



Environment and Natural Resources Trust Fund

2023 Request for Proposal

General Information

Proposal ID: 2023-240

Proposal Title: Economic Analysis Guide for Minnesota Climate Investments

Project Manager Information

Name: David Bael

Organization: Minnesota Pollution Control Agency

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Project Basic Information

Project Summary: Develop an economic analysis guide of the best practices, tools, and methodologies to include climate economics, including the incorporation of costs and benefits, into Minnesota climate policy decisions

Funds Requested: \$54,000

Proposed Project Completion: March 31, 2025

LCCMR Funding Category: Small Projects (H)

Secondary Category: Air Quality, Climate Change, and Renewable Energy (E)

Project Location

What is the best scale for describing where your work will take place?

Statewide

What is the best scale to describe the area impacted by your work?

Statewide

When will the work impact occur?

In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

Minnesota is feeling the impacts of a changing climate today, including the release of raw sewage into water bodies, destroyed crops, increased wildfires, flooded homes, flooded roads, eroded farmland, damaged bridges, and overwhelmed stormwater infrastructure. Responding to these climate events have adverse economic impacts for all Minnesotans. Recovering and rebuilding from these events can provide future economic benefits when the investments include resiliency to future climate risks. Currently, Minnesota doesn't have a methodology or comprehensive understanding to analyze the economic impacts of policies to reduce climate emissions or building resiliency to climate change.

Investments to address climate change in Minnesota will have costs and benefits. Estimating and understanding the costs and benefits of climate opportunities will equip Minnesota decision makers with better information to implement effective policies and actions to achieve the state's climate goals. An Economic Analysis Guide for Minnesota's climate policies, that draws on the most current thinking in climate economics, will guide Minnesota agencies that work on policies affecting climate.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

Project Manager David Bael, MPCA's lead environmental economist, has begun to convene state government experts in a Minnesota Interagency Climate Economic Analysts Working Group. The primary goal of this group is to develop an economic analysis guide for Minnesota climate projects. This effort will require expertise from outside of state government to create an effective guide for climate-related policy analysis in Minnesota. The project will enlist experts in climate economics and in facilitating diverse stakeholders to help develop the climate economic analysis methodology. The federal government's guide for regulatory analysis – Circular A-4, developed by the Office of Management and Budget – can serve as an example for Minnesota's development of an economic analysis guide for climate projects. The project will also use the outside expert to work with the existing interagency working group to channel and integrate the expertise already in Minnesota to develop this guide.

Economic analyses will consist of an assessment of all the likely costs and benefits to Minnesotans resulting from state climate actions. Furthermore, this guide will systematize the incorporation of equity analysis into economic analyses of Minnesota's climate work. Equity analyses will evaluate potential disproportionate impacts of climate actions across demographic groups and geographic regions.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

Public and private funds will be invested in Minnesota to respond to a changing climate, both to reduce emissions and build resiliency across communities and landscapes. Ensuring these investments consider the economic costs and benefits will ensure efficient investments in protecting, conserving, preserving, and enhancing Minnesota's natural resources. The creation of an Economic Analysis Guide for Minnesota Climate Investments will equip Minnesota to efficiently and effectively direct actions and investments to advance climate action to protect Minnesota's natural resources.

Activities and Milestones

Activity 1: Expand knowledge in climate economics and review other states' efforts to incorporate economic, cost-benefit and equity analysis in climate projects

Activity Budget: \$15,000

Activity Description:

Other states are further along than Minnesota in incorporating economic, cost-benefit, and equity analysis in decision making for climate policies and actions. For example, Maryland's Greenhouse Gas Reductions Act (GGRA) is a law that in addition to setting requirements for reductions in GHG emissions also requires analysis of jobs and other impacts on the economy for any climate action that may be undertaken by the state. Minnesota will learn from other states' efforts to incorporate economic and equity analysis into climate work. A thorough review of the work of other states will help Minnesota develop sound and effective processes and methodologies to bring economics, equity and cost-benefit analysis into Minnesota's climate work.

While there is already considerable expertise in climate economics within Minnesota state government, in addition to becoming better informed in climate economics. There may be opportunities for the project manager and/or the Minnesota Interagency Climate Economic Analysts Working Group to attend conferences, trainings and workshops to augment our understanding of key issues that would be included in an Economic Analysis Guide for Minnesota Climate Investments. Potential candidates include the CESifo's Conference on Energy and Climate Economics and the Conference of the Association of Environmental and Resource Economics.

