



Portland Cement Association

March 26, 2007

Representative John D. Dingell  
Chairman  
Committee on Energy and Commerce  
United States House of Representatives  
Room 2125 Rayburn House Office Building  
Washington, DC 20515

Chairman Dingell:

The Portland Cement Association (PCA) appreciates the opportunity to submit comments to the Committee on the issue of climate change. This reply addresses your questions in the order in which they were posed.

**1. Please outline which issues should be addressed in the committee's legislation, how you think they should be resolved, and your recommended timetable for Congressional consideration and enactment. For any policy recommendations, please address the impacts you believe the relevant policy would have on:**

- (a) emissions of greenhouse gases and the rate and consequences of climate change; and**
- (b) the effects on the U.S. economy, consumer prices, and jobs.**

The Portland Cement Association is a trade association representing cement companies in the United States and Canada. PCA's U.S. membership consists of 45 companies operating 106 plants in 35 states and distribution centers in all 50 states servicing nearly every Congressional district. PCA members account for more than 95 percent of cement-making capacity in the United States and 100 percent in Canada.

The U.S. cement industry emits approximately 80 million metric tons of CO<sub>2</sub> annually and is, consequently, very interested in the design of any national program addressing greenhouse gas emissions. Cement is a strategic commodity and essential component of our nation's infrastructure. It is a globally competitive product that is internationally traded. The cement industry directly employs 20,134 people in the United States, however, 937,364 are employed in the cement and related industries. The cement industry is also a significant contributor to state economies. For example, in Michigan the cement industry directly employs 1,046 and supports a total of 24,545 in cement and related industries.

The cement industry is committed to making our product safely and efficiently, while minimizing emissions and encouraging sustainability. The industry codified this commitment with the adoption of a voluntary goal to reduce CO<sub>2</sub> emissions by 10%

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(from a 1990 baseline) per ton of cementitious product sold or produced by 2020 adopted in 2001. We are making considerable progress towards achieving this goal. The industry is now implementing a three-part program to achieve this goal and to foster reductions by cement users. The three parts address the manufacturing process, product formulation, and product application.

First, the cement industry has taken steps to reduce emissions through increased efficiency and decreased fuel use. Second, the industry is supporting this goal by producing cement using a lower proportion of calcined materials, thereby reducing CO<sub>2</sub> emissions per unit of product. Lastly, we are reducing emissions through product applications that promote the use of concrete as a solution to climate change due to concrete's inherent energy efficiency and other global warming effects. Concrete structures are more energy efficient than buildings constructed from other materials. Light colored concrete also absorbs less heat than dark-colored materials thereby reducing ambient temperatures and mitigating urban heat. The industry's commitment to increased efficiency and sustainability has reduced our energy consumption by one-third over the last thirty years.

Our industry, as well as the rest of the manufacturing sector, is concerned about the impact that a limitation on absolute emissions would have on our ability to grow and meet the increasing demands of our customers. We are also concerned that a limitation on absolute emissions would not recognize that cement is an energy efficient building material and a strategic commodity that is vital to the construction of infrastructure and economic investment. Constant improvements in infrastructure will necessitate more cement. Water and sewage systems, highways, and bridges are all in need of periodic improvement and replacement. These infrastructure needs will have to be met by cement produced either in the U.S. or elsewhere. We are concerned that a limitation on absolute emissions could shift production to developing countries with less efficient technologies, and lower production costs. This approach could both harm domestic producers and defeat the intent of climate legislation by shifting emissions overseas where more CO<sub>2</sub> could be emitted per ton of cement produced, resulting in an overall increase in global CO<sub>2</sub> emissions. This would be exacerbated by emissions associated with shipping cement longer distances and by diminished economic feasibility of energy efficient concrete structures.

Furthermore, establishing a reliance on other countries for cement will only create a foreign dependence for an essential component of our nation's infrastructure and growth. Given our nation's current challenges caused by our dependence on foreign oil, it is not in our best interest to set up a similar situation with a strategic commodity like cement. Furthermore, losing the cement industry in North America to foreign competition would remove the environmental benefits that the industry brings as a partner in eco-efficiency, waste reduction, and natural resource preservation.

