

December 4, 2019

The Honorable Paul Tonko
Chairman
Energy & Commerce
Subcommittee on the Environment
House of Representatives
Washington, DC 20515

The Honorable John Shimkus
Ranking Member
Energy & Commerce
Subcommittee on the Environment
House of Representatives
Washington, DC 20515

Dear Chairman Tonko and Ranking Member Shimkus:

I am writing to you on behalf of the Portland Cement Association (PCA) in regards to the hearing entitled, "*Building A 100 Percent Clean Economy: Solutions for Economy-wide Deep Decarbonization.*" Sustainability and environmental stewardship are top priorities for America's cement manufacturers.

PCA, founded in 1916, is the premier policy, research, education, and market intelligence organization serving America's cement manufacturers. PCA members represent 92 percent of the United States' cement production capacity and have distribution facilities in every state in the continental U.S. Cement and concrete product manufacturing, directly and indirectly, employs approximately 610,000 people in our country, and our collective industries contribute over \$125 billion to our economy. The Association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and promotes economic growth and sound infrastructure investment.

Portland cement is not a brand name, but the generic term for the type of cement used in virtually all concrete. Concrete forms when portland cement is mixed water, and aggregate (sand and rock), and allowed to harden. Cement holds the concrete together and has a role similar to flour in a cake mix. Concrete is the most-utilized material after water in the world; the U.S. uses about 260 million cubic yards of concrete each year. It is used to build highways, bridges, runways, water & sewage pipes, high-rise buildings, dams, homes, floors, sidewalks, and driveways.

Cement, the essential material to make concrete, is manufactured through an energy-intensive process. The heart of the process is the cement kiln, a large rotating industrial furnace in which limestone (the critical raw ingredient) and other materials are heated to 3,500 degrees Fahrenheit. At this temperature, the materials become molten and then recombine into small stones called clinker, which is then conveyed to mills to be crushed into the final cement powder. During the heating phase, the molecular structure of the calcium carbonate (CaCO₃) found in the limestone breaks apart to form calcium oxide (CaO) and carbon dioxide (CO₂), which is released as process emissions. These emissions are a chemical "fact of life" in cement manufacturing, which constitutes 60% of industry CO₂ emissions. Currently, there is no commercially viable technology to prevent or reduce the released CO₂ resulting from the chemical process.

Cement manufacturers have invested significantly to reduce CO₂ and other emissions by implementing R&D driven technology improvements, increasing energy efficiency, and reducing reliance on fossil fuels through the use of lower carbon-intensive alternative fuels. The cement industry lowered energy consumption 37 percent since 1972 through equipment and process improvements. Between 2010 and 2016, the cement industry decreased its greenhouse gas (GHG) emissions by six percent while increasing production by 26 percent through efficiency improvements in the manufacturing process. For 2017, twenty-six (28%) of cement plants won awards from the Department of Energy's ENERGY STAR program for their efficiency efforts.

Looking forward, manufacturers face unique and fundamental challenges associated with further decarbonizing the cement industry. While energy efficiency and alternative fuels will continue to be critical components of the industry's decarbonation strategy, 60% of the industry's CO₂ emissions result from the chemical process of manufacturing cement. Currently, there is no commercially available, affordable, and scalable technology available to the cement industry for the capture, use, and storage (CCUS) of these manufacturing process emissions. Indeed, at the current pace of research and development, commercially available CCUS technology is several years away. For us to meet the deadlines cited by scientists for global action, technological development will have to be accelerated, with particular focus on industrial sectors like the cement industry. This will require targeted federal funding and financial incentives to move the technology from the demonstration and pilot stage to commercial-scale use, as well as a significant investment in infrastructure to reliably transport and store CO₂. Considering the chemistry required to make cement, reducing emissions will require significant research into storage and utilization, such as how to cost-effectively mineralize carbon. Legislation should consider research and development funding as part of any regime that limits carbon emissions.

Manufacturers also face the growing risk of a patchwork of state-level policies. California and other states are moving forward to limit GHGs within their borders in the absence of federal action. Their experiences offer lessons for policymakers, but as Congress moves forward with a federal policy, it should ensure that there is a single regime for limiting GHGs. If cement manufacturers were faced with conflicting technical requirements and duplicitous taxes or carbon credit systems, it would severely reduce their competitiveness. Congress faced this dilemma when it considered how to modernize the Toxic Substances Control Act (TSCA) in 2016. Congress understood the risk for manufacturers then and included mechanisms that preempted state power, particularly for California. Congress should take similar steps for GHG legislation as it would be supported by precedent.

Further, any such legislation should be careful to protect the competitiveness of American manufacturers against foreign producers that may not face similar GHG emission limits. With a global market for commodities like cement, the cost of production is an essential part of competitiveness. Any limits on GHGs will raise these costs, such as for fuel, materials, environmental controls, training, planning, and permitting, for manufacturers. Foreign competitors without these costs would have a competitive edge, and would increase production as demand for their cheaper product increases at the harm of American businesses. This carbon leakage would defeat the purpose of the bill. Therefore, any GHG legislation should include a border adjustment mechanism or other leveling provision to ensure that US manufacturers in

energy-intensive, trade-exposed industries maintain a level playing field with cheaper foreign imports not subject to similar standards. A border mechanism would protect American economic growth and facilitate a reduction in global GHG emissions.

In short, the cement manufacturers support Congressional action that seeks to limit GHG emissions. PCA supports market-based policies and initiatives that enable the industry's continued reduction of its carbon footprint in a responsible and sustainable manner. We encourage careful questioning of the witnesses at this hearing to evaluate how a market-based regime could be crafted while preserving the competitiveness of American manufacturers. We also stress that the legislation creating any such regime must include significant measures that invest and guide federal research into CCUS and other technologies that are imperative to the success of comprehensive climate change legislation.

PCA appreciates the opportunity to share our member's efforts to improve efficiency and reduce emissions. We look forward to working with the subcommittee on future legislation and agency oversight to ensure cement manufacturers have the support required from the federal government to enable the industry's continued reduction of its carbon footprint in a responsible and sustainable manner.

Sincerely,

Sean O'Neill
Senior Vice-President, Government Affairs
Portland Cement Association