

CURRICULUM VITAE

NICOLAS T. KOCH

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CURRENT POSITIONS

- 1/2025– **Lab Leader**
 "Policy Evaluation Lab" at Potsdam Institute for Climate Impact Research
- 8/2017– Research Affiliate at RWI - Leibniz Institute for Economic Research
- 11/2020– Research Fellow at IZA - Institute of Labor Economics

PAST POSITIONS

- 01/2020–12/2024 Head of Policy Evaluation Lab at MERCATOR RESEARCH INSTITUTE ON GLOBAL
COMMONS AND CLIMATE CHANGE (MCC)
- 10/2013–12/2019 Researcher at MERCATOR RESEARCH INSTITUTE ON GLOBAL COMMONS AND
CLIMATE CHANGE (MCC)
- 06/2009–09/2013 Research Assistant and PhD student at the Chair of Capital Markets and Manage-
ment (Prof Alexander Bassen), UNIVERSITY OF HAMBURG
- 03/2013 Visiting Lecturer at BEM BORDEAUX MANAGEMENT SCHOOL
- 04/2012–05/2012 Visiting Researcher at the Environmental & Energy Finance Group
(with Prof Raphael Markellos), UNIVERSITY OF EAST ANGLIA

EDUCATION

- 9/2013 PhD in Economics (summa cum laude)
UNIVERSITY OF HAMBURG
Supervisors: Prof Alexander Bassen; Prof Hermann Held
Topic: Essays in Finance, Energy and Emissions Trading
- 5/2009 MSc (Diplom) in Economics (with distinction)
UNIVERSITY OF HAMBURG

Undergraduate and Graduate Studies in Economics
UNIVERSITY OF HAMBURG (2006–09)
UNIVERSITE PARIS I PANTHEON-SORBONNE (2007–08)
CHRISTIAN ALBRECHTS UNIVERSITY KIEL (2005–06)
PHILIPPS-UNIVERSITY MARBURG (2003–05)

RESEARCH

Research Interest

Environmental and Energy Economics, Urban and Transportation Economics, Health Economics, and Applied Microeconomics

Journal Articles

Baldenius, T., Klauber, H., Koch, N. (2025). Heat and Experienced Racial Segregation. *Journal of Environmental Economics and Management*, 103210.

Schaper, J., Franks, M., Koch, N., Plinke, C., Sureth, M. (2025). On the emission and distributional effects of a CO₂-tax on agricultural goods - The case of Germany. *Food Policy*, 130, 102794.

Schmaus, A., Creutzig, F., Koch, N., Nachtigall, F., Molkenthin, N. (2025). An urban shared pooled mobility system cuts distance travelled by over 50%. *Transportation Research Part D: Transport and Environment*, 144, 104726.

Stechemesser, A., Koch, N., Mark, E., Dilger, E., Kloesel, P., Menicacci, L., Nachtigall, D., Pretis, F., Ritter, N., Schwarz, M., Vossen, H., Wenzel, A. (2024): Climate policies that achieved major emission reductions: Global evidence from two decades. *Science*, 385(6711), 884-892.

Klauber, H., Holub, F., Koch, N., Pestel, N., Ritter, N., Rohlf, A. (2024): Killing Prescriptions Softly: Low Emission Zones and Child Health from Birth to School, *American Economic Journal: Economic Policy*, 16(2), 220-248.

Haywood, L., Janser, M., Koch, N. (2024): The Welfare Costs of Job Loss and Decarbonization— Evidence from Germany's Coal Phase Out, *Journal of the Association of Environmental and Resource Economists* (in press), 11(3).

Kraus, S., Heilmayr, R., Koch, N. (2024): Spillovers to manufacturing plants from multi-million dollar plantations: evidence from the Indonesian palm oil boom, *Journal of the Association of Environmental and Resource Economists*, 11(3).

