



## 2023 Guide to Writing a Realizing Environmental Innovation Program Proposal

**PROPOSALS ARE DUE WEDNESDAY, JANUARY 18<sup>th</sup> @ 5PM PST**

**Complete and submit your application here:**

<https://web.stanford.edu/dept/woods/cgi-bin/seed/app/reip-application.php>

The Stanford Woods Institute for the Environment seeks to advance innovative solutions that private market, public policy and individual stakeholders can adopt and are of significant consequence in solving pressing environmental challenges facing people and the planet. These innovative solutions can include but are not limited to novel technologies, practices, approaches to behavior change, public policies or some combination.

The Realizing Environmental Innovation Program (REIP) is intended to provide next stage funding to PIs to validate and move existing interdisciplinary environmental research innovations toward adoptable solutions implemented by external stakeholders and partners. To be considered, projects should demonstrate significant progress in identifying a solution and strong potential for its viability for important solution stakeholders.

PIs with the most competitive proposals that strongly fit Woods priority focal areas and deemed most promising in terms of achieving environmental solutions will be invited to discuss their proposed project with a panel of external advisors to the REI Program and Woods leadership. The purpose of the interview is to answer questions about the proposal and to explore involving advising resources.

*The Stanford Woods Institute partners with the Stanford Graduate School of Business, members of our Advisory Council, and others outside of Stanford, where relevant, to help faculty identify advising resources for REIP projects. Project teams taking advantage of this offer have gained assistance in thinking through potential organizational models for delivering their discoveries and innovations, established new connections to relevant stakeholders and developed strategies for overcoming barriers to reaching end users. **Please contact Brian Sharbono, Associate Director, Programs, Stanford Woods Institute, at [sharbono@stanford.edu](mailto:sharbono@stanford.edu), if you are interested in opportunities to gain advising for your project.***

### PROGRAM PRIORITIES

The Realizing Environmental Innovation Program seeks later stage projects that, similar to the Woods Institute's long-standing Environmental Venture Projects (EVP) program:

- Are high-risk, transformative and have the potential to produce solutions to major global environmental challenges;
- Build on and extend interdisciplinary collaborations among Stanford faculty;
- Address specific challenges for issues including: Issues to be addressed may include: climate mitigation, oceans, ecosystem services and conservation, environmental justice and equity, environmental health, freshwater, food security, climate adaptation and sustainable development.
- Directly engage external partners and stakeholders

## PROGRAM GUIDELINES

Proposed projects should:

- Represent one or more of the above program priorities;
- All PIs must have Academic Council or Medical Center Line standing;
- Involve at least two PIs at Stanford from separate disciplines;
- Demonstrate that significant research progress has been accomplished and results are promising;
- Incorporate a clear strategy for moving research discovery and innovation into a solution to a major environmental challenge implementable by identified, non-academic stakeholders;
- Demonstrate interest on the part of external stakeholders in the solution concepts;
- Demonstrate how REIP funding will help move the project along that pathway;
- Document how the collaborative effort will be stronger than the sum of disciplinary parts;
- Explain why the project is at a stage where outside funding is not yet available, yet make a strong case that continued advancement holds real promise for outside financial support;
- The Woods Institute will consider projects with budgets up to \$500,000 for a maximum award period of three years.
- Former Stanford Woods Institute EVP grant winners are eligible. Faculty teams need not have received an EVP award to be eligible.
- Faculty members may only be Lead PI on one REIP application at a time.
- Likewise, a faculty member may not apply to Lead a Woods Institute EVP grant and an REIP grant in the same application cycle.
- Faculty members are also restricted from being the Lead PI on more than one active grant from the EVP Program or REIP Program.
- However, faculty may be the Lead PI on consecutive grants from the EVP program and/or REIP program. A Lead PI applying for a new award in 2023 will need to have any active grant award from either EVP or REIP set to close in 2023 and must submit the required financial and narrative reports of the active award before spending under the new award will be allowed.
- *REIP grants must otherwise comply with the requirements and restrictions for awards of the Office of Sponsored Research.*

If you have any questions about your project or research idea, or would like additional information, please contact Chris Field, Stanford Woods Institute Director at [cfield@stanford.edu](mailto:cfield@stanford.edu) or Brian Sharbono, Associate Director, Programs at [sharbono@stanford.edu](mailto:sharbono@stanford.edu).

