SUBMITTED ELECTRONICALLY
New York State Energy Planning Board
State Energy Plan Comments
NYSERDA
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Re: Draft State Energy Plan

Members of the Board,

The PEAK Coalition respectfully submits these comments on the Draft New York State Energy Plan. The PEAK Coalition is comprised of UPROSE, The POINT CDC, New York City Environmental Justice Alliance, Clean Energy Group, and New York Lawyers for the Public Interest. The Coalition is dedicated to ending the long-standing pollution burden from fossil fuel peaker power plants ("peakers") on New York's most vulnerable populations. The Coalition is the first comprehensive effort in the United States to reduce the negative and racially disproportionate health impacts of peakers by replacing them with renewable energy and energy storage solutions. The PEAK Coalition is deeply concerned by the Draft Energy Plan's heavy reliance on expensive and unrealistic alternatives, such as hydrogen combustion and nuclear, to provide firm energy capacity in the future grid, as well as repowering existing gas combustion capacity throughout the state, including in the New York Independent System Operator (NY-ISO) electric regional load zone J (Zone J).

Hydrogen

The PEAK coalition is extremely concerned about the Draft Energy Plan's reliance on hydrogen (H_2) combustion for 17.2GW of zero-carbon firm electricity generation capacity in 2040.[1] Assumptions related to combustion and production emissions, sourcing, and hydrogen itself must be further scrutinized in order to ensure a safe and affordable zero-emissions grid for New Yorkers by 2040. As detailed below, hydrogen is too costly, too inefficient, will consume massive amounts of water, and will likely increase overall GHG emissions.

NOx emissions. Combusting hydrogen releases nitrogen oxide (NOx) emissions, a powerful air pollutant and the precursor to fine particulate matter and ground-level ozone. Burning hydrogen

[1] NYSERDA. "Draft 2025 New York State Energy Plan – Electricity." p 53. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

typically results in six times as much NOx emissions as natural gas due to the higher temperature needed for combustion.[2] The PEAK Coalition is especially concerned about the use of hydrogen in peaker plants. Due to the extremely high cost of hydrogen fuel and operating hydrogen power plants, it is likely that hydrogen power plants will run infrequently.[3] This is also referenced in the Pathways Analysis of the Draft Energy Plan, which states that hydrogen power plants will be used only during the most challenging reliability periods, essentially acting as peaker plants.[4] The nature of peaker plant operations requires them to start up and shut down frequently, making it difficult to keep the hydrogen burning at sufficiently low temperatures necessary to limit NOx formation. Power plants in general, and peaker plants more specifically, in New York are disproportionately located in Disadvantaged Communities (DACs). Accordingly, the increased NOx, ground-level ozone, and fine particulate matter created from converting existing gas power plants to burn hydrogen would be concentrated in these neighborhoods. Combusting hydrogen in any capacity in DACs runs counter to the mandate in Section 7(3) of the CLCPA, which requires agencies to prioritize reducing GHG emissions *and co-pollutants* in DACs. Planned, intentional reliance on hydrogen combustion for firm or peak power in DACs violates New York State law.

Sourcing and Costs of Green Hydrogen. Green hydrogen costs are too high to be a part of an affordable zero-emissions grid. While green hydrogen production has received increased attention in recent years, the early retirement of the 45V Clean Hydrogen Production Tax Credit and a reckoning with the expenses incurred by production, transportation, and storage have led to a steep decline in green hydrogen production development, contributing to escalating costs. In 2023, just 7% of announced global hydrogen production capacity was successfully built, and with the early retirement of the 45V tax credit, this trend is likely to continue.[5] Green hydrogen production would need to experience a significant increase to supply the amount of green hydrogen necessary to power the 17.2 GW of generation stated in the Draft Energy Plan.

In addition, previous forecasts for hydrogen costs were predicated on a drop in delivered prices to the end user in the coming decades, but these estimates are rapidly being adjusted to reflect a more modest and realistic price reduction. In late 2024, the BNEF estimate for hydrogen prices in 2050 was raised to three times their previous forecast, indicating that prices will remain high,

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[2] Cellek, Mehmet Salih, and Ali Pınarbaşı. "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." *International Journal of Hydrogen Energy* 43, no. 2 (2018): 1194–207. https://doi.org/10.1016/j.ijhydene.2017.05.107.

[3] Ramanan, Abbe. *Evaluating Hydrogen for Long-Duration Energy Storage: Costs, Risks, and Equity Considerations*. Clean Energy Group, 2025. https://www.cleanegroup.org/wp-content/uploads/Evaluating-Hydrogen-LDES.pdf.

