PCA Since 1916
America's Cement Manufacturers™

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

Dear Chairman Tonko:

I am writing on behalf of the Portland Cement Association to share our views on the Clean Future Act (CFA). 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 93 percent of the United States' cement production capacity and have facilities in all 50 states. Cement and concrete product manufacturing, directly and indirectly, employs approximately 600,000 people in our country, and our collective industries contribute over $100 billion to our economy. Portland cement is the fundamental ingredient in concrete. Cement and concrete products are used to build highways, bridges, runways, water & sewage pipes, high-rise buildings, dams, homes, floors, sidewalks, and driveways. These products also are building blocks for many of the infrastructure projects needed to maintain a resilient, weather-resistant, and adaptive 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.

PCA and its members support market-based policies and initiatives that will enable the industry's continued reduction of its carbon footprint responsibly and sustainably. Foremost we want to see any legislation address global warming while preserving the global competitiveness of America's manufacturers. With that in mind, we offer our comments on the CFA based on their order in the draft legislative text.

Title I – National Climate Target

Section 102 (Federal Agency Plans) directs federal agency heads to "achieve, in combination with the other Federal agencies, the national goal declared by section 101 [*i.e.*, a 100 percent clean economy by not later than 2050]." While we believe that the provision was well-intentioned to push the federal government to do its share in reducing GHGs from its operations, we worry that the language outlining actions to meet goals in paragraph (b) could be read to expand the scope of federal agency authority under existing statutes. This could allow if not force agencies to issue regulations and "any other action the [Agency] determines appropriate to achieve the national goal," clashing with economy-wide policy provisions established in Title VIII. We encourage language that clarifies the intent of Section 102 to limit federal authority to the operations of the federal government itself.

We strongly support the bill's establishment of a Clean Economy Federal Advisory Committee (CEFAC) and the inclusion of representatives from the manufacturing sector, as reflected in section 104(a)(2)(L). Given the unique and particularly significant impact that federal climate policy will have on the nation's energy-intensive, trade-exposed (EITE) industries like those highlighted in section 421(c), CEFAC should include at least two additional representatives from EITE industries, including at least one industry for which manufacturing process emissions make up a significant portion of emissions. This committee is particularly important given the bill's lack of language addressing issues of leakage and international competitiveness. In addition, the scope and recommendations of the CEFAC should be expanded to require formal consultation during implementation of other critical components of the Act, including, at minimum, the Act's proposed FERC carbon pricing regime (Title II), any proposed Product Category Rule (Title V), any proposed State Model Program and regulatory structure for review of state programs (Title VIII), and any proposed Backstop Fee (Title VIII). The CEFAC should be directed to work with EPA, the Department of the Treasury, and other federal agencies in developing legally defensible regulatory and tax policies to address carbon leakage.

Title II – Power

Cement manufacturers use significant power to drive machinery at their kilns, such as grinders, and support measures to reduce emissions from power generation. We support the Title's provisions expanding the use of clean power, such as hydroelectric. We believe that further GHG reductions could be made through nuclear energy investments and licensing reform. Lastly, a portion of any fees collected through the Alternate Compliance Payment program should go to federal research and development for commercially viable, large-scale carbon capture technologies. We also support the recognition of "waste-to-energy" as a valuable tool in reducing energy-related emissions in this section and encourage the Subcommittee to reinforce the importance of waste-to-energy policies in the industrial sector, as discussed further below.

Title III – Efficiency

PCA has concerns that the CFA that would require state and local governments to adopt specific codes to receive federal funding. This mandate would create a de facto national building code based on two organizations, the International Code Council (ICC) and the American Society of Heating, Refrigerating, and Air Conditioning Engineers. Recognizing PCA is a member of the ICC, these private organizations have internal processes for revising their codes that are mainly outside the realm of widespread public input compared to local government. Local governments are best able to decide what building codes should be based on their experience, climate, and natural disaster risks.

Further, the language seems to place energy efficiency to be superior to any other considerations. Public safety must be the foremost consideration in any code so that buildings can resist such threats as fires, hurricanes, and tornados. We encourage the Committee to maintain the current state and local role for building codes, with the Department of Energy providing technical assistance to hit national emissions targets.

Title IV – Transportation

We encourage the Committee to collaborate with the House Transportation and Infrastructure Committee on how to reduce transportation emissions. The transportation sector makes up 29% of the United States total emissions. While mobile source energy efficiency is one key consideration, the efficiency of our nation's transportation infrastructure is also essential.

