

The importance of being very clear on what kind of data that could be used for inclusion into the EF construction.

In Chapter 2 line 869 starts a section dealing with methodological matters. This should be revised thoroughly.

The stock-difference-method is suggested possible to use not only for mineral soils as it is now in the 2006 GL but also for peatlands (I understand so but is not sure). And if using a Stock-Difference method it is needed to know the peat depth, which is mostly unknown. Thus there is no “given carbon pool” or stock as said in line 870. The surface, or the elevation, is constantly being lower, subsidence. Thus only measurements of density changes of the surface soil are not enough to catch the stock change. I think this method should be dismissed and not included or discussed here, since these methods might be as peat soils, swampy.

The second approach, the Gain-Loss method, includes biomass input. On line 885 it is said (in the point) that carbon stock change is not limited to the surface soil, but also (implied) by the roots deeper down. But biomass changes should not be included in this wetlands supplement, since double counting is then introduced, and biomass is calculated elsewhere (forest). Line 887-891 give arguments why the stock-difference method is unsuitable, the peat volume is uncertain and small errors of bulk density measurements add uncertainty. This supports what I said above. On line 901 it is said that “we have adopted the Gain-Loss Method...”, but is it so? By scrutinizing the references upon the EF for CO<sub>2</sub>, do not show this. And who are “we” on line 91,902 and 903?

I think it is not OK to use this reference, Hergoualc'h & Verchot 2011, as one showing flux measurements, since flux was not measured, only taken from literature and IPCC, (I cannot see how this could be a good method to cite). And as said above it is double counting of dead biomass as inputs.

## **Conclusion**

It seems not to be an agreement in chapter 2 on what fluxes that should be described in this supplement. As I understand it, only the oxidation of the peat should be considered, i.e. heterotrophic respiration, as described in section 2.2 but not in section 2.3 and the annex. It has to be pointed out that litterfall and dead branches are input from biomass already dealt with in 2006 GL forestry chapter. Care should be taken to avoid double counting.