
Funding Opportunities

February 13, 2023

The opportunities listed here may be limited submissions. Please contact the [Research Office](#) to determine if there is an active or upcoming internal process for any opportunity of interest.

National Science Foundation

Global Centers (GC): Use-Inspired Research Addressing Global Challenges in Climate Change and Clean Energy

Due: May 10, 2023

Summary: This solicitation launches an ambitious new program to fund international, interdisciplinary collaborative research centers that will apply best practices of broadening participation and community engagement to develop use-inspired research on climate change and clean energy. This program will prioritize research collaborations fostering team science, community-engaged research, and use knowledge-to-action frameworks. The proposed research work should maximize the benefits of international, interdisciplinary collaborations. Awards will promote the creation of prominent, enduring, international centers of research excellence that advance knowledge, empower communities, and generate discovery and innovative solutions at the regional and/or global scale.

- **Funding Track 1: Global-Center Implementation: Research Partnerships with Australia, Canada, and the United Kingdom.** This track will support proposals to advance use-inspired research in climate change and/or clean energy that involve U.S. teams supported by NSF, in collaboration with foreign teams supported by funding agencies based in FY2023 partner countries, i.e., Australia, Canada, and the United Kingdom.
- **Funding Track 2: Community-driven Global Center Design.** Track 2 awards will provide seed funding for U.S.-based researchers wishing to coordinate efforts to design a Global Center for the next NSF Global Centers competition. Track 2 proposals may involve partnership with researchers and stakeholders from any country globally but proposals must address use-inspired research in climate change and/or clean energy.

Estimated Funding/Number of Awards: Track 1, 6-8 awards expected with funding up to \$5 million over 4 or 5 years. Track 2, 10-15 awards expected with funding up to \$250,000 in total over 2 years.

Additional Information: [NSF 23-557](#)

Department of Energy – Office of Energy Efficiency and Renewable Energy

REDUCING AGRICULTURAL CARBON INTENSITY AND PROTECTING ALGAL CROPS (RACIPAC)

Concept Paper: March 20, 2023 | Full: May 16, 2023

Summary: The Bioenergy Technologies Office's (BETO's) Renewable Carbon Resources (RCR) program develops science-based strategies and technologies to cost-effectively transform renewable carbon resources such as agricultural waste and algae into high-quality, environmentally sustainable, conversion-ready feedstocks for biofuels and bioproducts. This funding opportunity announcement (FOA), through two distinct topic areas – the first focused on climate-smart agricultural practices and the second on algae crop protection – supports BETO's RCR Program's strategies for the development of conversion-ready feedstocks for biofuels and bioproducts and supports the Biden Administration's goal to produce sustainable aviation fuels.

Topic Area 1: Climate-Smart Agricultural Practices for Low Carbon Intensity Feedstocks

The goal of Topic Area 1 is to fund projects that will assess the efficacy of climate-smart agricultural practices that reduce the carbon intensity (CI) of biomass feedstocks for biofuels. Implementation of climate-smart agricultural practices is essential to produce low CI feedstocks to enable sustainable aviation fuel production with lower greenhouse gas emissions.

- **Subtopic Area 1a:** Climate-Smart Agricultural Practices to Produce Low CI Feedstocks Derived from Agricultural Residues
- **Subtopic Area 1b:** Biochar Strategies to Increase Soil Carbon Levels and Agronomic Benefits of Crops for Energy Production

Topic Area 2: Algae Crop Protection

Topic Area 2 focuses on developing crop protection methods and strategies for algae cultivation systems. A major barrier to the scaling and intensification of algae cultivation is the partial or complete loss of productivity due to pests. For the purpose of this FOA, "pests" are defined as any organism that infects, consumes, competes with, or has other deleterious effects on the algal strain (or strains) being cultivated.

Estimated Funding/Number of Awards: Topic Area 1, 3-4 awards expected with \$4-\$5 million in funding over up to 84 months. Topic area 2, 4-5 awards expected with \$1-\$2 million in funding over up to 36 months.

Additional Information: [DE-FOA-0002910](#)

Department of Energy – Geothermal Technologies Office

Enhanced Geothermal Systems (EGS) Pilot Demonstrations

LOI: March 8, 2023 | Full: June 16, 2023

Summary: The U.S. Department of Energy (DOE) has announced up to \$74 million to support enhanced geothermal systems (EGS) pilot demonstration projects called for in President Biden’s landmark Bipartisan Infrastructure Law. The legislation authorizes DOE to support up to seven competitively selected pilot projects that collectively demonstrate EGS in different geologic settings, using a variety of development techniques and well orientations.

