

# CV Helmut Haberl

(March 2025)

## Academic qualifications

- Habilitation in Human Ecology, University of Vienna, 2001
- Doctorate in Ecology, University of Vienna, 1995
- Master in Biology and Mathematics, University of Vienna, 1991

## Professional history

- Professor of Socio-Ecological Metabolism, BOKU, since 2022
- Associate professor, BOKU, 2018-2021
- Associate professor, Alpen-Adria Universität Klagenfurt / Wien / Graz, 2001-2018
- University assistant at the IFF, 1994-2001
- Researcher and lecturer at the IFF, 1991-1994
- Researcher, Austrian Institute of Applied Ecology (*Ökologie-Institut*), 1989-2001

## Positions

- Deputy head, Department of Economics & Social Science, BOKU, 2025-2027
- Director, Institute of Social Ecology, 2012-2017
- Deputy director, Institute of Social Ecology, 1995-2009, 2018-2019
- Leader research group “Energy and Environment”, *Ökologie-Institut*, 1992-1997

## Grant

- Austrian Science Funds **Emerging Fields** project “Resilience and Malleability of Social Metabolism”, 2024-2029 (with S. Giljum (WU), F. Krausmann (BOKU), S. Pachauri (IIASA), A. Schaffartzik (Central European University), C. Staritz (Uni Vienna), S. Thurner (Complexity Science Hub))
- **ERC-Advanced Grant** project “Understanding the Role of Material Stock Patterns for the Transformation to a Sustainable Society”, 2018-2024

## Research stay

- Member of the Integrative Research Institute “Transformations in Human-Environment Systems” (IRI THESyS), Humboldt-Universität zu Berlin, 3/2014-6/2014

## Selected contributions to assessment-style reports

- The World in 2050 (TWI2050), IIASA, 2019
- Report “Energiesysteme der Zukunft” (Leopoldina, Acatech), 2017-2019
- Coordinating lead author in the Austrian Assessment Report 2014 of the Austrian Panel on Climate Change, 2011-2014
- Lead author for chapter 11 “Agriculture and Other Land Use”, IPCC 5<sup>th</sup> Assessment Report, Working group III, 2011-2014
- Lead author for two chapters of the Global Energy Assessment (IIASA), 2009-2012

## Positions of trust (selected)

- Senior handling editor of *Regional Environmental Change*, 2014-2024
- Editorial boards: *Ecological Economics*, *Land Use Policy*, *Anthropocene Review*, etc.
- Global Land Project Fellow, since 2018
- Austrian Panel on Climate Change, Chair of the Scientific Committee, since 2016

- Member of the Scientific Commission „Environment“, German Academy Leopoldina, since 2016
- Member of the editorial board, Springer book series “Human-Environment Interactions”
- Scientific Steering Committee of the Global Land Project, 2005-2011
- Scientific Committee of the European Environment Agency, 2004-2011

**Reviewer** (selected, total >70 journals)

- American Sociological Review
- Environmental Research Letters
- Environmental Science and Technology
- Global Change Biology
- Global Environmental Change
- Nature
- Nature Climate Change, Nature Communications, Nature Sustainability
- PNAS
- Science

**Selected publications** (more: ORCID, Clarivate, Google Scholar, etc.)

*Books*

- Haberl, H.**, M. Fischer-Kowalski, F. Krausmann, V. Winiwarter (eds.), 2016. *Social Ecology, Society-Nature Relations Across Time and Space*. Springer, Cham.
- Niewöhner, J., A. Bruns, P. Hostert, T. Krüger, J.Ø. Nielsen, **H. Haberl**, C. Lauk, J. Lutz, D. Müller (eds.), 2016. *Land-Use Competition. Ecological, Economic and Social Perspectives*. Springer, Cham.
- Singh, S.J., **H. Haberl**, M. Chertow, M. Mirtl, M. Schmid (eds.), 2013. *Long-Term Socio-Ecological Research. Studies in Society-Nature Interactions Across Spatial and Temporal Scales*. Springer, Dordrecht.
- Fischer-Kowalski, M., **H. Haberl** (eds.), 2007. *Socioecological Transitions and Global Change. Trajectories of Social Metabolism and Land Use*. E. Elgar, Cheltenham, UK.

*Journals*

- Haberl, H.**, A. Baumgart, J. Zeidler, F. Schug, D. Frantz, D. Palacios-Lopez, T. Fishman, Y. Peled, B. Cai, D. Virág, P. Hostert, D. Wiedenhofer, T. Esch, 2025. Weighing the global built environment: High-resolution mapping and quantification of material stocks in buildings. *Journal of Industrial Ecology*, **29**, 159-172.
- Creutzig, F., S.G. Simoes, S. Leipold, P. Berrill, I. Azevedo, O. Edelenbosch, T. Fishman, **H. Haberl**, E. Hertwich, V. Krey, A.T. Lima, T. Makov, A. Mastrucci, N. Milojevic-Dupont, F. Nachtigall, S. Pauliuk, M. Silva, E. Verdolini, D.v. Vuuren, F. Wagner, D. Wiedenhofer, C. Wilson, 2024. Demand-side Strategies Key for Mitigating Material Impacts of Energy Transitions. *Nature Climate Change*, **14**, 561-572.
- Frantz, D., F. Schug, D. Wiedenhofer, A. Baumgart, D. Virág, S. Cooper, C. Gomez-Medina, F. Lehmann, T. Udelhoven, S. Linden, P. Hostert, **H. Haberl**, 2023. Unveiling patterns in human dominated landscapes through mapping the mass of US built structures. *Nature Communications*, **14**, 8014.

