

**Carbon Neutrality Acceleration Program  
Request for Proposals from U-M Faculty - Level 1 Grants**

**Letter of interest deadline (required): May 11, 2022**

**Full proposal deadline: June 3, 2022**

**Project start date: September 1, 2022**

The Graham Sustainability Institute's [Carbon Neutrality Acceleration Program](#) offers support for faculty across the University of Michigan (U-M) to pursue innovative and actionable carbon neutrality research. Through novel collaborations across disciplines and with partners poised to advance net zero strategies, we seek to amplify and expand the university's research impact and fuel the breakthroughs needed to combat climate change.

CNAP faculty research grants are a critical component of the program, supporting research, scholarship, and engagement efforts that will create critical knowledge and propel innovations to accelerate the transition to carbon neutrality.<sup>1</sup> While incremental reductions in net emissions are important, **we are most interested in supporting projects that explore and advance big ideas with the potential to substantially accelerate low-carbon transitions.**

#### [Funding Amount and Project Duration](#)

Level 1 grant awards will range from \$25,000-\$50,000 for a 1-year project period. We anticipate making 5-7 awards.

#### [Objectives & Research Topics](#)

Level 1 grants are intended to target research that has high intellectual value and significant potential for real-world impact. Projects should be innovative and technically sound, and should address the most pressing questions and compelling opportunities related to carbon neutrality. Interdisciplinary<sup>2</sup> projects are prioritized.

#### [Eligible Objectives](#)

Proposals must provide an actionable plan to achieve *at least one* of the following eligible objectives.

**Objective 1: Discrete research efforts** - funds for a specific research/scholarship project that explicitly addresses critical issues of carbon neutrality.

Two levels of CNAP grants are being offered—Level 1 grants covered by this request for proposals (RFP) and Level 2 grants addressed in a separate RFP. While the RFPs' goals and objectives are similar, the different funding amounts, project durations, and application processes are intended to meet the needs of projects from different disciplines and at different stages of development. Applicants should match the scale of their project to the appropriate funding level.

Note that interdisciplinary and multi-unit collaboration is *required* for Level 2 grants and *prioritized* for Level 1 grants. A PI may only apply for ONE type of grant this round (Level 1 or Level 2).

Level 2 RFP:

[http://graham.umich.edu/media/files/CNAP\\_FY23\\_RFP\\_LEVEL\\_2.pdf](http://graham.umich.edu/media/files/CNAP_FY23_RFP_LEVEL_2.pdf)

<sup>1</sup> Carbon neutrality, or net zero carbon emissions, refers to achieving zero net anthropogenic carbon dioxide emissions through a balancing of carbon emissions and carbon removal. The concept can be extended to include all anthropogenic greenhouse gases, which is referred to as climate neutrality or net-zero emissions. We use these terms interchangeably in this RFP.

<sup>2</sup> There is a large body of scholarly literature about the meaning of interdisciplinary, multidisciplinary and trans-disciplinary research. For the purpose of this RFP, we are using the National Academies' definition: "Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice." Committee on Facilitating Interdisciplinary Research, Committee on Science, Engineering, and Public Policy (2004). Facilitating interdisciplinary research. National Academies. Washington: National Academy Press, p.2.

**Objective 2: Positioning** – funds for research efforts that would position PIs/teams to be more competitive for future external funding. PIs/teams should have identified a specific, appropriate funding program/mechanism and be poised to submit a compelling, external proposal at the conclusion of their project.

#### *Research Topics and Characteristics*

Projects may span the physical, natural, engineering, and social sciences, as well as arts and humanities, and are open to a wide range of topics, sectors, methods, and geographies. Relevant topics include, but are not limited to, power, financing, transportation, industry, buildings, CDR and CCUS, social/economic transitions and equity, land use, and food/agriculture.

Recognizing that many carbon neutrality issues are inherently interdisciplinary and, in many cases, require a mixture of “bench,” field, and social science approaches to advance solutions, interdisciplinary collaboration, and particularly the integration of technical and social sciences, will be prioritized.

For either objective and any topic:

- the proposed scope of work must be distinct from prior or existing research projects.
- we primarily seek to fund “big ideas”—projects with potential for significant research and real-world impact, whether early-stage or an extension of existing work.
- we encourage engagement with external, non-academic partners (from business, government, communities, non-governmental organizations) to inform the research ideas, in the conduct of the research, to put research ideas into practice, and/or as part of the findings dissemination.
- both initial projects with high value/promise and “next level” research are eligible.