[4] NYSERDA. "Draft 2025 New York State Energy Plan - Pathways Analysis." p 21. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

[5] Odenweller, Adrian, and Falko Ueckerdt. "The green hydrogen ambition and implementation gap." *Nature Energy, **10**, pages110–123* (January 14, 2025). https://www.nature.com/articles/s41560-024-01684-7%20

at up to $5 per kilogram (kg).[6] A study conducted by Harvard University found that when including storage and distribution costs, the delivered price of hydrogen was unlikely to reach affordable levels anytime soon. The study further concluded that even if hydrogen reached a production cost of $2 per kg of H_2, the price was still prohibitive for most sectors.[7] NYSERDA's own Hydrogen Assessment found that prices would only fall to $4.5 per kg by 2050, a cost that is too high to be a part of an affordable zero-emissions grid.[8]

The high energy requirements of green hydrogen production have the potential to drive up energy costs and divert renewable energy away from electrification across New York, especially considering the Draft Energy Plan's target of sourcing 50% of the green hydrogen from in-state. Hydrogen has a round-trip efficiency of around 40%, meaning that 60% of the electricity used to produce the hydrogen is lost due to production and conversion efficiencies.[9] Endorsing hydrogen production effectively compromises the principles of efficient energy governance and planning. Although the Draft Energy Plan states that hydrogen power plants would likely run infrequently, producing enough green hydrogen to supply these plants would require massive amounts of dedicated renewable energy. For example, to run a 290 MW hydrogen combustion turbine as a peaker plant, which typically has a capacity factor of 20 percent or less, the electricity output of 1,255 MW of renewable energy capacity would be required to produce the hydrogen.[10] Following this logic, in order to power the 17.2GW of hydrogen generation proposed in the Draft Energy Plan, at least 75 GW of renewable energy would be required, over seven times the current amount of renewable resources in New York State.[11]

The Definition of Green Hydrogen. The Draft Energy Plan lacks a robust definition of green hydrogen, which could lead to increased emissions during hydrogen production. The Draft Energy Plan states that hydrogen is considered a zero-emission fuel if the production does not include the use of fossil fuels and thus makes an exception for hydrogen produced within the

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[6] Baker, David. "Green hydrogen prices will remain stubbornly high for decades." *BNEF* (December 2024). https://www.bloomberg.com/news/articles/2024-12-23/green-hydrogen-prices-will-remain-stubbornly-high-for-decades

[7] Shafiee, Roxana, and Daniel Schrag. "Carbon abatement costs of green hydrogen across end-use sectors." *Joule, Vol. 8, Issue 12* (December 18, 2024). https://www.cell.com/joule/abstract/S2542-4351(24)00421-5?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2542435124004215%3Fshowall%3Dtrue#author-abstract

[8] NYSERDA. "New York State Hydrogen Assessment" April 2025. https://www.nyserda.ny.gov/All-Programs/Hydrogen

[9] Headly, Alexander, J., and Susan Schoenung. "Chapter 11, Hydrogen Energy Storage." *Sandia* (2022). DOE ESHB Chapter 11 Hydrogen Energy Storage

[10] GE Vernova. "Hydrogen and CO2 Emissions Calculator." Energy requirements calculated based on a : 7HA.01, simple cycle turbine operating as a peaker (2,667 hrs), on 100% hydrogen, within the US in a Regional Greenhouse Gas Initiative state. Accessed September 25, 2025. https://www.gevernova.com/gas-power/future-of-energy/hydrogen-fueled-gas-turbines/hydrogen-calculator

[11] NYSERDA. "Clean Energy Dashboard." Accessed September 3rd, 2025. https://www.nyserda.ny.gov/About/Tracking-Progress/Clean-Energy-Dashboard/View-the-Dashboard

state, which allows it to be produced using grid electricity.[12] This exception is extremely concerning, as studies have found that producing hydrogen using grid electricity with no additional requirements results in an extensive increase in emissions. One study found that hydrogen produced with grid electricity resulted in between 15 and 35 kg of carbon dioxide equivalent (CO_2e) emissions per kg of hydrogen, more than double the carbon intensity of hydrogen produced using fossil fuels through steam methane reforming.[13] The study found this degree of emissions intensity even when modelling electrolysis in grid zones with high shares of renewable energy generation, including the California grid in 2030, indicating that even in a more decarbonized future of the New York grid, hydrogen produced via grid-connected electrolysis, in the state or elsewhere, maybe more carbon-intensive than hydrogen produced using fossil fuels. Producing hydrogen through the grid without first creating a reliable abundance of renewable energy generation is a direct contradiction to the zero-emissions mandate of the CLCPA.

