

Johannes Giehl

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Research Interest

Techno-economic energy researcher focusing on sector coupling and renewable hydrogen, energy infrastructure development, energy market design, and energy system analysis.

Education

- 2018-2023 PhD project, Technische Universität Berlin
Title: "Energy Transition and Sector Coupling: The Impact of Renewable Hydrogen on Energy Infrastructures and Business Models"
- 2016-2018 Master of Science, Technische Universität Berlin
Industrial Engineering – Energy and Resource Management
- 2012-2016 Bachelor of Science, Technische Universität Berlin
Industrial Engineering – Mechanical Engineering
- 2012-2016 Pontificia Universidad Católica de Chile, Santiago de Chile
Student Exchange

Work Experience

- 2018-2023 Research Assistant, Technische Universität Berlin
Chair of Energy and Resource Management
Analysis of the infrastructures of electricity, gas, and heat, energy business models
- 2018 Intern, Transaction Advisory Services at EY
- 2013-2018 Student Assistant, Technische Universität Berlin
Chair of Energy and Resource Management and administrative support of study programs

Publications

- von Mikulicz-Radecki, F., Giehl, J., Grosse, B., Schöngart, S., Rüdts, D., Evers, M., and Müller-Kirchenbauer, J. (2022): Evaluation of Hydrogen Transportation Networks - A Case Study on the German Energy System, *Energy*, 278, Part B, 127891, <https://doi.org/10.1016/j.energy.2023.127891>.
- Giehl, J., Hollnagel, J., and Müller-Kirchenbauer, J. (2022): Assessment of using hydrogen in gas distribution grids, *International Journal of Hydrogen Energy*, 48, 16037-16047, <https://doi.org/10.1016/j.ijhydene.2023.01.060>.
- Giehl, J., Hohgräve, A., Lohmann, M., and Müller-Kirchenbauer, J. (2022): Economic Analysis of Sector Coupling Business Models: Application on Green Hydrogen Use Cases, *International Journal of Hydrogen Energy*, 48, 10345-10358, <https://doi.org/10.1016/j.ijhydene.2022.12.173>.
- Giehl, J., Verwiebe, P., Evers, M., Schulz, L., and Müller-Kirchenbauer, J. (2022): Analyse möglicher Maßnahmen zur Reduktion der Erdgasimporte aus Russland (Version V01), Working Paper Energie und Ressourcen, Technische Universität Berlin, Berlin, Zenodo, doi.org/10.5281/zenodo.6397107.
- Jarosch, C., Jahnke, P., Giehl, J., and Himmel, J. (2022): Modelling Decentralized Hydrogen Systems: Lessons Learned and Challenges from German Regions. *Energies*, 15, 1322, doi.org/10.3390/en15041322.

Giehl, J., Sudhaus, T., Kurre, A., v. Mikulicz-Radecki, F., Hollnagel, J., Wacker, M., Himmel, J., and Müller-Kirchenbauer, J. (2021): Modelling the impact of the energy transition on gas distribution networks in Germany, *Energy Strategy Reviews*, Volume 38, 100751, doi.org/10.1016/j.esr.2021.100751.

Lübeck, U., Markurt, C., Kochems, J., Giehl, J., Grosse B., and Müller-Kirchenbauer, J. (2021): Geschäftsmodelle der Energiewende im regionalen Umfeld, *Zeitschrift für Energiewirtschaft* (2020), doi.org/10.1007/s12398-021-00313-0.

Sensfuß, F., Lux, B., Bernath, C., Kiefer, C., Pfluger, B., Kleinschmitt, C., Franke, K., Deac, G., Brugger, H., Fleiter, T., Rehfeldt, M., Herbst, A., Pia, M., Neuwirth, M., Wietschel, M., Gnann, T., Speth, D., Krail, M., Mellwig, P., Blöhmer, A., Tersteegen, B., Maurer, C., Ladermann, A., Dröscher, T., Willemsen, S., Müller-Kirchenbauer, J., Giehl, J., Hilaire, M., Schöngart, S., Kurre, A., Hollnagel, J., v. Mikulicz-Radecki, F. (2021): Langfristszenarien für die Transformation des Energiesystems in Deutschland 3 - Kurzbericht: 3 Hauptszenarien, Study on behalf of the Bundesministerium für Wirtschaft und Energie (BMWi), Fraunhofer ISI, Consentec GmbH, ifeu, Technische Universität Berlin, Karlsruhe.

Germanus, N., Granzow, P., Grosse, B., Kochems, J., Giehl, J. and Müller-Kirchenbauer, J. (2020): Entwicklung eines generischen Bewertungsmodells für Geschäftsmodelle der Energiewirtschaft, *Zeitschrift für Energiewirtschaft* (2020), doi.org/10.1007/s12398-020-00285-7.

Giehl, J., Göcke, H., Grosse, B., Kochems, J. and Müller-Kirchenbauer, J. (2020): Survey and Classification of Business Models for the Energy Transformation, *Energies*, 13 (11), doi.org/10.3390/en13112981.

Giehl, J., Göcke, H., Grosse, B., Kochems, J., F. v. Mikulicz-Radecki and Müller-Kirchenbauer, J. (2019): Data Documentation: Vollaufnahme und Klassifikation von Geschäftsmodellen der Energiewende, Data Documentation Energie und Ressourcen elaborated within the BMBF funded research project Kopernikus-Projekt „Systemintegration“: Energiewende-Navigationssystem (ENavi) (Förderkennzeichen 03SFK4N0) - Kopernikus-ENavi, Berlin, DOI: doi.org/10.5281/zenodo.3518997.

Conferences

Giehl, J., Hohgräve, A., Lohmann, M., and Müller-Kirchenbauer, J. (2022): An Open-Source Business Model Evaluation Tool for Sector Coupling Technologies: Application on Green Hydrogen Use Cases, *YEEES* 30, 07.-08.09.2022, 2022 Copenhagen.

Giehl, J., Sudhaus, T., Kurre, A., v. Mikulicz-Radecki, F., Hollnagel, J., Wacker, M. and Müller-Kirchenbauer, J. (2021): Modelling the impact of the energy transition on gas distribution networks in Germany, *Enerday* 2021, 09.04.2021, 2021, Dresden.

Giehl, J., Göcke, H., Grosse, B., Kochems, J. and Müller-Kirchenbauer, J. (2019): Survey and Classification of Business Models of the Energy Transformation, elaborated within the BMBF funded research project Kopernikus-Projekt „Systemintegration“: Energiewende-Navigationssystem (ENavi) (Förderkennzeichen 03SFK4N0) - Kopernikus-ENavi, *Enerday* 2019, 12.04.2019, 2019, Dresden.

Languages

German (Native), English (Excellent command), Spanish (Excellent command)

IT-Knowledge

Microsoft Office (Expert), Python (Intermediate) in combination with Gurobi and OMOF (Proficient), iMovie (Intermediate), GAMS (Basics), Windows und MacOS