MINUTES OF THE CLIMATE ACTION COUNCIL MEETING
HELD ON MAY 10, 2021

Pursuant to Notice and Agenda, a copy of which is annexed hereto, a meeting of the Climate Action Council ("Council") was convened at 9:00 a.m. on Monday, May 10, 2021. The following Members attended:

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
- 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
- Dennis Elsenbeck, President, Viridi Parente, Inc.
- Thomas Falcone, CEO, Long Island Power Authority
- Eric Gertler, Acting Commissioner and President and CEO-designate of Empire State Development
- Rose Harvey, Senior Fellow for Parks and Open Space, Regional Plan Association
- John Howard, Interim Chair and CEO, New York State Public Service Commission
- Dr. Bob Howarth, Professor, Ecology and Environmental Biology at Cornell University
- Peter Iwanowicz, Executive Director, Environmental Advocates of NY
- Jim Malatras, Chancellor, State University of New York
- Gil C. Quiniones, President and Chief Executive Officer, New York Power Authority
- Roberta Reardon, Commissioner, New York State Department of Labor
- Anne Reynolds, Executive Director, Alliance for Clean Energy New York
- Rossana Rosado, Secretary of State, New York State Department of State (Sarah Crowell, Designee)
- Raya Salter
- 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
- Howard A. Zucker, Commissioner, New York State Department of Health (Henry Spliethoff, Designee)

Also present were various State agency staff and members of the public.

Mr. Seggos and Ms. Harris, Co-Chairs of the Council, welcomed all in attendance. A quorum was present throughout the meeting.

Consideration of the Minutes of the April 12, 2021 Meeting

The next item on the Agenda was to advance the minutes from the April 12, 2021 meeting, which included a recent professional role change for CAC Member Dennis Elsenbeck. Upon hearing no further changes or objections, upon motion duly made and seconded, the minutes were adopted. Co-Chair Seggos stated that the minutes will be posted to the Council website.

Co-Chair Remarks and Reflections

Co-Chair Harris began by recapping events held during a very active Earth Week that included many events, announcements and program launches. Co-Chair Seggos provided an update on the Council's progress in implementing the Climate Act, which thus far has included 65 public meetings, 24 public input sessions, and numerous other cross-Panel meetings. He thanked the Council Members, and all involved in the implementation. He announced that the integration analysis will begin, followed by the drafting of Scoping Plan chapters that will be presented to the Council for feedback. He welcomed public input on all of these efforts and reported that all planned activities are on track.

Presentation and Discussion: Transportation Advisory Panel Recommendations

Transportation Advisory Panel

NYS Department of Transportation Commissioner Marie Therese Dominguez, Chair of the Transportation Advisory Panel, presented the Transportation Advisory Panel recommendations. She described the extensive public and stakeholder outreach that informed the Advisory Panel's recommendations, including 12 public meetings and two public engagement sessions, held in December 2020 and February 2021. The Advisory Panel also met with four other Advisory Panels, as well as the Climate Justice and Just Transition Working Groups.

In presenting a historical perspective of the evolution of transportation as a catalyst for economic growth and productivity, Chair Dominguez underscored the importance of the transportation sector as part of the solution toward aggressive climate action and maintaining economic competitiveness. The goal is to facilitate growth while mitigating adverse climate, community, and human health impacts, while challenged by historically low fuel prices. To fully implement the Climate Act, complementary regional and national strategies will also be needed, as will public-private partnerships.

Chair Dominguez provided information on the anticipated aggregate greenhouse gas emissions impact of the Advisory Panel recommendations, stating that although emissions grew consistently from 1990 through 2006 (and have been declining since), the implementation of recommendations could result in an approximately 16% reduction of emissions in 2030, as compared to 1990 emissions, and an approximately 77% reduction over 1990 levels by 2050. Although these estimates are impressive, they may fall short of the transportation sector's emission reduction needs identified by the E3 Pathway Analysis, necessitating a reassessment of the recommendations. Principal mitigating strategies for the transportation sector presented include:

- The transition of vehicles and fleets to electric and zero-emission technologies for 100% light-duty and medium/heavy duty vehicles by 2035 and 2045, respectively;
- Enhancing the availability, accessibility, reliability and affordability of public transportation;
- Aligning and integrating transportation investments into land use and development to mitigate carbon emissions; and
- Implementing market-based strategies to impact travel decisions that directly reduce emissions and facilitates the transition to ZEVs with complementary financing strategies to support private investments and leverage public investments in clean transportation.

Commissioner Dominguez also presented information on the role of clean fuels and the electrification strategy to eliminate gasoline consumption by 2050 and greatly reduce diesel consumption. A potential clean fuel standard would support achieving electrification goals, replace fossil fuels with cleaner renewables during the transition, and bridge hard-to-electrify sectors, such as aviation and long-haul trucking.

Commissioner Dominguez noted that the Advisory Panel worked closely with the Land Use and Local Government Panel as transportation and land use outcomes are inextricably tied and influence each other in a cyclical way. There is a focus on smart growth and transportation-oriented development to ensure alignment of transportation goals and investments around public transportation with land use outcomes on corridor wide and multi-municipal scale investments. There is also a vision for greater social economic equity to reduce air pollution and enable more affordable and mixed income housing that is accessible to transit and other mobility options to address the disproportionate amount of time and money that lower income households spend on transportation. Overall, the Advisory Panel recognizes that there is a need to adapt a model to serve the vastly different conditions in rural, suburban, and urban communities.

The Advisory Panel recommends participation in the regional Transportation Climate Initiative (TCI) as part of a regional and national approach to cap and reduce emissions across the region and raise some revenues for investments for electrification and public transportation with a priority for investment in disadvantaged communities. There was one suggestion for an economy-wide approach, and other market-based approaches included options such as congestion pricing, pricing parking, and increased registration fees for higher- emission vehicles (e.g. fee-bates), and a fee for vehicle miles traveled. The benefits of the combined Advisory Panel recommendations include:

- Decarbonizing the transportation sector;
- Promoting equity and inclusion in investment decisions, policy development and program implementation;
- Prioritizing investments in low and moderate-income communities and mitigating harmful health impacts;
- Promoting alternative modes of transportation in collaboration with integrated land use development;
- Driving innovation and carbon neutrality in the sector while supporting economic opportunity and growth;
- Implementing strategies that maximize flexibility and minimizing costs for sector-related businesses/developers;
- Developing market-based approaches that incentivize alternatives and generate revenues to support policies;
- Facilitating collaboration between public and private entities; and
- Building upon New York's nation-leading commitment to climate leadership.

