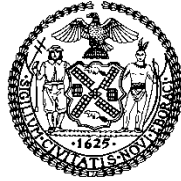


Environmental Protection Committee Staff  
Samara Swanston, Legislative Counsel  
Nadia Johnson, Senior Policy Analyst  
Ricky Chawla, Policy Analyst  
Jonathan Seltzer, Senior Finance Analyst



THE NEW YORK CITY COUNCIL  
Jeffrey Baker, Legislative Director

BRIEFING PAPER AND COMMITTEE REPORT OF THE INFRASTRUCTURE DIVISION  
Terzah Nasser, Deputy Director

COMMITTEE ON ENVIRONMENTAL PROTECTION  
Hon. Costa Constantinides, Chair

**January 29, 2020**

**OVERSIGHT – RENEWABLE RIKERS**

**INT. NO. 1591:**

By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Dromm, Ayala, Espinal, Levin, Reynoso, Lander, Chin, Menchaca, Koo, Rivera, Powers, Cabrera, Richards, Torres, Rodriguez, Holden, Vallone, Levine, Van Bramer, Yeger, Gjonaj, Perkins, Grodenchik, Treyger, Gibson, Cornegy, Eugene, Barron, Maisel, Cumbo, Moya, Lancman, Rose, Adams and Ulrich

**TITLE:**

A Local Law to direct the Commissioner of Environmental Protection to conduct a study to determine if a new wastewater treatment facility can be constructed on Rikers Island.

**INT. NO. 1592:**

By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Ayala, Espinal, Levin, Lander, Chin and Menchaca

**TITLE:** A Local Law to amend the New York city charter, in relation to the department of environmental protection and Rikers Island.

**ADMINISTRATIVE CODE:** Charter: Adds a new subdivision b-2 to section 1403

**INT. NO. 1593:** By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Ayala, Espinal, Levin, Reynoso, Lander, Chin, Menchaca, Koo, Rivera, Powers, Cabrera, Richards, Torres, Rodriguez, Dromm, Holden, Vallone, Levine, Van Bramer, Yeger, Gjonaj, Perkins, Grodenchik, Treyger, Gibson, Cornegy, Eugene, Barron, Maisel, Cumbo, Lancman, Rose, Adams, Ampy-Samuel, Moya and Ulrich

**TITLE:** A Local Law to direct the mayor’s office of sustainability to study the feasibility of different types of renewable energy sources combined with battery storage are practical on Rikers Island

**I. INTRODUCTION**

On January 27, 2020, the Committee on Environmental Protection, chaired by Council Member Costa Constantinides, will conduct an oversight hearing entitled “Renewable Rikers” and will hold a hearing on related legislation, Int. No. 1591, in relation to conducting a study on the feasibility of constructing a new wastewater treatment facility on Rikers Island, Int. No. 1592, in relation to amending the city charter in relation to the department of environmental protection and Rikers Island, and Int. No. 1593, in relation to directing the mayor’s office of sustainability to study the feasibility of renewable energy generation and battery storage on Rikers Island. The Committee expects to hear testimony from the Mayor’s Office, the New York City Department of Environmental Protection, energy experts, public health and environmental advocates, and other interested members of the public.

## II. BACKGROUND

On October 17th, 2019, the New York City Council voted to close Rikers Island<sup>1</sup>, New York City's main jail facility, by 2026.<sup>2</sup> Rikers Island lies in the East River, between the Bronx and Queens,<sup>3</sup> and currently houses 8 of the 11 inmate facilities managed by the New York City Department of Corrections.<sup>4</sup> The island was purchased by the City of New York in 1884, from the family of Abraham Rycken (aka de Rycke or Ricker), a Dutch immigrant who acquired the island in the early 17th century, and for whom the island is named.<sup>5</sup> The jail is associated with Richard Riker,<sup>6</sup> a descendent of Abraham's, who served as District Attorney for Westchester and Queens Counties from 1802 to 1812,<sup>7</sup> and also served as a recorder, judge and magistrate for the City of New York.<sup>8</sup> He was notorious for his role in using the courts to assist kidnappers of Black Americans seeking to sell their victims to southern slave traders.<sup>9</sup>

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<sup>1</sup> New York City Council. Council Votes on Historic Legislation to Close Rikers Island. <https://council.nyc.gov/press/2019/10/17/1818/> (last accessed 1/24/20)

<sup>2</sup> Rikers Would Close in Historic Plan to Remake N.Y. Jail System. Matthew Haag. New York Times, October 17, 2019. <https://www.nytimes.com/2019/10/16/nyregion/rikers-island-jail-closing.html> (last accessed 1/13/20)

<sup>3</sup> Smaller Safer Fairer. NYC Office of The Mayor. [https://rikers.cityofnewyork.us/wp-content/uploads/SSF\\_Final\\_Dec-2018.pdf](https://rikers.cityofnewyork.us/wp-content/uploads/SSF_Final_Dec-2018.pdf) (last accessed 1/13/20)

<sup>4</sup> NYC Department of Corrections Facilities. <https://www1.nyc.gov/site/doc/about/facilities.page> (last accessed 1/13/20)

