

# Yannick Oswald

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School of Geography  
University of Leeds

## Research areas

Ecological- and climate economics  
Complex economies and social systems  
Computational models and methods

## EMPLOYMENT

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**2022–Dec.2023 PostDoc University of Leeds**  
Agent-based modelling and data assimilation

## EDUCATION

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**2018–2022 PhD University of Leeds, Ecological Economics**  
Thesis: Inequality, (re)distribution and luxury-taxation  
of international household energy and carbon footprints

**2015–2018 M.Sc. University of Graz, International Sustainable Development**  
Semesters abroad at Utrecht University, NL and TERI University, IN  
Specialization tracks: Energy, Economics, System science

**2012–2015 B.A. Karlshochschule, International Energy Management**  
Semester abroad at UPAEP, MX

## PUBLICATIONS

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### Working papers

- 2023    Chen, X..., Oswald, Y., Hubacek, K. A global just transition through carbon taxation and revenue recycling. in preparation
- 2023    Oswald, Y., Malleson, N., Suchak, K. An agent-based model of the United States wealth distribution with Ensemble Kalman Filter. in preparation
- 2023    Oswald, Y., Malleson, N., Suchak, K. An agent-based model of the 2020 international policy diffusion in response to the COVID-19 pandemic with particle filter. arXiv preprint arXiv:2302.11277

### Journal Articles

- 2023    Oswald, Y., Millward-Hopkins, J., Steinberger, J. K., Owen, A., & Ivanova, D. Luxury-focused carbon taxation improves fairness of climate policy. *One Earth*, 6(7), 884-898.  
<https://doi.org/10.1016/j.oneear.2023.05.027>

- 2023 Millward-Hopkins, J., Oswald, Y. Reducing global inequality to secure human wellbeing and climate safety: a modelling study. *The Lancet Planetary Health*, 7(2), e147-e154. [https://doi.org/10.1016/S2542-5196\(23\)00004-9](https://doi.org/10.1016/S2542-5196(23)00004-9)
- 2021 Millward-Hopkins, J., Oswald, Y. (2021). 'Fair'inequality, consumption and climate mitigation. *Environmental Research Letters*, 16(3), 034007. 10.1088/1748-9326/abe14f
- 2021 Oswald, Y., Steinberger, J. K., Ivanova, D., Millward-Hopkins, J. (2021). Global redistribution of income and household energy footprints: a computational thought experiment. *Global Sustainability*, 4, e4.doi:10.1017/sus.2021.1
- 2020 Millward-Hopkins, J., Steinberger, J. K., Rao, N. D., Oswald, Y. Providing decent living with minimum energy: A global scenario. *Global Environmental Change*, 65, 102168. <https://doi.org/10.1016/j.gloenvcha.2020.102168>
- 2020 Oswald, Y., Owen, A., Steinberger, J. K. Large inequality in international and intranational energy footprints between income groups and across consumption categories. *Nature Energy*, 5(3), 231-239. <https://doi.org/10.1038/s41560-020-0579-8>

### **Conference contributions**

- 2023 Asher, M., Oswald, Y., Malleson, N. Predicting Pedestrian Counts using Machine Learning. *AGILE: GIScience Series*, 4, 18 <https://doi.org/10.5194/agile-giss-4-18-2023>
- 2023 Oswald, Y., Schmickl, T. Ultimate Ecology: How a socio-economic game can evolve into a resilient ecosystem of agents. In 2017 IEEE Symposium Series on Computational Intelligence (SSCI) (pp. 1-8). IEEE. 10.1109/SSCI.2017.8280903
- 2015 Elsland, R., Klingler, A. L., Degner, P., Oswald, Y., Wietschel, M. Are current regionalisation approaches sufficient to decompose electricity demand?-A German case study. In 10th Conference on Energy Economics and Technology (ENERDAY). Link

### **Dissertation**

- 2022 Oswald, Y. L. Inequality,(re) distribution and luxury-taxation of international household energy and carbon footprints (Doctoral dissertation, University of Leeds). <https://etheses.whiterose.ac.uk/31106/>

### **Book chapters**

- 2022 Malerba, D., Oswald, Y. To Grow or Not to Grow?: Revisiting Economic Growth as a Sustainable Development Goal in Light of the Degrowth Debate. In *Governing the Interlinkages between the SDGs* (pp. 140-157). Routledge. Link.
- 2022 Oswald, Y. France: International Resources for a Sustainable, Inclusive, and Innovative Future?. In *A Triple Bottom Line Analysis of Global Consumption* (pp. 131-139). Jenny Stanford Publishing.

