

Alexander Zerrahn

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Research interests

Energy and environmental economics; renewable energy; electricity markets and networks; applied OR; microeconometrics; non-market valuation

Current position (since 2016)

Research associate, DIW Berlin, department energy, transportation, environment
Member BERA postdoc program
Associate editor, DIW Wochenbericht/DIW Economic Bulletin

Education

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| 2016 | PhD in economics (Dr. rer. oec.), Technical University Berlin
Thesis: <i>Essays in Electricity Economics – Empirical, Numerical and Theoretical Perspectives on Renewable Energy and Cross-Border Integration</i> |
| 2011-2016 | PhD student, DIW Berlin Graduate Center |
| 2011 | Economist (Diplom-Volkswirt), University of Tübingen |
| 2005-2011 | Studies in International Economics, Universities of Tübingen and Copenhagen |
| 2004 | High school graduation (Abitur), Herten |

Scientific publications in peer-reviewed journals

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| 2018 | On the economics of electrical storage for variable renewable energy sources. (with W.-P. Schill and C. Kemfert). <i>European Economic Review</i> 108, 259–279.

Power-to-heat for renewable energy integration: A review of technologies, modeling approaches, and flexibility potentials (with A. Bloess and W.-P. Schill). <i>Applied Energy</i> 212, 1611–1626.

Long-run power storage requirements for high shares of renewables: results and sensitivities (with W.-P. Schill). <i>Renewable and Sustainable Energy Reviews</i> 83, 156–171. |
| 2017 | Wind power and externalities. <i>Ecological Economics</i> 141, 245–260.

Long-run power storage requirements for high shares of renewables: review and a new model (with W.-P. Schill). <i>Renewable and Sustainable Energy Reviews</i> 79, 1518–1534.

Network expansion to mitigate market power (with D. Huppmann). <i>Networks and Spatial Economics</i> 17(2), 611–644. |

- Does the presence of wind turbines have negative externalities for people in their surroundings? Evidence from well-being data (with C. Krekel). *Journal of Environmental Economics and Management* 82, 221-238.
- Prosumage of solar electricity: pros, cons, and the system perspective (with W.-P. Schill and F. Kunz). *Economics of Energy & Environmental Policy* 6(1), 7-31.
- 2016 Coordinating cross-country congestion management: evidence from central Europe (with F. Kunz). *The Energy Journal* 37(SI3), 81-100.
- 2015 Benefits of coordinating congestion management in electricity transmission networks: Theory and application to Germany (with F. Kunz). *Utilities Policy* 37, 34-45.
- On the representation of demand-side management in power system models (with W.-P. Schill). *Energy* 84, 840-845.

Work in progress

- Flexible power-to-heat and variable renewable energy sources (with W.-P. Schill).
- Energy demand vs flexibility supply - disentangling effects of electric vehicles in a renewable energy system (with H. Kramer and W.-P. Schill).
- Externalities of biomass plants (with C. Krekel, J. Rechlitz, and J. Rode).
- Effects of electricity transmission infrastructure on residential well-being (with A. Sarmiento, A. Zaklan, and C. v. Hirschhausen).
- Bertrand-Edgeworth duopoly with convex costs revisited. Under review.

Other publications: policy and projects

- 2018 Die Energiewende wird nicht an Stromspeichern scheitern (with W.-P. Schill, C. Kemfert, and C. v. Hirschhausen). *DIW aktuell* 11.
- 2017 Wind power: external costs and other indirect economic effects. *DIW Roundup* 111.
- Decentralized solar prosumage with battery storage: system orientation required (with W.-P. Schill, F. Kunz, and C. Kemfert). *DIW Economic Bulletin* 12/13 2017.
- 2016 Bereitstellung von Regelleistung durch Elektrofahrzeuge in Deutschland: Modellrechnungen für das Jahr 2035 (with W.-P. Schill, M. Niemeyer, and J. Diekmann). *Zeitschrift für Energiewirtschaft* 40(2), 73-87.
- 2015 Distributional Effects of System Integration and Qualitative Discussion of Implications for Stakeholders (with J. Egerer and C. v. Hirschhausen). In: AGORA Energiewende: Increased Integration of the Nordic and German Electricity Systems.
- Power Storage: An Important Option for the German Energy Transition (with W.-P. Schill and J. Diekmann). *DIW Economic Bulletin* 10/2015.
- 2013 Netzsituation in Deutschland bleibt stabil (with C. Gerbaulet, F. Kunz, and C. v. Hirschhausen). *DIW Wochenbericht* 20/21 2013.

