CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES
NATURAL RESOURCES DEFENSE COUNCIL
SIERRA CLUB CALIFORNIA

May 7, 2007

By Electronic Mail
Dr. Robert Sawyer, Ph.D., Chairman
California Air Resources Board
1001 I Street,
Sacramento, CA 95814

Re: Energy Efficiency in Cement Manufacturing - Early Action Measure

Dear Dr. Sawyer:

We write on behalf of the undersigned organizations to urge CARB to adopt energy efficiency targets for California cement manufacturers as an early action measure under Assembly Bill (AB) 32. This letter provides more detail on one aspect of the proposal set forth in our January 22, 2007 letter. We appreciate this opportunity to provide further input.

The staff report on "Proposed Early Action Measures to Mitigate Climate Change" indicates that consideration of measures to improve energy efficiency in cement manufacturing has been referred to the Business, Transportation & Housing (BT&H) agency. We are puzzled by this referral. CARB has authority to address the greenhouse gas ("GHG") emissions from cement manufacturing facilities under AB 32 and has additional authority to control related mercury emissions under its toxic air contaminant program.[1] The establishment of an energy efficiency requirement for cement manufacturing facilities merits consideration as an early action measure by CARB because such a requirement would reduce both GHG and toxic emission and could be implemented quickly.

Because California's cement manufacturing facilities are less energy efficient than the best international performers, the state's plants can make significant energy efficiency gains using technologies and processes already demonstrated internationally. Production of cement at just eleven California plants accounts for about 2 percent of the state's

[1] Health & Safety Code §§ 39658(b) & 39666(c).

greenhouse gas emissions[2] and almost 90 percent of statewide mercury (Hg) emissions,[3] much of it from the combustion of coal and other dirty fuels. According to researchers at the Lawrence Berkeley National Laboratory, readily achievable energy efficiency improvements at California cement plants could reduce CO_2 emissions by at least 0.68 Mt (or about 6.0 percent of the sector's total contribution).[4] These energy efficiency gains would also result in major reductions in toxic air contaminants, including mercury, and would, over time, pay for themselves in energy bill savings. For all these reasons, our proposal represents a "win win" for the environment, health, and economy of California.

The early action measure we propose would establish a mandatory target for increased energy efficiency by California cement plants. Lawrence Berkeley National Laboratory and other researchers have already evaluated the potential for energy efficiency in the California cement industry and have compiled an extensive list of existing, proven technologies and process changes that could be adopted to meet the target. The U.S. Environmental Protection Agency's Energy Star program (in which many domestic cement facilities participate) has incorporated this list into existing guidance documents for the cement industry, although it sets benchmarks far below the performance of the most efficient international plants.

The energy efficiency target we propose would allow California cement plants to meet CARB's target by selecting the mix of technologies and process changes that would be most cost-effective for them. Payback times for these measures have been estimated to range from a few months to several years. Under a similar program implemented in the Netherlands, that country's cement manufacturing facilities have already increased energy efficiency by 20 percent and, we understand, are now pursuing an even more aggressive goal.[5]

An energy efficiency target for California cement plants is ripe for adoption now for several reasons. Efficiency targets could be based on technologies and processes that have already been proven at the best-performing international facilities. CARB could draw on extensive research that has already been conducted by researchers at the

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[2] Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.

[3] U.S. EPA, 2004 Toxic Release Inventory Data Release, *available at* http://www.epa.gov/triexplorer.

[4] Lawrence Berkeley National Laboratory, *Optimization of Product Life Cycles to Reduce Greenhouse Gas Emissions in California*, California Energy Commission Public Interest Energy Research Program, CEC-500-2005-110-F, August 2005.

[5] Lynn Price, Lawrence Berkeley National Laboratory, "Near-Term Solutions for Mitigation of Industrial Sector Carbon Dioxide Emissions in California" (March 5, 2007) (presentation for California Air Resources Bd. Int'l Symposium on Near-Term Solutions For Climate Change Mitigation in California).

Lawrence Berkeley National Laboratory and elsewhere. Perhaps most importantly, the conceptually simple approach we propose would achieve significant reductions in both greenhouse gas and toxic air contaminant emissions that would pay for themselves.

Thank you for your careful consideration of this proposal. We would be happy to work with your staff to assist in the development of this important measure as your work proceeds.

Sincerely,

Rachel McMahon
Center for Energy Efficiency and Renewable Technologies

Michael Wall
Miriam Rotkin-Ellman
Natural Resources Defense Council

Bill Magavern
Sierra Club California