If you and your Finance Administrator have questions about the budget and budget justification requirements, including subawards, please contact Paula Wetzel, Assistant Director of Research Administration at [pwetzel@stanford.edu](mailto:pwetzel@stanford.edu) and Brian Sharbono, Associate Director, Programs at [sharbono@stanford.edu](mailto:sharbono@stanford.edu).

If you have technical questions or issues in submitting your LOI through the online application system, please contact Keith Iverson, IT Manager at [kailou@stanford.edu](mailto:kailou@stanford.edu) for assistance.

## REVIEW PROCESS

**Proposals are due Wednesday, January 18, 2023, 5:00 pm PST.** The Woods Institute may invite review from experts not on the external advisors committee, and project teams may be asked to respond to questions raised by revising their proposal. Awards will include an agreement with the project team for periodic update meetings with the Woods Institute and Advisors throughout the award period, in addition to annual reports.

Finalists for awards will be asked to complete an Ethics and Society Review Statement and respond to any feedback and questions raised regarding mitigating societal risks by the Stanford Ethics and Society Review panel. This is a distinct process from that of the IRB, and more information may be found here: [https://docs.google.com/document/d/1Z3ZKvfcpn\\_BcE7S\\_AmcnJ8YmloJrPC299UTbbdipcTQ/edit?usp=sharing](https://docs.google.com/document/d/1Z3ZKvfcpn_BcE7S_AmcnJ8YmloJrPC299UTbbdipcTQ/edit?usp=sharing)

Upon satisfactory completion of the ESR process (~3 weeks from notification as finalist), we will issue formal notices of award and move to award setup, with start date July 1.

## PROPOSAL APPLICATION INSTRUCTIONS

NOTE: THE LEAD PRINCIPAL INVESTIGATOR MUST INVOLVE THEIR QUALIFIED FINANCE ADMINISTRATOR IN THE DEVELOPMENT OF THE BUDGET AND BUDGET JUSTIFICATION CORRESPONDING TO THE PROPOSAL AND IS ADVISED TO DO SO EARLY ON.

A Research Administrator is a person who normally handles budget information. The Research Administrator is not considered a member of the research team.

### Steps to anticipate for completing and submitting the application:

- 1.) **The Lead Principal Investigator** may begin an application for an EVP grant here: <https://www.stanford.edu/dept/woods/cgi-bin/evp/evp-application.php>

The Lead Principal Investigator (Lead PI) must enter the Sunet IDs of the Lead PI and all Co-Principal Investigators (Co-PIs) in the fields provided. At least one Lead PI and one Co-PI is required. All PIs entered will be validated for Academic Council or Medical Center Line status against the faculty list provided by the Office of Faculty Affairs.

- 2.) **The Lead Principal Investigator** must also enter the SunetID of the Finance Administrator for the proposal in the field provided for the application.
- 3.) **The Lead Principal Investigator** must upload the proposal narrative, or problem statement, as separate pdf where provided for in the application system.

*The proposal narrative is to be completed per the instructions below.*

- 4.) **The Finance Administrator** for the project must upload the budget for the proposal as separate pdf within the application.

*The budget is to be completed per the instructions below.*

- 5.) **The Finance Administrator** for the project must upload the budget justification, with complete explanations for each line item, as separate pdf within the application.

*The budget justification is to be completed per the instructions below.*

- 6.) After the Finance Administrator has uploaded the budget and budget justification pdfs, the Lead PI will be able to view all pdf documents, and only the Lead PI may proceed to submit the proposal.
- 7.) The Lead PI may resubmit the application as many times as desired until the deadline. The system only saves the most recent submission.

