SHARON J.W. KLEIN

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Orono, ME 04469

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**EDUCATION**

2011 *Ph.D.,* *Engineering and Public Policy,* Carnegie Mellon University

2009 *M.S.,* *Engineering and Public Policy,* Carnegie Mellon University

2004 *California Teaching Credential (Chemistry)*, National University

1999 *B.S., Environmental Science, Cum Laude,* University of Massachusetts, Amherst

**EMPLOYMENT**

2018-present **Associate Professor**, School of Economics, University of Maine, Orono, ME

2011-2018 **Assistant Professor**, School of Economics, University of Maine, Orono, ME

2007-2011 **Graduate Research Assistant**, Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA

2006-2007 **Teacher**, *Physical Science and Astronomy (Eighth Grade),* Colegio Americano, Quito, Ecuador

2005-2007 **Teacher**, *International Baccalaureate Environmental Systems (Eleventh and Twelfth Grade),* Colegio Americano, Quito, Ecuador

2005-2006 **Teacher**, *International Baccalaureate Theory of Knowledge (Eleventh and Twelfth Grade),* Colegio Americano, Quito, Ecuador

2002-2005 **Teacher**, *Physical Sciences (Eighth Grade),* King/Chavez Academy, San Diego, CA

2002-2005 **Teacher**, *Natural Sciences (Seventh Grade),* King/Chavez Academy, San Diego, CA

2000-2002 **Environmental Technician**, Hargrave Environmental Consulting, Inc., San Diego, CA

1999-2000 **Corps Member**, Americorps National Civilian Community Corps, Southeast Region

**HONORS**

2022 Senator George J. Mitchell Center for Sustainability Solutions Award for

Outstanding Mentorship of a Student in Sustainability Research

2019 Donald Harward Faculty Award for Service-Learning Excellence, Maine

Campus Compact

2017-2018 Maine Development Foundation Leadership Maine Silver Class

Participant

2015-2017 University of Maine Faculty Fellow

2012 White House Champion for Change - Americorps Alums

2011 World Renewable Energy Congress Best Paper Award in Solar Thermal

Applications

2010 Graduate Student Assembly/Provost Conference Fund Award

2010 Neuworth Scholarship Travel Grant, Carnegie Mellon University

2009-2011 National Science Foundation Graduate Research Fellowship

2008-2009 Steinbrenner Graduate Fellowship, Carnegie Mellon University

2007 Carnegie Institute of Technology Dean’s Fellowship Engineering Award

**RESEARCH & TEACHING INTERESTS**

1. Technical, economic, environmental and social tradeoffs inherent in the production, distribution, and use of sustainable energy options
2. Grassroots community renewable energy and energy efficiency
3. Engineering-economic analysis
4. Environmental life cycle assessment
5. Social benefit-cost analysis
6. Multi-criteria decision analysis
7. Tradeoffs across multiple environmental issues: water, waste, pollution, climate change, ecosystems, biodiversity

**SERVICE**

2021-present Chair, School of Economics Diversity, Equity, Inclusion Committee, University of

Maine

2021-present Faculty Representative, Entrepreneurial Graduate Program Committee,

University of Maine Provost’s Office

2021-present Member, Energy Markets and Strategy Working Group, Maine Offshore Wind

Initiative, State of Maine Governor’s Energy Office

2021-present Member, Distributed Generation Stakeholder Working Group, State of Maine

Governor’s Energy Office

2021-present Member, Executive Committee, Graduate Board, University of Maine

2020-present Member, Graduate Board, University of Maine

2020-present Chair, Committee on Energy, Equity, and Justice, U.S. University Energy Institute

Collaborative

2019-present Graduate Program Coordinator, School of Economics, University of Maine

2020-present Secretary and Executive Committee Member, Board of Directors,

WindowDressers

2018-present Member, Board of Directors, WindowDressers

2017-present Advisory Board, University of Maine Americorps Volunteer for Maine Partnership

for Environmental Stewardship, Maine Campus Compact

2015-present Member, National Community Solar Partnership

2015-present Bangor K-8 Chess Coach

2019 Academic Representative for Maine Legislative Commission to Study the

Economic, Environmental and Energy Benefits of Energy Storage to the Maine

Electricity Industry

**PUBLICATIONS**

*Note: I changed my last name from Wagner to Klein in January 2013*

*\*Graduate student coauthor*

*° Undergraduate student coauthor*

**Peer-Reviewed Journal Articles**

1. **Klein, S.J.W**, Fox, E.L.B\*. A review of small hydropower performance and cost, *Renewable and Sustainable Energy Reviews*. 2022. Vol. 169, no. 112898. <https://doi.org/10.1016/j.rser.2022.112898>.
2. Stone, T., **Klein, S. J. W.** and McKeage, K. K., “Building Solar Capacity in Maine: The Greater Bangor Solarize Case Study,” *Maine Policy Review*, vol. 30, no. 1, pp. 31–44, 2021, doi: [10.53558/YIVW7942](https://doi.org/10.53558/YIVW7942).
3. **Klein, S.J.W.**, Hargreaves, A.°, Coffey, S\*. 2021. A financial benefit-cost analysis of different community solar approaches in the Northeastern US. *Solar Energy,* vol*.* 213 (January): 225–45. <https://doi.org/10.1016/j.solener.2020.11.031> (invited).
4. Roy, S., Uchida, E., De Sousa, S., Blachy°, B., Fox\*, E., Gardner, K., **Klein, S.J.W.**, Zydlewski, J., 2018, Damming decisions: A multi-scale approach to balance trade-offs among dam infrastructure, river restoration, and cost. *Proceedings of the National Academy of Sciences*, vol. 115, no.47, pp. 12069-12074, www.pnas.org/cgi/doi/10.1073/pnas.1807437115.
5. Song\*, C., Gardner, K., **Klein, S.J.W.**, Pereira Souza, S., & Mo, W., 2018, Cradle-to-grave greenhouse gas emissions from dams in the United States of America. *Renewable and Sustainable Energy Reviews,* vol. 90, pp.945-956.
6. Gunukula, S., **Klein, S.J.W.**, Pendse, H., DeSisto, W., & Wheeler, M., 2018, Techno-economic analysis of thermal deoxygenation based biorefineries for the coproduction of fuels and chemicals. *Applied Energy,* vol. 214, pp.16-23.
7. **Klein**, S.J.W, Noblet, C.L., 2017, Exploring Sustainable Energy Economics: Net Metering, Rate Designs and Consumer Behavior, *Curr Sustainable Renewable Energy Rep*, vol. 4, no. 2, pp. 23–32.
8. Whalley\*, S., **Klein, S.J.W.**, Benjamin, J., 2017, Economic analysis of woody biomass supply chain in Maine, *Biomass & Bioenergy*, vol. 96, pp. 38–49.
9. **Klein**, **S.J.W**., Coffey\*, S., 2016, Building a sustainable energy future, one community at a time, *Renewable and Sustainable Energy Reviews*, vol. 60, pp. 867–880, doi: 10.1016/j.rser.2016.01.129.
10. Rubin, J., Neupane\*, B., Whalley\*, **S.,** **Klein**, S., 2015. Woody Biomass Supply, Economics, and Biofuel Policy. *Transportation Research Record: Journal of the Transportation Research Board 2502*, 108–115. doi:10.3141/2502-13.
11. **Klein, S.J.W.**, Whalley\*, S., 2015, Comparing the sustainability of U.S. electricity options through multi-criteria decision analysis (MCDA), *Energy Policy*, *79,* 127-149.
12. Anderson, M., Teisl, M., Noblet, C., **Klein, S**., 2014, The incompatibility of benefit-cost analysis with sustainability science, *Sustainability Science*, September, 1-9. doi:10.1007/s11625-014-0266-4.
13. **Wagner, S**., Rubin, E., 2014, Economic implications of thermal energy storage for concentrated solar thermal power, *Renewable Energy, 61C,* 81-95, http://dx.doi.org.prxy4.ursus.maine.edu/10.1016/j. 545 renene.2012.08.013.
14. Teisl, M.F., McCoy, S., Marrinan\*, S., Noblet, C.L., Johnson, T., Wibberly\*, M., Roper, R., and **Klein, S.** 2014, Will offshore energy face ‘fair winds and following seas’?: Understanding the factors influencing offshore wind acceptance. *Estuaries and Coasts.* published online February 6, 2014, DOI 10.1007/s12237-014-9777-6.
15. **Klein**, **S.J.W**. 2013, A multi-criteria decision analysis of concentrated solar power with thermal energy storage and dry cooling, *Environmental Science & Technology*, *47*, 13925-13933, http://dx.doi.org/10.1021/es403553u.
16. **Klein**, **S.J.W.**, Rubin, E.S. 2013, Life cycle assessment of greenhouse gas emissions, water and land use for concentrated solar power plants with different energy backup systems, *Energy Policy*, *63*, 935-950*,* DOI: 10.1016/j.enpol.2013.08.057.

