

## JOHANNES BENEDIKT GESSNER

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### Contact Information

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### Undergraduate Studies

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|---|------|
| Master of Science, Economics (Research Track), University of Mannheim         | 2021 |
| Bachelor of Science, Economics (Minor in Mathematics), University of Mannheim | 2019 |

### Graduate Studies

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|-------------------------------|-----------------|
| <b>University of Mannheim</b> | 2019 to present |
|-------------------------------|-----------------|

Ph.D. Candidate in Economics

Thesis Title: Essays in Environmental Economics

Expected Completion Date: June 2025

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|---|-----------|
| <b>University of Pennsylvania, The Wharton School</b> | Fall 2023 |
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Visiting PhD Student, Invited by Arthur van Benthem

#### References

Professor Ulrich J. Wagner, PhD

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Professor Dr. Bernhard Ganglmair

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Professor Arthur van Benthem, PhD

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### Research and Teaching Fields

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**Environmental Economics, Applied Microeconomics, Innovation Economics, Transportation**

### Relevant Professional Experience

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#### Teaching Experience

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|---|-----------|
| E600 Mathematics (Preparatory Course, Master), Uni Mannheim, Instructor | Fall 2024 |
| E600 Mathematics (Preparatory Course, Master), Uni Mannheim, Instructor | Fall 2023 |
| E603 Advanced Econometrics (Master), Uni Mannheim, TA for Prof. Frölich | Fall 2022 |
| Principles in Economics (Bachelor), Uni Mannheim, TA for Dr. Habermalz  | Fall 2021 |
| Linear Algebra 1 (Bachelor), Uni Mannheim, TA for Prof. Boecherer       | Fall 2017 |

#### Research Experience

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| RWI - Leibniz-Institute for Economic Research e.V., RA             | 07/22 - 08/23            |
| Institute of Energy Economics gGmbH, University of Cologne, Intern | 07/20 - 08/20            |
| ZEW - Leibniz-Centre for European Economic Research GmbH, RA       | Spring 2019, Spring 2020 |

### Scholarships

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|---|---------------|
| Research Grant for Doctoral Students, German Academic Exchange Service (DAAD) | 09/23 - 11/23 |
| Scholarship, Graduate School of Economic and Social Sciences, Uni Mannheim    | 09/20 - 08/21 |

## Publications

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### **Targeted Policies to Break the Deadlock on Heating Bans**

(with Ottmar Edenhofer, Andreas Gerster, Erica Myers, Michael Pahle and Karen Palmer) *Nature Climate Change*, 2025

### **Can Social Comparisons and Moral Appeals Encourage Low-Emission Transport Use?**

(with Wolfgang Habla and Ulrich Wagner) *Transportation Research Part D: Transport and Environment*, Volume 133, 2024

## Research Papers

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### **Shifting Gears: Environmental Regulation in the Car Industry and Technological Change Among Suppliers** (Job Market Paper)

*Abstract:* Decarbonizing industries to mitigate climate change requires technological change. Innovation by suppliers can play a crucial role for the technological transition, particularly when suppliers have expertise on zero-emission technologies. In this paper, I study the effect of environmental regulation in a downstream industry on the innovation outcomes of suppliers in the context of the European CO<sub>2</sub> emission standard for passenger cars. I construct a novel data set that links administrative data on car manufacturer compliance to supplier patent data using information on automotive supply chains. To identify causal effects of changes in the stringency of the emission standard, I leverage the heterogeneous exposure of automotive suppliers to changes in the composition of the European car market in the aftermath of the 2015 Volkswagen diesel scandal. I find that exposure to more stringent environmental regulation increases innovation for zero-emission vehicle technologies among existing suppliers. In addition, the likelihood that car manufacturers form new supply chain links to firms with prior knowledge on technologies to reduce vehicle emissions increases in response to more stringent environmental regulation. These results suggest that environmental regulation induces economically significant technology spillovers to the regulated industry.

### **No Place Like Home: Charging Infrastructure and the Environmental Advantage of Plug-in Hybrid Electric Vehicles** (with Benjamin Rübenacker, Wolfgang Habla and Ulrich Wagner)

*Abstract:* Many European companies face the challenge of lowering CO<sub>2</sub> emissions from their company car fleets. A promising lever is to increase the notoriously low electric usage of Plug-in Hybrid Electric Vehicles (PHEVs). This paper examines whether home charging infrastructure can help achieve these goals. We leverage quasi-experimental variation in the delivery and installation of home chargers to quantify the impact of this technology on energy use and CO<sub>2</sub> emissions of PHEV company cars held by 856 employees of a large German company. Since fuel and electricity expenditures for these cars are covered by the employer, home charging mainly changes the non-monetary costs to an employee. We find that access to home charging increases electricity consumption by 317.9 ( $\pm$  23.3) kWh per quarter and decreases fuel consumption by 97.97 ( $\pm$  36.5) liters, reducing CO<sub>2</sub> emissions by 38%. Moreover, access to home charging increases the employee's propensity to choose a Battery Electric Vehicle (BEV) upon renewal of the lease by 28.4 ( $\pm$  25.6) percentage points. We use these estimates to compute the private levelized abatement costs of home chargers for a range of scenarios characterizing the diffusion of BEVs and the effect of the program on vehicle choice. With current tax-inclusive energy prices, home chargers break even for the company within eight to 16 years.

## Work in Progress

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### **The Alignment Effect of Auditing: Evidence from Energy Efficiency Retrofits**

(with Andreas Gerster and Michael Kramm)

## **Presentations**

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- 2025    30th EAERE Annual Conference, LSE Environment Camp, envecon 2025, MaCCI IO Day, University of Basel, Budapest University of Technology and Economics, University of Mannheim, VATT Institute for Economic Research
- 2024    29th EAERE Annual Conference, AERE 2024 Summer Conference, 12th Mannheim Conference on Energy and the Environment, AURÖ Young Researchers Workshop, 13th CRC TR 224 Workshop for Young Researchers, University of Mannheim
- 2023    University of Pennsylvania, Yale School of the Environment, University of Mannheim
- 2022    27th EAERE Annual Conference, 10th Mannheim Conference on Energy and the Environment, University of Mannheim, University of Heidelberg

Citizenship: German

Last updated: June 4, 2025