



## Gas System Transition

### I. Introduction

Dismantling the gas system in an orderly, equitable, and expedient fashion is essential to meeting the Climate Law mandates. Commenters urge the CAC to recognize the need for the State to transition away from reliance on natural gas, electrify buildings, and invest in non-pipeline alternatives rather than spending ratepayer money on a gas system that will inevitably become stranded assets and obsolete.

### II. Downsizing the Gas Distribution System

The DSP states that “achievement[s] of the [Climate Law] emissions limits will entail a downsizing of the fossil gas system.”<sup>1</sup> The FSP should clarify that the use of natural gas must decline to zero by 2050. As discussed below, combusting alternative fuels, such as RNG and hydrogen, is not a feasible or cost-effective solution and will not deliver the climate or public

<sup>1</sup> N.Y. Climate Action Council, *Draft Scoping Plan* (“DSP”) 264 (2021), <https://climate.ny.gov/-/media/Project/Climate/Files/Draft-Scoping-Plan.pdf>.

health benefits that New Yorkers need. Accordingly, the State’s planning efforts must work towards the target of dismantling the natural gas distribution system by 2050.

**A. The use of natural gas must decline to zero by 2050.**

Across all sectors, the Climate Act limits greenhouse gas emissions to 60% of 1990 levels by 2030 and 15% of 1990 emissions by 2050, with the goal of achieving net zero emissions by 2050.<sup>2</sup> The limited use of offsets that the Climate Act does permit must be constrained to sectors that cannot be electrified or in which GHG emissions cannot otherwise be zeroed out. Put differently, New York State cannot afford to continue emitting GHGs in sectors that can feasibly electrify, such as heating and cooking—the sectors currently served by the natural gas distribution system. Indeed, as the DSP recognizes, by 2050 the vast majority of building space statewide must be electrified with energy-efficient heat pumps in order to meet the Climate Act’s requirements.<sup>3</sup>

**B. Reducing load demand is essential.**

Attaining this goal will require not only scaling up alternatives to natural gas, but also reducing demand for the energy sources currently provided by natural gas. For this reason, Commenters support the proposal to expeditiously ramp up load reduction measures such as demand response and energy efficiency and submit that such measures must be further evaluated and explored. Additionally, pursuant to Section 7(3) of the Climate Act and the CJWG’s interpretation thereof, at least 35% of investments in load reduction measures must be located in DACs.

New York has extensive large building loads, which represent high potential to tap a flexible resource. In a Summer 2020 effort, New York City’s Department of Citywide Administrative Services used a demand response program that produced 103 megawatts of load reductions.<sup>4</sup> And as a further indicator of promising and extensive potential, as part of a 2020 Demand Response Forum presentation on unrealized commercial demand response, Con Edison reported that the “[m]ajority of customers enroll less than 20% of their highest summertime kW demand.”<sup>5</sup>

A recent analysis focused on load curtailment, prepared for NYSERDA by Elementa Engineering in collaboration with UPROSE and NYC-EJA (“Replacing Peaker Plants: DER Strategies for Sunset Park, Gowanus, and Bay Ridge”), showed significant reduction in peak

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<sup>2</sup> ECL §§ 75-0107(1), 75-0109(4)(a)–(b), (f).

<sup>3</sup> DSP at 122.

<sup>4</sup> See *Demand Response Program*, N.Y.C. Dep’t Citywide Admin. Serv., <https://www1.nyc.gov/site/dcas/agencies/demand-response.page> (last visited June 17, 2022).

<sup>5</sup> ConEdison, *2020 Demand Response Forum* 11 (2020), <https://www.coned.com/-/media/files/coned/documents/save-energy-money/rebates-incentives-tax-credits/smart-usage-rewards/demand-response-forum.pdf>.

demand for the study areas of Sunset Park, Gowanus, and Bay Ridge<sup>6</sup> The office and industrial sectors demonstrated particularly high opportunities for load reduction.<sup>7</sup> The analysis also noted the additional potential of energy efficiency retrofits, indicating that when buildings performed in compliance with modern energy codes, “which could be achieved through envelope and system upgrades,” peak demand dropped by 11%.<sup>8</sup> Relatedly, NYSERDA has been advancing efficiency upgrades to reduce demand. For example, Business Energy Pro<sup>9</sup> is just one new pay-for-performance pilot “collaboration among NYSERDA, Con Edison, and energy efficiency service providers that aimed to transform the energy efficiency market by using smart meter technology.”<sup>10</sup> The State should continue to seize load reduction opportunities through similar programs.

