

## **Comments in response to the New York State Climate Action Council Draft Scoping Plan (issued December 30, 2021)**

Dear Co-Chairs Harris and Seggos,

On behalf of Rochester Institute of Technology's Golisano Institute for Sustainability (GIS), I would like to thank and commend New York State's Climate Action Council (the Council) and all of those involved in the development of the Climate Action Council Draft Scoping Plan. The draft plan is in keeping with the vision and tenacity of the elected state leaders and the Council co-chairs who worked tirelessly to enact the Climate Leadership and Community Protection Act (CLCPA) in 2019. The CLCPA is one of nation's most aggressive plans to reduce greenhouse gas emissions and protect our environment and communities from the effects of climate change.

Thank you for this opportunity to review and comment on the current plan.

We were pleased to see included in the plan a number of touchstones that closely align with areas that GIS has been committed to for over 20 years:

- research, development, and demonstration (RD&D) focused on hard-to-decarbonize sectors
- end-of-life strategies for post-consumer materials to cut landfill volumes
- biochar as an important and feasible carbon-storage solution
- promising policy tactics—like extended producer responsibility (EPR) and product stewardship—to lower landfill-related emissions from organic waste
- a mix of financial tools to support sustainable economic development across the state
- life-cycle assessment (LCA) tools to spur procurement of low-carbon building materials

### **Suggested additions and changes**

*1. Use scoping plan to lay foundation for a circular economy for clean-energy technologies like electric vehicles in New York State.*

The scoping plan should proactively position New York State as an innovation and knowledge leader in the circular economy space as it relates to clean-energy technologies. For example, given the CLCPA's intent to decarbonize transport in the state, there is an opportunity for the plan to go beyond a focus on "tailpipe" emissions to simultaneously address waste and carbon emissions at the supply-chain or life-cycle level.

One-hundred and forty-five million battery-powered electric vehicles are projected to hit the road worldwide by 2030. Lithium-ion batteries, the dominant technology in use today, demands elements like lithium, nickel, and cobalt, which are considered critical because they are limited in supply, difficult to extract, or heavily concentrated in few geographic regions. A surge in demand for electric vehicles—along with consumer electronics more generally—is expected to only increase the supply, environmental, and humanitarian risks associated with the mining of these materials and conductive metals like aluminum, copper, and gold.

Electric vehicles bring to the fore many of the logistical and technological challenges we face in the transition to a clean-energy economy. Decarbonizing the value chain for electric vehicles—as well as clean technologies like wind turbines and solar panels—through a circular economy would not only address materially embodied sources of carbon, but create new economic opportunities. It is an investment in New York’s future as part of a fast-evolving global market where these technologies are already in growing demand.

A circular economy not only ensures that the valuable materials in clean energy technologies do not end up in landfills, but it can also strengthen New York State manufacturing. This will not happen on its own or overnight; strategic market, consumer, and policy levers are needed to drive such systemic change. To that end, the Council should review and consider efforts underway in California, North Carolina, and New Jersey that have established commissions or advisory groups to [recommend policies](#) on cleantech and EV battery recycling to their respective state legislatures.

*2. Elevate the role that state-funded technical and logistical programs can play in accelerating the adoption of sustainable technologies and processes at the small and medium-sized enterprise (SME) level.*

At GIS, we have led two technical assistance programs for nearly a decade: the New York State Pollution Prevention Institute (NYSP2I) and the Center of Excellence in Advanced and Sustainable Manufacturing (COE-ASM). The programs, in tandem with New York’s vibrant network of state-funded entities, work directly with SMEs to help them identify and implement more sustainable processes and technologies.

Through NYSP2I and COE-ASM, we have cultivated a deep awareness of unique SME perspectives and needs in the Empire State. SME manufacturers typically do not have the time, budget, specialized expertise, or knowledge base to translate climate and sustainability goals into technological, process, or design solutions. There is a wide range of maturity levels among SMEs when it comes to sustainability, with many having no plan in place to shift how they work. It can be tempting to use a “one size fits all” approach, but we’ve found that this generally does not lead to positive change. Instead, our technical assistance programs meet businesses where they are, uncovering opportunities for innovation along the way that will improve their bottom line.

