Mid-Hudson Sustainability Coalition Energy Working Group
COMMENTS ON THE NYS CLIMATE ACTION COUNCIL'S DRAFT SCOPING PLAN

To the New York State Climate Action Council:

The Mid-Hudson Regional Sustainability Coalition is a diverse group of participants who were active stakeholders in the 2013 Mid-Hudson Regional Sustainability Plan through various subject matter expert working groups. We have continued meeting to share knowledge and evaluate opportunities, including what we see as a tremendous opportunity for regional-scale planning and coordination to achieve the goals of the Climate Leadership and Community Protection Act (CLCPA).

Recently, many of us have been working together on an innovative process to connect the CLCPA goals to on-the-ground visions of possibility by means of a Regional Climate Action Strategy for the Hudson Valley. Over 90 stakeholders representing diverse organizations have participated through nine thematic working groups addressing many of the focus areas of the Climate Action Council (CAC). While our effort has been less formal than the Climate Action Council's, it has identified key policy and on-the-ground program directions that can be led at the regional scale in support of the CLCPA. We hope to be able to present this work to the CAC at an appropriate time.

The comments presented here were coordinated by the Energy Working Group associated with this Coalition. We have invited input from its more than 70 members, to better understand what is working and what is not, with regard to state policies and programs today. That experience is a basis of our recommendations to the Climate Action Council on strategies that must be embraced as the Draft Scoping Plan is finalized.

We begin with appreciation for the overall excellence of the work of the Climate Action Council, the professional dedication behind it, the rigorous analysis that shows clearly in the Draft Scoping Plan, and the transparency of your process from beginning to end. The Council has done an admirable job of developing, on the fast track, a Draft Scoping Plan that is comprehensive yet realistic. But inevitably, there are gaps. We identify some in the hope that they can be remedied straightforwardly by agency staff who understand the kinds of program innovations we are discussing.

The CLCPA calls for transformative change, especially in New York's energy and transportation systems. Accomplishing these changes will require more than good policies and good leadership: it will require coordination and alignment among policies and strategies, and among actors whose cooperation is needed. Our comments will focus on key aspects of this coordination and alignment for the largest emissions sources, to ensure that:

- Beneficial electrification is coordinated with the rollout of renewables and storage, to prevent growth in demand for polluting energy sources if building and vehicle owners go electric without enough renewable power sources in the mix;

- Grid modernization is planned and managed in a process that includes consultation with local and regional stakeholders who are best equipped to identify priority locations for large-and smaller scale renewables in their areas;
- Grid modernization is paid for equitably, with cost share among utilities, developers, the state and other interested parties according to transparently developed policies;
- Electric rates are designed around incentivizing renewables where they make the most environmental sense, on already developed "greyfields," and ensuring the affordability of clean heating/cooling technologies like heat pumps and Electric Vehicle (EV) charging;

Building energy-efficiency upgrades are incorporated into the rollout of renewables, to make the shift as efficient and affordable as possible for building owners and prevent undue stresses on the grid;

- The process of directing benefits to historically disadvantaged communities is not a one-way delivery of services, but sets up an empowering relationship that encourages members of those communities to guide the engagement process, own clean energy assets and shape the growth of the clean energy economy in their communities.
- Beneficial electrification and the rollout of clean energy technologies are carefully managed to prevent unanticipated environmental costs – for example, by working with installers and owners of heat pumps and refrigeration equipment to prevent leakage of refrigerants and speed the transition to low global warming potential refrigerants.
- The electrification of the transportation system is carefully staged to align it with the integration of renewable energy sources to operate the system and renewably powered vehicles including buses, trains, trucks and ships, and incorporate the conversion of conventional vehicles as an emerging industry;
- Ways to pay for the transition balance public and private interests to attract increased private as well as public investment.

A context for our comments is our experience with consensus building resources that we have seen used very effectively to support renewable energy siting: The Long Island Solar Road Map and Scenic Hudson's "How to Solar Now" decision tool.

The Long Island Solar Road Map was developed by The Nature Conservancy and Consensus Building Institute in collaboration with utility, industry, municipal and other stakeholders. Its purpose was to create common principles and priorities for developing large-scale renewables -- on sites that are compatible with both community sensibilities and land use priorities, and with grid capacities and the utilities' upgrade plans. The program has identified almost 19,500 MW of potential power from low-impact solar arrays, and has collected public opinion research putting support for low-impact solar development in communities above 90%. This is a replicable model that can lay groundwork for less conflict-ridden development of solar power, at every scale, statewide.

How to Solar Now is a geographic information system (GIS)-based decision tool created by Scenic Hudson. It provides easy access to maps that show land uses, soil types, zoning and other data that can inform renewable energy siting decisions. It contains a structured inquiry process, in modules, that can be used by any government agency, NGO or developer in an interactive process that helps parties understand each other's perspectives and identify win/win options for siting. In the Mid-Hudson Valley, Clearwater, Scenic Hudson and New Yorkers for Clean Power have trained two cohorts of municipal representatives (such as Conservation Advisory Council members) in the use of this tool, representing around 40 municipalities. This work is ongoing, with a summer session planned for July. We have seen it empower local government representatives to think more proactively and work with their stakeholders to figure out where they can most easily say, "Yes, in my backyard."

Because we have seen these results, we believe there is a consensus-building pathway forward through coordination of processes and stakeholders. We are especially supportive of the DSP's Strategy E4, Support Clean Energy Siting and Community Acceptance. The substantial changes in grid design that will be needed, and the ways to pay for them, will require a robust and transparent consensus-building process, which engages stakeholders – not simply a regulatory proceeding that collects and reviews written testimony.

We appreciate the DSP's endorsement of creating decision tools that are relevant statewide. We encourage strengthening this approach with incentives and funding for consensus-building stakeholder groups across the State, and, through the Public Service Commission, requiring the utilities to be productive coalition members, as illustrated by the positive experience of integrating PSEG-Long Island into the solar siting discussions there. We appreciate the DSP's endorsement of creating similar decision tools that are relevant statewide. It is important that this consensus building process includes elected officials and citizens from across the political spectrum. We can, and need to, find non-partisan ways to move forward.

The recommendations below are informed by the vision of consensus building to guide beneficial electrification, grid modernization and energy policy development, and especially to empower residents of historically disadvantaged communities to make creative use of the resources made available by the Climate Act.

1. Beneficial electrification and grid modernization (DSP E3)

Coordination for beneficial electrification

To support the beneficial electrification that is a foundation of the Climate Act and Draft Scoping Plan, grid transformation is essential to convert a one-way system designed to bring electricity from large generating facilities to primary loads where it is needed. Distributed energy resources (DER) such as solar or wind require a two-way system which can both send and receive varying amounts of electricity. Local to regional, stakeholder-driven processes such as the Long Island Road Map can guide grid modernization priorities by identifying the lowest-impact sites that best fit with

community sensibilities and ensure critical resources are protected. Funding and supporting these processes over the next two years will be invaluable in the implementation of the CLCPA.

