Envisioning a Green New York: A Tale of Two Cities under the CLCPA

I. Project Note:

The Climate Justice Working Group, created by the Climate Leadership and Community Protection Act (CLCPA), is tasked with providing strategic advice to the Climate Action Council for how it can incorporate the needs of disadvantaged communities in the Scoping Plan.[1] Our project is focused on (1) identifying certain disadvantaged communities affected by climate injustice, or environmental projects that will affect certain disadvantaged communities and (2) how the CLCPA can act as an instrument of reparative justice with respect to the disadvantaged communities identified and/or particular environmental projects identified in New York. Essentially, we aim to act as a faux auxiliary advisory committee to the Climate Justice Working Group by providing practical application of the CLCPA to ongoing climate injustices in New York. In this way, we hope to assess the capability of the CLCPA in catalyzing a progressive and urgent response that is needed to address the climate crisis.

For my part in the project, in this paper, I will do three things: (1) give a brief introduction highlighting the climate crisis and its effects on disadvantaged communities in New York; (2) summarize the main provisions of the Climate Leadership and Community Protection Act; and (3) analyze two contrasting projects in my community (Astoria, Queens) through the lens of the CLCPA, emphasizing how the projects might affect disadvantaged communities, and offering recommendations on how the projects might best effectuate the provisions of the CLCPA. I will end with a brief conclusion about the trajectory of New York under the CLCPA. The COVID-19 pandemic has highlighted that the havoc that inequality can wreak in our society regarding public health, and the disparate impact that the virus is having on disadvantaged communities is

[1] New York Government, *Climate Justice Working Group* (Dec. 2, 2020), https://climate.ny.gov/Climate-Justice-Working-Group

consistent with the effects of the climate crisis and will likely only be exacerbated in the coming years. Progressive legislation like the CLCPA may aid disadvantaged communities in avoiding a similar fate as the one they are suffering from the COVID-19 pandemic.[2]

II. Introduction: The Climate Crisis and its effect on New York

The year 2020 has seen the most profoundly and consistently devastating effects of the climate crisis to date, yet the global response has "remained muted."[3] Indeed, many carbon-intensive practices and policies lead to poor air quality, poor food quality, and poor housing quality. These effects are often unequal, disproportionately impacting populations who have contributed least to the problems.[4] Despite signs of the climate crisis escalating, national efforts to meet the commitments of the Paris Agreement continue to fall short[5], and nations still have not effectively measured systemic racism into their responses to the Climate Crisis. The first step towards climate justice begins with recognizing that certain groups are impacted differently by climate change and those impacts can exacerbate social inequalities.

New York has not been spared: it is a hub of agriculture, tourism, and ecologically important land, as well as the home of one of the most important cities in the world, making its population and geographic makeup particularly vulnerable to the effects of the climate crisis. Consistent with the rest of the world, New York's annual average temperatures have increased in all regions of the state.[6] By 2035, New York's region is projected to be more than 3.6°F (2°C) warmer on

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[2] *See* Don Bambino et al., *The Disproportionate Impact of COVID-19 on Racial and Ethnic Minorities in the United States* (June 20, 2020), https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa815/5860249
[3] Nick Watts et al., *The 2020 report of The Lancet Countdown on health and climate chance* (Dec. 2, 2020), https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32290-X/fulltext
[4] *Id.*
[5] Stephen Leahy, *Most countries aren't hitting 2030 climate goals* (Nov. 5, 2019), https://www.nationalgeographic.com/science/2019/11/nations-miss-paris-targets-climate-driven-weather-events-cost-billions/
[6] *See generally*, Department of Environmental Conservation, *Impacts of Climate Change in New York* (2014), https://www.dec.ny.gov/energy/94702.html

average than during the preindustrial era.[7] In addition, the sea level along New York's coast is rising more rapidly than other areas because New York's land surface is also sinking.[8] Long-term sea level rise is projected to be at least six feet by 2100.[9] That projection will continue to increase in the coming years.[10] With the increase in sea level rise comes an increased likelihood of coastal flooding and will put an additional 228,000 New Yorkers at risk of coastal flooding by 2050.[11] Disadvantaged communities are most at risk to suffer the effects of coastal flooding and extreme heat.[12]

Furthermore, in New York City specifically, environmental injustice is baked into the city's infrastructure. Presently, New York largely relies on powerplants to supply electricity to its 8.4 million residents. Sixteen "peaker" natural gas-fired power plants are disproportionately located in communities of color in the Bronx, Brooklyn, and Queens and that release harmful pollutants that contribute to respiratory issues like asthma.[13] The city also creates about 35,000 tons of garbage every day.[14] Several communities of color—notably North Brooklyn and the South Bronx— are saturated with waste transfer stations. Thousands of heavy diesel trucks, hauling trash to be incinerated, infect these communities every day, which have some of the highest rates