**Journal Articles in Preparation**

1. Fox\*, E., **Klein, S.J.W**., Group participatory multi-criteria decision analysis (MCDA) in a dam decision context.
2. **Klein**, **S.J.W.**, Mistro\*, D. Energy savings and participant benefits from community-built window inserts.

**Chapters in Books/Conference Papers**

*(†peer-reviewed)*

1. Van Tulder\*, F., **Klein, S.**, & Morgan, E., California, USA - Consumer co-ownership in renewables. In *Energy Transition: Financing consumer ownership in renewables" – 18 country studies and a comparative analysis*. J. Lowitzsch, Ed. Palgrave Macmillan. 2019 doi: [10.1007/978-3-319-93518-8](https://doi.org/10.1007/978-3-319-93518-8) (**INVITED**)
2. *†***Klein, S.J.W**. and Coffey\*, S., 2017, United States Community Energy. *Handbook on Energy Transition and Participation* Springer VS, Wiesbaden; Lars Holstenkamp and Jörg Radtke, editors. *ISBN: 9783658094157*. **(INVITED)**
3. **Klein, S.J.W.**, Mistro\*, D., 2016 Community energy for a sustainable future: window insert builds in Maine. Second International Sustainable Consumption Research and Action Initiative (SCORAI) Conference “Transitions Beyond a Consumer Society”, June 15-17, 2016, Wells Conference Center, University of Maine, Orono, ME.
4. *†*Rubin, J., Neupane\*, B., Whalley\*, S., and **Klein, S**., 2015, Woody Biomass Supply, Economics, Biofuel Policy: Maine and Northeastern Forests, Transportation Research Board 2015 Annual Meeting, Washington D.C., January 11-15, 2015.
5. *†***Wagner**, **S.**, Rubin, E., 2012. Evaluating renewable energy systems along the hybrid spectrum: concentrated solar power, *International Conference on Clean Energy (ICCE).* Quebec, Canada.

## Published Abstracts

*(†peer-reviewed)*

1. *†***Klein, S.J.W.**, Neptune, S., Lamb°, J., O’Flaherty°, M., Understanding equity and justice in community solar, 51st American Solar Energy Society conference – SOLAR 2022: Energy Transition with Economic Justice, Albuquerque, New Mexico, June 20-25, 2022.
2. *†***Klein, S.J.W.**, Hargreaves°, A., Coffey\*, S., The economics of different community solar farm approaches, Western Economic Association International (WEAI) 96th Annual Conference (virtual due to COVID-19), June 27-July 1, 2021.
3. *†***Klein, S.J.W.**, Fox\*, E., Roy, S., Winslow, W., Making decisions about dams: new software and process for supporting group negotiations, 21st International Conference on Group Decision and Negotiation (virtual due to COVID-19), June 6-10, 2021.
4. *†***Klein, S.J.W.**, Fox\*, E., Roy, S., Winslow, W., Participatory dam decision support. Maine Sustainability & Water Conference (virtual due to COVID-19), April 1, 2021.
5. *†***Klein, S.J.W.**, Fox\*, E., McGreavy, B., Quiring\*, T., How did the dam meeting go? A collaborative approach to evaluating dam decision making processes. Maine Sustainability & Water Conference (virtual due to COVID-19), March 31, 2021.
6. *†***Klein, S.J.W.**, [Is community solar good for communities?](https://vimeo.com/524440577) Senator George J. Mitchell Center for Sustainability Solutions Spring Sustainability Talk Series (virtual due to COVID-19), March 15, 2021.
7. *†*Quiring\*, T., Ashcraft, C., McGreavy, B., Leuchanka\*, N., Fox\*, E., **Klein, S.J.W**., Gottschalk-Druschke, C., Lundberg\*, E., Vogler, E., Fultineer, S., Blachly\*, B., Uchida, E., Vogel, S., Roy, S., Wilson, K., Jansujwicz, J., Benson°, Brawley, Raffier°, K., Gardner, K., Hart, D., Shared interview protocol development for cross-disciplinary collaboration: A report from the trenches. American Association of Geographers Annual Meeting, Washington, D.C., April 7, 2019.
8. *†*Fox\*, E., **Klein, S.J.W**., A multi-criteria decision analysis (MCDA) tool for dam decisions involving hydropower. American Association of Geographers Annual Meeting, Washington, D.C., April 7, 2019.
9. *†*Fox\*, E., **Klein, S.J.W**., Barriers, opportunities: small-scale hydropower in Maine. American Association of Geographers Annual Meeting, New Orleans, Louisiana, April 11, 2018.
10. *†***Klein, S.J.W.**, Nittel, S., Stinson°, K., Noblet, C., Isenhour, C., Coffey\*, S., Communities taking solar into their own hands: a social science look at the growing community solar movement. American Solar Energy Society SOLAR 2017 Conference, Denver, Colorado, October 9-12, 2017.
11. *†*Roy, S., McGreavy, B., Quiring\*, T., Uchida, E., Wilson, K.A., **Klein, S.,** Fox\*, E., Zydlewski, J., Jansujwicz, J., deSouza, S., Hart, D., Gardner, K., Opportunities for resilient communities, ecosystems, and infrastructure by optimizing management of New England dams. Resilience Conference, Stockholm, Sweden, August 20-23, 2017, <http://media.resilience2017.org/2017/08/Resilience-2017_Final-pdf-program.pdf>.
12. *†*McGreavy, B., Quiring\*, T., Roy, S., Wilson, K.A., deSouza, S., Hart, D., Gardner, K., Gottschalk Druschke, C., Ashcraft, C.A., Fultineer, S., Jansujwicz, J., **Klein, S.,** Mo, W., Vogler, E., Gold, A., Uchida, E. How do we decide what to do with dams? Dynamic Design Planning (DDP) to shape collaboration for sustainability science. Resilience Conference, Stockholm, Sweden, August 20-23, 2017, <http://media.resilience2017.org/2017/08/Resilience-2017_Final-pdf-program.pdf>.
13. *†*Song\*, C., Mo, W., Gardner, K., **Klein, S.J.W**., Pereira Souza, S., Understanding the Cradle-to-Grave Greenhouse Gas Emissions of Dams, Association of Environmental Engineers and Science Professors (AEESP) Research and Education Conference, University of Michigan, Ann Arbor, Michigan, June 21-22, 2017, <https://aeesp2017.com/program_list.php?sid=S20#a491>.
14. *†*Mistro\*, D., **Klein, S.J.W**., Window Inserts and the Communities Adopting Them, Canadian Economics Association 2017 Conference, St. Francis Xavier University, Nova Scotia, Canada, June 2, 2017, <https://economics.ca/2017/en/program.php>.
15. *†***Klein, S.J.W**., What are the financial and social costs and benefits of different community solar approaches? Behavior, Energy, and Climate Change Conference (BECC), Baltimore, Maryland, October 20-22, 2016, <http://beccconference.org/wp-content/uploads/2016/09/2016-BECC-Abstracts_Alpha-by-Last-Name.pdf>.
16. *†*Langton\*, R., **Klein, S.** Biofuels from Trees: A New Process to Produce Drop-in Biofuels from Woody Biomass, International Conference on Environment and Renewable Energy. Sheraton Munich Westpark Hotel. Munich, Germany, May 26, 2016, <http://energy.conference-site.com/archive/2016/proceedings/proceedings_ICERE_2016.pdf>.
17. *†*Langton\*, R., **Klein, S**. Biofuels from Trees: A New Process to Produce Drop-in Biofuels from Woody Biomass. Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016, <https://umaine.edu/mitchellcenter/news/maine-water-conference/2016-maine-sustainability-water-conference/2016-concurrent-sessions/#energy>.
18. *†*Coffey\*, S., **Klein, S**. Does Community Solar Have a Future in New England? Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016, <https://umaine.edu/mitchellcenter/news/maine-water-conference/2016-maine-sustainability-water-conference/2016-concurrent-sessions/#energy>.
19. *†***Klein, S**. Renewable Energy Solutions. 33rd United States Association for Energy Economics/IAEE North American Conference, Pittsburgh, PA, <http://www.usaee.org/usaee2015/program_concurrent.aspx>, October 25-28, 2015.
20. *†*Neupane\*, B., **Klein, S**., Wheeler, C., Rubin, J., Life Cycle Energy and Greenhouse Gases Emissions Assessment of Forest-based Drop-in Biofuel Production in Maine. American Center for Life Cycle Assessment Annual Meeting XV, Vancouver, British Columbia, October 6-8, 2015, <http://www.aclca.org/lca-xv/biofuels-3/>.
21. *†*Whalley\*, S., Neupane\*, B., **Klein, S**., Rubin, J., Sustainability Assessment of Drop-In Biofuels in Maine. 20th Maine Sustainability & Water Conference. Augusta Civic Center, Augusta, Maine, April 1, 2014, <https://umaine.edu/mitchellcenter/mwc-2014/concurrent-sessions/session-g/#whalley>.