Additionally, each proposal team should clearly articulate both:

- the pathways through which the research findings are likely to lead to actionable solutions, and
- the potential scale of impact on net emissions reductions (more details below).

#### *Eligibility*

Proposed projects must be led by a U-M researcher or faculty member from the Ann Arbor, Dearborn or Flint campus who is eligible to serve as a U-M Principal Investigator (PI).<sup>3</sup>

Preference will be given to interdisciplinary projects with investigators from distinct disciplines and from multiple U-M academic and/or research units,<sup>4</sup> especially projects that span technical and social sciences; however, collaborative projects with a narrower focus and sole PI projects in new research areas are eligible. Prioritized projects will also include those that substantively include junior faculty on the PI leadership team.

A PI may only apply for ONE type of grant offered this round (Level 1 or Level 2). An individual may be listed as a PI on only one proposal, but may be listed as a Co-I on other proposals of either type. There is no limit to the number of proposals on which an individual may be listed as a Co-I. PIs on active CNAP grants are not eligible to apply as PIs this round.

Collaborators from other academic institutions are permitted, but no more than 10% of the project budget may be directed to other academic or research institutions. There is no limit on support for non-academic partners/collaborators on engagement-focused projects.

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<sup>3</sup> The definition of a U-M PI can be found at <http://orsp.umich.edu/principal-investigator-pi>.

<sup>4</sup> For lists of U-M academic and research units, refer to: [U-M faculty handbook](#), [U-M Dearborn colleges](#), [U-M Flint academic units](#), [QVPR research units](#), and [Office of the Provost institutes and centers](#).

## Proposal Submission Process

Potential applicants should review the application process as outlined in this RFP, following directions to submit a letter of interest (LOI) by May 11, 2022 and a full proposal by June 3, 2022. All applications must be submitted through the online submission form accessible through the Graham website.

## Key Dates

| Date              | Activity                        |
|-------------------|---------------------------------|
| May 11, 2022      | Letter of intent due (required) |
| June 3, 2022      | Full proposal due               |
| August 2022       | Funding notifications           |
| September 1, 2022 | Anticipated project start date  |

## Supporting Documents

All supporting documents can be found at the grant opportunity webpage:

[www.graham.umich.edu/carbonneutrality/grants](http://www.graham.umich.edu/carbonneutrality/grants)

## Letter of Intent Requirements

**Applicants are required to submit a brief letter of intent (LOI) by 11:59 p.m. ET on Wednesday, May 11, 2022. Proposals submitted without first submitting an LOI by this deadline will not be considered.**

The LOI is not binding and is not considering during the review and selection process. The primary reason for its use is to help gauge the size and range of the competition in order to guide the recruitment of reviewers. Program staff may initiate discussions with applicants based on information provided in the letters; however, applicants do not need an invitation to submit a proposal.

LOIs should be provided as a single pdf file that includes the following information:

1. *Project Title*
2. *Principal Investigator* – Name and contact information
3. *Planned Team Members* – Names and institutions. Team members may be added or removed at the proposal stage, but the PI should remain the same.
4. *RFP objective(s)* – Indicate the [RFP objective\(s\)](#) the proposed work will address.
5. *Anticipated Budget Request* – Estimated requested dollar amount. Proposals may request up to \$50,000 over a period up to 12 months. Expected range \$25,000-\$50,000.
6. *Project summary* – Provide a 250-word summary suitable for a non-technical audience that describes the project’s objectives, planned outputs, and anticipated outcomes. The project’s relevance for hastening a low-carbon transition and research significance should be clear.
7. *Potential reviewers* – Provide a list of 2-3 qualified, non-conflicted technical reviewers internal or external to U-M you anticipate could review the proposal. This list may be updated at the proposal stage. It is at the discretion of the program staff whether or not these suggestions will be used.

To submit an LOI, access the application page by clicking the “Apply for a Level 1 Grant” button on [www.graham.umich.edu/carbonneutrality/grants](http://www.graham.umich.edu/carbonneutrality/grants) then click “Apply.” Once you have logged in, enter the team information into the online form, upload your LOI as a single PDF, and save your application. All entries in the form can be updated at the proposal stage. You will receive a confirmation email when you have successfully saved your LOI. You may continue to edit your LOI application by updating the

form fields and uploading revised PDFs until the deadline, at which point your saved application will be submitted automatically. **If you do not receive a confirmation email, your LOI was not saved properly, and you should resave or contact us directly at [graham-cnap@umich.edu](mailto:graham-cnap@umich.edu).** Your LOI confirmation email will include a unique URL specific to your application. **Save this email – you will need this URL and login credentials to access your application to make edits to the LOI and submit a full proposal.**

## Proposal Requirements

**Proposals must be submitted by 11:59 p.m. ET on June 3, 2022. Only applicants who have submitted an LOI will be eligible to submit a proposal.**

Proposals (cover sheet, project narrative, and appendices) must be submitted as a single PDF file using 12-point Times New Roman font, with no less than single spacing and one-inch margins, and organized using the headers below.

