

Dr. Franziska Holz

Curriculum Vitae

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Born on March 4, 1979 in Halle (Germany).
Married, two children (*2010, 2017).

<https://scholar.google.de/citations?hl=de&user=HNsPj7oAAAAJ>

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Professional Experience

- Since 2004 **DIW Berlin (German Institute for Economic Research), Berlin (Germany)**
Department Energy, Transportation, Environment
Deputy Head of Department (since 2018)
Head of Research Area “Resource and Environmental Markets” (since 2016)
- Since 2018 **Norwegian University of Science and Technology NTNU, Trondheim (Norway)**
Adjunct international professor, NTNU Energy Transition Program
- 2015-2016 **Hertie School of Governance, Berlin (Germany)**
Vertretungsprofessorin / Professor of Governance of Energy and Infrastructure
(temporary full professorship)
- 2011-2014 **HTW Berlin, Berlin (Germany)**
Teaching Bachelor classes in microeconomics and microeconomics
- 2009-2020 **TU Berlin, Berlin (Germany)**
Workplace for Infrastructure Policy (WIP)
Teaching Bachelor and Master classes (energy economics, operations research)
- 2004 **Delegation of the European Commission, Washington, D.C. (USA)**
Junior Consultant in the Department “Agriculture and Public Health”

Education

- 2009 PhD in Economics (Dr. rer. oec.) at TU Berlin,
Thesis “Modeling the European Natural Gas Market – Static and Dynamic
Perspectives of an Oligopolistic Market”
- 1998-2003 Undergraduate and Master Studies in Economics / International Economics at
Paris 1 University Panthéon-Sorbonne
- 1997 Abitur (German final secondary education degree) at Christian-Thomasius-
Gymnasium Halle/Saale

Selected research projects

Open Heat BE (2023)

Funded by the Climate Change Center Berlin Brandenburg, lead: TU Berlin,
Work package “Modeling international gas supply and prices”

Open Hydrogen Modeling – Open-source modeling of the future role of renewable hydrogen in Germany and Europe (2021-2024), funded by Einstein Foundation Berlin, lead: TU Berlin,

Work package “Modeling of the future global hydrogen market”

Open ENTRANCE – Open Energy Transition Analyses for a Low-Carbon Economy (2019-2023):

Horizon 2020 project, lead: SINTEF Energi

Case studies “Gas storage in a low-carbon energy system”, “Reconciling models and regulation”

FoReSee - Fossil Resource markets and climate policy: Stranded assets, Expectations and the political Economy of climate change (2018-2022),

Joint project with ifo Institut Munich and Humboldt University’s Chair for Resource Economics,
Funded by the German Ministry of Education and Research (BMBF) in the research program
“Economics of Climate Change II”

SET-Nav – Navigating the Roadmap for Clean, Secure and Efficient Energy Innovation (2016-2019)

Horizon 2020 project, lead: TU Vienna, www.set-nav.eu

Work packages “Scenarios for the global fossil fuel markets”, “Method workshops”, and other work packages, e.g. on CCS in the future EU energy system.

Coal Transitions: Research and Dialogue on the Future of Coal (2016-2018):

Funded by the KR Foundation, lead: IDDRI and Climate Strategies, <https://coaltransitions.org/>
Modeling of the global impact of regional coal phase-out policies.

RESOURCES: International Energy Resource Markets under Climate Constraints – Strategic Behavior and Carbon Leakage in Coal, Oil, and Natural Gas Markets (2012-2015),

Joint project with the Potsdam University’s Chair of Economic Policy,

Funded by the German Ministry of Education and Research (BMBF) in the research program
“Economics of Climate Change”

European Natural Gas Infrastructure: The Role of Gazprom in European Natural Gas Supplies. Study commissioned by the The Greens / European Free Alliance in the European Parliament (2014).