**Research Reports, Technical Papers, Websites**

1. **Klein, S.J.W.**, Estimated Window Insert Energy & Emissions Savings from Maine Campus Compact Program. *Technical Report*, January 14, 2022.
2. **Klein, S.J.W.**, Estimated Window Insert Energy & Emissions Savings from Maine Campus Compact Program. *Technical Report*, August 20, 2020.
3. **Klein, S**., Fox, E., Roy, S., Winslow, W., Dam Decision Support Tool. Interactive Model: <http://dams-mcda.gsscdev.com/login/>, May 1, 2020.
4. **Klein, S**., Fox, E., Roy, S., Winslow, W., Dam Decision Toolbox: Resources for Participatory Dam Decision Support. Website: <http://ddc-dam-toolbox.sr.unh.edu/about/project_description/>, May 1, 2020.
5. **Klein, S.** Summary MCC Window Insert Energy & Emissions Savings. *Technical Report*, October 15, 2019.
6. **Klein, S.**, Coffey\*, S., Nittel, S., Stinson*§*, S., US Community Energy Website, published online April 2017, https://www.communityenergyus.net.
7. **Klein, S.** Report on Gender Income Disparity in Maine. Prepared for Maine Development Foundation. April 2016.
8. **Klein, S.**, Criner, G., Allen, T., Mid-Coast Solid Waste Corp Landfill Project Phase 2 Report. *Technical Report*, November 13, 2013.
9. Whalley\*, S., Neupane\*, B., **Klein, S.**, Rubin, J., Woody Biomass Supply in Maine, *Technical Report.* June 2, 2013.
10. Criner, G., **Klein, S.**, Allen, T., Leighton\*, R., Mid-Coast Solid Waste Corp Landfill Project Phase 1 Report, *Technical Report*. September 24, 2013.

**Popular Media Publications**

1. Dickerson, K., **Klein, S.**, A conversation with Sharon Klein, who is an Associate Professor at the University of Maine. Maine Science Festival Podcast, <https://maine-science-podcast.simplecast.com/episodes>. September 17, 2020.
2. **Klein, S**. “5 myths people hold about solar power in Maine.” Bangor Daily News [Online] April 28, 2016 Published: http://bangordailynews.com/2016/04/28/opinion /5-myths-people-hold-about-solar-power-in-maine/.
3. Neiman, E., **Klein**, **S**. “One site ranks Maine 4th best for women, but there’s more to the story | BDN Maine.” Bangor Daily News [Online] April 1, 2016 Published: http://bangordailynews.com/2016/04/01/the-point/one-site-ranks-maine-4th-best-for-women-but-theres-more-to-the-story/.
4. **Wagner, S.**, Serving the United States Through AmeriCorps, White House Champions of Change Blog, August 17, 2012, http://www.whitehouse.gov/champions/blog?page=12.

**RESEARCH GRANTS**

### Awarded Research Grants

### *(Total: $ 4,108,966)*

1. *Addressing Energy Justice through Community Energy*. Principal Investigator: **S. Klein** (100%). Sponsor: University of Maine Senator George J. Mitchell Center for Sustainability Solutions. Amount: **$25,632**. April 2021-June 2022.
2. Improving virtual networking for Mitchell Center members, students, and stakeholders. Principal Investigator: **S. Klein** (100%). Sponsor: University of Maine Senator George J. Mitchell Center for Sustainability Solutions. Amount: **$3,372**. April 2021-June 2021.
3. *Addressing the mess: developing evaluative methods for group participatory decision support in riverine systems*. Principal Investigators: **S. Klein** (60%), B. McGreavy, A. Strong. Sponsor: US Geological Survey 104b Water Resources Sustainability Research Grant. Amount: **$32,477**. July 2018-June 2019.
4. *Advancing Renewable Energy and Energy Efficiency in Maine.* PrincipalInvestigator: **S. Klein**. Sponsor: USDA National Institute of Food and Agriculture. Hatch-1013178, Project Dates: October 1, 2017-September 30, 2022.
5. *Building models for hydropower production analysis and stakeholder MCDA decision support.* Principal Investigator: K. Raffier (student). Faculty Advisor: **S. Klein**. Sponsor: University of Maine Center for Undergraduate Research. May 2017-April 2018. Amount: **$3,000**.
6. *Stakeholder-Engaged Hydropower Decision-Making*, Principal Investigator: **S. Klein**. Sponsor: University of Maine Research Reinvestment Fund. June 2017-May 2018. Amount: **$7,000**.
7. *Travel Support to Present at Behavior, Energy and Climate Change Conference (BECC),* Principal Investigator: **S. Klein**. Sponsors: Bangor Savings Bank Faculty Development Fund, Lyndon Paul LoRusso Memorial Faculty Development Fund. October 2016. Amount: **$1,500**.
8. *Community‐Based Sustainable Energy Solutions*, Principal Investigator: **S. Klein**. Sponsor: Senator George J. Mitchell Center for Sustainability Solutions, University of Maine. July 2016-June 2017. Amount: **$49,971**.
9. *Mandela Washington Fellowship Public Management Institute*, Principal Investigators: J. Hecker, C. Kim, D. Dixon, J. Rubin. Senior Personnel: **S. Klein**, others. Sponsor: IREX and US Department of State. June-August 2016. Amount: **$145,000**.
10. *RII Track-2 FEC: Strengthening the scientific basis for decision-making about dams: Multi-scale, coupled-systems research on ecological, social, and economic trade-offs*, Principal Investigators: D. Hart, J. Zydlewski, B. Mcgreavy, **S. Klein**, S. Smith. Sponsor: National Science Foundation EPSCoR. September 2015-August 2020. Amount: **$1,800,000**.
11. *Community‐Based Sustainable Energy Solutions*, Principal Investigator: **S. Klein**. Sponsor: Senator George J. Mitchell Center for Sustainability Solutions, University of Maine. July 2015-June 2016. Amount: **$49,939**.
12. *Campuses for Environmental Stewardship*, Principal Investigators: C. Sullivan, D. Dixon, **S. Klein**, C. Isenhour, S. De Urioste-Stone, B. McGreavy. Sponsor: Campus Compact Coalition. April 2015-May 2016. Amount: **$4,000**.
13. *NSF CAREER Grant Development,* Principal Investigator: **S. Klein**. Sponsor: Margaret Chase Smith Policy Center. June 2015. Amount: **$4,000**.
14. *NSF CAREER Grant Writing Workshop,* Principal Investigator: **S. Klein**. Sponsor: ADVANCE Rising Tide Center. June 2015. Amount: **$6,148**.
15. *Mid-Coast Solid Waste Landfill Project Phase II*, Principal Investigators: **S. Klein** and G. Criner. Sponsor: Mid-Coast Solid Waste Corporation. August 2013 - June 2014. Amount: **$17,330**.
16. *Pretenure Research and Creativity Fellowship*, Principal Investigator: **S. Klein**. Sponsor: PRE-VUE grant supported by President’s Office University of Maine. 2013-2014. Amount: **$24,914**.
17. *Mid-Coast Solid Waste Landfill Project*, Principal Investigators: **S. Klein** and G. Criner. Sponsor: Mid-Coast Solid Waste Corporation. January-June 2013. Amount: **$17,330**.
18. *SEP Integrated National Framework for Cellulosic Drop In Fuels*, Principal Investigators: H. Pendse, J. Rubin, L. Silka, C. Wheeler, I. Fernandez; Senior Personnel: **Sharon Klein**, along with eight others. Sponsor: National Science Foundation – Sustainable Energy Pathways. 2012-2016, extended to 2017. Amount: **$1,895,523**.
19. *Renewable Energy in Maine.* PrincipalInvestigator: **S. Klein**. Sponsor: USDA National Institute of Food and Agriculture, 230040 [Maine Agricultural and Forest Experiment Station ME0-H-3-00526-13]. Project Dates: October 1, 2012-September 30, 2017.
20. *Assessment of the economic, environmental, and social implications of solar water heating in Maine*, Principal Investigator: **S. Klein**. Sponsor: Faculty Research Funds Committee, University of Maine. July 2012. Amount: **$7,500**.

