

TERM	ACRONYM	DESCRIPTION
Alternating current	AC	Electrical current that reverses direction periodically; most buildings run on AC current, which is why DC current produced by solar panels must go through an inverter to become AC current
Ancillary services		Services that help stabilize the grid, such as voltage and frequency regulations
Asbestos containing material	ACM	Any material containing more than 1% asbestos; in NYC, construction permit applicants must submit an asbestos abatement form as part of the permitting process
Authorities having jurisdiction	AHJ	An individual or organization that enforces codes and standards; AHJs involved in the permitting and interconnection of solar and storage in NYC include DOB, FDNY and Con Edison
Battery		A device that stores energy
Battery back-up		Batteries, typically paired with solar PV arrays, that provide emergency power during grid outages
Battery chemistry		The combination of chemicals present in an electrochemical battery; common battery chemistries used for commercial-scale energy storage include: lead-acid, Li-ion, and vanadium redox flow batteries
Brooklyn Queens Demand Management	BQDM	A Con Edison program that will result in 52 MW of non-traditional utility and customer-sited solutions, such as solar and energy storage, to defer the development of a new sub-station in the Brooklyn-Queens area
Building automation system	BAS	A software system used to monitor and control various devices and systems within a building; BAS are used to optimize efficiency and operation in a building
Buildings Information System	BIS	An online system of the DOB that provides the public with access to data and information, such as inspection and application status
Charge controllers		A device used in an ESS to control voltage and current, ensuring batteries do not overcharge
Combined heat and power (also cogeneration)	CHP	A form of distributed energy that provides both electrical energy and useful heat; common CHP components include natural gas turbines and heat recovery units
Coordinated Electric System Integration Review	CESIR	Detailed engineering studies assessing the impact of interconnecting large amounts of DG onto the grid; the CESIR identifies upgrades to the grid that may be required to accommodate the DG

Critical loads		Electrical loads deemed to be vital to a building during a grid outage; critical loads are determined by each site based on what systems need to be powered during an emergency and the size of the loads; examples of critical loads might include lighting and HVAC loads
Demand charge		A component of an electrical bill (typically only for commercial customers) that charges a customer for the highest amount of power (i.e. capacity) required within a given month; demand charges are measured in kW and are generally measured as the highest level of kW demanded within a 15-minute interval during the course of the month
Demand management		The use of energy efficiency, DG or DR to control energy demand; demand management is typically used to lower peak demand in order to reduce grid stress and reduce demand charges
Demand response	DR	The practice of reducing the amount of electricity drawn from the grid in response to requests from the utility for customers enrolled in demand response programs to lower energy use over a given time period; demand response events often occur during heat waves when high temperatures cause an increase in air conditioning usage, causing peak demand on the grid to surge
Direct current	DC	Electrical current that flows in one direction; solar panels produce DC electrical current, however most buildings and appliances run off of AC current
Direct ownership		An ownership model in which the facility that hosts an asset (e.g. solar storage) owns that asset and receives all of the utility bill savings and resiliency benefits from that asset; direct ownership requires that the owner provide a large amount of upfront capital to purchase the asset or secure a loan for the purchase
Distributed generation (also distributed energy)	DG	Power that is generated at the site where it is consumed; opposite of decentralized generation where power is produced off-site and transmitted to where it is needed
DOB Building Sustainability Board	BSB	Office affiliated with the DOB that reviews ESS applications and other "green" technologies not addressed in the NYC Construction Code. It makes technical recommendations to OTCR. It is comprised of local engineers. It meets as needed.
DOB Electrical Advisory Board	EAB	An Advisory Board within the DOB that may need to approve ESS. EAB approval is typically required when ESSs connect to a building with an electrical service that is 1000 kVA or larger. Is comprised of industry experts. It meets monthly.
DOB Innovation Review Board	IRB	Office affiliated with the DOB that reviews ESS applications. It reviews specific projects that involve new technologies, design or construction techniques, materials or processes, as well as proposals for such new technologies. It also makes recommendations on what conditions and for what purposes the technology may be employed in NYC. The IRB also streamlines approvals of specific projects. It is comprised of agency representatives. It meets quarterly or

