Claire McKenna

Contact Information
E-Mail: clairejm@umich.edu
Mobile: (917) 826-6038
LinkedIn

Education

University of Michigan, Ann Arbor, MI 2021-2025
School for Environment and Sustainability (SEAS) (Anticipated)
Ph.D. Environment and Sustainability
Concentration: Resource Policy and Behavior

Dartmouth College, Hanover, NH 2007-2010
B.A. Engineering Major modified by Studio Art

Research Experience

University of Michigan, Ann Arbor, MI 2021-2022
Project Manager

Heating with justice: How we make electrified space heating equitable?

- Principal investigator: Dr. Parth Vaishnav and Dr. Carina Gronlund
- Responsible for data collection, management, and energy modeling analyzing energy cost burden and health impacts of cold climate residential heat pumps.
- Funded by UM Graham Institute for Sustainability Carbon Neutrality Acceleration Program (CNAP).

Professional Experience

Rocky Mountain Institute, Boulder, CO 2019-2021
Senior Associate, Carbon-Free Buildings

Selected Projects

Massachusetts Building Electrification Accelerator 2020-2021

- Program designer and project manager leading cohort of cities and towns in MA to draft and adopt legislation prohibiting natural gas in new building construction.
- Program consisted of facilitated convenings and a monthly webinar series providing an organizational, technical, and legal knowledge sharing platform.

The New Economics of Electrifying Buildings 2020-2021

- Program manager designing techno-economic analysis of building electrification to support political action in cities and states working to decarbonize the building sector.
- Research examines the first cost, operational costs, and equity-centered case studies for heat pump heating and electric appliances in single and multifamily residential sectors in seven US cities.

WSP USA, Boston, MA / San Francisco, CA 2013-2019
Senior Associate, Property & Buildings
Led WSP's sustainable building design practice for the Boston office

Selected Projects

High Performance Building Design

Channelside, Boston, MA 2018-2019

- Project manager and technical director leading sustainable design strategy for 1.1M square foot mixed use development.
- Façade optimization, HVAC system selection, analysis of district energy feasibility to achieve Boston's stringent greenhouse gas emissions requirements and embed resiliency into the urban infill site.

Bechtel Residence at Caltech, Pasadena, CA 2016-2017

- Technical lead for sustainable building design on new undergraduate student residence achieving net zero carbon dioxide equivalent emissions.

— Analysis included façade performance, HVAC system selection, and PV system design, LEED Platinum rating.

Renewable Energy Microgrid Design and Consulting

Boston Microgrid Strategy 2018-2019

— Project manager and technical director leading electrical microgrid and thermal district energy feasibility strategy for five masterplanning projects in Boston.
— Collaborated with developers, architects, and city agencies to achieve the first ever implementation of the Boston Planning and Development Agency (BPDA) Smart Utilities Policy Pilot.

Villas del Sol, San Juan, Puerto Rico 2018-2019

— Lead energy infrastructure engineer implementing renewable, stand-alone microgrid for impoverished community to promote energy independence and social resilience.
— Engaged with local community, municipality, and non-profits
— Project funded by Ford Foundation, American Red Cross, and Hispanic Federation.

Monterey Bay Aquarium Center for Ocean Education & Leadership, Monterey, CA 2016-2017

— Electrical engineering lead for solar photovoltaic and battery system at new 30,000 SF facility to expand educational programs at MBA.
— System provides 24hrs of backup power and eliminates need for diesel generator on site.

Solar Design Associates, Harvard, MA

Solar PV Design Engineer 2010-2013

Selected Projects

Photovoltaic System Design

Bullitt Center, Seattle, WA 2012

Massachusetts Division of Fisheries and Wildlife Headquarters, Westborough, MA 2011

— Executed detailed electrical engineering design for rooftop solar photovoltaic system in world-class net zero energy building.

Honors and Awards

— US Department of Energy Innovation in Buildings Doctoral Fellowship 2022-23
— UM School for Environment and Sustainability Wilson Award 2022
— WSP Research and Innovation Fellowship, Advanced Building Application of Lithium Ion Batteries for Backup Power 2017
— AIA Architecture at Zero, Honor Award, “Conspicuous Consumption” 2015

Selected Speaking Roles and Publications

— Presenter, *Carbon Neutrality in Boston: Policy Driven Change Making in the Built Environment,* Living Future Conference; Remote 2020
— Guest Lecturer, Master of the Environment, University of Colorado Boulder, *It’s Electrifying? The Challenges and Opportunities of US Building Electrification;* Boulder, CO 2020
— Presenter, *The Role of Microgrids in Boston’s Smart Utilities Policy*, Massachusetts Department of Energy Resources, Energy Storage Stakeholder Session; Boston, MA 2019
— Guest Lecturer, Department of Urban Studies and Planning, Massachusetts Institute of Technology, *Carbon Neutral Buildings in Boston;* Cambridge, MA 2019
— Guest Lecturer for Professor Marc Hodes, Tufts University School of Engineering, *The Next Generation of Building Energy: On-Site Renewables and Energy Storage;* Medford, MA 2019
— Presenter, *Solar in the City: Achieving Aggressive Greenhouse Gas Emissions Reductions in Urban Centers*, Living Future Conference; Seattle, WA 2017
— C. McKenna, C. Wightman, D. Kinney and C. Gihl, "A connected city strategy for Oakland: Leveraging distributed energy resources across building and 2016

transportation infrastructure to improve environmental and operational efficiency," 2016 IEEE 43rd Photovoltaic Specialists Conference (PVSC), Portland, OR, 2016, pp. 3322-3327.

Professional and Volunteer Activities

—	Member, Technical Advisory Group, City of Boston Zero Net Carbon Building Zoning Initiative	2019-2020
—	Guest Instructor for Prof. Jennie Stephens, semester-long graduate student project, Northeastern University; *Energy Democracy & Climate Resilience: Technology, Policy & Social Change*	2021
—	Volunteer, The Ark Ann Arbor	Ongoing
—	Board Member, *Better Boulder – smart growth advisory to City Council*	2021
—	Board Member, *Artisan Lab – start-up artist cooperative*	2021