Interconnection of new renewable energy generation to the existing grid is a critical process that will work most efficiently if the grid upgrades are located where the generation is to be developed. This includes both the energy sources specified in the CLCPA and other low-impact renewable energy technologies that are appropriate in a particular region, such as small wind, truly low-impact hydro and tidal power where appropriate. By incentivizing, and ideally funding, consensus building processes to identify these priority locations, the State can reduce temptation and pressure to pave over prime farmland, cut down forests, or destroy other carbon sequestering ecosystems for the sake of renewable energy development. Utilities, municipalities, developers and other stakeholders should have input into grid restructuring to meet community needs while preserving farmland, forests and other resources. A well designed state program to train and involve local stakeholders in building a consensus on renewable energy siting is the best way to avoid the polarization and confusion that has been occurring in spite of the widespread public commitment to climate action.

Hosting capacity: local first (DSP E3, p. 160)

Resilience and coherent management of grid upgrades both favor building up hosting capacity for renewable energy generation as close as possible to the point of use. To ensure adequate hosting capacity and favor renewable energy generation close to the point of use (for efficiency and resilience), each utility should be required to assume that all generation needs for its expected electrical load in 2030 and 2040 will need to be met from:

- already contracted renewable energy from outside its service area, and
- distributed energy resources that are built or to be built within its service area.

That is, they should assume that renewable energy resources from outside the service area will NOT be available for utility use (unless already contracted) so that grid upgrades must be planned for implementation to meet the CLCPA targets in sufficient time to allow distributed renewable energy project development and interconnection (as a guideline, two years ahead of target).

If grid planning takes a thoughtful approach with focus on local needs, it will also be clear that there are communities and neighborhoods where hosting capacity will take years to be ready for DER, in spite of sites that are adequate, attractive and automatically qualify for Type II SEQRA, which doesn't require further review. For these locations, we ask NY State to develop supports for off-grid solar plus storage, and full electrification of surrounding buildings, in order to provide resilient power now and be connected to the grid in the future as the distribution grid is ready.

2. Redesigning the incentives for renewable energy development (DSP 13)

We are glad to see that the Draft Scoping Plan calls for a redesign of energy policies and particularly the incentive system for renewable energy development[1] . To achieve CLCPA targets, creative thinking must become standard operating procedure for all stakeholders. This will require significant evolution of policy. We illustrate this need with a look at two existing policy frameworks that, in our view, are not working well enough[ME2] .

The current policy framework that shapes the incentive for renewable energy installations, Value of Distributed Energy Resources and NYSERDA's related incentives, do not differentiate among site types to account for the higher environmental value of some. In particular, NYSERDA's incentive structure unduly restricts the development of numerous potential rooftop projects in the 751 kW – 2 MW range because these size projects are uneconomic under NYSERDA's "**Upstate Region Commercial**" program incentives. NYSERDA should expand the project size eligibility of its smaller "**Upstate Region Nonresidential**" program beyond its current 750 kW DC limit, and up to 2 MWs DC. This would add no new costs to NYSERDA's budget nor yield any fewer MWs; it would simply allow for the more effective and efficient use of NYSERDA's Nonresidential funds. This will encourage greater solar development on "greyfields" such as parking lots, commercial rooftops, highway rights-of-way, etc. We recommend more favorable "adders" for projects on these disturbed lands.

Additionally, already developed sites tend to have 3-phase feeders in place, and solar development on already developed sites under 25 acres is often automatic Type II SEQRA. These factors make already developed sites especially attractive to solar development. To promote this, we ask NY State to develop a publicly available, interactive map of the solar generation potential of sites that are automatic Type II SEQRA for solar arrays. Connecticut and Long Island have done interactive solar siting maps.

To bring efficiencies into the transition to renewable energy, and to speed up reduction of GHGs, the Energy Working Group also asks NY State to support projects that combine numerous GHG lowering technologies into each project by instituting a new grant category for multi-faceted GHG reduction projects. Selected recipients would receive grants for all parts of their projects at the same time. This will facilitate projects with multiple co-benefits and bring efficiencies into preliminary studies, purchasing and construction.

Already developed sites tend to have 3-phase feeders in place, and small-to-medium already developed sites are automatic Type II SEQRA. These factors make them especially affordable to renewable energy development. To make these advantages more obvious, the state should develop a publicly available, interactive map of the solar generation potential of these sites.

A visual snapshot of what is working, and not working, in NYS solar development policy, can be seen in the 5,800 kW dc rooftop solar array on Newburgh's new warehouse, surrounded by equally suitable sites where there is no photovoltaics (PV) whatsoever.

In addition, as an outgrowth of the state's Reforming the Energy Vision process, the Distributed System Implementation Planning effort has made limited progress in planning for system reform and is still tackling basic questions such as whether to separate operations and market functions. California and Hawaii show much greater penetration of distributed renewable energy without this type of system reform, suggesting that a simpler approach might be possible for New York.

PV on Newburgh distribution center

Energy storage: imperative and opportunity (DSP E6)

New policies should align the roll-out of renewables with the significant expansion of energy storage. We endorse, at a minimum, the Governor's stated goal of 6 GW and urge the Council to seek ways of reaching the 20 GW goal that is now recommended by some drafters of the Climate Act. This level of ambition is needed to ensure the phase-out of gas in the power mix without jeopardizing grid reliability and local resilience. Currently, NYSERDA's incentives for energy storage are limited and mainly apply to downstate businesses; we support the DSP provision to create a more robust program.

The work of the New York Battery Energy and Storage Technology Consortium (NY-BEST) should be continued if not expanded to include R&D on diverse energy storage technologies. In addition to batteries, these include thermal and mechanical methods, pumped hydropower, hydrogen, and flywheels. Long duration storage should be a special priority, and New York should take full advantage of support opportunities like the US Department of Energy's Long Duration Storage Shot.

Energy storage presents major opportunities for creativity, such as encouraging reuse of retired power plant sites (such as Indian Point and Danskammer) for storage, and/or microgrids. The exciting possibilities for redevelopment at former fossil power generation sites are illustrated by the **Massachusetts Clean Energy Center's redevelopment of the Brayton Point Commerce Center**, which will serve as a logistical base for offshore wind operations and generate 2000 MW of power, with storage, where a coal plant operated for fifty years. Initiatives like these are a core recommendation of the Just Transition Working Group. They would not only support the clean energy transition but would also help to mitigate the revenue and jobs impacts of plant closure in disadvantaged communities, prioritize energy security, and reduce cost because grid interconnection is already there.

New policy should include an expanded Clean Energy Standard that covers storage, and require utilities and energy suppliers to expand their storage capacity as the grid becomes more reliant on intermittent renewables. Because energy storage is a clear alternative to continued dependency on gas for grid reliability, there is an opportunity for data-driven consensus building by the State: this is to update New York's Energy Storage Road Map, either as a stand-alone effort or integrated into more comprehensive grid planning, to achieve more ambitious goals of at least 6 - 20 GW, and to do so in a transparent stakeholder process involving the utilities, industry, environmental and community interests.

Community Choice Aggregation (DSP E5)

Aggregation is a critical strategy for faster scale-up of renewable energy. Community Choice Aggregation is embraced by the Draft Scoping Plan (E5, p. 164). CCA has made significant gains in NY since its introduction in 2016. The ability to include community distributed generation (CDG) on an opt-out basis is a big win.
However, the aspects of CCA policy that are not working do handicap the rollout of this valuable tool. These include:

- Inability of the utilities to properly integrate CCA-related energy supply into their billing, resulting in incorrect bills, overcharges and depleted customer bank accounts, customer anger and confusion.
- No mechanisms currently being provided by the PSC to enable CCAs to compete effectively with the utility supply for bulk renewable purchases, as California allows with good results.
- No current mechanisms in place to allow CCAs, individually or via aggregated demand, to enter into contracts directly for purchase of energy supply (local Community Distributed Generation [CDG] and New York State generated bulk energy supply).

