

# Prof. Dr. Christian von Hirschhausen

## CV and list of publications

Professor at Workgroup for  
Economic and Infrastructure  
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# 1 Itinerary

## 1.1 Personal information

\* 1964, married, 3 children

## 1.2 Education

1988	M.A. (Economics), University of Colorado at Boulder
1989	Diplom-Ingenieur (Industrial Engineering), TU Berlin University of Technology
1995	PhD, Doctor in Industrial Economics, Ecole des Mines de Paris
2002	Habilitation (venia legendi) in Economics, TU Berlin University of Technology

## 1.3 Previous positions

1987	Intern, United Nations Department of Technical Co-operation for Development
1988	Research Assistant, University of Colorado at Boulder
1990-1995	Research Associate and Consultant, CERNA Centre for Industrial Economics, Paris School of Mines
1995-2004	Research Associate, DIW Berlin (German Institute for Economic Research) Member of the German Group of Advisors to the Government of Ukraine
2002-2004	Visiting Professor, TU Berlin University of Technology, Workgroup for Infrastructure Policy
2004-2009	Chair of Energy Economics and Public Sector Management, Dresden University of Technology

## 1.4 Current position

Professor of Economic and Infrastructure Policy (with tenure), Berlin University of Technology

Research Director, DIW Berlin (German Institute for Economic Research)

## 1.5 Academic affiliations

Research Associate, MIT Center for Environmental and Energy Research (Massachusetts Institute of Technology, CEEPR) (since 2006)

Associate Researcher of the Electricity Policy Research Group, University of Cambridge (EPRG) (since 2008)

American Economic Association (AEA), European Economic Association (EEA), Verein für Socialpolitik (Ausschuss für Wirtschaftspolitik), Association of Environmental and Resource Economists (AERE), European Association of Environmental and Resource Economists (EAERE), International Association for Energy Economics (IAEE), Gesellschaft für Energiewirtschaft und Energiepolitik (GEE), Verband Deutscher Wirtschaftsingenieure (VWI)

## 1.6 Languages

German, English, French (fluid in spoken and written)

Spanish and Russian (basic notions)

## 2 Research

### 2.1 Research areas

- Infrastructure, network, and industrial economics
- Energy, environmental, and resource economics
- Political economy

Sectoral experience: energy (regulation and industry structure, electricity, natural gas, oil, coal renewables), transport (railways, highways, airports), heavy industry (mining, steel, non-ferrous metals).

### 2.2 Scientific articles in refereed journals

#### 2021

The Implication of the Paris Targets for the Middle East through Different Cooperation Options.” *Energy Economics* 104: 105629. <https://doi.org/10.1016/j.eneco.2021.105629>. (with Khabbazan, Mohammad M.).

Investing into Third Generation Nuclear Power Plants - Review of Recent Trends and Analysis of Future Investments Using Monte Carlo Simulation.” *Renewable and Sustainable Energy Reviews* <https://doi.org/10.1016/j.rser.2021.110836> (with Ben Wealer, Simon Bauer, Leonard Göke, and Claudia Kemfert).

Emission Pathways Towards a Low-Carbon Energy System for Europe: A Model-Based Analysis of Decarbonization Scenarios. *The Energy Journal* 42 (01). <https://doi.org/10.5547/01956574.42.5.khai> (with Karlo Hainsch, Thorsten Burandt, Konstantin Löffler, Claudia Kemfert, and Pao-Yu Oei).

#### 2020

Democratic Quality and Nuclear Power: Reviewing the Global Determinants for the Introduction of Nuclear Energy in 166 Countries. *Energy Research & Social Science* 63 (May): 101389. <https://doi.org/10.1016/j.erss.2019.101389> (with Anne Neumann, Lars Sorge, and Ben Wealer).

#### 2019

European Electricity Sector Decarbonization under Different Levels of Foresight. *Renewable Energy*, March. <https://doi.org/10.1016/j.renene.2019.02.099> (with Clemens Gerbaulet, Claudia Kemfert, Casimir Lorenz, and Pao-Yu Oei).

#### 2018

Exploring Energy Pathways for the Low-Carbon Transformation in India - A Model-Based Analysis. *Energies* 11(11), 3001, <https://doi.org/10.3390/en11113001> (with Linus Lawrenz, Bobby Xiong, Luise Lorenz, Alexandra Krumm, Hans Hosenfeld, Thorsten Burandt, Konstantin Löffler, and Pao-Yu Oei).

Designing a Model for the Global Energy System - GENeSYS-MOD: An Application of the Open-Source Energy Modeling System (OSeMOSYS), *Energies* 2018 Vol. 10(10). DOI:10.3390/en10101468 (with Konstantin Löffler, Karlo Hainsch, Thosrten Burandt, Pao-Yu Oei, and Claudia Kemfert).

## **2017**

Increasing Block Tariffs in the Water Sector: An Interpretation in Terms of Social Preferences. *B.E. Journal of Economic Analysis & Policy*. <https://doi.org/10.1515/bejeap-2016-0079>. (with Georg Meran).

## **2015**

Natural Gas: An Overview of a Lower-Carbon Transformation Fuel. *Review of Economic and Environmental Policy (REEP)* 9 (2015), Iss. 1, p. 64–84 (with Anne Neumann).

## **2014**

The German "Energiewende": An Introduction. *Economics of Energy and Environmental Policy (EEEP)*, Vol. 3, No. 2, pp. 1-12.

## **2013**

Development Scenarios for the North and Baltic Seas Grid – A Welfare Economic Analysis. *Utilities Policy*, Vol. 27, pp. 123–134 (with Jonas Egerer and Friedrich Kunz).

