



INSTITUTE ON THE ENVIRONMENT

Impact Goals Request for Proposals

Phase 1 | Spring 2020



FUNDING INNOVATIVE PROJECTS
TO ADVANCE IONE'S IMPACT GOALS:

- Building a carbon-neutral Minnesota
- Envisioning future sustainable land-use that mitigates and adapts to climate change in Minnesota
- Ensuring safe drinking water for all Minnesotans



UNIVERSITY OF MINNESOTA
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Introduction

As increasing concentrations of greenhouse gases and environmental degradation threaten people and ecosystems around the world, sustainability issues have never been more pressing. At the same time, signals are emerging of pathways to a liveable future, including growth in clean energy, greater consideration of natural capital in decision-making, and advocacy for socio-economic equity. These challenges — and their solutions — are more complex than ever before, and they require greater collaboration between universities and communities to make progress.

Launched in 2019, IonE's Impact Goals are designed to drive progress on these types of complex and pressing challenges – especially where solutions have been slow to develop or have been prevented by a lack of knowledge or capable leaders. Our aim for Impact Goal projects and activities is that they will have global significance, but will be tested and deployed in Minnesota, the home of our University's public service mission. To this end, IonE is directing resources, including funding, toward achieving Impact Goal objectives across the University of Minnesota and with partners and community members.

This spring, we invite University of Minnesota staff, faculty and students – in collaboration with community partners – to participate in a research opportunity that will enhance our collective efforts to achieve three goals: building a carbon-neutral Minnesota; envisioning future sustainable land use; and ensuring safe drinking water for all Minnesotans.

Request for Proposals (RFP) Overview

This RFP is part of a multi-year initiative, during which IonE will fund teams working on Impact Goals in a variety of ways. This first phase of engagement (which runs through 2021) includes \$750,000 to seed and support teams. For this initial RFP there will be a limited number of mid-size awards –up to \$50,000 over two years, per award.

While there is not a preset number of proposals that will be funded through this RFP, we anticipate funding at least five project teams in this round. Not ready yet? We expect to fund additional teams coming out of Impact Goal workshops that will happen during the phase-one timeframe (stay tuned!) – and we anticipate releasing a second RFP in 2021.

This initial Impact Goals RFP is designed to support teams doing engaged scholarship with *a strong interest in contributing new research to advance one or more Impact Goals* and who are *committed to co-developing that research with University and community partners¹ directly connected to people or issues in Minnesota*. This connection to Minnesota flows two ways: It could mean conducting research in the state that develops scholarship and results useful in a wider geography *or* it could mean applying scholarship developed elsewhere, in Minnesota.

Engaged scholarship is the generation of new knowledge combining *academic* and *community-based* knowledge – involving a respectful, power-sharing collaboration among academic and community partners. As a public institution, the University of Minnesota has an obligation to serve all Minnesotans, including historically marginalized communities. Developing trusted collaborations among universities and communities takes time; this RFP is meant to support relationship-building that leads to expanded research and the development of activated leaders, as described in IonE's [strategic plan](#) and theory of change².

¹ Throughout this text, the term 'community partner' will be used to refer to an organization not affiliated with the University of Minnesota. It could be a nonprofit, a community organization, a unit of local, district or state government, a Tribal Government, or a similar type of organization. This group should have the ability to contribute expertise and perspective and advance the goals of the proposal.

² Theory of change is defined in the FAQ document.

As part of its Impact Goal activities, IonE is collaborating with the [Regional Sustainable Development Partnerships \(RSDP\)](#). RSDP is part of University of Minnesota Extension with a mission to advance the environmental, economic, and societal sustainability of Greater Minnesota through authentic community-University partnerships that co-create innovative solutions and fulfill the University's land-grant mission.

This [ongoing RSDP-IonE partnership](#) can be leveraged by UMN faculty and staff to increase their connection(s) to Greater Minnesota. Over the next year, IonE and RSDP will host shared events that will allow UMN faculty and RSDP partners to interact and learn from each other. Applicants to this RFP should also note that RSDP currently has an open [invitation for ideas](#) from its partner communities that includes an Impact Goal orientation. If you'd like to learn more about the ideas submitted and/or find potential community partners, please contact Linda Kingery, Executive Director Northwest RSDP, at king002@umn.edu.

Read on for additional information about Impact Goals and guidelines for this competitive call for proposals. There is also an [FAQ document](#) with further details for developing proposals. Good luck!

The IonE Impact Goals

The following pages cover the key features of the current round of IonE Impact Goals, spanning carbon neutrality, safe drinking water, and sustainable land use. Proposals are invited that can make tangible progress toward one or more of the Impact Goals.