Activity Milestones:

Description	Completion Date
Select expert to help Minnesota with review of other states' climate economic analysis work	December 31, 2023
Meet with Minnesota Climate Economic Analysis working group to discuss known work in other states	January 31, 2024
Complete review of states' efforts to incorporate economics, equity, and cost-benefit analysis into climate work	March 31, 2024
Trainings and/or workshops to expand knowledge of climate economics	June 30, 2024

Activity 2: Facilitate review of draft Economic Analysis Guide for Minnesota Climate Investments from state agencies and other stakeholders

Activity Budget: \$14,000

Activity Description:

The MPCA plays a lead role in directing the state's response to climate change. However, many other state agencies conduct climate-related work. Additionally, the climate decisions made by the MPCA and other state agencies affect numerous other stakeholders outside of state government. Therefore, it is essential that other stakeholders, both within and outside of Minnesota state government, have the opportunity to contribute to the development of an Economic Analysis Guide for Minnesota Climate Investments. Stakeholder engagement will be a vital element of this process. The MPCA has previously worked with the Minnesota Management and Budget's Management Analysis and Development (MAD) consultants to facilitate stakeholder meetings and allow stakeholders to have meaningful engagement in decisions made by the agency. The project will enlist MAD, or another consultant, to engage early and often with stakeholders as we develop an Economic Analysis Guide for Minnesota Climate Investments.

Activity Milestones:

Description	Completion Date
Select facilitation expert to assist with stakeholder engagement	December 31, 2023

Meeting(s) with Minnesota state government stakeholders to provide input into draft economic analysis guide	September 30, 2024
Meeting(s) with all stakeholders to provide input into draft economic analysis guide	September 30, 2024

Activity 3: Finalize writing of the Economic Analysis Guide for Minnesota Climate Investments and present final product in person and in writing

Activity Budget: \$25,000

Activity Description:

Much of the content of the Economic Analysis Guide for Minnesota Climate Investments will arise out of the work and expertise of project manager David Bael, other MPCA experts, and members of the Interagency Climate Economics Analysis Working Group. However, to craft all this expertise into an effective economic analysis guide, that also incorporates input and feedback from other stakeholders, we will enlist outside assistance. Ideally this consultant will have expertise in climate economics as well as in developing a document suitable to guide policy analysis and state-level decision making.

This activity will also include some travel and publication costs. The travel will be for the project manager and/or members of the Interagency Climate Economics Analysis Working Group to travel to conferences and meetings to present on the final product of this work. Additionally, we will look to offer training and workshops to the Minnesota Climate Change Subcabinet and Minnesota state government agencies that will use this guide in their climate-related work. We will also seek out opportunities to publish the results of this work in a peer-reviewed journal.

Activity Milestones:

Description	Completion Date
Select expert to help Minnesota with finalizing Economic Analysis Guide for Minnesota Climate Investments	December 31, 2023
Review draft(s) of guide and provide input and direction to interagency working group	September 30, 2024
Work with interagency group to finalize the Regulatory Analysis Guide for Minnesota Climate	November 30, 2024
Submit a paper reporting the results of this work to peer-reviewed journal	December 31, 2024
Training/workshops on the use of the methodologies developed in the guide once its completed	March 31, 2025
Present final product at conferences and meetings	March 31, 2025

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

An Economic Analysis Guide for Minnesota Climate Investments will serve to help guide Minnesota climate decisions well into the future. Agencies from the Minnesota Climate Change Subcabinet support this project and have indicated that such a guide will be useful in helping it make more effective and more equitable climate decisions. Once this guide has been developed, there will not be a need for additional work or funding.

Project Manager and Organization Qualifications

Project Manager Name: David Bael

Job Title: Economic Policy Analyst

Provide description of the project manager's qualifications to manage the proposed project.

As the Economic Policy Analyst for the MPCA and the lead economist for the agency, David Bael focuses on the economic analysis of air pollution and climate change. As an environmental economist, he has extensive experience and expertise in social benefit-cost analysis, non-market valuation techniques, discounting, and uncertainty. David performs economic analyses to inform Minnesota's climate projects, and is the preeminent climate economics expert for state agencies. Assessing ways to value climate damage costs from Minnesota GHG imbues much of this work, including investigating carbon pricing alternatives and how they can be applied in Minnesota policies. Additionally, David led the collaborative team from MPCA and the Minnesota Department of Health to write four "Life and Breath" reports that examine the public health burden of air pollution in Minnesota and disproportionate impacts across demographic groups and geographic regions. He conducted the economic analysis of Minnesota's new vehicle emissions standards. David utilizes a variety of economic models, including the Long-range Energy Alternatives Planning model and the Energy Policy Simulator to model Minnesota decarbonization policy pathways. He uses other tools, such as REMI's PI+ and E3+ models and EPA's BenMAP and COBRA models, to evaluate the health and macroeconomic impacts of Minnesota decarbonization policies and pathways. David developed Minnesota's first consumption-based GHG emissions inventory, which is presented alongside the conventional in-boundary emissions inventory in reporting to the state legislature. David is leading a Minnesota interagency climate economics analysts group that advises the Minnesota Climate Change Subcabinet on issues related to the economics of climate change and climate change policy. David has two bachelor's degrees in Biology and Management from the Massachusetts Institute of Technology, a Masters in Public Policy from the Humphrey School of Public Affairs, and is a PhD candidate in Applied Economics at the University of Minnesota.

