



370 Jay Street, 7th Fl.
Brooklyn, NY 11201

August 16, 2023

Commissioner Dan Garodnick
Chair, City Planning Commission and Director of City Planning
NYC Dept. of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Dear Chair Garodnick,

NineDot Energy (NineDot) writes to offer our support of the Department of City Planning's (DCP's) proposed City of Yes: Carbon Neutrality text amendment (COYCN), which would facilitate important progress in reducing New York City's carbon footprint in the coming decades. NineDot applauds DCP's careful review of existing zoning regulations to pinpoint roadblocks to carbon neutrality, and we believe the COYCN represents a comprehensive effort to clear such barriers.

Background

NineDot is a Brooklyn-based community-scale clean energy developer with a growing portfolio of projects across New York City, in support of our mission to provide the City with a cleaner, more resilient, more affordable, and more equitable power grid. One focus of our development are energy storage systems (ESS), which are critical to maximizing the use of intermittent renewables, such as wind and solar. Energy storage also reduces reliance on high-emissions "peaker" plants, which are disproportionately located in low-income neighborhoods of the City. Our first ESS development in New York City in the Pelham Gardens area of the Northeast Bronx is designed to discharge electricity to the local grid during peak hours this summer, helping that neighborhood avoid increased costs and potential brownouts / blackouts.

The need for ESS in New York City is acute. The first and most obvious reason is the increasing necessity of grid resiliency and capacity, as electrification of buildings and vehicles ramps up as the City and State strive to meet their climate goals. ESS provide a zero-carbon solution to the growing strain placed on our local utilities. Second, ESS are uniquely well-positioned for our dense urban environment. While low-carbon and renewable sources provide more than 90% of energy for upstate loads, that figure is less than 10% for New York City.¹ One reason for this is real estate: while a 5-megawatt (MW) capacity solar farm (providing energy for roughly 1,250 homes) would require roughly 25 acres of land, a comparable ESS project would require less than a quarter of an acre, as illustrated on the graphic below.

¹ See "2023 Power Trends, The New York ISO Annual Grid & Markets Report," NYISO, revised August 14, 2023, available at <https://www.nyiso.com/power-trends-downloads-and-resources>.



It is no surprise, then, that while City residents comprise roughly 55% of the State’s population, only 3% are beneficiaries of the State’s successful community solar programs.² Finally, the community-scale ESS that NineDot develops compliment the distributed nature of our local utility grid. While nearly all of the City is within ConEdison’s and NYISO’s “Zone J,” there are roughly 200 different distribution networks throughout the five boroughs, each with different load capacity and variable demand. By strategically developing ESS sites close to loads on the most stressed of the 200 networks, community-scale developers like NineDot provide significant resiliency benefits at the distribution level, preventing localized brownouts and blackouts.

Energy storage is therefore a key component of the State’s mandate to reach 70% renewable electricity by 2030 and 100% zero-emissions electricity by 2040. Governor Hochul last year directed relevant agencies to update *New York State’s 6 GW Energy Storage Roadmap* (the “Roadmap”) with a goal of at least 6,000 MW of energy storage deployed by 2030. To date, only a fraction of this capacity has been awarded or contracted (1,301 MW) and a miniscule 130 MW actually installed.³ Worse still, although within New York City (“Zone J”) the Roadmap

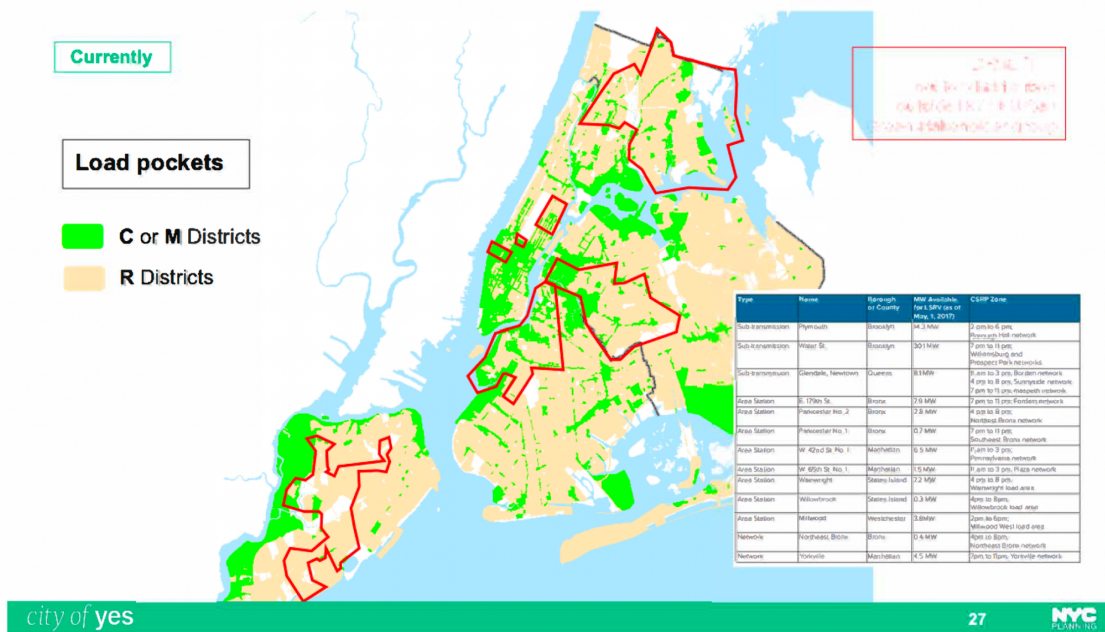
² See “Sharing the Sun Community Solar Project Data (June 2022),” National Renewable Energy Laboratory, <https://data.nrel.gov/submissions/203>.