Recognizing a potential limited need for green hydrogen in non-combustion applications, the PEAK Coalition strongly recommends that the Energy Plan adopts the three pillars requirements to minimize emissions from green hydrogen production, including 1) temporality: ensuring that 100% of electricity consumption is hourly time matched with renewable energy generation, 2) additionality: ensuring that consumption is only matched with newly added renewable energy sources, and (3) deliverability: ensuring that those renewable sources are physically deliverable to the local grid - e.g. with no transmission constraints from the site of production to the end use. Only when employed together do these three pillars ensure that emissions from hydrogen production are limited and do not increase overall GHG emissions.[14]

Emissions. While green hydrogen can be a zero-carbon fuel, the PEAK Coalition strongly objects to the incorrect assertion that it is a zero-emissions fuel. In addition to the NOx emissions produced during combustion, hydrogen itself is an indirect greenhouse gas that, when leaked into the atmosphere, can increase climate warming. Hydrogen causes chemical changes in the atmosphere, including 1) extending the life of methane, 2) increasing the production of ozone, 3) increasing the production of stratospheric water vapor, and 4) altering the production of certain

[12] NYSERDA. "Draft 2025 New York State Energy Plan – Low Carhighly prone to leakagebon Alternative Fuels." p 3. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.; NYSERDA. "Draft 2025 New York State Energy Plan – Low Carbon Fuels." p 21. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.
[13] Ricks, Wilson, Qingyu Xu, and Jesse D Jenkins. "Minimizing emissions from grid-based hydrogen production in the United States." *Environmental Research Letters 18* (January 6, 2023). Minimizing emissions from grid-based hydrogen production in the United States - IOPscience
[14] Ibid.

aerosols.[15] These four atmospheric effects result in a Global Warming Potential over 11 times that of CO_2 on a 100-year timescale, and 35 times that of CO_2 on a 20-year timescale.[16]

Hydrogen molecules are very small and have a low density, making them highly prone to leakage. Hydrogen will leak throughout every phase in the supply chain, including production, transportation, storage, and electricity generation, and end up in the atmosphere. Documented hydrogen leakage rates are highly variable and can reach up to 20% across the entire supply chain. Electrolysis is shown to have the highest leakage rates of the various production methods, with rates up to 9.2%.[17] These leaks not only increase global warming but also decrease the round-trip efficiency of the fuel, which is already low at 40% assuming use in a fuel cell.[18]

Hydrogen Blending. The PEAK Coalition would like to highlight that the Draft Energy Plan explicitly notes the incompatibility of hydrogen with existing natural gas infrastructure and advises against blending it with natural gas in pipelines. When hydrogen comes in contact with typical pipeline materials, like steel and iron, it corrodes and embrittles the metal and greatly increases the risk of fractures and breaks.[19] This not only presents a safety concern, as hydrogen ignites more easily than natural gas, but would also increase the permeability of pipelines, allowing for more methane to leak into the atmosphere with the hydrogen.[20] The PEAK Coalition agrees with the Draft Energy Plan recommendation that blending hydrogen is "untenable due to safety, integrity, and indoor air quality concerns."[21]

Hydrogen Transportation. The Draft Energy Plan recommends that due to the high cost of dedicated hydrogen pipelines, trucking should be the primary transportation mechanism for

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[15] Sand, Maria, Ragnihild Bieltvedt Skeie, Marit Sandstad, Srinath Krishnan, Gunnar Myhre, Hannah Bryant, Richard Derwent, Didier Hauglustaine, Fabien Paulot, Michael Prather, and David Stevenson. "A multi-model assessment of the Global Warming Potential of hydrogen." *Communications Earth & Environment* 4 (June 7, 2023). A multi-model assessment of the Global Warming Potential of hydrogen | Communications Earth & Environment

[16] Ocko, Illissa, and Steven P. Hamburg. "Climate consequences of hydrogen emissions." *Atmospheric Chemistry and Physics, 22* (February 18, 2022). ACP - Climate consequences of hydrogen emissions

[17] Trapani, Davide, Paolo Marocco, Marta Gandiglio, and Massimo Santarelli. "Hydrogen leakages across the supply chain: Current estimates and future scenarios." *International Journal of Hydrogen Energy, Vol 145* (July 7, 2025). https://www.sciencedirect.com/science/article/pii/S0360319925028824