Dennis Elsenbeck emphasized the potential for further exploration of the impact that the transition to a clean energy economy will have on smart growth (to encourage businesses to bring the work to the neighborhood, rather than bringing the neighborhood to the work), to tie clean energy strategy investments to job growth, and that Empire State Development should be heavily involved to create clean tech jobs in "rust belt" and disadvantaged communities to enhance New York's competitiveness on a more global scale. In response, Chair Dominguez referenced the Advisory Panel's recommendations toward transportation-oriented development, citing the City of Oswego revitalization as an example. She also emphasized that, in addition to Empire State Development, all State agencies are involved in working with communities on revitalization initiatives. These levels of investment in revitalization and clean energy strategies are also being explored in Rochester and Buffalo.

Mr. Elsenbeck also stated that infrastructure should be considered in its totality as many communities currently do not have the appropriate infrastructure or the electric capacity to develop the types of economic opportunity being discussed.

Regarding Mr. Elsenbeck's observations about California energy policies, Chair Dominguez explained that the Advisory Panel is not advocating adopting those policies wholesale, but rather, is examining the lessons learned given the more extensive experience that California has in many of the areas of discussion.

In response to inquiries by Raya Salter regarding the development of metrics and markers to define what progress will look like and ensuring that the recommendations ensure that populations are benefitting without adverse impacts, Chair Dominguez stated that the Advisory Panel is considering that issue very seriously. Co-Chair Seggos added that it is incumbent upon the Council itself to ensure the benefits are actually directed into communities and future rulemaking processes and any future legislation are additional avenues to that end.

In response to comments by Raya Salter regarding the TCI effort, Chair Dominguez acknowledged that some concerns were raised by the Climate Justice Working Group regarding market-based programs, which includes TCI, and that the Panel envisions TCI as more of a funding strategy that benefits disadvantaged communities, such as the use of incentives for electric vehicles. She stated that the Advisory Panel will continue to work on these issues with the Climate Justice Working Group.

In response to an inquiry by Anne Reynolds regarding funding for climate plan initiatives given previous efforts by New York to implement many of the presented recommendations and restating that regulations alone will not be enough for a smooth transition, Chair Dominguez envisions a mix of strategies beyond TCI, including the NY Green Bank, public-private partnerships, and others. Co-Chair Harris added that this topic is a very important one for the Council to take up in the coming months as part of its integration analysis but also looking at the recommendations together.

Bob Howarth inquired as to whether more aggressive recommendations should be considered given the projected GHG emission reduction projections of the transportation sector and that economy-wide emissions need to be reduced by much more, coupled with the fact that challenges in some of the other sectors are even greater than in the transportation sector. In response, Chair Dominguez stated that the integration analysis, the development of the Scoping Plan, complementary regional and national strategies, and advances in technology are all potential ways to address this gap. Jared Snyder, Deputy Commissioner, Climate, Air, and Energy, NYS Department of Environmental Conservation, added that

aviation fuels are also an area that will likely require technology advances and could involve lower carbon fuels. Chair Dominguez acknowledged the value of the aviation representatives on the Advisory Panel.

Regarding an inquiry by Bob Howarth regarding a strategy for biofuels, potential for which he believes is limited, Mr. Snyder suggested that this issue will be taken up in the context of the integration analysis as far as availability of fuels, their capacity, and their best uses.

In response to an inquiry by Donna DeCarolis regarding how to address the demand and supply timing of the recommendations that call for infrastructure build-out and behavioral changes and how that matches with demand growth and decarbonization on the power generation side, Chair Dominguez confirmed that this is a critical function of the integration analysis, which needs to address the sequencing, timing, and level of investments.

In response to an inquiry by Ms. DeCarolis regarding which of the recommendations advance to the integration analysis, Co-Chair Harris offered to share a summary of the aggregated recommendations to afford the Council a way to more efficiently take stock of the sum total of recommendations. She anticipates this conversation continuing at the scheduled June meeting.

Gavin Donohue noted his appreciation of the commitment to market-based outcomes and the acknowledgement of the need for new technology developments. He also noted that there are many requirements on the transmission and distribution system raising questions about how to successfully manage the power grid with an increased and different type of demand. Chair Dominguez stated that the Advisory Panel examined these issues holistically, although primarily from the transportation infrastructure perspective, but also coordinated with the Power Generation Advisory Panel. Mr. Snyder added that in addition to consulting with the Power Generation Panel, the Advisory Panel also consulted with the Utility Working Group regarding the potential to design policies that shift demand to times of excess capacity and other rate design strategies. The critical aspect of the integration analysis will be to align all of the recommendations. Co-Chair Harris referenced the Power Grid Study issued earlier this year by the NYS Department of Public Service, which continues to evolve analytically and from a policy perspective regarding the level of electrification that results from the recommendations.

Peter Iwanowicz expressed his skepticism about putting forth a Draft Scoping Plan that does not completely eliminate transportation sector emissions, stating that the challenges for eliminating them in

this sector presents an easier path. He also expressed his skepticism that replacing aviation fuel would not be preempted by the Federal Aviation Administration. In response to his inquiry as to what else might not be covered in the 23% shortfall by 2050 if transportation emissions were to be zeroed out, Mr. Snyder responded that aviation fuel is a large part of the shortfall and there will still be some diesel emissions as all new truck sales will not be electrified until 2045, absent any incentives to discourage them from use on an earlier timeframe. He added that the Advisory Panel did not specifically address farming, where there would be a need to electrify off-road equipment, citing different challenges and schedules in moving toward electrification.

In response to an inquiry by Mr. Iwanowicz regarding the status of the 2013 multistate Memorandum of Understanding (MOU) to achieve significant electric vehicle penetration, Mr. Snyder stated that the goal of approximately 850,000 vehicles was based on the amount of vehicles that would need to be sold to meet the California standard. As electric vehicles have longer distance capacity, fewer vehicles need to be sold. He also noted that the MOU provides for a steep increase in sales projections starting around now and sales had been on pace through 2018-2019 and ran into obstacles with the previous Federal Administration when it lifted the authority to enforce the waiver. Overall, good progress is being made.

In response to an inquiry by Mr. Iwanowicz regarding transit-oriented development and whether the Advisory Panel consulted with local governments, Chair Dominguez reported that the Advisory Panel did have a series of engagements with the Land Use and Local Government Advisory Panel and expert roundtable discussions with various members. Local governments are looking to smart growth and transit development as a smart business model and, generally speaking, people are moving back into communities that are more walkable and accessible. Outreach and engagement will continue in this area.

Regarding the TCI and carbon neutrality, Mr. Iwanowicz expressed his views that programs like TCI do not necessarily reduce emissions in specific communities and described it as “trickle down environmental justice.” Mr. Snyder responded that although TCI and emissions cap and invest strategies do not require action in particular locations, the investment of proceeds can be directed to reducing emissions in specific locations where they provide the greatest benefits.

