

COALITION FOR SUSTAINABLE CEMENT MANUFACTURING & ENVIRONMENT
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December 14, 2009

Professor Larry Goulder
Chair, Economic and Allocation Advisory Committee
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: California Cement Industry's Comments on the Economic and Allocation
Advisory Committee's ("EAAC") December 9, 2009 Report

Dear Professor Goulder and Members of the EAAC:

The Coalition for Sustainable Cement Manufacturing and Environment ("CSCME"), a coalition of all six cement manufacturers operating the 11 cement plants in California,¹ would like to take this opportunity to comment on EAAC's December 9, 2009 and December 14, 2009² draft reports entitled "Allocating Emissions Allowances Under California's Cap-and-Trade Program." The following comments represent CSCME's specific observations about certain elements of EAAC's recommendations.

- **CSCME strongly agrees with the Committee's finding that it is advisable to use allowance value to "address emissions leakage problems associated with energy-intensive, trade-exposed industries."**³

The Committee notes that the risk of emissions leakage is greatest for "industries where two conditions hold: they use relatively more energy in production ('energy intensive') and they are exposed to unregulated competition in their export or import markets ('trade exposed')."⁴ A variety of factors indicate that California cement producers are a textbook example of an energy-intensive, trade-exposed ("EITE") industry:

- Cement production is an energy-intensive process that requires the heating of limestone at extreme temperatures of 2,700-2,800 Fahrenheit. In principle, various fuels can be used in

¹ The Coalition includes Cemex, Inc., National Cement Company of California Inc., California Portland Cement Company, Mitsubishi Cement Corporation, Texas Industries, Inc. and Lehigh Southwest Cement Company.

² CSCME will be reviewing the December 14, 2009 draft report released today in greater detail and may provide additional comments on this draft.

³ EAAC, pg. 54.

⁴ EAAC, pg. 12. Although CSCME strongly agrees with the spirit of this statement, we believe that a more precise characterization is warranted. Specifically, the risk of leakage is primarily determined by an industry's *GHG intensity* (i.e., GHG emissions per dollar of output or value added) rather than its energy intensity *per se*. Furthermore, the risk of leakage is a function of exposure to *less stringently regulated* competition in general rather than unregulated competition in particular.

the pyroprocessing stage, but coal and petroleum coke have been the predominant fuels due to costs, availability, and superior performance characteristics.

- Cement production is inherently an emissions-intensive process. Common to all cement manufacturing is the chemical reaction that occurs when the calcium carbonate (“CaCO₃”) in limestone is heated and breaks down into lime (“CaO”) and carbon dioxide (“CO₂”) — a process known as “calcination.” These irreducible process emissions are fundamental to the manufacturing process and account for approximately 57% of CO₂ emissions in the California cement industry.⁵
- Cement is a fungible commodity that is actively traded in internationally competitive markets and competes almost exclusively on the basis of price. As a result, even seemingly small cost differentials between domestically-produced and imported cement can result in a substantial loss of competitiveness, reduction in market share, and disinvestment.
- California’s location on the Pacific Ocean makes it easily accessible to imports of all products, including those that are typically expensive to transport by land, such as cement. The California cement industry’s extreme exposure to imports was demonstrated as recently as 2006, when imports represented approximately 40% of California’s total cement consumption.

This unique combination of energy intensity, emissions intensity, product fungibility, and exposure to international competition demonstrates that the California cement industry faces an extreme risk of emissions leakage.

- **The cement industry’s status as an EITE industry has received widespread confirmation in a variety of policy venues and analyses.**

As noted by the Committee, various efforts are currently underway to identify those industries at risk of emissions leakage. The EITE frameworks embedded in leading national proposals, including the Waxman-Markey and Kerry-Boxer bills being considered by the U.S. Congress, apply a logical set of objective criteria (energy intensity, emissions intensity, trade intensity) to identify “presumptively eligible” industries. Using these criteria, numerous analyses -- including a preliminary assessment conducted by the U.S. Environmental Protection Agency -- have confirmed the cement industry’s EITE status.⁶

Likewise, the EU’s Emissions Trading System (“ETS”) included a quantitative approach to identifying those sectors at risk of emissions leakage. The ETS methodology is based on the estimated cost

⁵ Lime is the key ingredient in cement, and CO₂ is released in a fixed ratio with the production of lime. In short, the majority of CO₂ emissions are a direct and unalterable consequence of the chemical reaction that is fundamental to the cement manufacturing process. These immutable “process emissions” distinguish the cement industry from many other carbon-intensive sectors, such as electric power or transportation.

