

SHAN ZHOU

Department of Social Sciences
Michigan Technological University
shanzhou@mtu.edu; 906-487-2864

EDUCATION

Ph.D. (2016)	Public Policy	Georgia Institute of Technology
	<u>Dissertation:</u> <i>Three Essays on Clean Energy Technology Diffusion and Policy Innovations</i>	
	<u>Committee:</u> Drs. Marilyn A. Brown (Chair), Daniel C. Matisoff, Gordon A. Kingsley, Erik P. Johnson, and Valerie M. Thomas	
	<u>Minor:</u> Statistics	
M.S. (2012)	Public Policy	Georgia Institute of Technology
M.S. (2009)	Environmental Sciences, Policy and Management	European Commission Erasmus Mundus Program (MESPOM)
B.S. (2007)	Environmental Sciences	Beijing Normal University

ACADEMIC POSITIONS

2018 –	Assistant Professor of Environmental Policy	Department of Social Sciences, Michigan Technological University
2016 – 2017	Visiting Assistant Professor	School of Public and Environmental Affairs, Indiana Univ. - Purdue Univ. Indianapolis

AREAS OF INTEREST

Environmental and Energy Policy, Clean Technology Adoption, Environmental and Energy Justice, Urban Environmental Governance, Policy Process, Policy Analysis, Quantitative Research Methods

PUBLICATIONS

Superscript Key: * indicates a student co-author

1. **Zhou, S.** & Solomon, B. D. (2021). The interplay between renewable portfolio standards and voluntary green power markets in the United States. *Renewable Energy*, 178, 720-729.
<https://doi.org/10.1016/j.renene.2021.06.110>
2. **Zhou, S.** & Liang, J. (2021) Migrant workers and environmental amenities and infrastructure in urban China: from the lens of environmental justice, *Journal of Environmental Policy & Planning*, DOI: [10.1080/1523908X.2021.1920379](https://doi.org/10.1080/1523908X.2021.1920379)

3. Solomon, B.D. and **Zhou, S.** (2021), Renewable Portfolio Standards: Do Voluntary Goals vs. Mandatory Standards Make a Difference? *Review of Policy Research*, 38: 146-163. <https://doi.org/10.1111/ropr.12424>
4. **Zhou, S.** (2021). "The Effect of Smart Meter Penetration on Dynamic Pricing: Evidence from the United States". *The Electricity Journal*, 34(3).<https://doi.org/10.1016/j.tej.2021.106919>
5. Lu, H.*, Mayer, A. L., **Zhou, S.**, & Wellstead, A. (2021). Unveiling the Quasi-public-private partnership (QPPP): Evidence from China's Environmental Service Sector. *Journal of Environmental Policy & Planning*, 1-15. [doi:10.1080/1523908X.2021.1880315](https://doi.org/10.1080/1523908X.2021.1880315)
6. Curley, C., Harrison, N., Kewei Xu, C., & **Zhou, S.** (2020). Collaboration Mitigates Barriers of Utility Ownership on Policy Adoption: Evidence from the United States. *Journal of Environmental Planning and Management*, 1-21. <https://doi.org/10.1080/09640568.2020.1755241>.
7. **Zhou, S.**, & Solomon, B. D. (2020). Do Renewable Portfolio Standards in the United States Stunt Renewable Electricity Development beyond Mandatory Targets? *Energy Policy*, 140, 111377. <https://doi.org/10.1016/j.enpol.2020.111377>.
8. Zhao, S., **Zhou, S.** and Noonan, D. (2019). "Environmental Justice and Green Schools – Assessing Students and Communities' Access to Green Schools". *Social Science Quarterly*, 100: 2223-2239. <https://doi.org/10.1111/ssqu.12715>.
9. Lu, H.*, Mayer, A. L., Wellstead, A. M., and **Zhou, S.** (2019). "Can the Dual Identity of Policy Entrepreneur and Policy Implementer Promote Successful Policy Adoption? Vertical Greening Policymaking in Shanghai, China". *Journal of Asian Public Policy*, 1-16. <https://doi.org/10.1080/17516234.2019.1631241>.
10. **Zhou, S.** and Noonan, D. (2019). "Justice Implications of Clean Energy Policies and Programs in the United States: A Theoretical and Empirical Exploration". *Sustainability*, 11(3), 807. <http://doi.org/10.3390/su11030807>.
11. **Zhou, S.**, Matisoff, D., Kingsley, G., and Brown, M. (2019). "Understanding Renewable Energy Policy Adoption and Evolution in Europe: The Impact of Coercion, Normative Emulation, Competition, and Learning". *Energy Research & Social Science*, 51, 1-11. <http://doi.org/10.1016/j.erss.2018.12.011>.
12. Brown M., **Zhou S.** and Ahmadi M. (2018). "Smart Grid Governance: An International Review of Evolving Policy Issues and Innovations". *WIREs Energy Environ* 7(5): e290. <https://doi.org/10.1002/wene.290>.
13. Noonan, D., **Zhou, S.** and Kirkman, R. (2017). "Making Smart and Sustainable Infrastructure Projects Viable: Private Choices, Public Support, and System Constraints". *Urban Planning* 2(3): 18-32. <http://dx.doi.org/10.17645/up.v2i3.999>.
14. **Zhou, S.** and Brown, M. (2017). "Smart Meter Deployment in Europe: A Comparative Case Study on the Impacts of National Policy Schemes". *Journal of Cleaner Production* 144: 22-32. <https://doi.org/10.1016/j.jclepro.2016.12.031>.