**2. One particular policy option that has received a substantial amount of attention and analysis is "cap-and-trade." Please answer the following questions regarding the potential enactment of a cap-and-trade policy:**

**A. Which sectors should it cover? Should some sectors be phased-in over time?**

The cement industry and manufacturing sector recognizes that national and international climate change policy is going to evolve over the course of the next several decades and will be influenced by evolving technology and energy options. Consequently, a program needs to be flexible enough not to hamper these innovations and to also allow them to influence the structure of a mandatory program at any given point in time. It is vital that any climate legislation consider the uniqueness of the manufacturing sector and preserve the competitiveness of domestic manufacturers. Distinctions need to be acknowledged for those industries that produce internationally traded products, such as steel, aluminum and cement. Moreover, any system should also recognize the unique constraints on those industries that have industrial process emissions that are also greenhouse gases, such as calcination emissions associated with cement manufacturing. A key feature of the cement manufacturing process is the chemical conversion of limestone ( $\text{CaCO}_3$ ) to calcium oxide ( $\text{CaO}$ ) and carbon dioxide ( $\text{CO}_2$ ). Roughly half of the  $\text{CO}_2$  emissions associated with cement manufacturing result from this process. There currently exists no feasible means by which to reduce the emissions, short of separating the  $\text{CO}_2$  emissions from the remainder of the cement process exhaust gases through a sequestration technique. There is no such technology currently available, nor will it be available for the foreseeable future. Without distinctions that recognize the uniqueness of the cement manufacturing sector, the competitiveness of these industries will be placed at a disadvantage.

Cement, the key ingredient in concrete, is an essential commodity for economic development. Without it, nations would be unable to build the foundations of their infrastructure. China is now, and will be for the foreseeable future, the largest producer of cement in the world. The nation now produces more than ten times the amount produced in the U.S. and their production capacity is growing at double digit rates annually. Many other developing nations in Asia and other emerging economies are experiencing similar production rate increases. Because cement is a vital strategic commodity and essential to our nation's future economic growth, PCA opposes an absolute limitation on manufacturing emissions but could support, depending on how it is structured, an intensity based objective for energy intensive manufacturers.

**B. To what degree should the details be set in statute by Congress or delegated to another entity?** PCA believes sector specific criteria should be incorporated into the law.

**C. Should the program's requirements be imposed upstream, downstream, or some combination thereof?** PCA opposes an absolute limitation on manufacturing emissions but could support, depending on how it is structured, an intensity based objective for energy intensive manufacturers.

**D. How should the allowances be allocated? By Whom? What percentage of the allowances, if any, should be auctioned? Should non-emitting sources, such as**

**nuclear plants, be given allowances?** PCA is currently developing a position on this issue.

**E. How should the cap be set (e.g., tons of greenhouse gases emitted, CO<sub>2</sub> intensity)?** PCA opposes an absolute limitation on manufacturing emissions but could support, depending on how it is structured, an intensity based objective for the energy intensive manufacturers.

**F. Where should the cap be set for different years?** PCA is developing a position on this issue. We are interested in working with the committee as we move through this process.

**G. Which greenhouse gases should be covered?** Virtually all of the cement industry's greenhouse gas emissions are CO<sub>2</sub>. We therefore endorse a focus on CO<sub>2</sub> for the cement sector.

**H. Should early reductions be credited? If so, what criteria should be used to determine what is an early action?** PCA supports the concept of credit for early action.

**I. Should the program employ a safety valve? If so, at what level?** PCA supports a safety valve concept at this time. However, we are still analyzing the exact structure of the safety valve, particularly how it would address intensity based objectives.

**J. Should offsets be allowed? If so, what type of offsets? What criteria should govern the types of offsets that would be allowed?** PCA favors offsets as long as the program is offsetting an intensity-based objective. The use of alternative fuels and raw materials in our manufacturing process is one potential offset that the cement industry would endorse. Cement-making is ideal for recycling wastes and recovering their energy value. Cement plants safely destroy unwanted waste such as tires, solvents and chemical byproducts, by burning them in cement kilns. Many wastes, including used motor oils, solvents, and scrap tires have high energy content and can therefore replace traditional fuels such as coal and natural gas. By burning these wastes in cement kilns, the industry conserves scarce fossil fuels and safely rids society of hazardous and undesirable materials in an environmentally responsible manner. It is our position the any offset program should treat these emissions as carbon neutral.

**K. If an auction or safety valve is used, what should be done with the revenue from those features?** PCA supports a safety valve concept at this time. However, we are still analyzing the exact structure of the safety valve we would find most appropriate.

**L. Are there any special features that should be added to encourage technological development?** PCA believes that technology research and innovation are very important parts of national climate change programs; indeed the United States has a very robust program. The complement of existing research programs should continue to explore ways to make greater use of lower carbon alternative energy sources and examine how certain products may mitigate climate change effects.

**M. Are there design features that would encourage high-emitting developing countries to agree to limits on their greenhouse gas emissions?** Please see answer to question four.