Regarding an inquiry by Mr. Iwanowicz as to what extent the Panel looked at motor vehicles as energy storage devices given that there will be millions of vehicles on roads in 2050 and they could play a

role with grid surety and harmonization with the power sector, Mr. Snyder stated that school buses are a good candidate for vehicle to grid strategies and as more electric vehicles become plentiful there is an opportunity to provide power back to the grid during work hours.

Mr. Iwanowicz was happy to see a level of discussion about market-based funding mechanisms, as he believes that if one is truly considering ensuring economy wide pricing, it is necessary to go to the front line communities pulling together just transition plans and inquire as to how they would like to see the funding strategies designed. He stated that the Climate Community Investment Act (CCIA) is the funding and spending strategy preferred by front line communities, whereby polluters pay and it ensures that the spending happens in the affected communities.

Anne Reynolds commented that, even if all recommendations go forward, the effort may fall short based on the Pathways Analysis. She stated that in considering which to put forth, it is important to know if they go together, with the emissions reductions in the places where they are needed the most, and with the funds to implement them, Chair Dominguez acknowledged that this is why holistic measures are being pursued, recognizing that technology will advance and that there other things in need of consideration to address the greenhouse gas reduction requirements. This is all one part of a larger strategy and, despite the recommendations being fairly comprehensive, there is a need to be continually open to advancing new technology.

In response to comments by Paul Shepson regarding the potential for investments in public transportation to be on a collision course with extreme weather events, citing Hurricane Sandy, and the need for climate resilient public transportation, Chair Dominguez stated that the recommendations are not only for transit, but also for transportation and floodplain standards. There are larger sustainability and resiliency factors for infrastructure and the Metropolitan Transit Authority provided a specific presentation on lessons learned from extreme weather events which are now being applied to the entire system.

Raya Salter stated that pursuing resilience in a comprehensive manner is important and she stated the need to prioritize emissions reductions in disadvantaged communities with accountability and metrics to ensure the goals are achieved.

Land Use and Local Government Advisory Panel

Sarah Crowell, Director, Office of Planning, Development, and Community Infrastructure, NYS Department of State, and Chair of the Advisory Panel acknowledged the commitment of the Advisory Panel Members over the past several months, comprised of practitioners and area experts in land use and local governance throughout the State. She offered that New York is exceptionally large and diverse, comprised of 62 counties, 62 cities, approximately 900 towns and over 500 villages. In addition to a stakeholder input survey and meetings with the NYS Association of Counties and the County Planners Association, the work of the Advisory Panel was informed by public roundtables that convened representatives from local governments from all ten regions of the State. Recognizing that the foundational work of this Advisory Panel is necessary to realize the goals of the other panels, it closely collaborated with the other Panels.

Ms. Crowell explained that the Advisory Panel organized into four subgroups: Land Use; Clean Energy; Carbon Sequestration; and Adaptation and Resilience, which lent organization to the Advisory Panel's approach for developing its recommendations. Adaptation and Resilience recommendations will be taken up at the next Council meeting. Key panel themes presented were:

- Promoting efficient land use and smart growth that reduces vehicle miles traveled (VMT) and accelerates transit-oriented development;
- Maximizing natural carbon sequestration potential of developed and undeveloped land, particularly examining freshwater wetlands and the potential of "blue carbon";
- Facilitating responsible siting and adoption of clean energy sources and renewable energy;
- Providing local governments the necessary tools and resources to lead on climate;
- Committing to environmental justice, disadvantaged communities, and a just transition.

Key Smart Growth strategies presented were:

- Providing grants and technical assistance for county-wide Smart Growth plans and for municipal comprehensive plans and zoning that is consistent with smart growth principles;
- Developing criteria and incentivizing county-wide smart growth comprehensive plans that adhere to clear, State goals and outcomes;
- Enabling designation of priority development areas and priority conservation areas at county and regional levels;
- Strengthening the Smart Growth Public Infrastructure Policy Act to better align State funding priorities with smart growth principles;
- Aligning State funding priorities to prioritize smart growth, equity and sustainability in all relevant State funding, including new infrastructure spending;
- Developing guidance documents, model local laws, templates and other resources to simplify and streamline preparation of comprehensive plans and land use regulations that support smart growth principles; and
- Exploring options to promote transit-oriented development (TOD).

Key carbon sequestration strategies presented were:

- Consideration of opportunities for improving and expanding regulations to ensure carbon sequestration and storage potential of wetland systems are not lost;
- Increasing investment in protection, restoration, and monitoring to maximize sequestration potential of freshwater wetlands and blue carbon;
- Updating maps of wetlands, coastal habitats and other areas using best available technology with recurring updates;
- Assisting county and local governments to create land-use policies and land conservation programs and help landowners by development incentives and management practices;
- Improving the collection of understanding of carbon storage and sequestration in natural systems through RD&D; and
- Engaging both youth and professionals in conservation service and stewardship to maximize sequestration opportunities and support green job career training.

The Advisory Panel recommendations also call for the tools and resources to empower communities to fully participate in the process of planning for and enabling development of renewable energy development, including providing planning support at the local and regional level, developing model local laws, streamlining permitting and providing communities with the needed tools. Key strategies for accelerating responsible siting and adoption of clean energy sources are:

- Providing technical and financial assistance to develop regional clean energy roadmaps that identify low-impact locations for solar and wind development;
- Developing a State-wide mapping tool that provides communities with information needed to plan for appropriate clean energy siting decisions;
- Encouraging development of Community Choice Aggregation programs where communities choose 100% renewable energy as the default supply;
- Creating more robust community host benefits; and
- Evaluating options for reduce barriers to development of municipally owned solar.

The Advisory Panel also recommended the development of a Statewide Communities Dashboard of community greenhouse gas emissions inventories to promote local climate action planning, monitor equity considerations, measure progress, and ensure data consistency at the county and municipal level. Encouraging local governments to demonstrate climate leadership by taking measures to promote and facilitate energy efficiency such as developing model above-minimum energy conservation construction policies or adopting the NY Stretch Energy Code; implementing enhanced code enforcement including streamlined permitting, third party inspections, and shared enforcement; and encouraging use of Property Assessed Clean Energy (PACE) financing was also recommended.

Benefits and impacts for disadvantaged communities identified include: brownfield revitalization; emphasized mixed-income/affordable housing; new shared equity and ownership opportunities; universal data access; focused clean energy investments; more resilient coastal areas; expanded access to natural

areas and improved wetland function; enhanced recreational opportunities and greater participation in local and regional land use decision-making.

Health benefits include greater physical activity and outdoor recreation access; more opportunities for social interactions; enhanced access to health care facilities and other services; greater access to fresh, nutritious food; reduced urban heat island effects; universal data access; fewer local sources of pollution; and healthy and diverse wetlands and ecosystems that provide a multitude of benefits.

Ms. Crowell stated that a just transition can include smart growth land patterns to attend to the spatial mismatch between jobs and housing; improved environmental outcomes and economic advantages for businesses from smart growth; creation of jobs from clean energy investments; green job career training opportunities; resilient transportation infrastructure and natural areas; and improved decision-making.