Doebbeling-Hildebrandt, N., Miersch, K., Khanna, T., Bachelet, M., Bruns, S., Callaghan, M., Edenhofer, O., Flachsland, C., Forster, P., Kalkuhl, M., Koch, N., Lamb, W., Ohlendorf, N., Steckel, J., Minx, J. (2024): Systematic review and meta-analysis of ex-post evaluations on the effectiveness of carbon pricing, *Nature Communications*, 15, 4147.

- Edmondson, D., Flachsland, C., aus dem Moore, N., Koch, N., Koller, F., Gruhl, H., Brehm, J. (2024): Anticipatory climate policy mix pathways: a framework for ex-ante construction and assessment applied to the road transport sector. *Climate Policy*, 1-30.
- Chevance, G., Andrieu, B., Koch, N., Tonne, C., Nieuwenhuijsen, M., Bernard, P. (2024). How gasoline prices influence the effectiveness of interventions targeting sustainable transport modes?. *npj Sustainable Mobility and Transport*, 1(1), 17.
- Helm, I., Koch, N., Rohlf, A. (2023): The Effects of Cash for Clunkers on Local Air Quality, *Journal of Urban Economics*, 138, 103576.
- Koch, N., Naumann, L., Pretis, F., Ritter, N., Schwarz, M. (2022): Attributing agnostically-detected large reductions in road CO2 emissions to policy mixes, *Nature Energy*, 7, 844-853.
- Koch, N., Themann, M. (2022): Catching up and falling behind: Cross-country evidence on the impact of the EU ETS on firm productivity, *Resource and Energy Economics*, 69, 101315.
- Koch, N., Ritter, N., Rohlf, A., Scarazzato, F. (2022): When is the electric vehicle market self-sustaining? Evidence from Norway, *Energy Economics*, 110, 105991.
- Kraus, S., Liu, J., Koch, N., Fuss, S. (2021): No aggregate deforestation reductions from rollout of community land titles in Indonesia yet, *Proceedings of the National Academy of Sciences*, 118 (43).
- Khanna, T., Baiocchi, G., Callaghan, M., Creutzig, F., Guías, H., Haddaway, N., Hirth, L., Javaid, A., Koch, N., Laukemper, S., Loeschel, A., Zamora, M., Minx, J. (2021): A multi-country meta-analysis on the role of behavioral change in reducing energy consumption and CO2 emissions in residential buildings, *Nature Energy*, 6, 925-932.
- Kraus, S., Koch, N. (2021): Provisional COVID-19 infrastructure induces large, rapid increases in cycling, *Proceedings of the National Academy of Sciences*, 118 (15).
- Creutzig, F., Javaid, A., Koch, N., Knopf, B., Mattioli, B., Edenhofer, O. (2020): Adjust urban and rural road pricing for fair mobility, *Nature Climate Change*, 10, 591-594.
- Rohlf, A., Holub, F., Koch, N., Ritter, N. (2020): The effect of clean air on pharmaceutical expenditures, *Economics Letters*, 192, 109-221.
- Koch, N., Basse Mama, H. (2019): Does the EU Emissions Trading System induce investment leakage? Evidence from German multinational firms, *Energy Economics*, 81, 479-492.
- Koch, N., zu Ermgassen, E., Wehkamp, J., Oliveira Filho, F., Schwerhoff, G. (2019): Agricultural Productivity and Forest Conservation: Evidence from the Brazilian Amazon, *American Journal of Agricultural Economics*, 101(3), 919-940.
- Fuss, S., Flachsland, C., Koch, N., Kornek, U., Knopf, B., Edenhofer, O. (2018): An assessment framework for intertemporal economic performance of cap-and-trade systems: Lessons from the EU-ETS, *Review of Environmental Economics and Policy*, 12(2), 220-241.