The Infrastructure Implications of the Energy Transformation in Europe until 2050: Lessons from the EMF28 Modeling Exercise. *Climate Change Economics*, Vol. 4, No. 1 (with Franziska Holz).

Renewable Electric Energy Integration: Quantifying the Value of Design of Markets for International Transmission Capacity. *Energy Economics*, Vol. 40, pp. 760-772 (with Karsten Neuhoff, Julian Barquin, Janusz Bialek, Rodney Boyd, Chris Dent, Franciso Echavarren, Thilo Grau, Benjamin F. Hobbs, Friedrich Kunz, Christian Nabe, Georgios Papaefthymiou, Christoph Weber, and Hannes Weigt).

## **2012**

A Large-Scale Spatial Optimization Model of the European Electricity Market. *Networks and Spatial Economics*, Vol. 12, No. 1, pp. 75–107 (with Florian Leuthold and Hannes Weigt).

The End of Cheap Coal? A Techno-Economic Analysis until 2030 Using the COALMOD-World Model. *Fuel*, Vol. 102, pp. 305-325 (with Clemens Haftendorn and Franziska Holz).

How a "Low Carbon" Innovation Can Fail - Tales from a "Lost Decade" for Carbon Capture, Transport, and Sequestration (CCTS). *Economics of Energy and Environmental Policy (EEEP)*, Vol. 1, No. 2 (with Johannes Herold and Pao-Yu Oei).

The Globalization of Steam Coal Markets and the Role of Logistics: An Empirical Analysis. *Energy Economics*, Vol. 42, No. 1, pp. 105-116 (with Aleksandar Zaklan, Astrid Cullmann and Anne Neumann).

## **2011**

The World Gas Market in 2030: Development Scenarios Using the World Gas Model. *International Journal of Global Energy Issues*, Vol. 35, No. 1, pp. 64-84 (with Daniel Huppmann, Ruud Egging, Franziska Holz, and Sophia Rüster).

A Nonparametric Efficiency Analysis of German Public Transport Companies, *Transportation Research Part E* 46, Vol. 3, pp. 436-445 (with Astrid Cullmann).

Access Pricing and Network Expansion in Natural Gas Markets. *Zeitschrift für Energiewirtschaft*, Vol. 34, No. 3, pp. 179-183 (with Georg Meran and Anne Neumann).

### **2010 and previous**

A Modified Yardstick Competition Mechanism. *Journal of Regulatory Economics*, Vol. 35, No. 3, pp. 223-245 (with Georg Meran).

“Take the Long Way Down”: Integration of Large-scale North Sea Wind using HVDC Transmission. *Energy Policy*, Vol. 38, No. 7, pp. 3164-3173 (with Hannes Weigt, Till Jeske, and Florian Leuthold).

Quo Vadis Efficiency Analysis of Water Distribution? A Comparative Literature Review. *Utilities Policy*, Vol.17, No. 3-4, pp. 225-232 (with Matthias Walter, Astrid Cullmann, Robert Wand, and Michael Zschille).

Divestitures in the Electricity Sector: Conceptual Issues and Lessons from International Experiences. *The Electricity Journal*, Vol. 22, No. 3, pp. 57-69 (with Hannes Weigt and Anne Neumann).

Representing Gaspec with the World Gas Model. *The Energy Journal*, Special Issue „World Natural Gas Markets And Trade: A Multi-Modeling Perspective“, pp. 97-117 (with Ruud Egging, Franziska Holz, and Steven A. Gabriel).

Perspectives of the European Natural Gas Market Until 2025. *The Energy Journal*, Special Issue „World Natural Gas Markets And Trade: A Multi-Modeling Perspective“, pp. 137-150 (with Franziska Holz and Claudia Kemfert).

First Evidence of Asymmetric Cost Pass-through of EU Emissions Allowances: Examining Wholesale Electricity Prices in Germany. *Economics Letters*, Vol. 99, Issue 3, pp. 465-469 (with Georg Zachmann).

Price Formation and Market Power in the German Wholesale Electricity Market in 2006. *Energy Policy*, Vol. 36, No. 11, pp. 4227-4234 (with Hannes Weigt).

Infrastructure Investment, Regulation, and Security of Supply. *Utilities Policy*, Vol. 16. No. 1, pp. 1-10.

Efficient Pricing for European Electricity Networks – The Theory of Nodal Pricing Applied to Feeding-in Wind in Germany. *Utilities Policy*, Vol. 16, No.4, pp. 284-291 (with Florian Leuthold and Hannes Weigt).

Long-Term Contracts and Asset Specificity Revisited: An Empirical Analysis of Producer-Importer Relations in the Natural Gas Industry. *Review of Industrial Organization*, Vol. 32, No. 2, pp. 131-142 (with Anne Neumann).

Efficiency Analysis of East European Electricity Distribution in Transition – Legacy of the Past? *The Journal of Productivity Analysis*, Vol. 29, No. 2, pp. 155-167 (with Astrid Cullmann).

From Transition to Competition - Dynamic Efficiency Analysis of Polish Electricity Distribution Companies. *Economics of Transition*, Vol. 16, No. 2, pp. 335-357 (with Astrid Cullmann).

A Strategic Model of European Gas Supply (GASMOD). *Energy Economics*, Vol. 30, No. 3, pp 766-788 (with Franziska Holz and Claudia Kemfert).

Productivity Analysis of Electricity Distribution Utilities in Germany. *Applied Economics*, Vol. 38, No. 21, 2553-2566 (with Astrid Cullmann and Andreas Kappeler).

Convergence of European Spot Market Prices for Natural Gas? A Real-Time Analysis of Market Integration using the Kalman Filter. *Applied Economics Letters*, Vol. 13, No. 11, 727-732 (with Anne Neumann and Boriss Siliverstovs).