### **C. Hydrogen and renewable natural gas are not viable replacements for natural gas in buildings.**

Commenters oppose maintaining the existing distribution system for alternative fuel sources, which do not represent a feasible or cost-effective alternative to widespread electrification of buildings. Commenters are concerned about reliance on “low-carbon fuels” such as renewable natural gas (“RNG”), biofuels, and hydrogen. Production and use of these fuels results in significant greenhouse gas emissions and other environmental impacts.<sup>11</sup>

Because RNG is chemically identical to natural gas,<sup>12</sup> its combustion emits the same level of GHGs.<sup>13</sup> A recent study suggests that combustion exhaust from biomethane (RNG used for heating and cooking) is even more toxic than exhaust from fossil gas.<sup>14</sup> Additionally, the available and climate- or environmentally beneficial supply of RNG is very small. The supply of true, capturable waste methane (e.g., from uncontrolled landfills and wastewater treatment

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<sup>6</sup> Elementa Eng’g, *Replacing Peaker Plants: DER Strategies for Sunset Park, Gowanus, and Bay Ridge* (2021), [https://earthjustice.org/sites/default/files/files/peak\\_coalition\\_comments\\_astoriagasplant\\_sept132021.pdf](https://earthjustice.org/sites/default/files/files/peak_coalition_comments_astoriagasplant_sept132021.pdf).

<sup>7</sup> *Id.* at 20.

<sup>8</sup> *Id.* at 21.

<sup>9</sup> See *Business Energy Pro*, NYSERDA, <https://www.nyserd.ny.gov/All-Programs/Programs/Business-Energy-Pro> (last visited Mar. 29, 2022).

<sup>10</sup> *Id.*

<sup>11</sup> Sasan Saadat & Sara Gersen, Earthjustice, *Reclaiming Hydrogen for a Renewable Future: Distinguishing Oil & Gas Industry Spin from Zero-Emission Solutions* 10-11 (2021), [https://earthjustice.org/sites/default/files/files/hydrogen\\_earthjustice.pdf](https://earthjustice.org/sites/default/files/files/hydrogen_earthjustice.pdf).

<sup>12</sup> *Alternative Fuels Data Center: Natural Gas Fuel Basics*, U.S. Dep’t of Energy, [https://afdc.energy.gov/fuels/natural\\_gas\\_basics.html#:~:text=RNG%20qualifies%20as%20an%20advanced,liquefied%20for%20use%20in%20vehicles](https://afdc.energy.gov/fuels/natural_gas_basics.html#:~:text=RNG%20qualifies%20as%20an%20advanced,liquefied%20for%20use%20in%20vehicles) (last visited Apr. 27, 2022).

<sup>13</sup> As discussed in comments on the Electricity Chapter, NRG, the developer behind a recent NY gas plant proposal acknowledged as much in their Draft Supplemental Environmental Impact Statement: “RNG does not result in zero onsite GHG emissions. As RNG is methane and fully interchangeable with conventional natural gas, onsite GHG emissions would remain the same whether the Project is operating on RNG or conventional natural gas.” AECOM, *Draft Supplemental Environmental Impact Statement: Astoria Replacement Project* 3-51 (2021), [https://www.nrg.com/assets/documents/legal/astoria/00\\_2021/astoria-draft-dseis-06-30-2021.pdf](https://www.nrg.com/assets/documents/legal/astoria/00_2021/astoria-draft-dseis-06-30-2021.pdf).