[18] Headly, Alexander, J., and Susan Schoenung. "Chapter 11, Hydrogen Energy Storage." *Sandia* (2022). DOE ESHB Chapter 11 Hydrogen Energy Storage

[19] Raju, Arun, SK., and Alfredo Martinez-Morales. "Hydrogen Blending Impacts Study." *The California Public Utilities Commission* (July 18, 2022). https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF, https://pstrust.org/hydrogen-pipelines-unique-risks-prove-dangerous-for-pipeline-transportation/

[20] Martin, Paul, Ilissa B. Ocko, Sofia Esquivel-Elizondo, Roland Kupers, Devid Cebon, Tom Baxter, Steven P. Hamburg. "A review of challenges with using the natural gas system for hydrogen." *Energy Science & Engineering Vol. 12, Issue 10* (August 18, 2024). https://scijournals.onlinelibrary.wiley.com/doi/full/10.1002/ese3.1861

[21] NYSERDA. "Draft 2025 New York State Energy Plan – Low Carbon Alternative Fuels." p 32. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

hydrogen.[22] While the PEAK Coalition agrees that building dedicated hydrogen pipelines is a massive financial burden to ratepayers, costing around $1 million per mile, and should be avoided, trucking also has key environmental, safety, and public health downsides that have to be addressed.[23] In zones like New York City where congestion is already a serious concern for air pollution, road safety, and infrastructure maintenance, hydrogen transportation's potential for adding significant truck vehicle miles travelled will have externalities beyond the existing high costs of fuel production and use. Among other things, routing decisions of trucks transporting this highly flammable gas (or subject to leaking if liquefied) must comply with Section 7(3) of the CLCPA which forbids disproportionate burdening of DACs. It is also important to note that current regulations for the Port Authority of New York and New Jersey severely limits hydrogen transportation on New York City bridges and tunnels.

Hydrogen has a very low volumetric density, so it will need to be compressed or liquefied to increase the efficiency of trucking. Liquid hydrogen is the densest and so will likely be favored as the primary state for hydrogen transportation and storage. Both liquefaction and compression require additional energy, contributing to the overall leakage risks and low efficiency of hydrogen. The hydrogen liquefaction process has an average leakage rate of 4.4% and the leakage rate during trucking can reach 13.2%. Each transfer that the truck completes introduces another leakage event, averaging 6.3%.[24] Adding these leaks to the equation decreases the financial viability of hydrogen and decreases its roundtrip efficiency, likely below the estimated 40%. Compared to other energy storage solutions, like lithium-ion batteries that have a roundtrip efficiency of 85% and longer duration batteries like iron air that have a roundtrip efficiency of 60%, relying on hydrogen is not an effective use of renewable energy in New York State.[25]

Hydrogen Water Use. Green hydrogen production uses significant amounts of water. An average green hydrogen plant producing 11,000 metric tons of hydrogen per year will withdraw approximately 45.1 million gallons of water annually. Out of that 45.1 million gallons, 26.4 million gallons will be consumed in the process and unable to be recycled.[26] The Draft Energy

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[22] NYSERDA. "Draft 2025 New York State Energy Plan – Low Carbon Alternative Fuels." p 12. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

[23] Congressional Research Service. "Pipeline Transportation of Hydrogen: Regulation, Research, and Policy." March 2, 2021. Pipeline Transportation of Hydrogen: Regulation, Research, and Policy | Congress.gov | Library of Congress

[24] Trapani, Davide, Paolo Marocco, Marta Gandiglo, and Massimo Santarelli. "Hydrogen leakages across the supply chain: Current estimates and future scenarios." *International Journal of Hydrogen Energy Vol 145* (July 7, 2025). https://www.sciencedirect.com/science/article/pii/S0360319925028824

[25] National Renewable Energy Laboratory. "Annual Technology Baseline: Utility-Scale Battery Storage." Accessed September 3, 2025. https://atb.nrel.gov/electricity/2024/utility-scale_battery_storage#MIKY3RBI; Walter, Neetika. "Game-changing rust battery to deliver 100-hour backup in California's grid by 2026." *Interesting Engineering* (June 19, 2025). https://interestingengineering.com/energy/iron-air-battery-california-grid-form-energy

[26] Elgowainy, Amgad. "Analysis of water consumption and regional water stress associated with clean hydrogen production." *DOE's Electrolyzer Installation Workshop,* (September 26, 2023). https://www.energy.gov/sites/default/files/2023-11/1-05-water-consumption-elgowainy.pdf