- Grosjean, G., Fuss, S., Koch, N., Bodirsky, B., De Cara, S., Acworth, W. (2018): Options to overcome the barriers to pricing European agricultural emissions, *Climate Policy*, 18(2), 151-169.
- Golub, A., Fuss, S., Lubowski, R., Hiller, J., Khabarov, N., Koch, N., Krasovskii, A., Kraxner, F., Laing, T., Obersteiner, M., Palmer, C., Piris-Cabezas, P., Reuter, W., Szolgayova, J., Taschini, L. Wehkamp, J. (2018): Escaping the climate policy uncertainty trap: options contracts for REDD+, *Climate Policy*, 18(10), 1227-1234.
- Wehkamp, J., Pietsch, S., Fuss, S., Gusti, M., Reuter, W., Koch, N., Kindermann, G., Kraxner, F. (2018): Accounting for institutional quality in global forest modeling, *Environmental Modelling & Software*, 102, 250-259.
- Zimmer, A., Koch, N. (2017): Fuel Consumption Dynamics in Europe: Tax Reform Implications for Air Pollution and Carbon Emissions, *Transportation Research Part A: Policy and Practice*, 106, 22-50.
- Wehkamp, J., Koch, N., Fuss, S., (2017): Governance and deforestation - A meta-analysis in economics, *Ecological Economics*, 144, 214-227.
- Algieri, B., Kalkuhl, M., Koch, N. (2017): A tale of two tails: Explaining extreme events in financialized agricultural markets, *Food Policy*, 69, 256-269.
- Koch, N., Reuter, W., Fuss, S., Grosjean, G. (2017): Permits vs. offsets under investment uncertainty, *Resource and Energy Economics*, 49, 33-47.
- Koch, N., Grosjean, G., Fuss, S., Edenhofer, O. (2016): Politics matters: Regulatory events as catalysts for price formation under cap-and-trade, *Journal of Environmental Economics and Management*, 78, 121-139.
- Koch, N., Fuss, S., Grosjean, G., Edenhofer, O. (2014): Causes of the EU ETS price drop: Recession, CDM, renewable policies or a bit of everything?—New evidence, *Energy Policy*, 73, 676-685.
- Koch, N. (2014): Tail events: A new approach to understanding extreme energy commodity prices, *Energy Economics*, 43, 195-205.
- Koch, N. (2014): Dynamic linkages among carbon, energy and financial markets: A smooth transition approach, *Applied Economics*, 46, 715-729.
- Koch, N., Bassen, A. (2013): Valuing the carbon exposure of European utilities. The role of fuel mix, permit allocation and replacement investments, *Energy Economics*, 36, 431-443.
- Basse-Mama, H., Koch, N., Bassen, A., Bank, T. (2013): Valuation effects of corporate strategic transactions in the cleantech industry, *Journal of Business Economics*, April 2013.

Kistingner, D., Koegel, N., Koch, N., Kalkuhl, M. (2025). Heated Debates on Heating: Investigating the Electoral Impact of Climate Policy. IZA DP No. 17596.

Amberg, M., Koch, N. (2025): Levers for Change? The Welfare Effects of a Large-scale Public Transport Subsidy in Germany. EAERE 2025 Conference Paper.

Klauber, H., Koch, N., Pestel, N. (2025): The Immediate and Lasting Effects of Heat Waves On Workers. EAERE 2025 Conference Paper.

Jaeger, N., Plinke, C., Koch, N. (2025): The Biodiversity Impact of Agricultural Policies: A Global Study Using Machine Learning-Based Causal Inference. EAERE Winter School Paper.

Amberg, M., Kalkuhl, M., Koch, N., Ockenfels, A., Tiedemann, S. (2024): Managing an Energy Crisis: Large-Scale Evidence of Residential Natural Gas Savings Through Financial Rewards. EAERE 2025 Conference Paper.

Arlinghaus, J., Bittner, C., Goetz, M., Koch, N. (2023): Carbon pricing and credit reallocation. EAERE 2023 Conference Paper.

Klauber, H., Koch, N. (2023): Determinants of Heat Risk in an Aging Population: A Machine Learning Approach, IZA DP No. 15996.

