

Publications

Lion Hirth

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First-authored articles in peer-reviewed journals

The ENTSO-E Transparency Platform. An assessment of Europe’s most ambitious electricity data platform, *Applied Energy*, 2018 (w/ Jonathan Mühlenpfordt & Marisa Bulkeley). [open access](#)

What caused the drop of European electricity prices? A factor decomposition analysis, *The Energy Journal*, 2018. [open access](#)

The role of capital costs for decarbonizing the power sector, *Environmental Research Letters*, 2016 (w/ Jan Steckel). [pdf](#)

The benefits of flexibility: The value of wind energy with hydropower, *Applied Energy*, 2016. [pdf](#)

System-friendly Wind Power, *Energy Economics*, 2016 (w/ Simon Müller). [pdf](#) | Best paper award INREC

Why Wind is not Coal: On the Economics of Electricity Generation, *The Energy Journal*, 2016 (w/ Falko Ueckerdt & Ottmar Edenhofer). [pdf](#)

Balancing Power and Variable Renewables: Three Links, *Renewable & Sustainable Energy Reviews*, 2015 (w/ Inka Ziegenhagen). [pdf](#)

Integration Costs Revisited – An economic framework of wind and solar variability, *Renewable Energy*, 2015 (w/ Falko Ueckerdt & Ottmar Edenhofer). [pdf](#) | Best paper award IAEE | Best poster award IEWT | Best paper award IEWT

The Optimal Share of Variable Renewables: How the Variability of Wind and Solar Power affects their Welfare-optimal Deployment, *The Energy Journal*, 2015. [pdf](#) | [review](#)

The Market Value of Solar Power: Is Photovoltaics Cost-Competitive?, *IET Renewable Power Generation*, 2015. [pdf](#) | Selected paper Solar Integration Workshop

The Market Value of Variable Renewables: The effect of solar wind power variability on their relative price, *Energy Economics*, 2013. [pdf](#)

Redistribution Effects of Energy and Climate Policy: The electricity market, *Energy Policy*, 2013 (w/ Falko Ueckerdt). [pdf](#)

Co-authored articles in peer-reviewed journals

Open Power System Data - Frictionless data for electricity system modelling, *Applied Energy*, 2018 (w/ Frauke Wiese, Ingmar Schlecht, Juliane Reimann, Clemens Gerbaulet, Martin Jahn, Jonathan Mühlenpfordt, Friedrich Kunz, Wolf-Peter Schill & Casimir Lorenz)

Opening the black box of energy modelling: strategies and lessons learned, *Energy Strategy Reviews*, 2018 (w/ Stefan Pfenninger, Ingmar Schlecht, Eva Schmid, Frauke Wiese, Tom Brown, Chris Davis, Matthew Gidden, Heidi Heinrichs & Clara Heuberger). [open access](#)

The importance of open data and software: is energy research lagging behind?, *Energy Policy*, 2017 (w/ Stefan Pfenninger, Joseph DeCarolis, Sylvain Quoilin & Iain Staffell). [open access](#)

Carpe diem: A novel approach to select representative days for long-term power system models with high shares of renewable energy sources, *Energy*, 2016 (w/ Paul Nahmmacher, Eva Schmid & Brigitte Knopf).

On the Economics of Renewable Energy Sources, *Energy Economics*, 2013 (w/ Ottmar Edenhofer, Brigitte Knopf, Michael Pahle, Steffen Schloemer, Eva Schmid & Falko Ueckerdt). [pdf](#)

System LCOE: What are the costs of variable renewables?, *Energy*, 2013 (w/ Falko Ueckerdt, Gunnar Luderer & Ottmar Edenhofer). [pdf](#)

Carbon lock-out: Advancing renewable energy policy in Europe, *Energies*, 2012 (w/ Paul Lehmann, Felix Creutzig, Melf-Hinrich Ehlers, Nele Friedrichsen, Clemens Heuson & Robert Pietzcker). [open access](#)

Working paper / under review

Market-Based Redispatch in Zonal Electricity Markets, *IAEE Working Paper* (w/ Ingmar Schlecht).

Short-Term Electricity Trading for System Balancing, *IAEE Working Paper* (w/ Christopher Koch).

Congestion Management: From Physics to Regulatory Instruments, *EconStor* (w/ Samuel Glismann).

Technology-neutral auctions for renewable energy: EU law vs. reality in Member States, *under review* (w/ Lars Jerrentrup, Bastian Lotz & Silvana Tiedemann)

Eyes on the price: Which power generation technologies set the market price?, *FEEM Working Paper* (w/ Eike Blume-Werry, Thomas Faber, Claus Huber & Martin Everts)

The Market Value of Wind and Solar Power: An Analytical Approach, *IAEE Working Paper*, 2016 (w/ Alexander Radebach).

Minimal Thermal Generation in Power Systems, *IAEE Working Paper*, 2015.

How much electricity do we consume? A guide to German and European electricity consumption and generation data, *FEEM Working Paper*, 2014 (w/ Maximilian Schumacher).

Dissertation

The Economics of Wind and Solar Variability, TU Berlin, 2014.

Other publications

The importance of open data and software for energy research and policy advise, *SETIS Magazine*, 2016 (w/ Stefan Pfenninger, Joseph DeCarolis, Sylvain Quoilin & Iain Staffell).

Übertragungsnetzbetreiber erwarten massiven Wertverlust für Solarstrom, *Phasenprüfer*, 7 January 2016 (with Jakob Schlandt)

Jenseits des Sündenbocks Erneuerbare: Was hat den Verfall des Börsenstrompreises wirklich verursacht?, *Phasenprüfer*, 13 August 2015 (with Christoph Weber).

Das Ende der Grundlast, *Phasenprüfer*, 26 May 2015.

Solarstrom - an der Börse immer weniger wert, *pv magazine*, 23 April 2015.

Die Ökonomie der Energiewende, *Phasenprüfer*, 9 March 2015.

Wind, Sonne und Regelleistung, *energiewirtschaftliche tagesfragen*, 2013 (with Inka Ziegenhagen). [pdf](#) | [Mandarin](#)

The Decreasing Market Value of Variable Renewables: Integration Options and Deadlocks, in: Detlef Stolten & Viktor Scherer (eds.): *Transition to Renewable Energy Systems: Energy Process Engineering*, Wiley, 2013 (with Falko Ueckerdt). [pdf](#)

Press coverage

Europe risks costly mistake with redispatch markets, *Montel News*, 2018.

Wind and Solar Power Advance, but Carbon Refuses to Retreat, *New York Times*, 2017.

Vattenkraft förbättrar vindkraftens lönsamhet, *Second Opinion*, 2016 (Swedish).

3 Ways Wind and Solar Can Continue To Grow In a 21st-Century Grid, *Rocky Mountain Institute Outlet*, 2015.

Renewable energy sector runs the risk of overpowering market, *Financial Times*, 2015. [pdf](#)

No business case for lots of wind and solar, *Energy Transition*, 2015.

Strom aus Erneuerbaren kannibalisiert sich selbst, *Handelsblatt*, 2015 (German).

A Look at Wind and Solar, Part 2: Is There An Upper Limit To Variable Renewables?, *TheEnergyCollective*, 2015.

The Optimal Share of Intermittent Renewables, *TheEnergyCollective*, 2014.

Doe windenergie niet af als kostenpost van miljarden euro’s, *NRC*, 2014 (Dutch).