In response to observations provided by Paul Shepson regarding the community and Statewide dashboard and the importance of measuring progress, the opportunity for real-time feedback, and the importance of the interplay between inventories and observations, Ms. Crowell stated that the Advisory Panel acknowledges that, although this can be an imperfect science, the intention is to ensure the best possible information is made available and is fully transparent. Brad Tito, Program Manager, Communities and Local Government, NYSERDA, added that the recommendation involves establishing an exploratory working group to consider potential methodologies and platforms. Dr. Shepson stated the key is for it to be community-based and expressed his enthusiasm for a high-quality dashboard.

Raya Salter also expressed interest in a dashboard and believes that this Advisory Panel is one of the most important. In response to her inquiry as to the role for schools, universities, local colleges, and training organizations in tackling the research and data gathering, Ms. Crowell stated that the Advisory Panel considers all of these as critical partners and all Statewide resources need to be brought to bear to engage in workforce training and bring in the next generation of professionals.

In response to an inquiry by Ms. Salter on how to knit together the policies, rules, and regulations at the State level with the local level and build systems and accountability frameworks without disproportionately burdening the disadvantaged communities, Ms. Crowell responded that one approach is

to engage the communities and community-based organizations themselves in the process and empower them to make the decisions as to where investments are made.

In response to an inquiry by Bob Howarth regarding whether the Advisory Panel has a process for determining and recommending its priorities, Ms. Crowell stated that the dashboard, providing the right tools, and hands-on planning assistance (such as NYSERDA's Clean Energy Coordinators) are examples of the higher priorities, albeit that all of the recommendations are important. Dr. Howarth also agrees with the premise of the dashboard and believes it important that local communities have the ability to undertake greenhouse gas accounting that is consistent with the NYS Department of Environmental Conservation, citing the experience of the City of Ithaca as an example of an ongoing effort in this area. He emphasized the measuring of methane as one of the most critical aspects to address. With regard to the notion of blue carbon, Dr. Howarth's past research shows that these coastal systems sequester very little carbon in the northeast context, and he believes they should not be emphasized. Ms. Crowell noted that the Advisory Panel did not calculate the carbon sequestration potential of coastal ecosystems and inland wetlands but noted that there are other significant benefits, such as resiliency.

Dennis Elsenbeck noted that in developing a summary of all of the recommendations, there is a need for the Council to develop a holistic, non-silo-based set of solutions. He also noted the disconnect between smart growth legislation and regulatory oversight of the utilities. He suggested that infill development be approached with a deeper economic development slant, whether through legislation or other means to consider clean technology and manufacturing investment in terms of incentives based on what is being built in New York to prepare it as a clean energy manufacturing base that globally competes. He stated that there are real opportunities to in-fill as long as the infrastructure challenges are addressed. In response, Ms. Crowell stated that the Advisory Panel had substantive discussion of existing economic development programs and how to better integrate all of the offerings. She believes breaking down the silos is one of the goals of the Council and it is certainly a challenge.

Mr. Elsenbeck appreciates the idea of connecting homes, businesses and community institutions with clean energy projects and there is no economic activity unless the lack of infrastructure, aged infrastructure and lack of electric capacity issues are solved. He added that most of the implementation inevitably bumps into building codes that are 4 to 8 years behind the State's goals, necessitating better policy and regulatory alignment. He also supports the community dashboard recommendation that will allow for the definition of the actual benefit as defined by the community.

In response to suggestion by Rose Harvey regarding the value and low cost of energy audits, particularly for underserved communities, Ms. Crowell stated that the audits are the type of hands on assistance at the local level that was envisioned by the Advisory Panel.

Ms. Harvey agrees with the building code recommendations as she believes they stop a lot of good progress. She would be interested in knowing which code provisions could be removed or where there are conflicts that are usurping progress. Ms. Crowell stated that the Advisory Panel and the NYS Department of State are thinking about this all of the time despite that it is time consuming and not an easy process. She stated that the key is to ensure local governments have the tools they need to implement and realize the changes without overburdening or disproportionately impacting certain segments of the population.

In response to an inquiry by Anne Reynolds as to whether any of the recommendations are on the mandate side of the ledger, Ms. Crowell stated that the Panel defaulted toward incentives and education as local governments are responsible for making land use decisions, making it more challenging to develop mandates. Mr. Tito stated that a mix of efforts such as advancing energy codes, instituting benchmarking standards, and providing innovative financing mechanisms can create an approach that applies evenly across the spectrum to avoid competitive disadvantage or penalties for jurisdictions taking clean energy initiatives.

In response to an inquiry by Peter Iwanowicz as to whether the Advisory Panel was looking at sequestration for the preservation of open space and wildlife protection or as a strategy for offsetting pollution, Ms. Crowell confirmed that the Panel did not consider this as an offset and it was for broader ecosystem benefits.

In response to an inquiry by Mr. Iwanowicz as to what extent the Panel considered the role of community-based organizations, citing several examples of community-led efforts across the state, Ms. Crowell confirmed that the Panel absolutely considered them, agreed with the examples cited as worth replicating across the State and stated that the Panel would like them as full partners in this process.

In response to an observation by Mr. Iwanowicz that there were no recommendations for grant programs for local governments that are further along and do not need hands-on assistance, Ms. Crowell stated that despite that she did not mention them, there are quite a few recommendations for grants.

In response to an inquiry by Mr. Iwanowicz about the intersectionality between land use decisions and local control and if there are actions that the State could be doing now to prevent a deeper hole from being dug, such as limiting permits for certain types of facilities, Ms. Crowell stated that this poses a good example of the need to think about the impacts of State decisions, State funding and regulatory decisions.

Chair Howard stated that, in his opinion, many recommendations seem to present issues given the State's Constitutional home rule. He does believe the issue of advanced building codes is the first place to start and going through the back door with appliance standards or particular building material criteria is unlikely to be as efficient as if there were one Statewide plan and goal. Overall, he feels that all of these recommendations may not meet the goals without more authority from the State particularly for those local governments who may be more recalcitrant.

Presentation and Discussion: Energy Efficiency and Housing and Power Generation Advisory Panel Recommendations

Energy Efficiency and Housing Advisory Panel

Co-Chair Ruthanne Visnauskas, Commissioner of Homes and Community Renewal, began the presentation by stating that the recommendations are to make fundamental changes to the State's building sector, including residential, commercial and industrial buildings, which are required to change the way choices are made. She acknowledged the commitment and hard work of the Advisory Panel, particularly her Co-Chair Janet Joseph, Senior Vice President for Strategy and Market Development, NYSERDA.