A key component of this FOA is the variety of geologic formations and subsurface conditions in which these pilot demonstrations take place. To ensure that variety, the projects selected under this FOA will build on the lessons of previous GTO EGS demonstration initiatives to help accelerate EGS commercialization pathways throughout the United States under four Topic Areas:

- **Topic Area 1: EGS Proximal:** EGS demonstrations utilizing existing infrastructure proximal to existing geothermal/hydrothermal development with immediate potential for electrical power production.
- **Topic Area 2: EGS Green Field:** Well-characterized sites with no existing geothermal development and potential for sedimentary, igneous, and/or mixed metamorphic rock EGS near-term electrical power production potential.
- **Topic Area 3: Super-hot/supercritical EGS:** Super-hot/supercritical EGS demonstrations located at well-characterized sites with near-term electrical power production potential
- **Topic Area 4: Eastern-U.S. EGS:** EGS demonstrations located at a well-characterized eastern U.S. site with near-term electrical and thermal power production potential.

Estimated Funding/Number of Awards: Under this funding opportunity announcement (FOA), DOE’s Geothermal Technologies Office (GTO) anticipates making several awards on a rolling basis over the course of fiscal years 2023–2025. Individual awards may range between \$5 million and \$25 million.

Additional Information: [DE-FOA-0002826](#)

Department of Energy – Advanced Research Projects Agency Energy

(RFI) Rethinking Energy Storage Technologies for Planes, Trains & Ships: “Battery 1K”

Due: March 8, 2023

Summary: The purpose of this RFI is to solicit input for a potential future Advanced Research Projects Agency Energy (ARPA-E) program focused on energy storage technologies that can deliver a specific energy equivalent to, or exceeding, 1000 watt-hours per kilogram (Wh/kg). Of particular interest are technologies that are not extensions of current mainstream electrochemical device thinking or short-term technology road maps. The goal is to gauge the potential to realize exceptionally high-energy storage solutions that would be capable of catalyzing broad electrification of the aviation, railroad, and maritime transport sectors. ARPA-E is seeking information at this time regarding transformative and implementable technologies that could accelerate electrification of transport including the following industries:

- **Aviation:** “Battery 1K” can enable regional flight on aircraft transporting up to 100 people.
- **Railways:** “Battery 1K” can enable cross-country travel in the United States (U.S.) with fewer stops while also reducing the amount of infrastructure needed for charging/refueling.
- **Maritime:** This is a diverse category but higher energy density options will open up additional electrification possibilities.
- **Trucks:** Strategies and plans to electrify this sector are in place however, “Battery 1K” would enable longer range and higher freight loads.

Responses to this RFI should be submitted in PDF format to the email address ARPA-E-RFI@hq.doe.gov by 5:00 PM Eastern Time on Wednesday, March 8, 2023. E

Additional Information: [DE-FOA-0002972](#)

Department of Energy – Office of Efficiency and Renewable Energy

Large Wind Turbine Materials and Manufacturing

Concept Paper: March 23, 2023 | Full: May 9, 2023

Summary: On February 10th, the U.S. Department of Energy (DOE) announced \$30 million in funding to advance composite materials and additive manufacturing (AM) in

large wind turbines, including for offshore wind energy systems. This FOA includes three topic areas, the first two focused on additive manufacturing of blade and non-blade wind turbine components, and the third on other materials, manufacturing, automation, information, and sustainability R&D opportunities.

- Topic Area 1: Large Wind Blade Additive Manufacturing**
 This topic seeks projects that build on existing polymer-based AM research that supports and advances more cost-effective large wind turbine blades. Polymer-based AM generally allows for rapid prototyping, tooling, fabrication, and testing while enabling novel designs and process configurations.
- Topic Area 2: Additive Manufacturing of Non-Blade Wind Turbine Components**
 This topic seeks innovative additive manufacturing solutions for lower-cost, higher-performance non-blade wind turbine system components. The focus is on non-blade components that can be improved via additive manufacturing processing and associated design and process innovation/integration.
- Topic Area 3: Large Wind Blades – Advanced Manufacturing, Materials, and Sustainability**
 This topic is comprised of four areas of interest: Automation, Digitalization, Sustainability, and Modular Blade Construction/Joining. DOE is seeking projects that address remaining challenges to wind turbine manufacturing and that further previous work within these respective areas of interest.

Estimated Funding/Number of Awards: EERE expects to make a total of approximately \$30,000,000 (\$30M) of federal funding available for new awards under this FOA,

Topic Area Number	Topic Area Title	Anticipated Number of Awards	Anticipated Minimum Award Size for Any One Individual Award (Fed Share)	Anticipated Maximum Award Size for Any One Individual Award (Fed Share)	Approximate Total Federal Funding Available for All Awards	Anticipated Period of Performance (months)
1	Large Wind Blade Additive Manufacturing	2-16	\$0.5M	\$2M	\$8M	24-36
2	Additive Manufacturing of Non-Blade Wind Turbine Components	3-7	\$1M	\$2M	\$7M	24-36
3	Large Wind Blades – Advanced Manufacturing, Materials, and Sustainability	5-7	\$2M	\$3M	\$15M	24-36

Additional Information: [DE-FOA-0002960](https://www.eere.energy.gov/foia/foia0002960)