⁶ See U.S. EPA (June 2009). Comparison of FTI and EPA Analysis of H.R. 2454 Title IV. Memorandum Prepared for the House Energy & Commerce Committee Staff.

increases and trade exposure experienced by an industry. Again, based on an objective quantitative assessment, the European Commission confirmed the cement industry's EITE status.⁷

- **In the absence of effective anti-leakage measures, implementation of AB 32 is likely to result in a substantial cost differential between domestic and imported cement.**

The California cement industry's potential cost disadvantage under AB 32 is staggering. As a general rule of thumb, the production of one ton of cement results in one ton of CO₂ emissions and sells for approximately \$100. Consequently, a carbon price of \$30 per ton would result in a 30% increase in the price of cement. In the absence of measures that either relieve the initial cost pressure or impose equivalent costs of imports, such a substantial price increase will render the California cement industry economically unviable, will result in a massive shift in market share toward imports in the short run, and will precipitate sustained disinvestment in the California cement industry in the long run.

- **In the absence of effective anti-leakage measures, implementation of AB 32 is likely to result in a substantial increase in the emissions associated with California cement consumption.**

The potential negative impact on the GHG emissions associated with California's cement consumption is also staggering. In addition to the inevitable shift of California's cement consumption to less stringently regulated and less carbon efficient sources, the higher emissions associated with the transportation of cement imports is particularly troublesome. For instance, even under the broad and unrealistic assumption that all other production emissions are equal to those of highly-regulated California producers, imports of cement from China still result in 25% more emissions than cement produced and consumed in California due to the transportation of the product across the Pacific Ocean.⁸ Thus, any shift in the sourcing of California's cement consumption to China is virtually certain to result in a net increase in global GHG emissions.

- **In the absence of effective anti-leakage measures, implementation of AB 32 is likely to result in environmentally inefficient substitution in downstream product markets.**

Even if the differential in compliance costs between domestically-produced and imported cement is equalized through the use of a border adjustment mechanism, the California cement industry is likely to remain at risk of "cross-sectoral" leakage. To the extent that cost equalization allows all cement suppliers to pass through the cost of regulation, consumers in downstream markets (*i.e.*, concrete batch plants and concrete product manufacturers) will be placed at a cost disadvantage to alternative construction materials, such as asphalt, steel, and lumber, especially if the carbon content of these materials escapes regulation.

Moreover, even if competing construction materials (*i.e.*, concrete, asphalt, steel, and lumber) are subject to a uniform carbon price, the outcome is likely to be both economically and environmentally

⁷ European Commission, Draft Commission Decision of determining, pursuant to Directive 2003/87/EC of the European Parliament and of the Council, a list of sectors and subsectors which are deemed to be exposed to a significant risk of carbon leakage, approved September 18, 2009, available at

http://ec.europa.eu/environment/climat/emission/pdf/draft_dec_carbon_leakage_list16sep.pdf.

⁸ ENVIRON International Corporation, Greenhouse Gas Emissions from Cement Importing, prepared for certain California cement producers, October 23, 2007. See also CARB, Draft Scoping Plan (June 2008) at C-106.

inefficient. This perverse result arises because the cap-and-trade system imposes a carbon price at the point of production, which does not take into account the higher lifecycle emission savings of concrete (including its production, use, and disposal) relative to competing construction materials (asphalt, steel, lumber). As a result, the price signal for those who select construction materials will be distorted -- erroneously incentivizing them to use products with a higher lifecycle emissions profile.

- **CSCME shares the Committee's view that border adjustments can be an effective method for reducing the risk of emissions leakage.**

CSCME strongly believes that border adjustments would be an effective tool for reducing emissions leakage caused by increased regulatory costs within the state of California. By including products originating outside California that are sold in the California market, border adjustments are a necessary part of a comprehensive policy to target emissions associated with the consumption of products in California. Moreover, a border adjustment is particularly effective in relation to cement, because the unique attributes described above make cement especially susceptible to leakage to imports and because the emissions associated with imports can be effectively identified, unlike products with more complex supply chains.⁹

- **CSCME disagrees, however, with the Committee's implied view that the use of allowance value and the implementation of a border adjustment are supplementary approaches.**

The EAAC report describes border adjustments as an “alternative” to allowance allocation.¹⁰ CSCME would like to emphasize that these two approaches should not be considered mutually exclusive. The use of allowance value is an important component of a comprehensive policy because it lowers compliance costs within the state of California, minimizing the risk of cross-sectoral leakage. Industries may still face incremental compliance costs over and above the allowance value received, however, and a well-designed and targeted border adjustment can impose an equivalent incremental cost on imported cement that has a similar GHG profile -- providing more robust and effective leakage prevention than allowance allocation alone.