- Inadequate incentives for the “Green” renewable option. In Rockland, one very large Town and one small Village chose the brown option on the basis of cost.
- Attempt by at least one Energy Service Company (ESCO) provider of bulk energy supply to renege on its contract to supply bulk electricity to a consortium of CCA-enabled municipalities (Columbia Utilities selling into the Central Hudson-regional CCA consortium Hudson Valley Community Power). This could be addressed with a requirement either for the PSC to review and grade (say A, B or C — as is done for restaurants) bulk energy providers OR require and regularly (every six months) update disclosures of all complaints and disbarments, in all jurisdictions in which that ESCO provider operates.

The Final Scoping Plan should help to define mechanisms to strengthen and expand the options and tool kit for CCA through:

- Development of CCAs with the legal, financial, and administrative powers required to independently plan and invest in local community generation, including solar, low-impact hydro, and storage. The PSC can address this by removing current limitations and NYSERDA can adjust their templates to reflect the PSC’s original intent that CCA should empower municipalities to “educate, encourage, and empower communities and individuals to take control of their energy future through engagement with existing REV [Reforming the Energy Vision] and CEF [Carbon Energy Fund] opportunities and development of new DER [Distributed Energy Resources] and clean energy programs.”[1]
- Enabling municipalities or aggregations of municipalities to purchase directly bulk electricity (and natural gas, to the extent any CCAs are interested in interim fossil fuel supply before beneficial electrification is complete) from large-scale renewable resources such as utility-scale New York wind, solar, and hydroelectric projects, rather than from ESCOs.
- Ability of CCAs to invest the revenues from these projects and other sources (grants, donations) in community-based programs that engage all residents and small businesses in transforming their homes and businesses by retrofitting them for energy efficiency, electrification, health, and comfort. Due to their authorization and oversight at the local municipality level, CCAs are uniquely positioned to lead and carry out this critical task and are beginning to do so in California. New York should encourage municipalities to follow suit.
- Developing mechanisms to allow CCAs to use aggregated demand side resources such as behind the meter storage, smart appliances and heat pumps, and behind the meter renewables to participate in real time energy markets in order to raise revenues for their programs.

Currently, CCAs are not allowed to include Assistance Program Participants (recipients of utility energy affordability programs),[1] unless the CCA can demonstrate that these customers will pay less than they would pay if they remained with their incumbent utility. To date, no ESCO and no CCA has been able or willing to provide such a guarantee.

[1] CCA Framework Order, April 20, 2016, p. 3. in PSC proceeding 14-M-0224

The new CCA White Paper, filed April 14, 2021, would solve the problem by requiring CCAs that introduce community distributed generation (CDG, typically community solar) on an opt-out basis to serve all APP customers *first*. This praiseworthy proposal is undercut by the further provision that municipalities be required to serve all APP customers within their borders at the same time, or with a delay of no more than a year. This limitation, if adopted by the PSC, would effectively prevent CCAs in urban areas from taking advantage of opt-out CDG, thus also continuing to prevent the municipalities from including their LMI (Low-to-Moderate Income) residents. This is doubly harmful 6because it would prevent advanced CCAs ("CCA 3.0") from offering LMI customers other clean energy services such as support for energy efficiency, with all its associated health and economic benefits.

The solution is for the PSC to drop the requirement that CCAs introducing opt-out CDG serve all APP customers within a year, and replace it with a requirement that the CCA Administrator and the municipality or municipalities formally agree on a timetable and a method for enrolling all ACC customers who do not opt out, for example by neighborhood, or randomly, such as by alphabetic order of last names.

Demand-side solutions and the link to resilience (DSP E9)

To mitigate the nearly doubling of peak demand that is expected from beneficial electrification, new policies should give greater weight to demand-side solutions, including building energy retrofits, geothermal heating and cooling, demand response programs, and micro-grids. These are especially relevant for energy security for vulnerable populations and to protect the public in emergencies, such as in warming/ cooling centers. We encourage NYSERDA to continue developing innovative programs that not only incentivize these kinds of measures, but support implementing them holistically through place-based strategies whereby the community determines where the micro-grid, district geothermal system, warming/ cooling center, EV charging facilities, and other local energy assets belong, and how they fit together to enhance public spaces. This is the essence of the connection between mitigation and adaptation/ resilience strategies, maximizing what Prof. Judith Rodin calls “the resilience dividend.” The “Resilience Hubs” model created by the Urban Sustainability Directors’ Network should be explored as a model for funding of projects that combine clean energy upgrades with other resilience benefits.

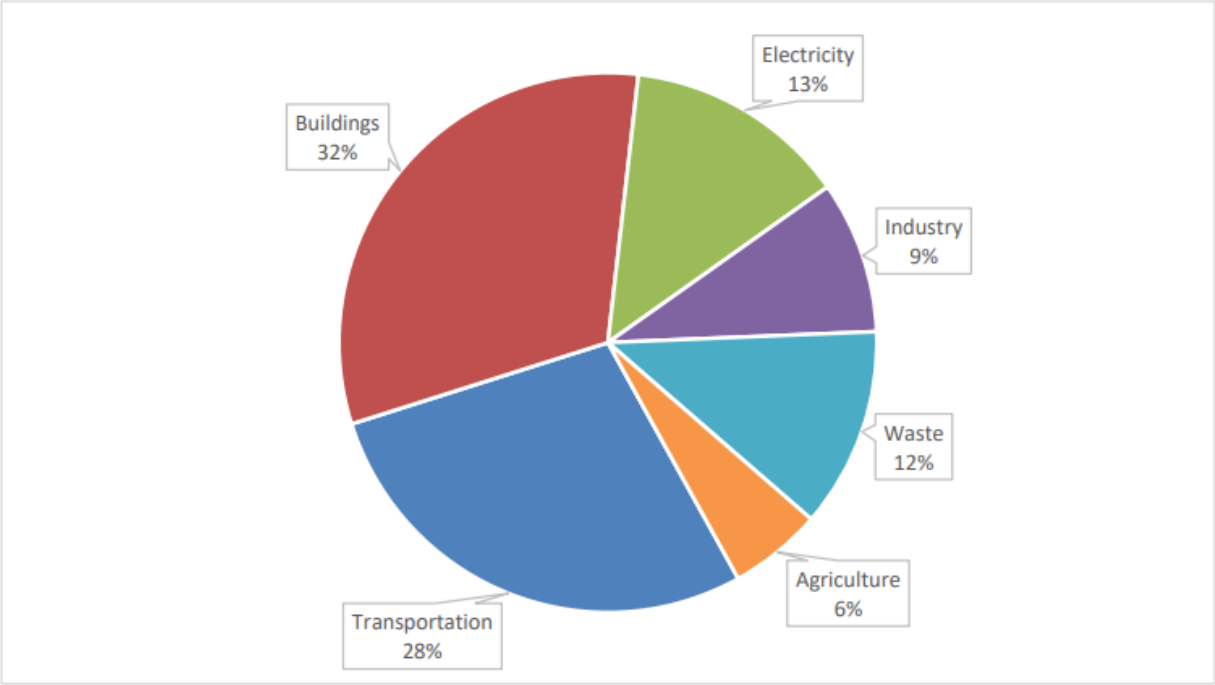
A critical example of this connection is the cooling and flood mitigation value of an under-appreciated energy technology, the humble tree. The magnitude of energy benefits that trees provide was demonstrated on the resground in Worcester, MA, in 2008-2009 after an infestation of Asian Longhorned Beetle (ALB) forced the removal of thousands of trees. 35,000 trees have reportedly been removed to date. One 2013 study stated that this resulted in a 37% increase in electrical consumption when the 2008 and 2009 cooling seasons were compared (Morzuch 2013). While the degree of energy savings from abundant trees near buildings varies according to different sources, it is clearly significant.