<sup>14</sup> See Michael J. Kleeman et al., Cal. Energy Comm’n, Publ’n No. CEC-500-2020-034, *Air Quality Implications of Using Biogas to Replace Natural Gas in California* (2020), <https://www.energy.ca.gov/sites/default/files/2021-05/CEC-500-2020-034.pdf>.

plants) amounts to less than 1% of current gas demand.<sup>15</sup> Due to high production costs, RNG is also 4-17 times more expensive than fossil gas.<sup>16</sup> Production of RNG also results in harmful local environmental impacts and can increase net GHGs.<sup>17</sup> For these reasons, RNG is not a viable alternative to fossil gas.

Hydrogen combustion creates significant emissions of nitrogen dioxide, an irritant that causes asthma and other respiratory conditions, and a precursor to both ground-level ozone and fine particulate matter.<sup>18</sup> These pollutants adversely impact local air quality and can cause serious health problems, and disproportionately affect communities of color.<sup>19</sup> In fact, hydrogen blends emit even higher levels of nitrogen oxides than natural gas when combusted.<sup>20</sup> Additionally, a growing body of research indicates that blending hydrogen with natural gas for use in buildings is highly inefficient and does little to reduce GHG emissions.<sup>21</sup> Moreover, using hydrogen in buildings creates major challenges and safety risks throughout the existing natural gas infrastructure system because of the difference in chemical properties between hydrogen and methane.<sup>22</sup> Natural gas pipelines can only handle low hydrogen blends before creating safety risks.<sup>23</sup> Relying heavily on hydrogen to power appliances would therefore require utilities to retrofit or replace most pipelines, a huge capital investment, whereas electrification is

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<sup>15</sup> Sasan Saadat et al., *Rhetoric vs. Reality: The Myth of “Renewable Natural Gas” for Building Decarbonization* 9 (2020), [https://earthjustice.org/sites/default/files/feature/2020/report-decarb/Report\\_Building-Decarbonization-2020.pdf](https://earthjustice.org/sites/default/files/feature/2020/report-decarb/Report_Building-Decarbonization-2020.pdf).

<sup>16</sup> *Id.* at 2.

<sup>17</sup> See generally Sadaat & Gersen, *supra* note 10; Saadat, et al., *supra* note 14.

<sup>18</sup> See, e.g., Integrated Science Assessment for Oxides of Nitrogen -- Health Criteria 81 Fed. Reg. 4910-02 (Jan. 28, 2016); Jeffrey Goldmeer et al., Gen. Elec., *Hydrogen as a Fuel for Gas Turbines: A Pathway to Lower CO<sub>2</sub>* 5 (2021), [https://www.ge.com/content/dam/gepower-new/global/en\\_US/downloads/gas-new-site/future-of-energy/hydrogen-fuel-for-gas-turbines-gea34979.pdf](https://www.ge.com/content/dam/gepower-new/global/en_US/downloads/gas-new-site/future-of-energy/hydrogen-fuel-for-gas-turbines-gea34979.pdf) (finding that a 50/50 mixture of hydrogen and fossil gas (by volume) increased concentrations of NO<sub>x</sub> in gas exhaust by 35% using General Electric combustion turbines); Mirko Bothien et al., ETN Global, *Hydrogen Gas Turbines: The Path Towards a Zero-Carbon Gas Turbine* 9 (2020), <https://etn.global/wp-content/uploads/2020/01/ETN-Hydrogen-Gas-Turbines-report.pdf> (warning that higher flame temperatures for hydrogen-gas blends will produce more health-harming NO<sub>x</sub> emissions “if no additional measures are undertaken”); Mehmet Salih Celtek & Ali Pinarbasi, *Investigations on Performance and Emission Characteristics of an Industrial Low Swirl Burner While Burning Natural Gas, Methane, Hydrogen-Enriched Natural Gas and Hydrogen as Fuels*, 43 Int’l J. of Hydrogen Energy 1194, 1205 (2018) (finding that hydrogen combustion can emit more than six times as much NO<sub>x</sub> as does methane combustion).