Co-Chair Visnauskas described GHG emissions that are attributable to the building sector, defining direct and indirect emissions. She stated that electrification is the largest driver of direct emissions reductions, which are the primary focus of the Advisory Panel by strategies designed to lower or eliminate the reliance on certain fuels in both existing and new buildings to realize the 2030 and 2050 requirements.

The strategy for the building sector focuses on building electrification, energy efficiency, and maximizing grid connectivity and solar and achieving this requires electrification of systems, the building envelope and the equipment. In discussing the scale of the issue and the scale of the solution, Co-Chair Visnauskas estimates that the sector accounts for about 115 million metric tons of carbon dioxide equivalent and the recommendations should achieve nearly a 30% reduction from the 1990 levels by 2030 and put the State on a track to reduce emissions from this sector by about 85% by 2050. Co-Chair Visnauskas stated that the scale of the effort is quite daunting given there are about 6.2 million buildings in the State, the majority of which are single family buildings and about 70% were constructed prior to the Energy Code requiring investment and upgrading. The solution will require both new resources and legislation, all while working through the lens of equity. By 2030, more than 200,000 homes per year will need to be upgraded to all electric and be energy efficient which will require efforts for electric grid readiness. The key strategies presented include private capital investment, public incentives, and public investments while supporting energy affordability, healthy housing, economic opportunities and a repair of structural inequalities. In addition, all of these efforts need to be tied together to bring new technology to scale and make a commitment to job growth and expansion of opportunity.

New construction and retrofits for single-family housing, multi-family housing and commercial and institutional buildings will equitably advance building electrification and energy efficiency at scale by:

- Addressing equity and affordability
- Proceeding with practicality
- Minimizing costs
- Expanding solutions
- Providing benefits
- Realizing sustainable and resilient outcomes.

Enabling policies that address access to financing and incentives, affordability, workforce development, and public awareness and engagement to motivate behavioral change and investment will occur by embracing equity, leading by example and soliciting help and partnership with the Federal government.

As with the other Advisory Panels, this Panel met with experts and stakeholders from the public, private and nonprofit sectors, soliciting public feedback from the general public and industry professionals at each step of the way.

Co-Chair Janet Joseph presented the four major mitigation strategies of the Advisory Panel, along with key action components, that overall, would drive significant GHG emissions, by roughly 30% by 2030 and 85% by 2050. She also presented the benefits and impacts of these strategies for disadvantaged communities, the health and co-benefits and how they would support a just transition. The mitigation strategies include:

- *Phase out of fossil fuel use in buildings* by enacting enabling legislation to adopt codes, standards and regulations to improve energy efficiency, reduce emissions, and enhance building resilience and adopting regulations that phase out fossil fuel use in buildings (by 2025 for residential and by 2030 for multi-family and commercial), requiring energy efficient electric heating and cooling, electric hot water heating and electric appliances that are not otherwise regulated by the federal government.

- *Require benchmarking* by measuring building energy usage, benchmarking energy performance and making that information accessible through disclosure or labeling and making it a Statewide mandate for disclosure in a sale or lease for large buildings by 2025 and single family buildings by 2027.

- *Shift reliance on fossil gas to a clean energy system* by advancing a managed, phased and just transition from reliance on fossil gas and the gas distribution systems, including elimination of embedded subsidies for fossil gas. Although this will likely require careful technical analysis and political decisions and could be costly, a more transparent gas system planning proceeding could align with the State's broader energy and climate goals while maintaining safety, equity, reliability and affordability of service.

- *Shift reliance on hydrofluorocarbons (HFCs) use as refrigerants in all products* by advancing a managed and just transition from reliance on HFCs in conjunction with efforts at the federal level and in other states.

Co-Chair Visnauskas presented the six enabling strategies developed by the Advisory Panel, including the benefits and impacts on disadvantaged communities, the health and co-benefits and support for a just transition:

- Public financial incentives for single family, multi-family and commercial and institutional building owners that speed uptake and help transform the market for building efficiency, electrification and decarbonization, while focusing on the uptake that would benefit low and moderate income households, affordable and public housing and disadvantaged communities.

- Public and private low-cost financing for energy efficiency electrification and electrification readiness, solar PV and related improvements in buildings to provide building owners with access to low-cost capital at the scale needed to pay for necessary upgrades for decarbonization.

- Support workforce education, training, job placement and development that equip the State's current and future workforce to design, install, inspect, maintain and operate healthy, comfortable, low-carbon buildings while increasing clean energy job placement for disadvantaged communities

and advancing industry diversity.

- Support broad public awareness and consumer education, create strategic partnerships with trusted community leaders and scale up targeted outreach and decision-making support to increase market demand and accelerate the transition to low-carbon, energy efficient and all-electric buildings.

- Support innovation through research, development and demonstration projects and more companies and manufacturers operating in the State to bring innovative solutions to the market for buildings to be highly-efficient, all-electric, resilient, grid-interactive, with revenue opportunities while reducing embodied carbon.

- Lower embodied carbon of products and materials used in the buildings sector to create a broad carbon literacy regarding the impact of materials and increasing attention to carbon-sequestering products (such as cross-laminated timber and hempcrete) by establishing procurement requirements and design specifications for State-funded projects and supporting education, building re-use, R&D and in-State manufacturing of alternative products.

Cross-cutting panel recommendations presented include those listed below, although there were additional panel perspectives that were presented that did not make it into the final recommendations.

- An economy-wide analysis to identify resources and funding mechanisms to address the Scoping Plan, holistically, in parallel with the integration analysis.
- Create an advisory body to engage the private sector sources of capital and financial institutions that can support the larger economy-wide analysis.
- Advocate for federal resources and policy support in the Scoping Plan;
- Continue the NYS PSC attention to rate design and retail rates for electricity and natural gas.
- Amend State codes to enhance building-level resilience and grid reliability, and support the recommendations of the Adaptation and Resilience group;
- Broad adoption and increased funding for insulation, weatherization and energy efficiency in homes and energy disclosure that can inform future policy.

In response to an inquiry by Bob Howarth regarding the difficulty of tackling the existing building stock given the very ambitious timeframes and whether renters were considered, Co-Chair Visnauskas clarified that the intention was for low and moderate-income households to represent both renters and homeowners.

Paul Shepson found the analysis to be quite impressive but noted that the transportation and buildings panels together will not lead to success in 2030. In response, Co-Chair Harris stated that a number of different scenarios in the integration analysis are planned to evaluate the risks of achievement and the associated trade-offs. There will be consultation with the Council Members on the development of the scenarios, starting with a reference case.

In response to an inquiry by Paul Shepson as to what extent the shortfall is a matter of resources, technical issues or timing related to end of life span, Co-Chair Joseph acknowledged that there was quite a bit of debate on this topic but that many reductions are achieved through regulatory signals and cannot be substantially accelerated. She added that the need to build the workforce is quite significant and the replacement of equipment and phasing out of HFCs is a global commodity constraint. The trade off is to require greater public incentives. She agreed that existing building retrofits is the hardest sector to move forward.