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[7] National Climate Assessment, *Chapter 18: Northeast* (2018), https://nca2018.globalchange.gov/chapter/18/
[8] Environmental Protection Agency, *What Climate Change Means for New York* (Aug. 2016), https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-ny.pdf
[9] Vivien Gornitz et al., *New York City Panel on Climate Change 2019 Report: Sea Level Rise* (March 15, 2019), https://nyaspubs.onlinelibrary.wiley.com/doi/full/10.1111/nyas.14006
[10] *Id*.
[11] Climate Central, *Sea Level Rise is Increasing Coastal Flood Risk* (Oct. 8, 2014), https://www.climatecentral.org/gallery/graphics/sea-level-rise-is-increasing-coastal-flood-risk
[12] *See* NYC gov, *Heat Vulnerability Index* (2018), http://a816-dohbesp.nyc.gov/IndicatorPublic/VisualizationData.aspx?id=2191,719b87,107,Map,Score,2018; and NYC Planning, *NYC Flood Hazard Mapper* (Nov. 6, 2017), https://dcp.maps.arcgis.com/apps/webappviewer/index.html?id=1c37d271fba14163bbb520517153d6d5
[13] Emily Pontecorvo, *New York says goodbye to 6 dirty power plants* (Oct. 15, 2020), https://grist.org/justice/new-york-says-goodbye-to-6-dirty-power-plants-and-hello-to-working-with-communities/
[14] New York City Environmental Justice Alliance, *Waste Equity* (Dec. 4, 2020), https://www.nyc-eja.org/campaigns/solid-waste-transfer-stations/

of asthma in the country.[15] Decades of industrial toil and untreated sewage (among other causes) have left the city's waterways extraordinarily polluted[16], the Gowanus Canal headlining what the effects manufacturing have had on the city's water quality in disadvantaged communities.[17]

A changing climate and persistent environmental injustices threaten the health and well-being of New Yorkers from more extreme weather, warmer temperatures, degradation of air and water quality, and sea level rise.[18] I will echo again what is being shouted every day: the response to the climate crisis must be swift and hard-hitting. Achieving total victory against this ubiquitous foe includes dismantling and repairing climate injustice by placing disadvantaged communities at the center of the discussion. The Climate Leadership and Community Protection Act puts New York on the cusp of such a response.

III. The Climate Leadership and Community Protection Act: A Discussion

The Climate Leadership and Community Protection Act (CLCPA) is one of the most ambitious clean energy laws in the country.[19] At the outset of the statute's text, the CLCPA acknowledges a laundry list of adverse climate impacts that threaten New York.[20] First listed are the impacts due to human-contributed global warming—like higher temperatures and rising sea levels, but also increases in the incidences of infectious diseases and other negative health outcomes. Anthropogenic greenhouse gases (GHGs) that increase the severity of the climate

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[15] *Id*.
[16] Cliff Weathers et al., *Environmental Groups Sue Over Unsafe Waters in New York City* (June 29, 2017), https://www.riverkeeper.org/news-events/news/water-quality/environmental-groups-sue-unsafe-waters-new-york-city/
[17] *See* Mihir Zaveri, *Getting 'Black Mayonnaise' Out of One of American's Dirtiest Waterways* (Nov. 19, 2020), https://www.nytimes.com/2020/11/19/nyregion/gowanus-canal-dredging-redevelopment.html
[18] *See* National Climate Assessment, *Chapter 18: Northeast* (2018), https://nca2018.globalchange.gov/chapter/18/
[19] The Act was signed into law on July 18, 2019.
[20] CLCPA §2(1) (2019).

crisis are recognized next.[21] The sheer breadth of adverse impacts listed impress upon the reader the magnitude of the statute's importance.

Additionally, the statute lays out the GHG reduction standard that must be achieved to mitigate global temperature increase: National reduction of GHG emissions in industrial countries by at least 80% below 1990 level by 2050 in order to limit global warming to no more than 2°C (and ideal 1.5°C).[22] The subsequent provisions of the statute, which pave the way for New York (and encourage other States) to reach net-zero GHG emissions and improve overall climate resiliency, are grounded in the temperature benchmark and motivated by the acknowledged threats. There are four major provisions that every person should be familiar with.

To contribute to the reduction of global GHG emissions, the Act first mandates that New York reduce its GHG emissions to 40% of the State's 1990 levels and achieve net-zero emissions, or an 85% reduction in emissions, by 2050. Net-zero is a bit misleading, however. Only 85 percent of the reduction must come from New York's own energy and industrial emissions; the remaining 15 percent can come from carbon offsets, like reforestation.[23] This is an important stipulation, as it leaves room for entities to continue to produce GHG emissions so long as they are offset through projects that remove greenhouse gases from the atmosphere.[24]

For example, consider an organization that operates in a highly inefficient building running on fossil fuels. Even if that organization pays to offset that dirty energy with renewable energy by reforesting an area close by, the carbon emissions from their energy are still being released into the atmosphere. Yet, these sorts of offsets are permissible to account for 15 percent of

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[21] CLCPA §2(2) (2019).
[22] *Id*., §2(2)(a).
[23] David Roberts, *New York just passed the most ambitious climate target in the country* (July 22, 2019), https://www.vox.com/energy-and-environment/2019/6/20/18691058/new-york-green-new-deal-climate-change-cuomo
[24] Jackson Morris and Miles Farmers, *Unpacking New York's Big New Climate Bill: A Primer* (June 20, 2019), https://www.nrdc.org/experts/miles-farmer/unpacking-new-yorks-big-new-climate-bill-primer-0

statewide greenhouse gas emissions as a percentage of 1990 emissions.[25] Hence, *net*-zero, not carbon-free.[26] The offset program is not a free-for-all, though. There are a few constraints. Crucially, the CLCPA maintains that the offsets must be verifiable and permanent and represent a new, additional reduction in emissions that would not otherwise have occurred. Similarly, a source is only eligible for the offset program if they can show that there is no feasible alternative technology available to reduce the emissions. The program must also not disproportionately burden disadvantaged communities with the environmental impacts of the offsets.[27] Finally, to the extent practicable, offset projects must be located within 25 miles of the source they're offsetting, to ensure localized benefits.[28] Net-zero emissions is a demanding target that requires immediate attention and action if New York is to be successful.