<sup>5</sup> Brentin Mock. The Dark Fugitive Slave History of Rikers Island. CityLab. July 23, 2015. <https://www.citylab.com/equity/2015/07/the-dark-fugitive-slave-history-of-rikers-island/399440/> (last accessed 1/13/20) and <http://rikers.org/riker.htm> (last accessed 1/24/20)

<sup>6</sup> <https://lostmuseum.cuny.edu/archive/kidnapping-in-the-city-of-new-york-the>; Mariya Moseley. Rikers Island was Named After a Judge Who Was Eager to Uphold Slavery. <https://www.essence.com/culture/rikers-island-slavery-ties/> (last accessed 1/24/20)

<sup>7</sup> New York Historical Society Museum. Richard Riker. <https://www.nyhistory.org/exhibit/richard-riker-1773-1842-silhouette> (last accessed 1/13/20)

<sup>8</sup> <https://blackthen.com/richard-riker-and-the-new-york-kidnapping-club-the-racist-history-behind-rikers-island/> (last accessed 1/24/20)

<sup>9</sup> Eric Foner. Gateway to Freedom: The Hidden History of the Underground Railroad. W. W. Norton & Company. January 2015. <https://longreads.com/2015/04/30/slavery-and-freedom-new-york-city/> (last accessed 1/13/20) and <https://harpers.org/archive/2014/12/gateway-to-freedom/3/> (last accessed 1/24/20)

### III. GEOGRAPHY OF RIKERS ISLAND

The island's natural bounds originally comprised 87.5 acres, of which 43.2 acres were less than three feet above the high water mark,<sup>10</sup> and was expanded with landfill comprised of municipal waste from Manhattan<sup>11</sup> to its current dimensions of 413 acres.<sup>12</sup> The facilities currently house detainees who are awaiting trial, are serving sentences of one year or less, or are awaiting transfer to another facility.<sup>13</sup> The jail complex has capacity to house 15,000 detainees,<sup>14</sup> but as of July 2019 approximately 7,400 people are incarcerated there.<sup>15</sup> In order to close Rikers, the city must first reduce the inmate population below 5,000 detainees.<sup>16</sup>

### IV. STRUCTURAL AND HEALTH COMPLICATIONS RELATED TO LANDFILL PROXIMITY

The choice to build Rikers facilities on top of landfill has led to a host of problems related to the structural stability of the buildings and the health of detainees and those that work on the island.<sup>17</sup> As the material in a landfill settles and decomposes, biological processes involved in the breakdown of organic material produce a mixture of gases, comprised of approximately 50% carbon dioxide, 50% methane,<sup>18</sup> and other organic compounds totaling an average of less than 1%

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<sup>10</sup> 1920s Scenes of Rikers Rising from the River. Correctionhistory.org <http://www.correctionhistory.org/html/chronicl/nycdoc/1920s-Rikers-landfill-photos/1920s-rikers-landfill-scenes-starter.html> (last accessed 1/13/20)

<sup>11</sup> In Jail – and in Peril: The Unfixable Environmental Hazards and Dangerous Design Flaws of Rikers Island. Center for New York City Affairs. <http://www.centernyc.org/hazards-rikers-island> (last accessed 1/13/20)

<sup>12</sup> George Fontas. Acres of Opportunity: Reinventing Rikers Island. November 2019 <https://fontasadvisors.com/rikersreport> (last accessed 1/14/20)

<sup>13</sup> Id.

<sup>14</sup> Id.

<sup>15</sup> Lauren Cook. Rikers Island closure explained: Plan to shutter the complex and open borough-based jails. AM NY. October 2019. <https://www.amny.com/news/closing-rikers-island-explained-1-20505335/> (last accessed 1/14/20)

<sup>16</sup> Id.

<sup>17</sup> Raven Rakia. A sinking jail: The environmental disaster that is Rikers Island. <https://grist.org/justice/a-sinking-jail-the-environmental-disaster-that-is-rikers-island/> (last accessed 1/23/20)

<sup>18</sup> United States Department of Environmental Protection. Basic Information about Landfill Gas. <https://www.epa.gov/lmop/basic-information-about-landfill-gas> (last accessed 1/14/20)

by volume of gas emitted.<sup>19</sup> The remaining gases are a small component of total emissions released, but includes compounds with extremely strong foul odors such as dimethyl sulfide, hydrogen sulfide, and diethyl sulfide, carcinogenic substances such as benzene and vinyl chloride, and other volatile compounds that can lead to the formation of ozone.<sup>20</sup> As these gases are released, they form cavities, causing the ground around them to shift and sink as the gases leach out.<sup>21</sup> On Rikers, this has resulted in buildings settling in an unpredictable and uneven fashion, causing foundations to shift, widespread cracking throughout walls and ceilings, bursting pipes that can cause water outages that deprive detainees of access to drinking water, toilets, and showers, and have resulted in sewage backup flooding.<sup>22</sup>

Short and long term exposure to landfill gases have been linked to symptoms such as coughing, irritation of the eyes, nose, and throat, headache, nausea, difficulty breathing, eye, throat and lung irritation, nausea, headache, nasal blockage, sleeping difficulties, weight loss, chest pain, and the aggravation of asthma symptoms.<sup>23</sup> Studies have also found increased rates of certain cancers in populations living in close proximity to landfills.<sup>24</sup> In addition to being built on landfill,

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<sup>19</sup> Yue et al. Composition and Distribution of Non-Methane Organic Compounds at Municipal Solid Waste Landfill Surfaces. Key Laboratory for Solid Waste Management and Environment Safety, Ministry of Education of China, Tsinghua University. 2012. <https://pdfs.semanticscholar.org/82a1/fb621d96c57c62874fc693b9b78386268d7e.pdf> (last accessed 1/14/20)

<sup>20</sup> Id.

