

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.

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I found this an interesting paper, especially the "top-down" and "bottom-up" comparison. The only criticism I have is that the aims of the "top-down" and "bottom-up" comparisons, namely emission reporting verification and assessment of the impact of the emission abatement techniques are not clearly expressed early in the paper, in particular in the abstract and introduction. Although the assessment of the abatement techniques is alluded to in the introduction (Page 4, lines 21-24) the verification of reported emissions is not outlined until Page 7, lines 17-18. I feel that a clear iteration of these aims early in the paper would strengthen it considerably.

I also have a couple of other minor corrections/comments:

The text refers to HFC-23 and HCFC-22 but the plots refer to CHF3 and CHClF3. I don't mind which one you use but it would be nice to be consistent.

Page 2, line 8 I'd be tempted to write "countries through the" rather than "countries under the". The word "under" to me, in that context, implies being governed by something. On first reading I thought that the UNFCCC CDM was some sort of guideline/rule that the developing countries had to follow and I got a little distracted trying to figure out why developing countries had to follow a higher standard than developed ones.

Page 2, line 13 It's unclear whether the time period is referring to only the archive or to the in situ record.

Page 3, line 3 "...a 100-yr time horizon (Forster and Ramaswamy, 2007), which..." not "...a 100-yr time horizon, (Forster and Ramaswamy, 2007) that..."

Page 3, lines 2 – 6 The flow of this is a bit odd. At the moment it goes: Fact about HFC-23 - HFC-23 is a by product of HCFC-22 production - Fact about HFC-23 - Discussion of HCFC-22 Maybe change the order to: Fact about HFC-23 - Fact about HFC-23 - HFC-23 is a by product of HCFC-22 production - Discussion of HCFC-22

Page 4, line 1 This sentence confuses me. From what to what? What is the percentage of? Is it a reduction of 43-48%? Or is it that 43-48% of what was produced was incinerated? How about? "These countries have reportedly incinerated the HFC-23 produced by 43-48% of the developing world's HCFC-22 production during 2007-2008"

Page 5 The tense used seems to change on this page it starts of past tense line 1 "Analyses for HFC-23 were" then goes present line 29 "Data processing ... allows..." then line 30 "contamination was". Is that intended?

Page 5, line 30 I'd change "this instrument" to "Medusa9". I got confused again.

Page 8, line 7 "diverging low to ~70 %" remove the low "diverging to ~70%".

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Page 18, line 7 “for dispersive uses to a peak in 2007” sentence doesn’t make sense.

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