<sup>19</sup> NO<sub>x</sub> is a pollutant that damages heart and respiratory function, impairs lung growth in children, and leads to higher rates of emergency room visits and premature death. Further, the State’s Department of Health has identified the reduction of air pollution, including ozone, as a key indicator to drive improvements in asthma rates and public health outcomes throughout the state. The New York State Prevention Agenda 2019-2024 notes the “extensive evidence” linking ozone with respiratory and cardiovascular illness and death and establishes a goal to “reduce exposure to outdoor air pollutants,” with an emphasis on vulnerable groups. See N.Y. State Dep’t of Health, *New York’s State Health Improvement Plan: Prevention Agenda 2019-2024*, at 72–3 (updated Sept. 2, 2021), [https://www.health.ny.gov/prevention/prevention\\_agenda/2019-2024/docs/ship/nys\\_pa.pdf](https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/docs/ship/nys_pa.pdf); see also *Nitrogen Dioxide & Health*, Cal. Air Res. Bd., <https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health> (last visited Feb. 3, 2022); see also Christopher W. Tessum et al., *PM<sub>2.5</sub> Polluters Disproportionately and Systemically Affect People of Color in the United States*, 7 Sci. Advances eabf4491 (2021).

<sup>20</sup> Sara Baldwin et al., *Assessing the Viability of Hydrogen Proposals: Considerations for State Utility Regulators and Policymakers* 3 (2022).

<sup>21</sup> *Id.* at 2.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 7.

significantly less disruptive because equipment and appliance replacements can occur incrementally using existing electrical infrastructure.<sup>24</sup>

In some particular situations, it may be appropriate to employ limited use of “green” hydrogen for sectors that truly cannot be electrified. Green hydrogen is produced by electrolysis of water using renewable electricity. While the use and production of green hydrogen does not emit GHGs, diversion of renewable energy to produce hydrogen rather than powering electric vehicles and building appliances would increase consumer costs and slow economy-wide decarbonization.<sup>25</sup> Producing hydrogen is also water-intensive, and at a large scale could lead to water stress. The use of green hydrogen should therefore be treated as a last resort and limited to only those sectors that cannot be electrified, such as marine shipping and aviation. However, as discussed, natural gas pipelines can only handle low hydrogen blends before imposing safety risks and are therefore not appropriate for transporting 100% green hydrogen.<sup>26</sup>

As such, maintaining a gas system for a small sector, which cannot electrify, will likely be costly. Further analysis must be completed to determine who will cover the costs associated with future investments, safety, and maintenance of a gas system that would be purely operational for the hard to electrify sectors. Existing gas infrastructure is vulnerable to climate extremes such as sea level rise and storm surges and must be included in the above-mentioned analysis.<sup>27</sup>

### **III. Restructuring the Gas Planning Docket**

The Gas Planning docket should be restructured to advance building electrification. The Public Service Commission (“PSC”) should also revisit its benefit-cost analysis framework order.

#### **A. The gas planning docket must advance building electrification.**

As discussed, combustion of RNG and hydrogen are false solutions, and electrification is the only sensible pathway to building decarbonization. While Commenters are glad that the PSC’s May 12 Gas Planning Order begins the process of creating a framework for non-pipeline alternatives (“NPA”), the Order also specifies that “[t]he final recommendations from the CAC will guide how RNG will be part of the [local distribution companies’] supply portfolio.”<sup>28</sup> It is therefore essential that the FSP clarify that decarbonization must occur through electrification and reject any plans to rely on RNG.

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<sup>24</sup> *Id.* at 10.

<sup>25</sup> Baldwin, et al., *supra* note 20, at 12.

<sup>26</sup> Baldwin, et al., *supra* note 20, at 7.

<sup>27</sup> See, e.g., Con Edison, *Climate Vulnerability Study* 1, 32 (2019), <https://www.coned.com/-/media/files/coned/documents/our-energy-future/our-energy-projects/climate-change-resiliency-plan/climate-change-vulnerability-study.pdf>.

<sup>28</sup> N.Y. State Dep’t of Pub. Serv., Case No. 20-G-0131, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures, Order Adopting Gas System Planning Process*, at 34 (issued May 12, 2022).



The CAC should also urge the PSC, in developing the NPA framework, to consider changes to the utility revenue model including shifting the balance from earnings based on capital investments to performance-based incentives. The current incentive structure pushes utilities to invest in pipelines and other gas infrastructure projects that are costly for ratepayers, the climate, and public health: incentives should instead be in place to drive electrification.