### **(Policy-) reports**

- 2022 Malerba, D., Chen, X., Feng, K., Hubacek, K., Oswald, Y. The impact of carbon taxation and revenue redistribution on poverty and inequality (No. 11/2022). IDOS Policy Brief. Link.

- 2021 Lorek, S., Gran, C., Lavorel, C., Tomany, S., Oswald, Y. Equitable 1.5-Degree Lifestyles. IDOS Policy Brief. [Link](#).
- 2020 Nakicenovic, N., Grubler, A., Leininger, J., Zimm, C., Clarke, G., Ebi, K., ... Oswald, Y. Innovations for Sustainability: Pathways to an efficient and post-pandemic future. [Link](#).

### **Popular science**

- 2021 Oswald, Y. (2021). Why a more equal world would be easier to decarbonize. The Conversation. [Link](#).
- 2020 Oswald, Y. (2020). What do we use energy for? Behind the Paper. Behavioural and social sciences at Nature. [Link](#).
- 2019 Vogel, J., Millward-Hopkins, J., Oswald, Y. (2019). We can't expand airports after declaring a climate emergency – let's shift to low-carbon transport instead. The Conversation. [Link](#).

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## TEACHING AND SUPERVISION

### **Courses and lectures**

- 2021 Predictive analytics | Demonstrating spatial analytics and ABMs.
- 2020 Foundations in mathematics and statistics | Demonstrating basic algebra and statistics
- 2020 Economics and Sustainability | Seminar leader
- 2020 Modelling and Simulation for Ecological Economics | Demonstrator
- 2020 Soft Skills Seminar Series | seminar designed and taught on effective PowerPoint presentations for Graduate Students.
- 2019 Economics and Sustainability | Seminar leader.
- 2019 Modelling and Simulation for Ecological Economics | Demonstrator
- 2018 Spreadsheet models in Ecological Economics | Demonstrator

### **M.Sc. Supervision**

- 2023 2x M.Sc. thesis in Consumer Analytics and Marketing Strategy MSc with a focus on Spatial Machine Learning models

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## AWARDS, RECOGNITION AND FUNDING

- 2022 Recognition of research excellence in PhD thesis by examiner's board
- 2020 Sustainable Innovation Award by the University of Leeds Sustainability Services for activity of the Climate Entrepreneurs Club. I was co-chair of the volunteer committee which received the award.

- 2020 Best Postgraduate Researcher Publication Prize by the University of Leeds for Oswald, Y., Owen, A. Steinberger, J.K. 2020 Nat Energy
- 2019 Best poster and presentation award at IIASA-RITE energy demand workshop/conference, including fellowship stipend (€10 000).
- 2018 Full Scholarship for PhD studies at the University of Leeds within the ‘Living Well Within Limits’ projects funded through the Leverhulme Trust.
- 2016 Erasmus Scholarship for studies at the Utrecht University

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#### INVITED TALKS

- 2023 University of Maryland on Climate policy in a chaotic and dangerous world
- 2021 World Inequality Conference, organized by Paris School of Economics, on International energy inequality
- 2021 University of Duisburg-Essen for the Research Seminar at Institute for Socio-economics. Topic on International energy inequality and redistribution

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#### REVIEW SERVICES

Nature Energy, Ecological Economics, Global Sustainability, Journal of Cleaner Production, Environmental Research Letters, World Development

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#### FURTHER QUALIFICATIONS (A SELECTED FEW)

- 2023 Santa Fe Institute (SFI) Summer School on Complex Systems
- 2021 Santa Fe Institute (SFI) Complexity Interactive (online winter school)
- ongoing Enrolment in B.Sc. Mathematics Distance University of Hagen. Taking courses in pure mathematics and economics for further quantitative skills.

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#### SKILLS

**Languages:** German (native), English (fluent), Spanish (intermediate), French (basic)

**Programming:** Python (focus language), Matlab, Pascal (basics), L<sup>A</sup>T<sub>E</sub>X

**Tools:** Git/GitHub, Spyder, VScode, Overleaf