

MINUTES OF THE CLIMATE ACTION COUNCIL MEETING
HELD ON OCTOBER 13, 2022

Pursuant to Notice and Agenda, a copy of which is annexed hereto, a meeting of the Climate Action Council (“Council”) was convened at 2:00 pm on Thursday, October 13, 2022. The following Council Members attended either in the Albany or New York City locations which were accessible by the public, or by videoconference as noted below. A quorum was present throughout the meeting. Unless otherwise indicated, the following Council Members attended in person:

Council Co-Chairs

- Doreen Harris, President and CEO, New York State Energy Research and Development Authority
- Basil Seggos, Commissioner, New York State Department of Environmental Conservation

Council Members

- Richard Ball, Commissioner, New York State Department of Agriculture and Markets (Brian Steinmuller, Designee)
- Mary T. Bassett, Commissioner, New York State Department of Health (Henry Spliethoff, Designee)
- Rory Christian, Chair and CEO, New York State Public Service Commission
- Mario Cilento, President, New York State AFL-CIO
- Donna L. DeCarolis, President, National Fuel Gas Distribution Corporation
- Marie Therese Dominguez, Commissioner, New York State Department of Transportation
- Gavin Donohue, President and CEO, Independent Power Producers of New York
- Justin Driscoll, Interim President and CEO, New York Power Authority
- Dennis Elsenbeck, Head of Energy and Sustainability, Phillips Lytle
- Thomas Falcone, CEO, Long Island Power Authority (Rick Shansky, Designee)
- Rose Harvey, Senior Fellow for Parks and Open Space, Regional Plan Association
- Dr. Bob Howarth, Professor, Ecology and Environmental Biology at Cornell University (by videoconference)
- Peter Iwanowicz, Executive Director, Environmental Advocates of NY
- Hope Knight, President and CEO-designate and Acting Commissioner, Empire State Development (Ian Wells, Designee)
- Roberta Reardon, Commissioner, New York State Department of Labor
- Anne Reynolds, Executive Director, Alliance for Clean Energy New York
- Robert Rodriguez, Secretary of State, New York State Department of State
- Raya Salter (by videoconference)

- Dr. Paul Shepson, Dean, School of Marine and Atmospheric Sciences at Stony Brook University
- RuthAnne Visnauskas, Commissioner and CEO, New York State Homes and Community Renewal (Samantha Pearce, Designee)

Also present were various State agency staff and members of the public. Co-Chair Seggos welcomed all in attendance.

Co-Chair Remarks

Co-Chair Harris highlighted the availability of \$18.1 million for development of innovative nature-based solutions to lower emissions and sequester carbon through the Natural Carbon Solutions Innovation Challenge as well as an \$8.5 million Climate Tech Growth Platform to support companies commercializing technologies that reduce greenhouse gas emissions across the State. Co-Chair Seggos noted NYS Department of Environmental Conservation announced nearly \$1.35 million in first-round grants supporting land trust forest conservation easements. Co-Chair Harris noted the milestone release of proposed rules for public comment to implement New York City Local Law 97 by the New York City Department of Buildings.

An announcement by Micron to invest over \$100 billion in the next 20 years to construct a semiconductor manufacturing campus in Onondaga County, which aims to create 50,000 jobs, will obtain all of its electricity needs from renewable resources in alignment with New York's nation-leading Green CHIPS Act. Micron noted that New York's Climate Act and other climate efforts were a major factor in the location decision.

Co-Chair Harris announced that six new partners have been selected in the Empire Building Challenge to Advance Climate Friendly Buildings in New York State and that transportation lithium-ion battery producer Electrovaya selected the town of Ellicott, Chautauqua County, as the location for its first manufacturing plant located in the United States which will create a national hub for battery innovation and manufacturing in the State.

Integration Analysis Update

Carl Mas, Director, Energy and Environmental Analysis, NYSERDA, presented Integration Analysis follow-up and more granular look at the case study for a higher adoption of ground source heat pumps and district heat pumps, initially explored in 2021, to address some of the uncertainties at the time of the initial work when these systems were determined to have a net higher cost due to the more advanced nature of the technology. The team will also follow up on the Infrastructure Reduction Act (IRA) analysis presented at the previous meetings, as well as identifying any additional topics that should be addressed in upcoming meetings.

The objective of the research presented was to explore the implications of an unmanaged load growth. The core scenarios explored in prior meetings have had a managed load growth, deep energy efficiency, and an active load. The updated analysis explored the implication of unmanaged load growth and the potential impacts of ground source and district heat pumps under different conditions, such as managed building electrification with significant investment in energy efficiency coupled with expected air source heat pump performance during the coldest peak times, which aligns with Scenario 2. The analysis also considered unmanaged building electrification with lower investment in

building efficiency and smart device measures coupled with lower air source heat pump performance during coldest peak times.

Mr. Mas explained that under the core scenario, air source heat pumps show a lower peaking key performance than the average over the year because they perform poorly during the coldest days. To more fully assess this, managed and unmanaged scenarios were mapped out both with and without ground source heat pumps and district heat pumps covering peak load. In scenarios with the technologies assisting in covering peak load, it is assumed they will occupy about 65% of the housing stock by 2050. In scenarios without the technologies assisting, it is assumed they will occupy only about 25% of the housing stock. Mr. Mas reviewed peak impacts of those assumptions. In the managed scenarios, which represent the Core scenarios with the analysis showing that with management and expanded ground source heat pump and district heat pump systems, peak could be lowered by 4 to 12 gigawatts annually.

