Institute for Policy Integrity
NEW YORK UNIVERSITY SCHOOL OF LAW

July 1, 2022

Draft Scoping Plan Comments
NYSERDA
17 Columbia Circle
Albany, NY 12203-6399

VIA ELECTRONIC SUBMISSION

Subject: Comments of the Institute for Policy Integrity

Dear Members of the Climate Action Council:

The Institute for Policy Integrity at New York University School of Law (Policy Integrity)[*] appreciates the opportunity to submit these comments to the New York Climate Action Council. Our comments discuss chapters 13 (Electricity) and 18 (Gas System Transition) of the Draft Scoping Plan. Policy Integrity is a non-partisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy.

Respectfully,

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[*] This document does not present the views of New York University School of Law, if any.

Comments of the Institute for Policy Integrity

The Climate Leadership and Community Protection Act (CLCPA or the Act) committed New York's agencies and businesses to an ambitious set of changes—changes that will touch all sectors of the economy. The development of a Scoping Plan, as called for by the Act, will help steer New York away from centuries of energy use that has relied on burning fossil fuels despite the harmful resulting emission of local and global pollutants. The Act—recognizing the scope and depth of the changes it calls for—does not envision merely swapping emitting energy resources for clean ones. Systemic changes that will affect all New Yorkers are needed, and the Act expressly calls for the transition away from reliance on fossil fuels to be just for affected stakeholders—and thus to depart from the historical pattern of energy policy unjustly creating burdens on some communities but not others.

To view disproportionate energy and environmental burdens as being of secondary importance relative to the efficiency and cost-effectiveness of investments in clean energy transition is to misunderstand what New York has committed to doing. As well as being issues of energy and environmental justice, these are important strategic elements of the transition. The Climate Action Council's incorporation of input from the Climate Justice Working Group and others reflects a good understanding of this point and amounts to a pattern of consideration for energy and environmental justice issues that should continue with the issuance of the Final Scoping Plan and its subsequent implementation by state agencies.

Our comments discuss the Electricity and Gas System chapters of the Draft Scoping Plan.

1. Electricity (Chapter 13)

New York's Clean Energy Standard (with its multiple tiers), the NY-SUN program, and the Value of Distributed Energy Resources (VDER) program have each spurred development of (or helped to maintain) different types of clean energy resources. These programs have been important for *launching* clean energy transition in the power sector. However, as clean energy and storage resources proliferate, ensuring that they are deployed and used efficiently will increasingly require a coherent set of signals about such resources' value to consumers, to the grid, and to society as a whole. Several of the "Key Strategies" listed in the Draft Scoping Plan would improve those programs' integration and coherence, and thereby send clearer signals about value to the various stakeholders in the power sector.

Key Strategy E3 addresses distributed energy resources (DERs) and includes three recommendations of note for the Public Service Commission (Commission), Department of Public Service (DPS), and NYSERDA to consider.[1] One relates to dynamic rate design, the other to compensation paid to DERs through VDER, and the third to "high-benefit DER projects" that would serve low-moderate income (LMI) customers and Disadvantaged Communities (DACs).[2] We encourage the Council to include these recommendations in the Final Scoping Plan, which

[1] New York State Climate Action Council, Draft Scoping Plan 161 (2021).

[2] *Id.*

will better align the compensation paid to DERs for electricity they export and the value of those exports. Improving this alignment will give market participants reason to deploy and use DERs in locations and at times where and when doing so would most improve the economic efficiency of the grid and reduce the emissions-intensity of electricity generation.[3] Notably, in addition to better informing the deployment and use of distributed *generation* technologies, better rate design will also be important for facilitating the efficient use of heat pumps and electric vehicles as those resources proliferate.[4]

