

Interactive comment on “HFC-23 (CHF₃) emission trend response to HCFC-22 (CHClF₂) production and recent HFC-23 emission abatement measures” by B. R. Miller et al.

Anonymous Referee #1

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The authors discuss the politically very interesting decrease in HFC-23 emissions in recent years by comparing bottom-up with top-down emission inventories. The methods and datasets used are discussed in great detail and collectively show a convincing story of increasing HFC-23 emissions through 2006 followed by decreases as a result of CMD projects. I find the paper well organized, which helps in reading it, although there are a lot of technical details. The paper will be considered very interesting for the Parties of the Montreal Protocol. I recommend publication after some minor points are considered.

Minor points: 1. P3-4: Why is Montzka et al. (2009) not mentioned in the introduction?

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That paper addresses the same subject as this one and should be mentioned early in the paper. 2. P5, L22-24: This sentence is too technical and not understandable by most readers. Rephrase or delete. 3. P7, L1: “remarkably” seems an odd word to use here, since you want to (and do) convince the reader (me) that that the time of analysis does not affect the results. 4. P7, L30: An uncertainty of 5% for 1995-2008 seems very small. What is this based on? 5. P8, L12-14: “during 1990-1993”. The lower panel of Fig. 3 shows that the data from McCulloch is also used for 1994-2005. Please clarify. 6. P10, L24: Reference the SAR report here instead of AR4. 7. P11, L30-32: I think you underestimate the HFC-23 emissions by the assumption. Is it not likely that the facilities under CDM projects have a low HFC-23/HCFC 22 ratio that other facilities? Or do you want a conservative estimate of the HFC emissions (as mentioned in the next sentence). Please explain. 8. P12, L4-7: That fact that the data is needed as an a priori estimate seems less important than the fact that it is considered as a bottom-up emission history. I suggest to move the second sentence to the front. 9. P35: Note that Figure 4 shows good on screen, but the printout shows black bars and lines on the graph.

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