Mr. Mas explained that in a managed scenario the cost to expand the electrical system to the capacity necessary would likely cost approximately \$80 - \$95 billion, with the margin of error allowing for a doubling of costs of the distribution system. In an unmanaged scenario the electrical system build out might require over \$100-\$141 billion. Both of these scenarios include up to 14 gigawatts of additional firm capacity and battery storage resources as well as 4 gigawatts of incremental renewables. If these technologies were adopted at a higher percentage in the unmanaged scenario, they could reduce the electrical system costs by \$15-\$23 billion as it would lead to a reduction in firm capacity and battery storage relative to the unmanaged case. If the technologies are added to the unmanaged case scenario, costs could rise by \$19 billion as ground source technologies are more costly than air source technologies. Mr. Mas noted electric system benefit costs would increase by \$15-\$35 billion, leading to no clear “winning” scenario, yet a significant opportunity. He also noted the need for novel financing and new coordination systems necessary to build out these systems given the potential important role these technologies could play in limiting peak growth and development risks.

In response to a clarifying question from Chair Christian on whether the assumptions on deep shell retrofits are overly conservative, Mr. Mas explained that the inclusion of smart device data was relevant only to how it shapes the load, not whether it is expected to be present in the building where a deep shell retrofit has taken place.

In response to inquiries from Anne Reynolds on price differences for the technologies in rural and urban areas and whether the inclusion of heat pumps could be included in an updated buildings code, Mr. Mas responded that district heating loops require a critical mass of dense population to function, whereas ground source heat pumps are individual systems, so costs will vary simply based on what type of system is being installed. A utility service territory analysis would need to be conducted to fully understand the opportunities that appear to be viable even with a conservative forecast. As to the second question, Mr. Mas responded that building code updates may drive some inclusion of these technologies, but there are many building projects and retrofits that would not trigger building code applicability.

In response to an inquiry from Dennis Elsenbeck as to what is specifically meant by the term “smart devices” and whether the references to battery storage are for grid level or distribution level, Mr. Mas responded that smart devices are traditional devices such as thermostat programs to incrementally change loads and hot water heaters, specifically the potential for enabling technologies in that all buildings have thermal storage capacity through the existing hot water heating systems

which could be leveraged and treated as more active energy storage devices. Mr. Mas stated this type of storage and storage in the context of buildings is typically short duration, while long duration is a separate category which can include on-site hydrogen fuel cells and more advanced batteries. Mr. Elsenbeck noted the need for shaping load profiles, particularly on the distribution side, to a more responsive hour-by-hour analysis, instead of focusing simply on a winter or summer peak. He also suggested the need for more aggressive building codes to accommodate these types of technologies.

Mr. Mas agreed to follow up in response to an inquiry from Peter Iwanowicz as to whether there is a percentage of cost attributed to labor in the analysis.

In response to an inquiry from Dr. Shepson regarding changes in equipment costs as the market grows, Mr. Mas responded that forecasts of technology advancements for every system analyzed are available.

In response to an inquiry from Dr. Howarth regarding the cost effectiveness of thermal storage versus electric storage and whether that was a logical avenue to explore, Mr. Mas responded that was explored and included in the smart device analysis, but bears a closer look.

Discussion of Feedback by Topic

Adaptation & Resilience

Mark Lowery, Assistant Director, Office of Climate Change, NYS Department of Environmental Conservation, presented the summary themes for the Adaptation and Resilience Chapter. The majority of the comments received were supportive and no comment objected to the proposed adaptation recommendations, with most comments calling for more leadership and resources for municipalities to aggressively implement the Draft Scoping Plan recommendations. Themes included:

- the incorporation of equity and just transition considerations into adaptation and resilience programs and the use of such programs to address injustices and inequities
- enhanced state funding, guidance, and technical assistance to municipalities and other stakeholders to facilitate regional and local adaptation planning, disaster response and recovery, including enactment of the Emergency Responder Act; and
- a preference for the use of natural resources and nature-based resiliency features, such as urban forests, specifically in Disadvantaged Communities. Several commenters emphasized the need for more protective design guidelines and regulations for buildings and natural systems, as well as the inclusion of the value of ecosystem services into decision making.

Mr. Lowery noted two unresolved Climate Justice Working Group comments as (1) clarity on the Adaptation and Resilience Sub-Cabinet position, with a staff recommendation that the State Resilience Officer report directly to the Director of State Operations, and that the Sub-Cabinet be comprised of relevant Agency heads or their designees; and (2) an update to the NYS Department of State Coastal Management Program to require diesel emission reductions from land and water-based vehicles, to which staff recommends that this be addressed through transportation policies.