Bachelet, M., Kalkuhl, M., Koch, N. (2021): What If Working from Home Will Stick? Distributional and Climate Impacts for Germany, IZA DP No. 14642.

Arlinghaus, J., Koch, N. (2022): The Welfare Impact of Using Second-Best Uniform Taxes to Address Traffic Congestion. EAERE 2022 Conference Paper.

Koch, N., Ritter, N., Rohlf, A., Thies, B. (2021): Machine Learning from Big GPS Data about the Heterogeneous Costs of Congestion. EAERE 2021 Conference Paper.

Haywood, L., Koch, N., Pinke, C., Silva, O. (2021): The decline of coal and local labour markets – Evidence from a managed transition in Germany, UEA 2021 Conference Paper.

Klauber, H., Kraus, S., Koch, N. (2020): Effects of thermal inversion induced air pollution on COVID-19, arXiv:2011.11127.

Burghaus, K., Koch, N., Bauer, J., Edenhofer, E. (2018): Lobbying, relocation risk and allocation of free allowances in the EU ETS, CPLC Conference Paper.

Koch, N., Markellos, R. (2016): The pricing of environmental risks with non-pecuniary benefits, EAERE 2017 Conference Paper.

Media coverage (selection)

CNN, CBC, Deutschlandfunk, The Economist, FAZ, Financial Times, France Culture, Forbes, Handelsblatt, Le Monde, Spiegel, Sueddeutsche Zeitung, Tagesspiegel, taz, The Times, The New York Times, Wall Street Journal, Washington Post, ZDF, Zeit

SCHOLARSHIPS AND AWARDS

- 2011–12 PhD scholarship of Wissenschaftsfoerderung der Sparkassen-Finanzgruppe e.V.
- 2009 David-Kopf Award for the best master thesis of the year 2009 (www.david-kopf.com)

RESEARCH GRANTS

- 2023–26 “FAIRCLIP: Stranded assets, financial constraints, and the distributional impacts of climate policy” funded by Leibniz Collaborative Excellence - Co-Project Leader
- 2020–23 “Kopernikus-Projekt Ariadne: Evidenzbasiertes Assessment fuer die Gestaltung der deutschen Energiewende” funded by BMBF - Work Package Leader
- 2020–22 “Green & Inclusive Mobility Project” funded by the Sustainability Council of the Volkswagen Group - Project Leader
- 2018–20 “The Next Generation Policy Project” funded by the Sustainability Council of the Volkswagen Group - Project Leader
- 2017–20 “START: Australian-German Energy Transition Hub” funded by BMBF - Work Package Leader
- 2017–21 “RESTORE+: Addressing Landscape Restoration on Degraded Land in Indonesia and Brazil” funded by the IKI of BMU - Co-Principal Investigator
- 2016–20 “Delivering Incentives to End Deforestation: Global Ambition, Private/Public Finance and Zero-Deforestation Supply Chains” funded by NORAD - Co-Principal Investigator
- 2013–15 “Options Market and Risk-Reduction Tools for REDD+” funded by NORAD - Co-Principal Investigator

TALKS AT CONFERENCES, SEMINARS & WORKSHOPS

EAERE (2023, 2021, 2020, 2019, 2017, 2016), AERE (2017), WCERE (2018), IMF (2023), ITEA (2023), IZA Workshop (2022), Mannheim Conference on Energy and the Environment (2022), Urban Economics Meeting (2020), Maastricht University (2022), OECD (2022), Humboldt-Universitaet zu Berlin (2022), EC2 Conference (2021), TWEEDS (2020), FSR Climate Annual Conference (2020, 2015), ZEW (2018), University of Hamburg (2016), International Symposium on Energy and Finance Issues (2015), envevon (2015), AARES (2015), Tsinghua University (2015), Paris Dauphine (2014), University of Valencia (2014), Energy Finance Conference (2013), European Energy Market Conference (2013), PRI-CBERN Academic Network Conference (2012), BIEE Conference (2012), Conference on Computational & Financial Econometrics (2011), IAEE Conference (2010), GEE Workshop (2010)