Additionally, the PSC's Gas Planning Order does not require utilities to reflect known building electrification requirements and policies in their long-term plans, even though the State's largest city requires new buildings to be all-electric starting in 2024, and the State is considering similar legislation.<sup>29</sup> The CAC should urge the PSC to reconsider this decision to ensure that the PSC's management of the gas system ushers in, rather than impedes, the required transition to electric buildings.

### **B. The PSC should revisit the BCA framework order.**

The State must develop a robust benefit-cost analysis ("BCA") to evaluate the gas transition and decarbonization that considers the true cost to ratepayers of maintaining the current gas system, taking into account the amortization and socialization of the costs of repairing and replacing leak-prone pipes ("LPPs"); that accounts for the relative efficiency of heat pumps and other electric appliances; and that accounts for the public health benefits of electrification.

In the Gas Planning Order, the PSC rejected a number of suggestions as inconsistent with the BCA Framework Order. For example, the PSC rejected a recommendation that utilities' annual reports should include all-in costs for design day and per estimated use to allow for a truer accounting of the different supply and demand options.<sup>30</sup> Similarly, the PSC also rejected calls to revise its BCA framework to consider not only economic and environmental concerns associated with new infrastructure investments, but also the health and equity impacts to realize the true cost effectiveness of NPAs.<sup>31</sup>

However, the PSC's refusal to revisit the BCA Framework Order in order to incorporate these recommendations will obscure the true benefits of electrification and true costs of maintaining the gas existing system. Fealty to the BCA Framework Order therefore threatens the PSC's ability to usher in the transition required to comply with CLCPA mandates. Moreover, a failure to dismantle the gas system in an orderly fashion risks leaving a small group of LMI customers paying for stranded assets.

Additionally, the PSC's Gas Planning Order recognizes the need to comply with Section 7(3) and avers that the PSC will have "the necessary information to assess the potential impacts of [utilities'] long-term plans and alternatives, both benefits and burdens, on disadvantaged communities."<sup>32</sup> However, without a BCA framework that can capture the health benefits and

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<sup>29</sup> *Id.* at 31-32; Local Law No. 154 (2021) of City of NY; *All-Electric Buildings Act*, 2022 NY Senate Bill S6843(C).

<sup>30</sup> N.Y. State Dep't of Pub. Serv., Case No. 20-G-0131, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures, Order Adopting Gas System Planning Process 22* (issued May 12, 2022).

<sup>31</sup> *Id.* at 44.

<sup>32</sup> *Id.* at 57.

threats associated with different energy sources, the PSC cannot adequately fulfill this mandate. For these reasons, the FSP should call on the PSC to revisit the BCA order.

### C. The State must deny permits for new natural gas infrastructure projects.

The DSP states, “[t]o the extent consistent with reliability and safety, the State should deny as inconsistent with the Climate Act additional gas infrastructure permits.” The FSP should clarify that under Section 7(2) of the Climate Act, the State is required to deny permits for new gas infrastructure except where justified by a reliability need and then, require mitigation measures.

Section 7(2) vests State agencies with the authority to deny permit applications where a project would be inconsistent with or interfere with the Climate Act’s greenhouse gas limits, and where 1) no justification exists *or* 2) a justification exists but neither alternatives nor adequate mitigation measures can be identified. Section 7(2) requires in relevant part that in “considering and issuing” all permits, licenses and other administrative approvals, agencies “*shall consider* whether such decisions are inconsistent with or will interfere with the attainment of the statewide greenhouse gas emissions limits established in article 75 of the environmental conservation law.”<sup>33</sup>