**PROFESSIONAL PRESENTATIONS** (since 2011)

*NOTE: I changed my last name from Wagner to Klein in January 2013*

*Presenter in* ***bold***

*\*Graduate student coauthor*

*§Undergraduate student coauthor*

*‡High school student coauthor*

*†peer-reviewed*

**Presentations at Professional Conferences and Meetings**

*NOTE: includes Conference Papers and Published Abstracts listed above, presenter in bold*

1. *†***Klein, S.J.W.**, Neptune, S., Lamb*§*, J., O'Flaherty*§*, M., Understanding equity and access in community solar, American Solar Energy Society SOLAR 2022: Energy Transition with Economic Justice, Albuquerque, New Mexico, June 20-25, 2022.
2. *†***Crosier***§*, **W.**, Klein, S.J.W., Local Energy Action Network, UMaine Student Symposium, University of Maine, April 15, 2022.
3. *†***Lamb***§*, **J.**, Klein, S.J.W., Promoting Health for Passamaquoddy Tribal Members through Alternative Energy Solutions, UMaine Student Symposium, University of Maine, April 15, 2022.
4. *†***Lamb***§*, **J.**, **O'Flaherty***§*, **M.**, Klein, S.J.W., Neptune, S., Addressing Energy Justice for Wabanaki Communities through Community Energy, Maine Sustainability & Water Conference, Augusta Civic Center, Augusta Maine, March 31, 2022.
5. **Klein, S.J.W.**, Community Solar in Maine, A Climate To Thrive Climate Change Solutions Education Series: Community Solar, Community Equity, December 2, 2021 (Virtual: Zoom).
6. **Lamb***§***, J.**, Klein, S.J.W., Promoting Health for Sipayik through Alternative Energy Solutions, Senator George J. Mitchell Center for Sustainability Solutions Sustainability Lightning Talks, University of Maine, November 15, 2021.
7. *†***Klein, S.J.W.**, Hargreaves°, A., Coffey\*, S., Oral Presentation and Discussant, The economics of different community solar farm approaches, Western Economic Association International (WEAI) 96th Annual Conference (virtual due to COVID-19), June 30, 2021.
8. *†***Klein, S.J.W.**, Fox\*, E., Roy, S., Winslow, W., Making decisions about dams: new software and process for supporting group negotiations, 21st International Conference on Group Decision and Negotiation (virtual due to COVID-19), June 9, 2021.
9. **Klein, S.J.W.**, Goals of Committee on Energy Equity and Justice, University Energy Institute Collaborative Annual Summit, September 9, 2021 (virtual due to COVID-19).
10. **Klein, S.J.W.**, Engaging Students and the Community in Energy Action, Campuses for Environmental Stewardship 2021 Summit, Maine Campus Compact, May 19, 2021 (virtual due to COVID-19).
11. **Klein, S.J.W.**, A Semi-Synchronous Online Project-Based Course with Enhanced Student Flexibility, Flipping Forward: Re-Prioritizing Our Courses for Engagement, Center for Innovation in Teaching and Learning’s 2021 Teaching Showcase: “Lessons Learned from the Pandemic”, May 11, 2021 (virtual due to COVID-19).
12. *†***Klein, S.J.W.**, Fox\*, E., Roy, S., Winslow, W., Participatory dam decision support. Maine Sustainability & Water Conference (virtual due to COVID-19), April 1, 2021.
13. *†***Klein, S.J.W.**, Fox\*, E., McGreavy, B., Quiring\*, T., How did the dam meeting go? A collaborative approach to evaluating dam decision making processes. Maine Sustainability & Water Conference (virtual due to COVID-19), March 31, 2021.
14. **Klein, S.J.W.**, [Is community solar good for communities?](https://vimeo.com/524440577) Senator George J. Mitchell Center for Sustainability Solutions Spring Sustainability Talk Series (virtual due to COVID-19), March 15, 2021.
15. *†***Quiring\*, T.**, Ashcraft, C., McGreavy, B., Leuchanka\*, N., Fox\*, E., **Klein, S.J.W**., Gottschalk-Druschke, C., Lundberg\*, E., Vogler, E., Fultineer, S., Blachly\*, B., Uchida, E., Vogel, S., Roy, S., Wilson, K., Jansujwicz, J., Benson°, Brawley, Raffier°, K., Gardner, K., Hart, D., Shared interview protocol development for cross-disciplinary collaboration: A report from the trenches. American Association of Geographers Annual Meeting, Washington, D.C., April 7, 2019.
16. *†***Fox\*, E.**, Klein, S.J.W., A multi-criteria decision analysis (MCDA) tool for dam decisions involving hydropower. American Association of Geographers Annual Meeting, Washington, D.C., April 7, 2019.
17. **Klein, S.J.W.**, Fox\*, E., Roy, S., McGreavy, B., Quiring\*, T., Dam Decision Support Workshop, University of Maine, Orono, Maine, October 3, 2019.
18. **Fox\*, E.**,Klein, S., Free the Rivers? A Transdisciplinary Approach to River Resource Management Decision Support for Small Hydropower Dams. Paper presentation. University of Groningen Energy Summer School. Groningen, The Netherlands. July 12-20, 2018.
19. **Fox\*, E.**, **Klein, S., Roy, S.**, Participatory Multi-Criteria Decision Analysis Mock-Workshop. Oral presentation and workshop facilitation. University of Maine, Orono, Maine. June 4, 2018.
20. **Fox\*, E.**,Klein, S., 'Recycling' and Rethinking: Dams as Renewable Energy Investments in Maine. Poster Presentation. Maine Economics Conference. University of Maine, Orono, Maine. April 28, 2018.
21. **Manzo***§***, K.**, Nittel, S., Klein, S., Connecting to Begin a Community Energy Project. Poster Presentation. University of Maine Student Symposium, Orono, Maine. April 17, 2018.
22. *†***Fox\*, E.**,Klein, S. Barriers, Opportunities: Small-Scale Hydropower in Maine. Paper presentation. American Association of Geographers Conference. New Orleans, LA. April 10-14, 2018.
23. *†***Fox\*, E.**,Klein, S. Small Hydropower in Maine. Panel discussion. American Association of Geographers Conference. New Orleans, LA. April 10-14, 2018.
24. *†***Fox\*, E.**,Raffier*§*, K.,Klein, S., Dam Case Studies: Setting the Stage for Participatory Multi-Criteria Decision Analysis. Poster Presentation. Maine Sustainability and Water Conference. Augusta Civic Center, Augusta, Maine. March 29, 2018.
25. *†***Raffier*§*, K.**, Quiring\*, T., Klein, S., Fox\*, E., McGreavy, B., Using Mixed-Method Media Discourse Content Analysis to Inform Multi Criteria Decision Analysis about Dams. Poster Presentation. Maine Sustainability and Water Conference. Augusta Civic Center, Augusta, Maine. March 29, 2018.
26. **Klein, S.**, The Many Sciences of Solar Energy. Oral Presentation. Maine Science Festival 5-min Genius. Bangor, Maine. March 16, 2018.
27. **Raffier*§*, K.**, Klein, S., Analysis of Dams through Fact Sheet Creation to Aid in Future Dam Decision Making, Oral Presentation. Senator George J. Mitchell Center for Sustainability Solutions Lightning Talks. Orono, Maine. November 13, 2017.
28. *†***Klein, S.J.W.**, Nittel, S., Stinson*§*, K., Noblet, C.L., Isenhour, C., Coffey\*, S., Oral Presentation. Communities taking solar into their own hands: a social science look at the growing community solar movement, American Solar Energy Society’s 46th National Solar Conference, University of Colorado, Denver, Colorado, October 9-12, 2017.
29. *†***Raymond\*, G.,** Klein, S.J.W., Poster Presentation. Using Multi-Criteria Decision Analysis to Compare Fuel Production Processes, International Conference & Exhibition on Clean Energy (ICCE), Toronto, Canada, August 21-23, 2017, <http://icce2017.iaemm.com/documents/ICCE2017ProgramDetail.pdf>.
30. *†***Roy, S.**, McGreavy, B., Quiring\*, T., Uchida, E., Wilson, K.A., Klein, S., Fox\*, E., Zydlewski, J., Jansujwicz, J., deSouza, S., Hart, D., Gardner, K., Poster Presentation. Opportunities for resilient communities, ecosystems, and infrastructure by optimizing management of New England dams. Resilience Conference, Stockholm, Sweden, August 20-23, 2017, <http://media.resilience2017.org/2017/08/Resilience-2017_Final-pdf-program.pdf>.