ORGANIZED WORKSHOPS AND STAKEHOLDER EVENTS

- 2020– Co-organizer of the Research Seminar on Environmental, Resource and Climate Economics (RSERC) with TU Berlin, HU, DIW, RWI, and PIK
- 2022 Organizer, Round table on “Verkehrswende in Zeiten dramatisch steigender Energiepreise” with German ministries, industry organizations, and NGOs
- 2021 Organizer, Joint stakeholder workshop by OECD and MCC, “Which COVID 19 fiscal recovery packages accelerate green and inclusive transport”
- 2021 Organizer, Round table on combustion engine ban proposed in the EU Fit-for-55 package with BMF, BMWi, BMVI, and BMU
- 2021 Member of Local Scientific Committee of 26th Annual Conference of the European Association of Environmental and Resource Economists (EAERE)
- 2020 Member of Local Scientific Committee of 25th Annual Conference of the European Association of Environmental and Resource Economists (EAERE)

ADVISORY PANELS

- 2020–21 Lead author, Versorgungs Report „Klima und Gesundheit“, AOK
- 2018–22 Technical Advisor, Sustainability Council of the Volkswagen Group
- 2014 Co-lead author, Policy Position Paper “Reform Options for the European Emissions Trading System (EU ETS)” (presented to European Commission), European Council of Academies of Applied Sciences, Technologies and Engineering (Euro-CASE)

REFeree SERVICE

American Journal of Agricultural Economics; Climate Policy; Climatic Change; Ecological Economics; The Economic Journal, Economic Modelling; Energy Economics; Energy Journal; Energy Policy; Food Policy; Journal of Applied Statistics; Journal of Economic Behavior and Organization; Journal of Environmental Economics and Management; Journal of the Association of Environmental and Resource Economists; Nature Climate Change; Nature Sustainability; Macroeconomic Dynamics; Proceedings of the National Academy of Sciences, Resource and Energy Economics, Scandinavian Journal of Economics

TEACHING EXPERIENCE

The Distributional Effects of Environmental Policy (PhD)
Summer School Lecture (English)
Kiel Institute Summer School on Economic Policy, September 1-2, 2021

Climate policy analysis (Master)

Seminar (English) with Matthias Kalkuhl

University of Potsdam, Summer 2020, 2021, 2022, 2023, 2024

Statistics II – Time Series, Panel Data and Limited Dependent Variables (Master)

Lecture (English) with Jan Christoph Minx

Hertie School of Governance, Winter 2015 and 2016

The Economics of Climate Change (Lecture by Ottmar Edenhofer) (Master)

Tutorial (English) with Jan Steckel/Gregor Schwerhoff/Lion Hirth

Technical University of Berlin, Summer 2014 and 2015

Environmental, Social, Governance (ESG) and Capital Markets (Master)

Lecture (English)

BEM Bordeaux Management School, March 2013

Valuation (Bachelor)

Seminar (German)

University of Hamburg, Summer 2010 and 2013, Winter 2010, 2011, 2012

Investments (Bachelor)

Two tutorials (German)

University of Hamburg, Winter 2009, 2010, 2011, 2012

Financial Management (Executive Education)

Lecture (German)

University of Hamburg, Summer 2012, 2013, 2014, 2015, 2016, 2018, 2019

Environmental, Social and Corporate Governance (Bachelor)

Lecture (German) with Alexander Bassen

University of Hamburg, Summer 2010

MISCELLANEOUS

Languages

German (native), English (fluent), French (high proficiency), Polish (basic knowledge)

Programming Skills

Stata, MatLab, R, GAUSS, EViews, L^AT_EX

Personal

Born 1983. German citizen. Married with one child.