		more as needed.
DOB Office of Technical Certification and Research	OTCR	This DOB office oversees technical certifications of approved agencies and entities performing inspections, tests, material approvals and evaluates new technology that enhances safety, sustainability and efficiency. OTCR is responsible for approving materials on a site-specific basis. There is a specific permitting process with required submission documents.
Dual inverters		Inverters that can function while connected and disconnected from the grid; dual inverters are used in solar+storage systems
Energy optimization modeling		With regard to solar+storage, energy optimization modeling is modeling to determine PV and battery sizing to provide maximum economic benefit given the specific load, rate tariff and available incentives
Energy Storage Systems	ESS	A system that consists of a storage device (typically batteries) and software that when combined as a system can be used for demand management, ancillary services, and/or emergency power
Grid forming inverters	GFI	See dual inverters
Grid tied inverters	GTI	A power inverter that converts DC current to AC current; unlike GFI, GTI must be connected to the grid in order to function
IEEE Standard 1547		Standard for interconnecting distributed resources with electric power systems.
Installed Capacity Program	ICAP	A Con Edison program to pay commercial customers to temporarily cut back energy use during power shortages or other emergencies
Internal rate of return	IRR	Used to evaluate the attractiveness of a project/investment by measuring and evaluating the long-term investments. It is also called the economic rate of return (ERR).
Inverters		Electrical equipment used to convert DC from a solar array to AC to power homes and buildings
Investment tax credit	ITC	A federal policy that supports renewable energy deployment (including solar PV); the ITC provides a 30% tax credit for the total installed cost of solar systems on residential and commercial properties; has been extended through December 31, 2016; it is a dollar-for-dollar reduction in the income taxes one would otherwise pay the government; it is based on the amount of investment in solar property.
Island (also islanding)		When solar or other forms of DG are isolated from the utility system and continue to provide power to the site in the absence of a grid connection
Megawatt Block		NYSERDA's tiered incentives for solar based on geographic location, with a bonus for large-

		scale, commercial storage integration
Microgrid		An energy system consisting of one or more forms of DG and that often also includes energy storage that can function while connected to the grid, providing economic value, and can also function during grid outages, providing resiliency benefits
Microinverters		Small inverters affixed to the back of a solar panel that converts the DC current from each panel into AC current; microinverters converts DC output of a PV array to AC power at the panel level rather than combining the DC current of the entire solar array and using a large, single inverter; one benefit of microinverters is that they enable PV arrays to continue to perform even if one PV panel stops producing
National Renewable Energy Laboratory	NREL	Federal laboratory dedicated to the research, development, commercialization and deployment of renewable energy and energy efficiency
New York Power Authority	NYPA	The U.S.' largest state public power organization; produces and transmits electricity
NY Independent System Operator	NYISO	It operates NYS' electric system, including the transmission network and administering and monitoring wholesale electricity markets.
NY Reforming the Energy Vision	REV	A process to restructure and reform NY's energy sector to prioritize renewable energy
NY State Energy Research and Development Authority	NYSERDA	It promotes energy efficiency and the use of renewable energy sources to reduce greenhouse gas emissions, accelerate economic growth and reduce energy bills
NY-Sun MW Block program		Program to support the installation of solar+storage systems
NYC Department of Buildings	DOB	The agency with which to file your solar energy electrical project permit.
Peak demand		For a utility, the period of time during which customers require the largest amount of electricity; for a customer, the period of time (generally measured over 15 minutes) during which the customer requires the largest amount of energy
Peak shaving		Shift demand from peak times (when energy charges are the highest) to times with lower demand (charges are lower)
Property Assessed Clean Energy Financing	PACE	Financing loans available for solar PV and battery storage systems with demonstrated payback; note: NYC has not enabled PACE financing
Property Tax	PTA	NYC offers a 20% PTA to property owners that install solar PV systems, through the

Abatement		Department of Finance and administered by DOB; is set to expire at the end of 2016
PV penetration		When considering all the different fuels used to provide a utility's full energy supply (energy mix), PV penetration is the percentage that solar accounts for in this mix
Resilient PV		solar that continues to provide power during grid outages [note: traditional PV systems shut down with the grid]
Solar array		A photovoltaic panel system that generates on-site power in the form of DC energy
Solar+storage		An energy system comprised of batteries, solar and affiliated equipment that provides economic and resiliency benefits to the host customer
Stand alone inverters		Used for off-grid solar systems where batteries are charged directly from the solar panel and then converted to AC power to the load
Third-party ownership		An ownership model in which the facility hosting a solar+storage asset does not own the asset, rather the asset is owned by a third party; under this model host sites can receive a system for little to no-upfront cost in exchange for sharing savings from the solar+storage systems with the third-party developer
Time-based rates		Rate structures that charge different and varied prices depending on time and day. Examples include: time-differentiated retail rates, time-variant pricing, advanced pricing programs, and time-varying retail pricing
UL certification requirements		Underwriters Laboratories safety certification for equipment testing methodologies and standards
Under/over frequency ride through		Inverters' capability to stay connected to the grid during minor disturbances to frequency
Under/over voltage ride through		Inverters' capability to stay connected to the grid during minor disturbances to voltage