Building on New York's existing Clean Energy Standard (CES)[29], the CLCPA establishes a renewable energy program with ambitious, but realistic, electric sector targets to increase onshore and offshore renewable electric capacity. By 2040, one hundred percent of the state's electricity supply must be emissions-free. To catalyze clean energy action in the short term, the program requires the installation of 6,000 MW of solar energy by 2025 and 9,000 MW of offshore wind by 2035. Recognizing that renewable energy is intermittent and weather dependent, the CLCPA also directs the state to install 3,000 MW of energy storage—think "a big battery"—by 2030, to compensate for the variability in output from renewable sources.[30]

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[25] CLCPA §2(4)(B)
[26] A carbon-free energy system is achieved when no carbon is emitted at any point in energy production. In producing electricity, this would happen when zero fossil fuels are used to produce that energy.
[2727] CLCPA §(4)(B)
[28] Jackson Morris and Miles Farmers, *Unpacking New York's Big New Climate Bill: A Primer* (June 20, 2019), https://www.nrdc.org/experts/miles-farmer/unpacking-new-yorks-big-new-climate-bill-primer-0
[29] *See* Alliance For Clean Energy New York, Inc., *The Clean Energy Policy Landscape in NYS* (Dec. 6, 2020), https://www.aceny.org/clean-energy-ny
[30] CLCPA §4(4), amending Public Service Law §66-p(5).

New York currently relies heavily on natural gas and nuclear energy, with three-fourths of the state's energy generation coming from natural gas and nuclear power.[31] Five of the state's 10 largest power plants are natural gas-fired and more than half of New York's electricity is produced by natural gas-fired power plants.[32] Outdated, inefficient power plants have made New York City's electricity system the dirtiest in the state and have had major negative impacts on disadvantaged communities who are situated near one (or multiple) of the city's 21 natural gas-fired power plants[33], sixteen of which are "peaker plants".[34] You can think of the city's electricity infrastructure as "a mainframe computer in the age of cloud computing." [35] Indeed, New York state generates just 5 percent of its electricity from wind or solar energy, leaving ample opportunity to transition from fossil-fuel generated electricity to renewable energy by investing in solar farms and offshore wind farms.[36]

To direct the enormous amount of planning needed to realize these lofty clean energy targets, the CLCPA establishes the Climate Action Council ("the Council").[37] It is a 22-member body, made up notably of the heads of several state agencies and two non-agency experts appointed by the Governor. The council is charged with preparing and approving a Scoping Plan outlining the recommendations for attaining the statewide greenhouse gas emissions limit and net-zero

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[31] *See* Emily S. Rueb, *How New York City Gets Its Electricity* (Feb. 17, 2017), https://www.nytimes.com/interactive/2017/02/10/nyregion/how-new-york-city-gets-its-electricity-power-grid.html
[32] U.S. Energy Information Administration, *New York State Profile and Energy Estimates* (Sep. 17, 2020), https://www.eia.gov/state/analysis.php?sid=NY
[33] Alexander C. Kaufman, *New York City Bill Aims to Replace Gas-Fired Power Plants With Renewables* (Jan. 8, 2019), https://www.huffpost.com/entry/new-york-city-power-plants_n_5c33bee2e4b05d4e96bb1d5f
[34] Though they are only used a few days a year, peaker plants have been crucial to maintaining a reliable electric grid in New York City. On the hottest days of the year, they awaken to generate large amounts of electricity when the city's electricity usage skyrockets, usually when residents crank up their air conditioning. Because they are closer to the city's residents than upstate plants, peaker plants can meet demand for electricity quicker, but are more costly and less efficient.
[35] *See* Emily S. Rueb, *How New York City Gets Its Electricity* (Feb. 17, 2017), https://www.nytimes.com/interactive/2017/02/10/nyregion/how-new-york-city-gets-its-electricity-power-grid.html
[36] Alexander C. Kaufman, *New York City Bill Aims to Replace Gas-Fired Power Plants With Renewables* (Jan. 8, 2019), https://www.huffpost.com/entry/new-york-city-power-plants_n_5c33bee2e4b05d4e96bb1d5f
[37] CLCPA §2, amending Environmental Conservation Law § 75-0103.

emissions in all sectors of the economy.[38] Advisory panels will be convened to provide recommendations to the council on specific topics, like transportation, land-use, and agriculture and forestry.[39]

The first Scoping Plan must be approved within two years of the enactment of the Act—July 18, 2019.[40] With no specific methodological strategies for carbon reduction within the Act, the Council is left with broad discretion to formulate its recommendations; a "leave it to the experts" approach.[41] However, the Department of Environmental Conservation (DEC) will enforce the emissions target through various mechanisms such as "performance-based standards and enforceable emissions limits."[42] Additionally, the Act creates the Environmental Justice Advisory Group, and the Climate Justice Working Group, both of which the Council must consult with to develop the Scoping Plan.[43] To evaluate the progress of emissions reductions, the Council will disseminate an annual statewide GHG emissions report.[44] The Scoping Plan will thus inform the actions of state regulatory agencies, as well as determine the state's energy plan. In other words, the Council, in tandem with other established groups, will ultimately define the scope of the act and how progressive/reparative it will be.