Overall, staff recommends strengthening language to emphasize a commitment to incorporate equity and just transition considerations into adaptation and resilience programs, including the appointment of a Chief State Resilience Officer and prioritization of resilience in investments in frontline communities. Staff also recommends increasing municipal and stakeholder support by considering supporting the Emergency Responder Act, developing a recommendation to encourage the development of resiliency zones or hubs, particularly in frontline communities, including by providing guidance materials in several languages and on the development of evacuation plans and the use of more resilient technologies. Staff further recommends assessing the need for additional standards to ensure resiliency in manufactured and mobile homes, requiring comprehensive plans address forest and farmland protection, increase flexibility in permitting for adaptation projects, include policy and guidance on incorporation of the value of ecosystem services in decision making, and emphasize the preference for the use of nature and nature-based features to enhance resilience, including in frontline communities. Staff also recommends emphasizing the importance of both school and public-based education and consider enacting a stronger flood risk disclosure law.

In response to an inquiry from Chair Christian as to the level of research underlying the recommendation on modular and mobile homes, Mr. Lowery suggested that a more thorough examination of that issue is necessary. Chair Christian noted the potential for collaboration with the U.S. Department of Housing and Urban Development which tracks this type of housing stock, and Co-Chair Seggos noted those homes are often the most seriously affected during natural disasters. Dr. Howarth supported the further study of manufactured and mobile homes to determine the best path toward securing resiliency and adaptation for those communities which tend to be lower income or economically disadvantaged.

In response to an inquiry from Dennis Elsenbeck as to whether the correlation between Disadvantaged Communities lacking infrastructure to meet the Climate Act goals and the resultant unattractiveness of those communities to developers as a result was explored, Mr. Lowery responded it was not explored.

Gas System Transition

Jessica Waldorf, Chief of Staff and Director of Policy Implementation, NYS Department of Public Service, presented on public comments received on the Gas System Transition Chapter. The most common comments were recommendations and support for rapidly and completely moving away from gas heating, including a ban on new gas hookups and any new investments in the gas system, as well as zero emissions standards for appliances to phase out the use of fossil fuels. Commenters also supported a transition plan that preserves the safety, reliability, and affordability of the current system. However, some commenters expressed concern over complete reliability on the electrical grid during inclement weather and the possibility of grid failure with no combustible backup. Commenters noted the need for a just transition plan for gas utility workers, including thermal energy networks, and expressed concerns with the emissions impacts and costs of alternative fuels. Given this concern, some commenters expressed support for an “all of the above” approach that includes the use of hybrid heating systems, electric heat pumps, and low carbon fuels such as RNG, hydrogen, and biofuels in buildings.

It was reported that a number of commenters expressed concern about the cost of transition and reliability for small businesses, restaurants, and commercial kitchens, and the potential for economic leakage of businesses out of the State. Other commenters expressed concern over increased and unknown costs to low-income and elderly residents on fixed incomes, and the need for a detailed

and thorough cost analysis to be circulated state-wide to ensure customer awareness of energy options, transition timeline, and transition impacts. Commenters also emphasized the need for funding and support to be focused on Disadvantaged Communities and low-to-moderate income households.

Ms. Waldorf identified two unresolved issues related to the Climate Justice Working Group feedback:

- a request for the Scoping Plan to prioritize gas transition progress in Disadvantaged Communities where co-pollutants pose a high cumulative burden, and to support the denial of fossil gas infrastructure permits. Ms. Waldorf noted the Draft Scoping Plan calls for a detailed analysis to determine the most equitable and cost-effective strategy for transitioning away from fossil gas while maintaining affordable, safe, and reliable service, and for the State to develop a comprehensive equity strategy to prioritize the needs of Disadvantaged Communities and low-to-moderate income households; and
- that public funding be used as a last resort to fund the capping of orphan wells in the State, instead seeking contributions from the oil and gas industry. Ms. Waldorf noted the Draft Scoping Plan does not indicate a specific funding source to cap wells, rather that appropriate funding sources should be sought, and staff recommends revising the Scoping Plan to include a recommendation to adjust the financial security amounts in NYS Environmental Conservation Law to cover the cost of the work, with public funds used to find and cap orphan wells with unknown ownership.

Ms. Waldorf summarized the staff recommendations, which included:

- including the proposed Gas System Transition Subgroup framework in the final Scoping Plan to address concerns raised in the public comments to ensure a just transition away from fossil gas use.
- a well-planned and strategic transition of the gas system that includes coordinated planning with the decarbonization of the power generation sector and build-out of local electrical transmission and distribution systems to meet the anticipated increases in electric demand throughout the State, clarifying the transition will include a strategic downsizing of the gas system and a substantial reduction in fossil gas use.
- including the potential use of alternative fuels such as RNG or green hydrogen in the gas transition plan to meet customer need in difficult to electrify processes such as manufacturing and industrial facilities. This should be coupled with extensive analysis of the alternative fuels GHG emissions and co-pollutant impacts, as well as affordability, safety, and reliability of using alternative fuels in the existing gas infrastructure.
- ensuring the gas transition plan includes a detailed cost and benefits analysis and mitigates disproportionate impacts to vulnerable consumers including low-to-moderate income households and Disadvantaged Communities, coupled with prioritized public financial support for energy efficiency upgrades and electrification incentives.

- underscoring the importance of a clear just transition plan for the gas industry that focuses on workforce development, training opportunities, and a transition timeline.