International Market Integration for Natural Gas? A Cointegration Analysis of Gas Prices in Europe, North America and Japan. *Energy Economics*, Vol. 27, No. 4 (2005), 603-615 (with Boriss Siliverstovs, Anne Neumann, Guillaume l'Hégaret).

Public-Private Partnerships in New EU Member Countries of Central and Eastern Europe: An Economic Analysis with Case Studies from the Highway sector; in: *EIB Papers*, Volume 10, No. 2, S. 82-112.

Options for Transporting Russian Gas to Western Europe - A Simulation Analysis (2005). *The Energy Journal*, Vol. 26, No.2 (with Berit Meinhart and Ferdinand Pavel).

Less Long Term Gas to Europe? A Quantitative Analysis of European Long Term Gas-Supply Contracts (2004). *Zeitschrift für Energiewirtschaft*, Vol. 28, No.3, 175-182 (with Anne Neumann).

Efficient Infrastructure Supply for Economic Development in Transition Countries – The Case of Ukraine. *Post-Communist Economies*, Vol. 14, No. 2, 149-167 (2002), (with Boris Dodonov, Petra Opitz, and Pavlo Sugolov).

The End of “Transition” – An Institutional Interpretation of Energy Sector Reform in Eastern Europe and the CIS. *MOCT-MOST Economic Policy in Transitional Economies*, Vol. 11, No. 3 (2001), 93-110, (with Thomas Waelde).

Industrial Restructuring in Ukraine Seven Years After Independence: From Socialism to a Planning Economy? *Communist Economies and Economic Transformation*, Vol. 10, No. 4, 451-465 (December 1998).

Industrial Restructuring in the Baltic States - Large-Scale Privatization, New Enterprise Networks, and Growing Diversity of Corporate Governance. *Communist Economies and Economic Transformation*, 1995, Vol. 7, No. 4, 421-443, (with Wan-Sze Hui).

The Metal Mining Industry in Eastern Europe - The Difficult Reconversion and Impacts on the World Markets. *Natural Resources Forum*; Vol. 16, No. 4, November 1992, (with O. Bomsel).

Aggregate Demand for Energy and Dynamics of Energy Demand Elasticities in non-oil Developing Countries. *The Journal of Energy and Development*; Vol. 14, No. 2, Spring 1989, 237-252, (with A. Pourgerami).

Substitution Possibilities among Production Inputs: Some Estimates and Policy Implications from Manufacturing Industries in India, Pakistan, and Bangladesh. *Applied Economics*, Fall 1991, Vol. 23, No. 1, 209-118, (with A. Pourgerami and R.F. McNown).

## 2.3 Work in progress

Implication of the Paris Targets for the Middle East through Different Cooperation Options. Revise and resubmit in Energy Economics. Special Issue Energy Modeling Forum 36 “Carbon Pricing after Paris”. (with Mohammad M. Khabbazan).

Pipes, Taps and Vendors: An Integrated Water Management Approach. Revise & resubmit to Water Economics and Policy. 2021 (with Georg Meran and Markus Siehlow) (also as DIW Berlin Discussion Paper 1909).

Local Power Markets. Submitted to International Journal of Industrial Organization (IJIO). 2021 (with Pio Baacke and Sebastian Schwenen). (also as DIW Berlin Discussion Paper 1904).

Transforming Electricity Access by Replacing Back-up Generators with Solar Systems? Recent Trends and Evidence from Nigeria. Presented at the EAERE Policy Session “Electrification,” Berlin, June 25 2020. Submitted to Renewables and Sustainable Energy Reviews. (with Georg Heinemann, Fabienne Banzer, Raluca Dumitrescu, Christian von Hirschhausen, Maximilian Neuhof, and Vivian Ogechi Nwadiaru).

Nuclear Power is no Solution for Climate Change Mitigation. 2020. Submitted to Nature Climate (Comments). (with Christian Breyer, Claudia Kemfert, Fabian Präger, Thure Traber, Ben Wealer).

Fossil Natural Gas Exit – A New Narrative for the European Energy Transformation towards Decarbonization.” 2020 (with Fabian Praeger and Claudia Kemfert). Submitted to Energy Research & Social Sciences (also as DIW Berlin Discussion Paper, no. 1892).

Nuclear Power as a System Good. Organizational Models for Production Along the Value- Added Chain. 2020. DIW Discussion Paper 1883. Berlin, Germany: DIW Berlin (with Wealer, Ben).

Nuclear Power in the 21st Century – An Assessment (Part I). DIW Discussion Paper 1700. Berlin, Germany: DIW Berlin.

## 2.4 Refereeing

- Editor-in-Chief: Energy and Environmental Economics and Policy (EEEP) (2015-2021)
- The Energy Journal
- Energy Economics
- Energy Policy
- Journal of Transportation Economics and Policy (JTPEP)
- Utilities Policy
- Review of Industrial Organization
- Schmollers Jahrbuch – Journal of Applied Social Science Studies
- National Science Foundation (NSF, USA)
- Co-editor of the “DIW Berlin Quarterly Journal of Economic Research“ („DIW-Vierteljahreshefte zur Wirtschaftsforschung“) (1997-2001)

## 2.5 Contribution to development of numerical models

- ELMOD: Spatial Optimization Model of the Electricity Sector
- GasMOD: A multi-period model for the natural gas market
- COALMOD: A Model of the International Steam Coal Market

- CCTS-MOD: An optimization model of CCTS infrastructure in Europe
- GENeSYS-MOD: Global Energy System Model
- CGE-MOD: Computable General Equilibrium Analysis

## 2.6 Symposia of “Economics of Energy and Environmental Policy“ (EEEP)<sup>1</sup>

Decentral electrification, network interconnection, and local power markets. *Economics of Energy & Environmental Policy* 11(1) (2022) (forthcoming).