Underlying the emissions target, carbon-free electricity, and establishment of the Climate Action Council is perhaps the most forward-thinking provision of the Act: it's recognition of, and emphasis on, disadvantaged communities. To be sure, this provision only just begins the process of repairing hundreds of years of structural racism and wealth inequality that resulted

[38] *Id*., amending ECL §75-0103(1).
[39] *Id*.
[40] After the approval of the first scoping plan, it must then be updated at least every five years.
[41] There is, however, a safeguard in place that requires strategies for emissions reductions to guarantee that they will not worsen pollution in disadvantaged communities.
[42] CLCPA §4, amending ECL §75-0109(2)(b).
[43] *Id*. at §4(12).
[44] *Id*., amending ECL §75-0105.

from it. Regarding the investment of funds, the Act sets a goal for disadvantaged communities to receive 40 percent, and a requirement that they receive no less than 35 percent, of the overall benefits of spending on clean energy and energy efficiency programs, projects or investments.[45]

There are two vital, but unanswered, questions surrounding this provision, however. What does it mean to be a disadvantaged community[46] and how can we identify one? And what does it mean for those communities to receive the "overall benefits of spending?" Regarding the former question, the Act places the primary duty on the Climate Justice Working Group to establish the criteria—based on geographic, public health, environmental hazard, and socioeconomic burdens— to identify disadvantaged communities. As of the time this paper is being written, the Working Group has not yet established the criteria for identifying disadvantaged communities. As to the latter question, there is no clear answer, but one can infer, from the statute's language and the legislature's intent, the provision to mean that at least 35 percent of state energy and climate spending must be directly invested in disadvantaged communities. These two questions will likely become issues between activists and regulators.

The CLCPA is landmark climate legislation that could act as a catalyst for a nationwide Green-Reorientation. Where New York was once dependent on the fossil fuel industry, it is now oriented by the Green economy. Other states, like California and Washington[47], are on similar paths toward decarbonization. Once enough states adopt clean energy plans and invest in zero-carbon technologies, every other state must participate in the Green Reorientation because dirty

[45] CLCPA §5, amending ECL §75-0117.
[46] The Act defines disadvantaged communities as "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households.", CLCPA §2, amending ECL §75-0101(5).
[47] Nathan Rott, *Going 'Zero Carbon' Is All The Rage* (June 18, 2019), https://www.npr.org/2019/06/18/724343789/going-zero-carbon-is-all-the-rage-but-will-it-slow-climate-change

technology will become obsolete.[48] Companies want to standardize the production of their technology, and as a result, will not want to produce both dirty and clean technology. Thus, the United States may be on the tipping point of nationwide environmental reform. Indeed, New York is under incredible pressure to meet the demanding clean energy targets it has created for itself, to prove that a large-scale transition to clean energy that prioritizes disadvantaged communities in a relatively short amount of time is feasible. And if in the early stages New York looks to be meeting the challenge, the CLCPA could very well act as the blueprint for comprehensive Federal clean energy legislation[49].

Two contrasting projects in New York City provide an early-stage litmus test of the Act's efficacy, and an opportunity to demonstrate what the Green Reorientation will look like. The first project, proposed by NRG Energy, would be a replacement of an obsolete, tremendously inefficient peaker plant in Astoria with another, albeit modern, natural gas-fired power plant. This project contrasts with Renewable Rikers, a proposal to transform Rikers Island into a renewable energy hub. In the next two sections, I will analyze the two proposals' congruence and proportionality to the CLCPA.

IV. A Tale of Two Cities: Queen's NRG Power Plant

The Astoria Generating Station, sitting on 15-acres of land in northwestern Queens, became operational in 1962 and uses a mixture of fuel oil[50] and natural gas to produce 558 MW of backup electricity for New York. It is a classic "peaker plant"—a highly polluting power plant

[48] Companies want to standardize the production of their technology, and as a result, will not want to produce both dirty and clean technology. Hence, dirty technology will become obsolete and it will become an economic necessity for states to invest in clean technology. *See* David Roberts, *New York just passed the most ambitious climate target in the country* (July 22, 2019), https://www.vox.com/energy-and-environment/2019/6/20/18691058/new-york-green-new-deal-climate-change-cuomo.

[49] This federal legislation is often referred to as "The Green New Deal."

[50] The type of fuel the plant now burns is called "low sulfur No. 6 fuel oil", which is a type of residual liquid petroleum, left over from the distillation of crude oil. The generating station burns 3,039,000 gallons of No. 6 fuel oil a year. It is considered one of the most polluting energy sources.

that produces extra generating capacity when the city's demand eclipses the regular supply, like during a heatwave or a power outage.[51] Peaker plants run an average of just six percent of the year but have cost the city approximately $4.5 billion in the past decade just to keep them online in case they are needed.[52] When Astoria Generating Station is running, it spews thousands of tons of harmful pollutants per year[53], including up to 24,000 tons of carbon dioxide and 107 tons of nitrogen oxide, a gas that creates smog and causes respiratory issues.[54]

Astoria Generating Station, like most other peaker plants, is located in a disadvantaged community. Consequently, it contributes to local air pollution that has led to higher levels of chronic respiratory diseases and exacerbated existing adverse health problems in the surrounding area precariously dubbed "Asthma Alley" because of its higher-than-average rates of asthma.[55, 56] New York's frontline communities, already disproportionately impacted by air pollution, are also emerging as among the most hard-hit by COVID-19.[57] More broadly, electricity produced from stationary sources accounts for almost 38% of New York City's greenhouse gas emissions (14.69 $MtCO_2E$).[58] Northwestern Queens' population is suffering from air pollution, particularly from the pollution emitted from the existing peaker plant and other facilities on the complex that the generating station is a part of.

