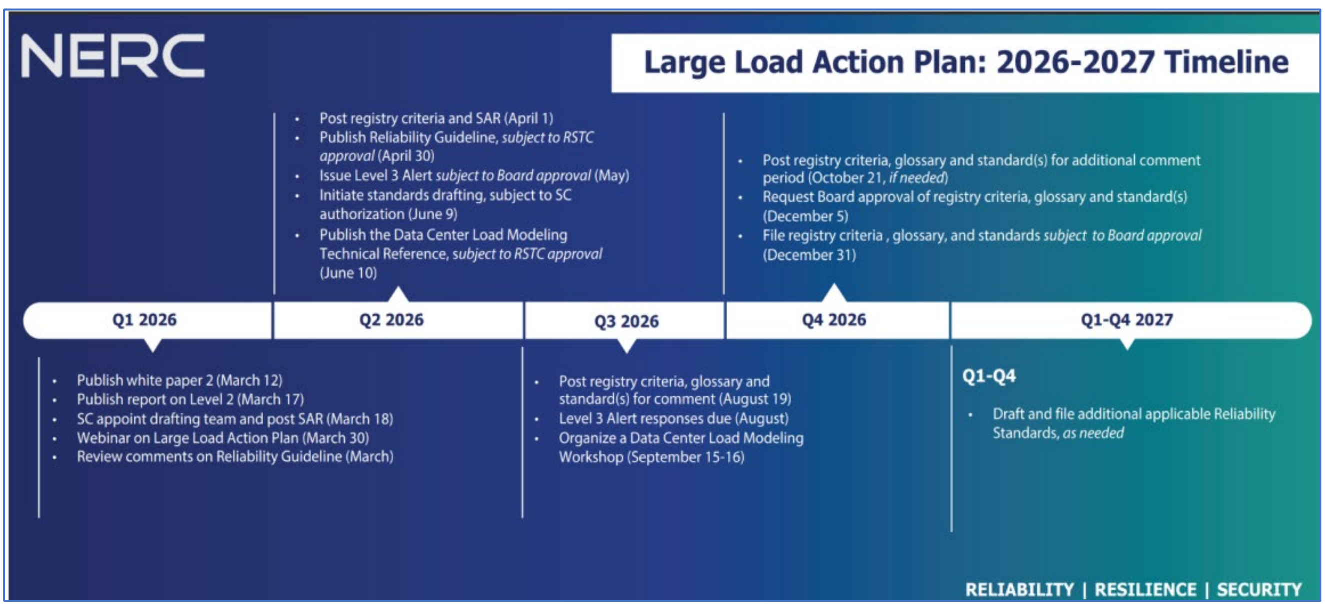
Recent NERC Large Load Activities – Website, Whitepapers, Conferences, Letter to FERC

Background: NERC established the Large Loads Task Force (LLTF) in August 2024 and developed a Work Plan. The Member Representatives Committee provided written input and hosted a technical panel session at the February 2025 Board meeting. NERC's Board issued a resolution in February 2025 directing NERC staff to develop an action plan which will complement the work of the LLTF and provide additional structure to NERC's efforts related to large load integration. In addition, NERC's Reliability and Security Technical Committee recently upgraded the Large Loads Task Force to what is now called the Large Loads Working Group (LLWG). Here is a link to the Emerging Large Loads Technical Conference (Feb 24-25). Additional information from the conference can be found at this Summary provided by Ryan Quint at Elevate Energy.

NERC currently has established three main landing webpages that address various Large Load topics:

- Project 2026-02 Computational Loads — Project Details and Purpose, SAR Document, Comment Form
- Large Loads Working Group (LLWG) — Meeting material, Questionnaire, Roster, Scope, and Workplan
- Load Modeling Working Group (LMWG) — Same as LLWG

The Large Loads Action Plan contains a link to the 2026-2027 timeline (also shown below), as well as links for background, quarterly updates, resources, and conferences / Webinars.



A dedicated webpage entitled Proposed Changes to Rules of Procedure provides access to the document entitled Computational Load Entity: Proposed Rules of Procedure Revisions Summary, as well as appendices.

Recent Activities:

- July, 2025: NERC's LLWG published the white paper "Characteristics and Risks of Emerging Large Loads"
- September 9th, 2025: NERC issued a Level 2 Alert to "address the risks observed from the analyzed large load behavior and to assess the status of industry preparedness in relation to large loads"
- March 11th 2026: LLWG released their second white paper, entitled "Assessment of Gaps in Existing Practices, Requirements, and Reliability Standards for Emerging Large Loads." This paper advised that the existing NERC Reliability Standards, as well as industry processes and requirements, are inadequate for the reliable integration of emerging large loads onto the BPS.
- March 20th: NERC filed a supplemental Letter to FERC detailing recent changes to registry criteria and Reliability Standards
- April 1st: SAR "Reliability Standards to Address Computational Load – Phase 1" released for comments
- Expected in May: A Level 3 Alert will also be issued to kickstart essential risk mitigation actions.

The Assessment of Gaps White Paper provided recommendations covering the following topical areas:

- Interconnection processes and requirements
- Planning and resource adequacy
- Balancing and operations
- Security
- Resilience and event analysis
- Load modeling
- Disturbance ride-through, stability, power quality

Here is a summary of the white paper's key recommendations:

1. There are multiple high-impact risks to the BPS from large loads that NERC registered entities cannot adequately address. The LLWG recommends that NERC pursue registration of a type of entity (or types of entities) that is able to perform specific functions to address the risks.
2. The LLWG and other groups should propose SARs to address the unmitigated risks to the BPS related to emerging large loads.
3. The LLWG should identify potential mitigations due to risks posed by emerging large loads through improvements to existing planning and operations processes and interconnection procedures for large loads as planned for the LLWG's upcoming (Preliminary Draft) entitled Reliability Guideline: Risk Mitigation for Emerging Large Loads to be published in May 2026.
4. Registered entities should coordinate and collaborate with large load entities and update their practices to address the gaps discussed in this paper.
5. Transmission Owners (TO) should coordinate with other registered entities as applicable to update their interconnection requirements; Planning Coordinators (PC) and Transmission Planners (TP) should update their interconnection study processes.