In the context of the issue of the gas system, Gavin Donohue stated that there is a void of what will move the electric grid forward and determine the next level of decarbonization. He inquired as to how to equate existing technology gaps into the recommendations to transition away from natural gas heating systems. Co-Chair Joseph stated that heat pumps are commercially available even in colder regions, so the technology exists today and continues to improve substantially in real time. The challenge is getting the right heat pump in the right building installed by a properly trained workforce to drive cost reductions.

In response to an inquiry by Mr. Donohue about whether the State is doing anything to show leadership on low carbon materials, Co-Chair Visnauskas stated that on the affordable housing front the State is including many green standards and transitioning its portfolio and working closely with NYSERDA on those efforts and a number of programs to provide building sector incentives. She stated that the government sector is not as large as the whole, so more market incentives are needed.

In response to an inquiry by Mr. Donohue about whether appliances that use cleaner burning fuel were considered, Co-Chair Joseph stated that there was some debate on biofuels and renewable natural gas and no consensus was reached for a recommendation, but they may be needed in some hard to electrify buildings. This needs to be worked out in a regulatory process.

In response to an inquiry by Mr. Donohue as to whether the Downstate blended heating fuels policy was considered for more than just the Downstate region, Co-Chair Joseph stated that there was discussion and that the Panel had entertained analysis presented by representatives from the biodiesel board, but it did not result in a recommendation. In response to a concern expressed by Mr. Donohue as to how to put any of these forward absent consumer cost analysis, Co-Chair Visnauskas stated that the cost issues are complex and quite a bit of time was spent discussing this topic. Co-Chair Joseph stated that the Panel looked at costs by individual use cases, within various facets of the building stock, and incremental

costs, paybacks, and strategies to drive lower costs over time. They found a range of costs – from a few thousand dollars to above $25,000 for a multi-family building. She stated that the tougher issue to resolve is the current price structure of natural gas. Vanessa Ulmer, Senior Advisor, Policy Development, NYSERDA, offered that new construction presents a very promising story and the State is very close to building all electric buildings that meet current efficiency codes at no incremental costs using an integrated design approach. Older buildings become more challenging and expensive and there is uncertainty to undertake construction projects given the insufficient real-world examples in the market.

In response to an inquiry by Donna DeCarolis regarding the customer impacts of the cost of an electrification mandate and studies that show a broad array of solutions with a more diversified approach, such as the benefits of hybrid heating solutions with less grid build out, lower peak requirements, and more resilience, Co-Chair Joseph stated that the Panel focused on prioritizing "big prizes" such as those presented, but was mindful of extenuating circumstances. The Panel is not assuming 100% building electrification, but rather more like 85%. Ms. DeCarolis agreed to forward the other studies for consideration.

In response to an inquiry from Ms. DeCarolis regarding how to better tie together the pace of electrification with the pace of grid decarbonization, perhaps as an iterative process on grid side, Co-Chair Joseph stated that she would fully expect that to be part of the integration analysis. In response to an assertion by Ms. DeCarolis that it could be costly for conversions when there is uncertainty that they would reduce emissions, Co-Chair Joseph stated that, regarding timing, the bulk of the mandates would kick in after 2030 when 70% of the electric grid is anticipated to be comprised of renewables and that these actions would reduce emissions today even with the current grid. Co-Chair Harris added that this is a dynamic situation with different cost curves, different grid characteristics that requires staying on top of these issues.

In response to an inquiry by Ms. DeCarolis about how the recommendations impact energy delivery, reliability and resiliency for consumers as the grid moves toward renewables, Co-Chair Joseph stated that the Advisory Panel considered three tiers of resiliency: (1) reliable, resilient power grid; (2) community level – to minimize risk through certain warming and cooling and centers of refuge; and (3) building level - recommending several changes in State code regarding high performance materials that would improve passive survivability, such as solar PV with storage readiness and grid interactive appliances.

Raya Salter found the recommendations to be very comprehensive and thoughtful, favored the bold code recommendations and was impressed with the public education recommendations that are culturally sensitive. In response to her inquiry regarding consumer protections and how one can ensure that manufacturing industries take hold in the State, Co-Chair Visnauskas stated that a lot of thought went into ensuring this was a very inclusive process as a central tenant. She stated that the real focus is on making sure there is access to minority- and women-owned businesses and small business enterprises, as well as access to financing and other expertise. She noted that this is a decades long endeavor and the responsibility is on the State agencies for reporting, transparency and to make sure all are accountable. She also felt that the Advisory Panel put its best foot forward on consumer protections and public awareness campaigns that are big, bold, and targeted. Co-Chair Joseph added that in building a clean energy industry, there are opportunities to build up the supply chain in addition to building the local workforce, stating that the same thing being done for offshore wind can be done for building products. She cited the Empire Building Challenge as a way to draw demand and attention from large suppliers to entice them to set up local operations. Co-Chair Harris added that New York needs to lead the way with respect to its ambition, and with that ambition comes the investments.

Dennis Elsenbeck believes manufacturing in New York is one of the biggest opportunities. There is a need to create the type of manufacturing job opportunities to build the State's own supply chain in upstate cities as part of the smart growth approach. In response to his inquiry as to financial incentives and whether the Advisory Panel assessed business models that consider community based, non-wires alternatives, or micro grid system solutions that may be a less expensive market options than utility options, Co-Chair Joseph reported that the Panel looked well beyond incentives and grants. She noted that the State's non-wires alternative policy will likely evolve, and that the work of the Panel was more focused on individual building level and community, or multi-building scenarios. In response to Mr. Elsenbeck's observation that non-wires alternatives are more reactive than forward-thinking, Co-Chair Joseph stated that that is envisioned to be part of the managed natural gas transition planning work.

Peter Iwanowicz complimented the work presented, which he believes got to the heart of the matter on pollution reduction initiatives, finding the recommendations to be eloquent and straightforward. In response to his inquiry as to the funding proposal for the cross-cutting analysis for low and moderate income energy conversions under the first enabling strategy, Co-Chair Visnauskas acknowledged that is a large scale, big endeavor and that there are many public dollars being spent now on this type of work. The

idea is to ensure that the Council is aligning with those efforts and there are also eyes on the federal government to amplify what the State is doing. Any additional public resources will be part of a larger discussion on priorities and funding between the Legislature and the Executive branches.

In response to Mr. Iwanowicz's clarifying question regarding pending legislation for energy codes and standards, Co-Chair Joseph confirmed that it is an active bill that would make fundamental changes in the new construction building code, with a separate bill for appliance standards that would move things forward but do not represent the entirety of the package. The bill would move the State from a cost-based code to be more aligned with greenhouse gas emission reduction goals. The appliances bill would address those items not federally pre-empted and provides extensive benefits for consumers.