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[51] Alexander C. Kaufman, *New York City's hottest new energy fight* (Aug. 23, 2020), https://grist.org/climate/new-york-citys-hottest-new-energy-fight/

[52] *Id.*

[53] *See* Department of Environmental Conservation, *DECinfo Locator* (2017), https://gisservices.dec.ny.gov/gis/dil/

[54] PEAK Coalition, *Dirty Energy, Big Money* (May 2020), https://8f997cf9-39a0-4cd7-b8b8-65190bb2551b.filesusr.com/ugd/f10969_9fa51ccc611145bf88f95a92dba57ebd.pdf

[55] New York City Department of Health and Mental Hygiene, *Community Health Profiles* (2018), https://www1.nyc.gov/assets/doh/downloads/pdf/data/2018chp-qn1.pdf

[56] Xaiopeng Liu et al., *Association between Residential Proximity to Fuel-Fired Power Plants and Hospitalization Rate for Respiratory Diseases*, National Center for Biotechnology Information (June 2012), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385425/

[57] Lisa Friedman, *New Research Links Air Pollution to Higher Coronavirus Death Rates*, New York Times (Apr. 7, 2020), https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html

[58] NYC Mayor's Office of Sustainability, *Inventory of Greenhouse Gas Emissions* (2019), https://nyc-ghg-inventory.cusp.nyu.edu

NRG Energy has proposed to replace the Astoria Generating Station with another, albeit modern, natural gas-fired power plant. The question is whether NRG's proposal conforms to the clean energy targets of the CLCPA. I answer that it is doubtful that NRG could show that replacing the plant with a modern natural-gas version is compatible with the CLCPA's 2040 carbon-free electricity mandate. The replacement proposal is also contrary to the State's climate plans in general and to that end, would prevent the 15-acres from being used for a renewable energy purpose—specifically batter storage—contravening the spirit of the CLCPA. Astoria Councilman Costa Constantinides succinctly summed up why the proposal must be rejected when he opined that New York "cannot own the mantle of a 21st Century resilient city if we're going to double down on shorefront [fossil fuel] infrastructure."[59]

Twenty-four power generator units with the capacity to produce 437 MW of power is what would replace the existing generating station.[60] By using fracked gas to generate electricity, the replacement peaker would reinforce the city's fossil fuel infrastructure for years to come. However, the company argues in favor of the replacement because (1) New York doesn't have the ability to switch from fossil fuel energy generation yet and that the hydrogen exclusivity will be available in the coming years to put the plant in compliance; (2)) they estimate it would "lower peak air emission rates by up to 99% per hour"[61]; and (3) a study estimates the project would create 510 jobs per year during construction, 73 permanent operations jobs, and inject over $325 million into New York's economy through 2040.[62] Despite the proffered benefits of

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[59] Justice Brannan and Costa Constantinides, *Astoria power plant proposal undermines NYC's resiliency goals*, Queens Daily Eagle (Sep. 24, 2020), https://queenseagle.com/all/opinion-astoria-power-plant-proposal-undermines-nycs-resiliency-goals

[60] NRG Energy, *Astoria Replacement Project* (Dec. 8, 2020), https://www.nrg.com/legal/astoria-peaking-generation-station-project.html

[61] *Id.*

[62] Navigant, *Economic Benefits of the Proposed Astoria Replacement Project* (June 17, 2020), https://www.nrg.com/assets/documents/legal/astoria/misc/economic-development-NRG-6-2020.pdf

the replacement plant, the Astoria community has been vocal in their admonishment of the proposal.[63]

NRG's claim that New York is unable to transition to a completely green energy state is unfounded and against the spirit of the CLCPA. The company has offered no evidence in support of their claim; it is pure speculation. On the other hand, the CLCPA was passed after a rigorous process that involved more than 180 grassroots organizations, relying on other country's green energy frameworks[64] to decide what New York may achieve. This was not a bill passed with horse-blinders, but in tandem with climate experts and the community at large. NRG's claim would have been appropriate before the enactment. But undoubtedly lawmakers *did* encounter this claim before the bill's passage. That it did not previously sway the minds of those elected to represent us—an extension of the People's interest—renders NRG's de facto argument invalid. Moreover, NRG's claim is against the spirit of the CLCPA and a Green Reorientation. The clean energy targets are meant to be difficult to achieve because we humans have placed ourselves in a difficult situation. Since New York passed this legislation, New York, to the best of our abilities, has a duty to see it through.

NRG's reliance on the proposed plant's capability to switch to hydrogen power to comply with the CLCPA down the road is dealt with easily. Scott Stringer poignantly notes, "there are currently no hydrogen-exclusive power plants operating in the United States and there is no guarantee NRG will be able to source adequate amounts of sustainable hydrogen to reliably run the plant."[65] Indeed, their argument is reliant on the prospect that some future technology, that

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[63] Angélica Acevedo, '*No Fracking Way!': Astoria community protests proposed NRG plant* (Sep. 14, 2020), https://qns.com/2020/09/402938/

[64] Government of Iceland, *Energy* (Dec. 12, 2020), https://www.government.is/topics/business-and-industry/energy/

[65] Scott M. Stringer, *Comments Regarding Astoria Gas Turbine*, NYC Office of the Comptroller (Sep. 3, 2020), https://tinyurl.com/y32y99xw

does not have a proven supply-chain, will be widely available in time to put the replacement plant in compliance with the CLCPA. Ironically, this is the same argument that the company used to criticize the CLCPA. It is true that it is not *certain* that New York will achieve the CLCPA's clean energy targets. However, an important difference distinguishes those targets and NRG's supposed future implementation of hydrogen power: technology that already permeates the globe —hydropower, wind power, and solar energy—is what will largely provide the energy ancillary to reaching net-zero emissions and carbon-free electricity, not a technology that has yet to "get off the ground in sizeable scale."[66] In fact, the most common way to produce hydrogen requires a fossil-fuel input in the form of natural gas, earning an advertised green energy the nickname "grey hydrogen."[67]