These benefits are most significant in areas with low-rise buildings and in older buildings with less insulation and more air infiltration. The Greening the Gateway Cities Program in Massachusetts is designed to enhance tree canopy over time and take advantage of these energy benefits. This is an important model that NY State should emulate. Based on the wide range of benefits for greenhouse gas reduction, energy efficiency, public health and safety, and environmental quality, NY State climate programs should include a large increase in funding for urban and community forestry initiatives. These programs might well be able to be jointly funded by numerous agencies whose constituents would see benefits: housing, health care and public health, community development, air pollution mitigation, smart growth, mental and emotional health, K-12 education, and hazard mitigation.

3. Accelerating building efficiency upgrades (DSP 12)

Buildings account for 32% of NYS GHG emissions. Transforming New York's building stock to comply with the CLCPA mandate is arguably the most difficult aspect of the transition ahead. We recommend more systemic and ambitious approaches in marketing, state and utility incentive programs, and the creation of new, more scalable financing mechanisms.

Figure 2. 2019 New York State GHG Emissions by Scoping Plan Sector



Energizing the ground game: marketing building efficiency

What's working: NYSERDA has seriously invested time and resources in community-based campaigns to popularize energy efficiency, heat pumps and solar power (especially NY-SUN for low to moderate income communities: NY SUN Solar Equity Framework), as well as small but strategic investment in EV outreach. From demographic targeting tools to advertising subsidies to supporting a learning community of HeatSmart campaign leaders, the agency has been taking marketing seriously.

What's not working so well yet is engagement of the many intermediaries who can reach the public as trusted sources. The new Regional Clean Energy Hubs program is designed to address this need, at least in its area of focus, social service agencies and community-based organizations. This will work within these designated networks, but may not be sufficient to "de-marginalize" low income and frontline communities, or to serve moderate-income households that can be among the early adopters for electrification with proper support.

An example of a broader partnership that is expert at engaging homeowners is the real estate industry, which has the unique position of working with building occupants daily. This industry has an amazing opportunity to educate a large pool of homeowners, renters, and landlords about the importance of energy efficiency upgrades and the benefits of electrification. According to the National Association of REALTORS® Research Group, 2021 REALTORS® & Sustainability Report - Residential, only 15% of respondents had clients ask for advice about energy efficiency upgrades very often or often, and only 34% of realtors expressed confidence in their ability to connect a client to a lender that could support energy efficiency upgrades. This points to a significant educational gap and opportunity that could be addressed by:

- Supporting the expansion, and possible mandating, of professional training already offered by the National Association of Realtors and Earth Advantage for Real Estate Salespeople, providing a building science foundation and discussing the "How-Tos" of marketing and selling a high performance home.
- With industry partners that could include realtors, financial advisors, and other professional service industries that can benefit from new markets as they shift to greener practices, NYS could establish and fund much wider-reaching educational programs, including creative media projects. Why not celebrity chefs demonstrating high performance electric stoves?!
- The US Department of Energy's Home Energy Score system shows tremendous promise for translating energy performance into market value for homes at the time of sale and should be embraced in NYS' climate policy, following the example of some European countries that now require home sales listings to include energy efficiency reporting.

Beyond the Clean Energy Hubs program, we encourage NYS to work with these kinds of industry partners at the state level, and involve additional partners at the regional scale to reach diverse networks.

Adopt Advanced Codes for Highly Efficient, All-Electric, and Resilient New Construction

The state should prioritize adopting a highly efficient State Energy Code for new construction (and additions and alterations as applicable) of residential and commercial buildings, to require highly insulated thermal performance and air tightness; electric readiness for space conditioning, hot water, cooking, and dryers; EV readiness where parking is provided; and solar wherever the opportunity exists and is feasible (with allowances for green roofs and other uses of rooftop space).

What's not working: Local Building Inspectors are sometimes find it difficult to get contractors in their community to comply with the current Energy Code and felt any new codes such as the NY Stretch Energy Code or NY Stretch to Zero would be difficult to enforce. Better energy codes are essential to better buildings. Required blower door and/or dust blasting testing for compliance is critical to ensuring new construction is meeting building envelope requirements.

Getting municipalities on board with NY Stretch will require education and support. Training for contractors on the changes to code will be necessary. A network of municipalities who have already implemented NY Stretch to help those towns who have yet to make the switch could be a beneficial program offering – a Buddy System!

Until all-electric codes are adopted, NYSERDA should encourage local governments to adopt NY Stretch Energy Code. NYStretch Energy Code-2020. This energy code would require that new buildings and substantial retrofits adhere to improved insulation, air sealing, and other energy standards compared to the current code. The state estimates that a home built to the NYStretch code will save about 19% in total annual energy costs, or about $29/month. If financed with a 30 year mortgage at 4% interest, the monthly costs of the improvements would be between $7 and $12 a month. There would also be an increase in the property value, leading to slightly higher property taxes. When all the costs and benefits are considered, a new home built to NYStretch would save the homeowner between $12 and $19 a month, while being more comfortable, healthy, and reducing energy use and greenhouse gas emissions. The financial rewards associated with adopting NYStretch – $70,000 no-match grants for energy improvements – should definitely be continued.

Rather than requiring local governments to pass a single version, NYS could allow a potentially easier-to-pass option. Instead of banning fossil fuel in new buildings, municipalities could simply require that building permits for all new A/C units be cold climate rated heat pumps. In a new building, the builder could still install fossil fuel heat, but they would not have to, so any builder who wanted to save money (the vast majority) would not. This might be significantly more politically palatable than a ban and would also help a little with the retrofit market, in cases where a homeowner wanted to add A/C.

Codes should also become more rigorous to deal with embodied carbon in building materials, defined as all the GHG emissions that result from the mining, harvesting, processing, manufacturing, transportation, and installation of the products and materials

that are used in buildings, as well as end-of-life emissions associated with the disposal of those materials. This is an important area for the State to lead by example.

Energy efficiency upgrade programs and building codes should incorporate preferences for low embodied carbon materials to avoid situations where future energy savings are achieved at the cost of previous high greenhouse gas emissions during the manufacture of the materials used. To achieve this goal, these preferences should be incorporated in all formulas and calculations of cost effectiveness used in these programs. Prescriptive programs and codes should include these preferences as limits on the amounts of high embodied carbon materials used in any application.