15. **Zhou, S.** and Matisoff, D. C. (2016). "Advanced Metering Infrastructure Deployment in the United States: The Impact of Polycentric Governance and Contextual Changes". *Review of Policy Research* 33(6): 646-665. <https://doi.org/10.1111/ropr.12203>.
16. Brown, M. and **Zhou, S.** (2013). "Smart-grid Policies: An International Review". *Wiley Interdisciplinary Reviews: Energy and Environment* 2(2): 121-139. <https://doi.org/10.1002/wene.53>.

PAPERS IN REVISION & UNDER REVIEW

Superscript Key: * indicates a student co-author

- Geglio, T., Bradley, T., Williams, T., **Zhou, S.**, Watkins, D. and Minakata, D. "Household Water-Energy Appliances for Circular Water Economy: Conceptual Framework Development and Quantitative Analysis for Greenhouse Gas Emission Impacts". Revision submitted to *Environmental Science & Technology Engineering*.
- Gao, X. and **Zhou, S.** "Solar Adoption Inequality in the U.S.: Trend, Magnitude, and Solar Justice Policies." Under review at *Energy Policy*
- Lu, H.* and **Zhou, S.** "How does Environmental Policy Goal Ambiguity Influence Policy Outcomes? Sponge-City Program Implementation in Old Neighborhoods." Under review at *Environmental Policy & Planning*

WORK IN PROGRESS

- Zhou, S.** & Carter, A. "Examining the Inequalities of U.S. Energy Policy Outcomes: The Spatial Distribution of Clean Energy Infrastructure and Environmental Benefits".
- Zhou, S.**, Kim, D., Zhao, S. and Noonan, D. "Why do Schools Go Green? – Assessing State and Local Policy Effectiveness on Green School Building Infrastructure".
- Zhou, S.**, Kim, D., Gao, X., & Wellstead, A. "Integrating Justice Considerations in Energy Policy Design: Empirical Evidence from Solar Justice Policies in the U.S."
- Amponsem, J. & **Zhou, S.** "Integration of Clean Energy Policies: Policy Goals, Instruments and Subsystems"
- Zhao, S., Glasgow, D., Noonan, D. & **Zhou, S.** "Are Green Buildings Just? An Assessment of the Spatial Distribution of LEED Buildings in Traditionally Disadvantaged Communities in the United States".
- Zhao, S., Noonan, D. & **Zhou, S.** "Developing Measurements for Environmental Justice (EJ) Communities for EJ Practice and Study".

REFEREED CONFERENCE PRESENTATIONS

- "Integrating Justice Considerations in Energy Policy Design: An Analysis of Solar Justice Policies in the U.S." 2021 APPAM Fall Research Conference. Austin, TX. March 27-29, 2022. (Scheduled).

