



THE UNIVERSITY OF ARIZONA

Sustainability & Climate Action Plan

Coordinate Funding Structures & Incentives for Climate-Engaged Research

SUSTAINABILITY COMMITMENT(S) THIS INITIATIVE SUPPORTS

- **10 - Sustainability Research Funding**

INITIATIVE ALIGNMENT WITH THE CHARGE

- **Eliminate Emissions:** Funding will incentivize research focused on and aligned with specific emissions reduction goals on campus, in Tucson, and in our broader communities (Arizona/Southwest/United States/Global). An area of interest that could be developed further in this vein includes assessment of how research projects can commit to reducing emissions within their project development and execution.
- **Build Community:** Having centralized research funding for sustainability will help develop a community among sustainability/climate researchers in disparate colleges/departments at the University of Arizona, and will contribute to the university's engagement with our surrounding (non-university) communities.
- **Be Actionable:** Action-oriented research will be prioritized through these funding incentives. Also, this initiative is actionable because it is focused on re-organizing and coordinating existing structures and funds, rather than acquiring new ones.
- **Be Data Informed:** Proposals funded through this initiative will be required to demonstrate the data-informed need for the research.
- **Inspire Adaptive Management:** Some research funded by this initiative will target adaptive management strategies (e.g., assess their feasibility on campus or in our broader communities).
- **Demonstrate Leadership:** By conducting sustainability research, especially in the local community, the University of Arizona will demonstrate its role as a leader in Tucson and Arizona in addressing sustainability issues. Additionally, as a global leader in climate and sustainability research, the University of Arizona is well positioned to leverage local leadership to inform on how universities can support community resilience more globally.

INITIATIVE DETAILS

Initiative Summary

This initiative proposes to create a coordinated approach to pursue and develop additional funding sources for climate and sustainability research at the University of Arizona. By centralizing efforts through the Arizona Institute for Resilience (AIR) and including related fields such as health sciences, the initiative aims to incentivize high-impact, interdisciplinary research focused on climate mitigation,

adaptation, and sustainability. This effort will ensure equitable distribution of resources, enhance competitiveness of sponsored project proposals, and contribute to local and campus-wide emissions reduction goals. Actionable items include:

- Develop additional internal and external funding sources and redistribute existing funds equitably among departments and campus communities.
- Appoint a coordinator to manage funding efforts, ensuring the initiative's implementation and maximizing institutional return on investment.
- Connect with Lewis-Burke Associates to explore current federal funding opportunities and mechanisms supporting climate-focused research.
- Emulate the COVID-19 request for proposals (RFP) model to emphasize impact, collaboration, transdisciplinary research, and equity-centered approaches.
- Offer training and compile best practices for climate-conscious research to guide RFPs and enhance research quality across all disciplines.

Proposed Initiative & Background

To demonstrate leadership and commitment to climate action and sustainability, one important role of a university is to conduct research that generates knowledge about the climate system, creates action-oriented climate solutions, and contributes to sustainability initiatives within the broader community. The University of Arizona has a strong track record of conducting climate- and sustainability-oriented research through many of the organizations and initiatives listed below. However, a more intentional, comprehensive, centralized effort to coordinate funding structures and assess how climate initiatives are being considered and/or implemented across programs could help elevate these efforts more broadly. This builds upon efforts already being coordinated via the Arizona Institute for Resilience (AIR), located within Research, Innovation, & Impact (RII), which functions as a university-wide aggregator of climate- and sustainability-oriented research. However, there should be efforts to include health sciences and other related fields within these considerations as they play a key role in how climate impacts are felt and can be managed via societal initiatives.