6-8. The NERC Load Modeling Working Group should work to address the applicable gaps identified in this paper. Additionally, the Security Working Group and the System Protection and Control Working Group should further assess applicable gaps and propose mitigations to address the gaps.

9-10. Federal and/or state regulators, as applicable, should consider the gaps identified in this paper and coordinate with utilities to assess whether incorporating additional interconnection requirements and/or studies are appropriate to reliably support integration of large loads. State regulators should work with regulated utilities to review how new loads and planned additional generation impact existing planning and risk assessment frameworks. States may need to adjust their resource adequacy criteria and/or work with their utilities on energy infrastructure expansion.

11. Policymakers should review interactions between interconnection requirements, existing state regulations and planning processes, and regional grid operator requirements. Additionally, policymakers should work to better understand the full impact of large load integration in their jurisdiction, and review requirements for large load customers to provide operational data and information to TOs, TOPs, TPs, and other entities.

ENTSO-E Publishes Expert Panel Final Report on 28 April 2025 Blackout in Spain and Portugal

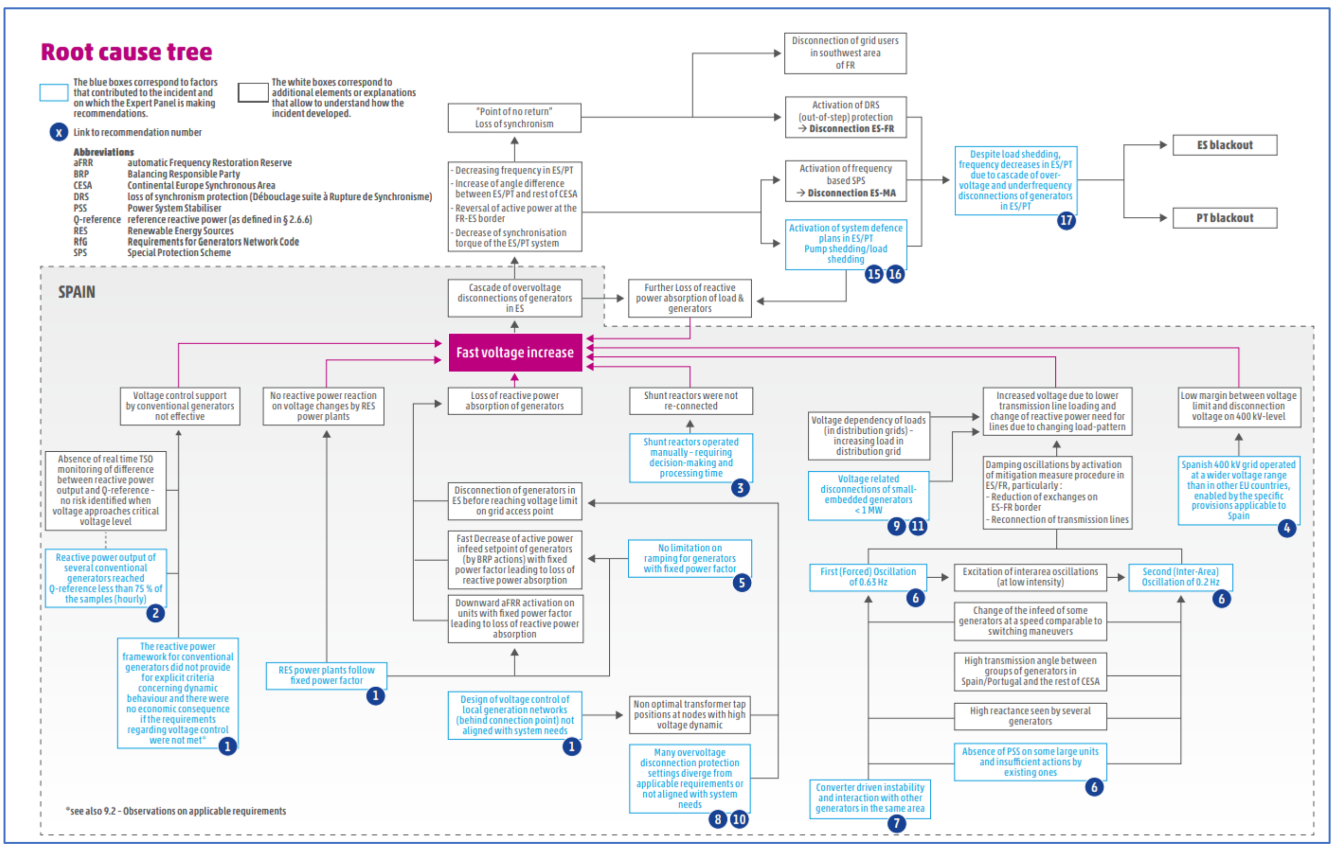
On March 20, the Association of European Network of Transmission System Operators for Electricity (ENTSO-E) announced the release of the Final Report (download link) from the Expert Panel on the April 28th 2025 blackout in continental Spain and Portugal was published on the ENTSO-E website.

The investigation concludes that the blackout resulted from a combination of multiple interacting factors, including oscillations, gaps in voltage and reactive power control, differences in voltage regulation practices, rapid output reductions and generator disconnections in Spain, and uneven stabilization capabilities. These factors led to fast voltage increases and cascading generation disconnections, resulting in the blackout in continental Spain and Portugal.

Based on these findings, the Expert Panel set out recommendations that include strengthened operational practices, improved monitoring of system behaviour and closer coordination and data exchange among power system actors. The findings of the investigation also underscore the need for regulatory frameworks to adapt in order to support the evolving nature of the power system.