EMF 28 – Stanford Energy Modeling Forum, Working Group 28 on the Effects of Technology Choices on EU Climate Policy (2011-2013), Co-leader of subgroup “Infrastructure models”

http://emf.stanford.edu/research/emf_28_the_effects_of_technology_choices_on_eu_climate_policy/

NAMAs / Green Growth in Kazakhstan (2011-2014) – Work Package “Perspectives of the Kazakh Energy Resource Exports and Consumption until 2050”

Joint project of DIW Berlin and DIW econ, funded by the German Ministry of Environment, Nature Conservation and Nuclear Safety (BMU) International Climate Initiative (IKI)
<http://diw-econ.de/downloads/ausgewaehlte-projekte-im-bereich-klimaschutz-2/>

Global Coal Markets (2008-2010)

Research project with the Stanford University’s Program on Energy and Sustainable Development, <http://pesd.fsi.stanford.edu/research/organization/6074/67103>

CESSA – Coordinating Energy Security in Supply Activities, 6th EU-FP (2007-2008),

Work Package Natural Gas

EMF 23 – Stanford Energy Modeling Forum, Working Group 23 on World Natural Gas Markets and Trade (2004-2007), <http://www.stanford.edu/group/EMF/projects/projectemf23.htm>

Conference and seminar organization

Research Seminar on Environment, Resource and Climate Economics (RSERC)

Since 2012 co-organizer with TU Berlin, HU Berlin, RWI office Berlin, MCC Berlin and others

Organizer of the European PhD Seminar Natural Gas 2006-2011

Bi-annual meetings in European research institutions (Moscow, Oxford, Florence, etc.)

Peer Reviewing

Journals:

AIMS Energy, Applied Economics, Asia Europe Journal, Climate Policy, Communications Earth & Environment, Economics of Energy and Environmental Policy, Energies, Energy, Energy Economics, Energy Policy, Energy Research & Social Science, Fuel, IEEE Transactions on Power Systems, International Journal of Global Energy Issues, Journal of Economics and Business, Journal of Environmental Economics and Management, Networks and Spatial Economics, PNAS Nexus, Politics and Governance, Resource and Energy Economics, Resources Policy, Review of Industrial Organization, Utilities Policy, The Energy Journal.

Research Funding:

Deutsche Forschungsgemeinschaft, European Research Council, Swiss National Science Foundation, Canada First Research Excellence Fund