**3. How well do you believe the existing authorities permitting or compelling voluntary or mandatory actions are functioning? What lessons do you think can be learned from existing or voluntary or mandatory programs?**

We believe it is important to promote and fund programs, like the Asia-Pacific Partnership, which have demonstrated a potential model for success in engaging stakeholders on climate change. The Asia-Pacific Partnership, for example, could facilitate significant greenhouse gas emission reductions in China and India. We believe the Asia-Pacific Partnership is an innovative model for other programs as it provides an opportunity for impacted stakeholders, including industry, government, and environmental groups, to actively engage on climate issues and sustainable economic growth. Because of the opportunity for meaningful dialogue afforded by the APP, we believe this model has a high potential for success.

PCA also supports programs like the EPA's Climate Leaders as a model of a voluntary program we believe is successful. This program is an industry-government partnership that works with companies to develop long-term comprehensive climate change strategies. Several PCA members participate in this program.

**4. How should potential mandatory domestic requirements be integrated with future obligations the United States may assume under the 1992 United Nations Framework Convention on Climate Change? In particular, how should any U.S. domestic regime be timed relative to any international obligations? Should adoption of mandatory domestic requirements be conditioned upon assumption of specific responsibilities by developing nations?**

PCA believes that all nations of the world that are (or will be in the next 10-20 years) significant emitters of greenhouse gases should be participants in programs to reduce emissions. These programs, however, may take various forms. One potential model is the APP model discussed above. Other initiatives may address emissions from other developing nations. PCA does believe that these programs should be implemented concurrently. Developing nations should be encouraged to construct energy efficient, sustainable communities through Information sharing, technology transfer. However, any U.S. program should be designed in a way that does not conflict with other approaches in other nations.

A process already exists under the UN Framework Convention on Climate Change, to which the U.S. is a party, which requires "national communications" by signatory nations outlining progress towards achieving the Framework's objectives. It would seem sensible to first assess the strengths and challenges of this system and modify it before creating an entirely new one. While PCA supports the intent of the UNFCCC,

we have concerns regarding the lack of active engagement this framework provides impacted stakeholders. We believe it is important for impacted stakeholders to actively engage with each other on equal footing in the international arena. However, under the UNFCCC framework some of the most impacted entities are often left out of the discussions that impact them. Industries, such as the cement industry, are left to watch the discussions from the outside while a small group of individuals make decisions that impact them. It is our position that the UNFCCC framework be examined and modified to allow for more meaningful dialogue between stakeholders before an entirely new framework is created. Instead, PCA would favor an approach more similar to the APP model as it provides sufficient opportunity for meaningful stakeholder engagement.

**5. What, if any, steps have your organization's members or its individual members taken to reduce their greenhouse gas emissions? Which have been voluntary in nature? If any auctions have been taken in response to mandatory requirements, please explain which authority? (State, Federal, or international) compelled them?**

The U.S. cement industry began seriously studying the issue of climate change in the mid-90s and worked with EPA through the Climate Wise Program to develop a CO<sub>2</sub> emissions protocol and a means by which to record emissions reductions through the DOE 1605 (b) program. The U.S. industry was then able to accurately quantify cement industry CO<sub>2</sub> emissions and to begin a process of examining ways to address them. The product of this assessment culminated in the adoption of a voluntary CO<sub>2</sub> emission reduction goal in July 2001. The cement industry voluntary goal is a 10% reduction in CO<sub>2</sub> emissions per ton of cementitious product produced or sold from a 1990 baseline by 2020. Similar efforts have since been initiated around the world, resulting in the development of a global cement industry greenhouse gas emissions protocol, prepared under the auspices of the World Business Council on Sustainable Development. As discussed above, the cement industry is implementing a three part program to achieve our voluntary goal of reducing CO<sub>2</sub> emissions.

PCA also supports programs that encourage voluntary reductions and the development of advanced technologies that increase efficiencies and reduce, avoid, or sequester GHG emissions, such as the Climate VISION program. This program is a public-private partnership initiative launched by the Department of Energy to contribute to the goal of reducing GHG intensity through the development of new technologies and best practices. The cement industry is an active participant in this program. Several PCA members are also part of the EPA Climate Leaders program. Under this program, members set a corporate-wide greenhouse gas reduction goal, inventory their emissions to measure progress, and report these reductions to the EPA. Some members have already reported significant reductions as part of this program.

**Conclusion**

Thank you for the opportunity to comment on this important issue. We look forward to working with you as this process unfolds. Please do not hesitate to contact

Andy O'Hare should you have any questions regarding PCA's perspectives on this matter. He can be reached at (202) 408-9494 or [aohare@cement.org](mailto:aohare@cement.org).

Sincerely,

A handwritten signature in black ink, appearing to read "J Spitaleri Shaw". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

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