The report's recommendations address voltage control and reactive power management, oscillatory stability, and generation disconnection behavior. They aim to enhance the effectiveness of system defense mechanisms and the robustness and preparedness of restoration processes, and are structured into two categories:

- Recommendations directly linked to the identified root causes, which are reflected graphically on the root cause tree shown below
- Recommendations developed based on the investigation results, for which the Expert Panel considers that implementation may be beneficial for all system actors, but are not directly related to the root causes of this incident



Recommendations directly linked to root causes

Voltage Control:

- Analysis of the possibility to identify the development of a guideline for indicators to detect potential reduced voltage stability and risk of rapid voltage change.
- ENTSO-E to develop a guideline of good practice on voltage support means and studies on voltage stability. Having sufficient MVAr support means will help avoid voltage collapse or fast overvoltage-induced cascading disconnections in a weakened grid.
- TSOs and SGUs operating power-generating facilities should ensure that generators use voltage control mode whenever possible, in line with the capabilities defined in the applicable requirements. Note that operating a significant capacity of generation resources with a fixed power factor control mode in Spain presented two issues:
    - For every (fast) active power ramp (e.g., schedule change), fixed-power-factor-mode resources also injected into the system a proportional fast reactive power ramp (voltage ramp)
    - Fixed-power-factor-mode resources provided inadequate reactive power support that would compensate for voltage fluctuations. The approach to reactive power control by generators in France and Portugal differed from that in Spain in several respects, and cross-country sharing of effective implementation practices was limited
- TSOs should assess the system needs that will appear in real-time and technically design the system so that it can operate in the face of expected uncertainties through an appropriate combination of static and dynamic reactive power resources.
- TSOs should explore implementing automatic control of shunt reactors, as appropriate, using predefined control schemes to ensure voltage stability in the system. TSOs should consider more flexible devices (variable shunt reactors and capacitors, STATCOMs, etc.) when technically designing their systems.
- TSOs should ensure that the harmonized operating voltage range foreseen at the European level is effectively applied across Europe, by avoiding or removing deviations that allow operation outside this range
- Undesired rapid reactive power variations, particularly those occurring on time scales comparable to or faster than the system's voltage control response, should be avoided. In the case of a fixed power factor, until a more appropriate voltage control mode is implemented, reactive power ramps follow active power ramps, meaning that reactive power ramps can be temporarily addressed by ensuring that changes in active power are smoother.

Oscillations

- Establish a framework to improve the damping of interarea oscillations in the Continental Europe Synchronous Area. The analysis highlights that Continental Europe Synchronous Area has a low-damped inter-area mode that can directly or indirectly affect its operational security.
- Improve and expand the monitoring and detection framework by efficiently using existing PMUs and oscillographs, or, where needed, installing additional PMUs, oscillographs, and power quality monitoring devices accessible to the TSO, particularly near interfaces with power plants, third-party-owned HV network sections, DSOs, and HV consumers.

Disconnections

- TSOs and DSOs should assess the adequacy and consistency of the protection settings for generation units and evacuation grid elements (e.g., transformers below which several power-generating and storage modules are connected, including distribution-connected and distributed energy resources). This verification should ensure that withstand capabilities (high/low voltage, RoCoF) are aligned with the highest capabilities of grid users connected downstream, with explicit checks on over/undervoltage thresholds, and minimum time delays (commensurate with system dynamics and measurement uncertainties, e.g., ≥100ms or even >1s where applicable).

- TSOs and DSOs, together with the electrical industry, should further investigate the disconnection and reconnection behaviour of inverters, in particular distribution-connected inverters (including rooftop PV systems and other embedded generation <1MW).

Recommendations Not Directly Linked to Root Causes

<u>Voltage Control</u>

TSOs should investigate options to ensure that HVDC systems and other comparable transmission-level inverter-based installations with voltage-support capability continue to provide reactive power support (functioning as a STATCOM) at all times, even in the immediate aftermath of a loss of DC connection.

<u>Oscillations</u>

A common procedure should be established to create a snapshot common grid model of Continental Europe Synchronous Area promptly after a significant event, allowing accurate simulations of the system under similar conditions to those of the event. The snapshot refers to a calculable network model derived after the event, based on available state-estimator results, topology, operating points, and relevant dynamic data.

<u>Disconnections</u>

Establish a permanent, standardized framework for data provision during incident investigations or for broader system analyses to improve understanding of overall system behaviour. This framework should ensure fast, complete, and uniform access to all required datasets from TSOs, DSOs (including distribution-connected generation data available to DSOs), SGUs (Significant Grid Users) operating power-generating facilities, SGUs operating large demand facilities, and SGUs operating HVDC or other inverter-based installations and other parties capable of providing relevant data on small-scale generation or storage facilities.

<u>System Defense Plans</u>

- Develop and implement an adaptive LFDD (Low Frequency Demand Disconnection) scheme that accounts for high DER penetration and maintains effective load shedding at all times. This may include reverse-power blocking, feeder selection based on DER footprint, and other adaptive methods.
- Create a unified framework that provides real-time visibility at the feeder level, including power flows, directions, DER status, and LFDD activations. It should also ensure the delivery of a standardized post-event data package within 24 hours, containing LFDD logs, estimated DER losses, reverse-power blocking status, and a concise timeline of early actions. In addition, the framework must include regular joint drills between TSOs, DSOs, and producers to validate operational readiness, response times, and the quality of forensic data.
- TSOs should modernize the system defense plans to explicitly address fast voltage-related phenomena. This includes identifying fast-developing operational anomalies, such as rapid voltage changes, rapidly changing net positions, oscillatory behaviour, or voltage excursions beyond normal operating ranges. The deliverable of this recommendation is a documented update of the system defense plan, defining:
    - The scope of fast voltage-driven threats
    - Detection criteria and decision logic at the defense-level
    - The governance for activating defense-level responses before existing measures become ineffective
    - The identification and implementation of concrete technical measures should be addressed through other relevant recommendations and as outcomes of the studies supporting this defense plan modernization

Multiple Articles: Buildings in New York City Using Geothermal Energy
This collection of articles describe the various buildings in New York City that are set up to utilize geothermal energy in conjunction with heat pumps to provide most or all heating and air conditioning needs. The process is based on transferring heat energy between the earth, which hovers between 50 to 60 degrees year round, and the living areas of buildings. During cold weather, the system extracts heat from the earth to warm a building's interior spaces, while in warm weather, the system extracts heat from the interior spaces and returns it back into the ground. The heat is conveyed through a refrigerant liquid pumped through closed pipe loops.

Several projects that rely on geothermal heat are in the works or have been recently completed in all five boroughs of New York City, including at Brooklyn College, St. Patrick's Cathedral in Manhattan and P.S. 62 in Staten Island. Last month, a geothermal system was completed at NYCHA's Eastchester Gardens and Jackson Houses in the Bronx that provides heat and hot water to over 1,700 apartments across 17 buildings.

