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What could be more rewarding than knowing you are making a contribution to addressing global sustainability problems such as climate change, biodiversity loss, human health problems caused by pollution, plastic in our oceans, or the rising numbers of environmental refugees? Through our research, teaching, international collaboration and policy advising we have been doing just that. Our team of innovative, caring, and forward-looking students and researchers are having global impact with their work and having a lot of fun in the process.

Prof. Dr. Miranda Schreurs

Chair of Climate and Environmental Policy

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Prof. Dr. Miranda Schreurs

Research Associates

Dr. Florentine Koppenborg · Dr. Dörte
Ohl-horst · Alina Weiss · Ana María Isidoro
Losada · Dr. Katrin Beer · Dr. Theresa Jedd
· Michael Krug · Dr. Anja Baukloh

Team Assistant

Nadia Mohammed



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environmentalpolicy](http://www.hfp.tum.de/environmentalpolicy)



About

With an interdisciplinary lens, the Climate and Environmental Policy Chair explores climate governance, sustainable energy, urban transitions, and plastic waste reduction. Taking a multi-level approach, the team examines how governments, industries, and civil society balance competing interests, power, and resources at global, national, and local scales.

While some of our researchers focus on international climate negotiations addressing topics such as climate change, mercury or plastic pollution, others investigate how cities cut carbon footprints and rethink mobility. The team has spearheaded international study camps with Tsinghua University and IIT Bombay, participated in the TUM Ferienakademie Sarntal, and observed UN climate talks. But our team's influence extends beyond research—developing an international negotiati-

on simulation and introducing climate science to young minds at TUM's Kinderuni.

Our team is actively involved in numerous research consortia, including the Copernicus project ARIADNE II, which examines Germany's energy transition and decarbonization strategies; the POWER2U project, funded by the Ministry for Economic Affairs and Climate Action, exploring households as energy prosumers; ReMIX, part of the MCUBE initiative, which investigates pathways to a low-carbon, socially, and environmentally friendly mobility system; the Trans4ReaL project, which researches sector coupling and hydrogen technologies for Germany's energy transition; and the ICOS Cities – PAUL project (EU Horizon 2020), dedicated to developing integrated urban approaches to reducing greenhouse gas emissions.





Projects

GeMiNi4Health—Generation of Microplastics and Nanoplastics in Water: Implications for Health and Environmental Policy. Funding for two PhD positions, one each at Imperial College London and TUM for three years. Co-PI Daniel Valero Huerta, Imperial College London.

GeoReSim. Geopolitics of Renewable Energy. Developing a computer-based simulation game to teach about the geopolitics of renewable energy. Erasmus Plus funded project together with the Univ. of Stavanger, TU Delft, Ghent University, and the TUM (concluded. manuscript in progress).

GIFEnergy. Social Justice and the Energy Transitions in Germany, Israel, India, and Rwanda. German-Israeli Foundation Nexus grant. Co-PIs: Miranda Schreurs (TUM), Ravit Hananel (Tel Aviv Univ.) and Ram Fischman (Tel Aviv Univ.), €791.180 (2023–2027).

ARIADNE II. Kopernikus joint project—Evidence-based assessment for the design of the German energy transition; sub-project 'Political science analysis of distribution issues and social ownership' (2023–2026).

POWER2UEmpowerment of households to participate in decarbonisation. Funded by the 7th Energy Research Programme of the Federal Ministry for Economic Affairs and Energy (BMWi) (2021–2025).

Trans4Real (Scientific Transfer Research for the Living Labs of the Energy Transition on Sector Coupling and Hydrogen Technologies). Subproject at TUM. Funded by the Federal Ministry of Economic Affairs and Climate Action, €375.201 (2021–2026).

ICOS Cities—PAUL (Pilot Application in Urban Landscapes—Towards integrated city observatories for greenhouse gases). Funded by Horizon 2020, €12.999.999 (2021–2025).

Socio-LCT (Social acceptance of low carbon technologies). Comparative studies on social acceptance of low carbon technologies in Germany, Australia and Austria. Funded as part of the Excellence Strategy of the federal and state governments; €9.800 (2024–2025).

The ReMIX project—Regulatory, organisational and political dimensions of mobility innovation. Funded as part of the MCube future cluster programme by Clusters4Future, BMBF (2024–2027).

DCKLIMA. Digital citizen engagement with climate change impacts. Seed Grant for Cooperation with University of Queensland, TUM Global Incentives Fund, €10.000 (2023) (concluded, conference presentation, manuscript in progress).

ENHANCING SINO-GERMAN CLIMATE MITIGATION. Two summer schools in 2024 and 2025 for approx. 20 students each from TUM and Tsinghua University, Funded by the GIZ, €79.865 (2024–2025).

