



# GREEN FUND

Sustainability Through Student Innovation

## 2021 Student Research Grant Application

**Green Fund Mission Statement:** “The NAU Green Fund promotes student participation in and provides funding for projects that reduce NAU’s negative impact on the environment and create a culture of sustainability.”

In support of the Green Fund’s Mission Statement and its ability to improve sustainability on campus, the Green Fund will be accepting proposals for research projects that help to understand and reduce NAU’s environmental impact, with the goal that this research funding could act as seed funding for Green Fund project proposals.

Although the Green Fund will consider all applications that meet the Student Research Grant guidelines, the Green Fund has recognized a need for specific fields of research that will improve sustainability on campus. Below is a list of desired research projects. Applications addressing these categories will be given preference in the selection process. Additionally, research projects that are designed to produce actionable results at NAU through the Green Fund will be given further preference.

### 2021 Student Research Grant Proposal Recognized Needs:

- Energy
  - Analyzing NAU’s energy usage and identifying areas of improvement
- Waste Minimization
  - Campus-wide composting service and education
  - Waste management or minimization on NAU campus
- Intersectionality/Environmental Justice
  - COVID sustainability
  - Indigenous knowledge and applications
- Transportation
  - Bike safety & resources on campus
  - Buses and public transportation
- Emissions
  - Carbon sequestration
  - Scope three emissions (ex: commuting)
  - Carbon emissions of manufacturing construction materials used on campus
  - Analyzing carbon emissions of NAU
- Other
  - Analyzing water capture and reduction on campus
  - Understanding sustainability behavior/perspectives of NAU students

Application opens: **October 11th, 2021**

Application closes: **November 8th, 2021 at 5:00 PM**

Funding awards will be announced by: **January 1, 2021**

Submit completed application packages to: [GreenFund@nau.edu](mailto:GreenFund@nau.edu)

# Application Details

All applications **must** meet the following requirements to be considered for funding:

1. Research must be primarily conducted by either an **undergraduate or graduate student** who is currently enrolled full-time at NAU.
2. Research must be conducted under the guidance and approval of a full-time NAU faculty member.
3. Research design and goals must focus on improving sustainability on NAU's campus.

Only a complete application package will be considered for funding. A complete application package includes:

- An abstract of the projects goals, expected results, and broader impacts to the NAU campus community; 200-300 words.
- Detailed project proposal (1-2 pages), with specific information about current literature, research goals, methods, and how this research will improve sustainability at NAU.
- Questionnaire (filled out from template provided below).
- Project budget (filled out from template provided below).
- Project timeline (filled out from template provided below).
- Letter of recommendation from the faculty supervisor of the project which specifically addresses the student's ability to conduct and complete the research (may be submitted separately from the rest of the application package, but must be received by the deadline).
- Signed commitment from the student to present a status update of their research in the form of both an oral presentation to the Green Fund Committee and a poster/exhibit presentation at the Undergraduate or Graduate Symposium, no more than 1 year after receiving notification of funding.

Additional Requirements and Rules:

- Funding provided by the Green Fund may not be used in any way for faculty salary.
- Funding may allow for use as student wages depending on the specifics of the project and explicit approval from the Green Fund. The Green Fund recognizes that some projects require minimal physical materials, but rather a significant amount of time.
- Funding is limited to one proposal per student per year, but applicants may apply across multiple years. A student who has previously received a Green Fund Student Research Grant is no more or less likely to receive a second year of funding.
- Recipients of the Student Research Grant will be determined at the sole discretion of the Green Fund Committee. Funding is dependent on merit and goals-based review of all complete applications.
- Average award funding is \$3,500, but applications requesting higher amounts will still be considered.
- Undergraduate students may budget \$10.00/hour for 200 hours maximum
- Graduate students may budget \$15.00/hour for 200 hours maximum

## Contact Information

Project Leader Name: Kelcie Kraft \_\_\_\_\_ Phone: 319-430-5065\_E-mail: [klk498@nau.edu](mailto:klk498@nau.edu)

Project Advisor Name:Debbie Huntzinger\_Phone: 928-523-1669E-mail: [deborah.huntzinger@nau.edu](mailto:deborah.huntzinger@nau.edu)

Position: Associate Professor, Climate Science\_Department: School of Earth and Sustainability

Project Name: NAU Campus Refrigerant Audit

# Questionnaire

Please select the focus of your research project, then address the following questions.