31. *†***McGreavy, B.**, Quiring\*, T., Roy, S., Wilson, K.A., deSouza, S., Hart, D., Gardner, K., Gottschalk Druschke, C., Ashcraft, C.A., Fultineer, S., Jansujwicz, J., Klein, S., Mo, W., Vogler, E., Gold, A., Uchida, E. Oral Presentation. How do we decide what to do with dams? Dynamic Design Planning (DDP) to shape collaboration for sustainability science. Resilience Conference, Stockholm, Sweden, August 20-23, 2017, <http://media.resilience2017.org/2017/08/Resilience-2017_Final-pdf-program.pdf>.
32. *†***Song\*, C**., Mo, W., Gardner, K., Klein, S.J.W., Pereira Souza, S., Oral Presentation. Understanding the Cradle-to-Grave Greenhouse Gas Emissions of Dams, Association of Environmental Engineers and Science Professors (AEESP) Research and Education Conference, University of Michigan, Ann Arbor, Michigan, June 21-22, 2017, <https://aeesp2017.com/program_list.php?sid=S20#a491>.
33. *†***Mistro\*, D.,** Klein, S.J.W., Oral Presentation. Window Inserts and the Communities Adopting Them, Canadian Economics Association 2017 Conference, St. Francis Xavier University, Nova Scotia, Canada, June 2, 2017, <https://economics.ca/2017/en/program.php>.
34. *†***Fox\*, E.**, Klein, S.J.W., Raffier*§*, K., Poster Presentation. Participatory Group MCDA in a Dam Decision Context, Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 30, 2017.
35. *†***Moreira, A***‡***,** Klein, S.J.W., Mistro\*, D. Poster Presentation. A Review of the Costs of Solar Policy to Society and Utility Rate Payers, Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 30, 2017, <https://umaine.edu/mitchellcenter/2017-conference/poster-session/>.
36. *†***Raffier***§***, K.,** Klein, S.J.W., Fox\*, E. Poster Presentation. Analysis of Dams through Fact Sheet Creation to Aid in Future Dam Decision-Making, Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 30, 2017.
37. **Klein, S.J.W**, Oral Presentation (**Invited**). The Power of the People: socio-economic dimensions of community-based energy initiatives in the United States, Conference on the Practical Engagements and the Social-Spatial Dimensions of the Post-Petroleum Future, Le Studium, Tours, France, November 7-9, 2016.
38. *†***Klein**, **S.J.W**., Oral Presentation. What are the financial and social costs and benefits of different community solar approaches? Behavior, Energy, and Climate Change Conference (BECC), Baltimore, Maryland, October 20-22, 2016, <http://beccconference.org/wp-content/uploads/2016/09/2016-BECC-Abstracts_Alpha-by-Last-Name.pdf>.
39. *†***Silka, L**., Sullivan, C., Blais, J., de Urioste-Stone, S. Dixon, D., Hart, D., Isenhour, C., Klein, S., McGreavy, B., Oral Presentation. How to inspire students, energize faculty and serve your community. 17th Annual Engagement Scholarship Consortium Conference, University of Nebraska, Omaha, Nebraska, October 12, 2016, <https://engagementscholarship.org/conference/past-conferences/esc-2016-meeting/schedule>.
40. *†***Klein, S.J.W.**, Coffey\*, S. Oral Presentation. A comparison of community solar policy incentives in three New England states. Northeastern Agricultural and Resource Economics Association (NAREA) Annual Meeting, Bar Harbor Regency, Bar Harbor, Maine, June 19-21, 2016, <http://www.narea.org/2016/conference/NAREA_2016_Detailed_Program_J1.pdf>.
41. *†***Klein**, **S.J.W.**, Mistro\*, D. Oral Presentation. Community energy for a sustainable future: window insert builds in Maine. Second International Sustainable Consumption Research and Action Initiative (SCORAI) Conference “Transitions Beyond a Consumer Society”, Wells Conference Center, University of Maine, Orono, Maine, June 15-17, 2016, <http://www.confmanager.com//communities/c2865/files/ConferenceProgram_FINAL.pdf>.
42. **Klein**, **S.J.W**., Greco, V. Oral Presentation (**Invited**). Community solar decision support tool. National Community Solar Partnership Regional Workshop, US Environmental Protection Agency Region 1 Headquarters, Boston, MA, June 9, 2016.
43. *†***Langton\*, R**., Klein, S. Oral Presentation. Biofuels from Trees: A New Process to Produce Drop-in Biofuels from Woody Biomass, International Conference on Environment and Renewable Energy. Sheraton Munich Westpark Hotel. Munich, Germany, May 26, 2016, <http://energy.conference-site.com/archive/2016/proceedings/proceedings_ICERE_2016.pdf>.
44. *†***Mistro\***, **D.**, Klein, S. Poster Presentation. Window Inserts and the Communities Adopting Them. Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016.
45. *†***Langton\***, **R.**, Klein, S. Oral Presentation. Biofuels from Trees: A New Process to Produce Drop-in Biofuels from Woody Biomass. Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016, <https://umaine.edu/mitchellcenter/news/maine-water-conference/2016-maine-sustainability-water-conference/2016-concurrent-sessions/#energy>.
46. *†***Coffey\***, **S.**, Klein, S. Oral Presentation. Does Community Solar Have a Future in New England? Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016, <https://umaine.edu/mitchellcenter/news/maine-water-conference/2016-maine-sustainability-water-conference/2016-concurrent-sessions/#energy>.
47. *†***Klein**, **S.** Oral Presentation. Renewable Energy Solutions. 33rd United States Association for Energy Economics/IAEE North American Conference, Pittsburgh, PA, <http://www.usaee.org/usaee2015/program_concurrent.aspx>, October 25-28, 2015.
48. *†***Neupane\***, **B.**, Klein, S., Wheeler, C., Rubin, J., Oral Presentation. Life Cycle Energy and Greenhouse Gases Emissions Assessment of Forest-based Drop-in Biofuel Production in Maine. American Center for Life Cycle Assessment Annual Meeting XV, Vancouver, British Columbia, October 6-8, 2015, <http://www.aclca.org/lca-xv/biofuels-3/>.
49. *†***Dutra\*, S.**, Klein, S., Poster Presentation. Economic Feasibility of Distributed Solar Water Heat in Maine. Maine Economics Conference, Colby College, Waterville, Maine, April 26, 2014, <http://www.colby.edu/econ/2014/04/02/2014-maine-economics-conference-student-researchers/>.
50. *†***Whalley\***, **S.**, Neupane\*, B., Klein, S., Rubin, J., Oral Presentation. Sustainability Assessment of Drop-In Biofuels in Maine. 20th Maine Sustainability & Water Conference. Augusta Civic Center, Augusta, Maine, April 1, 2014, <https://umaine.edu/mitchellcenter/mwc-2014/concurrent-sessions/session-g/#whalley>.
51. **Pendse**, **H.**, **Klein, S**., (**Invited**) Poster Presentation. Integrated national framework for cellulosic drop-in fuels. National Science Foundation Sustainable Energy Pathways Meeting, Westin Arlington Gateway, Arlington, Virginia, June 6, 2013.
52. *†*Teisl, M., McCoy, S., **Marrinan\***, **S.**, Noblet, C., Johnson, T., Wibberly\*, M., Roper, R., Klein, S., Oral Presentation. Will offshore energy face fair winds and following seas?: Understanding what influences offshore wind acceptance. Maine Economics Conference, Bates College, April 27, 2013, <http://www.bates.edu/economics/files/2013/04/Maine-Economics-Conference.pdf>.
53. **Wagner**, **S**., Oral Presentation (**Invited**). Energy-related solutions to climate change. Maine EPSCoR Conference, Breakout Session 3A “Research Frontiers in Sustainability”, University of Maine, Orono, Maine, September 26, 2011.

