

## CURRICULUM VITAE

### Prof. Dr. Claudia Kemfert

Prof. Dr. Claudia Kemfert has headed the Energy, Transport and Environment Department at the German Institute for Economic Research (DIW Berlin) since 2004 and is Professor of Energy Economics and Energy Policy at Leuphana University Lüneburg. Until 2009, she was Professor of Energy Economics and Sustainability at the Hertie School of Governance. From 2004 to 2009, she was Professor of Environmental Economics at the Humboldt University of Berlin.

Prof. Dr. Claudia Kemfert researches the economic effects of the transformation of the energy, transport and building system towards more renewable energies, electromobility and hydrogen. For more than two decades, Claudia Kemfert's scientific work has focused on questions of sustainability in the context of energy applications. In collaboration with national and international research groups, Ms. Kemfert conducts research on the evaluation of the economic effects of climate, energy and transport policy. Based on empirical market and macroeconomic impact analyses, Ms. Kemfert uses quantitative models to evaluate the economic consequences of energy and climate protection policies. These are used, for example, in the Energy Modeling Forum (EMF) model network. As part of her dissertation, she dealt with the macroeconomic effects of various environmental economic instruments such as the eco-tax or emissions trading. Subsequent studies dealt with the economic evaluation of the consequences and costs of environmental and climate damage, as well as the investigation of the economic consequences of energy and climate policy in Germany and Europe. Later work concentrated on analyzing the interdependencies between the gas and electricity markets and the full supply from renewable energies. Ms. Kemfert has published over 600 scientific papers as part of numerous research projects. She prepares research reports, studies and specialist publications. These are also discussed in the context of policy advice, for example in the German Council of Economic Experts. Prof. Kemfert explains research findings on climate change in the "Kemferts Klima Podcast" MDR, where scientific findings are explained to a wide audience.

As an expert and policy advisor, Claudia Kemfert is active on the advisory boards of various research institutions as well as federal and state ministries and the EU Commission. In 2016, she was appointed to the German Advisory Council on the Environment (SRU) at the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, of which she is currently Co-Chair. As part of the High Level Group on Energy and Climate, she advised the EU Commission President José Manuel Barroso, was a member of the Advisory Group on Energy of the European Commission (Directorate-General for Research) and has been a member of the Executive Committee of the German Society of the Club of Rome since 2011.

In 2006, Claudia Kemfert was honored as a top researcher in the Eleven of Science by the German Research Foundation (DFG), the Helmholtz Association and the Leibniz Association. In 2011, she received the Urania Medal and the B.A.U.M Environmental Award in the science category and in 2016 the German Solar Prize, the Adam Smith Prize for Market Economy Environmental Policy, the Environmental Media Prize and the Bavarian Environmental Prize. Kemfert is one of the most renowned in her field, one of the top 10 environmental economists in the world and one of the top 5 female economists. She has already published several books on topics such as climate change, energy policy and the energy transition, see [www.claudiakemfert.de](http://www.claudiakemfert.de).