10 Years of “Economics of Energy and Environmental Policy“ (EEEP): An Introduction. *Economics of Energy & Environmental Policy* 10(2) (2021) (forthcoming).

Long-term Energy and Climate Scenarios – An Introduction. *Economics of Energy & Environmental Policy* 9(1) (2020), 1-9.

Electricity Access: An Introduction. *Economics of Energy & Environmental Policy* 8(1) (2019), 1-18 (with Valerie J. Karplus).

Prosumage and the Future Regulation of Utilities: An Introduction.” *Economics of Energy & Environmental Policy* 6(1) (2016), 1–13.

## 2.7 Books and edited journal issues

*Economics of Water. Rules and Institutions.* Berlin, Heidelberg: Springer International Publishing. 2020 (with Georg Meran and Markus Siehlow).

*Vom sozialistischen VEB zum kapitalistischen Unternehmen: Eine Analyse der Industriereformen in Osteuropa (1989-1994).* Frankfurt am Main: Neue Deutsch-Französische Jahrbücher. 2020.

*Energiewende “Made in Germany”: Low Carbon Electricity Sector Reform in the European Context.* Springer International Publishing, 2018 (co-editors: Clemens Gerbaulet, Claudia Kemfert, Casimir Lorenz, and Pao-Yu Oei).

*Sustainable Infrastructure Development and Cross-Border Coordination, Special Issue of the Energy Journal, 38 (2017), Editor.*

*Security of Energy Supply in Europe: Natural Gas, Nuclear and Hydrogen.* Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 2010 (co-editors: Francois Lévêque, Jean-Michel Glachant, Julián Barquín, Franziska Holz and William J. Nuttall).

*Recent Trends in the Privatization and the Regulation of Network Industries; Guest Editor of a Special Issue of “Competition and Regulation in Network Industries”, Vol. 1 (2006), No. 2 (co-editors: Gert Brunekreeft and Carl-Friedrich Elmer).*

*Regulation and Long-Term Investment in Infrastructure Provision – Theory and Policy. Guest Editor of a Special Issue of Utilities Policy, 2004 (co-editor: Thorsten Beckers).*

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<sup>1</sup> EEEP symposia are high-level, focussed issues of the Journal “Economics of Energy and Environmental Policy” („Special issues); the papers are often invited the journals’ editors or a guest editor, but peer-reviewed.



Trends in Infrastructure Regulation and Financing International Experience and Case Studies from Germany. Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 2004 (co-editors: Thorsten Beckers, and Kay Mitusch).

Modernizing Infrastructure in Transformation Economies – Paving the Way to European Enlargement. Edward Elgar, Cheltenham, UK and Northampton, MA, USA 2002.

The Globalization of Industry and Innovation in Eastern Europe - From Post-Socialist Restructuring to International Competitiveness. Edward Elgar, Cheltenham, UK and Northampton, MA, USA, 2000 (co-editor: Jürgen Bitzer).

New Neighbours in the East - Economic and Industrial Reform in the Baltic Countries. Paris, Presses de l'Ecole des Mines, 1997. (editor).

Du combinat socialiste à l'entreprise capitaliste - Une analyse de la nature du combinat socialiste et des restructurations industrielles post-socialistes en Europe de l'Est. Paris, l'Harmattan, 1996, (based on Doctoral Dissertation at the Ecole des Mines de Paris; CERNA; 1994).

Energy Demand in Developing Countries: An Analysis of Aggregate Energy Demand and Substitutability between Energy and other Inputs in the Manufacturing Sector. Master's Thesis, University of Colorado, Boulder, 1988.

## 2.8 Book chapters

Decommissioning of Nuclear Power Plants and Storage of Nuclear Waste: Experiences from Germany, France, and the U.K. In *The Technological and Economic Future of Nuclear Power*, edited by Reihard Haas, Lutz Mez, and Amela Ajanovic, 261–86. 2019. Energiepolitik und Klimaschutz. Energy Policy and Climate Protection. Wiesbaden: Springer VS (with Ben Wealer and Jan Paul Seidel).

How Incumbents Are Adjusting to the Changing Business Environment: A German Case Study. In *Consumer, Prosumer, Prosumager - How Service Innovations Will Disrupt the Utility Business Model*, edited by Fereidoon P. Sioshansi. Vol. 1. Cambridge, USA: Academic Press. 2019 (with Florian Weiss, Richard Groß, Sarah Linowski, Christian von Hirschhausen, Ben Wealer, and Timon Zimmerman).

German Energy and Climate Policies: A Historical Overview.” In *Energiewende “Made in Germany,”* edited by Christian von Hirschhausen, Clemens Gerbaulet, Claudia Kemfert, Casimir Lorenz, and Pao-Yu Oei, 17–44. Cham: Springer International Publishing. 10-34. 2018.

Nuclear Power: Effects of Plant Closures on Electricity Markets and Remaining Challenges. In *Energiewende “Made in Germany” Electricity Sector Reform in the European Context*, edited by Christian von Hirschhausen, Clemens Gerbaulet, Claudia Kemfert, Casimir Lorenz, and Pao-Yu Oei. Berlin, Germany: Springer International Publishing AG. 2018 (with Friedrich Kunz, Felix Reitz, Christian von Hirschhausen, and Ben Wealer).