**Invited Presentations**

*NOTE: includes some professional conferences/meetings from the previous list*

1. **Neptune, S.,** Klein, S.J.W**.**, Lamb, J., O’Flaherty, M. Panelist. Planning and Community Engagement – Engaging Your Community Session, Communities Leading on Climate: A Day of Inspiration, Collaboration & Action Hosted by the Maine Climate Council, June 17, 2022, Augusta Civic Center, Augusta, Maine.
2. **Klein, S.J.W.**, Oral Presentation. Community Solar in Maine, A Climate To Thrive Climate Change Solutions Education Series: Community Solar, Community Equity, December 2, 2021 (Virtual: Zoom).
3. **Klein, S.J.W.**, Oral Presentation. Effective Mentoring for Sustainability Research, Senator George J. Mitchell Center for Sustainability Solutions Spring Semester Sustainability Talk, January 31, 2022.
4. **Klein, S.J.W.**, Oral Presentation. Fox, E.\*, Roy, S., Winslow, W., McGreavy, B., Quiring, T.\*, Decision Support for Local Sustainability Action, Lights Up: Sustainable Solar in New England, Soil and Water Conservation Society, Southern New England Chapter, December 3, 2020, University of Massachusetts, Amherst (Virtual: Zoom).
5. **Klein, S.J.W**, Guest Lecture. Introduction to Life Cycle Assessment, Senior Seminar for Chemical Engineering, University of Maine, November 23, 2020.
6. **Klein, S.J.W**, Oral Presentation. What is Solar Energy?, Ms. Tuttle’s Social Studies Class, Leonard Middle School, Old Town, Maine, November 20, 2020.
7. **Klein, S.J.W**, Oral Presentation. What is Solar Energy?, Ms. Zabierek’s Science Class, Leonard Middle School, Old Town, Maine, November 19, 2020.
8. **Klein, S.J.W**, Oral Presentation. Window Insert Energy & Emissions Savings, Windowdressers, Local Coordinator Webinar Series, November 17, 2020.
9. **Klein, S.J.W**., Fox\*, E., Raffier*§*, K., Roy, S., McGreavy, B., Quiring\*, T., Oral Presentation. Group Participatory Multi-Criteria Decision Analysis (MCDA) for Hydropower Dam Decision Support. American Association for the Advancement of Science Review of Future of Dams Project, University of Maine, Orono, Maine, November 5, 2019.
10. **Klein, S.J.W**., Fox\*, E., Oral Presentation. Dam Decision Support Tool for Small-to-Medium Scale Hydropower. National Oceanic and Atmospheric Administration, Annapolis, Maryland, September 11, 2019.
11. **Klein, S.J.W**., Oral Presentation. Engaging in Community Energy. Islesboro Energy Conference, Islesboro, Maine, September 7, 2019.
12. **Klein, S.J.W.**, Panelist. Sustainable Energy Economics. EnergyVision Forum, Augusta, Maine, December 7, 2018.
13. **Klein, S.J.W.**, Panelist. Promotion and Tenure Forum by Rising Tide Center. University of Maine, Orono, Maine, November 28, 2018.
14. **Klein, S.J.W.**, Panelist. Tenure and Promotion Panel for WiSTEMM Days. University of Maine, Orono, Maine, October 18, 2018.
15. **Klein, S.J.W.**, Panelist. Building Community Energy Solutions. Rockland Energy Forum, Town of Rockland, Maine, September 26, 2018.
16. **Kane, A.**, **Klein, S.J.W.**, MacLeod, L., Lapham, N., Merritt, J., Hakizimana, D. Oral Presentation. Thrive Aroostook 2030: Creating a Future to Live Into. University of Maine, Presque Isle, Maine, August 16, 2018.
17. **Klein, S.J.W.**, Oral Presentation. Building Community Energy Solutions: Window Inserts. Washburn Rotary Club Meeting, Washburn, Maine, August 15, 2018.
18. **Klein, S.J.W.**, Oral Presentation. Community Energy Action, Energy & Sustainability Fair, Orono, Maine, November 1, 2017.
19. **Klein, S.J.W.**, Panelist. Teaching Panel Discussion, University of Maine Faculty Orientation, Wells Conference Center, Orono, Maine, August 24, 2017.
20. **Klein, S.J.W**., Mistro\*, D., Oral Presentation. Window Insert Research, WindowDressers Annual Local Coordinators Meeting, St Francis of Assisi Church, Belfast, Maine, March 17, 2017.
21. **Klein, S.J.W**, Oral Presentation. The Power of the People: socio-economic dimensions of community-based energy initiatives in the United States, Conference on the Practical Engagements and the Social-Spatial Dimensions of the Post-Petroleum Future, Le Studium, Tours, France, November 7-9, 2016.
22. **Klein, S.J.W.**, Panelist. Teaching Panel Discussion, University of Maine Faculty Orientation, Wells Conference Center, Orono, Maine, August 25, 2016.
23. **Klein, S.J.W.**, Oral Presentation and Moderator. Economics of Solar in Maine, Bangor Solar Forum, Eastern Maine Community College, Bangor, Maine, June 28, 2016.
24. **Klein**, **S.J.W**., Greco, V. Oral Presentation. Community solar decision support tool. National Community Solar Partnership Regional Workshop, US Environmental Protection Agency Region 1 Headquarters, Boston, MA, June 9, 2016.
25. **Klein**, **S.** Oral Presentation. Update on a New Decision Support Tool for Diverse Community Solar Stakeholders, National Community Solar Partnership Community Building Working Group Monthly Webinar Series, April 12, 2016.
26. **Mistro\*, D., Klein, S., Brannigan***§***, J., Cormier***§***, N., Cushing***§***, T., Gillis***§***, O., Lemmler***§***, S., Masi***§***, M., Noble***§***, W., Peterson***§***, S., Sturrock***§***, E.** Oral Presentation. Window Insert Project. Campuses for Environmental Stewardship Presentations, Orono, Maine, December 10, 2015.
27. **Klein, S.,** Coffey\*, S. Oral Presentation. Community Solar: Harnessing the Power of the People. Mitchell Center for Sustainability Solutions Fall 2015 Seminar Series, Orono, Maine, <http://umaine.edu/mitchellcenter/news/multimedia/video-on-demand/#fall15>, November 30, 2015.
28. **Klein, S**., Oral Presentation. Multi-Criteria Decision Analysis. Future of Dams Kickoff Meeting, University of New Hampshire, November 20, 2015.
29. **Klein, S**., Oral Presentation. Multi-Criteria Decision Analysis. Future of Dams Knowledge Systems Meeting, webinar, November 13, 2015.
30. **Sullivan, C., Dixon, D**., Isenhour, C., DeUrioste-Stone, McGreavy, B., Klein, S. Oral Presentation. Where Service Learning Meets Sustainability: Connecting Classrooms with Communities for Stewardship and Civic Engagement. Mitchell Center for Sustainability Solutions Fall 2015 Seminar Series, Orono, Maine <http://umaine.edu/mitchellcenter/news/multimedia/video-on-demand/#fall15>, October 26, 2015.
31. **Klein, S.,** Rubin, J., Neupane\*, B., Langton\*, R., Whalley\*, S. Oral Presentation. Integrated Sustainability Assessment of Forest-based Drop-In Biofuel in Maine. FBRI Board Meeting, University of Maine, Orono, Maine, October 9, 2015.
32. **Klein, S.**, Oral Presentation. Comparing Sustainable Energy Tradeoffs. University of Massachusetts Mechanical and Industrial Engineering Seminar Series, Amherst, MA, <https://mie.umass.edu/event/comparing-sustainable-energy-tradeoffs>, September 21, 2015.
33. **Brannigan***§***, J.,** Klein, S., Oral Presentation. Building Sustainable Energy Communities. Old Town Rotary Club Meeting, Black Bear Inn, Orono, Maine, September 10, 2015.
34. **Klein, S.**, Oral Presentation. Solar Energy in Maine. Environment Maine Lighting the Way Press Event, University of Maine, Orono, Maine, September 3, 2015.
35. **Klein, S.**, Oral Presentation. Community Window Insert Build Fall 2015. Old Town Rotary Club Meeting, Black Bear Inn, Orono, Maine, May 21, 2015.
36. **Klein, S**., Oral Presentation. Community Solar Trends and Opportunities, Solar Powering Your Community Workshop, Bangor, Maine, May 2, 2015.
37. **Klein**, S.Oral Presentation. Climate Change Solutions: Carbon Pricing and Community Energy, Earth Week Seminar, University of Maine, Orono, Maine, April 20, 2015.
38. **Klein, S.**, Criner, G., Allen, T., Oral Presentation. Jacobs Quarry Development: Economic Analysis Phase 2. Mid-Coast Solid Waste Corporation Meeting. Rockport Town Hall, Rockport, Maine, November 13, 2013.
39. **Pendse**, **H.**, **Klein, S**., Poster Presentation. Integrated national framework for cellulosic drop-in fuels. National Science Foundation Sustainable Energy Pathways Meeting, Westin Arlington Gateway, Arlington, Virginia, June 6, 2013.
40. **Criner**, **G.**, Klein, S., Allen, T., Leighton\*, R., Oral Presentation. Jacobs Quarry North: Economic analysis phase 1, Rockport Town Meeting, Rockport, Maine, May 20, 2013.
41. **Wagner**, **S.**, Oral Presentation. Sustainable solar power, School of Economics Seminar Series, University of Maine, Orono, Maine, March 16, 2012.
42. **Klein**, **S.** Panel Discussion. White House Champions of Change Panel Discussion, Americorps Alums Day at the White House, Washington, D.C., August 17, 2012.
43. **Wagner**, **S**., Oral Presentation and Panel Discussion. Energy-related solutions to climate change. Maine EPSCoR Conference, Breakout Session 3A “Research Frontiers in Sustainability”, University of Maine, Orono, Maine, September 26, 2011.

