

June 27, 2022

New York State Energy Research and Development Authority  
17 Columbia Circle  
Albany, NY 12203-6399

**Subject:** Lehigh Hanson, Inc. New York Climate Action Council Draft Scoping Plan Public Comment

Dear Sir/Madam,

Lehigh Hanson, Inc. (Lehigh) would like to thank the Climate Action Council for the opportunity to submit comments on the draft New York Scoping Plan (NYSP). Lehigh welcomes New York's approach to engage with industry and foster opportunities to develop future environmental programs. Through this engagement, we endeavor to assist the Climate Action Council and stakeholders to develop an environmental plan that brings a balanced approach to future emissions reductions and economic growth for industry in the State.

Lehigh is concerned, however, that New York legislative actions have the potential to circumvent the NYSP and its process. Throughout the 2021 and 2022 legislative sessions, several climate-related bills emerged. For example, the passage of the Low Embodied Carbon Concrete Leadership Act (LECCLA) in 2021 and the introduction of amendments to the Climate Forward Concrete Leadership Act in 2022 address topics seemingly tied to the NYSP and the associated consultation process. Lehigh is pleased with the opportunity to engage on the NYSP but is concerned that the emergence and passage of such bills may be circumventing the spirit of the NYSP.

### **Lehigh Hanson in New York**

Lehigh is a leading supplier of construction materials in North America. Our core activities include the production of cement and aggregates, as well as producing ready mixed concrete, asphalt, and other downstream cement products. New York and New England have been shipped cement from Lehigh Cement Company's Glens Falls cement plant for more than 125 years. The Glens Falls plant employs approximately 100 people year-round and relies on numerous additional local contractors to supplement the workforce. Expanding to all core activities in New York, Lehigh operates nearly 80 different facilities and employs nearly 700 people in the state.

Cement, the world's most consumed material behind water, is the key ingredient to concrete, which has a long-proven value as a durable, cost-effective, available material that is resistant to extreme temperatures and resilient against natural disasters. Concrete remains critical to New York infrastructure due to its versatility, durability, resiliency, and strength, and its ability to enable construction that is more sustainable.

### **Lehigh's Commitment to Sustainability**

Lehigh is a leader in the development and use of resilient construction materials and sustainable construction practices. We look for a way to continuously improve our products so they are more environmentally friendly. HeidelbergCement AG, Lehigh's parent company, has aligned all business practices with the UN Sustainable Development Goals and commitments to 2030. Lehigh has also formalized its commitment to and is working diligently toward, achieving carbon neutral concrete by 2050 in alignment with the New York State carbon emission reduction targets.

Lehigh strongly believes carbon neutral concrete is achievable by 2050. However, it is important to note that cement manufacturing is energy-intensive and requires significant fuel in the manufacturing process. Fuel optimization is and will continue to be, a critical component in reducing CO<sub>2</sub> emissions. Additionally, a key piece that sets this industry apart from others is that approximately 60% of CO<sub>2</sub> emissions result from calcination, the essential step in the cement manufacturing process. Calcination is the chemical transformation process of converting calcium carbonate (limestone) into lime. As a result of this "hard to abate" status, and even with 100% renewable fuel input, carbon capture will be an essential component to achieve carbon neutrality across the value chain. It is critical to retain this perspective as the State prepares its Climate Scoping Plan.

In 2020, Lehigh began publishing more environmental product declarations (EPDs) to increase the transparency of our product's environmental impacts. Lehigh has also invested in collaborative efforts to develop new technologies that will lower our products' global warming potential (GWP). A recent announcement that demonstrates Lehigh's environmental leadership is the development of North America's first full-scale carbon capture, utilization, and storage (CCUS) solution for the cement industry at its Edmonton, Alberta plant in Canada. Captured cement production emissions of approximately 780,000 tons of CO<sub>2</sub> each year are planned to be transported via pipeline and permanently sequestered. Subject to the award of carbon sequestration rights and regulatory approvals, the project could be in service as early as 2026. The lessons learned from the Canadian CCUS project will provide Lehigh with opportunities to replicate similar projects in the U.S.