### Cover Sheet

1. *Project Title*
2. *Principal Investigator* (primary contact for project) – Name, title/position, U-M unit, telephone, mailing address, and email address
3. *Additional Team Members* – Name, title, and institution/organization
4. *RFP Objective(s)* – Indicate the [RFP objective\(s\)](#) the proposed work will address.
5. *Budget Request* – Total request may not exceed \$50,000. Expected range \$25,000-\$50,000.
6. *Project Start and End Date* – Projects should start no earlier than September 1, 2022 and end no later than August 31, 2023.
8. *Project Summary* – Provide a 250-word summary suitable for a non-technical audience that describes the project's objectives, planned outputs, and anticipated outcomes. The project's relevance for hastening a low-carbon transition and research significance should be clear.

### Project Narrative (5 page maximum)

The narrative should not exceed 5 pages (including figures and tables, excluding appendices) and should be organized using the following headings. Approximate suggested page lengths are provided.

Narratives should use clear writing appropriate for non-specialists and make a strong case for the importance of the project to reviewers outside the discipline.

1. *Problem Statement & Project Objective (~1.5 pages)*
  - a. Introduce the carbon neutrality barrier or opportunity the project proposes to address, discussing both the importance of the issue to society and research significance.
  - b. Specify the [RFP objective\(s\)](#) you seek to achieve. Explain how the proposed work is new with high value/promise or a distinct, innovative advancement of existing research.
  - c. Briefly describe the existing expertise, activities, and/or prior university investment the project builds on and the need for internal funding to support the work. Both new and existing efforts are valued.
  - d. For engagement projects, clearly identify the project's primary partner(s)/end user(s) and their interests and needs relevant to the topic. This should be corroborated by a letter of support from the partner in the appendix.

2. *Approach (~ 2 pages)*

- a. Describe how the team will implement the proposed activities. This should include the core research question(s), methods, and data sources. Highlight the novelty/innovation and, if applicable, interdisciplinarity. Be sure to use language consistent with the activities/outputs listed on the timeline in the appendix.
- b. Briefly describe how the team will evaluate the implementation and outcomes of the project, including clear and appropriate measures of success. Refer to the [guidance](#) at the end for additional details.
- c. For team projects, describe the adaptive mechanisms the team will use to promote collaborative interactions that enable new knowledge and creative approaches and ensure effective project management.
- d. For engagement projects, describe the collaborative process that will ensure iterative engagement with partners(s), including when and how collaboration with partners connects to specific research tasks and informs the research process.
- e. Clearly state opportunities for U-M students.

3. *Outputs and Outcomes (~0.5 page)*

- a. Provide a list of the planned outputs and anticipated outcomes, clearly distinguishing between the two. Describe these briefly, clearly stating how the outputs address the issue described in the problem statement and will help lead to the anticipated outcome(s). Refer to the [guidance](#) at the end for definitions and examples.
- b. For positioning projects, the description should explain how the proposed activities will contribute to the development of a more competitive proposal to outside sponsors. Identify specific funders, how the proposed research topic fits with their priorities, and a timeline for submission.
- c. For engagement projects, be clear how partners anticipate applying project findings and using outputs in their work.

4. *Pathways to Impact (~0.25 page)*

- a. Articulate the pathways through which the research findings would ultimately lead to solutions (e.g., through private markets—products and innovations; policies—rules, laws, programs, management practices; individual behavior change).
- b. Articulate the potential significance/magnitude of the ultimate impact associated with the work (e.g., quantitative estimates of avoided or captured carbon, description of transferability or scalability, importance for a critical sector or population, etc.).
- c. Describe the equity impacts of the work and how the project will benefit historically underserved people and communities.

5. *Team (~0.25 page)* – Explain how the team is well qualified to implement the project, including, if applicable, how the collaborative effort will be stronger than the sum of disciplinary parts and maximize the potential impact of the work. Briefly state the role(s)/contribution(s) of the various team members; a table may be useful.

