

Interactive comment on “Continental-scale enrichment of atmospheric $^{14}\text{CO}_2$ from the nuclear power industry: potential impact on the estimation of fossil fuel-derived CO_2 ” by H. D. Graven and N. Gruber

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Dear Heather and Nicky,

Thank you for your eloquent and thoughtful reply to my comment on your paper.

Your reply clearly lays out the context of your study, which exactly addresses the concern I have with the paper in its current form. My concern lay not in the methodology that is presented, but in placing it in context within the field, and particularly in addressing how experimental (sampling) design could be used to reduced the nuclear bias. If

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the discussion you include in your reply can be incorporated into the paper itself (at least some of it verbatim), then I believe that the paper will be much stronger, and an important contribution to the field.

To reiterate my previous comment, the nuclear industry map you have created and describe in the paper is a very useful contribution to the field, and is a huge step over previous nuclear ^{14}C emissions maps. The continental scale study of the effect of nuclear ^{14}C emissions on the use of ^{14}C as a fossil fuel tracer you describe is also interesting and a useful contribution.

Yours, Jocelyn Turnbull

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