Smart buildings and controls (DSP 12, p. 119)

To manage the impacts of widespread electrification on the State's electric grid, it will be important for buildings to adopt smart controls, energy storage, and other load flexibility measures, and we are glad to see the DSP's commitment to these. Smart building technology, by lowering consumption, can not only improve efficiency and sustainability, but can also reduce operating costs. Digitalization offers great potential to enhance energy efficiency policies by providing better data and much clearer vision on the utilization of distributed energy resources. Examples include sensor networks, smart lighting and HVAC, smart windows that lighten or darken according to sunlight intensity, advanced power strips, smart ceiling fans, destination dispatch controls for elevators, and televisions, refrigerators, and dishwashers that interact with the grid to assist with peak load management These controls could cut total energy use in residential and commercial buildings by 10% by 2040.

Rethinking incentives

Historically, NYSERDA's energy incentive programs have been designed to achieve straightforward financial and energy goals in the form of direct cost and energy savings. What's missing in the picture is investment in benefits connected with health and safety in buildings. The DSP acknowledges the importance of indoor air quality issues but does not address the financing of remediation prior to any energy efficiency work. Because these factors are most common in substandard housing, this is an environmental justice issue.

What is needed: The proper response is directly legislating and enforcing housing livability standards for all renters in NY State. Since the LMI community is over-represented as renters (60% of the residents of Newburgh, for example, are renters), justice depends on such standards. From a building science standpoint, "habitability," and "safety" need to be explicitly defined and legislatively enforced.

What might work: A similar program to Stretch to Zero (cited above) could be applied on an individual or municipal level. Individual building owners can be eligible to receive financial awards if their homes meet a certain level of energy efficiency and "healthy building" criteria. This could be especially effective in reaching landlords. Incentives

could also be designed for municipalities that achieve a high concentration of efficient and healthy building stock.

As electrification scales up and heat pumps come into wider use, building efficiency is a precondition to prevent over-sized systems for the building owner and undue stress on the grid. A mechanism for making this connection is to tie incentives for heat pumps to demonstration of energy efficiency performance in a building. In Massachusetts, for example, the MASS SAVE program offers enhanced incentives to customers who have previously used the program's weatherization rebate. New York should investigate this program and design something similar, based on energy performance and not just whether a homeowner has participated in the state program.

Expanding public and private low-cost financing

Low-cost financing products for energy efficiency, electrification, electrification readiness, solar PV, energy/thermal storage, and related improvements are also needed so that single-family, multifamily, and commercial and institutional building owners can access low-cost capital at the scale needed to pay for the building upgrades necessary for decarbonization.

What's not working: While NYS is committed to mobilizing enough funding for home energy efficiency upgrades, there are few funding sources for homeowners to address underlying conditions that may need to be tackled before those energy upgrades can be performed, such as roof condition, asbestos and mold, and overall building condition. The Final Scoping Plan should identify a remedy. It may include expanding programs that have been designed to finance building energy upgrades, and expanding programs that now serve commercial customers. Potential tools include PACE (Property Assessed Clean Energy) and Pay-As-You-Save (PAYS) programs.

For many financially marginal households, a way must be found to access energy improvement financing regardless of credit score. Companies exist that serve this market (e.g. PosiGen, Inc.) but they may face the challenge of high cost of capital. NYSERDA and/or the NY Green Bank should seriously investigate entering this market.

All these strategies will remove barriers to the uptake of building energy efficiency improvements, but they may not, by themselves, accelerate progress at the necessary level. An extraordinary level of capital mobilization will be needed over the next twenty years to weatherize New York's buildings fast enough to meet Climate Act goals. And so, we recommend an additional approach – a new proposed financing model that is based on the successful structure of the Environmental Facilities Corporation for financing public benefit investments at the local level, since this type of public benefit investment is exactly what is needed. The Town of Bedford, City of Ithaca, City of Saratoga Springs, Columbia University's Sabin Center for Climate Change Law and Hodgson Russ LLP have reviewed how local and state policy that establishes clean water, safe sidewalks, waste management and other public benefits may also be employed to achieve the public benefits of cleaner air and lower GHG emissions. The project found that poorly performing existing buildings could be improved in an equitable, rapid, and scaled manner by linking state public authority funding to local

existing building improvement mandates. Based on this work, NYS Senate legislation is being finalized that streamlines the provision of municipal public benefit mandates and public authority funding, THE DECARBONIZATION AND REVITALIZED BUILDINGS FOR ALL ACT provides a model for enabling public benefit mandates to be coupled with access to low-cost capital, unlocking the innovation, economies of scale and massive capital flows needed for scaled and equitable building performance upgrades. We support this proposed framework and encourage the Final Scoping Plan to include it.

4. Eliminating transportation emissions (DSP 11)

Transportation accounts for 28% of New York's emissions, and close to ⅔ comes from cars, SUVs, pickups, and other “light duty” vehicles. Emissions from medium- and heavy-duty vehicles like trucks and buses, while accounting for a smaller share, have an outsized impact on public health because of the co-pollutants they emit in addition to greenhouse gasses. These include fine particulates, nitrogen oxides, and carbon monoxide. Aviation and other non-road travel accounts for 12% of transportation emissions. Pollution from transportation is a major environmental justice issue. Transportation infrastructure like highways, truck freight routes, and bus depots have tended to be sited in or near low-income communities and communities of color, which suffer disproportionately from related health impacts, including asthma and cardiovascular diseases.

To meet the emissions targets of the Climate Act, NYS must accelerate electrification of transportation to replace three million gas powered cars with EVs by 2030 and 10 million by 2050 (with just 45,000 zero-emissions cars on the road in New York today). Along with electrification, Vehicle Miles Traveled (VMT) will need to be substantially reduced, while access to public transportation will need to be greatly improved. The Draft Scoping Plan notes the crucial importance of early action and investment – beginning now – to ensure the availability and affordability of these technologies.

What is working: Some important state actions have recently been taken to address climate-damaging emissions from transportation and improve public health. These include the Zero Emission Vehicle Sales Act, the Advanced Clean Truck Rule, first-in-nation legislation requiring all school buses to be electric by 2035, the state’s $1B commitment to support EV adoption and infrastructure, and the Clean Transportation Prize awards of $85M to 17 projects that strengthen transportation electrification and transit. The proposed Clean Air, Clean Water, and Green Jobs Bond Act, which will be on the ballot in November, also includes $500 million in funding for electrification.

We are also encouraged to see major transportation improvement projects that also advance environmental justice goals – for example, steps to decarbonize the Hunts Point Food Market in the Bronx, the nation’s largest food distribution center and a heavily polluting facility, with more than 15,000 diesel trucks passing through every day.

Also working are local programs to make public transportation more affordable, such as Fair Fares NYC which saves low-income New Yorkers 50% on transit, and in

Westchester, Bee-line buses are free this summer. Programs like these should be expanded wherever budgets allow.

