Atmos. Chem. Phys. Discuss., 10, C3818–C3820, 2010
www.atmos-chem-phys-discuss.net/10/C3818/2010/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Global mercury emissions to the atmosphere from anthropogenic and natural sources" *by* N. Pirrone et al.

N. Pirrone et al.

s.cinnirella@iia.cnr.it

Received and published: 11 June 2010

article

1 Comments to Reviewer 1

In Italic the Reviewer's comments.

The manuscript tries to quantify Hg emissions from natural and anthropogenic sources globally. The manuscript has several shortcomings such as: - poor bases for estimates

and fraction factors used, due to poor data mining, - missing references to many of the figures presented, - some erroneous statements, - a couple of medium Hg emission sources left out such as bauxite working in spite of addressing other minor sources, . . .

We appreciate the suggestions of the reviewer and the revision of the manuscript will be done accordingly.

. . . many references are presenting the same facts and apparently included due to connection with the authors, in some cases as policy documents, rather than on scientific evidence, - recent, important references omitted, having more reliable figures than the ones presented in this manuscript.

If the reviewer refers to the report prepared for the UNEP Mercury Program, it is our opinion that such report is not only a policy document (actually there is not much policy in it) but is a high level scientific document written by over 70 well recognized experts worldwide which has been peer-reviewed by over 15 well know scientists with expertise on emissions, measurements and modelling.

The authors write at p. 4728 "It is very difficult to discuss the average content of mercury in the copper, zinc, lead, nickel and gold ores as very little information is available in the literature." However, if the authors had looked into other works than their own, they would have found more accurate data than the ones they present.

We have found additional references, to which perhaps the reviewer is referring to, that will be looked at and taken into account in the revised manuscript. However, recent assessments on mercury release from industrial ore processing show that estimates

are very uncertain due the variability on mercury content in ores (do we know Hg content in nickel, gold, bauxite, silver, manganese for most developing countries ?), in control equipment (do we know where sulfur controls on smelters have been applied in developing countries ?) and in industrial processes (do we know in detail the Hg emission from roasting processes, fluid beds or kiln dryers ?).

Italic text is typed like this: *This manuscript does not contribute to advance science or our understanding and knowledge of Hg emissions further than is found in other actual articles. Rather, the main purpose if the article appears to be a forum of mutual respect rather than a sincere will to find basic facts, which may be contradictory to the authors earlier publications.*

We are very respectful of the reviewer's opinion, however we regret to say that very vague and general remarks and statements without solid scientific arguments as that provided by the reviewer does not provide any solid ground to the advancement of knowledge.