Key Strategy E9's recommendation to reopen and update the Benefit-Cost Framework would complement the recommendations above by better identifying where the deployment and use of clean energy and storage resources could reduce global and local emissions.[5] **The Council should make clear that the Commission is to implement this recommendation by updating the Social Cost of Carbon currently embedded in the existing BCA Framework to reflect the New York Department of Environmental Conservation's guidance**—this would shift the number currently embedded in utilities BCA Handbooks up from about $50/ton to $124/ton.[6] **The Council should also clearly direct the Commission to incorporate the costs of local pollution into the BCA Framework.** These costs are substantial,[7] readily estimated,[8] and tend to burden DACs.[9]

In addition to the Key Strategies listed in the Draft Scoping Plan, we encourage the Council to also recommend that New York agencies gather more data on emissions from the power sector—and other sectors as well—for analysis and use in policymaking and implementation. **In particular, information about marginal emissions rates and local and hyperlocal differences in air quality can reveal important insights about where pollution burdens lie**

[3] *See* JUSTIN GUNDLACH & BURÇIN ÜNEL, INST. FOR POL'Y INTEGRITY, GETTING THE VALUE OF DISTRIBUTED ENERGY RESOURCES RIGHT 28–31 (2019) (describing benefits of aligning compensation paid to DERs with the value of those DERs' operation to the grid and society).

[4] *See, e.g.*, ALEJANDRA MEJIA CUNNINGHAM, MICHELLE VIGEN RALSON & KATIE WU (for the Building Decarbonization Coalition), RATE DESIGN FOR BENEFICIAL ELECTRIFICATION (2019) (describing priorities and options for rate design reform in light of electrification policy objectives).

[5] Draft Scoping Plan, *supra* note 1, at 175.

[6] *Compare* N.Y. Dep't of Env't Conserv., Establishing a Value of Carbon: Guidelines for Use by State Agencies 33 (2020; latest update 2022) (indicating that the central estimate for the social cost of carbon is $124/metric ton in 2022), *with* Order Adopting Benefit Cost Analysis Framework, Case 14-E-0101, App'x C 4 tbl. A (2016) (directing agencies to use federal Social Cost of Carbon value, for which the central estimate is $46 in 2020).

[7] *See* MATT BUTNER, ILIANA PAUL & BURÇIN ÜNEL, MAKING THE MOST OF DISTRIBUTED ENERGY RESOURCES: SUBREGIONAL ESTIMATES OF THE ENVIRONMENTAL VALUE OF DISTRIBUTED ENERGY RESOURCES IN THE UNITED STATES 11–12 (2021) (estimating the societal value of avoiding global and local emissions from conventional emitting generation resources using renewable distributed energy resources to be twice the cost of electricity).

[8] JEFFREY SHRADER, BURÇIN ÜNEL & AVI ZEVIN, INST. FOR POL'Y INTEGRITY, VALUING POLLUTION REDUCTIONS: HOW TO MONETIZE GREENHOUSE GAS AND LOCAL AIR POLLUTANT REDUCTIONS FROM DISTRIBUTED ENERGY RESOURCES (2018) (describing methodology for estimating the volume of avoided local emissions and valuing that volume).

[9] *See, e.g.*, IYAD KHEIRBEK ET AL., N.Y.C. DEP'T OF HEALTH & MENTAL HYGIENE, AIR POLLUTION AND THE HEALTH OF NEW YORKERS: THE IMPACT OF FINE PARTICLES AND OZONE 15–33 (mapping disparities of pollution burdens and impacts across neighborhoods in New York City).

and options for alleviating them.[10] Even in cases where the power sector is not the source of all of the pollution burden in a particular location, full information about the impacts of changes in emissions that would be valuable to guide policy and planning decisions. Further, comparing those burdens with information about state spending, demographics, and DAC designation could help state agencies to discharge their duty to ensure that no less than 35% of "overall benefits" of spending pursuant to the CLCPA goes DACs.[11] Indeed, *not* having access to that information would arguably prevent state agencies with duties related to the power sector from properly assessing whether they are discharging that duty.