<sup>21</sup> Raven Rakia. A sinking jail: The environmental disaster that is Rikers Island. <https://grist.org/justice/a-sinking-jail-the-environmental-disaster-that-is-rikers-island/> (last accessed 1/23/20)

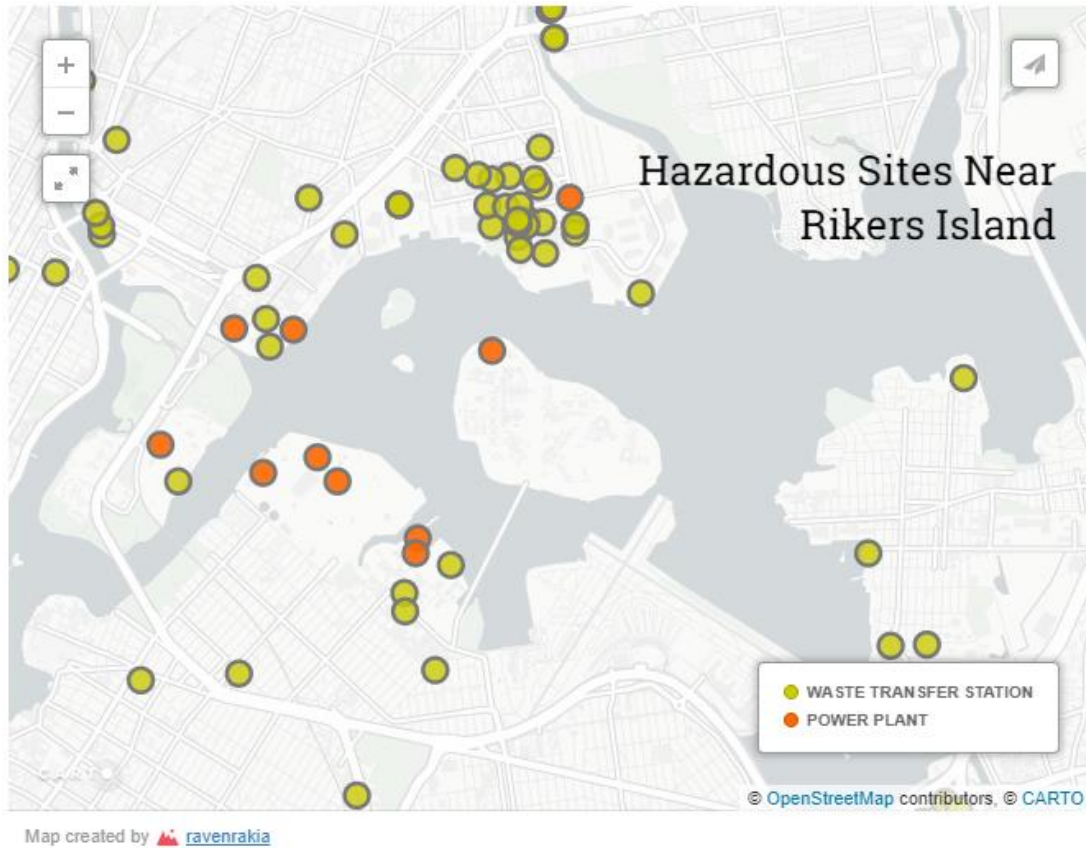
<sup>22</sup> Id.

<sup>23</sup> New York State Department of Health. Important Things to Know About Landfill Gas. [https://www.health.ny.gov/environmental/outdoors/air/landfill\\_gas.htm](https://www.health.ny.gov/environmental/outdoors/air/landfill_gas.htm) (last accessed 1/14/20)

<sup>24</sup> Yue et al. Composition and Distribution of Non-Methane Organic Compounds at Municipal Solid Waste Landfill Surfaces. Key Laboratory for Solid Waste Management and Environment Safety, Ministry of Education of China, Tsinghua University. 2012. <https://pdfs.semanticscholar.org/82a1/fb621d96c57c62874fc693b9b78386268d7e.pdf> (last accessed 1/14/20)

the jail facilities are in close proximity to multiple sources of hazardous pollutants, including 5 power plants within a mile of the island (see figure 1).<sup>25</sup>

Figure 1: Hazardous Sites Near Rikers Island<sup>26</sup>



According to documents obtained by the media outlet Grist, in 2014, the Rikers Island Cogeneration Power Plant emitted 8,650 lbs of particulate matter smaller than 2.5 microns (PM2.5), and 9,435 lbs of particulate matter smaller than 10 microns (PM10),<sup>27</sup> both classes of

