

# Curriculum Vitae – Dr. Friedrich Kunz

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## Personal Information

Dr. Friedrich Kunz  
Mohrenstr. 58  
10117 Berlin  
Germany

(+49) 30/ 89789 495  
fkunz@diw.de

Born on October 18, 1983 in Bad Saarow

July 24, 2017

## Professional Experience

- Since 09/2012      Research Associate, Department Energy, Transportation, Environment, German Institute for Economic Research (DIW Berlin)
- 09/2009–08/2012   Research Associate, Chair for Energy Economics, Department of Business and Economics, TU Dresden
- 10/2008–04/2009   Internship, Strategy Department, RWE AG, Essen
- 12/2006–09/2008   Student Research Assistant, Chair for Energy Economics and Public Sector Management, TU Dresden
- 08/2003–06/2004   Civilian Service, nursing home 'Sächsische Schweiz', Pirna

## Education

- 02/2013              PhD in Economics (Dr. rer. pol.) at TU Dresden, Thesis "Managing Congestion and Intermittent Renewable Generation in Liberalized Electricity Markets"
- 07/2009              Diploma in Industrial Engineering (Dipl.-Wi.-Ing.), TU Dresden
- 2004–2009           Diploma studies Industrial Engineering, TU Dresden
- 1998–2003           High School Landesschule Pforta, Schulpforta

## Teaching

Lecture "Advanced Electricity Sector Modeling", EnerTrain PhD Autumn School 2013 and 2014, TU and DIW Berlin.

Lecture "Introduction to Electricity Network Modeling", NTNU PhD Winter School 2011 and 2013.

Lecture "Risk Management in Energy Markets" (B.Sc. level), TU Dresden, Chair of Energy Economics, Summer Term 2010.

Teaching assistance in Master courses "Electricity Economics" and "Study Project on Energy Economics" (M.Sc. level), TU Dresden, Chair of Energy Economics, Winter Term 2009-2011.

Teaching assistance in PhD course "Transmission Expansion of Electricity and Natural Gas Networks: Theory and Numerical Simulations", TU Berlin, 10/2009.

Supervision of Bachelor, Master, and Diploma thesis, TU Dresden, Chair of Energy Economics, 2009-2012.

## Publications in Peer-Reviewed Journals

Wolf-Peter Schill, Alexander Zerrahn, and Friedrich Kunz (2017): Prosumage of Solar Electricity: Pros, Cons, and the System Perspective. *Economics of Energy & Environmental Policy*, Vol. 6(1), pp. 7–31, DOI: 10.5547/2160-5890.6.1.wsch. Previous version published as DIW Discussion Paper 1637.

- Friedrich Kunz, Juan Rosellón, and Claudia Kemfert (2017): Introduction of Nodal Pricing into the new Mexican Electricity Market through FTR Allocations. *Energy Journal*, Vol. 38(SI), pp. 157–172, DOI: 10.5547/01956574.38.SI1.fkun.
- Claudia Kemfert, Friedrich Kunz, and Juan Rosellón (2016): A Welfare Analysis of the Electricity Transmission Regulatory Regime in Germany. *Energy Policy*, Vol. 94, pp. 446–452, DOI: 10.1016/j.enpol.2016.04.011. Previous version published as DIW Discussion Paper 1492.
- Friedrich Kunz and Alexander Zerrahn (2016): Coordinating Cross-Country Congestion Management. *Energy Journal*, Vol. 37(SI3), pp. 81–100, DOI: 10.5547/01956574.37.SI3.fkun. Previous version published as DIW Discussion Paper 1551.
- Karsten Neuhoff, Jochen Diekmann, Friedrich Kunz, Sophia Rüster, Wolf-Peter Schill, Sebastian Schwenen (2016): A Coordinated Strategic Reserve to Safeguard the European Energy Transition. *Utilities Policy*, Vol. 41, pp. 252–263, DOI: 10.1016/j.jup.2016.02.002. Previous version published as DIW Discussion Paper 1495.
- Friedrich Kunz, Karsten Neuhoff, and Juan Rosellón (2016): FTR Allocations to Ease Transition to Nodal Pricing: An Application to the German Power System. *Energy Economics*, Vol. 60, pp. 176–185, DOI: 10.1016/j.eneco.2016.09.018. Previous version published as DIW Discussion Paper 1418.
- Friedrich Kunz and Alexander Zerrahn (2015): Benefits of Coordinating Congestion Management in Electricity Transmission Networks: Theory and Application to Germany. *Utilities Policy*, Vol. 37, pp. 34–45, DOI: 10.1016/j.jup.2015.09.009. Previous version published as DIW Discussion Paper 1298.
- Jan Abrell and Friedrich Kunz (2015): Integrating Intermittent Renewable Wind Generation - A Stochastic Multi-Market Electricity Model for the European Electricity Market. *Networks and Spatial Economics*, Vol. 15(1), pp. 117–147, DOI: 10.1007/s11067-014-9272-4. Previous version published as DIW Discussion Paper 1301.
- Stefan Perras, Friedrich Kunz, and Dominik Möst (2015): New Spain-France Transmission Line: A Cost-Benefit Analysis. *Zeitschrift für Energiewirtschaft*, Vol. 39(1), pp. 19–32, DOI: 10.1007/s12398-014-0144-x.
- Friedrich Kunz and Hannes Weigt (2014): Germany’s Nuclear Phase Out - A Survey of the Impact since 2011 and Outlook to 2023. *Economics of Energy & Environmental Policy*, Vol. 3(2), pp. 13–27, DOI: 10.5547/2160-5890.3.2.fkun.
- Jonas Egerer, Friedrich Kunz, and Christian von Hirschhausen (2013): Development Scenarios for the North and Baltic Seas Grid: A Welfare Economic Analysis. *Utilities Policy*, Vol. 27, pp. 123–134, DOI: 10.1016/j.jup.2013.10.002. Previous version published as DIW Discussion Paper 1261.
- Friedrich Kunz (2013): Improving Congestion Management - How to Facilitate the Integration of Renewable Generation in Germany. *Energy Journal*, Vol. 34, pp. 55–78, DOI: 10.5547/01956574.34.4.4.
- Karsten Neuhoff, Friedrich Kunz et al. (2013): Renewable Electric Energy Integration: Quantifying the Value of Design of Markets for International Transmission Capacity. *Energy Economics*, Vol. 40, pp. 760–772, DOI: 10.1016/j.eneco.2013.09.004. Previous version published as DIW Discussion Paper 1166.