Plan, drawing on information from NYSERDA's "Considerations for Low-Carbon Alternative Fuel Use in New York State" white paper, states that while hydrogen production consumes large amounts of water, it requires less water than an existing coal or gas power plant.[27] This comparison is misleading as it doesn't include the water needed to cool hydrogen power plant combustion turbines. Because hydrogen burns at a higher temperature compared to natural gas, hydrogen-powered combustion turbines will likely require more water for cooling. Additionally, certain NOx emissions control strategies, like a wet low NOx system, require significantly more water to keep NOx emissions within the permitted limits.[28] These water-use concerns are especially pertinent considering the Draft Plan's goal of sourcing 50% of the green hydrogen used in 2040 from within New York State. In 2024, parts of downstate New York declared a drought warning for the first time in over 20 years. The effects of the climate crisis will increase the likelihood and frequency of droughts in parts of the state. Producing hydrogen in New York is a lose-lose scenario for energy and the environment.

The PEAK Coalition strongly objects to the use of hydrogen for any type of power generation, especially the significant hydrogen combustion generation that all scenarios of the Draft Plan's model rely on. This modeling runs counter to the projections stated in the Low-Carbon Alternative Fuels section of the Draft Energy Plan, which suggests that hydrogen will be used primarily in heavy-duty long-distance trucking in 2040 and will only be deployed in a limited manner in power generation beyond 2040.[29] Green hydrogen, produced in accordance with the three pillars of additionality, temporality, and deliverability, should only be used cautiously and in a limited manner, prioritizing truly difficult-to-decarbonize sectors.

The PEAK Coalition has long advocated for energy reliability and understands the need for clean dispatchable electricity. Relying on inefficient hydrogen solutions is not the right direction for reliability. Producing hydrogen for 17.2 GW of generation will only increase costs for consumers, introduce new sources of both air pollutants and greenhouse gas emissions, and risk diverting large amounts of renewable energy away from other, more beneficial end uses. The PEAK Coalition believes that the modeling for the Plan significantly overestimates the need for clean firm resources due to its flawed design, which assumes that all storage will fully charge and discharge within a single day. Clean dispatchable electricity, which the Draft Energy Plan labels "clean firm", should come from truly emissions-free alternatives like battery energy storage systems paired with renewables, demand response, and virtual power plants.

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[27] NYSERDA. "Considerations for Low-Carbon Alternative Fuel Use in New York State." July 2025. Greenhouse Gas Emissions Studies - NYSERDA

[28] NYPA, EPRI, and GTI Energy. "Hydrogen cofiring demonstration at New York power authority's Brentwood site: GE LM6000 gas turbine." September 2022. https://www.epri.com/research/products/000000003002025166

[29] NYSERDA. "Draft 2025 New York State Energy Plan – Low Carbon Alternative Fuels." p 9. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

Nuclear

The PEAK Coalition strongly objects to the development of new advanced nuclear technologies, also known as "Gen III+" or "Gen IV" technologies, as outlined in the Draft Energy Plan. These technologies are not projected to be commercially viable in the foreseeable future, as outlined in the New York Research and Development Authority's own *Blueprint for Consideration of Advanced Nuclear Energy Technologies*. Only one water-cooled small modular reactor (SMR) design has received approval from the Nuclear Regulatory Commission (NRC), with several other designs still in the preapplication engagement process.[30] Current layoffs and challenges to the federal government will only delay advanced nuclear research, development, and permitting, and nuclear disaster preparation. The only advanced large light water reactor that has completed construction, Georgia Power's Plant Vogtle Units 3 and 4, took 15 years to build– seven years longer than expected– and cost $17 billion dollars over its initial $14 billion dollar budget estimate.[31] Georgia ratepayers were left on the hook to cover $11.1 billion of the plant's costs, increasing ratepayers' bills by an estimated 10 percent.[32] As stated in the NYSERDA report, these advanced nuclear technologies, while not necessarily "first of a kind," are also not "*n*th-of-a-kind," meaning that any development of such facilities is unlikely to occur quickly or cost-effectively in the next 15 years.[33] Pursuing these technologies could jeopardize meeting the Climate Act's zero-emissions by 2040 (0x2040) mandate, while risking significant ratepayer costs during an energy affordability crisis.