In response to an inquiry from Peter Iwanowicz asking if the staff recommendations aligned with the recommendation by the Alternative Fuels subgroup, Ms. Waldorf stated that she believes them to be in alignment.

Dr. Bob Howarth recommended clarity on the recommendation regarding the use of alternative fuels, specifically that renewable natural gas should be used onsite, and that green hydrogen should not be used in existing gas pipelines that deliver to residential homes. Raya Salter echoed these comments and added that, as discussed in the subgroup, the potential uses for renewable natural gas should be very narrow.

Donna DeCarolis noted that she felt the presentation accurately reflected the consensus of the Gas Transition Subgroup and feels the comments regarding limiting the uses of renewable natural gas and green hydrogen are stricter than the final recommendations. Ms. Waldorf clarified the staff recommendations, noting the language that allows for consideration of potential uses for alternative fuels with additional analysis of those uses to determine if they meet the requirements set out in the Climate Act.

Dennis Elsenbeck noted the results of the planning process and demonstration projects should be guiding the thinking on the uses for alternative fuels. Commissioner Reardon further noted the discussion in the Subgroup recognized the difference in opinion on this subject and that additional information and research was requested before any final decisions are made.

Dr. Shepson requested that the Scoping Plan reflect the concerns surrounding the use of hydrogen and gas/hydrogen blending as a possible method of extending the use of natural gas.

Buildings

Vanessa Ulmer, Team Lead for Policy Development, NYSERDA, presented on the public comments for the Buildings Chapter. Ms. Ulmer noted this chapter received thousands of responsive comments, demonstrating the importance of this chapter to the public, and that some of the comments do overlap with other chapter comments as well.

Many commenters support the proposed electrification and zero emission dates in the Draft Scoping Plan, with some encouraging earlier dates for buildings such as mid-rise buildings; others recommended focusing on removing on-site fossil fuel combustion in new buildings rather than requiring them to be all-electric to allow for new low and zero-emission solutions. Commenters also support setting a state-wide zero emission standard that would prohibit the replacement of gas and oil heating, cooling, and hot water systems that are at the end of their useful life, including clear dates to allow the market to adjust and pairing electrification and thermal efficiency with dedicated assistance for low to moderate income households and Disadvantaged Communities. Commenters proposed establishing emissions and energy standards where not preempted, or alternatively, applying standards in the short-to-mid-term to primary space heating equipment and in the longer-term validating grid reliability before requiring 100% of supplement heater sales be electric or zero emission.

Some commenters recommended moving away from regulation and mandates to adopt electric and zero-emissions technologies, instead focusing on incentives and market transformation to increase the demand for these technologies. Some commenters who recommended this also emphasized customer choice and tended to support electric heat pumps, dual-fuel heating, and low-carbon fuels as heating options. Specifically, the hospitality industry recommended that commercial kitchen equipment be exempted from all-electric codes and requirements.

Commenters also believed the needs of rural and upstate communities were not adequately considered in the Draft Scoping Plan, noting that rural households depend on gas and other delivered fuels over electric methods for home heating due to their reliability in all weather conditions, while there is some question on the reliability of heat pumps in very cold temperatures. Commenters were divided on wood burning as a home heating method.

As with other chapters, commenters broadly called for thoughtful attention to the cost of transitioning to alternative technologies and expressed concern about disproportionate impacts on LMI households, Disadvantaged Communities, those on a fixed income, and small businesses. There was a division over the cost/benefit of zero-emission codes and standards, but commenters urged equity should be the center of building decarbonization and that all implementing state agencies should assess the consumer costs from individual new regulations and mandates. Commenters also expressed concern over the electric grid reliability, they had divided views on the use of alternative fuels in building decarbonization. Comments from utility companies urged optimizing the gas and electric system and adoption of low carbon fuel standards. Several stakeholder coalitions called for strategies to accelerate and scale up thermal energy networks, including regulatory planning and expediting the siting and permitting processes.

Commenters to this chapter also recommended an analysis of the industry workforce for building decarbonization, the development of a county-by-county just transition plan, and to account for the readiness in implementation timelines during this development. There was broad support for workforce development, training, and education, and commenters emphasized the engagement of existing building trades and training a workforce of craftspeople to restore and retrofit existing and historic buildings, and improving outcomes for workers from Disadvantaged Communities. Commenters also support public outreach and consumer education, research and development, New York-based technologies and manufacturing, and the re-use of buildings and building materials. Some industry representatives expressed concern over the Hydrofluorocarbon (HFC) phasedown timeline and recommended that New York not seek a faster transition to lower global warming potential refrigerants than what the EPA will implement nationwide, citing feasibility and leakage concerns. Regulatory recommendations include requiring leak detection equipment for all commercial refrigeration by 2026, and utility rebates, low-cost loans, and subsidies and advisors for food stores in Disadvantaged Communities.