**SELECTED RESEARCH PROJECTS**

- 2022-2025 **Role of hydrogen in energy system** Einstein Foundation
- 2021-2022 **Decarbonization of Energy** , EU Parliament [pdf](#)
- 2020-2021 **Coal Exit**, financed by Resources for the Future RFF
- 2020-2021 **100% renewable scenarios**, financed by 100 Prozent Erneuerbar Stiftung
- 2019-2020 **Short studies on the coal phase-out**, funded by the European Climate Foundation
- 2016-2020 **Structural change in coal regions**, financed by UBA
- 2016-2018 **Climate protection and coal phase-out: political strategies and measures up to 2030 and beyond**, financed by UBA/BMU
- 2016-2018 **German-Japanese Energy Transition Council (GJETC)**, financed by GJETC
- 2016 **Grid expansion requirements in the light of the energy transition**, financed by the Herman Scheer Foundation
- 2015-2017 **Open Power System Data**, financed by BMWi
- 2015-2016 **CO2 limits**, financed by the Bündnis90/Grüne parliamentary group in the Bundestag
- 2015-2016 **Kraftwerkspark Deutschland II**, financed by the European Climate Foundation (ECF)
- 2015-2016 **Power Plant Park Germany I**, financed by the Heinrich Böll Foundation
- 2012-2016 **MASMIE** - Model-based analyses for electricity market design for the integration of renewable energies in the context of the energy transition, funded by the Mercator Foundation
- 2014-2015 **DEEP Decarbonization Project** Country study Germany on drivers and barriers of the energy transition, funded by the German Development Institute (DIE) and the Federal Ministry for the Environment (BMU)
- 2012-2014 **RES Grid Integration** - Regulated Expansion of Electricity Transmission Networks: the Effects of Fluctuating Demand and RES Generation, funded by the European Commission
- 2012-2014 **Biochar in Agriculture** - Perspectives for Germany and Malaysia, funded by the Leibniz Science Association (WGL)
- 2011-2013 **NAMAs Central Asia** - Integrated approach to developing climate-friendly economies in Central Asia, funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
- 2008-2013 **EMF Energy Modeling Forum** (EMF 21 Land Use, EMF 22 Climate Policy, EMF 23 Gas market, EMF 25 Energy Efficiency) Stanford University <http://emf.stanford.edu/>
- 2009 **Mitigation of methane emissions - a rapid and cost-effective response to climate change**, Copenhagen Consensus <http://fixtheclimate.com/>
- 2007-2010 **Structural change in the agricultural sector - A company and policy-related analysis** Research group at the Humboldt University of Berlin, funded by the German Research Foundation (DFG)
- 2006-2009 **Mainstreaming climate risks and opportunities in the financial sector: Climate-related opportunities and risks with a focus on asset management** in cooperation with PIK Potsdam, University of Potsdam, Germanwatch, Wuppertal Institute, on behalf of the Federal Ministry of Education and Research

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- 2006-2009 **ADAM - ADaption And Mitigation Strategies: Supporting European Climate Policy**  
funded by the European Commission
- 2006-2007 **WIATEC - The development of a World Integrated Assessment model of Technology-Economy-Climate change for the investigation of the impact of induced technical and behavioral change on the environment**  
funded by the European Commission
- 2005-2007 **Quantification of the influence of climate change on trends in the frequency of natural disasters and their economic and insured losses** in cooperation with Munich Re
- 2002-2005 **Electricity Market Liberalization in Europe (EMELIE), Market Imperfections and their Impact on the European Economic and Environmental Situation**  
funded by the European Commission
- 2002-2005 **Assessment of climate change using coupled economy-biosphere-climate models - ECOBICE**, funded by the VW Foundation