Goal #1: Building a Carbon-Neutral Minnesota

IonE seeks teams of researchers and practitioners looking to overcome specific knowledge, demonstration, and practice barriers that address the following question: How can Minnesota become the first greenhouse

carbon-neutral state in the nation?

While our ultimate goal is overall carbon neutrality, this year our focus is on the agriculture sector in the state, as there is not a clear path forward for reducing this sector's emissions. And while there are plans for greenhouse gas (GHG) emission reductions in Minnesota's electricity and transportation sectors, the state will need GHG emission reductions from all sectors to meet its overall emission reduction goals. The agriculture sector faces substantial barriers that when overcome will benefit farmers, agriculture consumers, and state residents as well as mitigate climate change.

Goal #1 | Scope of Call

Engaging the Agriculture Sector in GHG Reduction

The agriculture and working land sector is a large contributor of GHGs (more than just carbon) and offers opportunities for natural climate solutions.

EXAMPLE PROBLEMS OF INTEREST

To make progress toward a carbon and GHG-neutral Minnesota, all sectors need to play a role. The following are some example questions that need to be addressed in the agricultural sector:

- How can the uncertainty around measurements of GHG emissions in agriculture and the land use sector be reduced?
- How can innovations that reduce GHG emissions be widely adopted, given the challenges posed by the decentralization of agriculture?
- What are the needed frameworks or incentives for adoption of GHG mitigation practices in the agriculture sector?
- How might the scientific concept of agricultural emissions be translated so people can understand its meaning and integrate it into their thinking?

POTENTIAL OUTCOMES OF SUPPORTED PROJECTS

While \$50,000 isn't enough to lead directly to these outcomes, projects should stimulate progress toward outcomes such as:

- A state or community climate action planning process that is a national model for GHG planning in the agriculture sector
- Measurements of agriculture sector emissions and agriculture sector mitigation measures that are more refined, with higher confidence
- Organizations around Minnesota are able to engage with UMN expertise easily and consistently on agriculture emissions planning and management
- Policy analysis is performed at the local, state, and federal level

- Public art installations or other mechanisms that stimulate constructive community discussions on topics such as climate adaptation strategies



Goal #2: Envisioning Future Sustainable Land Use in Minnesota that Mitigates and Adapts to Climate Change

IonE seeks teams of researchers and practitioners looking to overcome specific knowledge, demonstration, and practice barriers to this question: How can Minnesota’s landscapes be improved to support both environmental goals and landowners’ livelihoods?

Minnesota is facing challenges of trade-offs across multiple environmental goals while attempting to curb its own contributions to climate change and adapting to changing conditions. While carbon emissions from electricity are projected to diminish toward zero, emissions from land use – specifically the agriculture sector – are not moving downward.

There are opportunities for working lands to be part of solutions: The Minnesota Pollution Control Agency [recently provided a report](#) on 21 agricultural management practices that could potentially help reduce emissions, for example.

Relatedly, forests provide a variety of benefits to Minnesotans, including climate change mitigation. Yet, stresses to Minnesota’s forests from climate change compound decades-long shifts in natural disturbance regimes including fire suppression, species introductions, human development, and forest fragmentation. Collectively, these factors reduce the health of the forests in Minnesota. Defining the range of benefits forests provide and understanding how important they are to Minnesotans is likely to help guide resiliency strategies.

Goal #2 | Scope of Call

Landscapes that Achieve Environmental and Social Goals

A specific goal of this RFP is to promote efforts and research that seek to *guide land-use and land-management decisions in Minnesota agricultural and forest lands that either mitigate or adapt to climate change and are based on sustainability*. We seek proposals focused on the agriculture sector or the forestry sector – or both – that address economic and environmental goals at scales relevant to private and societal aims.

EXAMPLE PROBLEMS OF INTEREST

In both mitigation and adaptation, collective action is needed to achieve GHG goals. Yet, the majority of Minnesota's lands are privately owned. This means private landowners must balance individual goals while working to achieve Minnesota's shared societal goals. In addition to addressing climate change, we acknowledge other environmental concerns such as conserving biodiversity and managing water resources. The following are some example questions that need to be addressed:

- How much could agricultural and/or forest lands contribute to achieving GHG targets?
- What are the tradeoffs between private landowner and societal goals with respect to GHG mitigation and management in agricultural or forest sectors?
- What are the tradeoffs of GHG reduction with other environmental goals?
- What are the barriers to land-use transitions as agricultural and forest sectors transform to a reduced GHG system and what are some strategies to overcome them?

