



## Dr. Tobias Zimmermann | Senior Consultant

Heating concepts – Energy system analyses

Dr. Tobias Zimmermann's consulting focus at Hamburg Institut is on the development of strategies for sustainable heat supply and the analysis of coupled energy systems. Among other things, he is deputy project manager of the research project "Optimised Integration of Thermal Aquifer Storage in District Heating Systems" (OptInAquiFer), which is funded by the Federal Ministry of Education and Research (BMBF). As part of this project, a consortium has been researching the contribution of aquifer storage for large district heating networks in the course of the upcoming decarbonisation and transformation since 2022.

After studying energy and environmental engineering at the Technical University of Hamburg (TUHH), he worked as a research assistant at the Institute for Energy Technology at TUHH. There he researched the integration of renewable energies into the energy system with a focus on the topic of sector coupling. In his doctoral project on the role of the heating sector in the energy transition, he developed complex simulation models for energy system analysis.

His expertise and market knowledge, including on the subject of large heat storage systems, are also appreciated at overarching levels. Dr Tobias Zimmermann is a member of the long-term heat storage working group organised by Solites and the AGFW. This group aims to exchange information and discuss construction methods and system integration of large heat storage systems. He is also a member of the international technology collaboration programme "Energy Storage – Task 45", which deals with accelerating the use of large thermal energy storage systems as part of a multi-year collaboration.

Dr. Tobias Zimmermann is an [approved expert according to FW609 and FW611 at the AGFW](#).

### Consultancy and research focus

- Sustainable heat supply
- Model-based energy system analysis
- Sector coupling
- Studies, consulting and concepts for thermal energy systems
- Large-scale heat storage and large-scale heat pumps
- Climate neutrality in industry

### Qualification und career

Since 2021	<b>Senior consultant and project manager</b> at Hamburg Institut
2018 – 2022	<b>PhD in Energy Technology</b> , Institute of Energy Technology, Hamburg University of Technology
2017 – 2021	<b>Research Assistant</b> , Institute of Energy Technology, Hamburg University of Technology
2014 – 2017	<b>M.Sc. Energy and environmental technology</b> , Hamburg University of Technology
2015 – 2016	<b>Working student P3 energy</b> , Hamburg
2011 – 2014	<b>B.Sc. Energy and environmental technology</b> , Hamburg University of Technology

### Projects (selection)

<p>2023</p> <p><b>Studie zur räumlichen Erfassung von Abwärmepotenzialen in Hamburg</b></p> <p><u>Client:</u> BUKEA</p>	<p>2023</p> <p><u>Mikroprojekt ProSaHRO:</u></p> <p><b>Projektentwicklung eines Saisonalspeichers</b></p> <p><u>Client:</u> Hansestadt Rostock</p>
<p>2022 - 2025</p> <p><u>Forschungsprojekt OptInAquiFer:</u> Optimierte Integration thermischer Aquiferspeicher in Fernwärmesysteme</p>	<p>2022 – 2023</p> <p><b>Studie zu Spitzen- und Besicherungsleistung durch erneuerbare Wärmeerzeuger</b></p> <p><u>Client:</u> Southwest German Heat network operator</p>
<p>2022</p> <p><b>Machbarkeitsstudie zu Großwärmespeichern</b></p> <p><u>Client:</u> Southwest German Heat network operator</p>	<p>2022</p> <p><b>Machbarkeitsstudie zur Wärme- und Kälteversorgung</b> der Universität Bremen auf Basis von Großwärmepumpen</p> <p><u>Client:</u> University of Bremen</p>
<p>2022</p> <p><b>Strategieberatung und Prozessbegleitung zur Bewertung von Handlungsoptionen bei der netzgebundenen Fernwärmeversorgung der Universität Bremen</b></p> <p><u>Client:</u> University of Bremen</p>	<p>2022</p> <p><b>Klimastrategie: Potenzialanalyse zur Reduktion der THG-Emissionen, Steigerung der Energieeffizienz und Integration erneuerbarer Energien</b></p> <p><u>Client:</u> A leading, internationally active company in the non-ferrous metals industry</p>
<p>2021 - 2022</p> <p><u>Gutachten</u> zur Definition von Ausnahmen bei der Beschränkung der Installation von Stromdirektheizungen</p> <p><u>Client:</u> BUKEA</p>	<p>2021</p> <p><b>Wärmeplan Rostock:</b> Erstellung der Studie "Saisonal Großwärmespeicher in Rostock"</p> <p><u>Client:</u> Hanse- und Universitätsstadt Rostock, Amt für Umwelt- und Klimaschutz</p>

### Studies and Publications (Selection)

<p>2021 Zimmermann – <b>Beitrag des Wärmesektors zur Reduzierung der CO2-Emissionen in Energiesystemen mit Sektorenkopplung.</b> Dissertation. Cuvillier Verlag (2021) <a href="#">Download</a></p>	<p>2020 Zimmermann, T.; Tödter, H.; Schülting, O.; Kather, A.; <b>Auswirkungen verschiedener Sektorenkopplungspfade auf die elektrische Residuallast in Systemen mit hoher fluktuierender Einspeisung.</b> In: 16. Symposium Energieinnovation, Graz, 12.-14.02.2020, DOI: 10.15480/882.2662</p>
<p>2019 Zimmermann, Cors, Erichsen, Kather: <b>Increasing tightness by introduction of intertemporal constraints in MILP unit commitment.</b> <a href="#">Download</a></p>	<p>2019 Erichsen, Zimmermann, Kather: <b>Effect of Different Interval Lengths in a Rolling Horizon MILP Unit Commitment with Non-Linear Control Model for a Small Energy System.</b> <a href="#">Download</a></p>