## Appendices

1. *References (up to 2 pages)*

2. *Graham proposal approval form (PAF)* – Complete the [Graham PAF](#) available on the grant opportunity webpage. **This is different from the PAF routed through the U-M eResearch**

**Proposal Management (eRPM) system. Signatures of the department/unit head and the dean or director of the college/school/unit are required.** Please allow time to route this form for signatures according to the policies and procedures in your campus unit.

3. *Timeline* – Using the [timeline template](#) identify start and end dates for the proposed work and list significant tasks and outputs, connecting directly to those identified in the narrative. Projects should start no earlier than September 1, 2022 and be completed no later than August 31, 2023.
4. *Budget and budget narrative* – Provide an itemized budget for the overall project using the [budget template](#) found on the grant opportunity webpage. The budget may not exceed \$50,000. Funds may be used to support normal research expenditures. Equipment purchases over \$5,000 and indirect costs are not allowed. **PIs on collaborative projects are encouraged to consider the unique requirements and levels of available funding associated with different units and disciplines.** PIs should articulate the specific activities for which the grant funds would be used as distinct from activities supported by other current funding sources. The budget narrative should justify expenses in all budget categories. Personnel costs must be broken out by individual and include number of months and percentage of time requested. For any subcontracts, include a separate budget using the same budget template and a separate narrative including the same detail as the overall budget.
5. *Current and pending support* – Provide information on all current and pending support for ongoing projects and proposals for all investigators on the team. Please utilize a format acceptable to NSF, DOE or the [provided template](#).
6. *Letters of support (if applicable)* – Provide letters from individuals and/or partners confirming contributions to and support for the project. Specifically, letters are required for a) team members or partners providing in-kind contribution of personnel time that is not funded in the budget, b) individuals, groups, and/or institutions providing data/access to data or other resources necessary for the project not otherwise accounted for in the budget, and c) primary partners in engagement projects.
7. *Resumes* – Include a brief (2-page) CV for PIs, Co-Is, and any senior project personnel.
8. *Reviewers* – Include a list of 2-3 qualified technical reviewers, including individuals both internal and external to U-M, who could review the proposal. You may also list up to 3 persons you would prefer not review your project and indicate why. Whether or not these suggestions will be used is at the discretion of the program staff.
9. *Other supporting documents (optional, 2 pages maximum)*

### How to Submit Your Proposal

Your proposal must be uploaded to your original application (the one you started at the LOI phase). To submit a proposal, you will need to log in to your account (using the same credentials as the pre-proposal phase) by following this link: <https://graham.umich.edu/user>. After logging in, you can edit your application by following the unique application URL.

Once logged in, you will need to do the following: 1) Review and update the fields in the online application form as needed (e.g., team members, budget); 2) Expand the “Project Information” section to access the proposal upload field and then upload your proposal as a single PDF; 3) Click the “save” button.

You will receive a confirmation email the first time you successfully upload and save your proposal. The email will include a link you may use to return to your application and make edits until the deadline, at which time your saved application will be automatically submitted. You will not receive a second

confirmation email at that time. **If you do not receive a confirmation email, your proposal was not saved properly and you should resave or contact us directly at [graham-cnap@umich.edu](mailto:graham-cnap@umich.edu)**

## Review Process & Evaluation Criteria

Proposals meeting the minimum requirements will be reviewed by Graham Institute staff, U-M faculty with relevant expertise, and additional experts as needed according to the criteria listed below. A subset of reviewers will convene as a panel to discuss the outcomes of the written reviews and develop a rank order recommendation of proposals to fund. Final awards will be determined based on the panel's recommendations and additional program goals and considerations including: available funding; fostering collaborations among U-M faculty and stakeholders; seeking diversity in myriad forms; and providing meaningful opportunities for U-M students.