## Other Publications

- Wolf-Peter Schill, Alexander Zerrahn, Friedrich Kunz, and Claudia Kemfert (2017): Decentralized Solar Prosumage with Battery Storage: System Orientation Required. *DIW Economic Bulletin* 12/13/2017, pp. 141–151.
- Wolf-Peter Schill, Alexander Zerrahn, Friedrich Kunz, and Claudia Kemfert (2017): Dezentrale Eigenstromversorgung mit Solarenergie und Batteriespeichern: Systemorientierung erforderlich. *DIW Wochenbericht* 12/2017, pp. 223–233.
- Pao-Yu Oei, Clemens Gerbaulet, Claudia Kemfert, Friedrich Kunz, and Christian von Hirschhausen (2015): Auswirkungen von CO<sub>2</sub>-Grenzwerten für fossile Kraftwerke auf Strommarkt und Klimaschutz in Deutschland: Studie im Auftrag der Bundestagsfraktion Bündnis 90/Die Grünen. *DIW Politikberatung kompakt* 104.

Pao-Yu Oei, Clemens Gerbaulet, Claudia Kemfert, Friedrich Kunz, Felix Reitz, and Christian von Hirschhausen (2015): Effektive CO<sub>2</sub>-Minderung im Stromsektor: Klima-, Preis- und Beschäftigungseffekte des Klimabeitrags und alternativer Instrumente; Studie im Auftrag der European Climate Foundation (ECF) und der Heinrich-Böll-Stiftung. DIW Politikberatung kompakt 98.

Robert Mieth, Clemens Gerbaulet, Christian von Hirschhausen, Claudia Kemfert, Friedrich Kunz, and Richard Weinhold (2015): Perspektiven für eine sichere, preiswerte und umweltverträgliche Energieversorgung in Bayern. DIW Politikberatung kompakt 97.

Karsten Neuhoff, Friedrich Kunz, Sophia Rüster, and Sebastian Schwenen (2014): Koordinierte Strategische Reserve kann Stromversorgungssicherheit in Europa erhöhen. DIW Wochenbericht 30/2014, pp. 724–733.

Jonas Egerer, Friedrich Kunz et al. (2014): Electricity Sector Data for Policy-Relevant Modeling: Data Documentation and Applications to the German and European Electricity Markets. DIW Data Documentation 72.

Clemens Gerbaulet, Friedrich Kunz, Casimir Lorenz, Christian von Hirschhausen, and Benjamin Reinhard (2014): Cost-Minimal Investments into Conventional Generation Capacities under a Europe-Wide Renewables Policy. Proceedings of the 11<sup>th</sup> International Conference on the European Energy Market (EEM), pp. 1–7.

Friedrich Kunz, Clemens Gerbaulet, and Christian von Hirschhausen (2013): Mittelfristige Strombedarfsdeckung durch Kraftwerke und Netze nicht gefährdet. DIW Wochenbericht 48/2013, pp. 25–37.

Christian von Hirschhausen, Claudia Kemfert, Friedrich Kunz, and Roman Mendeleevitch (2013): Europäische Stromerzeugung nach 2020: Beitrag erneuerbarer Energien nicht unterschätzen. DIW Wochenbericht 29/2013, pp. 3–13.