- “Solar Adoption Inequality in the U.S.: Magnitude, Trend, and Energy Justice Solar Policies” 2021 APPAM Fall Research Conference. Austin, TX. March 27-29, 2022. (Scheduled).
- “The Interplay between Renewable Portfolio Standards and Voluntary Green Power Markets in the United States”. 77th Annual Midwest Political Science Association (MPSA) Conference. Zoom. April 14-18, 2021.
- “Renewable Portfolio Standards: Do Mandatory Standards Vs. Voluntary Goals Make a Difference?” 2020 Association for Public Policy Analysis & Management (APPAM) Fall Research Conference. Zoom. November 11-13, 2020.
- “The Never-ending Story: Cleaning up the Great Lakes’ PCBs” IAGLR’s 63rd Annual Conference on Great Lakes Research. Winnipeg, Canada. June 8-12, 2020. (Presentation by graduate student coauthor; Canceled due to Covid19)
- “Incorporating LEED into Local Green Building Policies: The Blurred Boundary Between Voluntarism and Regulation”. Invited presentation. The 78th Annual Midwest Political Science Association (MPSA) Conference Working Group “Institutions and Local Environmental Policy”. Chicago, IL. April 16-19, 2020. (Canceled due to Covid19)
- “Migrants, Bureaucratic Career Motivation, and Environmental Amenities in Urban China” The 78th Annual MPSA Conference. Chicago, IL. April 16-19, 2020. (Canceled due to Covid19)
- “The Impact of Clean Energy Transition on the Unequal Distribution of Air Pollution Burdens across Communities in the United States”. 2019 American Geophysical Union (AGU) Conference. San Francisco, CA. December 9-13, 2019.
- “Why do Schools Go Green? – Assessing State and Local Policy Effectiveness on Green School Building Infrastructure”. 2019 Association for Public Policy Analysis & Management (APPAM) Fall Research Conference. Denver, CO. November 7-9, 2019.
- “Can the Dual Role of Policy Entrepreneur and Policy Implementer Improve the Success of Vertical Greening Policy Adoption? Case of Shanghai, China.” The 4th Edition of the International Conference on Public Policy. Montreal, Canada. June 26-28, 2019. (Presentation by graduate student coauthor)
- “Accessing Urban Green Space and Environmental Facilities: Empirical Evidence from China” The 77th Annual MPSA Conference. Chicago, IL. April 4-7, 2019.
- “Understanding Utility Grid Modernization Efforts in the United States: Technology in Place vs. Technology in Use”. 2018 APPAM Fall Research Conference. Washington, D.C. November 8-10, 2018.
- “The Influence of City-Utility Collaboration on Local Level Energy-Related Policy Adoption”. (Poster). 2018 APPAM Fall Research Conference. Washington, D.C. November 8-10, 2018.
- “A Green Classroom Environment? – Assessing Students and Communities’ Equitable Access to Green Schools.” 2018 APPAM Fall Research Conference. Washington, D.C. November 8-10, 2018. (Paper presented by coauthor).

- “The Influence of City-Utility Collaboration on Local Level Energy-Related Policy Adoption”. The 76th Annual MPSA Conference. Chicago, Illinois. April 5-8, 2018. (Accepted and withdrawn).
- “How Does Heterogeneity of Potential Adopters Affect Clean Energy Technology Diffusion: An Empirical Analysis of Smart Grid Roll Out in the United States”. Southern Economic Association 87th Annual Meeting. Tampa, Florida. November 17-19, 2017. (Paper presented by coauthor).
- “Justice Implications of Clean Energy Policies: Using Data in a Multi-Level Analysis in the United States to Inform Policy Choices”. 2017 APPAM Fall Research Conference. Chicago, Illinois. November 2-4, 2017.
- “Understanding Pressures for Renewable Energy Policy Adoption and Evolution: Coercion, Emulation, Competition and Learning”. The 2017 Environmental Politics & Governance (EPG) Conference, Bloomington, Indiana. June 21-24, 2017. (Paper presented by coauthor).
- “Political Redistribution of the ARRA Funding: An Analysis of Community Access to Smart Grid Systems and Services”. The 54th Annual Meetings of the Public Choice Society. New Orleans, Louisiana. March 2-4, 2017.
- “Advanced Metering Infrastructure Deployment in the United States: The Impact of Multi-tiered Governance and Contextual Changes”. 2015 APPAM Fall Research Conference. Miami, FL. November 12-14, 2015.
- “Wind Energy and Negative Pricing: Is Production Tax Credit to Blame?” The 5th Annual Energy Policy Research Conference. Denver, CO. September 10-11, 2015. (Paper presented by coauthor).

INVITED WORKSHOPS

- U.S. Department of Energy Roundtable on Equitable Deployment and Demonstration. August 25, 2021. Zoom.
- U.S. Green Building Council Fall Equity Summit “Equitable Access” Panel. October 8th, 2020. Zoom.
- Research Coordination Networks (RCN) – National Science Foundation-Supported Sustainability Research Network (SRN) – Sustainable Healthy Cities. Municipal Utilities Workshop: Aligning City Needs with Research Opportunities. Tallahassee, FL. October 17-18, 2016.