³ See “New York’s 6 GW Energy Storage Roadmap: Policy Options for Continued Growth in Energy Storage,” New York Department of Public Service and New York State Energy Research and Development Agency, 12/28/22, available at: <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/Energy-Storage/ny-6-gw-energy-storage-roadmap.pdf>.

has targets of 2,005 MW of battery storage capacity by 2030 and 4,739 MW by 2050, as of December 2022 only 12.1 MW have come online.⁴

Benefits of COYCN

One critical reason for the City’s slow pace in developing ESS is zoning constraints. Currently, ESS zoning relies on Department of Buildings (DOB) interpretations that categorize ESS into the existing “electric utility substation” use, either in Use Group 6D for ESS with a footprint less than 10,000 square feet (sf) or Use Group 17C, if larger.⁵ Not only is this classification inappropriate - substations include substantially larger higher-voltage electrical equipment than an ESS - but it also prevents ESS development in certain commercial and all residential zoning districts. As a result, ESS cannot be developed as-of-right in the majority of areas of the City including, for example, those ConEdison has identified as within a “Locational System Relief Value” (LSRV) areas, suffering from poor grid reliability and high stress, as shown outlined in red in the graphic below developed by DCP⁶:



Even in areas where ESS is allowed as-of-right, the classification of ESS as “electric utility substation” slows down the pace of development due to confusion regarding permitted obstructions, inconsistencies in accessory use definitions, and other fine-grain issues which

⁴ See “Clean Energy Update,” ConEd, available at <https://www.coned.com/en/about-us/media-center/clean-energy-update>.
⁵ See Buildings Bulletin 2019-007 and Buildings Bulletin 2020-023.
⁶ ConEdison has also classified high-stress networks under its Non-Wires Solution (NWS) programs (such as the Brooklyn-Queens Demand Management [BQDM] Program and Jamaica Substation Project) and Distribution Load Relief Program (DLRP) Tier 2 areas. The zoning characteristics of the LSRV areas are similar for the NWS and DLRP areas. For all these utility programs, distributed ESS can earn utility incentives for providing pinpointed load relief.

cause confusion for both DOB and developers. This is in no small part owing to provisions regulating substation use which predate even the 1961 Zoning Resolution regarding size and layout.⁷

COYCN would eliminate several zoning-related obstacles that are impeding the City's progress in achieving these goals. COYCN would result in ESS being classified as "energy infrastructure equipment" either within Use Group 4C if smaller than 10,000 sf,⁸ or within Use Group 6F or 14C, if larger. As a result, ESS would become an as-of-right use citywide. COYCN would also afford greater flexibility in ESS site design by allowing energy infrastructure as a permitted obstruction in yards and rooftops, and would clarify and standardize various other zoning provisions which were written decades before the development of ESS technologies.

NineDot also recognizes that ESS alone are far from sufficient to achieve a carbon neutral city. COYCN includes numerous other provisions which we support, enabling building retrofits for energy efficiency, rooftop solar development, and waste and stormwater management. COYCN would also help facilitate widespread development of electric vehicle (EV) charging infrastructure, an area which NineDot is exploring with strategic partners. We currently operate the City's first vehicle-to-grid (V2G) charging station in collaboration with Revel and Fermata, located in the Red Hook section of Brooklyn and supported by a grant from the U.S. National Renewable Energy Laboratory. COYCN's allowance of EV charging stations in more zoning districts will not only facilitate more EVs on the road but will also help realize the potential of V2G technologies.

Appropriateness in Residential Zoning Districts

At the Commission's public hearing for COYCN, questions were raised regarding the appropriateness of siting ESS in residential zoning districts. First, the text of the Zoning Resolution describes Use Group 4 as consisting "primarily of community facilities that: (1) may appropriately be located in #residential# areas to provide recreational, religious, health, and other essential services for residents."⁹ For the reasons described above, we believe that ESS is an "essential service for residents" - preventing brownouts and blackouts and reducing the need for high-emissions peaker plants which would otherwise pollute those areas. An analogy can be drawn to hospitals - a use which, unlike ESS, generates significant traffic and noise impacts, but which are permitted as-of-right in residential zoning districts because of the distributed need for services across the City.¹⁰

⁷ The existing BSA special permit provisions, ZR Sec. 73-14 and 73-16, are modeled from Article II, Section 3(13) of the pre-1961 Zoning Resolution, enacted in 1952.

⁸ We understand that this size limitation is intended to refer to the footprint of the ESS rather than the total lot area of the underlying zoning lot; we urge the Commission to clarify this point by either modifying the proposed text or stating so in its report.