## 2.9 Research studies

Sicherheitstechnische Analyse und Risikobewertung einer Anwendung von SMR-Konzepten (Small Modular Reactors). 2021. Wissenschaftliches Gutachten im Auftrag des Bundesamtes für die Sicherheit der nuklearen Entsorgung (BASE) urn:nbn:de:0221-2021030826028. Darmstadt: Öko-Institut e.V. (mit

Christoph Pistner, Matthias Englert, Christian Küppers, Richard Donderer, Ben Wealer und Björn Steigerwald).

Kendziorski, Mario, Leonhard Göke, Claudia Kemfert, Christian von Hirschhausen, and Elmar Zozmann. 2021. "100% erneuerbare Energie für Deutschland unter besonderer Berücksichtigung von Dezentralität und räumlicher Verbrauchsnähe - Potenziale, Szenarien und Auswirkungen auf Netzinfrastrukturen." 167. Politikberatung Kompakt. Berlin: DIW Berlin. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.816979.de/diwkompakt\\_2021-167.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.816979.de/diwkompakt_2021-167.pdf). (mit Mario Kendziorski, et al.).

Ten Years after Fukushima: Nuclear Energy is Still Dangerous and Unreliable. 2021 7/8. Weekly Report. Berlin: DIW Berlin, German Institute for Economic Research. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.812103.de/dwr-21-07-1.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.812103.de/dwr-21-07-1.pdf). (with Ben Wealer, Claudia Kemfert, Fabian Präger, and Björn Steigerwald).

Wealer, Ben, von Hirschhausen Christian, Kemfert, Claudia, Präger, Fabian, and Steigerwald, Björn. 2021. "Zehn Jahre nach Fukushima – Kernkraft bleibt gefährlich und unzuverlässig." 8. Wochenbericht. Berlin: DIW Berlin. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.812103.de/dwr-21-07-1.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.812103.de/dwr-21-07-1.pdf).

Atomkraft international: Ausbaupläne von Newcomer-Ländern vernachlässigbar. DIW Wochenbericht 11/2020: 137-145 (with Lars Sorge, Claudia Kemfert, Christian von Hirschhausen).

Nuclear Power Reactors Worldwide – Technology Developments, Diffusion Patterns, and Country-by-Country Analysis of Implementation (1951–2017). DIW Berlin, Data Documentation 93. Berlin, Germany: DIW Berlin, TU Berlin. 2018. (with Wealer, Ben, Simon Bauer, Nicolas Landry, Hannah Seiß).

Zu teuer und gefährlich: Atomkraft ist keine Option für eine klimafreundliche Energieversorgung. DIW Wochenbericht 30/2019: 511–20 (with S. Bauer, L. Göke, C. v. Hirschhausen, and C. Kemfert).

High-Priced and Dangerous: Nuclear Power Is Not an Option for the Climate-Friendly Energy Mix. DIW Weekly Report 30/2019: 235–43 (with S. Bauer, L. Göke, C. v. Hirschhausen, and C. Kemfert).

Kohleausstieg in NRW im deutschen und europäischen Kontext - Energiewirtschaft, Klimaziele und wirtschaftliche Entwicklung. 129. Politikberatung Kompakt. Berlin: DIW Berlin. 2018. (mit Oei, Pao-Yu, Hanna Brauers, Leonard Göke, Claudia Kemfert, Martin Kittel, Paula Walk).

World Nuclear Industry Status Report 2018/2019. Mycle Schneider Consulting, Paris, London (with Mycle Schneider, Antony Froggatt, Phil Johnstone, Andy Stirling, Tadahiro Katsuta, M. V. Ramana, Ben Wealer, Agnès Stienne, and Julie Hazemann).

Perspektiven für eine sichere, preiswerte und umweltverträgliche Energieversorgung in Bayern. DIW Berlin, Politikberatung kompakt 97. Berlin, Germany: Deutsches Institut für Wirtschaftsforschung (DIW). 2015 (mit Mieth, Robert, Clemens Gerbaulet, Claudia Kemfert, Friedrich Kunz, and Richard Weinhold).

Long-Term Contracts in the Natural Gas Industry - Literature Survey and Data on 426 Contracts (1965-2014). 2015 DIW Berlin Data Documentation, Berlin. (with Anne Neumann and Sophia Ruester).

Braunkohleausstieg – Gestaltungsoptionen im Rahmen der Energiewende." 84. Politikberatung kompakt. Berlin, Germany: DIW. 2014. (mit Oei, Pao-Yu, Claudia Kemfert, Felix Reitz).

Risks of Vattenfall's German Lignite Mining and Power Operations – Technical, Economic and Legal Considerations.” DIW Berlin, Politikberatung kompakt 87. Berlin, Germany: DIW Berlin — Deutsches Institut für Wirtschaftsforschung e. V. 2014. (with Oei, Pao-Yu, Felix Reitz).

A Lower Carbon Strategy for the Electricity Sector of Kazakhstan to 2030/50: Scenarios for Generation and Network Development ; Technical Report. 2014. DIW Berlin, Berlin. (with Jonas Egerer and Roman Mendelevitch).

Electricity Sector Data for Policy-Relevant Modeling: Data Documentation and Applications to the German and European Electricity Markets. 2014 DIW Berlin, Berlin. (with Jonas Egerer, Clemens Gerbaulet, Richard Ihlenburg, Friedrich Kunz, Benjamin Reinhard, Alexander Weber, and Jens Weibezahn).

European Natural Gas Infrastructure: The Role of Gazprom in European Natural Gas Supplies; Study Commissioned by The Greens/European Free Alliance in the European Parliament. 2014 DIW Berlin, Berlin. (with Franziska Holz, Hella Engerer, Claudia Kemfert, and Philipp M. Richter).