**Other Presentations**

1. **Klein, S.J.W**., Oral Presentation. Windowdressers Board Survey Results - Antiracism Goals and Actions, Windowdressers Board of Directors Meeting, Zoom, August 3, 2020.
2. **Mistro\*, D**., Klein, S.J.W., Oral Presentation. A Window on Energy Savings, Senator George J. Mitchell Center for Sustainability Solutions Student Lightning Talks, University of Maine, November 15, 2016, <https://umaine.edu/mitchellcenter/2016/11/15/so-much-to-say-so-little-time/>.
3. **Raymond\*, G.,** Klein, S.J.W., Poster Presentation. Using Multi-Criteria Decision Analysis to Compare Fuel Production Processes, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017, <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
4. **Mistro\*, D.,** Klein, S.J.W., Oral Presentation. Window Inserts and the Communities Adopting Them, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017 <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
5. **Raffier***§***, K.,** Klein, S.J.W., Fox\*, E., Poster Presentation. Analysis of Dams through Fact Sheet Creation to Aid in Future Dam Decision Making, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017 <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
6. **Fox\*, E.,** Klein, S.J.W., Raffier*§*, K., Poster Presentation. Group Participatory Multi-Criteria Decision Analysis (PMCDA) and Dam Decisions, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017 <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
7. **Mata\*, R.,** Klein, S.J.W., Poster Presentation. Developing Best Practice Methods by Using Survey Data, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017 <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
8. **Michaud*§*, K.,** Klein, S.J.W., Poster Presentation. EnergySmart Bangor Residential Rebate Program Presentation, UMaine Student Symposium: Research & Creative Activity, Cross Insurance Center, Bangor, Maine, April 24, 2017 <https://umaine.edu/research/wp-content/uploads/sites/48/2017/04/UMSS17Program.pdf>.
9. **Raymond***§*, **G.**, Klein, S. Poster Presentation. Should Maine fund sustainability by selling license plates? UMaine Student Research Symposium, Cross Insurance Center, Bangor, Maine, April 27, 2016.
10. **Neupane\*, B.**, Klein, S., Wheeler, C. Oral Presentation. Environmental Life Cycle Assessment of Drop-in Biofuel Production in Maine. GradExpo, University of Maine, Orono, Maine, April 3, 2015.
11. **Coffey\*, S**., Klein, S. Poster Presentation. What is Community Energy?, GradExpo, University of Maine, Orono, Maine, April 2, 2015.
12. **Klein**, **S.**, Oral Presentation. Creating a Sustainable Energy Future One Community at a Time, School of Economics Seminar Series, University of Maine, Orono, Maine, November 14, 2014.
13. **Whalley\***, **S.**, Klein, S., Oral Presentation. Toward a Sustainable Energy Future: A Multi-Criteria Decision Analysis of Electricity Options for the United States. TEDx UMaine: The Student Experience. University of Maine, Orono, Maine, April 5, 2014.
14. **Whalley\***, **S.**, Klein, S., Rubin, J., Oral Presentation. An Estimation of the Cost to Harvest and Deliver Biomass Chips in Maine. University of Maine Graduate Academic Exposition, University of Maine, Orono, Maine, April 3, 2014.