Indo-German Partnership. Prof. Dr. Miranda Schreurs led the areas of climate, environment, and energy and Prof. Dr. Constantinos Antoniou the areas of mobility and transportation. Funded by the DAAD and the Indian University Grants Commission, €600.000 (2020–2024).

Effectiveness of Global Climate Governance Research visit by Dr. Florentine Koppenborg at the Massachusetts Institute of Technology, Center for Sustainability Science & Strategy, USA, Seed funding by the HfP, €10.000 (2024).



Selected Publications

Schreurs, M. (2024). Jockeying for climate leadership amidst rising global tensions: China, the United States, and the European Union. In S. Biba (Ed.), *Europe in an era of US-China strategic rivalry: Challenges and opportunities from an outside-in perspective*. Springer.

Ruprecht et al. [Co-authorship of **Isidoro Losada, A. M.**] (2024). *Wie kann die Dynamik der Wasserstoffwirtschaft gesteigert werden? – Aktuelle Erkenntnisse aus den Reallaboren der Energiewende*. München: FfE. ↗

Dias Carneiro, B.; Baukloh, A. C.; Isidoro Losada, A. M. & Schreurs, M. (2024). *Data in Climate Governance: Insights, challenges and innovations from Paris, Munich and Zurich*. Policy Report. PAUL- ICOS cities. ↗

Koppenborg, F. (2024). Japan's Nuclear Energy Policy Disaster. Opinion Piece in *The Diplomat*. ↗

Rinscheid, A., **Koppenborg, F.**, Trencher, G. (2024). The Politics and Governance of Phase-Out. Special Issue Proposal, accepted by the *Journal Environmental Politics*.

Koppenborg, F. (2024). Phase-Out Clubs: An Effective Tool in Global Climate Governance. Accepted with minor revisions by *Environmental Politics*.

Jedd, T., Sattich, T. M., Bekebrede, G., Schreurs, M., Van de Graaf, T., & Scholten, D. (2024). Sparking Students' Interest: Teaching About International Climate Negotiation with a Renewable Energy Transition Simulation Game. *Journal of Political Science Education*, 1-23. <https://doi.org/10.1080/15512169.2024.2442612>

Jedd, T., Sixt, G. N., Schutz, A., & Burbach, M. (2024). Legitimacy in polycentric groundwater governance: Framework conditions identified in Nebraska's Natural Resource Districts. *Environmental Policy and Governance*. <https://doi.org/10.1002/eet.2132>

Haefner, G., Kastner, I., Deuß, A., Meier, J.-N., Beer, K., Schmidt, K., Lehmann, P., & Matthies, E. (2024). How can energy-relevant investment decisions be boosted? The role of events as initiators and drivers of the decision process. *Energy Research & Social Science*, 117, 103710. <https://doi.org/10.1016/j.erss.2024.103710>

Beer, K., Felipe Bobadilla Rodriguez, H., Bogner, K., Burkhart, S., Ehnert, F., Hector, V., Herwix, A., Joshi, N., Novikova, M., Rochielle Sievert, J., & Wandl-Vogt, E. (2024). *Doing Justice! Doing Just This! Practicing justice in transdisciplinary and transformative research*. <https://doi.org/10.5281/zenodo.13766954>

Sharma, P. (2024). Socio-economic justice in the solar energy transition in Indian states. Conference paper presented at the *Indian Public Policy Network (IPPN) Conference*, Indian Institute of Technology, Bombay (IIT-B).

Sharma, P. (2024). A Comparative Study of Solar Policies and Solar Performance of Indian States. Conference Paper, presented at the *Indian Public Policy Network (IPPN) Conference* at the Indian Institute of Technology, Bombay (IIT-B)

Sharma, P. (2024). A Case Study on Solar Policy Implementation in Uttar Pradesh: Perspectives from Industrial and Governmental Stakeholders. Conference Paper, presented at the *Indian Public Policy Network (IPPN) Conference*, Indian Institute of Technology, Bombay (IIT-B).

EMPFEHLUNGEN DES BFR

- Flächensparende Siedlungsentwicklung ↗
- Regional- und Raumentwicklungspolitik in Deutschland mit dem Ziel gleichwertiger Lebensverhältnisse ↗
- Planungsstrategische Koordinierungsfunktion ↗
- Aufbau eines überregionalen Grundwassermanagements zur Gewährleistung der Trinkwasserversorgungssicherheit ↗
- Bedeutung Ausbau Erneuerbarer Energien für Flächensparziel ↗





Academic Engagement

PARTICIPATION & COLLABORATION

Development of SFB application, ArboreTUM. Forest-based materials and technologies for the transformation of the building sector – An integrative systems approach accounting for biodiversity, carbon storage, and climate policy. In close collaboration with multiple TUM offices (TUM Forte, Gender and Equity, TUM Research Data Hub) and Principal Investigators at all TUM campuses.

Development of SFB application, Rapid adaptation in a changing climate and environment (RACE).