NRG's next argument, that the replacement plant would reduce "peak air emission rates by up to 99% per hour", would make New York reliant on fossil fuels for years to come, contravening the climate goals of the CLCPA and Executive Order 52. At the outset, it must be noted that the project has not undergone proper scrutiny to validate the claim that it would reduce peak emissions by 99%. NRG urges DEC to accept the proposal without first undergoing a full and thorough environmental review to evaluate how the proposal could meet the stringent climate and environmental justice mandates of the CLCPA.[68] Let's assume the validity of their claim, but in light of the new legislation. A reduction in emissions from the replacement plant is preferable relative to the current emissions output of the plant, but the CLCPA does not operate on a relative basis. It is because of the possibility of situations like this that the Act sets forth

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[66] Jim Robbins, *The new fuel to come from Saudi Arabia*, BBC News (*Nov. 12, 2020*), https://www.bbc.com/future/article/20201112-the-green-hydrogen-revolution-in-renewable-energy
[67] U.S. Department of Energy, *Hydrogen Production: Natural Gas Reforming* (Dec. 12, 2020), https://www.energy.gov/eere/fuelcells/hydrogen-production-natural-gas-reforming
[68] Scott M. Stringer, *Comments Regarding Astoria Gas Turbine*, NYC Office of the Comptroller (Sep. 3, 2020), https://tinyurl.com/y32y99xw

objective benchmarks. The CLCPA calls for carbon-free electricity by 2040. Replacing the existing plant would contribute to fossil-fuel infrastructure, which, by the nature of the facility—requiring fossil fuel inputs to operate—cannot contribute to a carbon-free New York. While it would reduce emissions, it would still rely on fracked gas to produce non-zero amounts of electricity. This is untenable. Moreover, Mayor Bill de Blasio's executive order 52 offers the legal precedent for opposing fossil-fuel infrastructure.[69] Section 1 commits to ending the expansion of "new fossil-fuel-based electric generation capacity" to "ensure that New York City's emissions goals are achieved."[70] NRG's proposal plant is the type of facility that Section 1 condemns. Therefore, the NRG proposal plant on its face violates both the CLCPA and Executive Order 52.

NRG may argue that the power plant is simply a placeholder while New York transitions to Green energy and can be demolished when its purpose is served. However, disregarding how wasteful and unsensible that rebuttal would be, the money sunk into a replacement plant would better serve New York's climate goals by being invested in Green Reorientation projects. Using the money for a Green purpose would stimulate the molting of New York's fossil fuel infrastructure, setting a precedent for a reorientation to clean infrastructure and decarbonization.

The third justification for NRG's proposal is the alleged economic benefits that will radiate from the project: hundreds of jobs and an injection of money into the economy. Yet, this defense cannot reconcile the project's overall incompatibility with the CLCPA. The economic benefits to workers and the economy would serve to prop up the fossil fuel industry and would at least be somewhat offset by the environmental damage that the natural-gas power plant would produce in the form of GHG emissions and ecological degradation from the fracked gas used to generate

[69] New York City Exec. Order No. 52 (Feb. 6, 2020).
[70] *Id*.

electricity. Moreover, the economic benefits that flow from the project could surely be reproduced and perhaps enhanced through a Green energy project on the 15-acre space. The benefits might be enhanced because, if other clean projects are simultaneously going on, the need for clean technology might further reduce the price of clean energy and reduce long-term costs, another step in motivating other states to follow New York's lead.[71, 72]

In light of the proceeding discussion, DEC should reject NRG's proposal for a replacement peaker plant in Astoria because it contradicts the general spirit of the CLCPA's invocation of a Green Reorientation in New York and specifically contradicts the Act's climate target for the state to produce carbon-free electricity by 2040, as well as Mayor Bill de Blasio's Executive Order 52 opposing expansion of fossil-fuel infrastructure. New York's future is not grey, it is green.

V. A Tale of Two Cities: Renewable Rikers

On October 17, 2019, the New York City Council approved a proposal to overhaul the city's corrections system that, among other things, mandated the jail complex on Rikers Island to close by 2026.[73] Its closing will be a symbolic end of a dark past for New York's criminal justice system, which has had a disproportionate and brutal impact on low-income Black and Latinx New Yorkers for decades.[74] Renewable Rikers is a proposal that could transform Rikers Island's badge of injustice, systemic racism, and over-policing to a Green badge of environmental justice

[71] This is what I referred to in Section II as the "obsoletion of dirty technology." Another way to look at this, is that when more money is invested into clean technology, an "economy of scale" might be created at the point when production for that clean technology becomes efficient. Thus, more investment in clean technology through Green projects makes it more likely that clean technology will become an economy of scale.
[72] National Academy of Science, National Academy of Engineering, National Research Council, Electricity from Renewable Resources at 133 (2010).
[73] Matthew Haag, *N.Y.C Votes to Close Rikers*, NY Times (Oct. 17, 2019), https://www.nytimes.com/2019/10/17/nyregion/rikers-island-closing-vote.html
[74] *See* Besiki Luka Kutateladze and Nancy R. Andiloro, *Prosecution and Racial Justice Report in New York County* (Jan. 31, 2014), https://www.ncjrs.gov/pdffiles1/nij/grants/247227.pdf

and restoration, with an emphasis on repairing the damage that the criminal justice system has inflicted on Black and brown communities in New York. The project is the type of clean energy opportunity that the CLCPA envisions will become normalized within the coming decades. Renewable Rikers would be a step forward in the Green Reorientation, revitalizing disadvantaged communities, and nurturing a more equitable society. It could catalyze a new generation of green infrastructure, solidifying New York as the model city for a Green reorientation and contributing to the achievement of New York's clean energy goals under the CLCPA.