Geothermal projects have benefited from financial incentives and technical support to install the systems, based on support from the federal Inflation Reduction Act, state programs, and utility companies, and local laws focused on slashing planet-warming emissions by moving buildings away from fossil fuels.

This Article from TheCity.nyc describes a two-tower residential development at 1515 Surf Avenue in Coney Island. Real-Estate developer LCOR partnered with Ecosave on the design and installation of the system. This 470,000-square-foot project comprises 16- and 26-story structures connected by a shared podium, and yields 463 units. Each unit has an energy efficient water source heat pump connected to the building loop. In addition, electric CO_2 Domestic Water heat pump heaters and storage system provide 100% of the Domestic hot water needs of the building for the residents. The geothermal-based all-electric residential complex eliminated over 12 MM BTU of fossil fuel boilers for building space heating and domestic hot water for the residents, estimated to reduce the building's carbon emissions by 60%, versus comparable properties.

For the project, Ecosave dug 153 bore wells to a depth of 500 feet in a pattern that matches the footprint of the two buildings. A rig can typically drill three wells a day, so for the Coney Island project it took about three months. Installing the horizontal piping, two piping manifolds, and other components along with the mechanical room took another three months.

LCOR relied on several public and private incentives, including $1.62 million in funding from New York's community heat pump pilot program, $2.9 million from Con Edison's utility clean heat program and a 30% federal tax credit. Con Edison also has a strong program supporting the establishment of heat pumps at the residential level. Between 2020 and 2022, the Company's program provided incentives for 183 ground source heat pumps, plus an additional 198 in 2023 and 150 in 2024.

Another recently completed project located at 1 Java Street in Greenpoint (Link to CNN report) is about twice the size of 1515 Surf, with 834 apartments across two towers, and 320 bore holes drilled 500 feet into the earth for the ground source heat pumps. The geothermal system was about 6% more expensive to construct than a typical all-electric building, but will use a third less energy. The developer Lendlease acquired $4 million in funding from the state's Energy Research and Development Authority to support this effort.

Part of the movement toward geothermal systems stems from stricter laws meant to move away from fossil fuels and improve air quality. A gas ban (currently suspended) for newly constructed buildings means that those under seven stories have had to be all-electric since 2024, and those that are seven stories and taller will need to be starting in July 2027. In addition, Local Law 97 sets limits on how much carbon large buildings can spew, and has pushed some owners to more seriously consider geothermal.

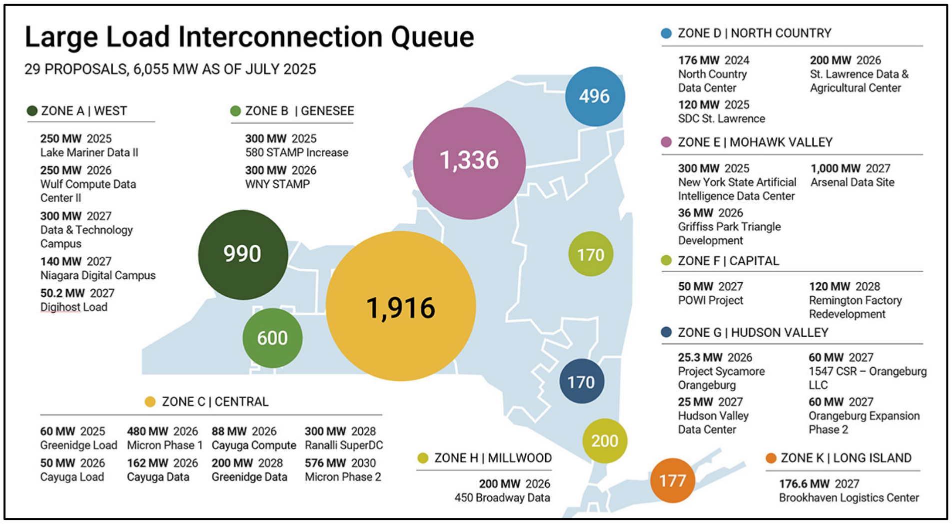
Not every building is a good candidate for ground source heat pumps, depending on the location, rock characteristics, and the size of the property vs. volume of space to be managed. In this urban area, the associated underground infrastructure, such as unrelated piping, subways or water tunnels can have an impact on feasibility.

Check this link for information on geothermal well and drilling requirements according to the New York State Department of Environmental Conservation. The Division of Mineral Resources regulates the drilling, installation, operation and plugging of open loop and standing column geothermal wells drilled deeper than five hundred feet below the earth's surface. The Department's Division of Water (DOW) regulates geothermal wells up to 500 feet deep.

For further information, see the website published by the New York Geothermal Energy Organization (NY-GEO), a not-for-profit trade association, founded in 2014 and representing the geothermal heat pump (GHP) industry in New York State, is dedicated to promoting geothermal heating and cooling. Members include geothermal system designers, installers, drillers, general contractors, engineers, manufacturers, distributors, renewable energy consultants, and industry stakeholders who install and advocate for the utilization of ground-source heat pumps to heat and cool buildings throughout New York State.

The NY-GEO schedules annual conferences at different locations around the state, with the most recent held in Brooklyn during the week of March 24th. The organization promotes programs like NYSERDA's Clean Heat program, which encourages air or ground sourced heat pumps for both commercial and residential facilities. NY-GEO follows energy-related policy and legislative activities, and publishes a weekly newsletter with industry updates, climate news, and upcoming events.