Commenters also expressed broad support for expanding public financial incentives and low-cost financing for building decarbonization, including reduced interest rate financing for decarbonization solutions for new and existing buildings with an emphasis on geothermal heat pumps, air sealing and insulation, weatherization and electrification, and commercial refrigeration. Commenters also called for the establishment of a revolving loan fund for building decarbonization and the reuse of buildings and their materials. Commenters noted the need to motivate contractors to replace systems before failure, simplifying paperwork, and recommended convening a working group on incentive and financing programs. Several commenters called for an investment of at least \$1 billion per year to either assist LMI households with energy-efficiency electrification or fund a

Retrofit and Electrification Readiness Fund to provide direct investment to Disadvantaged Communities and affordable housing. Commenters also stated that energy and non-energy related deferred maintenance should also be funded, with incentive structures addressing the upfront cost and liquidity issues of LMI adoption and increased coordination between state entities and programs to assist LMI individuals. Finally, Commenters recommended safeguards, so energy improvements don't drive significant rent increases, and advised that policies grant buildings flexibility for capital planning and operations to mitigate disruptions and burdens on tenants and an expansion of HEAP programs.

Ms. Ulmer noted one unresolved Climate Justice Working Group recommendation that many public commenters also supported. The Climate Justice Working Group called for a more expansive set of actions related to consumer protection than are already proposed, including a utility customer bill of rights, safety net guarantee of affordable renewable energy to every household, public education to combat the power of investor-owned utilities and the opaqueness of the energy system, and clawback provisions around public subsidies to private landlords as an anti-displacement strategy

The interagency staff team recommends clarifying in the Scoping Plan that the Home Energy Fair Practices Act and NYS Department of Public Service regulations provide consumer protections for utility customers and adding text to ensure that the Public Service Commission Energy Affordability Policy and other current or future public utility bill assistance programs recognize and adjust for increased cooling needs and the shift from traditional forms of heating to efficient electrification. Staff also recommends adding an implementation strategy for community solar projects that provide electric bill savings to income-eligible households and/or benefit affordable housing or public buildings with Disadvantaged Communities to Draft Scoping Plan strategy B4 and adding support for public awareness and education around how to participate in the public and regulatory process in Draft Scoping Plan strategy B8. Staff further recommends expanding discussion in the Chapter on the differences between upstate and downstate New York with respect to weather, building stock, socio-economic factors, and potential impacts of the Plan, as well as expanding examples of costs for efficient building electrification to additional building types. The Staff will also work to incorporate the recent analytical work conducted by the Integration Analysis team on building sector peak sensitivities. The staff was also pleased to see the NYS Disadvantaged Communities Barriers and Opportunities Report closely reflected the draft Scoping Plan Building Chapter recommendations.

Staff next recommend timing adjustments to the state codes for new construction and zero-emission equipment to reflect the timeline of the release and adoption of the international energy conservation code to be published in 2024. Text updates are also recommended for Draft Scoping Plan strategies B1 and B2, and would read under Draft Scoping Plan strategy B1: "Adopt State codes that prohibit building systems or equipment used for the combustion of fossil fuels in new construction statewide by 2025 for single-family and multifamily residential buildings having three stories or less and by 2028 for new construction of multifamily buildings having more than three stories and commercial buildings." Draft Scoping Plan strategy B2 would mirror the "combustion equipment" language where appropriate. Draft Scoping Plan strategy B3 would also revise its 2024 date to 2025. Staff also recommend including a description that emissions standards for building equipment sold in New York will be developed and proposed through a full public engagement and regulatory process and that standards will not burden Disadvantaged Communities.

Staff also recommends a new thermal energy network strategy and welcomes Council Member input and feedback. The strategy would describe the State Utility Thermal Energy Networks and Jobs Act and the PSC implementation process and add a strategy to support the development of thermal energy networks that provide clean heating solutions for buildings and a just transition path for gas and utility workers.

On public financial incentives and access to low-cost financing, staff recommends updating the discussion of funding sources to include the federal infrastructure bill, the IRA, and federal and state tax credits. Staff requests the Plan underscore the significant investment of public funding that will be needed to decarbonize and improve the quality of housing for low-to-moderate income households, affordable and public housing, and in Disadvantaged Communities. In Draft Scoping Plan strategy B4 specifically, Staff recommends underscoring the importance of weatherization, motivating upgrades before heating system failure, the benefits of ground source heat pumps, and community solar as well as the collection and dissemination of installation costs to increase market transparency. In Draft Scoping Plan strategy B5 Staff recommends adding more detail on the HCR Sustainability Guidelines and Housing Plan and on support offered to lenders.

Staff recommends several other updates to the Building Chapter strategies. For Draft Scoping Plan Strategy B7, staff proposes a more standardized presentation of the workforce segment, training priority of that segment, and associated timeframes to support a just transition. For Draft Scoping Plan Strategy B8, Staff recommends added or expanded text around increasing awareness of new and upcoming requirements, how to participate in the public and regulatory processes, opportunities to get engaged in the clean energy economy, available incentives to replace equipment before failure, and the “co-benefits” of healthy, efficient, low carbon building systems and building materials. For Draft Scoping Plan Strategy B9, staff recommends creating separate components for HFC education and for incentives, including a commercial refrigeration incentive. Staff does not recommend adjusting the State regulatory timeline as it aligns with the Climate Act emissions limits. Lastly, staff will incorporate references to recent federal, state, and local legislation, executive orders, PSC orders, and agency guidance.

