

## **ANNOUNCEMENT OF OPPORTUNITY**

### **Catalyzing the Future of Energy**

*Institute on the Environment, University of Minnesota*

*June 2016*

The Institute on the Environment (IonE) is charged with catalyzing strategically important research that spans broad swaths of the University around issues that affect environmental sustainability and the flourishing of people and planet. IonE supports this activity through its Discovery Grants Program. In the past, the Discovery Grants supported a wide variety of fertile investment areas with very good results.

Going forward, the Discovery Grants Program will make guided investments in thematic areas of environmental significance that also champion the University's commitment to five grand challenges and the factors that connect them. The University has existing strength in these areas already, but there are barriers to discovery and implementation that IonE investment can help to overcome.

This Announcement of Opportunity (AO) is focused on developing an initiative(s) around sustainable energy use. Based on a workshop of faculty held on 12 February 2016, it is clear that there is an impressive range of expertise and research activity at the University on the issue of clean energy, as well as strong potential for enhanced interactions among the groups that are already active. Faculty across the University, and its multiple campuses, have assets and desires to help build a carbon-neutral Minnesota and invigorate a responsible energy economy globally. They identified a need for research that:

- accelerates the uptake of technology;
- designs new institutions that promote and incentivize renewable energy use;
- aligns technology and policy;
- charts how incremental steps lead to an economy-changing vision;
- understands the drivers of behavior and behavioral change;
- pursues demonstration projects; and
- privileges economic development and the attainment of a sustainable future for a wide range of people and places.

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***This AO focuses on the identification and demolition of knowledge barriers to advance the up-take of sustainable energy sources.***

**Objectives**

*Integration* – This AO seeks research that imagines and advances energy use that sustains land and water, promotes food security, enables healthy lifestyles, and is equitably distributed among peoples. We recognize that all disciplines contribute to a responsible energy future, including engineering, natural and social science, the humanities, and policy. Integrated research in energy also will address both the descriptive and the normative.

*Catalyze outcomes-oriented research* – This AO seeks research projects from teams that have strong connections to stakeholders, leading to outcomes beyond the academy. The funded project(s) will make a causal link between research and implementation, showing how work in the project will accelerate energy transition. At the same time, the research also will be suited for publication in leading journals.

*Return on investment* – This AO seeks ideas that increase research opportunities for the University, so that the teams can pursue work beyond the activities funded by IonE. Projects can include matching funds in their proposals, and all funded teams should plan to seek external support beyond the period of IonE funding.

*Build UMN capacity* – This AO seeks to build teams with a capacity to contribute to similar problems in the future. IonE grants also aim to enhance the global recognition of the University as leading institution for significant cutting-edge work on responsible energy use.

*Innovation* – This AO seeks projects that include innovation in the way funds are used. For instance, teams might initiate a new post-doc program that would form a cohort of recent PhDs from a range of fields. Further, projects that pursue innovative ways of bringing new or underrepresented people or stakeholders to the renewable energy conversation will be particularly competitive.

**Eligibility**

Leadership must be PI-eligible within the greater University system. External participants, including knowledge partners in other organizations, are encouraged. The lead PIs and university co-Pis should be existing Fellows of IonE or seek to become a Fellow after a

grant is awarded. A document describing changes to the IonE Fellows program will be released on the IonE website during summer, 2016.

## **Project Development & Review**

Pre-proposals are invited before Aug 15, 2016. Potential applicants are strongly encouraged to discuss their pre-proposal ideas and plans with IonE leadership.

Pre-proposals should be no more than five pages, addressing each of the objectives above and including a timeline and anticipated deliverables. The five pages should include one page that describes the proposed team, their expertise, and their capacity, and one page of budget and budget justification (see attached form). In addition to the five pages, include NSF-style CVs for each team member. Send pre-proposals as a single PDF file to [legilber@umn.edu](mailto:legilber@umn.edu).

Pre-proposals will be assessed with informal, internal review based on the criteria described above. A select number of pre-proposals will be invited for full proposal submissions (due Oct. 15). PIs of pre-proposals may be asked to combine forces for a full submission or invited to add team members to increase their interdisciplinary capacity.

Invited full submissions will be evaluated with thorough independent peer review, pursued in coordination with the University's Grand Challenge Research Initiative. Full proposals will include both clearly stated objectives and a plan for creating sustained impact. We anticipate a funding rate of more than 30% for invited full proposals, with awards announced by Nov. 30, 2016.

Metrics used to measure the effectiveness of this investment are:

1. the creation of robust research and outreach teams that integrate from policy to technology to society;
2. the emergence of tangible outcomes both inside and outside the University; and
3. the impact on external research funding flowing into the University.

The funded project(s) will be reviewed annually against pre-established milestones and continued funding will be dependent on demonstrated progress toward the planned outcomes and impacts.

## **Resources Available**

The IonE will commit up to \$750,000 over three years allocated in roughly even annual installments over the duration of the project(s). Ideally, the funded project(s) would bring matching funds to increase the total investment. Out-year funds will be contingent upon annual progress.

IonE staff and resources will support the funded team(s) and project(s), assisting in communications, logistics (e.g., meeting organizing and events), and external engagement with stakeholders. IonE also will support teams in identifying and applying for external funding.

A majority of the funds should be expended within, or for services provided to, the University. Some external expenditures are permitted, however, if appropriately justified to complement UMN expertise and/or enable research translation. Additional funds may be available to support external collaborators who spend more than three months in residence as an IonE Visiting Scholar.

Finally, note that during the past year, IonE has been growing its capacity to do both comparative analysis between Germany and the US and to identify policy and legal barriers to renewable energy adoption. The funded project(s) will have an opportunity to help shape these discussions.

## **Contacts**

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**BUDGET**

	Direct costs	Fringe	Total costs
PI salary support			
Postdoc(s)			
Graduate student(s)			
Travel			
Supplies			
...			
...			

TOTAL: \_\_\_\_\_

**BUDGET JUSTIFICATION***[describe information in table above here]*