## 1. Proposal Narrative Lead PI uploads as separate pdf within the application system.

Rules to write by:

- The EVP proposal narrative of Parts I – IV must not exceed 6 pages in length.
- This 6-page limit excludes the title and summary page and the addendum of biosketches, current and pending support for each PI and listing of scholarly references cited that support the proposal. Please keep Biosketches to one page per person.
- Be concise and compelling. Excessively long proposals do not generally score extra points with the reviewers.
- Assume that invited external advisors and reviewers have limited familiarity with your topic. Avoid jargon and explain your ideas in language accessible to a diverse audience.

Please include the following as the narrative problem statement pdf that you upload:

### **Title and Summary Page** (not counted as part of the 6 page limit)

List project title, team members and project period (July 1, 2023 – June 30, 2025, generally).

Include one brief paragraph in *layperson's language* describing the key objectives of the research proposal. If your proposal is funded, this paragraph will be used in marketing materials and published on the Woods website.

### **Part I - Problem Statement** (Parts I – IV are limited to 6 pages, including use of figures)

The proposal should describe the following in clear terms (minimal use of jargon):

- a. Please describe your effort in the larger framework of the major environmental challenge.
- b. The problem your proposal addresses and its importance
- c. Your research findings and innovation to date
- d. The research to be pursued by the PIs and research team.
- e. Which non-academic external stakeholders and partners have you spoken with about the fit of your initial discovery and solution concept with their needs? Which have expressed interest and which, if any, have incorporated your findings and innovation into their actions? How has this informed the research, project objectives and the desired results of this proposal?

### **Part II - Knowledge to Action Plan:**

Who will you engage with and what will you do to ensure that your research results in actual change?

- a. Please describe the pathway(s) through which your research findings are likely to lead to solutions, e.g., through private markets (new products and service; changes to industrial or business practices), government policies (rules, regulations, laws, public management practices, procurement) or behavior changes among individuals.
- b. Please describe how you anticipate engaging non-academic external stakeholders during the award period, and how you envision stakeholder engagement may shape the form of solutions to come from this project. Who on the team will lead external engagement and the investigation of market/policy/community fit for the emergent solutions?

*External stakeholders and partners may be decision makers in government charged with public policymaking and public management related to the motivating environmental issue and/or your approach. They may be existing companies, venture capital interests, or even the Office of*

*Technology and Licensing that you engage to explore potential IP and commercial possibilities. They may be relevant NGO, community groups or other organizations with capacity to adopt or implement your findings at some scale.*

- c. How do you envision the solutions derived from this work will be organized and deployed?
- d. What factors may facilitate and what factors may inhibit the transmission of your research discoveries into action to solve the major environmental challenge motivating this project?
- e. Please share any additional thoughts regarding transforming your research into adopted solutions, including resources you believe will be required and assistance you are interested in.

### **Part III – Interdisciplinary Team:**

Describe the composition of your team, explaining to what extent the PIs bring different disciplines and diverse strengths, and how the team will work as an integrated unit. Please consider how you might have undergraduate and graduate students become involved in the research effort.

- a. Faculty Lead Principal Investigator and Co-Principal Investigator(s).
- b. Other Individuals involved and contribution to the project
- c. External collaborators
- d. Indicate if team members have worked together before.
- e. Define research roles and responsibilities. Be sure to articulate how the team will work together and how the collaborative effort will be stronger than the sum of disciplinary parts.

### **Part IV – Funding**

- a. What are the sources of support and amounts to date for your research in this area?
- b. Explain why additional support is needed at this time and why a Stanford Woods Institute REIP award is appropriate?
- c. What is your vision for subsequent investment needs? By the conclusion of this award, what type and level of additional investments and other resources do you expect will be required to gain greater deployment, adoption and use of your solution approach outside of the university, if successfully validated? List specific types and sources of funding which you believe progress under an REIP award grant will enable you to be competitive in pursuing.