<sup>25</sup> Raven Rakia. A sinking jail: The environmental disaster that is Rikers Island. <https://grist.org/justice/a-sinking-jail-the-environmental-disaster-that-is-rikers-island/> (last accessed 1/23/20)

<sup>26</sup> Id at 22

<sup>27</sup> Id.

pollutants known to adversely affect human health.<sup>28</sup> Exposures to PM2.5 and PM10 are strongly associated with increases in blood pressure,<sup>29</sup> while long term exposure to PM2.5 has been linked to heightened levels of inflammation biomarkers in the bloodstream.<sup>30</sup> Inflammation and oxidative stress on the brain has been linked to the manifestation of symptoms of depression,<sup>31</sup> while inflammation in the airways can contribute to the development of asthma as well as an increase in the severity of symptoms.<sup>32</sup>

Approximately 10% of the detainees held on Rikers Island have asthma, and people have reported developing asthma during their time incarcerated on the island.<sup>33</sup> Tragically, both detainees<sup>34</sup> and corrections officers<sup>35</sup> have filed lawsuits alleging that exposure to environmental toxins on the island have left them with long term health effects.

## V. FUTURE PLANS AND LIMITATIONS

The island's geographic isolation from the rest of the city and limited transportation access opportunities confound some proposed beneficial reuses of the island, but make Rikers ideal for other potential reuses.<sup>36</sup> Any future uses must take into consideration the structural and methane/landfill gas related issues inherent when redeveloping over landfill, and address the potential lead and asbestos contamination issues when demolishing the old structures that are on

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<sup>28</sup> U.S Environmental Protection Agency. EnviroAtlas Eco-Health Relationship Browser. [https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth\\_RelationshipBrowser/index.html](https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth_RelationshipBrowser/index.html) (last accessed 1/14/20)

<sup>29</sup> U.S Environmental Protection Agency. EnviroAtlas Eco-Health Relationship Browser. [https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth\\_RelationshipBrowser/index.html](https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth_RelationshipBrowser/index.html) (last accessed 1/24/20)

<sup>30</sup> Id.

<sup>31</sup> MohanKumar SM et al. Particulate matter, oxidative stress and neurotoxicity. *Neurotoxicology*. May, 2008. <https://www.sciencedirect.com/science/article/pii/S0161813X07002720> (last accessed 1/24/20)

<sup>32</sup> Air Pollution May Explain Asthma Hot Spots in NYC. Columbia Mailman School of Public Health. CHILD AND ADOLESCENT HEALTH, ENVIRONMENTAL HEALTH Mar. 27 2012 <https://www.mailman.columbia.edu/public-health-now/news/air-pollution-may-explain-childhood-asthma-hot-spots-nyc> (last accessed 1/24/20)

<sup>33</sup> Id at 22.

<sup>34</sup> Williams v. Ponte. <https://www.leagle.com/decision/infdco20170531f87> (last accessed 1/21/20)

<sup>35</sup> Mark Wilson. Rikers Island Guards File Suit Alleging Cancer Causing Toxin Exposure. <https://perma.cc/LKD7-ZJPS> (last accessed 1/21/20)

<sup>36</sup> Id at 49.

the island.<sup>37</sup> These conditions are likely to lead to abnormally high redevelopment costs.<sup>38</sup> Major development will also require new transit connections and/or highway access; the current Buono Bridge has three lanes; and the closest subway is 2.5 miles away. Bus line Q100 is the only form of mass transit that directly serves the island.

The Lippman Commission, an independent commission convened in 2016 and chaired by former New York State Chief Judge Jonathan Lippman,<sup>39</sup> outlined a scenario for beneficial reuse centered around the relocation of locally unwanted land uses to Rikers Island. These facilities could include:

- 25-acre large-scale composting facility
- a 40-acre large-scale energy-from-waste facility
- a 115-acre solar field
- An 18-acre power storage facility,
- 13 acres of urban agriculture,
- A 400,000 SF research campus
- a public greenway and memorial

Another concept is based on improving LaGuardia airport, as the island's proximity to the airport creates a rare and singular opportunity to improve operations at LaGuardia and add capacity. However, there are some limitations. LaGuardia limits height of buildings to 145' to 15' across the island, and these limits are lower near the airport. Noise from the airport also limits uses on the island. LaGuardia Airport is in the process of a major renovation for which the possibility

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<sup>37</sup> Reimagining Rikers Island. Independent Commission on the New York City Criminal Justice and Incarceration Reform. <https://www.ncsc.org/~media/C056A0513F0C4D34B779E875CBD2472B.ashx> (last accessed 1/23/20)

<sup>38</sup> Id.