Current and Prospective Costs of Electricity Generation until 2050.” DIW Data Documentation 68. Berlin: DIW Berlin — Deutsches Institut für Wirtschaftsforschung e. V. 2013. (with Schröder, Andreas, Friedrich Kunz, Jan Meiß, and Roman Mendelevitch).

Die Zukunft der Braunkohle in Deutschland im Rahmen der Energiewende.” DIW Berlin, Politikberatung kompakt 69. 2012. Berlin, Germany: Deutsches Institut für Wirtschaftsforschung (DIW). (mit Gerbaulet, Clemens, Jonas Egerer, Pao-Yu Oei und Judith Paeper).

### 3 Teaching

Current	TU Berlin, Berlin School of Economics (BSE) and DIW Graduate Center
2004-2009	TU Dresden
1999-2009	TU Berlin
1993-1994	Ecole des Mines de Paris
1987-1988	University of Colorado at Boulder

#### 3.1 Lectures

- Microeconomics
- Economic Policy
- Energy and Environmental Economics
- Energy and Resource Management
- Industrial Economic Analysis of Energy Markets
- Economics of the Energy Transformation („Energiewende“)
- Infrastructure Theory and Policy
- Transport Economics
- Infrastructure Management
- Introduction to Regulation
- Regulation: Theory and Policy
- Efficiency Analysis

- Aspects économiques des réformes en Europe de l'Est

## **3.2 Seminars, study projects, etc.**

### **3.2.1 Seminars**

Umweltpolitische Instrumente im Vergleich

Infrastrukturpolitik und -management

Gemeinschaftsseminar Ökonomik und Rect des Regulierungsmanagements

Energiemanagement in Entwicklungsländern (Post-Graduiertenprogramm)

Energieberater - Betriebliches Energiemanagement (Post-Graduiertenprogramm)

### **3.2.2 Doctoral seminars**

Doctoral Courses in the framework of the Applied INFRAstructure Research and Policy TRAINing (INFRATRAIN); financed by the Marie-Curie-Program of the European Union (since 2004)

Research Seminar on Environment, Resource and Climate Economics (R-SERC, since 2009)

Scientific Advisor of the Young Energy Engineers and Economists Seminar (YEEES) (founded in 2006, bi-annual meetings self-organized by doctoral students)

### **3.2.3 Interdisciplinary study projects**

The potential of sufficiency measures to achieve a fully renewable energy system –a case study for Germany (2020)

Energy sector reform in India and China: Modeling and policy issues (2017)

100% renewables world-wide (2016)

Infrastruture challenges in times of climate change (2014)

Modeling watershed policy in the Aral Sea Basin (2013)

Netzanbindung von Offshore-Windparks in Deutschland (2012)

Modeling the integrated European electricity market of the year 2030 (2011)

Europäisches Grid für Elektrizität aus erneuerbaren Energien (2010)

CO<sub>2</sub>-highways for Europe? (2009)

Water economics and management (2009)

Economic and engineering aspects of Desertech (2009)

Bus transport in Europe (2008)

Economics of natural gas storage (2007)

What to do with CO<sub>2</sub>? Technical and economic aspects of carbon capture and transportation

More wind? A technical and economic analysis, with particular reference to implementing offshore wind capacities (2005)

Elektirzitätsmärkte in Osteruropa im Umschwung - Was sind die eingeleiteten Reformen wer? (2004)  
PPP-Modelle für den Autobahnbau - Theorie, international Erfahrungen, Lehren für Deutschland (2003)  
Privatisierung von Flughäfen: Internationale Erfahrungen, Schlussfolgerungen für Deutschland (2002)  
Ökonomische Aspekte von Verkehrsinformationssystemen (2001)

### **3.3 Continuous education**

- Doctoral program “Infratrains” (yearly, since 2004)
- MBA program “Energy Management” (since, 2016)
- European Energy Institute (EEI): Advanced Training Programme (2008-2011)
- Master of European Regulation of Network Industries (MERNI), Center for European Integration Studies (ZEI) at the University of Bonn (2008-10)
- Berlin Summer School on Infrastructure Regulation & Financing and Berlin Summer School on Private Participation in Infrastructure (PPI); one-week continuous education, organized for and carried out with the German Development Cooperation (GTZ) and the World Bank (2001-2004)

### **3.4 Supervisor or co-supervisor of doctoral theses**

#### **Ongoing**

Leonard Goeke: Top-down and bottom-up energy sector modeling: Theory and applications

Julia Rechlitz: Sustainable Strategies for Municipal Utilities

Greta Sundermann: Key Drivers of Firms’ Investment in Water Protection – Econometric Analyses of German Water and Sewage Utilities“

Nicole Waegner: External Effects of Local Pollution and Abatement Policies - Empirical Analyses

Richard Weinhold: European electricity sector designs: Theory and modeling

#### **2021**

Dr. ing. Robert Mieth (New York University, and TU Berlin, now post Doc NYU): Risk-Aware Control, Dispatch and Coordination in Sustainable Power Systems

#### **2020**

Dr. rer. oec. Lars Sorge (TU Berlin, now independent Data analyst): An empirical analysis of the interlinkages between the Sustainable Development Goals with a special focus on energy

Dr. rer.oec. Ben Wealer (TU Berlin, now post-Doc): Organizational models in nuclear power plant decommissioning and long-term waste storage

Dr. rer. oec.Jens Weibezahn (TU Berlin, now post-Doc University of Copenhagen): Open Source Modeling for an Integrated Energy Transformation – An Analysis of the German Electricity Sector.