Ms. Harvey commended the Co-chairs on their presentation, stating that they presented the "big ticket" items that need to be addressed and prioritized. In response to her inquiry regarding the viability of tax incentives, Co-Chair Visnauskas agreed that tax incentives can be a large driver of production across the State and she does not see any reason why they should be excluded from the mix of options.

Power Generation Advisory Panel

Sarah Osgood, Director of Policy Implementation, NYS Department of Public Service presented the recommendations of the Power Generation Advisory Panel, which has 16 members, with experience and expertise ranging across the energy spectrum from environmental, to environmental justice, to trade organizations, to developers, and that diversity was characterized as a strength of the group. Ms. Osgood reported that there was strong public engagement, including 11 public meetings, options for public feedback, and strong cross-panel engagement, including with the utility consultation group. The Panel believes it has put forth a balanced and integrated set of recommendations.

Guided by the statutory requirements of the Climate Act, the Advisory Panel developed enabling strategies without specific emissions reductions as the actual emission scenarios are dependent upon the electricity demands from other sectors, and that will be addressed in the integration analysis.

As presented at a previous Council meeting, the guiding principles of the Advisory Panel are reliability; equity; affordability; zero-emission; and timeliness. By building an extremely low carbon electricity system, there is an opportunity to decarbonize the electricity sector and also those sectors

currently reliant on fossil fuel. However, the approach must recognize the importance of minimizing system costs, balancing behind the meter costs with grid costs, ensuring flexibility, and improved planning. Despite the robust package of recommendations being presented for the first time, Ms. Osgood emphasized that the State has already taken a number of steps to implement the Climate Act, including expanding the Clean Energy Standard. The Advisory Panel recommendations are organized into four categories:

- *Deployment of Resources* – including the growth of large-scale renewable energy generation, clean energy siting and community acceptance, distributed generation and distributed energy resources, existing storage technologies and demand-side solutions.

- *Critical Elements to Consider During Transition* – including supporting the high reliability standards already in place in New York by implementing improvements and enhancements for the future grid; prioritizing access and affordability for all while ensuring that disadvantaged communities are able to afford and fully benefit from the transition to electrification; and to enhance workforce development by creating job opportunities by prioritizing education and career opportunities, with a focus on disadvantaged communities to enter the clean energy industry and ensuring a just transition for current fossil fuel industry workers.

- *Advances Needed for the Future* – including market solutions that incentivize the desired resources that provide optimal reliable grid management and allow for technology and innovation that help to achieve the Climate Act objectives while ensuring the benefits for and reducing impacts on disadvantaged communities. Technology solutions were considered in two groups – those that will achieve 70% by 2030 and those that are zero-emission by 2040. Long duration storage technologies, energy delivery, and hosting capacity were also considered.

- *Transitioning Away from Fossil Fuels to Meet the Climate Act Target* – including addressing natural gas infrastructure, transmission and methane leakage, as well as planning for the retirement of fossil fuel-fired facilities. The Advisory Panel reached consensus on three main components for retirement of fossil generation facilities, but there was a non-consensus recommendation (with majority support) component presented regarding a temporary moratorium on new or repowered fossil fuel-fired facilities until the full consensus recommendation is adopted. Full consensus was reached on a planning process, promulgation of emissions regulations by NYS Department of Environmental Conservation to reach the 2040 goal, and an iterative process that builds upon the other mechanisms being used as necessary to reach the 2040 goal.

Ms. Osgood presented the benefits and impacts of decreasing greenhouse gas emissions and improving air quality, particularly in communities where fossil fuel generation is currently located, by advancing cleaner energy alternatives without exacerbating air quality. She described air quality and health impacts; affordability, which needs to be considered across the spectrum of activities; access and participation as a central concern that can be remedied by increasing awareness of new opportunities and projects; and described a just transition for businesses, industries and workers which requires maintaining

a reliable power system overall. In addition, care must also be taken to not allow the cost of energy to become economically difficult for high energy using industries creating a competitive disadvantage for businesses.

Chair John Howard thanked Ms. Osgood and the Advisory Panel for their hard work, particularly during the transition following the departure of Chair John Rhodes.

Gavin Donohue believes that the Advisory Panel worked very hard to come up with very good recommendations, noting that he was impressed that such a diverse group recognizes the importance of reliability. He also believes that an iterative planning process is critical and that the State should consider moving back toward a more robust energy planning system that involves NYSERDA, the NYS Department of Environmental Conservation, the NYS Public Service Commission, and the New York State Independent System Operator. He commended the NYS Department of Environmental Conservation for the peaker plant regulations and specifically noted his support for how the policy was studied and rolled out, calling it a good model.

Mr. Donohue is pleased and feels strongly that carbon pricing should remain on the table as a possible mechanism and stated that it is also incumbent upon the State to focus on future technologies so that it feeds into the reliability priority, given the need for dispatchable generation.

In response to an inquiry regarding whether the Advisory Panel considered carbon sequestration during its deliberations, Ms. Osgood stated that it was raised but did not garner much discussion, as the Advisory Panel deemed the topic more appropriately categorized into the advanced fuels area, when the immediate focus is on getting clean energy deployed.

Mr. Donohue believes that the gas moratorium recommendation, even when labeled as "non-consensus", may send the wrong message and may deter new business in the State. In response to his inquiry as to what the Panel determined regarding stranded investments should a moratorium on gas facilities be imposed, Ms. Osgood stated that the Advisory Panel favors a managed, phased transition of the natural as system, much like that suggested by the Energy Efficiency and Housing Advisory Panel.

In response to an inquiry by Dennis Elsenbeck regarding how to prioritize the recommendations based on cost, citing the cost of 9,000 MW of offshore wind as an example, Ms. Osgood reported that the Advisory Panel discussed approaching the goal from all angles, believing that it is the role of the Council to prioritize and define the "whole economy" that is needed. She stated that the biggest challenge will be balancing, and the transition should not be approached in a serial way, given that a massive change to our economy and our energy system is envisioned. She added that it cannot happen instantly, and it must

work for all New Yorkers, even those without sufficient resources. Co-Chair Harris offered that the 9,000 MW of offshore wind by 2035 is part of the Climate Act and the State is beginning to see cost reductions that result from that scale of investment.

In response to an inquiry by Mr. Elsenbeck regarding how to get ahead of the transition on the distribution side to avoid unwanted upgrades and whether storage technologies are anticipated to move to the demand, or point-of-use side, Ms. Osgood stated that the Panel seeks opportunities for increasing demand-side solutions and opportunities to reduce load within load pockets.

In response to an inquiry from Bob Howarth regarding whether thermal storage was considered given there are examples of cost-effective applications and is less costly than electric storage, Ms. Osgood stated that the recommendations are meant to be inclusive of both types.