A Closer Look at Large Loads in the NYISO Interconnection Queue (Link to NYISO Blog with Map Image)



Large Loads from the NYISO Interconnection Queue as of February 28th, 2026

	Z	County	Queue Pos.	Project Name	Points of Interconnection	Utility	SP (MW)	Date of IR	Last Updated Date	In Svc Dae
1	A	Niagara	1465	Digihost load	Walck Rd. 115kV	NM-NG	50	11/14/2022	4/30/2025	08-2027
2	A	Niagara	1670	Lake Mariner Data II	Kintigh 345kV Substation	NYSEG	250	1/23/2024	4/30/2025	06-2025
3	A	Niagara	1681	Niagara Digital Campus	Adams to Packard 115kV lines 187 and 188	NM-NG	140	4/9/2024	3/31/2025	12-2027
4	A	Erie	1726	Data & Technology Campus	Huntley - Packard 230kV line 78	NM-NG	300	1/31/2025	12/31/2025	01-2027
5	A	Niagara	1732	Wulf Compute Data Center II	Kintigh 345kV sub-station	NYSEG	250	3/29/2025	12/31/2025	06-2026
6	A	Niagara	1741	North East Data LLC Data Center	230kV lines 77 and 78	NM-NG	500	8/29/2025	12/31/2025	05-2027
7	A	Niagara	1747	Globe Digital Holdings - 1	Line 197 and 198	National Grid	200	10/17/2025	1/31/2026	01-2027
8	A	NIAGARA FALLS	1748	GLOBE DH 2	LINE 197 AND 198	National Grid	200	10/17/2025	1/31/2026	06-2027
9	A	niagara falls	1749	Globe DH 3	lines 187 and 188	National Grid	100	10/17/2025	1/31/2026	01-2027
10	B	Genesee	0580	WNY STAMP	Kintigh/Niagara - New Rochester 345kV	NYPA	300	9/27/2016	3/31/2025	05-2026
11	B	Genesee	1484	580 STAMP load increase	115 kv STAMP substation	NM-NG	300	12/2/2022	12/31/2023	12-2025
12	C	Yates	0776	Greenidge Load	Greenidge 115kV	NYSEG	60	10/22/2018	3/31/2026	04-2030
13	C	Cayuga	0850	Cayuga Load	Milliken 115kV	NYSEG	50	5/21/2019	4/30/2024	12-2026
14	C	Onondaga	1536	White Pine Phase 1	Clay 345 kV Substation	NM-NG	480	3/11/2023	2/29/2024	06-2026
15	C	Onondaga	1627	Micron Fab 2	National Grid Clay 345 kV Substation	NM-NG	576	10/31/2023	6/30/2024	09-2030
16	C	Tompkins	1683	Cayuga Compute	Milliken substation 115kV	NYSEG	88	4/24/2024	5/31/2025	10-2026
17	C	Yates	1725	Greenidge 200 MW Data Center Project	NYSEG - Greenidge 115 kV Substation	NYSEG	200	12/20/2024	12/31/2025	10-2029
18	C	Tompkins	1733	Cayuga Data	Milliken 115kV Substation	NYSEG	162	3/29/2025	12/31/2025	08-2026
19	C	Onondaga	1736	Ranalli SuperDC	Clay to Pannell ckts PC-1 and PC-2	NYPA	300	5/7/2025	8/31/2025	05-2028
20	C	Onondaga	1746	OOWWTP Expansion Program	National Grid' Clay-Teall LN#11 and LN#17	National Grid	50	10/15/2025	1/31/2026	2/1/2029
21	C	Broome	1752	Broome County Tech Park	345 kV POI loop on the Oakdale-Fraser Line 32	NYSEG	250	10/30/2025	1/31/2026	12-2029
22	D	St. Lawrence	0979	North Country Data Center	Reynolds 115kV	NYPA	176	1/22/2020	7/31/2023	12-2024
23	D	St. Lawrence	1213	St Lawrence Data and Agricultural Center	Dennison 115kV substation	NM-NG	200	6/28/2021	1/14/2023	01-2026
24	D	St. Lawrence	1315	SDC St. Lawrence	Moses-Reynolds MRG-1 and MRG-2 at 115kV	NYPA	120	12/20/2021	9/30/2022	08-2025
25	D	St. Lawrence	1743	St. Lawrence Infrastructure 2	NYPA's 230kV Moses Massena 1 (MMS-1)	NYPA	1,935	9/2/2025	1/31/2026	07-2030
26	D	St; Lawrence	1751	Alcoa East Energy Allocation Project	NYPA - HW1 and HW2 (345kV) Lines - at Haverstock	NYPA	200	10/21/2025	1/31/2026	07-2027
27	E	St Lawrence	1745	Pontoon Bridge Road Data Center	Haverstock-Adirondack 345kV transmission lines	NYPA	250	10/9/2025	1/31/2026	10-2026
28	E	St Lawrence	1728	Arsenal Data Site 250	Haverstock to Adirondak 345kV line HA-1	NYPA	233	3/7/2025	12/31/2025	03-2027
29	E	St Lawrence	1729	Arsenal Data Site 500	Haverstock to Adirondak 345kV line HA-1	NYPA	233	3/7/2025	12/31/2025	03-2027
30	E	St Lawrence	1730	Arsenal Data Site 1000	Haverstock to Adirondak 345kV line HA-1	NYPA	467	3/7/2025	12/31/2025	03-2027
31	E	St. Lawrence	1731	New York State Artificial Intelligence Data Center	Haverstock-Adirondack 345kV transmission line HA-2	NYPA	300	3/14/2025	12/31/2025	10-2026
32	E	Oneida	1737	Griffiss Park Triangle Development	Gulf to Rome 115kV line	NM-NG	80	6/3/2025	1/31/2026	12-2027
33	E	Herkimer	1740	Remington Factory Redevelopment	Line 1: 345KV from EDIC to Fraser	NYPA	400	8/29/2025	9/30/2025	08-2028
34	E	St. Lawrence	1742	St. Lawrence Infrastructure 1	NYPA HA-2, 345kV Transmission Line	NYPA	860	9/2/2025	1/31/2026	12-2029
35	F	Albany	1646	POWI Project	New Scotland to Knickerbocker 345kV line	NM-NG	50	11/30/2023	7/31/2024	01-2027
36	F	Herkimer	1735	Remington Factory Redevelopment	Ilion Municipal 115kV substation	IMEU	100	5/2/2025	1/31/2026	07-2027
37	F	Albany	1750	Al Tech Steel Site	Maplewood Menands 18	NM-NG	60	10/21/2025	12/31/2025	06-2027
38	F	Albany	1753	NYS Health Lab (Harriman Campus, Albany NY)	Woodlawn-State Campus #12 115kV feeder	National Grid	20	11/4/2025	1/31/2026	01-2030
39	F	Albany	1754	Kenwood Tech Center	Albany?Bethlehem 115 kV Line #18	National Grid	180	11/11/2025	1/31/2026	12-2028
40	F	Albany	1755	Site Master Plan Expansion Phase I	Patroon Creek and McKnownville	National Grid	45	12/18/2025	1/31/2026	01-2029
41	F	Schenectady	1758	GE Vernova 2690 Balltown Road High Yard Upgrade	Rosa Road - General Electric R&D National Grid #14	National Grid	20	1/29/2026	2/28/2026	08-2027
42	G	Rockland	1713	Project Sycamore Orangeburg	Oak Street 138kV	O&R	22	6/19/2024	6/30/2025	01-2026
43	G	Rockland	1714	Hudson Valley Data Center	Line 60 138KV - Ramp to Tallman	O&R	50	7/2/2024	6/30/2025	02-2027
44	G	Rockland	1715	1547 CSR - Orangeburg LLC	138kV Line 703 between Corp Drive - Harings Corner	O&R	30	7/2/2024	6/30/2025	01-2027
45	G	Orange	1716	Orangeburg Expansion Phase 2	Oak St 38kV substation	O&R	30	8/5/2024	6/30/2025	12-2027
46	H	Westchester	1717	1 Gig Data Center East Fishkill, NY	East Fishkill to Wood Street 345 kV lines (38 and 39)	ConEd	200	8/7/2024	9/30/2025	09-2026
47	H	Dutchess	1738	1 Gig Data Center East Fishkill, NY	East Fishkill to Wood Street 345 kV lines (38 and 39)	CONED	1,000	7/17/2025	1/31/2026	10-2028
48	K	Suffolk	1721	Brookhaven Logistics Center	138-872 Holbrook to Sills Rd	LIPA	177	10/28/2024	7/31/2025	01-2027
						Total	12,244			