The Draft Plan highlights SMRs as an option to address periods of low renewable energy output. However, 100+ hour long-duration storage (LDES) technologies, such as iron-air batteries, are already approaching commercial viability. Unlike SMRs, they can offer additional grid services, such as load-following, without the need for additional regulatory or market changes. LDES has comparatively fewer safety requirements and local concerns compared with nuclear power, and can be more flexibly sited in areas of need. The PEAK Coalition strongly recommends that the final Energy Plan incorporate greater amounts of LDES technologies, such as iron-air batteries, as well as demand-side management tools, to address periods of low renewable energy output, rather than SMRs.

Natural Gas System

[30] NYSERDA. *Blueprint for Consideration of Advanced Nuclear Energy Technologies*. New York Research and Development Authority, 2025. https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/Advanced-Nuclear/GEN-advnucbp-r-1-v1-complete.pdf.

[31] Amy, Jeff. "The First US Nuclear Reactor Built from Scratch in Decades Enters Commercial Operation in Georgia." AP News, July 31, 2023. https://apnews.com/article/georgia-power-nuclear-reactor-vogtle-9555e3f9169f2d58161056feaa81a425.

[32] Durand, Patty, Kim Scott, and Glenn Carroll. *Plant Vogtle*. Cool Planet Solutions, Georgia WAND, Nuclear Watch South, 2025. https://gcvedfund.org/wp-content/uploads/sites/3/2025/03/Vogtle-Truth-Report_update_final-1.pdf.

[33] NYSERDA.

The PEAK Coalition supports a focus on Non-Pipeline Alternatives (NPA) instead of traditional gas system investments. We agree that gas infrastructure expansion and pipeline replacements need to be avoided whenever possible; however, the Draft Energy Plan must be more specific regarding the accountability strategies that the PSC should employ to ensure that utilities are implementing all the NPAs possible. The Draft Energy Plan must recognize that for-profit utilities have a financial incentive to expand their service territory, build out infrastructure, and create accountability metrics to combat this. For example, Con Edison is currently running an extensive gas main replacement program, aiming to replace 80 miles of main lines per year between 2026 and 2028. The estimated cost will be $1,166 per foot of replacement, or $492 million per year.[34] This sustained investment in gas infrastructure could be better allocated to implementing NPAs and supporting upgrades that enable more extensive electrification.

The PEAK Coalition supports an investigation of alternative cost recovery mechanisms. These mechanisms must prioritize protecting ratepayers, especially LMI households and DAC residents, from increasing gas costs. In addition to the mechanisms listed in the Draft Energy Plan for further discussion, the PSC should examine whether the rate of return guaranteed to gas utilities is just and reasonable, especially as utilities are looking to raise their already substantial guaranteed profit.

Peakers

The PEAK Coalition is deeply concerned by the amount of combustion capacity, including capacity repowered to combust hydrogen, projected to remain online under all possible scenarios outlined in the Draft Energy Plan. This includes up to 6.5 GW of combustion capacity in Zone J under the Net Zero A scenario, with an additional 1 GW of newly built combustion capacity. The core planning scenario also includes 2.2 GW of additional repowered capacity in Zone J by 2035.[35] The Draft Energy Plan models this combustion capacity as combusting green hydrogen, although it is indicated that green hydrogen is considered a proxy resource.[36] Although hydrogen does not produce carbon emissions when combusted, as noted, hydrogen is a potent indirect greenhouse gas that extends the lifetime of methane in the atmosphere. Hydrogen's global warming potential is so powerful that reducing its manmade presence in the atmosphere could

[34] ConEdison. "Consolidated Edison Company of New York, INC. 2026-2028 Gas Operations Capital Programs/Projects" 2025. https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B70FDBD94-0000-C4E3-A5F0-3DD3DB6FF5A6%7D

[35] NYSERDA. "Draft 2025 New York State Energy Plan – Pathways Analysis." p 39. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

[36] Id, p 21.

tangibly slow down global warming in the next 20 years.[37] While the process for establishing a definition of zero-emission generation is still underway, it is indisputable that increasing New York's hydrogen combustion to the extent proposed will significantly increase the amount of climate-warming hydrogen leaking into the atmosphere and run contrary to the mandates of the Climate Act.