In response to an inquiry by Dr. Howarth regarding the potential for offshore wind on Lake Ontario and Lake Erie, Ms. Osgood agreed that the Panel also sees opportunities in that regard but did receive some public comments in opposition. Therefore, the Panel recommends a feasibility study. Co-Chair Harris also agreed to supply a copy of a related NYSERDA feasibility study that is underway.

In response to an inquiry by Dr. Howarth regarding whether the Panel anticipates interacting with other states from which it imports natural gas regarding methane leakage, Ms. Osgood stated that there is a strong opportunity to interact with others within the State on methane leakage as part of getting its own house shored up, and perhaps to seek opportunities to collaborate with interstate pipeline companies and other jurisdictions.

In response to an inquiry by Dr. Howarth on whether the non-grid players in the market, such as those using retired fossil plants for data mining, should be part of any potential moratorium, Ms. Osgood stated that there was no specific recommendation but that could be included within the planning process that calls for phasing out fossil generation.

Ms. Osgood also offered that actions from which New York could harm itself economically by being a first mover present good areas for the federal government to step in so individual states are not reluctant to move forward. She described this as an "all hands on deck" effort and that everyone needs to be undertaking these actions.

Raya Salter strongly supports the non-consensus recommendation, as she feels that it conveys the seriousness about addressing fossil fuels. In response to her inquiry regarding an iterative planning processes and whether there are specific recommendations for rule or regulatory changes, Ms. Osgood

stated that ongoing regulatory efforts have already been tweaked to meet the goals of the Climate Act and that there are recommendations around the State's storage target.

In response to Ms. Salter's inquiry about more comprehensive solutions beyond the current affordability offerings that doesn't come close to meeting current needs, Ms. Osgood agreed that when one examines the total need even the significant State offerings are still not enough. She highlighted one effort that seeks to cap the energy burden of low-income New Yorkers at no more than 6% through a direct payment assistance program. She also stated that assistance dollars should not be used to prolong the use of inefficient equipment and the State could do a better job of identifying those in need. Lastly, she noted that other states will also be struggling with this so it may be a good role for the federal government.

In response to an inquiry by Donna DeCarolis on the benefits of leveraging, rather than decommissioning, the $16 billion natural gas infrastructure, given that it can be used to move low carbon fuels and as storage assets, and as a resilience asset, Ms. Osgood stated that there is a belief that as we move toward renewable electricity goals, there will be less reliance on fossil fuels, generally and less of a need to pay for generation and assets beyond the timeframes in the Climate Act. A managed, phased transition will ensure we are not exacerbating those expenses. She also acknowledged that the State does have a reliable and resilient system now and consumers have become unhappy with any sort of outages.

In response to an inquiry by Ms. DeCarolis about any cost evaluation along with the reliability grid readiness evaluation, Ms. Osgood stated that cost cannot be a reason to not take action and that the Council should look at all of the options and the ways to optimize them, as there is no one solution for meeting the requirements of the law. Co-Chair Harris reminded the Council that the integration analysis will include a total resource cost assessment that will look across each sector, along with benefits.

Gil Quiniones sought to amplify the complexity of this transition as conveyed by Ms. Osgood, stating that the New York Power Authority (NYPA), as a generator, a transmission owner and operator and a load-serving entity to customers and municipalities, has first-hand experience and a coalition agreement to explore this transition in New York City to lower zero carbon resources by 2035, five years earlier than the Climate Act. He added that there is a need to do this in an orderly fashion while maintaining reliability and resiliency requirements of the system, citing the New York City specific issues such as load pockets, in-City generation requirements, and the fact that certain networks need voltage, frequency support, and black start restoration. He identified the need for deep energy efficiency, demand response, transmission and distribution investments for both hardware and software. The State will also need technology breakthroughs particularly for long duration storage (for multiple days, not hours) and

lower, zero carbon fuels. He stated that studies show that 70-80% renewable energy penetration is achievable before technology break-throughs are needed. The effort he described will be an open source initiative so all can see and learn from what NYPA is doing.

Peter Iwanowicz stated that the value of reducing greenhouse gas emissions according to NYS Department of Environmental Conservation Value of Carbon Guidance results in tens of billions of dollars of savings that will manifest in lower medical bills, lower clean-up costs after extreme weather events, lower property taxes and lower insurance bills. He stated that according to the State Energy Plan, New York spends about $25 billion annually just to move goods and people back and forth in the transportation system and that figure is likely higher as the pump price increases. The State also loses about 80-85% of that dollar value to out of state oil interests, value that would otherwise stay in-State if the transportation sector were decarbonized. Ms. Osgood agreed that it would be good if consumer funds were not leaving the State but the tricky part is convincing consumers that those benefits are actually going to accrue and that they should make different choices, as for many cost will be a deciding factor.

In response to an inquiry by Mr. Iwanowicz regarding whether the Advisory Panel considered the combustion of renewable natural gas or hydrogen, Ms. Osgood stated that the Panel had conversations explicitly about green hydrogen being separate from the category of advanced fuels as part of its desire to pursue zero emission or low-emission solutions first and that the Panel's use of the term green hydrogen is meant to describe hydrogen that is created from renewables and is not combusted.

In response to a statement by Mr. Iwanowicz regarding the consideration of market-based initiatives such as a carbon adder and the need to move toward economy wide pricing strategies, Ms. Osgood stated that the Advisory Panel did discuss different options when it came to incorporating environmental values and the carbon pricing proposal was one of them, but that more analysis is needed to determine if it is a benefit for ratepayers without unintended consequences.

Next Steps

Co-Chair Harris thanked all who contributed in reaching today's milestone of the completion of the Advisory Panel recommendations and to the Council members for their active engagement. She announced that a document that summarizes the recommendations presented during the past two meetings would be provided to the Council Members. In addressing a number of cross-cutting topics that have been raised, Co-Chair Harris suggested that engaging experts in these areas over the next few months would inform the further development of the draft scoping plan.

Co-Chair Harris announced that the next Council Meeting, scheduled for June 8, 2021.

With that, the meeting was adjourned.

NEW YORK STATE OF OPPORTUNITY.

Climate Action Council

ANDREW M. CUOMO	DOREEN HARRIS	BASIL SEGGOS
GOVERNOR	CO-CHAIR	CO-CHAIR

Meeting Agenda

May 10, 2021

- Welcome
- Consideration of April 12, 2021 Minutes
- Presentation and Discussion: Transportation and Land Use and Local Government Advisory Panels Recommendations

  Noon - 1pm: Break

- Presentation and Discussion: Energy Efficiency and Housing and Power Generation Advisory Panels Recommendations
- Next Steps

In keeping with measures designed to limit the spread of COVID-19, the meeting will be conducted by teleconference and members of the public will be welcomed to observe and listen to the meeting via webcast only. The webcast may be accessed by going to the Climate Action Council website: climateact.ny.gov