**Sessions Chaired, Workshops Led**

1. Organizer/facilitator, Breakout Session, Community Solar in Maine, A Climate To Thrive Climate Change Solutions Education Series: Community Solar, Community Equity, December 2, 2021 (Virtual: Zoom).
2. Organizer/facilitator, Community Window Insert Building Workshop for Penobscot Nation Indian Island, University of Maine, September 30-October 4, 2021.
3. Organizer/facilitator, Breakout Session, Goals of Committee on Energy Equity and Justice, University Energy Institute Collaborative Annual Summit, September 9, 2021 (virtual due to COVID-19).
4. Organizer/facilitator (**invited**), Community-owned community solar virtual networking table, National Community Solar Partnership Virtual Summit, October 29, 2020.
5. Organizer/Facilitator, *Dam Decision Support Workshop*, University of Maine, Orono, Maine, October 3, 2019.
6. Organizer/facilitator, Community Window Insert Building Workshop for Bangor/Orono, Unitarian Universalist Society of Bangor, October 20–29, 2017.
7. Organizer/Facilitator, *Solar Phone Charger Building Workshop*, Mandela Washington Fellowship Program, University of Maine, Orono, Maine, July 6, 2017.
8. Moderator (**Invited**), *Greater Bangor Solarize Kickoff event*, Bangor Public Library, Bangor, Maine, July 19, 2017.
9. Facilitator, *Future of Dams All-Team Meeting Model, Stakeholder Engagement, and Integrative Synthesis working groups*, University of New Hampshire, Durham, New Hampshire, June 5-6, 2017.
10. Chair (Invited), *Session III – Urban and Local, Materiality and Social Spaces in the Energy Transition*, Conference on the Practical Engagements and the Social-Spatial Dimensions of the Post-Petroleum Future, Le Studium, Tours, France, November 8, 2016.
11. Organizer/facilitator, Community Window Insert Building Workshop for Bangor/Orono, Unitarian Universalist Society of Bangor, October 28 – November 6, 2016.
12. Moderator, *Solar Phone Charger Building Workshop for Mandela Washington Fellowship Program*, Maine Solar Energy Association, Jonesport, Maine, July 6, 2016.
13. Moderator (**Invited**), *Bangor Solar Forum*, Eastern Maine Community College, Bangor, Maine, June 28, 2016.
14. Chair (**Invited**), *Maine’s Energy Future*. Maine Sustainability & Water Conference, Augusta Civic Center, Augusta, Maine, March 29, 2016.
15. Organizer/facilitator, Community Window Insert Building Workshop for Bangor/Orono, Unitarian Universalist Society of Bangor, November 8-18, 2015.
16. Organizer/Facilitator, *NSF Career Grant Writing Workshop*, University of Maine, June 3, 2015.
17. Moderator (**Invited**), *Alternative Energy*, Maine Science Festival, Bangor, Maine, March 21, 2015.
18. Moderator (**Invited**), *Science Bound: The Path Less Traveled*, Maine Science Festival, Bangor, Maine, March 22, 2015.
19. Discussant(**Invited**): *Energy Project Planning Workshop*, Island Energy Conference, Island Institute, Portland, Maine, November 7, 2014.

**JOURNAL/GRANT REVIEWS**

*Earthscan Publications (1 book proposal)*, 2012

*Energy Policy (7)*, 2013-2015, 2017, 2018, 2019

*Environmental Science and Technology (2)*, 2010-2011

*Journal of Renewable and Sustainable Energy (2),* 2014

*National Science Foundation* (1 review panel, 1 ad-hoc), 2017, 2020

*Renewable & Sustainable Energy Reviews (2),* 2016-2017

*U.S. Department of Energy* (1 review panel), 2020

*World Renewable Energy Congress (1)*, 2011

**PROFESSIONAL MEMBERSHIPS**

American Solar Energy Society (ASES)

Environmental and Energy Technology Council of Maine

United States Association for Energy Economics (USAEE)

International Association for Energy Economics (IAEE)

# Northeastern Agricultural and Resource Economics Association (NAREA)

Sustainable Consumption Research and Action Initiative (SCORAI)

United States Association for Energy Economics (USAEE)

**TEACHING**

**ECO 180 – Citizens, Energy, and Sustainability** (2011-present) introduces students to the technical, economic, environmental, and social implications of energy production and use, providing students with a broad understanding of energy issues. Students learn how citizens play a vital role in determining the direction that the future energy system and policies will take. This course adopts a “flipped” classroom and active learning approach to instruction.

**ECO 405/590 – Sustainable Energy Economics and Policy** (2011-present) is a mixed undergraduate/graduate level course that engages students in examining tradeoffs associated with the technical, economic, environmental, and social implications of energy supply, distribution, and use in the context of transitioning toward a sustainable energy future. Students examine a variety of energy options, with a focus on renewable energy sources (solar, wind, biomass, hydro, and geothermal power), energy efficiency and conservation, nuclear power, and natural gas, alongside policies to mitigate negative effects. The course adopts a systems-thinking approach, considering options for electricity, heating and transportation and the interplay between these options. Students assess quantitative and qualitative indicators of sustainability related to greenhouse gas (GHG) emissions and climate change, air and water quality, human health and safety, energy security, economic development, wildlife and the environment, technological efficiency and availability. They examine the effect of policies (e.g., carbon prices, emissions targets, efficiency requirements, renewable portfolio standards, feed-in tariffs) on these indicators and tradeoffs. The course provides a brief introduction to environmental life cycle assessment (LCA), a method for considering the environmental impact of a product or process from the “cradle to the grave”, as well as a more in-depth introduction to social benefit cost analysis (SBCA) and multi-criteria decision analysis (MCDA). Students apply course concepts to a service-learning project in work with people from surrounding communities on local sustainable energy solutions. Students select a “traditional” or “service” learning track. The service-learning track pairs students with external project mentors for applied sustainable energy projects with real-world implications.

**SELECTED PRESS**

*NOTE: I changed my last name to Klein in January 2013*

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* “Sharon Klein featured in Maine Science podcast - Senator George J. Mitchell Center for Sustainability Solutions - University of Maine,” Senator George J. Mitchell Center for Sustainability Solutions, Oct. 02, 2020. https://umaine.edu /mitchellcenter/2020/10/02/sharon-klein-featured-in-maine-science-podcast/ (accessed Jun. 07, 2021).
* Science and service. (2017, November 15). Retrieved February 7, 2018, from <https://umainetoday.umaine.edu/stories/2017/science-and-service/>.
* Newsroom. “UMaine Website Catalogs Renewable Projects.” Accessed June 15, 2017. http://www.foxbangor.com/news/item/20201-umaine-website-catalogs-renewable-projects.
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* The BDN Editorial Board, “Making Bangor walkable will help residents, visitors — and homeowners, too,” *The Bangor Daily News*, January 2, 2017, http://bangordailynews.com/2017/01/02/opinion/editorials/making-bangor-walkable-will-help-residents-visitors-and-homeowners-too/.
* “Service Learning: Engaging Students for Real-World Problem Solving - Senator George J. Mitchell Center for Sustainability Solutions - University of Maine,” *Senator George J. Mitchell Center for Sustainability Solutions*, https://umaine.edu/mitchellcenter/news/news-2/service-learning-engaging-students-for-real-world-problem-solving/.
* Zachary Warren, “U-Maine Students Stay Energy Efficient While Helping Others,” *WABI TV5*, October 29, 2016, http://wabi.tv/2016/10/29/u-maine-students-stay-energy-efficient-while-helping-others/.
* Sun for All, All for Sun: UMaine’s Sharon Klein tracks the rise of community solar, <https://umaine.edu/mitchellcenter/news/news-2/sun-for-all-all-for-sun/>, May 2016.
* “UMaine commits to National Community Solar Partnership - UMaine News - University of Maine,” *UMaine News*, 18-Nov-2015.
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* *Bangor Daily News,* August 17, 2012, UMaine professor honored at White House for Americorps service, <http://bangordailynews.com/2012/08/17/education/umaine-professor-honored-at-white-house-for-americorps-service/?ref=regionbangor>