**SELECTED PUBLICATIONS - PEER-REVIEWED JOURNALS**

- Barner, Lukas, Holz, Franziska, Von Hirschhausen, Christian R.C., Kemfert, Claudia, Is Russian gas still needed in the European Union? Model-based analysis of long-term scenarios *Energy Strategy Reviews* 58 (2025), 101646, 10 p.
- Martin Kittel, Leonard Goeke, Claudia Kemfert, Pao-Yu Oei, Christian von Hirschhausen (2020), Scenarios for Coal-Exit in Germany-A Model-Based Analysis and Implications in the European Context. In: *Energies* 13 (2020), 8, Art. 2041, 19 p.
- Pao-Yu Oei, Thorsten Burandt, Karlo Hainsch, Konstantin Löffler, Claudia Kemfert (2020). Lessons from Modeling 100% Renewable Scenarios Using GENeSYS-MOD. In: *Economics of Energy and Environmental Policy* 9 (2020), 1, pp. 103-120
- Bartholdsen, K.-H., Eidens, A., Löffler, K., Seehaus, F., Wejda, F., Burandt, T., Oe,P.-Y, Kemfert, C., von Hirschhausen, C. (2019). Pathways for Germany's Low-Carbon Energy Transformation Towards 2050. in: *Energies* 2019, 12(15), 2988
- Child, M., Kemfert, C., Bogdanov, D., Breyer C. (2019) Flexible Electricity Generation, Grid Exchange and Storage for the Transition to a 100% Renewable Energy System in Europe. In: *Renewable Energy* 139 (2019), pp. 80-101
- Kemfert, C. Germany and Climate Protection: From Model Pupil to Laggard-Why Coal Phasing Out Makes Economic and Ecological Sense. In: *Advanced Sustainable Systems* 3 (2019), 3, 1800155 (3 p.)
- Gerbaulet, C., von Hirschhausen, C., Kemfert, C., Lorenz, C., Oei, P.-Y. (2019). European electricity sector decarbonization under different levels of foresight. In *Renewable Energy*
- Medick, J., Teichmann, I., Kemfert, C. (2018): Hydrothermal carbonization (HTC) of green waste: Mitigation potentials, costs, and policy implications of HTC coal in the metropolitan region of Berlin, Germany. In *Energy Policy*, Volume 123, December 2018, page 503-513
- Zerrahn, A., Schill, W.-P., Kemfert, C. (2018). On the economics of electrical storage for variable renewable energy sources. In: *European Economic Review* (2018)
- Kemfert, C., Elmer, C.-F., Dross, M. (2018). Limits of technology neutrality: Infrastructure funding as a necessary pull for the transition to electromobility. In: *Journal of Political Science* 27 (2018), 4, pp. 483-491
- Löffler, K., Hainsch, K., Burandt, T., Oei, P.-Y., Kemfert, C., von Hirschhausen, C. (2017). Designing a Model for the Global Energy System - GENeSYS-MOD: An Application of the Open-Source Energy Modeling System (OSeMOSYS) In: *Energies* 10 (2017), 10, pp. 1-28.
- Kemfert, C. (2017): Germany must go back to its low-carbon future. In *Nature* 549, p. 26-27
- Kunz, F., Rosellón, J., Kemfert, C. (2017): Introduction of Nodal Pricing into the Mexican New Electricity Market through FTR Allocations. In: *Energy Journal* 38 (2017)
- Kemfert, C., Kunz, F., Rosellón, J. (2016): A Welfare Analysis of Electricity Transmission Planning in Germany. In: *Energy Policy*. 94 (2016) , S. 446-452
- Schröder, A., Traber, T., Kemfert, C. (2013): Market Driven Power Plant Investment Perspectives in Europe: Climate Policy and Technology Scenarios until 2050 in the Model EMELIE-ESY. In: *Climate Change Economics*. 4 (2013) , 1 , 22 S.
- Haftendorn, C., Holz, F., Kemfert, C. (2012): What about Coal? Interactions between Climate Policies and the Global Steam Coal Market until 2030. in: *Energy Policy* 48 (2012), pp. 274-283

