

**Review of Uncertainty analysis of projections of ozone-depleting substances: mixing ratios, EESC, ODPs, and GWPs by Velders and Daniel, submitted to ACPD.**

This is a very timely paper on the influence of different parameters to the time of ozone recovery, ODP, and GWP and the uncertainty of these figures. Especially the uncertainty analysis adds to the scientific understanding of these issues.

I suggest that the manuscript should be published with minor changes shown below.

28019: L. 5-10: Why do you only specify the time for the mid-latitude and not also for the Antarctic stratosphere?

28019 L. 21ff: you already could refer to Laube et al., 2013 for an additional data set which provides new information on EESC which will be discussed in the paper.

28019 L.20: Montzka et al., 2011b should be Montzka and Reimann et al., 2011 (then also the 2011a and 2011b partition is no longer needed).

28021 L. 12: it is not clear what authors mean with the sentence: In the box model, average surface mixing ratios of ODSs are calculated from mean atmospheric mixing ratios using a fixed factor.

Is this factor used for converting mean atmospheric mixing ratios to input concentrations into the box model?

28024: L. 21: be more precise:...emissive? Production (as production for feedstock is still allowed).

Or mention the production is used for feedstock and did practically not decline in recent years.

28025: L. 9. For me it is not logical that you speak of using the information production, mixing ratios, and lifetimes to calculate banks. Thus, one consequence of this should be that the bank size should have changed when the new SPARC lifetimes are used. However, here you speak of using the old information on banks?

28030: L20: For EESC, the most relevant differences in lifetimes between SPARC... It could be mentioned that the stratospheric lifetimes are meant here.

28031: L2ff: I understand what the authors mean by increase, but it is a little bit misleading as overall the compounds will have declined by then, but only not as fast as expected with the old lifetime.

28041: L23: Can the newest IPCC report already be cited?

28042: L16ff: I don't like the long discussion and conclusion section too much. It is rather long and the take-home messages are a little lost in the discussion. I suggest that the authors try to shorten this section and better separate the discussion from the conclusions or even clearly identified subsections for the different messages.

28044: L29: ...we have shown that the uncertainty in the lifetime of the ODSs is the dominant term. This statement is too absolute. As for some substances also other factors get important. Maybe use ..."normally" is the dominant term?

28051: Table 1. The combination of the new SPARC stratospheric lifetime for CCl<sub>4</sub> and the oceanic lifetime of 94 years from Yvon-Lewis and Butler (2002) is different from the use as proposed in SPARC 2013, which uses a new value of 81 years, for which however no peer-reviewed reference is available. I am ok with authors using the "old" oceanic lifetime, but it should be stated in the caption of the table.

28051: Table 2: Lifetimes though → lifetimes through

28064: in the caption colors are not red and orange, but light and dark blue

28064ff: in the caption for figures 7-9: specify that uncertainties are shown as relative uncertainties