We support the Scoping Plan's further recommendations to accelerate electrification, invest in public transportation, reduce vehicle miles traveled and encourage better local planning. We encourage an expanded suite of policies and programs to:

- **Enable direct-to-consumer sales** by electric car manufacturers.
- **Establish a "feebate" on vehicle purchases** to accelerate the shift to EVs, assessing a fee on the sale of new gas-powered cars to pay for higher EV incentives and encourage EV purchasing until price parity is reached (expected by 2030).
- **Extend incentives to cover used EVs**, which will help drive adoption among low- and moderate-income consumers who typically cannot afford a new car.
- **Continue expanding charging infrastructure**, with a focus on disadvantaged communities, multifamily buildings and large employers.
- Provide commuter incentives for EVs such as preferred parking at train stations,
- Support priority investments in solar/ storage microgrids at transit hubs for reliability, grid stabilization, resilience and renewably powered commuting.
- Direct utilities to address demand charges that discourage public charging facilities, and design rates and programs to **incentivize off-peak charging.**
- Provide economic incentives and training for auto repair and body shops to repair EVs and to convert Internal Combustion Engine (ICE) vehicles to EVs.
- Amend building codes to:
    - Require new buildings to be EV-charging ready**.** Already a requirement of NYStretch 2020, NYSERDA's supplement to the State Energy Code, this should be included in Energy Code updates.
    - Require new commercial and multifamily buildings with over 10 parking spaces to include EV charging facilities.
- Adopt regulations similar to California's proposed Advanced Clean Fleets regulation to reach 100% sales of zero-emissions medium- and heavy-duty vehicles by 2040.
- Provide enhanced State incentives for the purchase of **zero-emissions trucks,** giving preferences to fleets adversely impacting disadvantaged communities.
- Incorporate into the Scoping Plan the Transportation Advisory Panel's target to double the accessibility and availability of public transportation in communities upstate, as well as down-state suburbs
- Support expansion of public transportation, including innovative on-demand microtransit services, in underserved counties.
- Incentivize green commutes by shifting tax funding incrementally from roads to transit and continuing to fund EZ-Pass discounts for low-emissions vehicles.

- Develop tax credits for businesses to support low-carbon commuting solutions for employees (e.g., bike-sharing, discounted employee transit passes, and telecommuting).
    - Expand incentives for e-bikes, adding support for models that are sturdier and have greater capacity for commuting use.
    - Expand low/zero-carbon transportation alternatives for “first and last mile” by increasing and supporting public transportation, and require the NYS Department of Transportation to update its guidance and regulations to support low/zero carbon transportation.
- Require State economic development funding and Industrial Development Agency (IDA)) incentives to adhere to criteria supporting smart growth, transit-oriented development, Complete Streets, and low/no-carbon commutes.
- Seriously study and strategize for waterborne transportation both people and goods using, for example, sailing vessels and solar electric ships
- Expand NYSERDA R&D funding to support innovative transportation technologies.
- Empower local governments to set lower speed limits.

What is not working, in our view, is the gradual pace and limited creativity in the electrification of public transportation. There is not enough funding or technical assistance to electrify municipal bus systems, particularly for small cities and counties. There are missed opportunities for specific policy leadership, discussed below. Entire areas of opportunity in sustainable transportation are missing entirely, such as renewable powered maritime transportation and conversion of light duty ICE (Internal Combustion Engines) vehicles to EV. We summarize these new areas of opportunity:

Vehicle Conversion from Internal Combustion to EV: As more and more drivers trade in their gas powered cars for EVs, those trade-ins have to go somewhere and may well be re-sold in places with less rigorous environmental goals. To prevent the exporting of our pollution to our neighbors in less ambitious states or abroad, we need a disruptive strategy for getting those internal combustion engines – if not the entire vehicles – out of circulation. Currently, vehicle conversion is a boutique industry for enthusiasts, mainly for luxury and vintage cars. There are conversion kits for some makes and models, but the work is labor intensive and the concept is not yet mainstreamed in the auto industry. The first major automaker to announce a converted product was Mini in early 2022, setting an exciting precedent. The challenge is technological and financial, and bringing these technologies to scale most likely will require federal, state and industry cooperation. But seeding designs and production processes would be a worthy topic for NYSERDA R&D funding. The Final Scoping Plan should direct NYSERDA to develop a program (with multiple stakeholders including industry and research universities) to investigate the technical, financial and policy context for ICE-to-EV conversion; and to advocate for supportive policies by the Federal government and other northeast states (which have already organized in an EV promotion consortium with industry).

Renewably powered waterborne transportation: An exciting opportunity for reducing the emissions of shipping and long distance transportation is renewed use of the Hudson River for solar-powered and sailing vessels to move people and goods. Water-based transportation is dramatically more energy-efficient than land-based alternatives and is free of the monumental costs associated with highway maintenance. The European Union has invested substantial research and development funding into large-scale solar and wind powered vessels as a mainstream alternative to fossil powered ships for ocean transportation. The Center for Post-Carbon Logistics, based in Ulster County, has extensively studied the potential for renewably powered shipping on the Hudson, and has identified a short list of priority vessels to be prototyped by Hudson Valley shipyards:

- a 100′ transatlantic and/or Caribbean electric clipper,
- and an Eriemax solar electric canal barge.

New York, with its network of waterways connecting the Great Lakes to the Hudson, New York Harbor and the ocean, has a leadership opportunity in growing this industry. On the Hudson, two proof-of-concept vessels are already active: Solaris, the first Coast Guard inspected, solar powered passenger boat -- operated by the Hudson River Maritime Museum (HRMM) -- and Schooner Apollonia, a sail freight vessel that makes regular runs of agricultural and craft products to and from the Hudson Valley. These partners are assessing the feasibility of docking and ferry routes from Kingston to Rhinecliff as a foundation for wider-reaching solar ferry service, and recently opened up a discussion with NYSERDA's Clean Transportation staff.

Electrification and solarization of trains: Trains are one of the most efficient and sustainable forms of transport**.** Electric trains are roughly 2.5 times more efficient than personal electric vehicles, which are already nearly 3 times more efficient than personal ICE vehicles. Worldwide, around 75% of trains have been electrified. Electric trains are so efficient that a single 4x6 foot solar panel is capable of powering up to 20 miles of travel per day, making solar powered trains realistic even in New York's tight railroad rights-of-way. Today, most electric trains are still powered by fossil fuels. But transit companies both domestic and abroad are developing strategies for solar powered electric rail systems. For example, the German rail operator, Deutsche Bahn, is building a 42 MW solar power plant that will be fed directly into its 16.7 Hz electric rail system. This will increase the power mix to 61% clean energy, with a goal of having 100% clean power by 2038. The decision to do so came at the strong request of their consumer base, who wanted their rail services to be powered sustainably. Railroads in New York should be making full renewable electrification plans to meet the Climate Act's requirements – and they could be early adopters. After all, the Metropolitan Transportation Authority actually signed onto the Paris Climate Agreement in 2015!

We encourage strengthening of the Draft Scoping Plan by:

- Including a specific policy framework such as the **Green Transit, Green Jobs bill** (S.3535C/A.3090A), which would require all new transit agency purchases to be zero-emissions by 2029, including transit buses and paratransit vehicles.
- Developing a funding and technical assistance program to work with municipal transportation systems on planned electrification according to defined replacement schedules.
- Developing incentives and support for solar + storage microgrids at transit hubs for reliability, grid stabilization, resilience and renewably powered commuting, a key step to ensure that renewable energy rollout is aligned with the growth of beneficial electrification.
- Committing to renewably powered waterborne transportation as an efficient, carbon-free option for moving people and goods
    - conduct a feasibility study and develop a funding program for robust solar powered ferry service in the major harbors and rivers, working with local governments and other stakeholders to shape and implement an initial program in the 2026-28 timeframe;
    - develop a funding program for additional solar and sail powered vessel technology that is viable for deployment on New York's rivers and canals;
    - monitor the fast paced innovations emerging in carbon free transportation.