- Traber, T., Kemfert, C. (2011): Refunding ETS Proceeds to Spur the Diffusion of Renewable Energies: An Analysis Based on the Dynamic Oligopolistic Electricity Market Model EMELIE. In: *Utilities Policy* (2011), 1, pp. 33-41
- Schill, W.-P., Kemfert, C. (2011): Modeling Strategic Electricity Storage: The Case of Pumped Hydro Storage in Germany. In: *The Energy Journal* (2011) 3, pp. 59-87
- Traber, T., Kemfert, C. (2011): Gone with the Wind? Electricity Market Prices and Incentives to Invest in Thermal Power Plants under Increasing Wind Energy Supply. In: *Energy Economics* [Electronic Resource] (2011) 2, pp. 249-256
- Sorda, G., Banse, M., Kemfert, C. (2010): An overview of biofuel policies across the world. In: *Energy Policy*. Vol. 38, Issue 11, pp. 6977-6988
- Kemfert, C., Schmidt, S., Höpfe, P. (2010): The Impact of Socio-economics and Climate Change on Tropical Cyclone Losses in the USA. In: *Regional Environmental Change*, Volume 10, Issue 1 (2010), S. 13-26
- Silverstovs, B., Otsch, R., Kemfert, C., Jaeger, C., Haas, A., Kremers, J. (2009): Climate Change and Modeling of Extreme Temperatures in Switzerland, In: *Applied Statistics*, [online first: 2009-06- 14]
- Kemfert, C., Schneider, F. (2009): Emissions trading in Germany and Austria - an effective instrument for climate protection? In: *Perspectives on Economic Policy* 10 (2009), 1, pp. 92-122
- Kemfert, C., Schmidt, S., Höpfe, P. (2009): Tropical Cyclone Losses in the USA and the Impact of Climate Change: A Trend Analysis Based on Data from a New Approach to Adjusting Storm Losses. In: *Environmental Impact Assessment Review* 29 (2009), pp. 359-369
- Kemfert, C., Traber, T. (2009): Impacts of the German Support for Renewable Energy on Electricity Prices, Emissions, and Firms. In: *The Energy Journal* 30 (2009), 3, pp. 155-178
- Kemfert, C., Holz, F., Hirschhausen, C. (2009): Perspectives of the European Natural Gas Markets Until 2025. In: *The Energy Journal*. Volume 30, Special Issue. S. 137-150
- Kemfert, C., Truong, P. T. (2008): A Flexible Global Warming Index for Use in an Integrated Approach to Climate Change Assessment In: *Environmental Modeling and Assessment* 13, Issue 4 ; pp. 503-515
- Kemfert, C. (2008): Book Review: *Markets and the Environment*, Nathaniel O. Keohane and Sheila M. Olmstead, Washington, DC: Island Press. In: *Agricultural Economics* 38, 3, pp. 385-387
- Kemfert, C., Holz, F., Hirschhausen, C. (2008): A Strategic Model of European Gas Supply. In : *Energy Economics*, Vol. 30/3, pp. 766-788
- Kemfert, C. (2007): Auctioning instead of giving away: Why it makes sense to aim for a complete auctioning of emission rights. In: *Journal of Applied Environmental Research* 18 (2007), 1, pp. 9-17
- Kemfert, C. (2007): A ten-point plan for a sustainable energy policy in Germany. In: *Gaia* 16, 1, pp. 16-21
- Kemfert, C. (2007): The European Electricity and climate policy - complement or substitute? In: *Environment and Planning / C* 25 (2007), 1, pp. 115-130
- Kemfert, C., Müller, F. (Eds.) (2007): Energy policy between competitiveness, security of supply and sustainability - opportunities and prospects for energy supply. *Quarterly Journal of Economic Research* 76, 1

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- Kemfert, C., Truong, P. T., Brucker, T. (2006): Economic Impact Assessment of Climate Change: A Multi- Gas Investigation. In: The Energy Journal, Multi-Greenhouse Gas Mitigation and Climate Policy, Special Issue 3, pp. 441-460
- Edenhofer, O.; Lessmann, K.; Kemfert, C.; Grubb, M.; Koehler, J. (2006): Induced technological change: exploring its implications for the Economics of Atmospheric stabilization. In: The Energy Journal, Special issue 2006, pp. 57-109
- Kemfert, C. (2005): Der Strommarkt in Europa zwischen Liberalisierung und Klimaschutz- Herausforderungen für die zukünftige deutsche Energieversorgung. In: Journal for Environmental Policy and Environmental Law, 2/2005, pp. 243-258
- Kemfert, C. (2005): Induced Technological Change in a Multi-Regional, Multi-Sectoral, Integrated Assessment Model (WIAGEM): Impact Assessment of Climate Policy Strategies. In: Special Issue of Ecological Economics, ,Vol. 54/2-3 pp. 293-305
- Kemfert, C. (2004): International Climate Coalitions and trade - Assessment of cooperation incentives by issue linkage. In: Energy Policy, Vol. 32, Iss. 4, S. 455-465
- Kemfert, C. (2002): Global Economic Implications of alternative Climate Policy Strategies. In: Environmental Science and Policy, Vol. 5, Iss. 5, S. 367-384.
- Kemfert, C. (2002): An Integrated Assessment Model of Economy-Energy-Climate - The model WIAGEM- In: Integrated Assessment, Vol. 3, 4, pp. 281-299
- Galeotti, M., Kemfert, C. (2004): Interactions between climate and trade policies, a Survey. In: Journal of World Trade, Vol. 38,4
- Haites, E., Yamim, F., Blanchard, O., Kemfert, C. (2004): Implementing the Kyoto Protocol without Russia, Climate Policy 4, 2, p. 143
- Kemfert, C. (1998): Estimated substitution elasticities of a nested CES production function for Germany. In: Energy Economics, 20, pp. 249-264