⁹ ZR Sec. 22-14.

¹⁰ At the Commission's public hearing, an official from the Staten Island Borough President's Office described zoning use groups as being classified as increasing in the relative danger posed by the use. Not only is this statement factually inaccurate (a Use Group 17C greenhouse is not any more "dangerous" or objectionable than a 8D prison), but it ignores the fact that ESS are currently permitted as Use Group 6D electric utility substations, sharing a classification with courthouses and police stations.

Second, we believe that community-scale ESS can be aesthetically consistent with residential neighborhood character. COYCN would add special screening and enclosure provisions for the first time to ESS, requiring fencing and vegetation in nearly all instances. NineDot would welcome further design requirements which minimize aesthetic impacts while preserving development flexibility. Below is an example of screening that one of our vendors can provide to surround ESS, illustrating how our development could integrate with the streetscape:



Equity Implications

In numerous ways, environmental justice concerns drive COYCN, including proposals with respect to ESS. Not only is widespread ESS development critical to achieving grid resiliency; it is also central to reducing the City's reliance on high-emissions "peaker" plants. These facilities are located throughout the City and are utilized during hours of peak electrical demand to avoid brownouts and blackouts. They spew not only carbon dioxide but also nitrous oxide (NOx), sulphur dioxide (SOx), and particulate matter (PM) - all contributing to serious health issues such as asthma, respiratory disease, and cardiovascular disease.¹¹ Tragically but unsurprisingly, these facilities - many of which are more than 50 years old - are disproportionately located in low-income and minority communities, with 78% of residents within one mile of a peaker plant meeting one or both criteria. As noted in the report by the PEAK Coalition, a consortium of climate activists and scholars dedicated to retiring peaker

¹¹ See "Air Pollution and the Health of New Yorkers: The Impact of Fine Particles and Ozone," NYC Health, available at <https://www.nyc.gov/assets/doh/downloads/pdf/eode/eode-air-quality-impact.pdf>.

plants, energy storage is critical in helping the grid meet peak demand without reliance on peaker plants.¹²

Further, ESS development can reduce electric utility costs for ratepayers, allowing low-income residents to save on their bills. Currently the chief compensation program for community-scale storage in New York State is through the “Value of Distributed Energy” (VDER) program, by which ESS developers receive revenue as utility bill credits. Developers can then sell those credits to utility customers with a guaranteed discount rate from their utility bill. We have proposed to NYSERDA and the State Public Service Commission that they adopt a program, similar to one developed for community solar, whereby utilities automatically pass on guaranteed savings to low-income customers from the clean energy generated by ESS projects.

Safety

Finally, we acknowledge concerns raised regarding the safety of ESS development. We note that nothing in COYCN would affect the safety oversight exercised by DOB and the City Fire Department (FDNY) - standards which we believe are the most rigorous in the nation. DOB and FDNY currently require several layers of approval before, during, and after construction of ESS projects. All ESS technologies deployed in New York City must have an FDNY-issued Certificate of Approval (COA), a rigorous review process which has resulted to date in the issuance of only seven COAs produced by four manufacturers. Batteries with a COA must first be listed at multiple levels by Underwriters Laboratories (UL), the gold standard in independent science safety review. Notably, none of the recent ESS safety incidents in New York State involved ESS technology for which FDNY has issued a COA. Other levels of FDNY and DOB review are site-specific, with DOB’s Office of Technical Certification and Research approval required in addition to typical DOB permitting, and multiple FDNY inspections required prior to operationalizing an ESS. We believe it is no coincidence that New York City, unlike other areas of the state, has not seen a single serious ESS safety incident to date.

We recognize that the recent spate of tragic fires associated with e-bike charging has raised concerns about lithium-ion battery technology. There are several reasons why these concerns can be allayed, beginning with the rigorous safety oversight described above, which does not apply in any form to e-bike chargers. On the contrary, many foreign-purchased e-bike batteries lack any safety certifications. In addition, e-bikes are commonly used second- and third-hand, far past their useful life and with defects that the original equipment manufacturers would not be permitted to sell. Finally, e-bikes batteries are by their nature far more prone to degradation: unlike ESS, they (a) are mobile and can collide at high speeds with curbs and other objects; (b) do not have protective covering or cooling systems and thus can suffer from adverse weather conditions; (c) are not subject to operational inspections and thus often charged haphazardly (e.g., overnight).

¹² “The Fossil Fuel Endgame” (March 2021), PEAK Coalition,
<https://www.cleaneenergy.org/wp-content/uploads/Fossil-Fuel-End-Game.pdf>



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Conclusion

In sum, NineDot commends DCP for the COYCN, which we believe is critical in facilitating clean energy development for the City. We urge the City Planning Commission and the New York City Council to adopt the full proposal into law.

Sincerely,

A handwritten signature in black ink that reads "Adam Cohen".

Adam Cohen, Ph.D

Co-Founder and Chief Technology Officer

A handwritten signature in black ink that reads "Sam Brill".

Sam Brill

Director, Strategic Development Initiatives