5. Materials management issues and opportunities (DSP 16)

Governor Hochul's State of the State message identifies waste management as the source of 12% of New York's greenhouse gas emissions. A fundamental strategy for achieving climate goals is to nurture a circular economy that favors reuse, recycling, remanufacturing and repair. This shift reduces pollution from the diesel trucks that transport waste to landfills, often idling for hours on arrival, and methane emissions from those same landfills. While re-thinking the materials economy, we have an opportunity also to focus on specific materials hazards and opportunities.

New building materials and recycling-based industries (DSP 16, p. 239)

The CLCPA's joint emphasis on carbon neutral technologies, and on agriculture and forestry, provides a significant economic development opportunity in developing low-embodied-carbon and carbon-sequestering building materials including sustainably harvested structural timber, hempcrete and low carbon concrete (which has been piloted in New York City and the village of Hastings). As NYS advances its bioeconomy strategic plan, this potential will be better understood and quantified. But it is already clear that there are significant economic opportunities in these climate mitigating technologies; the Climate Action Council should work closely with the Regional Economic Development Councils to make sure they are enumerated in the coming year's REDC Strategic Plans that directly guide state funding.

Accelerated phaseout of hazardous materials

While supporting and investing in the growth of low-carbon and carbon-sequestering building and structural materials, NYS should leverage its efforts by tackling hazardous materials that are in wide use in building weatherization. Highly toxic materials such as vinyl siding, "luxury vinyl tile", certain types of sheathing, vinyl wall coverings (to name just a few) are being chosen for new construction and renovation because they are cheap (low cost); foam insulation is relied on for contractor convenience in spite of its known toxicity. What is not considered is the effect on worker and occupant health, in both handling these materials and living in a built environment that is off gassing toxins which the occupant is exposed to. NYSERDA rebate programs, and public funding for construction and renovation, should only be applicable to projects using safer materials.

Recycling of solar panels, batteries and other renewable energy equipment

Systems must be designed and funded to handle new waste streams from batteries, PV panels, heat pumps and other renewable energy hardware at end of use. Industry is beginning to tackle this, including the NYS installer SunCommon, which is developing a recycling program for PV panels, and Li-Cycle in Rochester which currently can process 5,000 tons of lithium ion batteries per year and is expanding its capacity. The Final Scoping Plan should provide for financial incentives for companies developing these programs, support for expanded municipal recycling infrastructure for this purpose, and an Extended Producer Responsibility program (DSP W3) that includes all these industries.

Managing refrigerants in heating and cooling systems.

The Buildings Panel Recommendation on HFCs, (DSP 12, p. 147) says "DEC should promulgate regulations requiring reclamation or destruction of refrigerants from appliances at end-of-life, with verification and reporting, and *require leak detection for certain commercial refrigeration*." We endorse this call to action.

Although leak detection for commercial refrigeration is not elaborated on in the Draft Scoping Plan, HFC (Hydroflourocarbon) leaks from commercial refrigeration equipment comprise 1.4% of all state-wide greenhouse gas emissions. Over time, policies should steer commercial refrigeration toward using natural refrigerants with ultra-low global warming potentials (GWPs), but during the working lives of current refrigeration equipment, automatic refrigerant leak detection equipment has the potential for reducing refrigerant leaks by 50% or more.

In the last couple years, the prices grocers have to pay for refrigerants have greatly increased, mostly as a result of national and international laws that are phasing down HFCs. As the phase down continues, refrigerant prices are forecast to stay high and move higher. When refrigerant prices are high, in many cases it will take only two or three years for a store owner to pay for purchasing and installing automatic refrigerant leak detection equipment with savings from avoided refrigerant expenses. Under these circumstances, refrigerant leak detection equipment is financially prudent for the equipment owners, while also quickly reducing emissions of HFCs.

What might work: New regulations should require owners of commercial refrigeration equipment to either (A) have a short-term plan to switch over to refrigerants with ultra-low GWPs or (B) install automatic refrigerant leak detection equipment in the next few years, such as by 2026. We believe the large national grocery store chains and well-capitalized regional grocers have the capacity to comply with such regulations on their own, but smaller, independent grocers – especially those serving disadvantaged communities – may require low- or no-interest loans, which could be paid back relatively quickly.

New Yorkers for Cool Refrigerant Management has submitted excellent, more detailed comments supporting accelerated phaseout of high GWP refrigerants, Extended Producer Responsibility for manufacturers of heating and cooling equipment with fees to cover product take-back and refrigerant reclamation programs, and leak detection systems for high-volume users such as supermarkets. We strongly endorse these comments and appreciate the increased attention that DEC and NYSERDA have been paying to this issue in recent times.

6. Economic development, environmental justice and just transition (DSP 17, 6, 7)

Through dedication of at least 35% of investments to “disadvantaged” communities (with a goal of 40%), the Draft Scoping Plan outlines a vision to make the benefits of clean energy and transportation available to all New Yorkers. Language matters. While we understand that the term “disadvantaged communities” was codified in the CLCPA and is being used in policy development for consistency, these communities who are suffering most from the effects of climate change might better be known as “environmental justice communities,” or, “frontline communities” or “priority communities.” We encourage you to codify this more empowering language in the Final Scoping Plan.

Climate justice entails deliberate preventative and preparatory measures to address and mitigate the effects of climate change in the communities most vulnerable to harm from worsening climate conditions. Environmental Justice addresses the broader spectrum of historic abuses experienced by communities of color and economically vulnerable communities, resulting from unfair decisions in land use and resource allocation. Most discussion of Environmental and Climate Justice in the Draft Scoping Plan focuses on members of disadvantaged communities as consumers and as part of the workforce. There is an additional level of opportunity that we see at the margins of the Plan, a lever for additional advances in environmental justice in the broader sense. We see this especially in the connection of Climate Justice to resilience and to economic development through the opportunity to align clean energy upgrades with participatory community planning and broader community ownership of assets. This can be supported by such means as:

- empowering the NY-SUN program to give priority to community solar projects that are owned by community-based organizations and faith-based institutions,

and expand their outreach to make sure these stakeholders are well informed of the options;

- directing the NY Green Bank to develop a plan to invest a portion of its capital in “de-risking” energy improvements for the most vulnerable populations such as households with credit challenges;
- encouraging the adoption, in New York, of innovative investment models that are proven in other parts of the country, such as the Calvert Social Impact Note and the CT Green Bank Liberty Bond, both crowd-sourcing tools that facilitate investment in clean energy projects at very small denominations.

Pointe of Praise Church, whose congregation shares the power of an onsite community solar installation. Pointe of Praise case study

The Just Transition Working Group/ NYSERDA study on jobs impacts of the CLCPA is an invaluable resource, both to foster dialogue in frontline communities and to engage elected officials and business leaders. Every growth industry represented there is an opportunity for workforce development and social ventures. Some that we consider especially relevant for entrepreneurial approaches are:

- Innovative business models for home energy upgrades, EV charging and renewable energy services;
- Building materials
- Microgrids
- E-Bikes
- ICE to EV conversion using kits
- Micro-mobility services
- Green infrastructure

In New York today, there are encouraging models of workforce development programs that work because they engage all stakeholders, from employers to job candidates to training providers to funders. PUSH Buffalo and Communities for Local Power are two examples, from opposite ends of the state, of community-based, holistic models for urban centers, which typically have both large numbers of older buildings in need of work, and populations seeking job and career opportunities.