Lehigh is also a committed and active member of the Portland Cement Association (PCA), playing an active and key role in its roadmap to carbon neutrality. The Roadmap was released in October 2021 and lays out the industry plans to accomplish carbon neutrality through the value chain by 2050 at the latest. [The PCA's Roadmap to Carbon Neutrality can be accessed here.](#)

### **Lehigh Hanson Comments on the Climate Action Council's Draft New York Scoping Plan**

**Recommendation 1: The State and Climate Action Council should continue to work closely with affected sectors in the development of industrial emissions reduction programs.**

Lehigh is committed to working with the Climate Action Council and New York State in a meaningful consultation process to reduce statewide emissions. Lehigh commends the efforts of the Legislature to reduce emissions in the state. However, Lehigh would like to note that the passing of Bills related to the objectives of the NYSP, prior to the NYSP process being concluded, seemingly goes against the spirit of an active consultation process. Lehigh appreciates the NYSP's recognition that industry engagement is needed to build out the programs that will lead New York toward its ambitious goals. To support this effort, Lehigh has prepared a targeted list of recommendations on the Draft NYSP with a focus on issues discussed in Chapter 7 and Chapter 14.

#### **Chapter 7: Just Transition - 7.3 Measures to Minimize the Carbon Leakage Risk and Minimize Anti-Competitiveness Impacts**

Lehigh would like to commend the State for its commitment to ensuring a just transition as it implements policies and programs designed to reduce emissions.

**Recommendation 2: Lehigh recommends a Cap-and-Trade system as its preferred choice should the Government opt to utilize a carbon pricing mechanism to drive industrial carbon emission reductions. A properly designed system that adheres to the core principles of fairness, transparency, and innovation can be a powerful tool to incentivize emissions reductions and promote innovation. Lehigh is prepared to support the State in efforts to scope out a possible future carbon pricing system.**

Market-based carbon pricing can be an effective tool to drive industrial emissions reductions while providing industry with increased flexibility to comply with program requirements. Other carbon pricing systems like a carbon tax are rigid and provide limited opportunities for industry to be rewarded for innovation. Emissions trading schemes, like a Cap-and-Trade system, encourage industries to direct carbon reduction investments to projects with the lowest cost and

highest reduction potential; proper program design provides certainty in long-term decision-making and planning. This is mission-critical for industries like cement manufacturing, which currently lack cost-effective, industrial scale technologies for capturing or removing the unavoidable chemical process emissions (i.e., calcination). Furthermore, carbon pricing should be leveraged to generate revenues that further fund industrial decarbonization, through research and development as well as the implementation of industrial-scale projects. Lehigh welcomes the opportunity to support the State in the development of a future Cap-and-Trade system for industrial emitters.

#### **Chapter 14: Industry**

Lehigh would like to acknowledge the NYSP's recognition of the need for incentive-based strategies to mitigate the impacts of future programming on energy-intensive, trade-exposed (EITE) industries. A well-designed EITE framework and associated definition(s) will give the State the tools needed to minimize carbon leakage. In the following sections, Lehigh comments on the EITE definition, trade exposure data availability, low carbon procurement, full lifecycle consideration for low carbon products, research, development & deployment, and carbon capture, utilization, and storage under Chapter 14.

**Recommendation 3: As the State builds out emissions reduction programs, it is important that the Climate Action Council recognizes potential implications for EITE sectors. The State should work with industry to develop a clear EITE framework to reduce the unintended consequences associated with emissions reduction programs.**

As outlined in the Draft NYSP, the Climate Action Council recognizes the importance of identifying measures to reduce the risk of carbon leakage. Lehigh is supportive of the development of an EITE framework for manufacturing industries that are most susceptible to the impacts on competitiveness from emissions reduction programs, especially for those products, like cement, that are manufactured to meet the essential needs of society. California and Canada have built out EITE frameworks that recognize the cement industry as highly trade-exposed and can be used for reference as New York builds their framework. Lehigh recommends that a clear EITE framework and definition be established similar to those in California and Canada to ensure competitiveness impacts are appropriately considered.

**Recommendation 4: The Climate Action Council should collaborate with Lehigh to ensure the trade exposure calculation accounts for interstate trade.**

Lehigh is concerned with the lack of available data to adequately calculate interstate trade exposure as a source of carbon leakage from New York State. The current limitations of using US international trade statistics that were sourced<sup>1</sup> in the current EITE calculations do not reflect the reality of inter-state trade being the primary exposure risk. As a result, the true trade exposure of the New York State cement industry is likely under-reported. Lehigh is prepared to work with the Climate Action Council and New York State to develop the required data needed to recognize the effects of interstate trade.