2. Gas System Transition (Chapter 18)

The Draft Scoping Plan recognizes that conformity to the CLCPA's emissions limits will require "a downsizing of the fossil gas system," and transitioning "the vast majority of current fossil gas customers (residential, commercial, and industrial) . . . to electricity by 2050."[12] Further, it envisions a managed transition that involves appropriate consideration for all affected stakeholders, including DACs and gas sector workers, because the alternative would be "more challenging, take longer to implement, and be more costly."[13] This combination is a sound conceptual foundation for the actions required to align the gas system with the CLCPA's economy-wide emission reduction and clean energy transition goals. The Council should build on this foundation in the Final Scoping Plan by making clear that **New York's legislature and agencies must create certainty about key features of the clean energy transition with respect to the gas system**. Those features include:

1. The basic fact that transition will occur and will require a thorough transformation of the business models that currently meet the energy needs of tenants in residential and commercial buildings (heating, water heating, cooking, clothes drying) with large volumes of fossil gas;
2. The swift and steady pace at which that transformation must proceed if it is going to be completed by 2050;
3. The standards of performance with respect to emissions and safety that technologies and fuels must meet in order conform to the CLCPA's overarching emissions reduction goals;
4. That legal protections will help to ensure that outcomes for building owners and tenants will be reasonably equitable with respect to a variety of factors, such as energy access, energy costs, the costs of building retrofits, pollution burdens.

If adopted, the four mitigation strategies presented by the Advisory Panel on Energy Efficiency and Housing would do a great deal to move the state's gas system toward clean energy

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[10] JACK LIENKE ET AL., INST. FOR POL'Y INTEGRITY, MAKING REGULATIONS FAIR HOW COST-BENEFIT ANALYSIS CAN PROMOTE EQUITY AND ADVANCE ENVIRONMENTAL JUSTICE 6–8 (describing importance of granular data for understanding and responding to energy and environmental burdens and identifying supporting research).

[11] *See* N.Y. Env't Conserv. L. § 75-0117.

[12] Draft Scoping Plan, *supra* note 1, at 264.

[13] *Id.* at 267.

transition.[14] After highlighting elements of the mitigation strategies that are especially important to pursue, the comments below recommend additional measures or components that should be added to the Final Scoping Plan.

Mitigation Strategies #1 and #2 address the demand-side of the market for fossil-fuel-based energy in buildings. Strategy #1's list of changes to codes and standards for buildings and appliances is broad and aggressive, but its deadlines and targets are calibrated to allow sufficient time to specify those changes. Strategy #2's informational and transparency measures would complement those changes by establishing benchmarks and requiring disclosure of key performance metrics. In combination, they would reorient the demand side of the market for energy in buildings to approaches that incorporate consideration for energy efficiency and emissions intensity.

Both of these strategies should be adopted in the Final Scoping Plan. That plan will be most effective if it guides the legislature and state agencies to establish energy and emissions-related directives that cannot be ignored by market participants, including the building trades and HVAC contractors as well as building tenants. And, as compliance with such directives will require novel forms of coordination, education, and measurement on the part of market participants, benchmarks and disclosure requirements will be indispensable.

Mitigation Strategy #3 addresses the supply side of the market for fossil fuel-based energy consumed onsite in buildings. The "components" listed under Mitigation Strategy #3 should be included in the Final Scoping Plan, as they would support progress toward the four sources of certainty enumerated on page 3 above. However, we encourage the Council to consider recommending *legislation* (as opposed to a Commission order) to establish the "planning study and process" component.[15] A legislative foundation would provide a salutary combination of authority and direction for the Commission as it leads a process intended to both discover what reforms are needed and to then carry out (or ask that others help to carry out) those reforms.

In addition to those "components," we also encourage the Council to consider three more related measures:

- **Direct state agencies or the legislature to commission a definitive, independent study** of the viability of hydrogen and methane recovered from waste streams ("low-carbon gases") to substitute for fossil gas in different segments of the residential and commercial buildings sector during and beyond the period of gas system transition;
- Encourage the Commission, and possibly the legislature, to **explore development of a category of utility service focused on the systematic "pruning" and decommissioning of gas system segments**; and

[14] *See* Draft Scoping Plan, *supra* note 1, at App'x-34 (listing mitigation strategies and indicating their expected impact, difficulty, and cost).