- Haberl, H.**, M. Löw, A. Perez-Laborda, S. Matej, B. Plank, D. Wiedenhofer, F. Creutzig, K.-H. Erb, J. Antonio Duro, 2023. Built structures influence patterns of energy demand and CO<sub>2</sub> emissions across countries. *Nature Communications*, **14**, 3898.
- Gómez-Sanabria, A., G. Kiesewetter, Z. Klimont, W. Schoepp, **H. Haberl**, 2022. Potential for future reductions of global GHG and air pollutants from circular waste management systems. *Nature Communications*, **13**, 106.
- Semenchuk, P., C. Plutzer, S. Matej, K.-H. Erb, G. Bidoglio, T. Kastner, J. Wessely, **H. Haberl**, F. Essl, F. Krausmann, S. Dullinger, 2022. Relative effects of land conversion and land-use intensity on terrestrial vertebrate diversity. *Nature Communications*, **13**, 615.
- Haberl, H.**, D. Wiedenhofer, F. Schug, D. Frantz, D. Virág, C. Plutzer, K. Gruhler, J. Lederer, G. Schiller, T. Fishman, M. Lanau, A. Gattringer, T. Kemper, G. Liu, H. Tanikawa, S. Linden, P. Hostert, 2021. High-Resolution Maps of Material Stocks in Buildings and Infrastructures in Austria and Germany. *Environmental Science and Technology*, **55**, 3368-3379.
- Haberl, H.**, D. Wiedenhofer, D. Virág, G. Kalt, B. Plank, P. Brockway, T. Fishman, D. Hausknost, F. Krausmann, B. Leon-Gruchalski, A. Mayer, M. Pichler, A. Schaffartzik, T. Sousa, J. Streeck, F. Creutzig, 2020. A systematic review of the evidence on decoupling of economic growth, resource use and GHG emissions, part II: synthesizing the insights. *Environmental Research Letters*, **15**, 065003.
- Haberl, H.**, D. Wiedenhofer, S. Pauliuk, F. Krausmann, D.B. Müller, M. Fischer-Kowalski, 2019. Contributions of socio-metabolic research to sustainability science. *Nature Sustainability*, **2**, 173–184.
- Erb, K.-H., T. Kastner, C. Plutzer, A.L.S. Bais, N. Carvalhais, T. Fetzel, S. Gingrich, **H. Haberl**, C. Lauk, M. Niedertscheider, J. Pongratz, M. Thurner, S. Luysaert, 2018. Unexpectedly large impact of forest management and grazing on global vegetation biomass. *Nature* **553**, 73-76
- d'Amour, C.B., F. Reitsma, G. Baiocchi, S. Barthel, B. Güneralp, K.-H. Erb, **H. Haberl**, F. Creutzig, K.C. Seto, 2017. Future urban land expansion and implications for global croplands. *PNAS*, **114**, 8939–8944
- Erb, K.-H., T. Fetzel, C. Plutzer, T. Kastner, C. Lauk, A. Mayer, M. Niedertscheider, C. Körner, **H. Haberl**, 2016. Biomass turnover time in terrestrial ecosystems halved by land use. *Nature Geoscience* **9**, 674–678
- Erb, K.-H., C. Lauk, T. Kastner, A. Mayer, M.C. Theurl, **H. Haberl**, 2016. Exploring the biophysical option space for feeding the world without deforestation. *Nature Communications* **7**, 11382
- Haberl, H.**, K.-H. Erb, F. Krausmann, 2014. Human Appropriation of Net Primary Production: Patterns, Trends, and Planetary Boundaries. *Annual Review of Environment and Resources* **39**, 363–391
- Erb, K.-H., T. Kastner, S. Luysaert, R.A. Houghton, T. Kuemmerle, P. Olofsson, **H. Haberl**, 2013. Bias in the attribution of forest carbon sinks. *Nature Climate Change* **3**, 854-856
- Krausmann, F., K.-H. Erb, S. Gingrich, **H. Haberl**, A. Bondeau, V. Gaube, C. Lauk, C. Plutzer, T.D. Searchinger, 2013. Global human appropriation of net primary production doubled in the 20th century. *PNAS* **110**, 10324–10329
- Haberl, H.**, K.-H. Erb, F. Krausmann, V. Gaube, A. Bondeau, C. Plutzer, S. Gingrich, W. Lucht, M. Fischer-Kowalski, 2007. Quantifying and mapping the human appropriation of net primary production in earth's terrestrial ecosystems. *PNAS* **104**, 12942-12947
- Haberl, H.**, F. Krausmann, K.-H. Erb, N.B. Schulz, S. Rojstaczer, S.M. Sterling, N. Moore 2002. Human Appropriation of Net Primary Production. *Science*, **296**, 1968-1969