Software

DIETER: a Dispatch and Investment Evaluation Tool with Endogenous Renewables (with W.-P. Schill). Open-source electricity system model, www.diw.de/dieter.

Teaching

Since 2016 Lecture Renewable Electricity Economics (MSc, in German), lecturer, HTW Berlin

- 2015 Seminar INFRATRAN Advanced Electricity Sector Modeling (PhD), senior instructor, Technical University Berlin
Seminar Advanced Methods for Operations Research (MSc), junior instructor, Technical University Berlin
- 2014 Seminar INFRATRAN Advanced Electricity Sector Modeling (PhD), junior instructor, Technical University Berlin

Scientific presentations (co-author presentations in italics)

- 2018 Conferences: 33rd Annual Congress of the EEA (Cologne), *13th International SOEP User Conference (Berlin)*, 6th World Congress of Environmental and Resource Economists (Gothenburg), 41st IAEE International Conference (Groningen), *2018 Essen Health Conference*, *6th IZA Workshop on Environment and Labor Markets (Bonn)*, 7th Mannheim Energy Conference
- 2017 Invited talks/seminars: National University of Singapore, UFZ Leipzig, Seminar on Energy and Environmental Economics (TU Munich and ifo)
Conferences: 16th IAEE European Conference (Vienna), 23rd EAERE Conference (Athens), *6th European Energy Forum (Paris)*
- 2016 Conferences: Workshop on macroeconomic energy systems modeling and optimization (Prague), *22nd EAERE Conference (Zurich)*, 39th IAEE International Conference (Bergen), *11¹¹ ENERDAY (Dresden)*, *Annual Meeting of the European Public Choice Society (Freiburg)*, *Royal Economic Society Conference 2016 (Brighton)*, *8th Ruhr Graduate School Doctoral Conference in Economics (Bochum)*
- 2015 Conferences: 9th Trans-Atlantic INFRADAY (Washington DC), Jahrestagung Verein für Socialpolitik (Münster), 30th Annual Congress of the EEA (Mannheim), 11th Econometric Society World Congress (Montréal), *17th ZEW Summer Workshop for Young Economists (Mannheim)*, *64th Annual Meeting of the French Economic Association (Rennes)*, 20th Spring Meeting of Young Economists (Ghent), *2015 Annual Conference of the Scottish Economic Society (Perth)*, *9th International Renewable Energy Storage Conference (Düsseldorf)*, 5th International Ruhr Energy Conference (Essen)
- 2014 Conferences: *INFORMS Annual Meeting (San Francisco)*, *8th Trans-Atlantic INFRADAY (Washington DC)*, 14th IAEE European Conference (Rome), Jahrestagung Verein für Socialpolitik (Hamburg), 37th IAEE International Conference (New York City), 16th Workshop of the GEE Student Chapter (Essen), 9th ENERDAY (Dresden), 13th Symposium Energieinnovation (Graz)
- 2013 Conferences: 13th IAEE European Conference (Düsseldorf), *10th International Conference on European Energy Markets (Stockholm)*, 8th ENERDAY (Dresden), 14th Young Energy Economists and Engineers Seminar (Vienna)

Services

- Refereeing 4OR, Data in Brief, Ecological Economics, Economics of Energy & Environmental Policy, The Energy Journal, Utilities Policy, Spring Meeting of Young Economists (Conference)
- Organization Berlin Conference on Energy and Electricity Economics (BELEC), DIW master classes on advanced operations research