Summary:
In 2015, Cambridge adopted its Net Zero Action Plan, with specific steps to achieve net zero greenhouse gas emissions from buildings by midcentury. One set of actions is the development of a set of low carbon energy supply sources for Cambridge buildings. Action 3.2 of the Plan calls for development of a rooftop solar requirement for new buildings, which should be part of a larger “roadmap” to achieving 160MW of solar in Cambridge by 2040. The UNHSI Fellow will take the lead in researching solar requirements in other jurisdictions and examining how they could be applied to the Cambridge building stock, including the technical feasibility and financial implications of a solar energy generation requirement.

The Fellow will conduct this research as part of a broader solar roadmap development process, which should include evaluation of current barriers to solar PV installation by market segment, including multi-family ownership barriers, building structural barriers, roof barriers, lack of solar readiness in new construction and renovation, limited financing options, and limited access to tax credits and other incentives. The Fellow will help develop a Solar Roadmap to achieving greater solar PV penetration in Cambridge by: (a) Creating case studies illustrating a successful project installation overcoming each barrier listed above and accompanying solutions. (b) Ranking market segments in terms of solar potential, barriers, and timeframe to enact solutions. (c) The ranking of the market potential and market solutions will thereby produce an ordered list that will show which solutions are most important and feasible to enact first, then which solutions are most important and feasible to enact next, and so on to create a pipeline of solutions that will “unlock” projects. The rooftop solar requirement should be one of these solutions.

Deliverables:
- Rooftop Solar Requirement Study for use in Cambridge Zoning Ordinance
- Comprehensive Residential Solar Implementation Roadmap to advance renewable energy goals of the Cambridge Net Zero Action Plan

Impact:
Cambridge has long been committed to leadership on sustainability and addressing climate change. Our Net Zero Action Plan and its many components – low-carbon energy sources, building standards, funding strategies, etc. – represent a continuation of this commitment in addressing energy use and greenhouse gas emissions. However, taking the next steps on solar implementation planning and standards will require careful
research and analysis, so the Fellow’s work is a vital part of making progress on these standards. Our Net Zero Action Plan is already being emulated by other municipalities in the Commonwealth as they undertake similar planning, and we expect that creating the first solar requirement for new buildings in the region will be leadership that other cities emulate as well.

Location: City of Cambridge Community Development Department, Environmental and Transportation Planning Division, Cambridge, MA
Time commitment: 40 hours per week, June 4-August 17, 2018
Compensation: $6000 stipend

Desired Qualifications:
- Academic background in environmental policy/science, urban planning and/or data analysis
- An understanding of solar PV implementation, sustainability policy, and research and analysis
- Exceptional qualitative and quantitative research and analysis skills are a must, including the ability to utilize multiple data sources to answer local policy questions. Specific skills in Excel and/or database software are desired. GIS skills are a plus. The ability to work independently and think creatively to solve problems are important to the success of this Fellowship.
- Interests in clean energy technology and policy implementation at the municipal scale are desired, along with a genuine passion for researching and using data to answer questions.

UNHSI Sustainability program eligibility:
Graduate students, exceptional undergraduate students, and recent graduates are eligible. We will encourage, but not require, an academic sponsor or reference for each fellow, and where possible we will ask that course credits are awarded.

Supervision, Training, Mentoring and Evaluation:
This fellow will receive supervision from Nikhil Nadkarni, City of Cambridge Energy Planner; Seth Federspiel, City of Cambridge Net Zero Energy Planner; and Meghan Shaw, Cambridge Energy Alliance Outreach Director, as well as mentoring and extensive professional development offerings from UNHSI.

Fellows will be expected to participate in the following MANDATORY events:
- A three-day, two-night orientation in Durham, NH, May 29-31. Lodging and meals will be provided. A limited number of travel scholarships will be available to assist with transportation to Durham.
- Weekly webinars during the course of the 10-week fellowship.
- Midterm project presentations to UNHSI staff, faculty and relevant project partners in Durham, NH, July 12. Travel support provided.
- Final project presentations to UNHSI staff, faculty and relevant project partners in Durham, NH, August 10. Travel support provided.

Apply by February 14 at www.sustainableunh.unh.edu/sustainability-fellows.