Month over month increase in Project Count = 1, along with a net increase in Total Project Load = 488 MW.

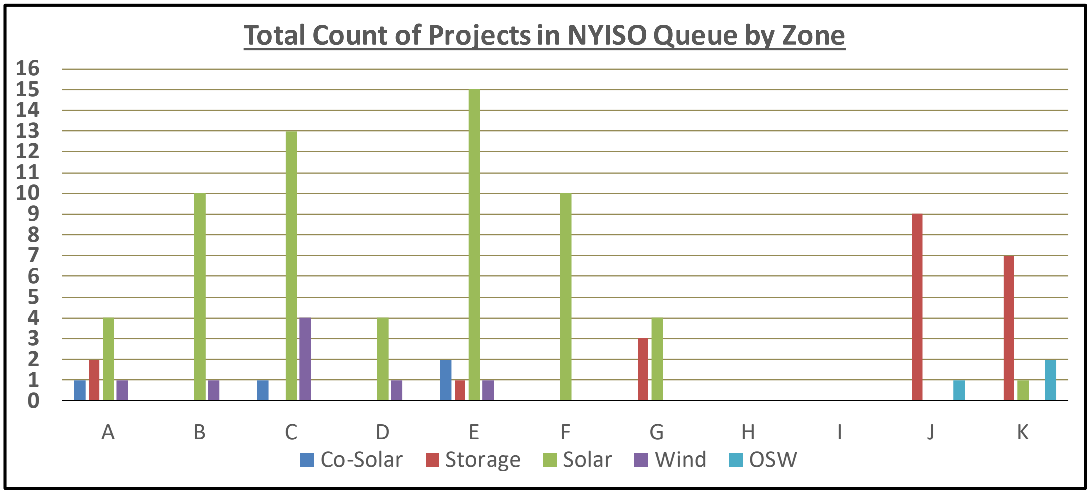
Interconnection Queue: Monthly Snapshot – Storage / Solar / Wind / CSRs (Co-located Storage)

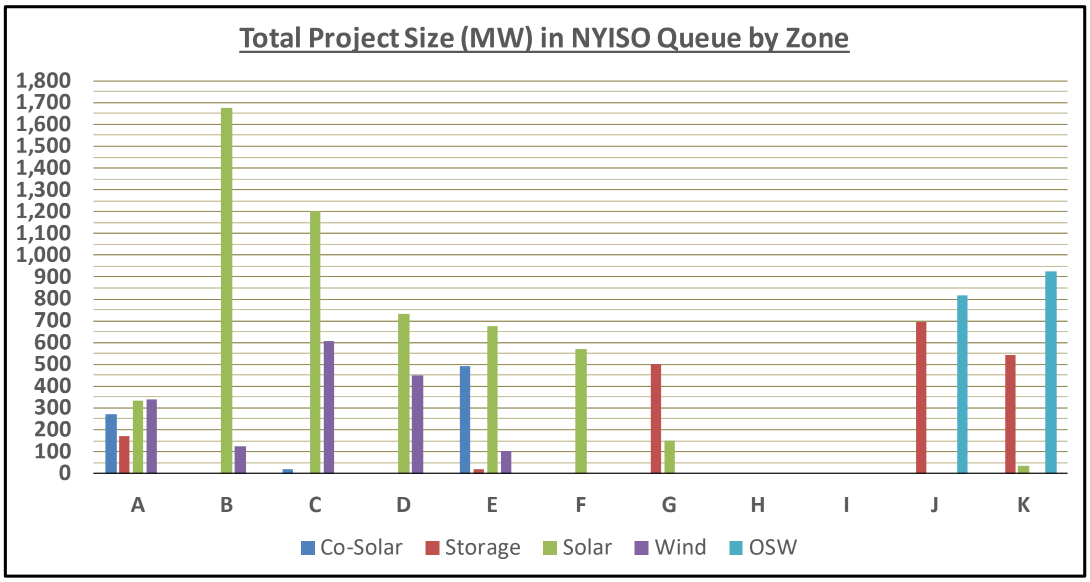
The intent is to track the growth of Co-Located Solar / Storage, Energy Storage, Solar, Wind, and Offshore Wind (OSW) projects in the NYISO Interconnection Queue, looking to identify trends and patterns by zone and in total for the state. The information was obtained from the NYISO Interconnection Website, based on information published on March 20th, and representing the Interconnection Queue as of February 28th. Note that zero projects were added, and two projects were withdrawn during the month of February.