In response to an inquiry by Dennis Elsenbeck about community solar, Ms. Ulmer explained that it is meant to reference both co-located technology and remote installations. With regard to his inquiry as to whether the suggested storage technologies, whether they be electric, thermal, or chemical storage are being considered in the recommendations for advancing building codes, Ms. Ulmer explained that recommendations are to adopt additional resilience features in buildings.

In response to an inquiry by Chair Christian regarding the recommendation for cooling needs, Ms. Ulmer clarified that the suggestion is to expand public utility assistance programs to allow for increased household cooling needs as the climate warms. Chair Christian highlighted that there are minimum requirements for heating, but no reciprocal requirements for cooling and Ms. Ulmer stated that the issue was not specifically addressed to date, but the comment would be taken into consideration by the staff team and during work underway on the extreme heat action plan.

In response to an inquiry by Donna DeCarolis regarding the alignment of regional differences within a Statewide policy, Ms. Ulmer explained that climate zones within the new construction code could be one opportunity for a more granular regulatory approach; this could be more challenging when addressing equipment which is moveable. In response to a further inquiry by Ms. DeCarolis regarding integrating the planning process for gas and electricity systems and how they evolve during the transition as well as the consideration of mandates versus incentives, Ms. Ulmer suggested that

the phasing of regulatory recommendations is very important and there are a number of different proof points. Ms. Ulmer also noted the regulatory timeframe associated with code and technology development, including grid readiness.

In response to an inquiry by Anne Reynolds about the specific timeframes associated with the building code cycle, Ms. Ulmer explained the current status and cycle of the regulatory process undertaken by the State Code Council and its interdependence on the development of the international Model Codes for residential and commercial construction.

In response to an inquiry by Gavin Donohue as to whether analysis on regional cost estimates has been performed, Ms. Ulmer explained that some regional analysis has been performed, which is used to roll up into Statewide averages, and the best estimates and data are for the cost of retrofitting single family homes to efficient heat pumps and for very high-performance new construction. Limited data is available for retrofitting larger, multi-family and commercial and institutional buildings to efficient heat pumps.

In response to a suggestion by Mario Cilento to refer to applicable labor standards each time the workforce is referenced, Ms. Ulmer agreed that it is an important point to reference, and to do so in a manner that aligns with the Just Transition Chapter of the Draft Scoping Plan.

Dr. Howarth suggested that propane be referenced in Draft Scoping Plan strategy B2 when considering the replacement of gas and oil combustion equipment given that it is fairly widely used in much of the State. He also expressed disappointment with the recommendation to postpone the dates, cognizant of the challenges of moving fast but concerned that change is already too slow. He also expressed a preference to begin moving faster than what building codes require, beginning with educational campaigns. Ms. Ulmer confirmed that propane is intended to be included.

Industry

Vincent Ravaschiere, Senior Vice President for Energy, Empire State Development, along with Todd Baldyga, Director of Industrial and Agriculture Programs, NYSERDA, presented on the feedback received and staff recommendations related to the Industry Chapter. Summary themes of the public comments fell into four topical categories: Energy-Intensive and Trade-Exposed Industries, Greenhouse Gas Emissions Benchmarking, Alternative Compliance Mechanisms, and Low-Carbon Procurement. The most extensive comments received concerned industries, with many expressing the view that the Scoping Plan should included a more detailed definition or listing of EITE industries or for a specific type of industry to be identified. Other comments recommended that the Scoping Plan provide specifics on how to mitigate compliance costs to prevent leakage and avoid anticompetitive impacts while others recommended specific mechanisms to protect EITE industries that should be included in any economywide strategy.

Comments related to emissions benchmarking expressed concerns that new requirements might disregard resources already spent to comply with current rules and some suggested setting industry-specific benchmarks for use in measuring production emission intensity. Regarding alternative compliance mechanisms, comments suggested that industry be offered compliance flexibility through the use of mechanisms based on economic infeasibility if the likely outcome without them would be leakage. The current use of these mechanisms is based on technological

infeasibility. There were recommendations that a low carbon procurement strategy should address independent safety and engineering validations impacting construction materials and methods.

There are three areas of unresolved Climate Justice Working Group feedback related to the Industry Chapter. The first involved providing financial and technical assistance to industry to overcome barriers and other challenges in achieving emissions reductions where it was suggested that additional regulation of industrial sources be considered to drive down industrial emissions as close to zero as technically possible. The Draft Scoping Plan recommendation is to focus on incentive-based strategies and to focus investments and their associated benefits on Disadvantaged Communities.

The Climate Justice Working Group recommended the use of a “best value” framework to score bids that commit to climate mitigation efforts as part of a low carbon procurement strategy, and the Draft Scoping Plan proposes procurement incentives so that manufacturers produce less emission-intensive goods to capitalize on the increased demand for goods made with fewer emissions, while the specific framework and methodology need to be evaluated against criteria that effectively and equitably reduce emission while growing a robust workforce and manufacturing sector.

The Draft Scoping Plan recognizes that research, development and demonstration will require the development of new technologies and the deployment of these could be promoted with a robust agenda, however, the specific technologies and solutions for deep decarbonization of the industrial sector have yet to be identified. The Climate Justice Working Group raised concerns with technology solutions that involve carbon capture storage and hydrogen, although the Climate Justice Working Group supports the reduction of fossil fuel combustion for industrial heat and recognizes the potential for green hydrogen for those industrial high heat processes that may not be electrified and identifying, quantifying, and mitigating any harmful effects associated with new technologies.