Section 7(2)’s use of the word “shall” makes plain that, before permitting a project that would be inconsistent with or would interfere with the Climate Act’s greenhouse gas reduction mandates, a state agency is required to provide a justification *and* identify alternatives or mitigation measures. *See McMillian v. Krygier*, 153 N.Y.S.3d 198, 201 (App. Div. 2021) (“[U]se of the word ‘shall’ generally denotes a mandatory requirement.”) (quoting *Haynie v. Mahoney*, 48 N.Y.2d 718, 719 (1979)). Put differently, Section 7(2) sets forth a three-part process: 1) consider whether the project would be inconsistent with or interfere with the Climate Act’s emissions limits; 2) if so, determine whether a sufficient justification exists; 3) if so, identify alternatives or mitigation measures. If no justification exists—or if a justification exists but the State cannot identify alternatives or mitigation measures—then no permit can be issued. Reading the provision any other way would produce the absurd result of requiring the State to permit projects that are inconsistent with State law, and to manufacture justifications for them. *See Lubonty v. U.S. Bank Nat’l Ass’n*, 116 N.Y.S.3d 642, 645 (2019) (The State must “interpret [the] statute so as to avoid [this] unreasonable [and] absurd application of the law.” (citation omitted)).

Additionally, as DEC recognized in proposing guidance on Section 7(2), it is not only important that new facilities not *add* GHG emissions; new facilities also must not make it more challenging to decrease GHG emissions or interfere with attainment of a zero-emission electric generation sector by 2040.<sup>34</sup> Moreover, projects that facilitate the expanded or continued use of fossil fuels are inconsistent with the Climate Act.<sup>35</sup> New infrastructure projects that expand or

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<sup>33</sup> CLCPA § 7(2) (emphasis added).

<sup>34</sup> DEC, *DAR-21 The Climate Leadership and Community Protection Act and Air Permit Applications* 5 (Dec. 1, 2021), [https://www.dec.ny.gov/docs/air\\_pdf/dar21.pdf](https://www.dec.ny.gov/docs/air_pdf/dar21.pdf).

<sup>35</sup> *Id.*

prolong the use of natural gas are therefore inconsistent with the Climate Act, and may only be permitted if justified due to a reliability need and if the State imposes mitigation measures.

#### **IV. Legislative Amendments**

Commenters agree with the DSP that the State should amend the Public Service Law and the Transportation Corporations Law because public policy should not promote natural gas. As the DSP recognizes, current law erects barriers to transitioning off the gas system. The final Scoping Plan should recommend that the legislature adopt the Gas Transition and Affordable Energy Act. The bill will end costly ratepayer-subsidized natural gas expansion while ensuring the equitable provision of electric service and efficient heating, cooling, cooking, and hot water services. Similarly, Commenters agree that incentives and rebates for gas equipment offered by utilities or NYSERDA must be immediately ended. The State cannot with one hand impose greenhouse gas limits while with the other encouraging the use of natural gas; Commenters urge the CAC to include this recommendation in the FSP.

#### **V. Conclusion**

In summary, the FSP should:

- Recognize the need to reduce gas usage to zero by 2050 and to dismantle the gas distribution system.
- Reject combustion of alternative fuels including hydrogen and RNG.
- Call for load reductions through efficiency measures.
- Call for restructuring the gas planning docket to advance electrification.
- Call for legislative enactments to achieve the CLCPA mandates.

Respectfully submitted,

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All Our Energy  
Alliance for a Green Economy  
Brookhaven Landfill Action and  
Remediation Group  
Catskill Mountainkeeper  
Clean Air Coalition of WNY  
Climate Reality Project, Capital Region NY  
Chapter  
Climate Reality Project, Finger Lakes  
Greater Region NY Chapter  
Climate Reality Project, Hudson Valley and  
Catskills Chapter  
Climate Reality Project, Long Island  
Chapter  
Climate Reality Project, NYC

Climate Reality Project, Westchester NY  
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Climate Solutions Accelerator of the  
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Committee to Preserve the Finger Lakes  
Community Food Advocates  
CUNY Urban Food Policy Institute  
Earthjustice  
Environmental Advocates NY  
Fossil Free Tompkins  
Gas Free Seneca  
Green Education and Legal Fund  
HabitatMap  
Hotshot Hotwires



Long Island Progressive Coalition  
Nassau Hiking & Outdoor Club  
Network for a Sustainable Tomorrow  
New Clinicians for Climate Action  
North Brooklyn Neighbors  
NY Renews  
People of Albany United for Safe Energy  
PUSH Buffalo

Roctricity  
Sane Energy Project  
Seneca Lake Guardian  
Sierra Club  
South Shore Audubon Society  
University Network for Human Rights  
UPROSE  
WE ACT for Environmental Justice