### **Addendum (not counted as part of the 6 page limit)**

- a. Current and pending support information for each investigator, including other sources to which you have or will be submitting this project for consideration.
- b. Biosketch for each investigator (maximum 1 page for each)
- c. List of scholarly references cited to support your proposal

## 2. Budget Finance Administrator uploads as separate pdf to application system

Note: The project's Research Administrator must be involved in the development of the proposal budget and justification to ensure compliance, including with Stanford budget rates, rules on use, etc. A Research Administrator is a person who normally handles budget information. The Research Administrator is not considered a member of the research team. **Only the Research Administrator indicated in the application is able to upload the Budget and Budget Justification pdfs and must do so before the PI will be able to submit the proposal.**

Provide the following information:

- Salary
- Benefits
- Tuition
- Travel Domestic
- Travel International
- Participant Support
- Participant Travel
- Equipment Lease
- Equipment
- Consultant Services
- Materials and Supplies
- SLAC Charges
- Student Stipend
- Interdepartmental Costs Other
- Animal Care
- Other Inclusions

### Important Instructions and Limitations

- The Woods Institute will consider REIP projects with budgets up to \$500,000 over three years. Award period: July 1, 2023 – June 30, 2026.
- **Faculty salary is not required. Faculty salary may not be more than 20% of the total budget. Requests will be closely scrutinized. The justification should state and well explain if it is for summer supplement salary.**
- **Salary support is not permitted for outside collaborators.**
- Support may be requested for personnel (undergraduate, graduate, or postdoctoral scholars, research assistants or associates), supplies, equipment and travel. (Equipment is considered as such if it has a useful life of more than one year and is over \$5000 in expenditure.)
- Roles are required to be clearly and substantively defined and the expenditure intended for each to be made explicit in the budget justification sections.
- There may be occasions when hiring consultant services may be necessary to support the grant when these services cannot be deployed through Stanford resources, including facilities and personnel (translation, sample collection, laboratory analysis, for example). Such professional

services may be funded if there is a strong case for their involvement. **Consultant expenses may not exceed 10% of the total budget.**

- A request for funds to support outside research collaboration (**this is not consultant services**) requires a subaward and needs to be very well justified, including why the support is essential for the collaboration and how the expertise is not available at Stanford. Any subaward request will be closely scrutinized and may or may not be approved by the Director of the Woods Institute and the University.
- **For any proposed subawards, a complete scope of work must be included in the proposal, as well as a Form 33, a budget and a strong justification. This should be done in advance, by naming the entity for subaward and completing Form 33 accordingly.**
- Please refer to the web page below for more information to discern between a subaward and consultant/professional services: <https://doresearch.stanford.edu/policies/research-policy-handbook/subawards/definitions-and-classifications>
- Please consider how you might have undergraduate and graduate students become involved in the research effort. They are an invaluable resource in the university's education and research mission.
- Conferences or workshops will not be funded.
- Enter all budget numbers in US dollars rounding up to the nearest whole dollar values.
- Inflation factor: 3% per year for salary, 3% for tuition.
- Effective dates for salary increases: 10/1 for faculty, 9/1 for staff
- ***Do not include ISC in your budget.*** *EVP research grant applicants do not need to account for indirect charges (IDC) or infrastructure charges (ISC) in their project budgets. ISC is charged to and paid by the Stanford Woods Institute on behalf of each awarded project at the time of funding.*
- **Provide a clear and complete justification for each budget line, in the pdf below.** Justification should not include narrative related to calculations, but rather the benefit to the project.