Staff recommendations for the Industry Chapter include the following:

- deferring the definition of Energy-Intensive and Trade-Exposed industries and any leakage mitigation accommodations, as well as decisions on emission benchmarking, as part of the possible development of an economy-wide carbon pricing system
- whether to develop alternative compliance mechanisms should be deferred to the NYS Department of Environmental Conservation pursuant to the Environmental Conservation Law with the understanding that industrial sources should be treated in a manner to avoid leakage
- consider other potential measures to limit emissions leakage should incentive-based strategies be insufficient to achieve reductions of emissions within the Climate Act requirements
- clarifying that low carbon procurement rules should consider the full lifecycle of products and that safety and engineering validations be addressed with regard to low carbon construction materials and methods

- exploring the use of Best Value procurement framework to score bids that commit to climate mitigation effort and related workforce, training, local hire, and apprenticeship programs targeted toward Disadvantaged Communities; and
- identifying, quantifying, and mitigating harmful effects of new technologies and approaches will be necessary.

In response to an inquiry by Peter Iwanowicz regarding the issue of an alternative compliance mechanism and whether the statutory limitations were considered by the staff, Mr. Ravaschiere stated that the NYS Department of Environmental Conservation, with its authority to administer alternative compliance mechanisms, is in the best position to make determinations regarding the mechanism.

Health

Henry Spliethoff, Chief of Prevention and Sustainability Section, Bureau of Toxic Substance Assessment, NYS Department of Health, presented the five summary themes of the comment received on the Health Chapter, which include:

- a request for tracking of health outcomes associated with climate policies, particularly those that occur over the next 20 to 30 years and those associated with extreme heat
- health concerns about alternative fuels, renewable energy, and carbon capture. There were specific concerns cited over hydrogen, renewable natural gas, wood burning, wind turbines and energy use for carbon capture
- opportunities to enhance climate justice including co-pollutants and public health risks, flooding, building codes violations, support for green spaces and for energy efficiency programs to address indoor air quality
- concerns about the reliability of the electric grid and public health impacts, particularly during winter months; and
- suggestions to discuss additional effects associated with carbon-based fuels and climate changes, such as considering a broader range of contaminants, considering increased risks of other health effects such as dementia, COVID-19, reproductive and endocrine impacts, and social and mental health. It was also suggested that the risks of storage and disposal of carbon-based fuels should have been addressed in the Health Chapter.

Mr. Spliethoff presented the Staff recommendations as to:

- clarify that NYS Department of Health will continue to track actual health outcome data, as well as to develop subcounty health outcome indicators
- indicate the tracking of heat-related illness at the county level that will be periodically updated
- provide an updated overview every four years of co-pollutant reductions and benefits to public health

- add language as required by the Climate Act that the State will measure, track and report on the investments, benefits, and positive outcomes for Disadvantaged Communities associated with clean energy spending
- add more details in the Health Chapter about the potential direct and indirect impacts and risks of hydrogen and other alternative fuels
- incorporate additional health considerations identified by the Alternative Fuels Subgroup
- emphasize that the NYS Department of Health will continue to monitor scientific literature
- enhance climate justice by incorporating the importance of ensuring policies that reduce greenhouse gas emissions also reduce co-pollutant emissions
- better emphasize the benefits of green space, enforcing building codes and the effects of extreme heat conditions in Disadvantaged Communities
- more clearly emphasize the importance of a reliable electric grid for public health; and
- address the additional health effects associated with carbon-based fuels and climate change.

Dr. Shepson suggested that the characterization of needing a reliable electric grid might be better described as the need for reliable access to electric power that could be managed centrally or could come from distributed resources power.

Peter Iwanowicz stated that he regards the Health Chapter as a very honest discussion about the negative externalities of the combustion of biofuels, particularly ethanol, and the broader need to account for the combustion of more than just fossil fuels. He feels that this effort is a strong public service encapsulating the large public benefits that will accrue from implementation of the Climate Act and that lives will be enhanced physically and financially.

In response to a comment by Dennis Elsenbeck regarding how to reconcile imports from other countries such as China, Indonesia and Japan who continue to build coal-fired plants to meet the demand with the call for changes within our own communities, Co-Chair Seggos suggested that some of the provisions of the Inflation Reduction Act encourage us to look toward the types of things that create security on the domestic side, production, and enable the creation of jobs here and to avoid those externalities occurring elsewhere. Mr. Spliethoff added that climate change is a global phenomenon and co-pollutant production is also global in the sense that we distribute our goods to other areas.

Transportation

As a follow up to the presentation on feedback on the Transportation Chapter at the September 13, 2022 Council meeting, Adam Ruder, Assistant Director, Clean Transportation, NYSERDA presented design considerations and options for a potential Clean Fuel Standard program, given the need to address concerns raised by the Climate Justice Working Group and to strive toward consistency with the Alternative Fuels Subgroup with regard to prioritizing electrification and addressing resultant co-pollutants from renewable fuel combustion, particularly in Disadvantaged Communities.