- **CSCME also disagrees that a regional and/or national cap-and-trade system would absolve the need for anti-leakage measures.**

In its report, the EAAC notes that “the extent of emissions leakage depends directly on the presence or absence of a regional or national cap-and-trade program” and that leakage would be “substantially reduced with the arrival of a regional or national-level cap-and-trade policy.”¹¹ Although CSCME agrees that the implementation of a regional and/or national cap-and-trade (or equivalent) program would help to reduce emissions leakage caused by imports into California of goods from other U.S. states, such programs would not address leakage caused by imports from other countries (unless these programs contained a border adjustment covering foreign products). As noted above, the

⁹ Implementation and enforcement of a border adjustment for imports of cement is less complex than for other products. Cement is a fungible, commodity-type product without “a supply chain that involves many inputs from various sources.” EAAC, pg. 13. Moreover, unlike other energy-intensive sectors (steel, chemical, aluminum, glass, etc.), the downstream products of cement (*i.e.*, concrete products) are normally not imported or otherwise traded across borders.

¹⁰ EAAC, pg. 12.

¹¹ EAAC, pg. 6, 55.

California cement industry faces significant competition from overseas, especially cement producers in Asia, and very few imports originate from other U.S. states. Thus, the implementation of a regional and/or national cap-and-trade system is unlikely to significantly reduce the risk of leakage in the California cement industry.

- **CSCME strongly objects to EAAC's proposal that "border adjustments or other leakage-oriented measures should be of short duration (though renewable)" because such an approach would severely undermine any new investments to meet California's future cement demand.**

In addition to the points discussed above about the adoption of a regional or national policy removing the need for anti-leakage measures, the December 14, 2009 EAAC draft report introduces a new recommendation that border adjustments or other leakage-oriented measures should be of short duration in order to facilitate "adaptability," although with the possibility that such measures could be renewed.¹² CSCME strongly opposes this recommendation because it intentionally and necessarily introduces uncertainty into the regulatory regime. Cement is a capital intensive industry in which investment decisions require certainty and predictability over the long-term. The introduction of leakage-oriented measures that require periodic "renewal" undermines the ability to make sound investment decisions in the California cement industry.

It is important to keep in mind that you cannot achieve growth and development objectives in California without cement. It takes concrete to build and repair schools, roads, and bridges, construct new buildings and factories, and improve transportation infrastructure. Importantly, you also cannot implement effective climate change solutions without cement. Concrete is critical for adaptation strategies (such as flood controls and irrigation systems) and for mitigation strategies (such as wind farms). Because climate change is a global problem, it is simply not realistic (or equitable) to expect that California's cement consumption, and the emissions associated with it, should be out-sourced to developing countries. Thus, we have the unusual situation where the preservation and growth of a healthy and secure California cement industry is both in the economic and climate change interests of California.

Accordingly, California's climate change regime must establish sufficient long-term certainty and predictability in the operation and effectiveness of measures to address the significant risk of leakage in the California cement industry. Without such a regime, California's cement consumption will not be met by new investments in California but by increased imports with a higher GHG emissions footprint, undermining both California's economic development and climate change objectives.

- **CSCME believes that it is both possible and desirable to design a policy framework that leverages the benefits of both allowance allocation and border adjustment mechanisms in a manner that minimizes the risk of leakage in a WTO consistent manner.**

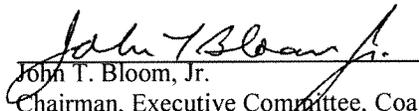
As the EAAC report notes, both the allocation of allowance values and the implementation of a border adjustment may be subject to challenge under the U.S. Constitution and the World Trade Organization ("WTO") agreements, which set rules for the trading of goods between U.S. states and Member countries of the WTO, respectively. CSCME believes that the design of these programs should take

¹² EAAC (December 14, 2009), pg. 58.

into account potential challenges under these legal regimes in an effort to minimize the risk of an unfavorable finding by a U.S. court or WTO dispute settlement panel. Importantly, CSCME considers that with the proper policy design these measures can indeed survive any future judicial or WTO challenge. For example, a successful policy design would not discriminate between in-state and out-of-state (including foreign-made) products or between one foreign country and another (*i.e.*, such design should generally apply the same requirements to products from all sources). It would also be tailored to problems that are specific to California's environment and population, rather than trying to regulate the effects of climate change outside of the state. CSCME has specific design proposals that would meet these criteria and looks forward to sharing these ideas with the EAAC in the near future.

CSCME appreciates the continuing work of the Committee in drafting its recommendations and looks forward to maintaining an open dialogue regarding how to achieve California's climate change goals through carefully designed policy measures that minimize the potential for emissions leakage.

Sincerely yours,



John T. Bloom, Jr.

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