One tool that would apply to buildings and roadways is a life cycle perspective that considers not just the cars but the highways, roads, and surfaces they travel over. As Dr. Jeremy Gregory of the Massachusetts Institute of Technology testified on September 18 at the Subcommittee hearing on reducing industrial emissions, one opportunity to reduce fuel consumption would involve improving the pavement vehicle interaction (PVI) by reducing the " roughness or deflection in the pavements (which leads to additional energy dissipation in the vehicle)." By allowing for an accurate accounting of how much the material and construction play in pavement performance, reductions could be made to a significant contributor to global warming in the United States, transportation emissions.

MIT has conducted extensive research analyzing the fuel-efficiency impacts associated with road-material selection, based on the pavement-vehicle interaction, as well as the heat-island impacts of different pavement types and colors and their ability to absorb or reflect light. Pavement-vehicle interaction is the relationship between a vehicle's tires and the road's surface, such as roughness, texture, and deflection. PVI can lead to excess fuel consumption and greenhouse gas emissions. A study of the California Department of Transportation's highway network identified 1 billion gallons of excess fuel consumption over a five-year period as a result of the increased rolling resistance associated with some pavement types. *See Attachment* MIT CSHub, "Carbon management of infrastructure performance: Integrated big data analytics and pavement-vehicle-interactions, (Oct. 2016). These numbers demonstrate that building and maintaining stiffer pavements is important to reducing the nation's greenhouse gas emission. Also, research indicates that cities experience higher temperatures than less urban surroundings as heat-islands, the albedo effect. This is in part from street color and texture and how surfaces absorb heat. Considering these impacts from PVI and the albedo effect, the Committee should consider the role of building materials that have less impact on increasing temperatures when setting building material standards.

Title V - Industry

PCA appreciates the Committee's recognition that the industrial sector is unique, and that climate mitigation strategies and solutions appropriate to the power, oil and gas, and coal industries may not apply to our nation's manufacturers. This is particularly the case for EITE industries like cement manufacturing.

Cement manufacturing is both energy and carbon-intensive, a function of the tremendous heat energy and fuel needed to convert limestone and other materials into cement and the unavoidable carbon dioxide released during this chemical reaction. The cement industry is also trade-exposed. Cement is traded globally as a commodity in a massively competitive marketplace. The Environmental Product Declaration (EPD) requirement puts American producers at a significant competitive disadvantage to foreign countries who can export less regulated and/or higher-carbon cement into the U.S. market without incurring carbon-related costs imposed on domestic

manufacturers. As Congress embarks on establishing carbon policies, it must take into consideration the impacts on the U.S. cement industry and the unintended consequence of making cement plants uncompetitive and driving jobs offshore while maintaining or increasing global emissions.

With these considerations in mind, PCA applauds the Committee for including a separate title to address some of the unique challenges facing industrial manufacturers.

As an initial matter, PCA and its members support the CFA's efforts to provide DOE with more authority and direction with respect to supporting research, development, demonstration, deployment, commercialization, and technical assistance programs related to industrial applications of energy efficiency, energy management systems, fuel switching, carbon capture, and carbon removal technologies. *See* Section 501. PCA also supports the legislation's recognition that increased federal funding will be critical to accelerating the development of these technologies.

Cement 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 decarbonization 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 and economically viable CCUS technologies suitable for widespread adoption is years if not decades away. For us to meet the CFA's national goal of "a 100 percent clean economy by 2050," technological development will have to be accelerated, with a focus on industrial sectors like the cement industry. Such progress 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 transport and store CO2 reliably.

We recommend that the Committee add language within the bill that requires that technologies be large-scale and commercially viable before they are used in setting mitigation reduction goals or timeframes. Any climate reduction mandate for manufacturers should account for the time needed to 1) bring specific technologies to commercial scale and economic practicability within specific industries, 2) establish the federal, state, and local infrastructure and legal systems needed to support all stages of carbon capture, compression, transport, utilization, and/or storage, and 3) accommodate the lengthy process needed for individual plants to site, design, permit, finance, construct, and operationalize specific technologies.

We also encourage the addition of a section related to alternative fuels that expands the definition of Waste-to-Energy referenced in Title II to include post-industrial and post-consumer non-hazardous secondary materials, including plastics, paper and fabrics/fibers that are not typically recycled. These materials are less carbon-intensive than traditional fossil fuels and divert methane-generating waste from landfills and are excellent alternative fuel sources for cement kilns and other industrial sources.