Publications

Publications in peer-reviewed journals

- Franziska Holz, Tim Scherwath, Pedro Crespo del Granado, Christian Skar, Luis Olmos, Quentin Ploussard, Andres Ramos, and Andrea Herbst (2021): A 2050 perspective on the role for Carbon Capture and Storage in the European power system and industry sector. *Energy Economics*, Vol. 104, pp. 105631.
- Ruud Egging-Bratseth, Franziska Holz, and Victoria Czempinski (2021): Freedom Gas to Europe: Scenarios Analyzed Using the Global Gas Model. *Research in International Business and Finance*, Vol. 58, pp. 101460.
- Christian Hauenstein and Franziska Holz (2021): The U.S. Coal Sector between Shale Gas and Renewables: Last Resort Coal Exports? *Energy Policy*, Vol. 149, pp. 112097.
- Dawud Ansari and Franziska Holz (2020): Between Stranded Assets and Green Transformation: Fossil-Fuel-Producing Developing Countries Towards 2055. *World Development*, Vol. 130, pp. 104947.
- Dawud Ansari, Franziska Holz, and Hashem al-Kuhlani (2020): Energy Outlooks Compared: Global and Regional Insights. *Economics of Energy and Environmental Policy*, Vol. 9 (1), pp. 21-42.
- Pedro Crespo Del Granado, Gustav Resch, Franziska Holz, Marijke Welisch, Jasper Geipel, Michael Hartner, Sebastian Forthuber, Frank Sensfuss, Luis Olmos, Christiane Bernath, Sara Lumbreras, Lukas Kranzl, Andreas Müller, Stephanie Heitel, Andrea Herbst, Charlie Wilson, and Andrés Ramos (2020): Energy Transition Pathways to a Low-carbon Europe in 2050: the Degree of Cooperation and the Level of Decentralization. *Economics of Energy and Environmental Policy*, Vol. 9 (1), pp. 121-135.
- Franziska Holz, Charikleia Karakosta, and Anne Neumann (2020): The Challenges of Spatial and Temporal Aggregation: Modelling Issues, Applications, and Policy Implications: Editorial. *Utilities Policy*, Vol. 62, pp. 100993.
- Dawud Ansari and Franziska Holz (2019): Anticipating Global Energy, Climate and Policy in 2055: Constructing Qualitative and Quantitative Narratives. *Energy Research & Social Science*, Vol. 58, pp. 101250.
- Roman Mendeleevitch, Christian Hauenstein, and Franziska Holz (2019): The Death Spiral of Coal in the U.S. Will Changes in U.S. Policy Turn the Tide? *Climate Policy*, Vol. 19 (10), pp. 1310-1324.
- Franziska Holz, Hanna Brauers, Philipp M. Richter, and Thorsten Roobeek (2017): Shaking Dutch Grounds Won't Shatter the European Gas Market. *Energy Economics*, Vol. 64, pp. 520-529.
- Franziska Holz, Philipp M. Richter, and Ruud Egging (2016): The Role of Natural Gas in a Low-Carbon Europe: Infrastructure and Supply Security. *The Energy Journal*, Vol. 37, Special Issue 3, pp. 33-59.
- Ruud Egging and Franziska Holz (2016): Risks in Global Natural Gas Markets: Investment, Hedging and Trade. *Energy Policy*, Vol. 94, pp. 468-479.
- Lissy Langer, Daniel Huppmann, and Franziska Holz (2016): Lifting the US Crude Oil Export Ban: A Numerical Partial Equilibrium Analysis. *Energy Policy*, Vol. 97, pp. 258-266.
- Philipp M. Richter and Franziska Holz (2015): All Quiet on the Eastern Front? Disruption Scenarios of Russian Natural Gas Supply to Europe. *Energy Policy*, Vol. 80, pp. 177-189.
- Franziska Holz, Philipp M. Richter, and Ruud Egging (2015): A Global Perspective on the Future of Natural Gas: Resources, Trade, and Climate Constraints. *Review of Environmental Economics and Policy*, Vol. 9 (1), pp. 85-106.
- Franziska Holz and Christian von Hirschhausen (2013): The Infrastructure Implications of the Energy Transformation in Europe until 2050 – Lessons from the EMF28 Modeling Exercise. *Climate Change Economics*, Vol. 4, Supp. 01, S. 1340006.
- Daniel Huppmann and Franziska Holz (2012): Crude Oil Market Power—A Shift in Recent Years? *The Energy Journal*, Vol. 33 (4), pp. 1-22.

- Clemens Haftendorn, Franziska Holz, and Christian von Hirschhausen (2012): "The End of Cheap Coal? A Techno-economic Analysis Until 2030 using the COALMOD-World Model." *FUEL*, Vol. 102, pp. 305-325.
- Clemens Haftendorn, Claudia Kemfert, and Franziska Holz (2012): What about Coal? Interactions between Climate Policies and the Global Steam Coal Market until 2030. *Energy Policy*, Vol. 48, pp. 274–283.
- Daniel Huppmann, Ruud Egging, Franziska Holz, Sophia Ruester, and Christian von Hirschhausen (2011): The World Gas Market in 2030 - Development Scenarios using the World Gas Model. *International Journal of Global Energy Issues*, Vol. 35 (1), pp. 64-84.
- Ruud Egging, Franziska Holz, and Steven A. Gabriel (2010): The World Gas Model: A Multi-Period Mixed Complementarity Model for the Global Natural Gas Market. *Energy*, Vol. 35 (10), pp. 4016-4029.
- Clemens Haftendorn and Franziska Holz (2010): Modeling and Analysis of the International Steam Coal Trade. *The Energy Journal*, Vol. 31 (4), pp. 201-225.
- Franziska Holz, Christian von Hirschhausen, and Claudia Kemfert (2009): Perspectives of the European Natural Gas Market until 2025. *The Energy Journal*, Vol. 30, Special Issue „World Natural Gas Markets and Trade: A Multi-Modeling Perspective“, pp. 137-150.
- Ruud Egging, Franziska Holz, Christian von Hirschhausen, and Steven A. Gabriel (2009): Representing Gaspec with the World Gas Model. *The Energy Journal*, Vol. 30, Special Issue „World Natural Gas Markets and Trade: A Multi-Modeling Perspective“, pp. 97-117.
- Ruud Egging, Steven A. Gabriel, Franziska Holz, and Jifang Zhuang (2008): A Complementarity Model for the European Natural Gas Market. *Energy Policy*, Vol. 36 (7), pp. 2385-2414.
- Franziska Holz, Christian von Hirschhausen, and Claudia Kemfert (2008): A Strategic Model of European Gas Supply (GASMOD). *Energy Economics*, Vol. 30 (3), pp. 766-788.

