

## Referee 1

In their revised manuscript, the authors have taken into account the previous comments. In particular, the manuscript is now considered a "Technical note"; however, I still believe that this manuscript is more of an "Opinion". Apart from that, I have only a few minor comments:

I found Table 1 not easy to understand. Please consider presenting Table 1 in an easier and clearer way with clearly defined columns.

Moreover, Table 1 currently has captions above and below.

Thank you for this comment. We have clarified the columns and rows and deleted the duplicate caption.

Line 215: brackets do not balance

Deleted extra parenthesis.

Line 346: "UNEP: Country Data, 2023." Is this a complete (and useful?) reference?

Expanded on reference to Ozone Secretariat database of Consumption of controlled substances in ODP tonnes or in CO<sub>2</sub>-eq tonnes ([https://ozone.unep.org/countries/data-table?report\\_type=0&output\\_type=odp-CO2e-tonnes&party%5B%5D=65&party\\_grouping=individual&group%5B%5D=10&period\\_start=1986&period\\_end=2022&baseline=1&group\\_by=group&op=GENERATE+REPORT&form\\_id=ozone\\_country\\_data\\_form\\_report\\_table\\_form](https://ozone.unep.org/countries/data-table?report_type=0&output_type=odp-CO2e-tonnes&party%5B%5D=65&party_grouping=individual&group%5B%5D=10&period_start=1986&period_end=2022&baseline=1&group_by=group&op=GENERATE+REPORT&form_id=ozone_country_data_form_report_table_form)).

It is a bit inconsistent that WMO 2018 is included in the references, but WMO 2022 only as Burkholder et al. (2022)

Updated reference from WMO 2018 to WMO 2022.

## Referee 2

In this resubmitted manuscript, the authors propose a framework of methods to evaluate impacts of unexpected emissions of ODS on ozone depletion and climate change. It suggests methods and metrics cited in the literature for evaluating these impacts and propose a list of actions for offsetting them. The article is well written and documented, and is publishable as a technical note since it corresponds mostly to a review of literature with suggested actions. These actions are mainly the destruction of banks, an accelerated phasedown of ODS and their HFC replacement, or the limitation of exemption use. It now includes two tables providing (1) calculation of equivalent ODS or GWP offset, and an overview of offset activities with an assessment of their offset.

My main criticisms and suggestions to the manuscript at this stage are the following:

- Provide equation for ODP and GWP calculations

Equations added

- Provide the context for the choice of HCFC-22, HCFC-141b and HCFC-142b in table 1, e.g. what are the main ODSs presently produced and what is the phase out schedule?

Added text explaining that the three ODS in Table 1 are those with the greatest remaining eligible production and consumption under the phaseout schedule. Added reference to TEAP

2023 supplementary report Table 4-1 with remaining eligible consumption for HCFC-141b and HCFC-142b.

- Be more specific in table 2 in the offset activities, e.g. for the HCFC-22 use as feedstock, what production would be affected by such limitation?

Table 2 provides the available information on the total annual feedstock production. It would be up to the Parties to determine the extent of reduction in emissions from feedstock production through consideration of measures, such as narrowing of feedstock exemptions. We added a reference to Andersen et al. (2021) for a discussion of narrowing feedstock exemptions, which is beyond the scope of this technical note.

For the accelerated HFC phasedown, which HFC should be targeted? Also the proposed action to reduce production of N<sub>2</sub>O, CH<sub>2</sub>Cl<sub>2</sub> or CH<sub>4</sub> is very vague. Why adipic acid or nitric acid productions are targeted? What would be feasible for CH<sub>4</sub>, with which impact?

A full discussion of all potential offset activities, mechanisms, and impacts is beyond the scope of this technical note, which seeks to present to concept, approach, and potential examples in Table 2.

More generally, the manuscript lacks an assessment of the most useful offsetting measures and the best options for the ozone depletion and climate change issues.

We appreciate the point and have proposed a follow-up opinion paper to the editors that would be a more appropriate forum for exploring potential offsetting measures.

Also, some references seem outdated, such as WMO (2018). The new assessment published in 2022 could be mentioned.

Updated reference to WMO 2022 and estimated remaining eligible ODS consumption from latest TEAP RTF supplementary report.

Minor comments

Page 4, line 125. Spell out acronyms  
Spelled out carbon tetrachloride (CTC).

Page 4, line 126: Integrated Ozone depletion should be defined with an equation and compared to ODP.

Added equation. Noted that “Integrated Ozone Depletion (IOD) could be used for quantifying the impact on stratospheric ozone of an emission to be offset, and use of this metric would provide results very similar to use of ODP unless the chemical being used to offset an impact had a substantially different loss frequency in the troposphere and stratosphere (Pyle et al., 2022).”

Page 5, line 150: Provide examples of short-lived HFCs.

Added lifetimes of most common HFCs: HFC-134a, HFC-32, HFC-125 and lifetimes from WMO 2022.

Page 8, line 207. Provide the definition of essential use exemption and critical use exemption.

References to the specific Decisions where each of these exemptions are defined have been added. Including the full Decisions defining each exemption would significantly lengthen the text.