Doing Justice Collective with other scholars (leading to a publication, see above)

MEMBERSHIPS

TUM Sustainability Board

TUM Tenure and Promotion Board

PAUL Uni Salzburg Unirat

Board of the Institute of Global Environmental Strategies, Japan

German committee board of the International Institute of Applied Systems Analysis (IIASA)

Board of the Regulatory Assistance Project (RAP)



Public Visibility and Outreach

TUM SUSTAINABILITY DAY

at TUM (12 June 2024)

4 Poster Presentations with insights into the projects Trans4ReaL and PAUL, and on “Social acceptance of hydrogen in Australia and Germany” (with A/Prof. Kathy Witt, University of Queensland) and “Using Mega-Events Such as the Olympic Games to Create Sustainability Legacies” (with Dr. Tony Heynen, University of Queensland)

Organization and Moderation of the Panel “Bridging Science & Society: Navigating Sustainability Challenges Together”

Facilitation of “Geovania” energy transition simulation for TUM Sustainability Day

COP29

in Baku (Nov. 2024)

Organisation of Student reportings for the German public from COP29 as part of ‘Stiftung Energie und Klimaschutz’ energy reporter program. [↗](#)

TUMgoesCOP-Blog with reports from COP29. [↗](#)

FURTHER ACTIVITIES

Panel Discussion: Climate café on the European elections, at Import-Export Munich (4 June 2024).

Workshop: Heating and cooling from renewable energies, Public Planning Lab as part of the Bavarian Building Traineeship (Bavarian State Ministry of Housing, Building and Transport), at TUM (6 Dec. 2024).

Academic Key Note & Discussion: Climate and Energy Policy in Europe and Germany, UNESP, TUM Graduate School & Vice-Presidency for Graduate Studies, Research and International Affairs Office, Sao Paulo State University, at TUM (9 Dec. 2024).

Coordination and Lead of Discussion: Climate Positive Olympic Games: Opportunities for Sustainable Legacies for Brisbane 2032 Public Lecture by Dr. Tony Heynen’s (UQ), PAUL-Team, at the TUM Think Tank (3 July 2024).

Lectures · Workshops · Conferences

Workshop: “Urban Climate Governance and Emissions Data”, organized by the PAUL Team at the ICOS Cities Science Meets City 2024 meeting in Barcelona, Spain, 19 Nov. 2024.

Panel & Paper Presentation: “Phase-Out Clubs: An Effective Tool in Global Climate Governance”, organized by F. Koppenborg, European Consortium for Political Research (ECPR) Annual Conference, University College Dublin, Ireland, Aug. 2024.

Presentation: “Snapshots for adaptation: Does citizen participation in water monitoring affect policy preferences?” by T. Jedd with F. Weder (WU) and J. Yarnold (UQ) at the International Communication Association Pre-Conference Science Communication as a Human Right. Queensland University of Technology, Australia, 18–19 June 2024.

Presentation: “Cities at the interface between science and politics in climate policy” by B. Dias Carneiro together with A. M. Isidoro Losada at the 16th NESS–Nordic Environmental Social Science Conference in Turku, Finland, 4–6 June 2024.

Presentation: “Governance and Path Dependencies in the German Hydrogen Policy” by A. M. Isidoro Losada at the 81st Annual Midwest Political Science Association Conference in Chicago, USA, 4–7 April 2024.

Presentation: “Understanding local disruptive policies in urban mobility: A comparison of in Amsterdam, London and Munich” by A. Weiss, Mobil TUM Conference 2024, Munich.

Presentation: “Political science analysis of distributional issues and social ownership” by D. Ohlhorst at ARIADNE II project meeting in Potsdam, 26 Feb. 2024.

Review and Advisory Activities

DISSERTATIONS

- Katherina Grashof, *Die Entstehung und Wirkung global dominanter Politikinstrumente*, Technical University of Munich, May 29, 2024.
- Boris Gotchev, *The Politics of Community Energy in Europe – Transforming the Energy System and Influencing Policy from the Bottom Up?* Technical University of Munich, May 24, 2024.

REVIEWS

Regulation & Governance and Energy Research and Social Science

SUPERVISION

Dozens of Bachelor’s and Master’s Theses

ADVISORY ACTIVITIES

Theresa Jedd: Advisory board member at the 500 Women Scientists advocacy organization

Florentine Koppenborg: Executive Board member at the German Association for Social Science Research on Japan (VSJF).

Miranda Schreurs:

- Co-chair of the Nationales Begleitgremium, a citizens committee appointed by the Bundestag and Bundesrat to enhance participation and transparency in the search for a repository for high-level radioactive waste.
- Member of the Raumentwicklungsbeirat of the Bundesministerium für Wohnen, Stadtentwicklung und Bauwesen.

Prizes and Awards

“Japan’s Nuclear Disaster and the Politics of Safety Governance” has been nominated for the John Whitney Hall Prize