Book chapters

- Franziska Holz, Jonas Egerer, Clemens Gerbaulet, Pao-Yu Oei, Roman Mendelevitch, Anne Neumann, and Christian von Hirschhausen (2018): Energy Infrastructures for the Low-Carbon Transformation in Europe, in: "Energiewende "Made in Germany" : Low Carbon Electricity Sector Reform in the European Context", pp. 283-317, Cham: Springer, 2018.
- Franziska Holz, Clemens Haftendorn, Roman Mendelevitch, and Christian von Hirschhausen (2015): The COALMOD-World Model: Coal Markets Through 2030, in: M. C. Thurber and R. K. Morse (Eds.) "The Global Coal Market: Supplying the Major Fuel for Emerging Economies", pp. 411-472, Cambridge University Press.
- Clemens Haftendorn, Franziska Holz, Claudia Kemfert, and Christian von Hirschhausen (2013): Global Steam Coal Markets until 2030 – Perspectives on Production, Trade, and Consumption under Increasing Carbon Constraints. In: R. Fouquet (Ed.) "Handbook on Energy and Climate Change", pp. 103-122, Edward Elgar Publ.
- Christian von Hirschhausen, Franziska Holz, Anne Neumann and Sophia Rüter (2010): Supply Security and Natural Gas. In: F. Lévêque et al. (Eds.) "Security of Energy Supply in Europe: Natural Gas, Nuclear, and Hydrogen", pp. 3-20, Edward Elgar Publ.

Edited volume

- "Security of Energy Supply in Europe: Natural Gas, Nuclear, and Hydrogen", Eds.: F. Lévêque, J.-M. Glachant, J. Barquín, C. von Hirschhausen, F. Holz, and W. J. Nuttall. Edward Elgar Publ., August 2010.

