



Alfred P. Sloan FOUNDATION

CALL FOR LETTERS OF INQUIRY

Grants up to \$250,000 available for early career researchers pursuing multidisciplinary research projects on energy Transmission and Distribution (T&D) systems in the United States

Submission Deadline: June 1, 2018

Overview

The Energy and Environment program at the Alfred P. Sloan Foundation is soliciting Letters of Inquiry for innovative, multidisciplinary research projects examining energy transmission and distribution (T&D) in the United States. Understanding changing electricity, oil, and gas T&D systems is critical to gaining insights about how the energy system may evolve in coming years, especially given the expected rise in distributed energy resources (DERs) such as rooftop solar installations, electric vehicles, household-level batteries, and other storage devices.

Relevant research projects should demonstrate the following characteristics:

- Integration of scholars and research methods from the social sciences (including, but not limited to, economics, public policy, and energy systems analysis) and the natural sciences/engineering (including, but not limited to, power systems engineering, environmental engineering, and environmental science);
- Utilization of real-world data and information from utilities and/or other energy data providers;
- Leadership by early career faculty, especially those at the Assistant Professor or early Associate Professor level;
- Training of students (graduate students, postdoctoral researchers, or undergraduates) in multidisciplinary research focused on T&D systems.

Funds for are available of up to \$250,000 per project, to be disbursed over a period of approximately 2 years.

Research Questions

Example research questions include, but are not limited to:

- What enhancements to transmission or distribution networks are required to integrate DERs more efficiently and at scale? What are the associated costs and how can they best be reflected in prices at different locations across a distribution network?
- What are the costs and benefits of deploying smart meters and active grid control technologies at both the household level and on the transmission and distribution system as a whole?
- What regulatory or economic incentive changes are needed to facilitate improved integration of DERs with transmission and distribution systems? What new financial models or rate structures are needed to facilitate investment in transmission or distribution systems?
- What is the economic and technological interface between the bulk power transmission system and local distribution systems? How might this interface change over time?
- What is the relationship between natural gas and electricity systems across transmission and/or distribution networks? How might these interactions change over time?
- What changes or improvements to transmission and/or distribution systems could be made that would improve reliability and adaptability during large, long duration power outages?

Eligibility

Eligibility will be restricted to early career faculty at United States universities who are proposing multidisciplinary research on T&D issues within the United States.

Submission Deadline

Submissions are due by 5:00pm EDT Friday, June 1, 2018. Please submit Letters of Inquiry in a single PDF document by email to energy@sloan.org, with subject heading and document title: T&D LOI – <Lead Researcher Name>

Submission Components

Submissions must include the following 3 components:

(1) A completed Sloan Foundation Proposal Cover Sheet, available [here](#) and

(2) An accompanying Letter of Inquiry written in 12-point font and no more than two single-spaced pages in length (excluding the supplemental material), containing:

- Discussion of specific research questions or hypotheses to be tested
- Description of the project's research design and methodologies
- Project implementation plan, including expected project phases and duration

- Discussion of proposed interactions with data providers and research partners

(3) Supplemental material included at the end of the Letter of Inquiry, including:

- A budget for the proposed project (expected funding request between \$200,000 and \$250,000 over 2 years). Allowable expenses include:
 - a. Up to one month summer salary per faculty member, capped at \$25,000 per year
 - a. Graduate student researcher support, including stipend and tuition
 - b. Data acquisition and access
 - c. Travel expenses
 - d. Research-related support staff
 - e. Indirect overhead expenses capped at 15% of direct costs
- References, if appropriate
- Brief CV of key project personnel (no more than 2 pages per person)
- Partnership letters of support, if available

Review Process

A multidisciplinary Review Committee will screen submitted Letters of Inquiry. By early July 2018, a select number of projects will be invited to prepare a complete research proposal for consideration that will be due no later than August 31, 2018. These invited proposals will then be reviewed by the multidisciplinary Review Committee. The Review Committee will provide feedback and questions, with response to reviews expected to be due in early October 2018. Final award decisions will be made by November 30, 2018.

Questions

Questions regarding the submission process should be sent to energy@sloan.org.