[15] The Gas Transition and Affordable Energy Act, introduced in the New York Senate as S8198 in 2021, would establish such a process.

- Direct the Commission and DPS to **reopen the BCA Framework Order** for the purpose of directing all utilities and other uses of BCA Handbooks to apply the Social Cost of Carbon recommended for use by the Department of Environmental Conservation and NYSERDA to analyses of emissions impacts.

The reasons for each of these further recommendations are explained in turn below.

Determining the potential hydrogen and methane recovered from waste streams to serve the energy needs of residential and commercial building tenants in New York is critically important to the future of the gas system.[16] Assessing that potential is important for several reasons, but none more pressing than what it will mean for gas distribution infrastructure and the utilities that own it. An extensive and growing body of research suggests that these gases will serve, at most, a transitionary role for the vast majority of residential and commercial tenants.[17] Producing and distributing hydrogen (itself a greenhouse gas)[18] without generating large volumes of greenhouse gas emissions would be expensive for utilities and end-users,[19] and could create significant safety

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[16] In 2021, NYSERDA completed a study of the supply potential for recovered methane in New York, but that study focused narrowly on potential production volume and cost (not including the cost of emissions, as monetized using the Social Cost of Carbon), and not on implications for consumers of substituting recovered methane for the fossil gas currently delivered to residential and commercial tenants. N.Y. STATE ENERGY RSCH. & DEV. AUTH. (prepared by ICF Resources, LLC), POTENTIAL OF RENEWABLE NATURAL GAS IN NEW YORK STATE, at ES-1 (2021).

[17] On hydrogen, see, e.g., Jan Rosenow, Reg'y Ass't Project, *18 Independent Studies on the Role of Hydrogen for Heating Buildings* (undated) (collecting independent studies by the Intergovernmental Panel on Climate Change, International Energy Agency, and numerous academic institutions that reach skeptical conclusions about the commercial viability of onsite consumption of hydrogen by residential and commercial end-users), https://bit.ly/3OyxZNd (accessed June 18, 2022); *see also, e.g.*, Michael Liebrich, *The Clean Hydrogen Ladder v4.1*, LINKEDIN (Aug. 15, 2021), https://www.linkedin.com/pulse/clean-hydrogen-ladder-v40-michael-liebreich/ (organizing use cases for green hydrogen on a spectrum between "unavoidable" and "uncompetitive" and locating "commercial heating" and "domestic heating" close to the uncompetitive end of the ladder). On recovered methane, see, e.g., DAN AAS, ET AL., CAL. ENERGY COMM'N, THE CHALLENGE OF RETAIL GAS IN CALIFORNIA'S LOW-CARBON FUTURE: TECHNOLOGY OPTIONS, CONSUMER COSTS, AND PUBLIC HEALTH BENEFITS OF REDUCING NATURAL GAS USE 24–25 (2020) (developing potential supply curve for recovered methane and finding that its economic potential for residential and commercial onsite consumption is low in light of availability of electrification alternatives).

[18] Ilissa B. Ocko & Steven P. Hamburg, *Climate Consequences of Hydrogen Leakage*, ATMOSPHERIC CHEM. & PHYS. 5–6 [preprint] (in review 2022) (noting that hydrogen disperses in the atmosphere after just a few years but has a global warming potential as much as 20 times that of CO_2 on a the relatively short time scale of 10 years); NICOLA WARWICK ET AL., UK DEP'T FOR BUS., ENERGY & INDUST. STRATEGY, ATMOSPHERIC IMPLICATIONS OF INCREASED HYDROGEN USE 10 (2022) ("Our estimate of the hydrogen GWP for a 100 year time horizon is 11 ± 5, which is more than 100% larger than previously published calculations. Approximately one third of the GWP arises due to the stratospheric response, which was not considered in previous studies. The majority of uncertainty in the GWP arises from uncertainty in the magnitude of the soil sink for hydrogen.").