Mr. Ruder outlined proposed program design elements that could potentially meet the concerns, beginning with the promotion of electrification, including:

- Ensuring that credits are easily attainable for electricity use
- Setting a clear timeline for carbon intensity reductions through 2050 to send price signals consistent with the long-term trajectory to meet Climate Act targets; that could reduce the market signal for biofuel investments that cease credit generation as target carbon intensity decreases; and
- Reinvesting credit value from electrification to support further electrification efforts primarily targeted to low-to-moderate income households and Disadvantaged Communities, which could follow the Western states' model allowing for utility aggregated credits or the State could aggregate credits sold into auctions with proceeds spent in a manner consistent with that goal.

Additional Disadvantaged Community benefits included addressing criteria pollutants by limiting eligibility to fuels with lower overall co-pollutant emissions than petroleum being displaced; allowing transit agencies to earn and reinvest credits in new or expanded transit; issuing advance credits to certain public and non-profit fleet operators prior to vehicle deployments to address upfront costs; and the use of credit value of electrification for rebates to low-to-moderate households for cash or credit on a utility bill, free transit passes, or additional rebates toward new or used electric vehicles.

In response to an inquiry by Chair Christian regarding how credits would be generated, for example, by the public transit system, Mr. Ruder suggested that could be one design mechanism. Chair Christian expressed concerns that it may result in the accumulation of a large number of credits by a single entity that could exercise market power. In response to an inquiry as to whether all credits would be equal across geographic areas, Mr. Ruder suggested that to have a successful market, credits should be fungible across the State, but the design could direct investments into one area over another. Regarding the effectiveness of placement of electric vehicles and the option of striving for the maximum number of vehicles or electrifying a larger number of miles traveled, Mr. Ruder suggested that this policy mechanism is really focused on minimizing the emissions from fuel consumed, which is closely tied to vehicle miles traveled.

In response to an inquiry by Dennis Elsenbeck regarding how municipal vehicles (postal vehicles, sanitation and municipal service vehicles) fit into the construct in that they may be considered medium-to-heavy use, Mr. Ruder explained that the design elements are not specific to light duty vehicles and that the program could be agnostic as to what the funds support within a community or could direct funding toward specific vehicle types or use cases.

In response to an inquiry by Anne Reynolds about how advance credits would be designed and how credits might work for a transit agency, Mr. Ruder explained that the West Coast programs allow transit agencies that generate credits to sell them for revenue that is reinvested in its operations. Regarding advanced credits, Vlad Gutman-Britten, Assistant Director, Energy and Environmental Analysis, NYSERDA explained that public agencies would submit their electric vehicle purchasing plan (or other qualifying activity) to the State for which they would receive a percentage (possibly 70 percent) of the expected credits that would be generated over a defined time period. Sale of those credits would be used to defray the upfront costs of purchases or upgrades to further the electrification goals. The entity benefiting from the advance credits would repay the advance to the state over the vehicle's life and then retain all credits in excess of the initial allocation.

In response to an inquiry by Peter Iwanowicz about the potential of issuing additional incentives to achieve electric vehicle purchasing requirements already in statute, Mr. Gutman-Britten explained that the trajectory set would be designed to meet the statutory targets (which are more aggressive than the electric vehicle sales requirements) and reflect that there have been a number of commitments made by the State and other entities that result in a wide range of electric vehicles and other alternative fuels deployed. He suggested that some entities may end up receiving some value by complying with their requirements, but it would reduce the costs to the state that would otherwise come from tax revenue or other State sources.

On the issue of avoiding double incentives and how this would work in relation to the electric grid, Mr. Gutman-Britten explained options being employed in other states and that some clean fuels programs create additional value for the renewable attributes on the electricity side, as well. He acknowledged that the clean fuel standard is intended to be a cross subsidy from a high emission source to a low emission source to make them more cost competitive.

In response to inquiries by Peter Iwanowicz and Co-Chair Harris as to the preferred method for feedback on this new material, it was suggested that draft language be inserted into the proposed revisions to the Transportation Chapter and to solicit feedback from the Council on that text. Chair Christian suggested capturing the notion that not all vehicle miles traveled are the same, distinguishing multiple passengers on an electric bus from a singular individual in a vehicle and that quantifying and monetizing that would be key toward accelerating electrification and moving toward the potentiality for a self-funding mechanism for this effort.

Next Steps

Maureen Leddy, Director, Office of Climate Change, NYS Department of Environmental Conservation, reviewed the Council meetings and topic schedule for the remainder of 2022. The next meeting, scheduled for October 25, 2022, will include an update on the Integration Analysis and a discussion of feedback on the Electricity and Climate Justice Chapters as well as any remaining feedback topics.

And with that, the meeting was adjourned.



KATHY HOCHUL
GOVERNOR

DOREEN M. HARRIS
CO-CHAIR

BASIL SEGGOS
CO-CHAIR

Meeting Agenda

October 13, 2022

- Welcome
- Integration Analysis Update
- Discussion of Feedback by Topic:
 - Adaptation & Resilience
 - Gas System Transition
 - Buildings
 - Industry
 - Health
 - Transportation
- Next Steps