#### **2017**

Dr. rer. oec. Casimir Lorenz (TU Berlin, now Aurora Energy): Balancing Reserve Provision in a Decarbonized Electricity Sector – A Model-based Analysis of Upcoming-Challenges and Opportunities

Dr. rer. oec. Clemens Gerbaulet (TU Berlin, now Hansenet): Electricity Sector Decarbonization in Germany and Europe – A Model-based Analysis of Operation and Infrastructure Investments

## **2016**

Dr. rer. oec. Roman Mendelevitch (TU Berlin, now Institute of Applied Ecology (Öko-Institut)): Coal Markets and Carbon Capture – Model Development and Climate Policy Applications

Dr. rer. oec. Alexander Zerrahn (TU Berlin, now Institute of Applied Ecology (Öko-Institut)): Essays in Electricity Economics – Empirical, Numerical and Theoretical Perspectives on Renewable Energy and Cross-Border Integration

Dr. rer. oec. Jonas Egerer (TU Berlin, now University of Nuerenberg): Low Carbon Transformation of the German and European Electricity Systems - Modelling Market Implications and Infrastructure Investments

## **2015**

Dr. rer. oec. Carl-Friedrich Elmer (TU Berlin, now Agora Verkehrswende): Economics of Vehicle CO<sub>2</sub> Emission Standards

Dr. rer. oec. Pao-Yu Oei (TU Berlin, now Universität Flensburg): Decarbonizing the European Electricity Sector Modelling and Policy Analysis for Electricity and CO<sub>2</sub> Infrastructure Networks

## **2014**

Dr. rer. oec. Daniel Huppmann (TU Berlin, now IIASA and Vienna Business School): Strategic Behaviour in Energy Markets – Advances in Complementarity and Multi-Stage Equilibrium Modelling

Dr. rer. oec. Michael Zschille (TU Berlin, now Consultant): Firm Performance and Industry Structure: Nonparametric Efficiency Analysis in the Water Sector

## **2013**

Dr. rer. oec. Andreas Schröder (TU Berlin, now International Energy Agency): Modeling Infrastructure Investments in Electricity Markets

## **2012**

Dr. rer. oec. Maria Nieswand (TU Berlin, now University of Loughborough): Efficiency Analysis in Public Service Provision

Dr. rer. oec. Aleksandar Zaklan (TU Berlin, now DIW Berlin): Econometric Analysis of Carbon Resource Markets

Dr. rer. oec. Clément Haftendorn (TU Berlin, now Wood MacKenzie): Economics of the Global Steam Coal Market – Modeling Trade, Competition and Climate Policies

## **2011**

Dr. rer. oec. Wolf-Peter Schill (TU Berlin, now DIW Berlin): Modeling Market Failures and Regulation in the Changing German Power Market

Dr. rer. pol. Petra Zloczynski (FU Berlin, now German Ministry for Research & Development): Technology and Innovation – Patent Based Evidence

Dr. rer. oec. Frauke Braun (TU Berlin, now German Ministry for Economic Affairs and Energy): Technological Chance and Energy- An Empirical Assessment of Innovation and Adoption

## **2010**

Dr. rer. pol. Jan Abrell (TU Dresden, now ZEW Mannheim): Transport under Emission Trading: A Computable General Equilibrium Assessment

Dr. rer. pol. Sophia Rüster (TU Dresden, now Energy Saxony Dresden): Vertical Structures in the Global Liquefied Natural Gas Market: Empirical Analyses Based on Recent Developments in Transaction Cost Economics

Dr. rer. pol. Matthias Walter (TU Dresden, now Deutsche Bahn): Efficiency and Competition in Public Transport

Dr. rer. pol. Florian Leuthold (TU Dresden, now Vortex Energy): Economic Engineering Modeling of Liberalized Electricity Markets: Approaches, Algorithms, and Applications in a European Context

## **2009**

Dr. rer. pol. Borge Hess (TU Dresden, now PWC): Efficiency and Restructuring in Regulated Energy Networks: Evidence from Germany and the US

Dr. rer. pol. Georg Zachmann (TU Dresden, now Bruegel and Berlin Economics): Empirical Evidence for Inefficiencies in European Electricity - Market Power and Barriers to Cross-Border Trade?

Dr. rer. oec. Martin Winter (TU Berlin, now DLR): Essays in Road Pricing – Modeling, Evaluation and Case Studies

Dr. rer. pol. Hannes Weigt (TU Dresden, now University of Basle): Modeling Competition and Investment in Liberalized Electricity Markets

Dr. rer. oec. Astrid Cullmann (TU Berlin, now DIW Berlin and TU Berlin): Parametric and Nonparametric Efficiency Analysis in Electricity Distribution - A European Perspective

Dr. rer. oec. Franziska Holz (TU Berlin, now DIW Berlin and NTNU Trondheim): Modeling the European Natural Gas Market – Static and Dynamic Perspectives of an Oligopolistic Market

## **2008**

Dr. rer. pol. Till Jeske (TU Dresden, now Vortex Energy): Technical-Economic Analysis of Wind

## **2007**

Dr. rer. pol. Anne Neumann (TU Dresden, now NTNU Trondheim): Reforms of International Markets for Natural Gas

Dr. rer. oec. Achim I. Czerny (TU Berlin, now Hong Kong University): Regulating Air Transport Markets

## **3.5 Referee of doctoral theses**

### **2018**

Johannes Neu (TU Berlin): Eine ökonomische Analyse isolierter und integrierter Optionen für den Vertrieb von Mobilitätsangeboten unter besonderer Betrachtung des öffentlichen Personennahverkehrs und Carsharing in Deutschland

Dr. rer. oec. Anna Wallbrecht (TU Berlin): Regulierung der Wasserversorgung: Eine (institutionen-) ökonomische Analyse

