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Comment submitted via email to GHGInventory@EPA.gov

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Re: Comments of the Portland Cement Association (PCA) on the EPA Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015 ([Draft Inventory](#)), 80 Fed. Reg. 10767 (Feb. 15, 2017)

PCA¹ appreciates EPA's willingness to review and revise the methods used to estimate emissions from the cement industry in the annual inventory submitted to the United Nations. In follow-up to the PCA comments submitted on last year's inventory as well as the technical meeting that EPA held with PCA last year,² PCA is writing to foster additional discussion on the emissions estimates for the cement industry's process emissions. PCA also requests that the inventory account for carbonation, a currently unrepresented sink. We look forward to discussing these issues with you further.

Request for Revision of EPA Estimation Method Used to Calculate the Cement Industry's Process Emissions

In this year's Draft Inventory, EPA estimates the process emissions from cement manufacturing using the 2006 Intergovernmental Panel on Climate Change (IPCC) Guidelines. *See* Draft Inventory at 4-8. Those guidelines are scheduled for refinement in 2019 and are no longer the best method for estimating process related emissions from cement manufacturing.

The World Business Council for Sustainable Development (WBCSD) issued Version 3.0 of its report titled "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry"

¹ 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 U.S. cement production capacity and have facilities in all 50 states. Portland cement is the fundamental ingredient in concrete. The Association promotes safety, sustainability, and innovation in all aspects of construction, fosters continuous improvement in cement manufacturing and distribution, and generally promotes economic growth and sound infrastructure investment.

² PCA thanks EPA staff for the opportunity to meet in-person last year to discuss EPA's current challenges to synch data collected under 40 C.F.R. Part 98 with the inventory estimates. *See* Draft Inventory at 4-9.

(WBCSD Report) in May 2011.³ The WBCSD Report shows that the B1 Method (described in the report) can be used to estimate process related emissions from cement manufacturing, based on clinker production, in a manner which addresses certain limitations of the 2006 IPCC Guidelines. The B1 Method is therefore more accurate than what appears in the IPCC Guidelines. See WBCSD Report at 15-17 & App'x 3.

Of note, the B1 Method accounts for the CO₂ emissions resulting from both organic material and magnesium carbonate in the raw material, while the IPCC method does not. The difference is significant. The base emission factor in the IPCC Guidelines is 0.507 tons of CO₂ per ton of clinker while the updated default WBCSD factor is higher, at 0.525, plus an upward adjustment for organic material in the kiln feed.

We recommend that the EPA re-calculate the process emissions from cement manufacturing considering this WBCSD method. PCA would welcome the opportunity to facilitate further dialogue between PCA, EPA, and the WBCSD on the specifics of this issue.

Request for EPA Inclusion of Carbonation as a Sink

While the Draft Inventory accounts for process emissions that are emitted when cement is manufactured, the Draft Inventory does not occur for the carbonation that occurs later in cement products' life cycle. Cement products in-use, post-demolition, and post-recycling reabsorb atmospheric CO₂ over time because of a physiochemical process called carbonation.⁴

The significant sink of carbonation is not discussed in the 2006 IPCC Guidelines. EPA should refine its Draft Inventory to account for this sink. Again, PCA would welcome the opportunity to discuss this request in further detail.

If you have any questions about these comments, please contact me (202-719-1977; mschon@cement.org).

Sincerely,



Michael Schon
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³ This report is available at http://www.wbcSDcement.org/pdf/tf1_co2%20protocol%20v3.pdf

⁴ See, e.g., Fengming Xi, et al., "Substantial global carbon intake by cement carbonation," *Nature Geoscience* (2016), <http://www.nature.com/ngeo/journal/v9/n12/full/ngeo2840.html>