

Cornell University

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Transportation Chapter

Concerns

- There is a focus in language on downstate public transportation and the MTA system. How will public transportation networks be transformed in upstate and more rural areas?
- Range limits/ anxiety for long daily commutes in more rural areas without public transit is a barrier to EV adoption. Yet it does not seem reasonable to expect business/property owners to be responsible for installing fast chargers, the expensive electric infrastructure to power them in remote parking areas, pay for the electricity and "police" parking behaviors to ensure equitable access. The model for recharging EVs needs to evolve vs gas vehicles. Commuters, dorm/apartment residents largely don't need access to fast chargers. Solutions that leverage the level 1 charging cords that come with all vehicles should be explored. These will be much cheaper to install because they use lower voltages, are essentially just smart outlets, are not proprietary, and are useful for all kinds of power needs (scooters, pedal-assist bikes, tools, etc.). Mass deployment would mean cars could park for a full workday and charge sufficiently. Fast chargers could be strategically deployed in a more traditional "fueling station" model supporting long distance trips where vehicles are not going to parked for a long period of time anyway. DPS/PSC policy and utility tariffs must support/enable third party management of charging transactions, including for behind –the-meter chargers on large campuses with onsite generation that have publicly accessible charging stations.

Affirmations

• Public education around building reuse and "smart growth" for dense, mobility-oriented development is a good strategy.

Buildings Chapter

Concerns

- It is apparent that electrification of heat is going to exacerbate the challenge of transforming the grid to renewables. It is therefore crucial for NYS to support and leverage the unique and sizeable opportunities that large business and educational campuses with district energy systems offer. As just one example, the Cornell University Ithaca campus is already 1/1000th of NY's electric demand, electrifying campus heating through traditional air source or ground source heat pumps would quadruple its winter electric peak and double annual electricity usage.
 - Development of game-changing solutions like deep direct use (DDU)/enhanced geothermal and thermal energy storage can provide baseload heat without substantially increasing electricity or refrigerant use.

- Alternative solutions like deep direct use geothermal will also increase resiliency and reduce the scale of renewable electricity development required.
- \circ NYS can help with obstacles to deploying such solutions at scale once they have proven out.
 - Soft costs are going to be a huge barrier to DDU/enhanced geothermal standardizing well permitting requirements, supporting an insurance consortium/syndicate, contracting support, expertise/staff at permitting agencies to efficiently and effectively provide well design reviews (without multiple iterations), support for management of cuttings (beneficial use determinations, sites, testing capacity, etc.), NYS DOT support for efficient mobilization of rigs (e.g streamlined oversize load permitting and routing), libraries of geologic characterizations, background seismic data, etc.
- The regulations for shallow GSHP wells need to be modernized the 500 ft threshold is antiquated. All GSHP wells should be subject to the same standardized, straightforward, low-barrier and efficient permitting process. Timelines for permitting need to keep up with the pace of supply chains and financing.
 - Since ASHP/GSHP both heat and cool, comparing them to replacement costs for a gas boiler does not account for the value of the cooling, which becomes even more important as summer peak temps increase. This should be factored into the financial analysis of system upgrades.
- Converting steam distribution systems to low temperature hot water can provide substantial energy efficiency savings and is an enabling step for these systems to utilize sources of renewable heat. Barriers/needs that could be supported through a NYSERDA-supported working group include:
 - lack of technical knowledge of how to go about a conversion (including point of use building systems), system design,
 - type of contracting approach
 - lack of capital to accomplish it once there is a plan, particularly if the steam system is not end of life
 - pilot thermal RECs to provide capital
 - mitigate impacts to the existing utilities workforce. What would this move mean lost jobs, retraining labor force, farming out an internal service?
 - novel and complex financial instruments are new and therefore daunting; running your own plant and distribution system is relatively easy/well known. There may not be the requisite knowledge to manage the complexity even if an entity is willing to proceed.
 - compile case studies (maybe with the International District Energy Association) of institutions that have made the leap from steam to hot water. What are the lessons learned for an institution contemplating the same move? Create a network of institutions who have/plan to make the conversion to share experiences so the barrier of unfamiliarity is reduced.
- The CLCPA vision for statewide energy benchmarking and disclosure programs that require owners of properties larger than 10,000 ft to annually report whole building energy and water consumption data for public disclosure is good in concept but could place a significant penalty on "early mover" entities who already voluntarily disclose data. Many large entities in the state have been working for decades under voluntary commitments either independently or as part of peer groups. Forcing such entities to do additional/different reporting could add large administrative burdens or disrupt years and years of data modeling. NYS should consider existing processes in any such requirement.
- The NY State Historic Preservation Office can be a barrier to common-sense energy efficiency or renewable energy upgrades to buildings. Harmonizing these rules with the CLCPA and the reality of future consequences of climate change is needed.

Affirmations

- Support for community scale solutions and district thermal systems is a good strategy.
- Scaling up public education that motivates behavioral change (using digital media, creating strategic partnerships, publicize leaders with best practices, etc.) is a critical strategy.