Dr. rer. oec. Ann-Kathrin Lenz (TU Berlin): Eine institutionenökonomische Analyse der Regulierung der Betreiber der Onshore-Stromübertragungsnetze und Offshore-Windpark-Anbindungen in Deutschland

## **2017**

Dr. rer. oec. Alexander Weber (TU Berlin): Eine institutionenökonomische Analyse der Bedarfsplanung der Stromübertragungsnetze unter Berücksichtigung der Interdependenzen zur Erzeugungsplanung

Dr. rer. oec. Love Erik Edquist (TU Berlin): Organisationsmodelle im öffentlichen und privaten Hochbau – Eine institutionenökonomische Analyse

## **2016**

Dr. rer. oec. Hendrik Blome (TU Berlin): Logistische Optionen für eine nachhaltige Versorgung von Subsahara-Afrika – Ein Beitrag zur humanitären Logistik

Dr. rer. oec. Anselm Schultes (TU Berlin): At the Frontiers of Integrated Assessment of Climate Change: Distribution, Technology policy, and Land

Dr. rer. oec. Jonas Hildebrandt (TU Berlin): Bereitstellung von Ladeinfrastruktur für Elektrofahrzeuge unter Berücksichtigung idealtypischer Ladebedarfe – Eine institutionenökonomische Analyse

Dr. rer. oec. Francisco José Bahamonde Birke (TU Berlin): Modeling with the Unobserved/Unobservable – An in-depth analysis of modeling issues concerning the role of attitudes and perceptions in the decision making process

Dr. rer. pol. Alexander Zipp (Universität des Saarlandes): Die Marktfähigkeit von fluktuierenden erneuerbaren Energien im liberalisierten Stromsektor

## **2015**

Dr. rer. oec. Florian Gizzi (TU Berlin): Implementierung komplexer Systemgüter – Ein methodischer Ansatz für ökonomische Untersuchungen und seine Anwendung auf Verkehrstelematiksysteme für die Straße

Dr. rer. oec. Felix Wagemann (TU Berlin): Wirtschaftlichkeitsuntersuchungen bei PPP-Vorhaben in Deutschland

Dr. rer. pol. Ekatarina Orlova (HU Berlin): “Three Essays on Gas Market Liberalization”

## **2014**

Dr. Arthur Henriot (Université Paris Sud): Economics of intermittent renewable energy sources: four essays on large-scale integration into European power systems



Dr. rer. oec. Justus Reinke (TU Berlin): Bereitstellung öffentlicher Ladeinfrastruktur für Elektrofahrzeuge – Eine institutionenökonomische Analyse

Dr. rer. oec. Herrn Robert Pietzcker (TU Berlin): Achieving stringent climate targets: An analysis of the role of transport and variable renewable energies using energy-economy-climate models

Dr. rer. oec. Anne Schoop (TU Berlin): Financial Incentives for Low Carbon Investment

Dr. rer. oec. Thilo Grau (TU Berlin): Solar photovoltaics deployment policy design

### **2013**

Dr. Carlo Brancucci (TU Delft, Netherlands): Electricity without borders: The need for cross-border transmission investment in Europe

Philipp Koenig (PhD, University of Cambridge): Price Interdependence in Northwest European Natural Gas Markets

Dr. rer. pol. Sven Heitzler (Heinrich-Heine-Universität Düsseldorf): Liberalization and Regulation of Postal Services and Markets

Dr. rer. oec. Felix Groba (TU Berlin): Renewable Energies´ Dissemination and International Trade – An Empirical Assessment of Policy, Markets, and Innovation

### **2012**

Dr. Stefan Lochner (Universität zu Köln): The Economics of Natural Gas Infrastructure Investments – Theory and Model Based Analysis for Europe“

Dr. Jennifer Rebecca Schwarz (TU Berlin): Humanitäre Logistik für die Versorgungsproblematik in Subsahara-Afrika – Aufbau von Logistikkapazität durch Wissenstransfer

Dr. Martin Keßler (TU Berlin): Gestaltung von Logistiknetzwerken für die humanitäre Versorgung in Entwicklungsländern Afrikas

Dr. rer. pol. Martin Nowack (TU Dresden): Possibilities of scenario planning for sanitation organizations facing demographic change

### **2011**

Dr. rer. oec. Jan-Peter Klatt (TU Berlin): Eine institutionenökonomische Analyse von Finanzierungslösungen für die Bundesfernstraßen

Dr. rer. oec. Florian Frank (TU Berlin): Auswirkungen von Schwankungen in Kraftwerksverfügbarkeiten auf die Preisbildung von Strom-Forwards – Eine theoretische und empirische Analyse“

### **2010**

Dr. rer. oec. Jirka Gehrt (TU Berlin): Flexibilität in langfristigen Verträgen – Eine ökonomische Analyse des vertraglichen Nachverhandlungsdesigns bei PPP-Projekten

Dr. rer. oec. Jens Schmidt-Ehmcke (TU Berlin): Technology, Firm Performance and Market Structure

Dr. rer. oec. Robert Marschinski (TU Berlin): Climate Change Policy in a Second-Best World

**2009**

Dr. rer. Lars Schernikau (TU Berlin): The Renaissance & the Economics of Steam Coal

**2008**

Dr. rer. pol. Heike Wetzel (Leupharna Universität Lüneburg): Essays on Efficiency in European Railways

Dr. rer. oec. Johannes Fuhr (TU Berlin): The Institutional Arrangements between Airlines, Airports, and Handling Companies – A Transaction Cost Assessment

**2007**

Dr. rer. oec. Claudia Eich (TU Berlin): Verpackungsentsorgung in Deutschland – Alternative wirtschaftspolitische Instrumente im Vergleich.