<sup>39</sup> Id.



of a third runway was not considered, and questions remain regarding how useful additional runway space would be considering the New York metro area's already congested airspace.<sup>40</sup>

Some uses under this scenario could include:

- Third Runway and new terminal for LaGuardia
- Wastewater treatment facilities
- 25-acre Large-scale indoor composting facility on western edge of Island
- 20-Acre solar field
- Public Greenway accessible by existing Buono Bridge
- Memorial to acknowledge suffering and pain associated with Rikers

Whichever proposals materialize, the Lippman Commission recommends “a memorial and/or museum that would honor the people whose lives were changed forever by their time on the Island—both those held and those who worked there. The goal would be to educate future generations about the history of the Island and spark a conversation about the administration of justice.”

## **VI. COST BENEFIT ANALYSIS OF LIPPMAN SCENARIOS**






### Benefits

- Divert up to 40% of current landfill waste and replace aging infrastructure
- Create new renewable energy and renewable energy storage
- Remove more than 150,000 cars off the road
- Power up to 30,000 households with renewable energy
- Up to 52,000 new, permanent jobs if there is airport expansion

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<sup>40</sup> Id.

- \$75 Million in savings to the city from improved water treatment facilities and sanitation uses

	Concept 1	Concept 2
<b>Economic Benefits</b>		
 <b>Annual Economic Activity</b>	\$7.5B	\$340M
 <b>Permanent Jobs</b>	52,000	1,500
<b>Environmental Benefits</b>		
 <b>Renewable Energy Generated</b> (Equivalent to households powered)	20,000 households	30,000 households
 <b>% Contribution to Zero Waste Goals</b>	15%	40%
 <b>Greenhouse Gas Emission Reductions</b> (Equivalent to cars taken off the road)	65,000 cars	150,000 cars

### Costs

- Estimate of \$15 Billion to \$22 Billion in costs
- Includes demolition of existing facilities and reshaping Rikers to accommodate new uses
- Airport expansion, energy use, and potentially waste facilities would attract private investment, estimated at \$1 to \$2 Billion
- New wastewater treatment plant would avert at least \$3 Billion, but possibly more, of capital spending that DEP would otherwise need to allocate to reconstruct existing plants
- Incremental cost would be \$11 Billion to \$17 Billion to the public
- Costs represent 5% of total 10-year spending budget for regional public agencies

### Total Project Costs by Category\*



#### CONCEPT 1



#### CONCEPT 2



## VII. ADDITIONAL PROPOSALS

Reports from consultants and news outlets have also proposed possible uses for the island, including:

### Research Campus

There have been some proposals to develop a research campus, similar to Cornell Tech on Roosevelt Island. The Fontas study states that “the existing infrastructure on Rikers Island could easily support a major education complex.”<sup>41</sup> Less detailed suggestions to build a tech or academic campus have come from architecture firm Kohn Pendersen Fox.<sup>42</sup> However, development for people-intensive uses would require major investments in transportation that would greatly increase the costs of these projects. Further, such uses would also require remediation of methane deposits from landfill.<sup>43</sup>

<sup>41</sup> Fontas Advisors, supra n. 6.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at 37

## **Urban agriculture**

As per the Fontas study, “Rikers Island has the size and infrastructure to support a robust commercial farming facility. The City could develop what would be, by far, its largest agricultural facility just a few miles from the country’s largest urban population, and its most extensive restaurant scene.”<sup>44</sup> This facility could “generate jobs and economic activity, significantly decrease vehicular emissions caused by shipping produce to the city and reduce the cost for the consumer.”<sup>45</sup> Further, the study states, an “urban farm could combine an agriculture laboratory that tests new technologies and innovates on urban farming techniques.”<sup>46</sup> As with people-intensive uses, methane deposits from landfill would also challenge urban agriculture and requires remediation, as high concentrations of methane in soil can deprive plant roots of necessary oxygen, essentially suffocating them to death.<sup>47</sup>

## **Renewable Rikers**

One Renewable Rikers plan envisions the shuttering of the jail facilities on Rikers Island as an opportunity to not only offer restorative justice to communities that have long borne the brunt of New York City’s incarceration system, but also address the environmental racism that have long sited polluting infrastructure in these same communities.<sup>48</sup> Statistical analysis in California suggests that environmentally damaging infrastructure such as peaker plants, (plants that generally only run when there is high demand), are more likely to be sited in economically disadvantaged

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<sup>44</sup> Fontas Advisors, supra n. 6.