Organization: Minnesota Pollution Control Agency

Organization Description:

The MPCA's mission is to protect and improve the environment and human health. The MPCA is committed to ensuring that every Minnesotan has healthy air, sustainable lands, clean water, and a better climate. Through the authority of state and federal statutes and guidelines, the Agency focuses on preventing and reducing the pollution of air, land, and water, and leads Minnesota's efforts to protect against the devastating effects of climate change. We work with regulated parties, businesses, governments, organizations, and Minnesota's 11 tribal nations to develop innovative, community-centered approaches that protect our natural resources, improve human health, and foster strong economic growth.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
							Sub Total	-
Contracts and Services								
TBD	Professional or Technical Service Contract	Climate economics expertise to help with review of the work of other states efforts to incorporate economics, equity and cost-benefit analysis into climate work and help Minnesota with the writing of the final Economic Analysis Guide for Minnesota Climate Investments.				-		\$32,000
TBD	Professional or Technical Service Contract	Facilitation expertise to help with meetings to engage with stakeholders from within and outside of Minnesota state government to provide input into the development of an Economic Analysis Guide for Minnesota Climate Investments.				-		\$14,000
							Sub Total	\$46,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Conference Registration	Provide trainings/workshops on use of final product	Equip practitioners within Minnesota state government who work on climate issues to use the methodologies					\$2,000

	Miles/ Meals/ Lodging		included in the Economic Analysis Guide for Minnesota Climate Investments					
							Sub Total	\$2,000
Travel Outside Minnesota								
	Conference Registration Miles/ Meals/ Lodging	Travel to conferences, trainings or workshops to expand knowledge in climate economics.	Expand and augment the knowledge of the project manager and members of the Interagency Climate Economic Analysts Working Group in climate economics issues that are relevant to the Economic Analysis Guide for Minnesota Climate Investments.					\$3,000
	Conference Registration Miles/ Meals/ Lodging	Present final work from this project in conferences and meetings	The travel will be for the project manager and/or members of the Interagency Climate Economics Analysis Working Group to travel to conferences and meetings to present on the final product of this work.					\$2,000
							Sub Total	\$5,000
Printing and Publication								
	Publication	Submit manuscript documenting the results of this work to a peer-reviewed journal	This is potentially groundbreaking work that could provide a roadmap to other states and climate leaders. We are thus adding a small publication cost to publish this work in a peer-reviewed journal.					\$1,000
							Sub Total	\$1,000
Other Expenses								
							Sub Total	-
							Grand Total	\$54,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	-
Non-State				
			Non State Sub Total	-
			Funds Total	-

Attachments

Required Attachments

Visual Component

File: [7d0cabde-9fc.pdf](#)

Alternate Text for Visual Component

The attached presents a few images relevant to this project: a visual representation of Minnesota's Climate Action Framework, an image highlighting climate change impacts in Minnesota, and the structure of the Minnesota Climate Change Subcabinet, which is led by the MPCA and includes 15 other state agencies, departments, and boards....

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

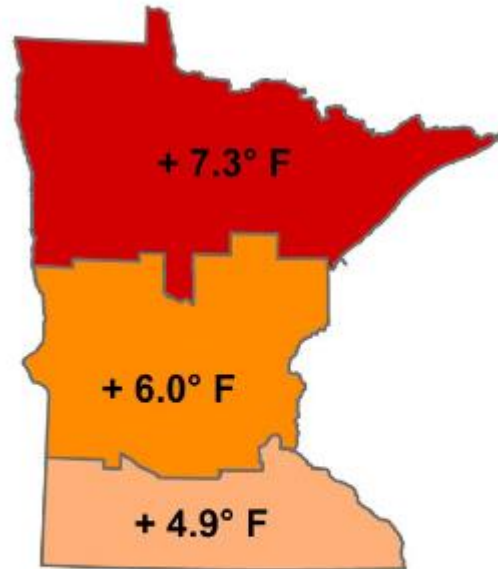
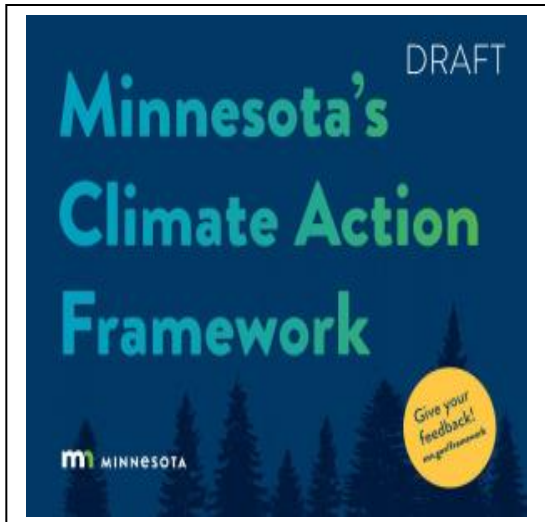
N/A

Does your project include original, hypothesis-driven research?

Yes

Does the organization have a fiscal agent for this project?

No



Change in daily average minimum temperature during winter (Dec-Feb), 1895-2021. Minnesota is getting warmer, especially winter nights in the northern parts of the state.

Structure of subcabinet

The Climate Change Subcabinet is comprised of executives from 15 state agencies, departments, and boards.

Chair: Commissioner of the Minnesota Pollution Control Agency

