

Earth Syst. Sci. Data Discuss., community comment CC4
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Reply on CC3

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Community comment on "Harmonising the land-use flux estimates of global models and national inventories for 2000–2020" by Giacomo Grassi et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2022-245-CC4>, 2022

Hi Malte, happy to read you

To avoid a long dialogue, let me just present three notes -that in my understanding are just pieces of evidence- and in addition let me provide a clarification on the point I see I was not clear enough.

E1. Anthropogenic emissions and removals include both, direct and indirect emissions and removals as per IPCC Guidelines and UNFCCC requirements (since UNFCCC requires countries to apply IPCC Guidelines). *So, your considerations about direct anthropogenic vs natural redistribution are out of scope; although in the last AR6 I've seen such argument surprisingly applied to CO₂ removals from the atmosphere that shall be discounted because ocean degassing would release back to the atmosphere a fraction of CO₂ removed.*

E2. The atmosphere sees all anthropogenic -direct and indirect- emissions and removals caused by human beings; thus, the national GHG inventories and the accounting stop here. *Mixing anthropogenic (direct+indirect) emissions to and removals from the atmosphere with subsequent feedback that determines a change in the GHG concentration in the atmosphere is (of course not in my logic and) out of the scope of accounting under the UNFCCC and of NGHGs.*

E3. Conclusions within the UNFCCC (including 10 years of negotiations under KP on Brazilian proposals) and the IPCC are concordant that direct and indirect human-induced emissions and removals are both anthropogenic and cannot be separated. In my understanding, this is for the three reasons I've provided in my previous note: 1. accounting for all anthropogenic (direct+indirect) emissions and removals that the atmosphere sees as a consequence of human actions, 2. Provide symmetry in the treatment of emissions and removals, 3. Count for verifiable quantities.

UNFCCC and IPCC conclusions are based on science, and not subject to interpretations in their application (objectively applicable).

As a clarification, I was not discussing additionality (out of scope), I was just noting that discounting indirectly caused removals brings the necessity to discount indirectly caused emissions, e.g. in a forest plantation because of climate change the expected net growth does not materialize and thus instead of reporting a net C stock loss (e.g. half plantation

died because of drought) a net sink is reported (indeed without indirect effects the plantation would have been growing; and it is easy to quantify the expected growth by applying yield tables). A sink that in a national accounting eventually offsets emissions from other sources.

Ciao

Ps countries report under the UNFCCC emissions from wildfires