<sup>45</sup> *Id.*

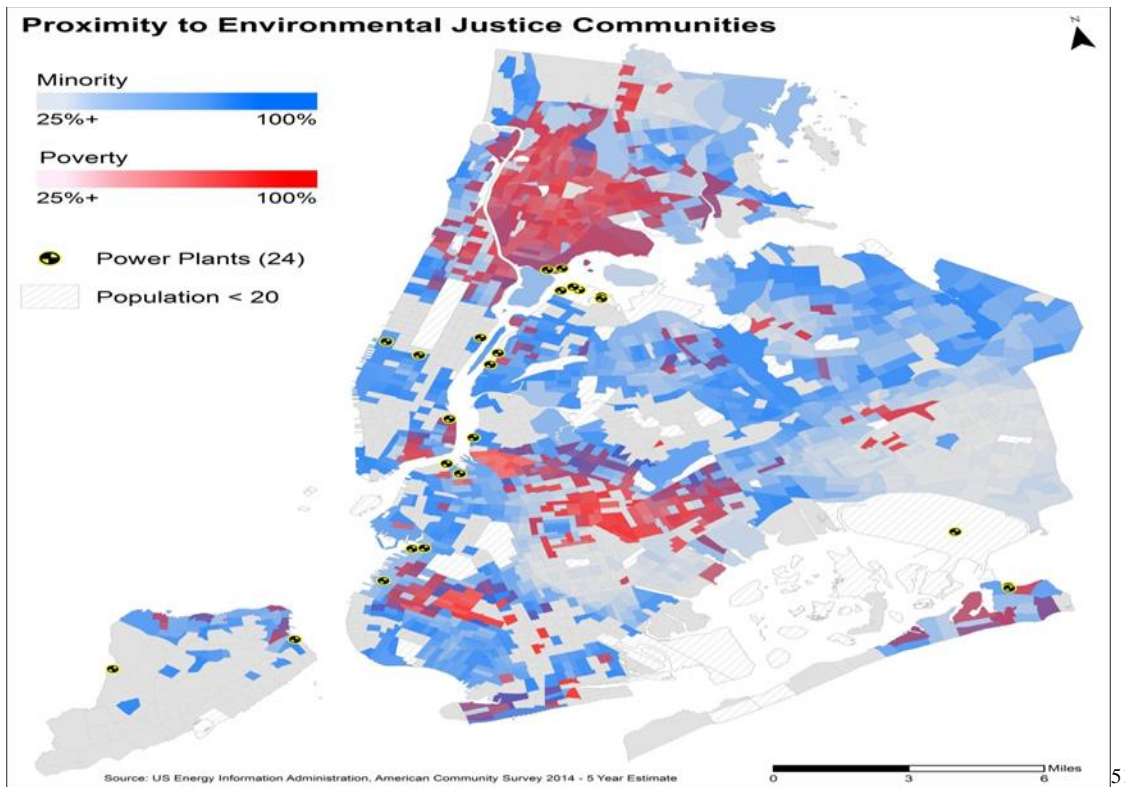
<sup>46</sup> *Id.*

<sup>47</sup> Susan Phillips. Gas Leaks a Hidden Culprit for Dead Trees. NPR State Impact Pennsylvania. November 27, 2015. <https://stateimpact.npr.org/pennsylvania/2015/11/27/gas-leaks-a-hidden-culprit-for-dead-trees/> (last accessed 1/27/20)

<sup>48</sup> Costa Constantinides and Melissa Lachlan. The Energy Behind the Renewable Rikers Vision. Gotham Gazette. December 11, 2019. <https://www.gothamgazette.com/opinion/8979-energy-behind-renewable-rikers-vision> (last accessed 1/23/20)

communities.<sup>49</sup> Plotting the location of New York City’s in-city power plants over a map showing concentrations of self-identified minority status persons and percentages of communities at the federal poverty guideline suggests a similar trend.<sup>50</sup>

**Figure 2: Proximity of Environmental Justice Communities to in-City Power Plants**



As of 2018, 26 of New York City’s waste transfer stations were located in just 3 neighborhoods, north Brooklyn, the South Bronx and southeast Queens.<sup>52</sup> Due to the high concentration of waste transfer facilities in these neighborhoods, local residents are

<sup>49</sup> Physicians, Scientists, and Engineers for Healthy Energy “Natural Gas Power Plants in California’s Disadvantaged Communities” (April 2017), <https://www.psehealthyenergy.org/our-work/publications/archive/natural-gas-power-plants-in-californias-disadvantaged-communities/> (last accessed 9/18/19)

<sup>50</sup> Based on data illustrated in Figure 1

<sup>51</sup> This map shows the location of in-City power plants, and their proximity to environmental justice communities, which are defined by the percentage of each community that identifies as belonging to minority groups, and the percentage of each community that is at the federal poverty guidelines. Source of Data: US Energy Information Administration and the American Community Survey (2014).

<sup>52</sup> Eric. A. Goldstein. NYC Takes Steps Toward Environmental Justice. Natural Resources Defense Council. <https://www.nrdc.org/experts/eric-goldstein/nyc-takes-step-toward-environmental-justice> (last accessed (9/18/19)

disproportionately burdened with the emissions from the vehicles carting waste to and from these stations, as well as the increased noise pollution that comes with the activity.<sup>53</sup> Given that even small fluctuations in airborne pollutant levels can have significant effects on health outcomes,<sup>54</sup> it is important to ensure that communities bear the cost of these environmental burdens equitably. Moving polluting infrastructure out of environmental justice communities and onto Rikers Island would immediately reduce the pollutant burden that these communities are currently forced to deal with, give residents renewed access to their waterfront spaces, and present opportunities for the former sites of peaker plants and waste transfer stations to be redeveloped for the benefit of the local residents.<sup>55</sup>

The Regional Plan Association (RPA) Fourth Regional Plan, published in 2017, views the reclamation of Rikers Island for wastewater treatment and municipal waste services as central to the revitalization of the inner Long Island Sound.<sup>56</sup> Envisioning a future where a new wastewater treatment facility on Rikers Island eliminates the discharge of untreated sewage into local water bodies, and composting facilities, waste to energy facilities, public uses such as education centers, and public green space replace the jails currently housed on Rikers Island, the plan goes on to imagine the benefits that New York City residents would reap from such changes.<sup>57</sup> The removal of these locally undesirable municipal waste management functions enables communities to reclaim their waterfronts, while lower levels of local pollutants lead to improvements in public

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<sup>53</sup> Id.