In addition to jeopardizing New York's climate progress, the repowering of gas combustion units, particularly those in Zone J, has serious equity and legal implications. Zone J is home to some of the most polluting gas capacity in the state, and many of these combustion units are near the state's most impacted Disadvantaged Communities.[38] The Climate Act not only specifically requires the state to prioritize the reduction of greenhouse gas and co-pollutants in DACs, it further forbids the state from placing disproportionate burdens on DACs. As highlighted in the Public Health Impacts Analysis of the Draft Plan, DACs within Zone J stand to benefit the most from emissions reductions from gas combustion unit retirement through avoided health impacts such as nonfatal heart attacks, acute bronchitis, and asthma exacerbation.[39] Repowering gas combustion units will jeopardize these health benefits, exposing already overburdened communities to decades of additional pollution. This is doubly concerning as the Draft Energy Plan indicates that much of the repowered gas capacity would be used to meet peak demand, suggesting that the repowered units would be operating as peaker power plants. These plants are often the most polluting on the grid, particularly as they start up and shut down frequently, during which periods emissions are unabated. They are also some of the most expensive plants to operate, costing ratepayers hundreds of dollars on their energy bills per year.[40]

The repowering of these combustion units with hydrogen will deepen the harm to DACs, in violation of the Climate Act. Hydrogen gas produces NOx at six times the rate of methane when combusted.[41] Existing emissions controls at most power plants, such as selective catalytic reduction (SCR) controls, are not equipped to handle the high flame speed of hydrogen when

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[37] Sand, Maria, Ragnhild Bieltvedt Skeie, Marit Sandstad, Srinath Krishnan, Gunnar Myhre, Hannah Bryant, Richard Derwent, et al. "A Multi-Model Assessment of the Global Warming Potential of Hydrogen." *Communications Earth & Environment* 4, no. 1 (June 7, 2023): 203. https://doi.org/10.1038/s43247-023-00857-8.

[38] Strategen Consulting on behalf of the PEAK Coalition. *The Fossil Fuel End Game: A Frontline Vision to Retire New York City's Peaker Plants by 2030*. The PEAK Coalition, 2021. https://www.cleanegroup.org/wp-content/uploads/Fossil-Fuel-End-Game.pdf.

[39] NYSERDA. "Draft 2025 New York State Energy Plan - Public Health Impacts Analysis." p 8. August 2025. https://energyplan.ny.gov/Plans/Draft-2025-Energy-Plan.

[40] The PEAK Coalition. *Dirty Energy, Big Money: How Private Companies Make Billions from Polluting Fossil Fuel Peaker Plants in New York City's Environmental Justice Communities -- and How to Create a Cleaner, More Just Alternative*. 2020. https://www.cleanegroup.org/publication/dirty-energy-big-money/.

[41] Cellek, Mehmet Salih, and Ali Pınarbaşı. "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." *International Journal of Hydrogen Energy* 43, no. 2 (2018): 1194–207. https://doi.org/10.1016/j.ijhydene.2017.05.107.

combusted in high amounts.[42] Even if repowered units were retrofitted with additional air pollution control technologies to reduce NOx emissions, the emissions would remain the same as a newer natural gas plant.[43] When operating as peakers, these plants would be starting up and shutting down frequently, during which periods emissions would be unabated, thus exposing DACs to dangerous levels of NOx.

Compared to other types of dispatchable long duration energy storage options, hydrogen peaker plants are incredibly expensive to operate, particularly paired with the high cost of hydrogen fuel. A recent Levelized Cost of Storage (LCOS) analysis conducted on behalf of Clean Energy Group found that hydrogen peakers are not competitive with other LDES technologies such as iron air batteries and thermal energy storage when looking at multi-day applications, even when considering hydrogen stored in large underground caverns, which can reduce marginal costs.[44] Retrofitting existing gas plants and then operating them as hydrogen peakers is likely to result in significant costs to ratepayers, in addition to the many negative externalities associated with hydrogen production, transportation, and combustion as outlined above. The PEAK Coalition strongly recommends that the final New York Energy Plan amend the modeling in the Pathways Analysis to include greater usage of other LDES technologies for energy generation, as well as virtual power plants and other demand-side management measures, rather than repowered gas capacity using hydrogen. To comply with the mandates of the Climate Law, the Energy Plan must instead be clear on a plan to close and phase out all peaker plants.

Recommended Pathways for the State Energy Plan

While the PEAK Coalition has broad and substantive objections to the Draft State Energy Plan, we believe that a proactive and environmentally just State Energy Plan can advance a framework for rapidly addressing energy pollution, affordability, and reliability issues. Some of the pathways have already been laid out by various arms of the New York State government and are required by the Climate Leadership and Community Protection Act. PEAK Coalition and allied organizations' advocacy and research have also advanced efficient and effective ways to pursue a just energy transition.