**SUPERVISION OF DOCTORAL STUDENTS/HABILITATION**

<b>PhD student</b>	<b>Topic</b>	<b>Delivery</b>
Fanny Böse	Economics of Nuclear Fusion	05/2025
Felix Schmidt	Energy System Analysis	07/2025
Martin Kittel	Five Essays in Energy System Analysis - Exploring the Dunkelflaute and Unintended Storage Cycling	01/2025 shot down
Alexandra Krumm	Navigating Collaborative Pathways to a Just Energy Transition: Implications for Governing Coal Transitions in Germany and India	12/2024 completed
Alexander Roth	Electricity system decarbonization	02/2024 completed
Franziska Hoffart	Transformation to a zero-emission future	August 2022 completed
Manish Ram	Socioeconomic impacts of cost optimized and climate compliant energy transitions across the world (LTU Finland)	June 2022, completed
Pao-Yu Oei	Habilitation procedure TU University Berlin	June 2020
Fournier Gabela, Julio Gustavo	"On the economic effects of natural disasters: Frontiers in applied spatial computable general equilibrium modeling"	11/2020 completed
Stöckl, Fabian	"Substituting Clean for Dirty Production: Understanding Prospects for Green Growth"	10/2020 completed
Wealer, Ben	"The Political Economy of Nuclear Power Dual Use, Electricity Generation, Decommissioning of Power Plants, and Long-term Storage of Nuclear Waste"	07/2020 completed
Mendelevitch, Roman	Coal markets and carbon capture	10/2016 completed
Zerrahn, Alexander	Multi-Stage Models of Electricity Markets	04/2016 completed
Egerer, Jonas	Distributional effects and cooperation in the transformation of the German and European electricity sector	04/2016 completed
Teichmann, Isabel	Three Topics in Agriculture: Private Quality Standards, Marketing Channels, and Biochar	01/2016 completed
Judge, Philipp Moritz	Trade and Climate Policies - Carbon Leakage in Energy and Goods Markets	10/2015 completed
Huppmann, Daniel	Strategic behavior in a carbon-constrained world -- Advances in complementarity modelling of energy markets	06/2014 completed
Schröder, Andreas	Modeling Infrastructure Investments in Electricity Markets	02/2013 completed
Groba, Felix	Renewable Energies' Dissemination and International Trade - An Empirical Assessment of Policy, Markets and Innovation	02/2013 completed

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Haftendorn, Clemens	Economics of the Global Steam Coal Market - Modeling Trade, Competition and Climate Policies	10/2012 completed
Schill, Wolf-Peter	Renewable energies: effects on the electricity market and mobility	06/2011 completed
Brown, Frauke	Economic effects of renewable energies - evaluation using the econometric model Nigem	12/2010 completed
Schmidt, Silvio	Economic assessment of extreme climate events (MunichRe)	05/2010 completed
Wood, Franziska	Impact Assessment of the liberalized gas market	01/2009 completed
Kalashnikov, Vitaly	Impact Assessment of the liberalized electricity market	01/2009 completed
Tichler, Robert	Optimal energy prices and implications of energy price modifications in the Upper Austrian economy	10/2008 completed
Müller-Pelzer, Franziska	Evaluation of CDM options in South America	10/2008 completed
Schumacher, Katja	Evaluation of the electricity market in Europe	08/2007 completed
Dröge, Susanne	Linkages between trade policy and environmental policy	08/2005 completed

**PROMOTION PRIZES**

2022: Bavarian Nature Conservation Award of the Bund Naturschutz in Bayern 2022: Environmental Media Award of the DUH, "Text" category  
2020: Mastermind Award, portfolio institutionell Awards  
2016: Adam Smith Prize for Mercantile Environmental Policy 2016: German Solar Prize  
2011: B.A.U.M. Environmental Award, Science category for many years of outstanding commitment to environmental protection and sustainable development  
2011: Urania Medal for the recognition of her special services to a scientifically based change in awareness in our society in the field of a sustainable economy  
2006: Eleven of science, 11 top researchers ("dream team of German science") awarded by the DFG, the Helmholtz Association and the Leibniz Association) 2003: Best Paper award EABR Conference  
1998: Award from the Verein für Socialpolitik for international presentations 1997: Scholarship from the DAAD for PhD program at Stanford University