<sup>54</sup> U.S Environmental Protection Agency. EnviroAtlas Eco-Health Relationship Browser. [https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth\\_RelationshipBrowser/index.html](https://enviroatlas.epa.gov/enviroatlas/Tools/EcoHealth_RelationshipBrowser/index.html) (last accessed 9/16/19)

<sup>55</sup> Costa Constantinides and Melissa Lachlan. The Energy Behind the Renewable Rikers Vision. Gotham Gazette. December 11, 2019. <https://www.gothamgazette.com/opinion/8979-energy-behind-renewable-rikers-vision> (last accessed 1/23/20)

<sup>56</sup> Regional Plan Association. Fourth Regional Plan. Places. <http://library.rpa.org/pdf/RPA-4RP-Places.pdf> (last accessed 1/27/20)

<sup>57</sup> Id.

health.<sup>58</sup> Parks and recreational spaces replace waste transfer stations and peaker plants on land already owned by the city, utilities, and public agencies, further increasing quality of life for neighborhood residents, while the preservation of neighborhoods for industrial uses fuels economic growth by ensuring room for the next generation of industry.<sup>59</sup>

## VIII. LOOKING FORWARD

It is important to ensure that whatever form the reimagined Rikers Island takes, that the mistakes of the past are not repeated. Beneficial reuse of waste for energy can take multiple forms, with their own benefits, drawbacks, and particular considerations.<sup>60</sup> The combustion of municipal solid waste for energy production has the potential to be carbon negative if paired with carbon capture and sequestration,<sup>61</sup> but concerns remain regarding the production of dioxins and furans, chemical compounds that persist for a long time in the environment, are stored in body tissue, and have high potential for causing negative health effects in living organisms.<sup>62</sup> While modern scrubber technology can significantly reduce the amount of these compounds emitted into the environment,<sup>63</sup> these safeguards have been known to fail.<sup>64</sup> Additionally, while the combustion of municipal solid waste can significantly reduce the volume of waste bound for landfill, it still creates significant amounts of waste that must be properly disposed of.<sup>65</sup> Bottom ash, a byproduct of burning municipal solid waste for energy is extremely toxic, and has the potential to leach

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<sup>58</sup> Id.

<sup>59</sup> Id.

<sup>60</sup> Chandel et al. The potential of waste to energy in reducing GHG emissions. Carbon Management. 2012. <https://jacksonlab.stanford.edu/sites/default/files/cm2012.pdf> (last accessed 1/23/20)

<sup>61</sup> Id.

<sup>62</sup> David Suzuki. The problems with incinerating waste. The Georgia Straight. September 10, 2013. <https://www.straight.com/news/421761/david-suzuki-problems-incinerating-waste> (last accessed 1/23/20)

<sup>63</sup> Id at 78

<sup>64</sup> BBC News. Dumfries energy-from-waste Scotgen plant licence revoked. <https://www.bbc.com/news/uk-scotland-south-scotland-23850895>

<sup>65</sup> General Kinematics. What happens to WTE incinerator ash? <https://www.generalkinematics.com/blog/what-happens-to-wte-incineration-ash/> (last accessed 1/23/20)

dangerous compounds and heavy metals into the environment if not disposed of properly.<sup>66</sup> Environmental activists have also pointed out that commodifying waste potentially can lead societies to no longer prioritize reductions in consumption, reuse of existing goods, and that burning municipal waste enables polluters to avoid accountability by destroying the evidence of toxic substances they are producing.<sup>67</sup>

## **IX. LEGISLATION**

Int. No. 1591 would require the Commissioner of Environmental Protection, or such other agency to conduct a study to assess the feasibility of constructing a wastewater treatment facility on Rikers Island. The study would be required to consider population projections and possible alternatives to wastewater treatment and disposal, and the minimum capacity a wastewater treatment facility on Rikers Island should have and how much wastewater might be able to be diverted from other facilities. Within 12 months of the effective date, the Commissioner of Environmental Protection, or other agency would be required to submit a feasibility report including findings and recommendations to be made publicly available on the city's website.

Int. No. 1592 would amend the New York city charter to turn over control of Rikers Island to the Department of Environmental Protection (DEP). It would phase out all remaining Department of Corrections (DOC) functions on Rikers Island, giving the DOC 5 years from date of enactment to remove all inmates from the island, so that DEP may begin the process of scoping out how best to use the land for renewable purposes.

