

Review ESSD 2019-152, Global CO₂ emissions from cement production, 1928 – 2018

Interesting paper to read, and important for improving CO₂ emissions estimates from cement production, and hopefully assist CDIAC in updating their methodology to reflect changes in global cement/clinker ratios. Some small comments are below, but overall recommend for publication.

Figure 1: Why does cement production not show the same strong increase as the global emissions total in figure 2? Is this because of clinker ratios increasing, especially in China? A statement clarifying this might be helpful to the reader.

Thank you for pointing this out. Yes, it is because of the sharp increase in clinker ratio in China. I have modified the sentence to the following:

The rebound in China's cement production and a higher clinker ratio in that country (Figure C3) are the main reasons for global emissions to have regained the level of 2014.

Figure 3: a definition of the official estimates acronyms in the figure might be helpful.

These are spelled out in the caption of the figure as:

1NC refers to China's First National Communication, 2NC the Second, and 1BUR the first Biennial Update Report.

CDIAC 2018 inventory is cited in Figure 3, but it is the 2017 inventory you are using if the latest year is 2014. There is a 2018 inventory that goes to 2015. Citation is below if you plan on using 2018.

Boden, T.A., G. Marland, and R.J. Andres. 2018. Global, Regional, and National Fossil-Fuel CO₂ Emissions. Carbon Dioxide Information Analysis Center at Appalachian State University, Boone North Carolina

The final data point plotted from CDIAC in this figure is in fact 2015, and the data are taken from the 2018 edition, with the citation identical to the one provided here by the reviewer.

Data is easy to download, and it is good to have detailed changes in the living data.