

Interactive comment on “The water footprint of electricity from hydropower” by M. M. Mekonnen and A. Y. Hoekstra

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Dear Dr. Pfister,

Thank you very much for your comments.

We fundamentally disagree on the suggestion that other footprints (the carbon footprint) reflect impact and that therefore the water footprint should also reflect impact. The water footprint is consistent with the ecological and carbon footprint; they all show pressures on natural resources or on the earth's assimilation capacity, not impacts. This discussion has been done already elsewhere in scientific literature (Pfister and Hellweg, 2009; Hoekstra et al., 2009; Berger and Finkbeiner, 2010; Hoekstra et al.,

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2011 pages 125-127; Hoekstra, 2009). We agree with the comment that we should refer to this discussion and include refs to it; we will do that in the revised manuscript.

One cannot extrapolate our estimate for 35 reservoirs to a global estimate, because we have considered the largest reservoirs, which are not representative for all reservoirs. Also, the largest reservoirs are not fairly distributed over the globe. A simple upscaling of our results is therefore not possible. One would need to carry out a full global study to be able to estimate the total WF of artificial reservoirs in the world.

We will surely include a ref to Pfister et al (2011) so that our numbers can be compared to that study. The range provided in Pfister et al (2011) falls within the range of value found by us.

References

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