Selected other publications

- Franziska Holz, Christian von Hirschhausen, Robin Sogalla, Lukas Barner, Björn Steigerwald, Claudia Kemfert (2023): Deutschlands Gasversorgung ein Jahr nach russischem Angriff auf Ukraine gesichert, kein weiterer Ausbau von LNG-Terminals nötig. DIW aktuell 86.
- Dawud Ansari, Wassim Brahim, Franziska Holz, Claudia Kemfert (2022): Zwischen historischer Verantwortung und Ambitionen zur Klimaneutralität: Eine Länderklassifizierung. DIW Wochenbericht 89 (47), 623-631. Also published as DIW Weekly Report ("From historical responsibility to carbon neutrality: A country classification", Vol. 12, Issue 47/48, pp. 296-303)
- Ruud Egging-Bratseth, Franziska Holz, Kristina Mohlin, Huong Nguyen, Daniel Zavala-Araiza, Carolyn Fischer (2022): Global gas market implications of methane emission reduction policies. Conference proceedings of the 18th International Conference on the European Energy Market (EEM).
- Christian Hauenstein, Franziska Holz, Lennart Rathje, Thomas Mitterecker (2022): Stranded assets in the coal export industry? The case of the Australian Galilee Basin. DIW Berlin Discussion Paper 2003.
- Klaus Eisenack, Achim Hagen, Franziska Holz, Karen Pittel, Angelika Vogt, Marie-Theres von Schickfus (2022): Klimapolitik und Stranded Assets in der fossilen Wirtschaft. *Ökologisches Wirtschaften*, Vol. 37, No. 2, pp. 30-35.
- Franziska Holz, Claudia Kemfert, Robin Sogalla (2022): Knappes Gas–Optionen zur Verringerung der Deckungslücke in Deutschland. *Zeitschrift für Wirtschaftspolitik* 71 (2), 126-137.
- Christian Hauenstein, Karlo Hainsch, Philipp Herpich, Christian von Hirschhausen, Franziska Holz, Claudia Kemfert, Mario Kendzioriski, Pao-Yu Oei, Catharina Rieve (2022): Stromversorgung auch ohne russische Energielieferungen und trotz Atomausstiegs sicher – Kohleausstieg 2030 bleibt machbar. *DIW Aktuell* 84. DIW Berlin, Berlin.
- Franziska Holz, Robin Sogalla, Christian von Hirschhausen, C. Kemfert (2022): "Energieversorgung in Deutschland auch ohne Erdgas aus Russland gesichert" DIW Aktuell 83 and *DIW focus* 7 "Energy Supply Security in Germany Can Be Guaranteed even without Natural Gas from Russia". DIW Berlin, Berlin.
- Franziska Holz, Claudia Kemfert, Hella Engerer, Robin Sogalla (2022): "Europa kann die Abhängigkeit von Russlands Gaslieferungen durch Diversifikation und Energiesparen senken". *DIW Aktuell* 81. DIW Berlin, Berlin.
- Franziska Holz, Alexander Roth, Robin Sogalla, Frank Meißner, Georg Zachmann, Ben McWilliams, Claudia Kemfert (2022): Zukunft des europäischen Energiesystems: Die Zeichen stehen auf Strom. *DIW Wochenbericht* 6 / 2022.
- Georg Zachmann, Franziska Holz, Alexander Roth, Ben McWilliams, Robin Sogalla, Frank Meissner, Claudia Kemfert (2021): *Decarbonisation of Energy: Determining a Robust Mix of Energy Carriers for a Carbon-Neutral EU*. Study for the ITRE Committee of the European Parliament.
- Karen Pittel, Franziska Holz, Sonja Peterson, Dawud Ansari, Carlo Gallier, Achim Hagen, Marcel Lumkowsky, Donia Mahabadi, Angelika Vogt, Marie-Theres von Schickfus (2021): *Chances and Obstacles to Strengthening the Paris Agreement: The Case of Resource-Rich Countries*. Bundesministerium für Bildung und Forschung.
- Franziska Holz, Claudia Kemfert (2020): „Neue Gaspipelines und Flüssiggas-Terminals sind in Europa überflüssig“. *DIW Aktuell* 50 and *DIW Focus* 6 "No Need for New Natural Gas Pipelines and LNG Terminals in Europe". DIW Berlin, Berlin.
- Pao-Yu Oei, Karlo Hainsch, Konstantin Löffler, Christian von Hirschhausen, Franziska Holz, Claudia Kemfert (2019): A New Climate for Europe: 2030 Climate Targets Must Be More Ambitious. *DIW Weekly Report*, 40-41/2019, pp. 365-372.
- Ruud Egging, Pedro Crespo del Granado, Franziska Holz, Peter Kotek, Borbala Tóth (2019): *The role of natural gas in an electrifying Europe*. SET-Nav Issue Paper (www.set-nav.eu).