GRANT PROPOSALS

- “Examining the Inequalities of US Energy Policy Outcomes: The Spatial Distribution of Clean Energy Infrastructure and Environmental Benefits” (PI), Michigan Tech Research Excellence Fund (REF) - Research Seed Grants (RS), 01/2020-01/2022 – **Funded (\$15,000)**

- “Incorporating LEED into local green building policies: the blurred boundary between voluntarism and regulation” (PI), the Ralph E. Power Junior Enhancement Award, Oak Ridge Associated Universities (ORAU), 10/2020 –10/2021 - **Funded (\$10,000)**
- “*Mapping and Modeling Desertification and Its Impact on Anthropogenic Dust and Health-related External Costs in Central Asia*” (Co-PI), NASA Research Opportunities in Space and Earth Sciences (ROSES) 2019, 05/2021-04/2023 – **Funded (\$449,378)**
- “*Co-Designing Smart Policies for the Smart Grid*”, grant proposal submitted to Michigan Tech College of Engineering Cross-cutting Initiative: Seed Funding Stage I (\$5,000) – Not selected
- “*Systematic Energy Transition*”, grant proposal submitted to Michigan Tech College of Engineering Cross-cutting Initiative: Seed Funding Stage I (\$5,000) – Not selected
- “*Social Equity of the U.S. Sustainable Energy Transition Policies*” (PI), grant proposal submitted to the Ralph E. Power Junior Enhancement Award, Oak Ridge Associated Universities (ORAU) (\$10,000), Jan 2019 – Not selected
- “*Policies, Social Equity and Sustainable Energy Transition*” (PI), proposal submitted to the EPA EmPOWER Air Data Challenge, April 2019 – Not selected
- “*Crossing Scales with Data Science to Sustain Rural Post-Industrial Communities*” (Senior Personnel), grant proposal submitted to NSF Research Traineeship (NRT) program – Harnessing the Data Revolution (HDR) – Not selected
- “EFRI E3P: Rapid Catalytic Thermal Conversion (RCTC) of Olefin Polymers in a Circular Economy” (Co-PI), grant proposal submitted to NSF 19-502 – Not selected

AWARDS, HONORS & FELLOWSHIPS

- Top 10% of MTU instructors based on student evaluation, Fall 2020
- The Ralph E. Power Junior Enhancement Award, Oak Ridge Associated Universities (ORAU), 2020
- Political Economy and Environmental Research Fellowship, SPEA, Indiana University - Purdue University Indianapolis, 2016-2017
- Ivan Allen College of Liberal Arts Dean’s Fellowship, Georgia Institute of Technology, 2012-2016
- Ivan Allen College of Liberal Arts Graduate Student Travel Award, Georgia Institute of Technology, 2015
- Georgia Tech Program in Science, Technology and Innovation Policy (\$6,000), School of Public Policy & Enterprise Innovation Institute, Georgia Institute of Technology, 2012
- Erasmus Mundus Scholarship, European Commission, 2007-2009
- Outstanding Graduate Award, City Government of Beijing & Beijing Normal University, 2007
- Outstanding Bachelor’s Thesis Award, Beijing Normal University, 2007
- Academic Scholarship, Beijing Normal University, 2003-2007

TEACHING EXPERIENCE

Department of Social Sciences, Michigan Tech

<i>Course Title</i>	<i>Semester(s) Taught</i>	<i>Enrollment</i>
SS 3630: Environmental Policy and Politics	Spring 2021	35
	Spring 2020	32
	Fall 2019	23
	Spring 2019	35
SS 3990: Sustainability and the Private Sector	Spring 2021	1
SS 5300: Environmental and Natural Resources Policy	Fall 2019	8
	Fall 2021	15
SS 5350: Environmental Policy Analysis	Fall 2020	12
	Fall 2018	7
UN1025: Global Issues	Fall 2018	90
	Fall 2020	73
	Fall 2021	107

School of Public and Environmental Affairs, IUPUI

<i>Course Title</i>	<i>Semester(s) Taught</i>	<i>Enrollment</i>
SPEA K300: Statistical Techniques	Fall 2016	30
	Spring 2017	30

STUDENT SUPERVISION

Primary Advisor:

1. Josephine Amponsem (Environmental and Energy Policy, PhD student), 2020-present
2. Dane Kim (Environmental and Energy Policy, PhD student), 2020-present
3. Jess Applin (Environmental and Energy Policy, MS), 2020-present
4. Wandipa La Toya Mualefhe (Environmental and Energy Policy, PhD student), 2021-present

Committee Member:

5. Hongmei Lu (Environmental and Energy Policy, PhD), Graduated Dec, 2020. Placement: Postdoctoral researcher, Department of Human Geography and Spatial Planning at Utrecht University.
6. Roland Oduro Ofori (Environmental and Energy Policy, PhD), Graduated Dec, 2020. Placement: Postdoctoral researcher, UIUC.
7. Robert LaFave (Environmental and Energy Policy, PhD candidate)
8. Emily Shaw (Environmental Engineering, PhD candidate)
9. Robert Zupko (Environmental and Energy Policy, MS), Graduated Aug 2020.

10. Azat Turegeldin (Environmental and Energy Policy, MS), Graduated May 2020.

Advising other than thesis or dissertation

- Anna Johnson (Undergraduate Student, Environmental Engineering, MTU), March-June 2021, Research assistant for my research projects

SERVICE

Editorial Board

- *Review of Policy Research*, 2021-present. The *Review of Policy Research (RPR)* is an international peer-reviewed journal devoted to the publication of research and analysis examining the politics and policy of science and technology, with an impact factor of 2.00 in 2021.

Reviewing Activities

- ***Reviewing Activities for Journals***
Review of Policy Research; Policy Science; Urban Affairs Review; Journal of Cleaner Production; Energies; International Journal of Mass Emergencies and Disasters; Environmental Science & Technology; Energy Policy; Sustainability; Energy Research & Social Science; Journal of Renewable and Sustainable Energy; Urban Forestry & Urban Greening; Joule; Energy Sources, Part B: Economics, Planning, and Policy
- ***Reviewing Activities for Books***
“Virtual Information Fabrics for Built Environment Sustainability and Resilience”
- ***Reviewing Activities for Conferences***
Association for Public Policy Analysis & Management (APPAM) Fall Conference Energy and Environment Policy Section – 2019; 2020; 2021

Campus Service

- Reviewer for MTU Undergraduate Research Fellowship (SURF) (2018)
- MTU College of Forest Resources and Environmental Science - Ad-hoc Committee for Master of Science in Environmental Sustainability (2018-2019)
- MTU Institute for Policy, Ethics and Culture (IPEC) - Curriculum Committee (2019-present)
- MTU Department of Social Sciences Undergraduate curriculum committee- Sustainability Science & Society (2019-present)
- Reviewer for MTU REF seed funding proposal (2020)
- MTU Department of Social Sciences Degree Development Committee (2021-present)
- MTU Department of Social Sciences Governance Committee (2021-present)

- MTU Department of Social Sciences – Developing online graduate certificate in public policy (2021-present)

Professional Organization Service

- **Association for Public Policy Analysis and Management (APPAM)**
 - Panel Chair:
 - 2016 panel session: “Federalism in Environmental Governance” (#7104)
 - Panel Discussant:
 - 2016 panel session: “Addressing Challenges for the Evolving Utility” (#7222)
 - 2019 panel session: “Innovative Use of Data in Environmental Policy Study” (#12854)
 - 2021 panel session: “Energy Policy and Program Evaluation”
 - Panel Organizer:
 - 2015 panel session: “Diffusion of Innovations: Insights from Sustainable Energy Transition in the U.S. and Europe” (#5677)
 - 2018 panel session: “Data-Driven Analysis for the Impact of Technology Adoption on Electricity Market Prices, Climate Mitigation and Energy Services” (#11004)
 - 2021 panel session: “Local Sustainable Development: Policy Design, Program Participation and Distributional Impact” (# 16022)
- **Midwest Political Science Association (MPSA)**
 - Panel Discussant:
 - 2019 panel session: “Interest Groups & Environmental Politics”
- **Chinese Policy Scholars Group (CPSG)**
 - Diversity, Equity and Inclusion Committee Chair (2021-present)

SKILLS & MEMBERSHIPS

Research methods	Econometrics, Case Studies, Document Analysis, Cost Benefit Analysis, Life Cycle Assessment, Input-Output Analysis
Computing	Microsoft Office Package, ArcView GIS, QGIS, Nvivo
Statistical software	R, STATA, SPSS and Minitab
Memberships	Association for Public Policy Analysis & Management (APPAM), Midwest Political Science Association (MPSA), American Geophysical Union (AGU)