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[42] Goldmeer, Dr Jeffrey. *POWER TO GAS: HYDROGEN FOR POWER GENERATION*. February 2019. https://www.gevernova.com/content/dam/gepower-new/global/en_US/downloads/gas-new-site/resources/GEA33861%20Power%20to%20Gas%20-%20Hydrogen%20for%20Power%20Generation.pdf

[43] GE Vernova. "GE Vernova Validates 100% Hydrogen-Fueled DLN Combustor Technology Aiming to Decarbonize Its Industrial B- and E-Class Gas Turbines | GE Vernova News." January 15, 2025. https://www.gevernova.com/news/press-releases/ge-vernova-validates-100-hydrogen-fueled-dln-combustor-technology-aiming-6.

[44] Ramanan, Abbe. *Evaluating Hydrogen for Long-Duration Energy Storage: Costs, Risks, and Equity Considerations*. Clean Energy Group, 2025. https://www.cleanegroup.org/wp-content/uploads/Evaluating-Hydrogen-LDES.pdf.

Scoping Plan. The Climate Act and its Scoping Plan have already laid out a roadmap for how New York can achieve the zero-emissions mandate by 2040. The State is legally required to incorporate the Scoping Plan into the State Energy Plan and take into its planning process the laid out pathways to achieve the CLCPA. It is PEAK Coalition's belief that the Draft State Energy Plan's approach does not adequately satisfy the mandate to incorporate the Scoping Plan.

Cap and Invest. Included in the Scoping Plan is a Cap and Invest program that the State itself then touted would help fund the clean energy transition and put dollars back in New Yorkers' pockets. Yet Governor Hochul has insisted in not releasing the Cap and Invest regulations, which is costing the state billions of dollars in potential funding from corporate polluters and tens of thousands of new jobs. In line with that inexplicable stance, the Draft Energy Plan fails to fully incorporate or even meaningfully follow the Scoping Plan's recommendations, when it does nothing more than indicate the plausibility of consideration of policy mechanisms like Cap and Invest.

Demand Management. The Draft State Energy Plan underwhelmingly considers the benefits of a robust, multi-scalar demand management program in achieving the State's Energy goals. Demand response, virtual power plants, and other large-load management regimes can effectively and rapidly reduce greenhouse gas and co-pollutant emissions while increasing the reliability and resilience of New York's grids. Communities that participate in demand management regimes can also gain additional benefits such as workforce retention and creation, and local technological and economic growth. The increased energy affordability and price stability from demand management cannot be discounted. Since 2013, New York City has successfully ran a program that reduced peak energy demand of government operations by 122 MW and saved $120 million. PEAK Coalition's 2024 report found that New York State has the potential to create more than 7,000 MW in demand flexibility by 2040 in the winter and 5,000 MW in the summer. The Public Service Commissions' Grid of the Future proceeding has only further confirmed this potential and necessity, finding nearly 3,000 MW in grid capacity flexibility in ConEd territory alone and equating to over 8,000 MW statewide, or 25% of the net 2040 system peak demand while reducing $3 billion a year in power system costs.[45] This serious potential cannot be discounted and must be fully considered and amplified within the Draft State Energy Plan that, right now, relies on a supply-heavy model that cannot properly serve New York's long-term energy needs.

The sensible, just, and economical direction for New York State to take is to implement a Cap and Invest program where polluters pay, and to put those annual billions into solar, wind, and battery storage technologies that are cheaper, more efficient, more reliable, and create more

[45] The Brattle Group. "New York's Grid Flexibility Potential Volume 1: Summary Report." January 2025. https://www.brattle.com/wp-content/uploads/2025/02/New-Yorks-Grid-Flexibility-Potential-Volume-I-Summary-Report.pdf

family-sustaining jobs than prolonging the life of dangerous gas infrastructures that the public pays for. Some of the Cap and Invest revenue can certainly also be used to reduce New Yorkers' monthly energy bills or provide regular household checks, helping New Yorkers save money. If the State is serious about easing costs for New Yorkers, it must release the remaining regulations for Cap and Invest. Without doing so, the State's insistence to excuse its inaction purportedly for the reason that it is trying to ensure affordability is simply not credible. The State– through the State Energy Plan– must now change its course to create a truly sustainable and more affordable power grid for all New Yorkers.

Thank you for your consideration of these comments. The PEAK Coalition will be available to meet with members of the Energy Planning Board to discuss these comments further.

Respectfully submitted,

The PEAK Coalition, which includes

Clean Energy Group

New York Lawyers for the Public Interest

THE POINT CDC

New York City Environmental Justice Alliance

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