[19] Green hydrogen is currently rare and expensive to produce. U.S. DEP'T OF ENERGY, HYDROGEN STRATEGY: ENABLING A LOW-CARBON ECONOMY 5 (2020) ("Currently, 99% of U.S. hydrogen production is sourced from fossil fuels, with 95% from natural gas by SMR and 4% by partial oxidation via coal gasification. Only 1% of U.S. hydrogen is produced from electrolysis."). Developing production capacity would be costly. L. Clarke et al., *Energy Systems*, *in* IPCC, 2022: CLIMATE CHANGE 2022: MITIGATION OF CLIMATE CHANGE. CONTRIBUTION OF WORKING GROUP III TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 6-89 (P.R. Shukla et al. eds. 2022) ("Costs are the main barrier to synthesis of net zero emissions fuels (high confidence), particularly costs of hydrogen (a constituent of hydrocarbons, ammonia, and alcohols)."). But even if production costs are reduced by tax credits and programs at the federal and state level, the safe distribution of green hydrogen

risks.[20] Collecting and refining recovered methane would be costly,[21] available supplies are limited,[22] and the refining and distribution processes would result in significant emissions of greenhouse gases.[23] This last point deserves particular emphasis because the CLCPA directs agencies and regulated entities to estimate the climate impacts of methane over a 20-year time horizon,[24] which means weighting the damage it does to the global climate far more heavily than if a 100-year time horizon were used.[25] In sum, while these fuels hold promise as feedstocks for the industrial and power sectors, significant barriers stand in the way of their onsite consumption in residential and commercial buildings becoming a cost-effective low- or zero-emissions substitute for fossil methane gas. Taking note of the independent research that suggests skepticism about these fuels' utility in a net-zero emissions economy, the Final Scoping Plan should call on state agencies to give urgent priority to commissioning *definitive, independent* research into their viability in New York relative to electrification with respect to cost, safety, and compliance with emissions limits across different segments of the residential and commercial buildings sector.

Questions about the extent of low-carbon gases' potential are important in large part because their answers will determine how much of New York's roughly 90,000 miles of gas distribution

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above a low blending threshold to residential and commercial end-users would require replacing, with very limited exceptions, *all* existing gas infrastructure, building equipment, and gas-fired appliances. AAS ET AL., *supra* note 17, at 4 ("Hydrogen use in the natural gas pipeline is limited to 7% by energy, before costly pipeline upgrade costs would be incurred to transport higher concentrations of the gas."); NORMAN GERHARDT ET AL., FRAUNHOFER INST. FOR ENERGY ECON. & ENERGY SYS. TECH., HYDROGEN IN THE ENERGY SYSTEM OF THE FUTURE: FOCUS ON HEAT IN BUILDINGS 12–13 (2020) (finding that the expense and long lead-time required to replace all fossil gas-fired residential and commercial heating systems to make use of hydrogen makes that application prohibitively costly).

[20] U.K. DEP'T FOR BUS., ENERGY & INDUST. STRATEGY, HY4HEAT SAFETY ASSESSMENT: CONCLUSIONS REPORT (INCORPORATING QUANTITATIVE RISK ASSESSMENT) 85–86 (2021) (finding that using hydrogen in residential applications would result in over four times as many explosions as fossil gas).

[21] *See* NYSERDA, RNG POTENTIAL STUDY, *supra* note 16, at 7, (estimating weighted average cost of production to be between $25.67/MMBtu and $34.56/MMBtu). For comparison, the price of residential fossil gas in 2021 ranged from $11.27 to $23.97/MMBtu and from $13.57/MMBtu to $14.67/MMBtu in the first quarter of 2022. *See* NYSERDA, *Monthly Average Price of Natural Gas - Residential*, https://www.nyserda.ny.gov/researchers-and-policymakers/energy-prices/natural-gas/monthly-average-price-of-natural-gas-residential (last updated June 9, 2022).