- Ruud Egging, Franziska Holz (2019). Global Gas Model: Model and Data Documentation v3.0. DIW Data Documentation 100. DIW Berlin, Berlin.
- Franziska Holz, Ivo Valentin Kafemann, Oliver Sartor, Tim Scherwath, Thomas Spencer (2018): *What does “peak coal” mean for international coal exporters? A global modelling analysis on the future of the international steam coal market*. IDDRI and Climate Strategies (www.coaltransitions.org)
- Anne Neumann, Leonard Göke, Franziska Holz, Claudia Kemfert, Christian von Hirschhausen (2018): Erdgasversorgung: Weitere Ostsee-Pipeline ist überflüssig. *DIW Wochenbericht 27* and *Weekly Report 27* “Natural Gas Supply: No Need for Another Baltic Sea Pipeline”. DIW Berlin, Berlin.
- Franziska Holz, Clemens Haftendorn, Roman Mendelevitch, Christian von Hirschhausen (2016): A Model of the International Steam Coal Market (COALMOD-World). *DIW Data Documentation 85*. DIW Berlin, Berlin.
- Daniel Huppmann and Franziska Holz (2015): What about the OPEC cartel? *DIW Roundup 58*. DIW Berlin, Berlin.
- Daniel Huppmann and Franziska Holz (2014): Modelling the Impact of Energy and Climate Policies. *DIW Roundup 44*. DIW Berlin, Berlin.
- Christian von Hirschhausen, Franziska Holz, Clemens Gerbaulet, Casimir Lorenz (2014): Europäische Energiewirtschaft: hoher Investitionsbedarf für Nachhaltigkeit und Versorgungssicherheit. *DIW Wochenbericht 27* and *DIW Economic Bulletin 7* “European Energy Sector: Large Investments Required for Sustainability and Supply Security”. DIW Berlin, Berlin.
- Franziska Holz, Hella Engerer, Claudia Kemfert, Philipp M. Richter, and Christian von Hirschhausen (2014): European Natural Gas Infrastructure: The Role of Gazprom in European Natural Gas Supplies. *DIW Berlin Politikberatung kompakt 83*. DIW Berlin, Berlin.
- Hella Engerer, Franziska Holz, Philipp M. Richter, Christian von Hirschhausen, and Claudia Kemfert (2014): Europäische Erdgasversorgung trotz politischer Krisen sicher. *DIW Wochenbericht 22* and *DIW Economic Bulletin 8* “European Natural Gas Supply Secure Despite Political Crises”. DIW Berlin, Berlin.
- Jan Abrell, Clemens Gerbaulet, Franziska Holz, Casimir Lorenz, and Hannes Weigt (2013): Combining Energy Networks: The Impact of Europe’s Natural Gas Network on Electricity Markets until 2050. *DIW Discussion Paper 1317*. DIW Berlin, Berlin.
- Clemens Haftendorn, Franziska Holz, Tim Winke, and Christian von Hirschhausen (2011): Entwicklungen des internationalen Handels mit Kesselkohle - Lehren aus dem COALMOD-World Modell. *Glückauf*, Vol. 147 (12), pp. 566-571. Also in *Energiewirtschaftliche Tagesfragen* (2012), Vol. 62 (3), pp. 38-43.
- Christian von Hirschhausen, Clemens Haftendorn, Johannes Herold, Franziska Holz, Anne Neumann, and Sophia Rüter (2010): Europe’s Coal Supply Security: Obstacles to Carbon Capture, Transport and Storage. *CEPS Policy Brief 223*. CEPS, Brussels.
- Christian von Hirschhausen, Franziska Holz, Daniel Huppmann, and Claudia Kemfert (2009): Weltölmärkte: Angebotsmacht der OPEC ungebrochen. *DIW Wochenbericht 23* and *Weekly Report 22* “World Crude Oil Markets: OPEC's Supplier Power Remains Unchallenged”. DIW Berlin, Berlin.
- Clemens Haftendorn, Karen Freund, Christian von Hirschhausen, and Franziska Holz (2008): Indien: Entwicklung auf Kosten des Klimas. *DIW Wochenbericht 51/52*. DIW Berlin, Berlin.
- Clemens Haftendorn, Christian von Hirschhausen, and Franziska Holz (2008): Auf dem Weg zu einer "COAL-PEC"? *DIW Wochenbericht 40* and *Weekly Report 10* “Moving towards a "COAL-PEC"?” DIW Berlin, Berlin.
- Franziska Holz (2007): How Dominant is Russia on the European Natural Gas Market? Results from Modeling Exercises. *Applied Economics Quarterly, Supplement 2007*, Vol. 53 (58), pp.85-101.
- Franziska Holz and Christian von Hirschhausen (2007): Höhere Sicherheit der europäischen Erdgasversorgung durch Öffnung und Integration der Märkte. *DIW Wochenbericht 24*. DIW Berlin, Berlin.

Christian von Hirschhausen, Claudia Kemfert, and Franziska Holz (2005): Russische Energie- und Klimapolitik bleibt widersprüchlich – Herausforderungen für die EU. *DIW Wochenbericht 10* and *Weekly Report 11* "Russian Energy and Climate Policy Remains Inconsistent: Challenges for the EU". DIW Berlin, Berlin.

Franziska Holz (2001): Der Aufholprozess der EU-Kohäsionsländer. *IWH Discussion Paper 152*. Institut für Wirtschaftsforschung Halle, Halle/Saale.