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<sup>66</sup> Sivula et al. Toxicity of waste gasification bottom ash leachate. Waste Management. June, 2012. <https://www.ncbi.nlm.nih.gov/pubmed/22285871> (last accessed 1/23/20)

<sup>67</sup> Carrie Arnold. Is Sustainable Trash Burning a Load of Rubbish? Smithsonian Magazine, August 2016. <https://www.smithsonianmag.com/science-nature/burning-trash-solution-our-garbage-woes-or-are-advocates-just-blowing-smoke-180959924/> (last accessed 1/23/20)



Int. No. 1593 would direct the Mayor's Office of Sustainability (MOS) to study the feasibility of different types of renewable energy sources combined with battery storage that are practical on Rikers Island. The study would be required to evaluate the economic costs, value, rate of return and sustainability of constructing renewable energy sources combined with battery storage facilities on Rikers Island. Within 12 months of the effective date, the Director of MOS, or other agency or official designated by the mayor, would be required submit a feasibility report including findings and recommendations to the Mayor and the Speaker of the Council, including findings and recommendations to be made publicly available on the city's website.



By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Dromm, Ayala, Espinal, Levin, Reynoso, Lander, Chin, Menchaca, Koo, Rivera, Powers, Cabrera, Richards, Torres, Rodriguez, Holden, Vallone, Levine, Van Bramer, Yeger, Gjonaj, Perkins, Grodenchik, Treyger, Gibson, Cornegy, Eugene, Barron, Maisel, Cumbo, Moya, Lancman, Rose, Adams and Ulrich

A Local Law to direct the Commissioner of Environmental Protection to conduct a study to determine if a new wastewater treatment facility can be constructed on Rikers Island.

Be it enacted by the Council as follows:

Section 1. The Commissioner of Environmental Protection, or such other agency or city official as the mayor shall designate, shall conduct a study to assess the feasibility of constructing a wastewater treatment facility on Rikers Island. The study shall consider population projections and possible alternatives to wastewater treatment and disposal. The study shall also consider the minimum capacity a wastewater treatment facility on Rikers Island should have and how much wastewater might be able to be diverted from other facilities. Within 12 months after this local law takes, the Commissioner, or other agency or official designated by the mayor, shall submit a feasibility report including findings and recommendations and such report shall be made publicly available on the city's website.

§ 2. This local law takes effect immediately upon enactment and expires or is deemed repealed one year after enactment.

SS  
LS # 9532  
5/13/19 12:12 p.m.



By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Ayala, Espinal, Levin, Lander, Chin and Menchaca

A Local Law to amend the New York city charter, in relation to the department of environmental protection and Rikers Island.

Be it enacted by the Council as follows:

Section 1. Section 1403 of the New York city charter is amended by adding a new subdivision b-2 to read as follows:

b-2. Rikers Island.

(1) The commissioner shall have charge and control over the location currently known as Rikers Island, including all areas, structures and property used or formerly used as a city prison for inmate detention and all facilities used by the department of corrections located on such island.

(2) The commissioner shall have the authority and discretion to plan and coordinate the actions of city agencies with respect to future uses of Rikers Island for renewable energy generation or for other environmental purposes, including but not limited to wastewater treatment, which shall include whether the use of existing structures would best contribute to such environmental purposes or sustainability.

(3) When the population of Rikers Island is less than 5,000 inmates, any structures on Rikers Island that are not suitable for renewable energy generation or wastewater treatment purposes may be reevaluated every three years for suitability for renewable energy generation options or for demolition.

(4) Any such structures still needed for use by the commissioner of correction for the retention of inmates shall be maintained for a period of five years from the date of the enactment of the law that added this section during which time such commissioner of correction shall retain

sole power and authority concerning the care, custody and control of such inmates or persons pursuant to section 623 of the charter.

(5) The commissioner shall have the authority to take such actions, including the promulgation of rules to ensure the development and coordination of infrastructure to support renewable energy generation, wastewater treatment and such other environmental purpose conducted at Rikers Island.

§ 2. This local law takes effect immediately.

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SS  
LS # 10154  
5/31/19

By Council Members Constantinides, Rosenthal, Brannan, Koslowitz, Kallos, Ayala, Espinal, Levin, Reynoso, Lander, Chin, Menchaca, Koo, Rivera, Powers, Cabrera, Richards, Torres, Rodriguez, Dromm, Holden, Vallone, Levine, Van Bramer, Yeger, Gjonaj, Perkins, Grodenchik, Treyger, Gibson, Cornegy, Eugene, Barron, Maisel, Cumbo, Lancman, Rose, Adams, Ampry-Samuel, Moya and Ulrich

A Local Law to direct the mayor's office of sustainability to study the feasibility of different types of renewable energy sources combined with battery storage are practical on Rikers Island.

Be it enacted by the Council as follows:

Section 1. The Director of the Mayors' Office of Sustainability, or such other agency or city official as the mayor shall designate, shall conduct a feasibility study to evaluate the economic costs, value, rate of return and sustainability of constructing renewable energy sources combined with battery storage facilities on Rikers Island. Within 12 months after this local law takes, the Director, or other agency or official designated by the mayor, shall submit a feasibility report including findings and recommendations to the mayor and the speaker of the council and such report shall be made publicly available on the city's website.

§ 2. This local law takes effect immediately upon enactment and expires and is deemed repealed after the submission of the report due.

SS  
LS # 10,848  
5/13/19