[22] Based on NYSERDA's 2021 study of recovered methane potential, that resource could, by 2040, supply between 3.6% and 11.3% of the volume of fossil gas that was consumed in New York State in 2020. *Compare* NYSERDA, *supra* note 16, at ES-1 (estimating production capacity of between 47 tBtu/year and 147 tBtu/year in 2040), *with* U.S. Energy Info. Admin., *New York State Energy Profile*, https://www.eia.gov/state/print.php?sid=NY (reporting 1,305.3 tBtu of natural gas consumption in New York State in 2020).

[23] Semra Bakkaloglu, *Methane Emissions Along Biomethane and Biogas Supply Chains Are Underestimated*, 5 ONE EARTH 724, 729 (2022) ("Upgrading biogas to biomethane can cause significant emissions.."); Emily Grubert, *At Scale, Renewable Natural Gas Systems Could Be Climate Intensive: The Influence of Methane Feedstock and Leakage Rates*, 15 ENV'T RES. LTRS. 084041, at 6–7 (2020).

[24] CLCPA § 75-0101(2) (defining "carbon dioxide equivalent" as impact measured "over an integrated twenty-year time frame after emission.").

[25] Robert W. Howarth, *Methane Emissions from Fossil Fuels: Exploring Recent Changes in Greenhouse-Gas Reporting Requirements for the State of New York*, 17 J. INTEGRATIVE ENV'T SCIS. 69 (2020) (noting that whereas over a 20-year time horizon methane's global warming potential is 86 times that of carbon dioxide, the 100-year global warming potential is 25 times that of carbon dioxide).

mains and service lines[26] will continue to be used and useful as fossil gas ceases to flow through them. If gas system transition means the eventual disuse and decommissioning of all gas distribution infrastructure that does not serve industrial or power sector customers, planning and policy decisions must reflect that reality as soon as possible to ensure that the wind-down is done efficiently and safely.

In light of this possible eventuality for the gas system, the Council should recommend that an early phase of the "planning study and process" explore development of a new category of compensated service: systematic "pruning" and decommissioning of segments of the gas system. Whether handled by LDCs or LDC-successors, the parameters for the effective performance of and compensation for that service would require clear characterization by the Commission and potentially the legislature. Core performance standards would relate to safety, conformity to deadlines for system pruning and decommissioning, and cost.

Finally—to repeat for a different reason the recommendation on page 2 above—in order to facilitate implementation of other components of Strategy #3, the Council's Final Scoping Plan should direct the Commission and DPS to update the BCA Framework used by utilities so that it reflects the Social Cost of Carbon recommended for use by the Department of Environmental Conservation and NYSERDA,[27] and not the lower value currently included in the BCA Framework.[28]

Mitigation Strategy #4's measures recognize that the use of refrigerants is likely to grow substantially as the beneficial electrification of New York's residential and commercial buildings causes the number of heat pumps to proliferate. Replacing the current crop of climate-damaging refrigerants and managing a larger volume of devices that contain refrigerants are both important objectives. The Council should, therefore, also include these recommended measures in its Final Scoping Plan.

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[26] U.S. Pipeline and Hazardous Materials Safety Administration, Gas Distribution Pipeline Miles: New York, https://portal.phmsa.dot.gov/PDMPublicReport/?url=https://portal.phmsa.dot.gov/analytics/saw.dll?Portalpages&PortalPath=%2Fshared%2FPDM%20Public%20Website%2F_portal%2FPublic%20Reports&Page=Infrastructure (accessed June 27, 2022).

[27] N.Y. Dep't of Env't Conserv., Establishing a Value of Carbon: Guidelines for Use by State Agencies 33 (2020; latest update 2022) (indicating that the central estimate for the social cost of carbon is $124/metric ton in 2022).

[28] Order Adopting Benefit Cost Analysis Framework, Case 14-E-0101, App'x C 4 tbl. A (2016) (directing agencies to use federal Social Cost of Carbon value, for which the central estimate is $46 in 2020 and $50 in 2025).