Current regulations disincentivize the use of alternative fuels, and climate legislation should reduce these barriers. Today, alternative fuels make up only about 15 percent of the fuel used by domestic cement manufacturers, compared to more than 36 percent in the European Union - as high as 60 percent in Germany. While our members would like to use more of these materials, current regulations and permitting requirements discourage manufacturers from increasing their use of alternative fuels, even when the emissions characteristics of such fuels are better than traditional fossil fuels. Federal policies should encourage the beneficial reuse of otherwise landfilled materials for energy recovery, reducing reliance on traditional fossil fuels, reducing GHG and air emissions from fossil fuel combustion, and decreasing public health and vector risks from land disposal.

With respect to the proposed Federal Buy Clean program in Subtitle C, PCA and its members believe that any such program would have to proceed very cautiously, with extensive consultation and participation by stakeholders during the development of product category rules (PCRs) and Environmental Product Declaration (EPD) standards. PCA and its members support efforts to inform building material users and procurement officials about the performance characteristics, resilience, durability, and energy and environmental impacts of their products across their full lifecycle. Current methodologies, however, frequently tell only part of the story.

EPDs have been identified as one way to inform the decisions of architects, engineers, and the public in the marketplace. Most EPDs limit their lifecycle impact analysis to a "cradle-to-gate" analysis of the product, however, ignoring the lifecycle impacts and benefits of the selected material and products during the use and post-use phases – critical considerations when making building decisions and formulating long-term climate policy. Even within a specific product category, the detail and specificity of the PCRs driving development of specific EPDs can influence the EPD's reliability in accounting for unique differences in suppliers and material sources. This system is particularly problematic when EPDs are used to compare different materials rather than just suppliers. Finally, EPDs only tell part of the story of a specific product's broader social impact because other benefits, like resilience, durability, heat resistance, and adaptability to climate change, may be excluded.

Given these challenges associated with use of EPDs as voluntary reference tools, implementing a system requiring their use in federal decision making is a momentous endeavor, requiring significant analysis to avoid unintended consequences. There are many different types of cement products and thousands of types of concrete products, each with environmental profiles. Further, implementing this system on a facility-by-facility basis with so many subcategories will impede infrastructure planning and construction. To be fair, any enforceable EPD requirement would need EPDs to be based on a cradle-to-grave LCA for full reductions to be made. The materials listed in section 501 are also not cohesive to the entire universe of building materials, giving some an unsubstantiated edge. Finally, we urge caution in using such a system for construction materials because it could lead to decision making based on perceived differences in a limited set of environmental impacts over the strength and other performance characteristics of the product necessary for the job.

Title VI – Environmental Justice

Title VI includes provisions that would expand federal and state authority to regulate "coal combustion residuals units (CCR)," including CCR landfills, CCR surface impoundments, or lateral expansions of a CCR unit. It would also prohibit, as open dumping, the use of CCRs in unencapsulated beneficial uses. While PCA appreciates and supports the need for sound regulatory policies that reduce long-term disposal of CCRs, PCA cautions the Committee to not impose undue restrictions on the beneficial use of coal ash. According to EPA's own 2015 regulatory impact analysis for the 2015 CCR rule, the beneficial use of CCRs provided "over $2.3 billion in annual national environmental benefits", and "annual material and disposal cost savings of approximately $2 billion annually." EPA, *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule*, 80 Fed. Reg. 21301, 21329 (April 17, 2015) Indeed, over a third of the benefits resulting from the 2015 CCR regulation were based on projected *increases* in beneficial use, accounting for annual benefits of between $79 million and $117 million. *Id.* at 21459.

While the bill does not address CCR piles or storage of CCR for beneficial use directly, PCA urges the Committee to consider the indirect impacts of any CCR policy and prevent policies that would discourage CCR generators from making them available for beneficial use, or that would hinder the storage and use of this valuable material by industries that incorporate these materials into encapsulated products and materials. This is particularly important for the cement and concrete industries, which accounted for over 60 percent of all encapsulated use of CCRs in 2018. Once blended into cement and/or concrete and used in end products, the CCRs, and their constituent parts, are bound within the mineral structure of the building material, minimizing the risk of release into the surrounding environment while providing important performance benefits to the end product. The use of CCRs in cement also provides carbon reduction benefits, offsetting the need for clinker and giving CCR an important role in the cement industry's long-term carbon reduction effort strategy.

