

Average Damage Functions Are Not Emission-Rated Distance to Targets

In his letter “New Paradigm or Old Distance to Target?”¹ Weidema argues that the average approach in the derivation of characterization factors we propose in our viewpoint “Do We Need a Paradigm Shift in Life Cycle Impact Assessment?”² is the same as a simple normalization relative to an emission-rate based target. We, however, did not propose to ignore environmental mechanisms or “use normalization instead of characterization”. Our targets refer to damage-based targets (such as 5% potentially affected fraction of species), not emissions-rate based targets. Furthermore, we emphasized that “zero effect is also an option to be used as the preferred state of the environment”. Weidema ignores the main point made in the viewpoint, that is, that in the marginal approach the characterization factor will approach zero in cases of high current impacts. Deriving average damage functions by using zero or damage-based targets in life cycle assessment give focus on environmental issues that really matter in our society.

Mark A. J. Huijbregts,*

Stefanie Hellweg

Edgar Hertwich

Department of Environmental Science, Institute for Wetland and Water Research, Faculty of Science, Radboud University Nijmegen, The Netherlands

Institute of Environmental Engineering, ETH Zurich, Switzerland

Industrial Ecology Programme, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

AUTHOR INFORMATION

Corresponding Author

*E-mail: m.huijbregts@science.ru.nl.

REFERENCES

- (1) Weidema, B. P. New paradigm or old distance to target? *Environ. Sci. Technol.* **2011**, DOI: 10.1021/es204049x
- (2) Huijbregts, M. A. J.; Hellweg, S.; Hertwich, E. Do we need a paradigm shift in life cycle impact assessment? *Environ. Sci. Technol.* **2011**, *45*, 3833–3834.

Received: December 9, 2011

Accepted: December 13, 2011

Published: December 22, 2011