Christian von Hirschhausen, Claudia Kemfert, Friedrich Kunz, and Roman Mendeleevitch (2013): European Electricity Generation Post-2020: Renewable Energy Not To Be Underestimated. DIW Economic Bulletin 9/2013, pp. 16–28.

Clemens Gerbaulet, Friedrich Kunz, Christian von Hirschhausen, and Alexander Zerrahn (2013): Netzsituation in Deutschland bleibt stabil. DIW Wochenbericht 20/21/2013, pp. 3–12.

Andreas Schröder, Friedrich Kunz et al. (2013): Current and Prospective Costs of Electricity Generation until 2050. DIW Data Documentation 68.

Friedrich Kunz and Alexander Zerrahn (2013): The Benefit of Coordinating Congestion Management in Germany. DIW Discussion Paper 1298.

David Gunkel, Friedrich Kunz, Theresa Müller, Alexander von Selasinsky, and Dominik Möst (2012): Storage Investment or Transmission Expansion: How to Facilitate Renewable Energy Integration in Europe? Tagungsband VDE-Kongress Smart Grid - Intelligente Energieversorgung der Zukunft.

Jonas Egerer and Friedrich Kunz (2011): Market and Wind Integration in the North and Baltic Seas – Potential for Merchant Transmission Investment. Proceedings of the 10<sup>th</sup> International Workshop on Large-Scale Integration of Wind Power into Power Systems, Energynautics, Langen.

Friedrich Kunz, Christian von Hirschhausen, Dominik Möst, and Hannes Weigt (2011): Nachfragesicherung und Lastflüsse nach dem Abschalten von Kernkraftwerken in Deutschland - drohen Engpässe? Energiewirtschaftliche Tagesfragen, Vol. 61(9), pp. 28–32.

Friedrich Kunz, Christian von Hirschhausen, Dominik Möst, and Hannes Weigt (2011): Security of Supply and Electricity Network Flows after a Phase-Out of Germany's Nuclear Plants: Any Trouble Ahead? EUI Working Papers RSCAS 2011/32, European University Institute, San Domenico di Fiesole.

David Gunkel, Friedrich Kunz, Alexander von Selasinsky, and Dominik Möst (2011): Bewertung von Speicherkraftwerken im liberalisierten Strommarkt. In: Beckmann, M. and A. Hurtado (eds): Kraftwerkstechnik - Sichere und nachhaltige Energieversorgung (Band 3), TK Verlag, Neuruppin.

Friedrich Kunz (2009): Modeling Short-Term Security in Electricity Markets. Working Paper WP-EM-37. Chair for Energy Economics, TU Dresden.

Jan Abrell, Friedrich Kunz, and Hannes Weigt (2008): Start Me Up. Modeling of Power Plant Start-Up Conditions and their Impact on Prices. Working Paper WP-EM-28. Chair for Energy Economics, TU Dresden.

Friedrich Kunz, Florian Leuthold, Michael Baumgärtner, Hans-Christian Seeliger, and Linda Stolze (2008): Applying Experiments to Auctions in Electricity Markets. 5<sup>th</sup> International Conference on European Electricity Market (EEM), 28-30 May 2008, pp. 1-5.

## Projects

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|-----------|--|
| 2016–2018 | Long-term Planning and Short-term Optimizations of the Electricity System in Germany in the European Context (LKD-EU). Project funded by the Federal Ministry for Economic Affairs and Energy (BMWi).  |
| 2015–2017 | Open Power System Data (OPSD) – A free and open data platform for power system modelling. Project funded by the Federal Ministry for Economic Affairs and Energy (BMWi). <a href="https://open-power-system-data.org">https://open-power-system-data.org</a> |
| 2015      | Auswirkungen von CO <sub>2</sub> -Grenzwerten für fossile Kraftwerke auf Strommarkt und Klimaschutz in Deutschland. Study commissioned by the Bundestagsfraktion Bündnis 90/Die Grünen.  |
| 2015      | Effektive CO <sub>2</sub> -Minderung im Stromsektor: Klima-, Preis- und Beschäftigungseffekte des Klimabeitrags und alternativer Instrumente. Study commissioned by European Climate Foundation (ECF) and Heinrich-Böll-Stiftung.                            |
| 2012–2016 | Model-Based Analyses for the Electricity Sector Design to Favor the Integration of Renewable Energies in the Energy Transformation (MASMIE). Research project funded by the Mercator foundation.   |
| 2009–2011 | Price Impacts of Renewables in the German Electricity Market. Study commissioned by the German Federal Ministry of Environment and Nuclear Safety (BMU).   |
| 2009–2010 | Smart Power Market Project, supporting the EU Project "RE-Shaping: Shaping an Effective and Efficient European Renewable Energy Market".   |
| 2007      | Divestiture as an Instrument of a Pro-active Competition Policy: Conceptual Issues and Lessons from International Experiences. Study commissioned by the Ministry of Economics of the Land Hessen.   |
| 2007      | Congestion Management in the German Electricity Sector - Basic Setting and Scenario Analysis. Industry project.  |

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