**Recommendation 5: The Climate Action Council should recommend the adoption of procurement standards that consider the entire value chain of low carbon cement and concrete (C&C) products.**

Lehigh appreciates the Climate Action Council advocating for financial incentives for low carbon C&C products that will be used in the State’s procurement bidding process. Public procurement directives drive approximately 50% of the demand for cement. It is important for the State to leverage its influence to spur innovation in the manufacturing sector to reduce the embodied carbon of their products. It is equally important for the State to continue offering and expanding incentives to producers of low carbon products. Lehigh is actively lowering the GWP of our C&C products. Lehigh emphasizes the criticality that full product lifecycle emissions reductions be considered, from “cradle-to-cradle.” This full lifecycle analysis (LCA) includes raw material extraction through materials processing, manufacturing, distribution, use, repair and maintenance, and end of life (repurposing, reusing, recycling or disposal). A cradle-to-cradle procurement standard will also allow Lehigh to replace raw materials with recycled, decarbonated building materials in the production of future low carbon products, further reducing C&C products’ GWP. Lehigh does not believe the draft NYSP appropriately considered a full LCA. Ultimately, such an approach will yield a truly circular economy that efficiently and effectively integrates the end of service life with the recycling and reuse of low-carbon cement and concrete products.

**Recommendation 6: The Climate Action Council should recommend the investigation of opportunities to promote the use of performance-based standards – instead of recipe-based standards – for all low-carbon construction materials sourced by the government. To support this effort, a construction materials working group should be established to ensure low carbon procurement standards reflect the emission reduction potential of the sectors involved.**

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<sup>1</sup> U.S. International Trade Commission, 2018

Recipe-based standards result in concrete being used for a sidewalk meeting the same performance specifications of concrete being used to support a skyscraper building. Identical performance in this comparison is unnecessary, yet it is routinely the case when it comes to specifying cement and concrete used in construction. A shift to performance-based standards, which consider the application of the concrete, would allow for cement and concrete recipes to be altered based on application without compromising the high performance historically provided by concrete material.

In addition, procurement directives that specify the ability to use Portland-Limestone Cement (PLC) in concrete would immediately reduce the embodied carbon of concrete. PLC offers carbon reductions by decreasing the amount of processed limestone (i.e., calcium carbonate) in cement, without compromising the integrity of the final product.<sup>2</sup> PLC already has an approved recipe-based standard, but procurement processes typically do not specify its acceptability for a project, resulting in bidders choosing to use the more familiar, yet higher CO<sub>2</sub> intensity, Portland cement product.

Lehigh encourages the Climate Action Council and State to create a construction materials working group to ensure emission reduction opportunities are not missed. Lehigh would welcome the opportunity to partner with the state to initiate and complete a pilot project to demonstrate the long-term viability of PLC and other Supplemental Cementitious Materials (SCM) blended cements in concrete. Such a partnership could be transformative, particularly if endorsed and supported by New York State. Eventually, the pilot project could be scaled for use in new commercial buildings. Such an outcome would complement commercial building energy efficiency goals as expressed in the current scoping plan and could accelerate the move to carbon neutrality in the building sector.

**Recommendation 7: A Research, Development & Demonstration (RD&D) strategy should be wholly inclusive of all emissions reduction opportunities as New York works towards net zero. Lehigh recommends that the RD&D strategy reviews the opportunities of all low carbon alternative fuel options as part of that strategy.**

To reduce emissions and provide valuable efficiency opportunities to the cement manufacturing industry, the Climate Action Council's RD&D strategy intends to accelerate the deployment of industrial decarbonization solutions. Lehigh would be pleased to work with NYSERDA and the

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<sup>2</sup> Increased addition of supplementary cementitious materials (SCM) is another viable emissions reduction opportunity similar to PLC. For more information, see page 32 of the [PCA Roadmap to Carbon Neutrality](#).

