Review comments, 25 May 2023

Abstract

Line 3: Only CCl_4 is still widely produced under exemption as a chemical feedstock (non-dispersive use)
Better is: … is still widely produced as a chemical feedstock.
Forget about exemptions, non-dispersive use, etc. The latter term is a non- MP term anyhow.
Parties are free to produce any controlled substance as feedstock, as long as they report production for domestic use, exports and imports

Line 4: ….. originate from existing banks (e.g. from foams, mobile air conditioning units and refrigerators)
Question is …. Can one imagine that there are still MAC units emitting CFC-12 ????, maybe a few vintage cars. If it is not retrofitted.

The following is being mentioned in line 7: …… All countries in this region have been subject to the controls of the Montreal Protocol since the late 1980s and, as non-Article 5 **(delete the "-" in Article-5)** Parties, have been prohibited from producing CFCs and CCl_4 for dispersive use since 1996.
This is true. However, in fact, Europe (including the UK) decided to phase out (one year earlier) by 1995, so that would be the real date. One can also use the Montreal Protocol date, but then it should also be changed in the paper further down, where Europe has been mentioned.
Line 14: ….. should be "shows"
Line 15-16: Western Europe (2008-2021) …. Has Western Europe been defined in the paper ?
Good to pick it up now. It has not, and WEU should not be used for Western Europe.

BTW, Line 292 says that WEU is Western Europe

However,

The Western European Union (WEU) was the international organization and military alliance that succeeded the Western Union after the 1954 amendment of the 1948 Treaty of Brussels. The WEU implemented the Modified Brussels Treaty. **Wikipedia**

1 Introduction

Line 27: Their production, consumption and use are controlled through the Montreal Protocol

””

The Montreal Protocol does not control the use (and it does not control emissions)

Line 28: For non-Annex 5 parties

In climate, we have Annex I and non-Annex I, here it should be non-Article 5 parties (or Parties as in line 7-8

Line 29: should be Article 5 Parties (no dash)

“Western Europe” needs to be clear, also in the introduction (see also above), ……and when the phase-out of Annex A substances occurred

Line 30: ……..CFC-11 was mainly used in aerosol spray cans, as a solvent and as an agent for blowing foams into buildings and consumer products; CFC-12 was mainly used in refrigerators, mobile air conditioning units and as a foam blowing agent.

Does this apply to developed and/or developing countries ?

Line 31-32: CCl_4 was used historically as a solvent and also as a feedstock to produce other chemicals, predominantly CFC-11 and CFC-12. Production and consumption of CCl_4 has been banned under the MP since 2010.

Does this apply to the developing countries (or Article 5 Parties) ?

Line 34: …..with the exception of use as a chemical feedstock. Feedstocks are permitted to be produced under the assumption that the majority of CCl_4 made, is fully converted into the target chemical, recycled or destroyed……..

Please, leave the "Feedstocks are permitted…" sentence out, or just refer to the MP definition (I would not recommend) Line 36: "Globally, emissions of CFC-11 and CFC-12 have been decreasing as a result of the consumption controls imposed by the MP".
That is an interesting one, is it the production or consumption control ?.. The chicken or the egg ? I would use production controls, or both.

Sentence in lines 183-185, please check. The use of the references makes it a bit difficult to read.

Line 195: …..250%, I know this is normally used, but the standard is 250 %, in that way 250 stands out more

Line 244 shows the difficulty again with "Western Europe", one mentions here Spain and Poland, is Poland "Central Europe" ?

Line 256: "the phase-out in Europe during 1995"
To avoid confusion, it might be better to keep the MP date, 1/1/1996

Line 258: Is it necessarily "infrastructure" ?

Line 296: Benelux = B + NL + LUX, sometimes called Benelux countries, more often the Benelux countries. Up to authors, but the Benelux is used in line 350 !!

Line 284: France may leak some CCl4 from feedstock production, but there are some more countries in W-Europe that produce CCl4, with perhaps –small-- leakages (e.g., Germany)

. Line 348 says: …… from the chemical industry, as these amounts would be co-emitted …...
CCl4 is still used as feedstock in large quantities (but this doe not relate to CFC-11 and -12), so, leave co-emissions out here, or improve the sentence

Conclusions

Avoid western Europe and WEU, define something “good” in the Introduction

Line 356: “Over WEU” ??

Line 358: “all emissions from banks” ??, no emissions possible from CCl4 feedstock ?

Line 361, 364: maybe “the Benelux”

Lines 366-369 have two sentences that both use “this study”. I think that the second sentence can do without “this study”, maybe “Therefore, no evidence is found…”