POTENTIAL OUTCOMES OF SUPPORTED PROJECTS

Potential outcomes of supported projects might include progress toward achieving:

- Methods for the agriculture and forestry sectors to reduce GHG emissions that also acknowledge tradeoffs against other economic, societal, and environmental goals
- Defined targets for sustainability in agriculture and forest systems, i.e. measurable targets that include economic, environmental, and societal goals

- Strategies and practices to engage participation across Minnesota in land use decisions, especially vulnerable populations most affected by those decisions. This could include a wide variety of strategies including arts and humanities, such as the recent [We Are Water MN](#) exhibition. This applies to all three goals.
- A better understanding of externalities and constraints associated with the transition to alternative, more sustainable land use practices in agriculture and forestry systems, i.e. systems that better integrate economic, environmental, and societal goals
- Working with stakeholders to understand how different targets of sustainability in agriculture and forest systems might impact their livelihoods and practices, as well as their community's sense of place.



Goal #3: Ensuring Safe Drinking Water for All Minnesotans

IonE seeks teams of researchers and practitioners looking to overcome specific knowledge, demonstration, and practice barriers to the following question: How can technologies, policies, and incentives be put in place to ensure that clean and safe drinking water is available for all Minnesotans?

Safe drinking water is a human right, yet for many Minnesotans, water supply is threatened by existing or future contamination of water sources. Ensuring safe drinking water encompasses keeping water sources clean; maintaining water delivery systems and building trust in their efficacy; ensuring wastewater discharged to the environment doesn't contaminate our water sources; and ensuring adequate water availability through supply and demand management. Achieving this will require development of new technical solutions as well as research to help institutions more effectively plan and implement those solutions, working with new partners on the ground and in government.

Goal #3 | Scope of Call

Source Water Protection in a Changing Climate

One critical aspect of ensuring safe drinking water is managing the rural and urban areas through which water flows, to stop contamination before it begins. Threats to safe water will change over time and will likely be exacerbated by climate change. Therefore, a specific goal of this RFP is to *promote efforts and research so that source water protection plans and their implementation better take climate change into account.*

Source water protection is already an area of active work for many researchers and stakeholders in Minnesota; we seek to build on this work to incorporate climate change impacts on source water protection.

EXAMPLE PROBLEMS OF INTEREST

- How can source water protection plans and their implementation – whether at the state, county, or watershed level – better integrate climate change into their management recommendations and execution?
- How can we reduce uncertainty about the efficacy of proposed solutions?
- Which management approaches for managing source water protection are most effective in addressing climate change?
- How can we increase dialogue between researchers and government in drinking water management under climate change?
- What is needed so that scholars and decision-makers do a better job of including citizens and affected people in planning for source water protection under climate change?
- How can visualization or other media strategies be used to improve stakeholders' understanding of the scope and breadth of the system needed to protect source water and provide drinking water?

POTENTIAL OUTCOMES OF SUPPORTED PROJECTS

Several information gaps need to be addressed to make progress on this issue.

Potential outcomes of supported projects might include:

- State-funded and/or mandated projects that affect infrastructure incorporate climate change adaptation in a fair and inclusive manner
- Approaches to source water protection in a changing climate are identified and tested
- Planning for climate change impacts includes participation from affected audiences
- Management practices meet the articulated needs of vulnerable populations

Competitive Call for Proposals

Successful proposals will be funded at levels up to \$50,000. Awards are non-recurring and are to be expended within two years.

Submission Process and Timeline

1. Submission of answers to RFP questions ([via the online form](#)) are due Mar. 6, 2020.
2. Peer review of RFP responses will begin immediately, conducted by an interdisciplinary panel of scholars and community representatives using the criteria listed later in this RFP. Teams may be asked to clarify or amend their proposals.
3. All teams will receive feedback. Finalist teams will be announced by mid-April and invited to make a presentation to a panel for the final award decision. Presentations will take place in May, approximately three to four weeks after the finalist announcement.
4. Final award selections will be made and officially announced in June 2020, with the period of performance beginning in July 2020.

At a glance:



Team Requirements

Proposing teams may include faculty, staff, postdocs, and students from any or all of the five campuses of the University of Minnesota, as well as representatives of community partner(s).

Team requirements include:

- The principal investigator, or at least one co-PI, must be a UMN tenure-track faculty member or Academic Professional and Administrative (P&A) employee
- All proposing teams *must* include a community partner
- Financial support for the community partner's involvement must be accounted for in the proposal budget; this support may come from this proposal budget or another source

What should be the objective of the proposal?

