

## CURRICULUM VITAE

# NICOLAS T. KOCH

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### CURRENT POSITIONS

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- 1/2020– **Head of Policy Evaluation Lab**  
10/2013– Researcher  
at Mercator Research Institute on Global Commons & Climate Change
- 8/2017– Research Affiliate at **RWI** - Leibniz Institute for Economic Research
- 11/2020– Research Fellow at **IZA** - Institute of Labor Economics
- 01/2022– Guest Researcher at **Deutsche Bundesbank**

### PAST POSITIONS

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- 6/2009–9/2013 Research Assistant and PhD student at the Chair of Capital Markets and Management  
(Prof Alexander Bassen), University of Hamburg
- 3/2013 Visiting Lecturer at BEM Bordeaux Management School
- 4/2012–5/2012 Visiting Researcher at the Environmental & Energy Finance Group  
(with Prof Raphael Markellos), University of East Anglia

### EDUCATION

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- 9/2013 PhD (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)  
UNIVERSITÉ PARIS I PANTHÉON-SORBONNE (2007–08)  
CHRISTIAN ALBRECHTS UNIVERSITY KIEL (2005–06)  
PHILIPPS-UNIVERSITY MARBURG (2003–05)

## RESEARCH

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### Research Interest

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

### Journal Articles

Klauber, H., Holub, F., Koch, N., Pestel, N., Ritter, N., Rohlf, A. (2022): Killing Prescriptions Softly: Low Emission Zones and Child Health from Birth to School, *American Economic Journal: Economic Policy* (conditionally accepted).

Koch, N., Naumann, L., Pretis, F., Ritter, N., Schwarz, M. (2022): Attributing agnostically-detected large reductions in road CO<sub>2</sub> emissions to policy mixes, *Nature Energy* (in press).

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., Guias, H., Haddaway, N., Hirth, L., Javaid, A., Koch, N., Laukemper, S., Löschel, A., Zamora, M., Minx, J. (2021): A multi-country meta-analysis on the role of behavioral change in reducing energy consumption and CO<sub>2</sub> 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., Szolgayová, 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.

## Working Papers

Arlinghaus, J., Bittner, C., Götz, M., Koch, N. (2022): Carbon pricing and credit reallocation. [work-in-progress]

Haywood, L., Janser, M., Koch, N. (2021): The Welfare Costs of Job Loss and Decarbonization– Evidence from Germany’s Coal Phase Out, IZA DP No. 14464 [R&R JAERE]

Kraus, S., Heilmayr, R., Koch, N. (2020): Spillovers to manufacturing plants from multi-million dollar plantations: evidence from the Indonesian palm oil boom. [R&R JAERE]

Helm, I., Koch, N., Rohlf, A. (2021): The Effects of Cash for Clunkers on Local Air Quality. [R&R JUE]

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): Tax and the city: 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

BR, Deutschlandfunk, FAZ, Frankfurter Rundschau, Forbes, Handelsblatt, Süddeutsche Zeitung, Tagesspiegel, taz, The New York Times, WDR, Welt, Wirtschaftswoche, ZDF, Zeit

## **SCHOLARSHIPS AND AWARDS**

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

## **RESEARCH GRANTS**

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- 2020–23 “Kopernikus-Projekt Ariadne: Evidenzbasiertes Assessment für 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**

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EAERE (2021, 2020, 2019, 2017, 2016), AERE (2017), WCERE (2018), Urban Economics Meeting (2020), Maastricht University (2022), OECD (2022), Humboldt-Universität 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

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- 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

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- 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)

## SELECTED POLICY TALKS

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- 2021 Keynote, Nationaler Qualitätskongress Gesundheit, “Klimawandel und Gesundheit was kommt auf uns zu?”
- 2021 Keynote, Landeszentrale für politische Bildung Thüringen, “Klimawandel und Corona Pandemie: Zwei Krisen, eine Strategie”
- 2021 Invited Technical Speaker, Kopernikus Symposium, “Energiesteuerreform und Sektorkopplung am Beispiel des Verkehrsbereichs”
- 2020 Keynote and Panelist, Loccumer Finanztage, “Die Verkehrswende im Geflecht aus nationalem Emissionshandel, regulatorischen Vorgaben und Infrastrukturbedarf”
- 2019 Keynote and Panelist, Forum Klimaökonomie, “Ist das Klimapaket sozialverträglich gestaltet?”

## REFEREE SERVICE

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*American Journal of Agricultural Economics; Climate Policy; Climatic Change; Ecological Economics; Economic Modelling; Energy Economics; Energy Policy; Journal of Applied Statistics; Journal of Environmental Economics and Management; Journal of the Association of Environmental and Resource Economists; Nature Climate Change; Nature Sustainability; Macroeconomic Dynamics; Scandinavian Journal of Economics*

## TEACHING EXPERIENCE

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*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 and 2021

*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

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### Memberships

Member of the American Economic Association (AEA)

Member of the European Association of Environmental and Resource Economists (EAERE)

Member of the Association for Student Exchange Programs in Central and Eastern Europe (GFPS e.V.)

### Languages

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

### Programming Skills

Stata, MatLab, R, GAUSS, EViews, L<sup>A</sup>T<sub>E</sub>X

### Personal

Born 1983. German citizen. Married with one child.