Any long-term fix to the challenge of managing coal combustion residuals in the environment should protect, if not expand, current regulatory incentives for the on-site storage and beneficial use of CCRs for cement manufacturing and other encapsulated applications. This includes permitting the temporary storage of CCRs destined for encapsulated beneficial use at cement and concrete facilities.

Title VIII – Economy-Wide Measures

PCA finds Title VIII to be the most problematic part of the CFA because it will result in a regulatory patchwork system that will inhibit voluntary investment, job creation, and economic growth. On its face, Title VIII essentially grants states almost complete discretion, subject to regulatory approval, for determining how to regulate industry and other elements of the state economy to meet the law's ambitious carbon reduction goals. The legislation could result in companies having to comply with multiple sets of requirements as it would allow one state to impose rigid command and control performance standards on industrial sources, another state to establish an intrastate cap-and-trade regime, and another state to impose a carbon tax.

While regulatory flexibility and federal/state cooperation are important elements of any regulatory strategy, regulatory certainty and consistency are equally, if not more important to the business community, especially the manufacturing and industrial sectors where regulatory policies can require hundreds of millions of dollars of capital investment, reengineering of operations, and even the economic future of facilities and jobs within specific communities. Major capital investment decisions are often developed on 5 to 10-year horizons, taking into account economic projections, trade considerations, legal and regulatory projections, and other factors. The unusually broad and open-ended state mandate within Title VIII will have significant negative economic impacts with respect to jobs, economic growth, and interstate and international commerce. CFA's state-based regime for cutting emissions will likely result in a 50-state patchwork of requirements for reducing GHGs. The regulatory inconsistency, uncertainty, and instability of such a patchwork system will inhibit voluntary investment, job creation, and economic growth. It also raises concerns for EITE industries like cement, where the risk of trade leakage is among the most significant threats to the US industry and the mechanisms for mitigating leakage risks are largely untested.

PCA urges the Committee to work with the manufacturing and industrial sectors to explore the implications of a patchwork approach and discuss options for mitigating adverse impacts. PCA also recommends that EPA be directed to consult with the CEFAC as part of the development of any regulatory requirements, model plans, or state plan criteria required under Title I, Subtitle A.

Should the Committee not pursue one national scheme, it should provide more direction to EPA and the states to integrate state-level policies with broadly applicable federal policies in the bill. For example, the statute should include express provisions in the carbon inventory process to account for transportation-related emissions within the state – a significant source type and one where states have control over transportation planning. Any federal Model Climate Pollution Phaseout Control Plan should allow for, if not require, interstate trading of credits, and provide the architecture for federal oversight and operation of such a system.

Finally, despite the Committee's acknowledgments in its framework document that trade leakage is a concern, the CFA Discussion Draft omits any discussion or remedy for trade leakage. A strong and legally defensible policy framework for protecting EITE industries from trade leakage will be critical to the success of any national carbon mitigation mandate. California, the European Union, and Mexico with existing greenhouse gas regimes all classify the cement industry as an EITE and consider the unique challenges EITE industries face in implementing policies. If a system like the CFA goes into effect without leakage protection, it would have devastating impacts on the cement industry and other EITE sectors. Domestic cement manufacturers would face competition from foreign suppliers who import less regulated, higher-carbon materials into the U.S. market without complying with the stringent wage, environmental, health, and safety standards required of domestic manufacturers, or provide significant subsidies. The perverse result would be that domestic climate policies could undermine domestic competitiveness while increasing global carbon emissions through higher shipping and transportation-related emissions and in many cases, sourcing products from less carbon-efficient manufacturers abroad.

Making sustainable progress toward GHG emission reductions while minimizing costs to society requires consistent, predictable policy and a regulatory environment that fosters innovation, investment, and economic growth. The CFA must protect the ability of EITE industries to compete in the global economy, such as free emissions allowances, a border adjustment, or other policy mechanisms.

PCA appreciates the opportunity to share our members' views on this legislation. Our members share the Committee's goal of decarbonizing the global economy and is committed to working with policymakers on fair and realistic solutions that achieve reductions without harming the U.S. economy, the environment, and the people in our communities. We look forward to working with the Subcommittee to shape and advance legislation that provides cement manufacturers with the support required to build on its history of sustainable investment in a responsible and sustainable manner.

Sincerely,

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