The proposal should describe the research and activities to be conducted with the \$50,000 seed funding as well as any research and activities that would follow thereafter. IonE acknowledges that \$50,000 may not be enough funding to lead directly to outcomes such as the examples listed above, but proposals should stimulate progress toward such possible outcomes. We are seeking teams, comprised of one or more University of Minnesota researchers and one or more community members, who have a shared vision for an outcome that addresses a key barrier to progress on one or more of the Impact Goals. This vision should be initially defined in the proposal – and should be refined during the period of performance. Proposals should address elements such as:

- *Community outcomes* that make progress on some aspect of an Impact Goal
- *Research outcomes* that make progress on some aspect of an Impact Goal
- *A theory of change* for the proposed outcome
- *A plausible plan* for achieving that outcome beyond the proposal
- Possible *future funding paths*

Below are some examples of what proposed activities might look like. In all cases, one objective of the proposal should be a specific output – or an articulated pathway toward

an output – that will be directly useful to the community partner in achieving one of their desired outcomes. This output could be data, a decision tool, document(s), media, or a plan for subsequent research or demonstration project.

- **Partnership Planning and Seeding:** The proposal could be used to create a new partnership and develop a plan for continued work. Creating a trusted partnership takes time, and a proposal could show how a partnership would develop and to what end.
- **Pilot or Implementation.** If there is already an established partnership, this proposal could be used to further some aspect of the work, especially in terms of directing that work toward tangible progress on one or more Impact Goal(s).
- **Translation:** Many times, there are not resources to scale or translate scholarship into a more usable format by communities or community organizations. Proposals may be used for this translational function in cases where work has been done but additional effort is needed to achieve desired outcomes, dissemination, or application. Translation could take many forms including public art or media of any sort.

It is important to note that engaged scholarship does not always mean low-risk. High-risk, high-payoff partnerships will be considered.

How can the money be used?

Funds may be used to underwrite salary for the PI, co-PIs, or other members of the team (including postdocs, graduate students, and undergraduate students); to cover travel expenses; and to fund the participation of a community partner. (See the FAQ for more discussion of salary support). For the community partner, funding could be for salary, travel expenses, supplies and material, or other project expenses. If funding is used for equipment that requires maintenance, there will have to be agreements covering maintenance by community partners. Note: Funding cannot be used for capital equipment.

Reminder: Additional questions are addressed in the FAQ document.

Criteria for Evaluation and Review

→ Potential of the research to make substantial progress on the chosen Impact Goal(s) and to position the University and its partners to play a leadership role with respect to the goal. Makes a causal link between research and implementation, showing how work on the project will promote progress toward one or more of the Impact Goals, with co-benefits that connect to the other Impact Goals considered a plus.

→ Quality and rigor of the proposed scholarship

→ Promotes the attainment of a sustainable future for a wide range of people and places, including people who are impacted disproportionately by the issue(s) described in one or more of the Impact Goals. Projects that pursue innovative ways of engaging underrepresented people, rural communities, or new stakeholders will be particularly competitive.

→ Strength of engaged scholarship partnership. Strong partnerships are those that are not viewed as only for this project, but that have the potential for a long-term relationship where all partners have an equal role in project creation, investigation, and implementation.

→ The potential for the community partner to create meaningful and impactful outcomes as a result of the collaboration

→ Potential for outcomes to scale across and beyond Minnesota

→ Potential for the proposed team to leverage this support by attracting and securing additional funding

Elements of the Proposal

PI must submit an application and associated documents via [lonE's online application submission portal](#). Applications may be saved and returned to before submission.

The complete proposal consists of the following fields and questions:

- Project title

Team member information

- PI contact information
- PI & Co-PI biosketches
- Research team members: Names, titles, and departmental/center/organizational affiliations. Postdoc and student names should be included, if known.

Proposal description

- Abstract (150 words)
- Problem statement: Clearly scope and describe the problem(s) your proposal is intended to address (150 words)
- What's the impact? How will this research lead to success for one or more Impact Goals? (150 words)
- Methodology, Activities, and Engagement: What will the research entail for this proposal? *Include methodologies, activities, and community engagement plans.* (500 words plus a figure upload)
- Stakeholders: Who are the people and organizations involved with or affected by this proposal? (150 words)
- Potential Barriers: What barriers will the proposal team need to overcome in order to achieve the project goals? (150 words)

- Plan for Continued Impact: After this proposed work is done, what is the plan to continue to have impact across and beyond Minnesota and/or for further research? (250 words)
- Role of Community Partner: How is this team well-positioned to address the idea? Include the role of the community partner and the relationship between the academy and the partner. How will the community partner advance the outcomes? (250 words)
- Potential for External Funding: What is the potential for this research to catalyze additional opportunities and external funding in order to position the University to advance one or more of the Impact Goals? (150 words)
- References (optional)
- Budget: Details including personnel, travel, supplies, etc. – note that a table for the budget is built into the application.
- Total Requested Budget: This number will be automatically calculated based on the data entered in the table. It should reflect the approximate level of funding to be requested for the proposed project. The amount is an estimate, since it may change during the iterative process of review and discussion.
- Budget Justification: Briefly explain the costs and how they will directly support the proposed work. (No word limit).

If you have questions that have not been addressed
by this document or by our FAQ, please contact either:

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