Sitting on 413-acres of publicly owned land, the Rikers correctional facility provides enough space for a clean energy project that has a significant positive impact on New Yorkers and communities in proximity to the island.[75] However, there is no consensus or clearly leading proposal on what the shutdown of the island might set the stage for. Several clean energy proposals[76] have been offered for how the land might be developed, including installing a solar farm, a renewable battery storage center, and even a proposal to restore the natural flora and fauna of the island. As such, currently, Renewable Rikers is simply signaling nomenclature that the project will be one that involves green infrastructure and clean energy.[77]

Yet, NYC Council Member Costa Constantinides[78] made an important step in actualizing Renewable Rikers, when he, with others, introduced the Renewable Rikers Act in 2019.[79] The Act "would begin the process of creating renewable energy on Rikers Island as well as replacing

[75] For reference, the Astoria Generating Station sits on 15 acres of land.
[76] There is also a commercial proposal to transform the island into an extension of LaGuardia Airport.
[77] Caroline Spivack, *'Renewable Rikers Act' aims to remake the island with green infrastructure* (Jun. 11, 2019), https://ny.curbed.com/2019/6/11/18659909/nyc-rikers-island-solar-field-water-treatment-facility-council-bills
[78] He is Chair of the Committee on Environmental Protection.
[79] New York City Council, *Constantinides, Rosenthal, Kallos to Introduce Renewable Rikers Act* (Jun. 10, 2019), https://council.nyc.gov/costa-constantinides/2019/06/10/constantinides-rosenthal-kallos-to-introduce-renewable-rikers-act-on-the-future-of-the-island-in-city-council-this-week/

wastewater treatment facilities that currently blight low-income neighborhoods and communities of color."[80] First, the bill calls for the control of Rikers island to be transferred from the New York City Department of Correction to the New York City Department of Environmental Protection, authenticating that the island will never again be used for jails but for the purpose of reparative environmental justice. Another piece of legislation would require the City to determine the renewable energy capacity on the island. A third bill would assess the ability to divert wastewater treatment to the island from surrounding communities—like Northwest Queens and the South Bronx—with inadequate wastewater facilities.[81] Shutting down those facilities would free up much-sought, waterfront public lands that could be converted into accessible, community green spaces.[82] Even with the introduction of the Renewable Rikers Act, it is still not clear as to what renewable energy purpose would be most favorable to achieving the goals of the CLCPA and to benefitting nearby disadvantaged communities.

New York City itself has pledged to install 1,000 MW of solar capacity by 2030[83], and because of that, a leading proposal for Renewable Rikers is to transform the island into a stand-alone solar farm. There are conflicting views on the efficacy of this proposal. Some argue that there may be enough land-area to support solar infrastructure, but "there might not be enough light" because New York City is often overcast, and as New Yorkers know, the days shorten quickly after summer ends.[84] Others argue that Rikers is simply "too small to host enough solar panels to generate sufficient energy."[85] Estimates of how much power could be generated range

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[80] *Id*.
[81] *Id*.
[82] Rebecca M. Bratspies, *Renewable Rikers: A Plan for Restorative Environmental Justice* (Sep. 3, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3660113
[83] Enough to power 250,000 households.
[84] Jean Lee, *The Plan to Turn New York's Most Notorious Jail Into a Renewable Energy Hub*, Gizmodo (July 23, 2020), https://earther.gizmodo.com/the-plan-to-turn-new-york-s-most-notorious-jail-into-a-1844478478
[85] Rachel Vick, *Too small for Solar, Rikers Island Could become NYC's renewable energy storage site*, Queens Daily Eagle (Sep. 25, 2020).

from the equivalent of 12,000 households to 23,000 households.[86] What is "sufficient energy" is a matter of perspective, though. One might look at the solar power capability of Rikers as being able to generate electricity for *only* 12,000 homes out of millions in the city. But through the lens of reparative environmental justice that the CLCPA demands, that solar energy could power 12,000 homes in Mott Haven, a nearby disadvantaged community that has experienced "particularly insidious" environmental inequality and over-policing.[87] Indeed, using Rikers Island for a strictly restorative justice project might set the standard for how the benefits of clean energy investment under the CLCPA is truly meant to manifest. For what might be "best for the City" in general may really be the best for individuals from non-disadvantaged communities. Signaling that prioritizing disadvantaged communities is the rule, not the exception, is imperative to ensuring that the "disadvantaged communities" provision in the CLCPA is not usurped by private interests (as is often the case), and actually receive at least 35% of the benefits of clean energy investment. While a solar energy farm may not maximize energy production, it may disproportionately positively affect disadvantaged communities, and for that reason, it should seriously be considered as a viable option. As this preceding discussion makes clear, balancing the CLCPA's provisions is not always straightforward. It requires approaching the Act with an eye for balance.