### 3. Budget Justification Finance Administrator uploads as separate pdf to application system.

Note: The project's Research Administrator must be involved in the development of the proposal budget and justification to ensure compliance, including with Stanford budget rates, rules on use, etc. A Research Administrator is a person who normally handles budget information. The Research Administrator is not considered a member of the research team. **Only the Research Administrator indicated in the application is able to upload the Budget and Budget Justification pdfs and must do so before the PI will be able to submit the proposal.**

**Please provide a clear, detailed, narrative budget justification for each budget line item in the proposal and describe (with specifics) how the budget line supports the scope of work. Include a clear and substantive definition of team roles, where not included in the project description.** Budgets will be scrutinized in this final step of the EVP process, so please make sure that your budget is accurate and reflects realistic needs.

1. **Key personnel:** include % effort by appointment type i.e. Academic Year (AY/SMR) and Calendar Year and \$xxx for each salary and tuition
2. **Benefits:** \$xxx
3. **Travel:** \$xxx provide breakdown by domestic, international, and participant travel and an explanation of each.
4. **Equipment:** \$xxx with description of equipment and disposition of asset i.e. is the expense shared? Is it fabricated at Stanford? Is it leased?
5. **Materials and Supplies:** \$xxx provide explanation of materials budgeted for, use, and allocation if applicable.
6. **Consultant/Professional Services:** \$xxx provide explanation of services and how it benefits the project. This line item cannot be more than 10% of the total budget.
7. **Other Direct Cost:** \$xxx *describe other line item costs not explained in the categories above and provide explanation of how it benefits the project.*

#### Examples:

##### Faculty & Full Time Regular Staff

1. The faculty and academic staff salary being budgeted will be distributed among the two Professors (Professor 1, X% effort; Professor 2, X% effort). The Principal Investigator will be responsible for all aspects of the project and ensure goals are met in a timely manner and that project activities and expenditures are in compliance with Stanford and Woods policies. He/she will be responsible for developing the algorithms and platform of the proposed topic. He/she will also ensure collaboration among all team members and deliver results on time.

##### Postdoctoral Scholars Salaries

1. Postdoctoral Fellow in (department) 100% time for Year One and 75% for Year Two, to collaborate with PI's to manage project, develop instruments, hire and oversee research team and RA, and manage website development logistics, data collection and analysis.
2. Postdoctoral Fellow in the tech lab: 50% time for Year One. The Fellow will help develop and deploy the technological interventions and provide ongoing support and revisions based on the findings from the pilot. The Fellow will revise the website and other technologies as

appropriate to the findings. The Postdoctoral will continue at 30% for Year Two, providing ongoing support and revisions based on the findings and studies.

### **Graduate Student Salary**

1. A graduate student will be hired for 4 quarters at (xx%) RA-ship and tuition. Under the supervision of the Principal Investigator, he/she will work on experiments related to verification and synthesis as well as analysis and data entry. We will recruit candidate from School of \_\_\_\_\_ or \_\_\_\_\_ with expertise in this area.

### **Travel**

1. The team will travel twice to (*country*) to conduct field studies in the summer prior to year Two. The first trip will accomplish ... The second trip is for ...
2. During Year One, we will bring an outside collaborator from (*place*) for the purpose of ....
3. During Year One, two PI's and the postdoctoral fellow will visit (*place*) to meet with specialist and plan the intervention.
4. We will take 4 students to the same location (two vehicles) to test the intervention and administer study. This will take place in (*date*).
5. Per diem (food, lodging): 6 people (PI, postdoc, 4 research assists) x 2 days

### **Professional Services**

No funds requested (translation, sample collection, laboratory analysis, surveys, for example)

### **Equipment**

1. The team will purchase 1 computers and X software licenses to collect data in the field and conduct analysis there in real time.

### **Materials and Supplies**

1. The team will purchase supplies for field samples
2. The items (3 of item X, 2 of item Y and 6 of item Z) will be purchased at the beginning of the project and be deployed in the (*place*) in order to continuously track water flushing rates, local pH and carbonate balance in three separate locations that differ in the ability of reef biota to affect local pH.
3. Supplies for survey deployment include: photocopies of pre-visit surveys, clipboards, pens, and other materials for administering in-person survey pre-visit in each site.