While the solar and wind industries have been developing effective training programs, especially in the larger companies, the building sector is particularly important and challenging because it involves so many small contractors. It has been estimated that NY needs to retrofit 200,000 buildings a year between now and mid-century in order to meet climate goals.[2] The Scoping Plan does a good job of reporting on the needs, but it lacks persuasive proposals for a robust and effective suite of cooperative programs to meet them. Currently, connections and basic information exchange among teaching institutions, government agencies, labor, and the green building sector are limited. Individuals seeking work in the sector report that they are not even able to locate information about training and employment opportunities, and excellent training programs such as SUNY Ulster and Sullivan's struggle to attract students. Funding alone will not change this situation; the State should facilitate cooperation among stakeholders to develop scalable partnership structures that work for all participants. We encourage this planning to include well paid internships and on-the-job training programs that build upon NYSERDA's successful programs. To establish an equitable career pipeline in these industries beyond the training level, project labor agreements should be supported.

7. Education, consensus building and long-term stakeholder engagement. (DSP 22.2)

The success of NY's Climate Plan will depend on a vast amount of public support, community engagement, and the creation of a workforce to implement the needed programs.

The seriousness and urgency of public education is underscored by the concerted "pushback" campaigns promoted by overlapping coalitions that include utilities and oil, propane and gas industry associations under such banners as New Yorkers for Smart Energy, which has mounted a completely anonymous website and produced a video literally claiming "They are coming for your furnace." Electric and propane customers across the state have been receiving direct mail claiming support for the Climate Act but not for the methods, in some cases with clear falsehoods like the statement that households will be required to pay the costs of the transition from their own pockets. An organization called HVOEC (Hudson Valley Oil and Energy Council), which includes propane and oil companies among its members, has been erecting billboards, under the name "Bioheat," with claims that "electrifying everything" will result in blackouts and

[2] Doreen M. Harris, President and CEO, NYSERDA said, "To achieve our climate goals, more than 200,000 buildings a year need to be retrofitted across the state from now through mid-century." Press release by the Governor's office, November 10, 2021, titled "Governor Hochul Announces Energy Efficient Upgrades for Affordable Housing Units."

$4.5 – $7 trillion in grid upgrade costs. New Yorkers for Affordable Energy, a coalition whose leadership includes the American Petroleum Institute and an Oklahoma gas drilling firm, has numerous upstate utilities among its members. A recent study from the Institute for Strategic Dialogue and the Climate Action Against Disinformation Coalition found that outright denial of climate facts is becoming a less common tactic, giving way to 'discourses of delay.' This is illustrated by these campaigns' calls for continuing reliance on natural gas as the only mechanism for grid stabilization, which creates the false impression that there are no alternatives (such as storage) and that there has been little or no long range planning for the transition. Interestingly, Con Edison, which serves the New York City market and therefore has one of the hardest challenges in transforming its grid, is not a member of this coalition and has stood independently in support of the Climate Act.

We urge the Council to appreciate the seriousness of these campaigns and include significant multi-year marketing, media and education budgets for all phases of the implementation of the CLCPA. We also offer our support in the event that the Council and associated state agencies find cause to invoke public service law to require utilities to cease and desist spending ratepayer dollars on disinformation campaigns, or risk fines and other sanctions.

Countering disinformation requires more than short-term marketing activities; it requires countering the narratives that make the disinformation believable, including the wishful thinking that climate change is a vague future threat and the reflexive mistrust of the state. Influencers at many levels need to be engaged as trusted spokespeople in community conversations across the state and across party lines. Key ingredients in the necessary educational effort include:

- A well-funded, multi-year, multi-channel statewide community engagement campaign to bring home the realities of climate change and the exciting possibilities associated with climate solutions. This could be spearheaded by NYSERDA and DEC and involve the Clean Energy Hubs, but should be functionally separate to prevent complicating the pragmatic communications of these partners. Because trusted messengers are a key to effective communication, especially in situations of confusion and mistrust, this program should be designed with plentiful funding for customized initiatives by schools and community-based partners, and for major media visibility.
- Integrate climate change, including global climate science, into K-12 science, policy and humanities curricula, with flexible options for local school systems, and centrally focus on opportunities in the climate solutions economy.
- Continued and enhanced workforce development programs to engage the NYS Education Department, SUNY/CUNY system, private educational institutions, labor, community-based organizations, and industry partners – including construction firms and local contractors – to develop and implement a partnership strategy to recruit and train the workforce in clean energy and climate innovation fields.

- Direct 40% of education and training resources to support programs in the designated priority communities that are co-designed by, and accountable to, community stakeholders.

One of the strongest assets New York has for its educational efforts is the large and growing network of governments, companies, and organizations that are choosing to step up and demonstrate the promise of clean energy in their operations. For example, Hannaford supermarkets across New York, Massechusets, Maine, New Hampshire, and Vermont have been taking big steps. The chain currently operates at 30% reliance on renewable energy by partnering with community solar projects, and has converted 86.4 MW of electricity usage to solar. The company made a promise to achieve 100% renewable energy by 2024, a more ambitious goal than the CLCPA's. Leaders such as Hannaford can be valuable spokespeople.

Hannaford is a subscriber to OVA 6.8 MW Solar's Community Solar Project in Constable NY, which supports NY's Climate Goals.

Conclusion: To Accelerate, Coordinate

These comments cover a broad range of the action items laid out in the Draft Scoping Plan. Their common theme is the need for strategies that are systemic and adaptive, in order to lay a strong foundation for the transition with consistent enabling policies and a strategic timeline. We have suggested improvements in the enabling policies that guide beneficial electrification, the shift to renewables, building efficiency and performance upgrades, clean transportation, and materials management.

Coordinated stakeholder engagement is an investment of time and resources. Still, it is ultimately the best way to address the polarized climate in which we must all work together and build a sense of accountability for our common future. We have identified a number of strategies for overcoming the resistance of needed collaborators, such as the utilities, by requiring them to develop scenarios and timelines for meeting the CLCPA commitment and by offering platforms for exploration of options, such as

updating the Energy Storage Road Map. After the Final Scoping Plan is created, the Climate Action Council should develop a stakeholder group (or groups) responsible to refine policies and agree on scenarios for moving ahead, in ways that make them most palatable to their constituents while achieving the Climate Act commitments. In the years immediately following the adoption of the Final Scoping Plan, major emphasis should be placed on public education about possibilities and progress to lay the best possible groundwork as mandates are considered for introduction.

The Integration Analysis identified a number of scenarios for decarbonization. It may be tempting to turn one or another of them into legislation. However, this would give rise to major political battles, arguably not the most important ones ahead. Instead, we encourage the CAC to engage the public in thinking about benefits, risks, costs and values associated with the path forward, with flexibility and imagination – and to be taking action directly in their communities. The policies laid out in the Draft Scoping Plan are abundant resources to guide the transition.

The Climate Act calls for unprecedented change. That in turn calls for political courage and strategic coalition building, now and over the next thirty years. As the Scoping Plan is finalized and turned into policy, there will be tough choices and political challenges. There will also be benefits, and these will be more and more visible over time. We encourage you to go forth boldly and know you have the support of many people.

We appreciate the opportunity to submit these comments for your consideration, and we thank you wholeheartedly for your leadership.

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