Electricity

Concerns

- NY's voluntary market needs clear guidance and communication from NYS on overall strategy and the most impactful role for the state's large consumers in terms of procuring renewable power. Many of these entities are among the early movers who have been pursuing carbon neutrality for decades. Their stakeholders and host communities have significant expectations (and/or local codes/ordinances) around 24/7 carbon free energy and/or 100% renewable energy, neither of which are plausible in the NY policy construct for large users with dense, energy-intensive building functions for which on-site renewables can only generate a fraction of needed power.
 - For example, Cornell generates about 20% of the Ithaca campus net annual electricity from renewables but has essentially reached the limit of what can be procured via distributed energy resources (DER) and has been precluded from practical participation in the LSRE market by NYSERDA's index REC policy. These restrictions prevent Cornell and other large energy users from procuring enough NYS-based distributed and LSRE projects to meet local municipal net zero energy codes as well as their own goals.
 - If it is the state's policy to pursue central procurement and to exclude voluntary market participants from the LSRE market, we need explicit and public communication to that effect so that local government, agencies and private entities can align their strategies with the state's efforts - many private entities and local governments plans and goals were set ahead of the CLCPA and strong state leadership.
 - DER policies that cap participation by large energy users include: 5MW projects caps, 5MW satellite caps, 1:1 restrictions on CDG participation with a 40% anchor tenant limit, limiting satellites to RNM or CDG, purchase of receivables fees preventing commercial consolidated billing
 - The new Index REC procurement model is not compatible with the voluntary market's virtual power purchase agreement model for LSRE. It creates a double exposure to high energy market conditions for developers and essentially prices the voluntary buyers out of the market.
- In line with this request for clarity, we support the state's efforts to streamline permitting processes across jurisdictions for rooftop and parking canopy solar installations.
- We ask that the state also clarify the definition of renewables to take into account the need for dispatchable fuels for peaking and reliability. Careful inclusion of biogas, green hydrogen, etc. in the state's energy plan can efficiently provide dispatchable heat and electricity utilizing available waste streams. More details on this position can be found in Cornell's PSC comments regarding the inclusion of biofuel in the CLCPA's definition of "renewable energy systems". <u>https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={09F25718-FA3E-4F84-B0CC-141DF4979E9B}</u>
- The state should devote more attention to addressing community resistance and concerns around the siting of ground-mounted solar projects, particularly in upstate and western New York. The potential for negative property value impacts, concern over agricultural displacement, and targeted adversarial campaigns can foster significant community pushback on this necessary infrastructure

and requires proactive public engagement. Research out of Cornell (e.g.

https://www.eurekalert.org/news-releases/848698,

https://cornell.app.box.com/s/gtge9ra2k5dlolpnd5kxgv00a4cx40e6, and

https://emp.lbl.gov/sites/default/files/property-value impacts near utility-

<u>scale solar installations.pdf</u>) indicates that steamrolling large-scale solar siting and permitting foments community pushback, and that relationship-building and including the community early on in decision-making processes must happen. The state may need to develop tools such as tax incentives or good neighbor agreements, as well as conduct more research on what barriers preclude local acceptance.

 Another cause of community angst is insensitive utility handling of interconnections and associated line upgrades – e.g. insistence on large numbers of above ground poles (unsightly), frequent unannounced power outages, and combining interconnection work with uncommunicated "slash and burn" catch up on tree maintenance.

Waste

Affirmations

- Extend producer responsibility/product stewardship is a good strategy.
- Developing sophisticated programs for redistributing still-edible food that would become waste is a good strategy.
- Production tax credit for recycled products is a good strategy.

Gas System Transition

Concerns

- o Vague timeline and process for mandated power plant retirements
 - Ensure that the local grid can take on previously behind the meter demand (baseload, peaking, loss of demand reduction, etc.)
 - Consider the age and technology of behind the meter plants and potential for local resiliency and meeting peak needs and which plants are good candidates for fuel conversion
- o Current laws restricting PSC's ability to regulate fossil fuels and mandate access to gas infrastructure should be modernized

Affirmations

- Promotion of capturing waste heat from electricity generation, as is done at Cornell's plant is a huge efficiency gain.
- State promotion of district/community heating systems is a good strategy.

Local Government

Concerns

• Importance of clarity and resolving conflict between state and local regulations (e.g. local energy codes requiring large-scale procurement of Tier 1 RECs when state policy is central procurement)

Public Communication and Engagement

Concerns

- There is an existing emphasis in the scoping plan on technological solutions that neglects to address the importance of consumer behaviors and public education and engagement.
- There seems to be an underdeveloped approach to public communications that promotes a model of top-down one-way flow of information, rather than more upstream engagement. Involving stakeholders early and fostering a sense of agency is crucial to getting buy-in.
- More research needs to be done towards understanding barriers, both to adoption of clean tech and energy systems and to participation with the policy process.
- Find existing models of effective community engagement, such as the NYC Climate Knowledge Exchange, which partners with different stakeholder groups, such as community organizations, NGOs, and neighborhood groups, to make a network of knowledge.
- Be intentional with the framing of CLCPA actions and mechanisms, and emphasize the extended timeline to combat the perception of an overwhelming amount of infrastructural change.
- Avoid an overreliance on digital media campaigns for education. Digital campaigns, while highly visible, rarely translate into action, and are not a viable substitution for personal interactions, especially for marginalized communities.
- Create a working group for community engagement
 - In addition, imbue experts on communication and social sciences throughout the working groups of the CLCPA to facilitate and enhance communication exchange.