- Renewable energy/ Energy efficiency/
- Emissions reduction
- Environmental justice/ Intersectionality
- Waste Minimization
- Understanding sustainability behavior/perspectives of NAU students
- Transportation
- Other: \_\_\_\_\_

1. How will your research benefit the mission statement of the Green Fund and improve sustainability on NAU's campus?

My proposed research will provide GHG emissions insight that will be critical in planning for a carbon-neutral campus at NAU. GHG emissions associated with refrigerant use are often overlooked in GHG emission inventories because the information needed for emission calculations is often not tracked or is more difficult to obtain. However, given the large global warming potential of many refrigerants, it is imperative that a campus-wide inventory of fugitive emissions from refrigerant use be conducted in order to better understand their role in NAU's GHG emission inventory, identify ways limit future emissions, and better inform decisions on transitioning to more climate-friendly refrigerant options.

2. Will your research require the utilization of any spaces or infrastructure on campus? If so, identify the specific locations and/or infrastructure, how much of the space you require, and what each space will be used for.

No specific space will be required.

3. Will other departments on campus (other than your own) be needed to assist in this project (i.e. Facility Services, Campus Transit)? If so, identify department partnerships.

This proposed project will require the knowledge and cooperation of various Facility Services staff members, as well as campus dining staff, and fleet services staff. These will be information-gathering partnerships.

# Project Budget

Please respond to the following funding question, and complete a thorough breakdown of all project costs in the provided Line Item Budget below. **Include a 5% line item for contingency.**

1. Does this project have any other sources of funding, and/or have you applied for other sources of funding? If so, list all additional sources of funding, both confirmed and potential, outside of the funds being requested from the Green Fund.

## Line Item Budget:

Item	Justification of Item	Quantity	Price Per Unit
Research Hours	Time required to acquire all relevant information from involved campus parties, complete inventory, and synthesize results/provide recommendations	200	15.00
Contingency		10	15.00

**Total Funding Requested: \$3,150**

# Project Timeline

Please provide an expected timeline for your research in the template below. The Green Fund recognizes that complex projects of this nature should have flexible, adaptable schedules, and the timeline provided will be treated as such. However, it is expected that you strive to adhere to this schedule as much as possible.

**Expected Timeline:**

<b>Action</b>	<b>Parties Involved</b>	<b>Month/Year</b>
<b>Contact relevant parties to begin audit process</b>	<b>HVAC services, Facility Services, Dining Services, Transportation Services</b>	<b>January 2022</b>
<b>Work with departments to obtain information on HVAC, refrigeration, and fire suppression equipment on campus</b>	<b>HVAC services, Facility Services, Dining Services, Transportation Services</b>	<b>January-March 2022</b>
<b>Have all relevant information on purchasing/inventories of campus refrigerants acquired</b>	<b>HVAC services, Facility Services, Dining Services, Transportation Services</b>	<b>April 2022</b>
<b>Synthesize data and complete initial inventory</b>		<b>May 2022-July 2022</b>
<b>Provide recommendations for further action to the University</b>	<b>Office of Sustainability, Green Fund</b>	<b>August 31, 2022</b>

**Expected Project Completion Date:** August 31, 2022

# Commitment to Present Research

Please read and sign the statement below, acknowledging your commitment to present the findings of your research.

If selected as a recipient of the 2021 Green Fund Student Research Grant, regardless of the outcome of my research project, I Kelcie Kraft commit to presenting the status of

my research described in this application in the form of both an oral presentation to the Green Fund Committee and a poster/exhibit presentation at the Undergraduate or Graduate Symposium, no more than 1 year after receiving notification of funding.

The oral presentation to the Green Fund Committee will consist of an approximately 10 minute long PowerPoint that includes the following aspects of your project:

- Original goal and purpose of research
- Conflicts or changes to the original purpose
- Results/Conclusion
- All relevant graphical displays of data

Project Leader Signature:

**Kelcie Kraft**

*Thank you for your submission. We deeply appreciate your commitment to sustainability at NAU, and we look forward to reviewing your application. Please direct any further questions to [GreenFund@nau.edu](mailto:GreenFund@nau.edu).*