This initiative is focused on creating a coordinated approach to pursue and develop additional funding sources for climate and sustainability research. This could take the form of coordinating the development of additional funding sources (e.g. additional internal funding, the pursuit of novel federal funding, philanthropic funding) to incentivize innovative and high-impact research on climate mitigation, climate adaptation/resilience, and overall sustainability, as well as redevelopment/redistribution of existing funding (including centrally-managed funds) to maximize outcomes of existing opportunities. This (re)distribution of funds must be performed equitably among departments and campus communities. This can also take the form of connecting with Lewis-Burke Associates regarding current federal funding opportunities and mechanisms to support climate-focused research (defined as interdisciplinary research that is focused on climate mitigation, adaptation, and/or communication efforts). Creating a new staff role to coordinate these efforts would be one practical way of realizing this initiative, as implementation of this initiative is likely to require initial internal investment or reorganization of existing resources/personnel that can provide an institutional return on investment by making sponsored project proposals more competitive.

The structure of such a funding incentive could emulate that of the COVID-19 request for proposals (RFPs), with emphasis on impact, collaborative, transdisciplinary, and equity-centered research, and research focused on sustainability in Tucson and/or on campus, offering support toward local emissions reduction goals. The funding mechanism(s) could be accompanied by a training/list of best practices for climate-conscious research across all research types (not just climate/sustainability research) that guide the RFPs. To leverage grant funding, existing and newly acquired funds could be housed in AIR, RII, or other entities.

This initiative aligns with RE 4 “Build Interdisciplinary Approach to Climate-Engaged Research.”

The biggest challenge will be finding stable and ongoing funding sources.

Data Analyses to Support Initiative

The Technology and Research Initiative Fund (TRIF) (<https://research.arizona.edu/trif>) established through Proposition 301 and approved in Arizona in November 2000, raised the Arizona state sales tax by 0.6% to support university research and innovation. During the early pandemic, funds from TRIF were reallocated and used as rapid seed grants (<https://bio5.org/news/trif-supported-covid-19-seed-grants-enable-collaborative-solutions-pandemic>) granting the BIO5 Institute at the University of Arizona over \$500,000 to jump-start research projects tackling COVID-19. Criteria for the grants included: 1- Immediate impact, 2- Collaboration and teamwork of applicants, and 3- Use of University of Arizona core facilities to address research questions.

Similar criteria can be used for grant applicants looking to secure funding for their research as well, with an additional focus on developing scalable solutions to address the climate crisis. From the previously quoted TRIF article: “TRIF allows the flexibility to pivot and repurpose campus resources to engage in the complex fight against COVID-19, drawing on faculty expertise, campus facilities, logistical assets, research labs, and campus staff and leadership to provide immediate assistance.” If TRIF can be used as a response to COVID-19 to mobilize research in such a short amount of time, the same is true for the climate emergency we face.

Some existing examples of similar funding structures at other universities are as follows:

- New York University: Climate Change Research Resources & Funding
<https://www.nyu.edu/about/leadership-university-administration/office-of-the-president/office-of-the-provost/current-priorities/climate-change/climate-change-research-resources---funding.html>
- Boston University: Sustainability Innovation Seed Grants
<https://www.bu.edu/sustainability/projects/sustainability-innovation-seed-grant/>
- Harvard University: Salata Institute Seed Grant Program
<https://salatainstitute.harvard.edu/seed-grant-program/>
- University of Utah: Wilkes Seed Grant Program
<https://wilkescenter.utah.edu/funding-opportunities/faculty-seed-grant/>

- University of Massachusetts at Amherst: Sustainability Seed Grant Funding
<https://www.umass.edu/ses/research/sustainability-seed-grant-funding>
- Brown University: Sustainability Seed Grants
<https://sustainability.brown.edu/get-involved/sustainability-seed-grants>
- Arizona State University: Sustainability Initiatives Revolving Fund
<https://cfo.asu.edu/sirf>

Resource Requirements & Return on Investment

Resource Requirements

- Costs would be driven by research needs, which may include funds for salary/personnel, equipment, analyses, publication, operations, etc.
- If a staff position were prioritized, funding would be primarily needed for this position (rather than the acquisition of new funding sources, which would be handled later on).

Return on Investment

- Investing the time and resources into pursuing this initiative could result in additional research dollars for the university, as a new framework for prioritization and distribution of funding could attract new donor sources.
- The increased funding budget could offset the hiring costs associated with the proposed staff position, and should help to increase total research budget for sustainability-related projects for the future.