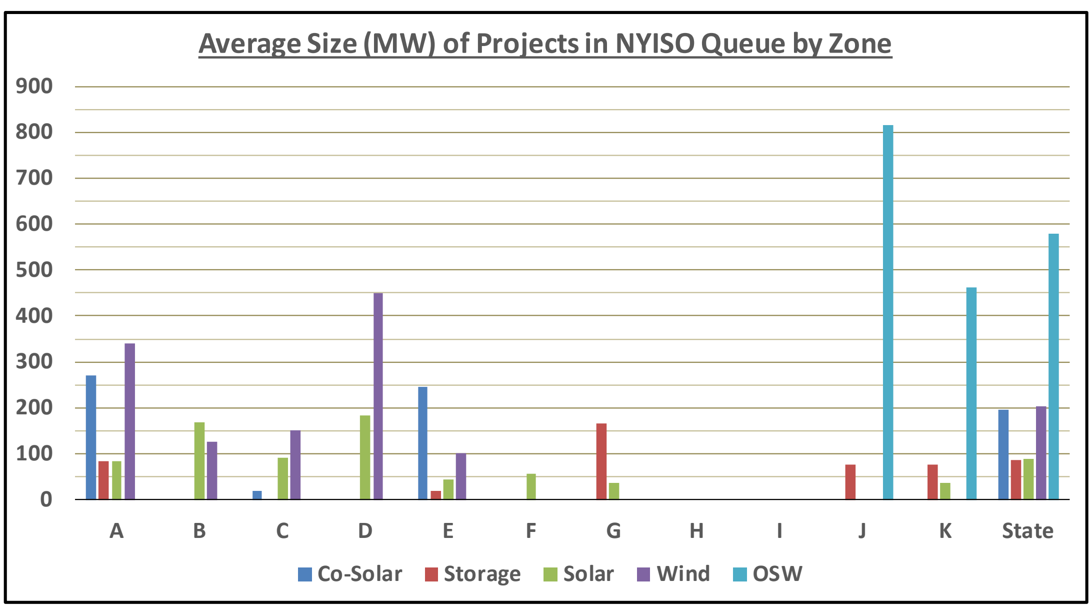
Total Count of Projects in NYISO Queue by Zone					
Zone	**Co-Solar**	**Storage**	**Solar**	**Wind**	**OSW**
A	1	2	4	1	
B			10	1	
C	1		13	4	
D			4	1	
E	2	1	15	1	
F			10		
G		3	4		
H					
I					
J		9			1
K		7	1		2
State	4	22	61	8	3

Total Project Size (MW) in NYISO Queue by Zone					
Zone	**Co-Solar**	**Storage**	**Solar**	**Wind**	**OSW**
A	270	170	335	339	
B			1,678	126	
C	20		1,203	607	
D			730	449	
E	490	20	676	101	
F			571		
G		499	150		
H					
I					
J		695			816
K		544	36		924
State	780	1,928	5,378	1,622	1,740

Average Size (MW) of Projects in NYISO Queue by Zone					
Zone	**Co-Solar**	**Storage**	**Solar**	**Wind**	**OSW**
A	270	85	84	339	
B			168	126	
C	20		93	152	
D			183	449	
E	245	20	45	101	
F			57		
G		166	38		
H					
I					
J		77			816
K		78	36		462
State	195	88	88	203	580


Total Count of Projects in NYISO Queue by Zone
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
A
B
C
D
E
F
G
H
I
J
K
Co-Solar
Storage
Solar
Wind
OSW


Total Project Size (MW) in NYISO Queue by Zone
1,800
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
A
B
C
D
E
F
G
H
I
J
K
Co-Solar
Storage
Solar
Wind
OSW


Average Size (MW) of Projects in NYISO Queue by Zone
900
800
700
600
500
400
300
200
100
0
A
B
C
D
E
F
G
H
I
J
K
State
Co-Solar
Storage
Solar
Wind
OSW

Cluster Interconnection Queue: Monthly Snapshot – Storage / Solar / Wind / CSRs (Co-located Storage)

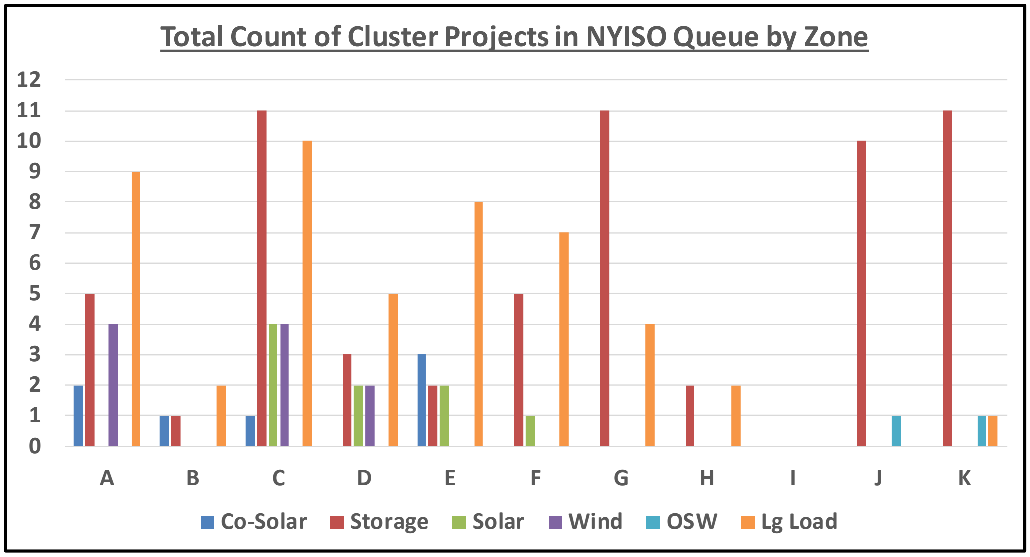
The intent is to track the growth of the Cluster-based projects, including Co-Located Solar and Wind / Storage, Energy Storage, Solar, Wind, and Offshore Wind (OSW) projects in the NYISO Interconnection Queue, looking to identify trends and patterns by zone and total for state. Information is based on the Cluster Interconnection Queue as of February 28th, and published on March 20th. Large Load summary information has been added to these tabulations and graphs for comparative context.