We believe that reaching the goals outlined in the draft scoping plan cannot happen without SMEs, which make up 99.8 percent of New York’s economy. State-funded entities like COE-ASM and NYSP2I are uniquely positioned to connect SMEs to the knowledge, technology, and resources they need to translate circular economy strategies into practical solutions.

But existing programs in the state are not enough; greater investment will be needed to propel innovation and education at the SME level in unison with the rollout of CLCPA policies, laws, and regulations. Technical, financial, and logistical assistance programs can help SMEs make their first step towards decarbonization by raising awareness and earning buy-in. They can connect the dots between the CLCPA’s broader ambitions and the more immediate needs and challenges of a single manufacturer.

Importantly, such programs are designed to cultivate technological innovation across traditionally siloed economic sectors. While I admire the draft plan's detailed, focused approach to decarbonizing transport, buildings, or manufacturing individually, I encourage the Council to remember the value of technology- and knowledge-sharing between different sectors. Programs like NYSP2I and COE-ASM can facilitate the creation of industry-spanning bridges in order to accelerate innovation and discovery throughout the economy.

Assistance efforts should offer a range of specialized services that take into consideration all the different ways that the CLCPA will affect their businesses. These include the following:

- technology demonstration and deployment
- clean-product development
- emissions data, measurement, and disclosure
- sustainability outreach and education (e.g., online training for calculating emissions)
- funding to support solution identification, evaluation, and implementation

*3. Prioritize incentives and programming that encourage state and regional industry clusters to engage in collaborative innovation across industrial sectors and supply chains.*

Industrial sectors and their value chains involve many different companies and decision-makers. This makes it difficult for a single firm to make systems-level changes concerning investment, material supplies, product design, waste recovery, and much else. New York can play an active role in cultivating collaborations across individual sectors to support and incentivize decision-making that will drive decarbonization.

Because industry clusters are concentrations of related industries, they can provide tremendous opportunities for scaling innovation, mitigating risk, sharing resources, and aggregating demand. For example, they can support efforts to

- increase the energy efficiency of common equipment;
- develop a workforce with the right skills for circular industrial processes;
- collaborate around new products and services that are less carbon intensive; and
- co-develop cost-effective pathways for on-boarding emerging cleantech (such as electric vehicles, green hydrogen, or carbon-capture).

Cluster-driven strategies can complement project-by-project efforts, while drawing attention to the cumulative cost of carbon (and impact-reduction opportunity) that an entire industry sector or supply chain shares. The more collaboration that can be coordinated across silos within the strategic sectors of the economy areas spelled out in the plan, the faster promising innovations can be scaled up and deployed for greater impact.

GIS is strategically placed to support the pursuit of collaborative innovation within clusters and their supply chain. We have long served as a nexus point where businesses of all sizes—from startups to SMEs to global manufacturers—are able to collaborate on solving industry-critical challenges in sustainability.

Likewise, we bring together policymakers and state funding agencies to find the best opportunities for driving sustainable economic development through technology and innovation.

In 2018, we led the formation of the REMADE Institute, a national consortium of manufacturers, nonprofits, universities, policymakers, and research bodies. REMADE sponsors groundbreaking research to solve real technical and business challenges that are facing industry through sustainable, circular uses of materials and energy. Our participation in REMADE has helped us extend our network nationally and globally, and given us the opportunity to develop a successful model for building collaboration between industry, government, and academia.

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Thank you to the Council and the leadership of its co-chairs for their commitment to making this scoping plan as comprehensive and dynamic as possible—that is no easy task, given the complexity of the challenges facing us when it comes to climate change. Most of all, thank you for this opportunity to review a draft of the plan and to share our perspectives and thoughts on it as an academic research institution that is deeply invested in the CLCPA's success.

I encourage you to contact me directly (details below) with any questions regarding the comments above. I am also more than willing to provide any resources, technical guidance, or other information for the Council upon request.

Respectfully,



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