Potential Funding Sources

- Potential funding sources could include charges similar to the Water, Environmental, & Energy Solutions (WEES) initiative currently operating through TRIF within the Arizona Institute for Resilience, but potentially broadened beyond just Arizona-relevant projects. Collaborations with the National Science Foundation, the Department of Defense, and the Department of Energy could be incentivized, as could partnerships with stakeholder organizations willing to fund research (e.g., utility companies, local government, etc.). Additional costs must not be placed on students.
- Existing, related funding structures (which could be combined into this larger initiative) include:
- Climate Assessment for the Southwest (CLIMAS) student funding- (~\$5,000 graduate fellows program)
- RII community engagement grant (\$25,000)
- Peter & Pat Hirschman University-Community Research Partnership Fund within the College of Social & Behavioral Sciences (~\$20,000)

- Arizona Institute for Resilience working groups (\$15,000)
- Arizona Institute for Resilience postdoc - Postdoctoral Research Associate in Climate Change and Human Resiliency
- Campus Sustainability Fund
- Udall Center Fellowships
- [University of Arizona Equipment Enhancement Fund](https://research.arizona.edu/development/find-%20funding/internal-funding/equipment-enhancement-fund)
<https://research.arizona.edu/development/find-%20funding/internal-funding/equipment-enhancement-fund>
- Bringing Efficiency to Research ([BETR](https://betrgants.weebly.com/)) Grants: broadly used by universities to green their labs
<https://betrgants.weebly.com/>
- [From the US Department of Agriculture for Food and Agricultural Labs](https://www.nifa.usda.gov/grants/programs/competitive-%20agriculture-and-food-research-initiative-AFRI/equipment-grants-program-egg)
<https://www.nifa.usda.gov/grants/programs/competitive-%20agriculture-and-food-research-initiative-AFRI/equipment-grants-program-egg>
- [Environmental Protection Agency People, Prosperity, and the Planet \(P3\) Grant Program](https://www.epa.gov/P3/learn-about-p3-program) (for undergrad and graduate students pursuing sustainable projects)
<https://www.epa.gov/P3/learn-about-p3-program>
- Select companies provide rebates to sustainable labs for any green pursuit, including: Thermo Fischer Life Technologies, New England Biolabs, Fischer Scientific, Millipore Sigma, VWR, etc.
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Accountable Division(s) & Department(s)

- Western Environmental Science Technical Assistance Center for Environmental Justice (WEST EJ) Center (Lead: Paloma Beamer; this is the new EPA funded Environmental Justice Technical Assistance Center)
- Southwest Environmental Health Sciences Center (Lead: Paloma Beamer for Community Engagement)
- Center for Applied Hydroclimate Science (CAHS) (Lead: Chris Castro)
- The Ramírez-Andreotta Integrated Environmental Science and Health Risk Lab
- Southwest Institute for Research on Women (<https://sirow.arizona.edu/community-engagement>)
- AIR: multiple programs, research incentives, and funding structures for sustainability
- RII: multiple internal funding mechanisms. The overall coordination of this effort would be housed at RII

Partners & Collaborators

- Researchers conducting sustainability research on campus (at all career stages)
- funding agencies and partnering community organizations.
- Research Development Services (<https://research.arizona.edu/development>)
 - there is extensive experience existing in developing similar initiatives.
- College of Science

- developing "Climate & Resilience" research is a focus area of the College's new Strategic Plan. This approach can be adopted across multiple colleges in the university, especially those that also list climate and/or resilience in their strategic plans.

Implementation

Length of Time to Implement

- Less than one year
- One to five years
- More than five years

Difficulty of Implementation

- Low
- Medium
- High
- Extremely High

Relative Timing

- Begin within two years
- Begin in three to five years
- Begin in six years or later

Metrics for Success

- Changes in dollars for funding climate-engaged research
- Increases or changes to the variety of funding sources
- Distribution of the size of projects that are funded, and the diversity of groups/researches that are awarded funds
- Reduced overlap in duplicative applications for similar funding sources