Note that within the Cluster Queue, the monthly totals remain the same at 92 projects totaling 15,610 MW. There was no change from the previous month. A total of 284 projects representing 59,873 MW are listed as having been withdrawn to date.

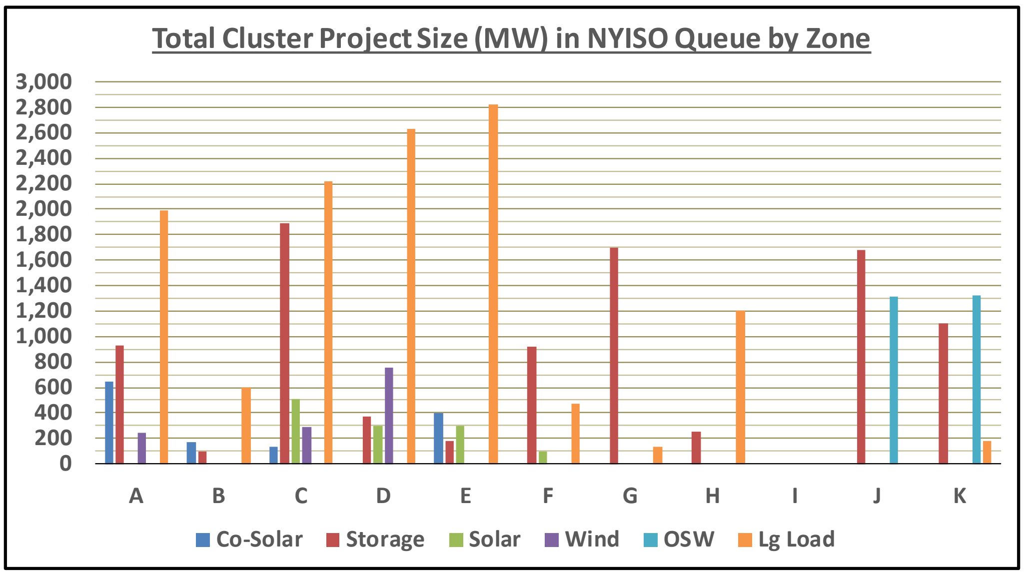
Total Count of Cluster Projects in NYISO Queue by Zone						
Zone	Co-Solar	Storage	Solar	Wind	OSW	Lg Load
A	2	5		4		9
B	1	1				2
C	1	11	4	4		10
D		3	2	2		5
E	3	2	2			8
F		5	1			7
G		11				4
H		2				2
I						
J		10			1	
K		11			1	1
State	7	61	9	10	2	48

Total Cluster Project Size (MW) in NYISO Queue by Zone						
Zone	Co-Solar	Storage	Solar	Wind	OSW	Lg Load
A	650	930		246		1,990
B	170	100				600
C	130	1,890	510	292		2,216
D		375	300	760		2,631
E	400	175	300			2,823
F		920	100			475
G		1,699				132
H		250				1,200
I						
J		1,676			1,310	
K		1,107			1,321	177
State	1,350	9,122	1,210	1,298	2,631	12,244

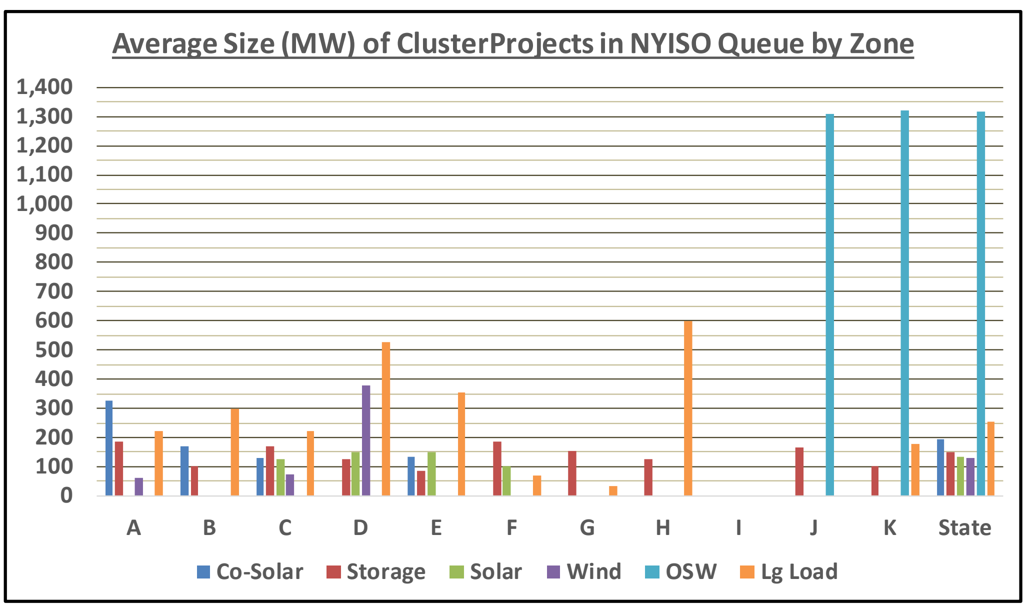
Average Size (MW) Cluster Projects in NYISO Queue by Zone						
Zone	Co-Solar	Storage	Solar	Wind	OSW	Lg Load
A	325	186		61		221
B	170	100				300
C	130	172	127	73		222
D		125	150	380		526
E	133	88	150			353
F		184	100			68
G		154				33
H		125				600
I						
J		168			1,310	
K		101			1,321	177
State	193	150	134	130	1,316	255



Total Count of Cluster Projects in NYISO Queue by Zone
12
11
10
9
8
7
6
5
4
3
2
1
0
A
B
C
D
E
F
G
H
I
J
K
Co-Solar
Storage
Solar
Wind
OSW
Lg Load



Total Cluster Project Size (MW) in NYISO Queue by Zone
3,000
2,800
2,600
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
A
B
C
D
E
F
G
H
I
J
K
Co-Solar
Storage
Solar
Wind
OSW
Lg Load



Average Size (MW) of ClusterProjects in NYISO Queue by Zone
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
A
B
C
D
E
F
G
H
I
J
K
State
Co-Solar
Storage
Solar
Wind
OSW
Lg Load