Looking to Professor Rebecca Bratspies provides insight into what a balanced environmental justice approach to Renewable Rikers looks like under the CLCPA. Through the operation of various Green infrastructure providing renewable energy for use and storage, Bratspies' proposal

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[86] Jean Lee, *The Plan to Turn New York's Most Notorious Jail Into a Renewable Energy Hub*, Gizmodo (July 23, 2020), https://earther.gizmodo.com/the-plan-to-turn-new-york-s-most-notorious-jail-into-a-1844478478

[87] Hazar Kilani, *'Asthma alley': why minorities bear burden of pollution inequity caused by white people*, The Guardian (Apr. 4, 2019), https://www.theguardian.com/us-news/2019/apr/04/new-york-south-bronx-minorities-pollution-inequity

has the potential to dramatically improve air quality in disadvantaged communities because it would expedite the shutdown of dirty, obsolete peaker generating plants (like the Astoria Generating Station) typically located in those communities while also adhering to the clean energy targets in the CLCPA.[88] Her proposal is segmented into three main components: sustainable energy, wastewater treatment, and green spaces.[89]

Regarding sustainable energy, Bratspies' proposal does not silo the island to a single form of clean energy, like solar. Instead, her visions would have a mixture of wind and solar energy plus a battery storage facility on the Island. As mentioned above, solar has its drawbacks, mainly because it is dependent on weather patterns, and New York weather is not the most conducive solar energy partner. Installing wind turbines on the outskirts of the island might compensate for the solar panels' variable energy output[90], especially during the winter months. But to be sure, there would be periods of high energy output, most obviously during the summer months. When this is the case, there may be an overproduction of solar energy, which could result in the unnecessary loss of energy because solar energy cannot be stored; it must be used as it is produced.

This is where battery storage facilities come in.[91] Batteries, just like those in a flashlight or television remote, can also be used to store energy on a large scale. Thus, because both wind and solar technologies have variable outputs, battery storage has enormous potential for "smoothing out the electricity supply" from those sources and ensuring that the supply of energy generate

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[88] Rebecca M. Bratspies, *Renewable Rikers: A Plan for Restorative Environmental Justice* (Sep. 3, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3660113

[89] *Id*.

[90] Wind turbines themselves are dependent on, well, wind patterns, and are thus variable energy producers.

[91] New York's first battery utility-owned battery storage site, in Queens, will store enough solar and wind energy to power 800 homes and businesses. Con Edison expects to have the batteries running by 2022.

meets the demand.[92] Efficient storage of power generated by renewable sources would help to eliminate the need to build and run conventional peaker power plants.[93] That is, a battery storage site could fulfill what the function of peaker plants is today: providing electricity to New Yorkers at peak demand times, especially in the summer. On Rikers, the high-end capacity that could be sited is approximately 300 megawatts of energy storage.[94] In this way, the setup of wind, solar, and battery storage would act conjointly, with solar and wind producing energy when it is needed, and the battery lapping up any excess energy produced to be saved for peak generation. Thus, having all three would contribute to the net-zero emissions, zero-carbon electricity, and potentially the 9,000 MW of offshore wind provisions of the CLCPA.

Renewable Rikers is not isolated to the island; its benefits would ripple across the City. Indeed, as Bratspies importantly notes, current peaker plants in disadvantaged communities like the Bronx and Queens would no longer be necessary. They could begin to be shut down and phased out, which would result in the immediate benefit of reduced aggregate GHG emissions and air pollution in the surrounding community. Of equal importance, shutting down those peaker plants would also present an opportunity for restorative environmental justice projects within those communities.[95] Publicly owned, prime waterfront land could be developed into green spaces to reinvigorate the communities that have been unduly burdened by the pollution of peaker plants for too many years. Therefore, by reducing the stress on other power plants—like the Astoria Generating Station—through renewable energy production, a Renewable Rikers

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[92] Union of Concerned Scientists, *How Energy Storage Works* (Feb. 19, 2015), https://www.ucsusa.org/resources/how-energy-storage-works

[93] Independent Commission on New York City Criminal Justice and Incarceration Reform, *A More Just New York City* (2016), https://www.courtinnovation.org/sites/default/files/media/documents/2017-11/lippmancommissionreportfinalsingles.pdf

[94] *Id*. at 111.

[95] Rebecca M. Bratspies, *Renewable Rikers: A Plan for Restorative Environmental Justice* (Sep. 3, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3660113

would succeed on three grounds: it would (1) mark a transition from a reliance on fossil fuel infrastructure to a society oriented by Green technology; (2) spark a campaign of reparative environmental justice in disadvantaged communities; and (3) by doing both (1) and (2), it would contribute to all of the clean energy targets and investment in disadvantaged communities that the CLCPA demands.

In other words, Renewable Rikers is a project that demonstrates that the provisions of the CLCPA, while demanding, are certainly realistic. Certainly, the island will most likely be used for a renewable energy purpose, but it still needs the grassroots support—like the campaign that helped pass the CLCPA in the first place—to propel legislators to act swiftly. New York is at a crossroads, but this is an opportunity for New York to set itself on a trajectory toward an equitable, restorative, and renewable future.

VI. Conclusion

I hope this preceding discussion sheds light on two possible futures for New York. The NRG replacement peaker plant represents a future that is entrenched in a history of fossil fuels, big business, and structural racism. Renewable Rikers, on the other hand, paints a picture with broad anti-capitalist strokes that is detailed with renewable and sustainable energy, equity, and restorative justice. Yet, with the passage of the CLCPA, the City's future is necessarily being shaped in the mold envisioned by Renewable Rikers. The remaining question, though, is how *bold* New York will be in seeing out the provisions of the CLCPA. Will the City simply do the bare minimum, because the law demands it? Or will New Yorkers take control of theirs and the world's future by truly becoming the global leaders in clean energy and environmental restorative justice? Time will tell, of course, but if any place can meet the challenges of the

climate crisis, it is undoubtedly the City that never sleeps—led by a new wave of Green legislation, and with hope for an equitable, sustainable future byway of a Green Reorientation.

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