**MEMBERSHIPS**

Verein für Socialpolitik, Environmental Committee  
Association of German Scientists (VDW e.V.)  
European Association of Environmental and Resource Economists (EAERE)  
American Economic Association (AEA)  
International Association for Energy Economics (IAEE) Association of Environmental and Resource Economists (AERE) International Society for Ecological Economics  
Energy Modeling Forum (EMF) European Climate Forum (ECF)  
Environmental Committee of the Verein für Socialpolitik International C3E Ambassador Corps

**EXPERT COMMISSIONS**

German Advisory Council on the Environment  
High Level Group of Energy and Climate of EU President Barroso (2006-2010) Advisory Group EU Environment Commissioner (2012-2014)  
Club of Rome  
Expert Commission on Energy Research and Energy Technologies, Bavarian State Ministry Economic Affairs, Infrastructure, Transport and Technology (2012)  
Scientific Advisory Board of the Federal Academy for Security Policy  
Advisory Board of WIFO (Austrian Institute Economic Research)  
Scientific Advisory Board of Energiecampus Nürnberg  
Scientific Advisory Board of the Energy Institute of the Johannes Kepler University, Linz Scientific Advisory Board of the University of Konstanz  
Scientific Advisory Board of the EUREF Institute  
Scientific Advisory Board of the Institute for Advanced Study in the Humanities in Essen Scientific Advisory Board of NATIONAL GEOGRAPHIC DEUTSCHLAND Scientific Advisory Board of the German Biomass Research Center (DBFZ) Scientific Advisory Board of the Energy Research Center of Lower Saxony (EFZN) Scientific Advisory Board of the Journal for New Energy Law (ZNER)  
Advisory Group on Energy of the European Commission (DG Research) (2012-2014)

State expert group in Hesse (Schäfer-Gümbel) and Lower Saxony (Environment Minister Wenzel) Energy  
 Commission of the SPD party executive (2014)  
 Board of Trustees Technology Foundation Berlin  
 Board of Trustees German Climate Foundation  
 Board of Trustees 100 Prozent erneuerbar stiftung  
 Board of Trustees forum Nachhaltig Wirtschaften  
 Board of Trustees of the Institute for European Politics  
 (IEP) B.A.U.M. Science Board of Trustees  
 Board of Trustees Körber Foundation  
 Board of Trustees of the Deutsches Museum Munich  
 Board of Trustees Innovation Center Energy (IZE)  
 Frankfurt Future Council  
 Board of Trustees of the Munich Re Foundation  
 Advisory Board of CLEAN TECH WORLD  
 Advisory Board German Environmental Foundation  
 Advisory Council on Globalization Issues, Federal Foreign Office (2012-2014)  
 Ambassador for the Science Year 2010 - The Future of Energy, Federal Ministry of Education and Research  
 High Level Jury Sustainable Energy Europe Awards of the EU Commission  
 Committee for Environmental and Resource Economics, Verein für  
 Socialpolitik University Advisory Board of the University of Konstanz and  
 Beuth University Climate Advisory Board of the City of Hamburg and the City  
 of Dresden  
 Juror: German Study Prize, Berlin Science Prize of the Governing Mayor,  
 German Sustainability Award, German Environmental Award, Allianz Environmental Award, "Ökoglob" and  
 "365 Places in the Land of Ideas"

#### **REVIEWER FOR MAGAZINES**

The Energy Journal  
 Energy Economics  
 Environment and Development Economics Energy  
 Policy  
 Climate Policy Ecological  
 Economics  
 Environmental and Resource Economics  
 Environmental Economics  
 Gaia  
 Economics of Energy and Environmental Policy  
 Journal of Sustainability Research  
 Energies

#### **PUBLISHER**

Applied Economics Quarterly  
 Gaia  
 Energy Efficiency  
 Latin American Economic Review (LAER) Research  
 Journal of Environmental Sciences Advanced  
 Sustainable Systems  
 ZNER Journal for New Energy Law

Berlin, April 2025