Climate Action Council to help in the development of an industrial decarbonization solutions agenda that includes all potential reduction opportunities. These opportunities must include the use of low carbon alternative fuels (e.g., engineered fuel), and Lehigh believes collaborative efforts involving alternative fuel generators and processors, alternative fuel users, and the New York State Department of Environment Conservation are needed.

**Recommendation 8: To maximize the potential CCUS in New York, Lehigh recommends the formation of a state CCUS working group. The working group would be tasked with investigating pathways to promote the development of carbon capture and transport options for captured carbon in the State.**

**Recommendation 9: Lehigh recommends the Climate Action Council identify and guide the State in providing adequate funding and investment opportunities for the industry to deploy CCUS in a timely manner.**

In the Climate Action Council's scenario designs, CCUS is a key component to meeting statewide net-zero targets. The Climate Action Council has indicated plans to invest in RD&D opportunities for early-stage development of CCUS projects, which is a good first step to reducing emissions for hard to decarbonize sectors. As part of building out CCUS as part of the vision to 2050, the Climate Action Council should consider investment in carbon transportation infrastructure, so carbon can be properly sequestered in deep saline aquifers through Class VI wells. Lehigh is willing to work with the Climate Action Council, NYSEDA, and all other applicable government agencies to build comprehensive CCUS standards, a permitting system, and assistance measures to ensure the hardest to decarbonize industrial sectors can contribute to New York State's net zero aspirations. Lehigh also urges that the scoping plan recommends that the state pursue state primacy for Class VI well permitting.

### **Summary of Recommendations**

For ease of review, we have collected our recommendations and listed them below. Lehigh would like to thank the Climate Action Council for providing industry, citizens, and other stakeholders with the opportunity to provide comment on the draft New York Scoping Plan. Lehigh is committed to achieving carbon neutral concrete by 2050, and we look forward to working with the Climate Action Council to make this goal a reality.

1. **NYSP General:** The State and Climate Action Council should continue to work closely with affected sectors in the development of industrial emissions reduction programs.

2. **Utilizing Market Forces:** If the Government opts to utilize a carbon pricing mechanism to drive industrial carbon emission reductions, Lehigh recommends a Cap-and-Trade system as the optimum approach. A properly designed system that adheres to the core principles of fairness, transparency, and innovation can be a powerful tool to incentivize emissions reductions and promote innovation. Lehigh is prepared to support the State in efforts to build out a future carbon pricing system.
3. **Energy Intensive, Trade Exposed Industries:** As the State builds out emissions reduction programs, it is important that the Climate Action Council recognizes potential implications for EITE sectors. The State should work with industry to develop a clear EITE framework to reduce the unintended consequences associated with emissions reduction programs.
4. **Trade Exposure Data:** The Climate Action Council should collaborate and gather data from industry to ensure the trade exposure of the New York State cement industry is appropriately represented.
5. **Low Carbon Procurement:** The Climate Action Council should recommend the adoption of procurement standards that consider the entire value chain and full life cycle of low carbon cement and concrete products, ultimately focusing on establishing a circular economy.
6. **Low Carbon Procurement:** The Climate Action Council should recommend the investigation of opportunities to promote the use of performance-based specifications – instead of recipe-based prescriptive specifications – for all low carbon construction materials sourced by the government. Furthermore, project specifications should include low-carbon cement and concrete products. To support these efforts, a construction materials working group should be established to ensure that low carbon procurement standards and policies reflect the emission reduction potential of the sectors involved.
7. **Research, Development & Demonstration:** A Research, Development & Demonstration (RD&D) strategy should be wholly inclusive of all low carbon opportunities as New York works towards net zero. Lehigh recommends that the RD&D strategy reviews the opportunities of all low carbon alternative fuel options as part of that strategy.
8. **Carbon Capture and Storage:** To maximize the potential CCUS in New York, Lehigh recommends the formation of a state CCUS working group. The working group would be tasked with investigating pathways to promote the development and scaling of carbon capture in the State and would include a pathway for state primacy for Class VI well permitting.



9. **Carbon Capture and Storage:** Lehigh recommends the Climate Action Council identify and guide the State in providing adequate funding and investment opportunities for the industry to deploy CCUS in a timely manner.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Perkins', with a stylized flourish at the end.

David Perkins  
Vice President – Government Affairs and Communications  
Lehigh Hanson, Inc.