### Evaluation Criteria

1. *Approach* – The extent to which the plan for carrying out the proposed activities is well-reasoned, well-organized, sufficiently-detailed, and technically sound, and incorporates a mechanism to assess success.
2. *Team* – Degree to which the team is has the expertise, experience, and well-defined roles to complete the proposed work. Clarity regarding how each team member and, if applicable, the integration of insights from the multiple perspectives will contribute to the project.
3. *Feasibility* – The extent to which the application demonstrates:
  - a. that measurable results are achievable within the project period and proposed budget;
  - b. access to and/or availability of necessary resources, including data;
  - c. necessary and reasonable project costs; and
  - d. in the case of positioning proposals, the potential for the award to provide a basis for further research support from external sponsors.
4. *Research significance* – The overall significance and scientific merit of the work, including the extent to which the project is novel/innovative and will address an important problem or a critical barrier to progress in the field and enhance the scholarly distinction of the university.
5. *Potential Impact* – The potential real-world impact of the approach or issue in advancing carbon neutrality, including: the extent to which the proposed process and outputs are feasible and likely to lead to the identified outcomes, clarity and reasonableness of the pathways to application, the magnitude/significance of the ultimate impact, and for engaged projects, the alignment of research plans and partners' interests.

## Proprietary Information & Intellectual Property

Applicants should be aware that the disclosure of patentable ideas, trade secrets, and privileged, confidential, commercial, or financial information can hinder an applicant's chances to secure patents, trademarks, or copyrights. Proprietary information of this kind should only be included in proposals when it is necessary to convey an understanding of the proposed project. Applicants must mark proprietary information clearly in the proposal with appropriate labels, such as, "The following is (proprietary or confidential) information that (proposing entity) requests not be released to persons outside the Graham Sustainability Institute, except for purposes of review and evaluation." Please protect your intellectual property rights at the proposal preparation stage as appropriate. This will allow you to speak freely about ideas and avoid the inadvertent loss of intellectual property rights. Contact Innovation Partnerships to determine the best way to protect your intellectual property.

## Additional Project Support

All awardees will receive additional support from the Graham Sustainability Institute during the project period. Check-ins with Graham staff will identify roadblocks, facilitate solutions, and connect teams with additional resources, including other funded teams. In addition, Graham staff will assist teams in developing translational materials and leveraging relevant university communications resources to support knowledge dissemination and impact.

## Diversity, Equity & Inclusion

At the Graham Sustainability Institute, our dedication to academic excellence for the public good is inseparable from our commitment to diversity, equity, and inclusion. Our mission of engaging, empowering, and supporting faculty, staff and students to foster sustainability solutions includes ensuring that each member of our community thrives. We believe that diversity, equity, and inclusion are key to empowerment, and the advancement of sustainability knowledge, learning, and leadership.

## Questions and Program Contact

**Question and Answer Record:** Responses to all questions, without reference to project specifics, will be posted on a rolling basis for all interested applicants to view on the grant opportunity webpage:

[www.graham.umich.edu/carbonneutrality/grants](http://www.graham.umich.edu/carbonneutrality/grants)

**Email & Phone:** Questions should be submitted to [graham-cnap@umich.edu](mailto:graham-cnap@umich.edu) or directed to Maggie Allan at [maallan@umich.edu](mailto:maallan@umich.edu) or 775-293-0134 (Cell).

## Guidance & Definitions

**Project outputs** are specific products created or services delivered during or upon project completion; there may be several associated with a project. Example outputs include, but are not limited to: scientifically produced datasets and analyses; a refined research question informed by preliminary data collection and stakeholder collaboration; publications, presentations or other scholarly work; a grant proposal for (or a detailed and actionable strategy for pursuing) continued funding; and translational services and products that support dissemination of findings and/or decision-making such as workshops, white papers, guides, briefs, op-eds, factsheets, social media, or local media engagement.

**Project outcomes** are the expected impacts of the project process and outputs; there may be several outcomes associated with a project. Outcomes can occur over the short- or long-term. They include how the work will change or influence knowledge, behavior, practices, procedures, or policy to advance carbon neutrality. Proposed project outcomes should clearly follow from the proposed activities and outputs (longer-term, ultimate outcomes/impacts should be described in the “Pathways to Application” section) and should include at least some of the following: advancements in understanding; new or strengthened collaborative relationships; maximized faculty competitiveness for external funding through clear and actionable plans to pursue funding; additional capacity among external partners to advance carbon neutrality.

**Evaluation** helps teams improve their project, communicate results, and inform future work. Proposals should describe plans to assess both project implementation (extent to which the project is functioning as planned, what and how much was accomplished, identified major challenges and successful strategies) and outcomes (including unintended effects). Proposals should identify which aspects of implementation and outcomes will be assessed, the method(s) for answering those questions, and clear and appropriate measures of success. Recognizing that project evaluation efforts and reporting will be completed during the project period, a focus on outputs and short-term outcomes is expected. Applicants are strongly encouraged to include a formative evaluation or feedback component during the project to allow adjustments to improve the project design and implementation.