

Engineering Learning Initiatives (ELI)
Undergraduate Research Student Grant Funding source:
Fund for Undergraduate Research on Solutions to Climate Change

Eligible research topics include solutions for Carbon Conversion, Carbon Sequestration, Energy Storage, Renewable Energy Production, Energy Efficient Buildings, Mobility, Smart Grid Management, the hard-to-abate Industrial Sector, and Energy Informatics. Funding is targeted to support students with demonstrated financial need.

Following is additional information on possible projects for this fund.

Undergraduate research on **solutions to climate change** is needed. Examples of research needed to address climate change include but are not limited to:

- **Solutions for Carbon Conversion:** turning man-made carbon dioxide emissions into useful products ranging from carbon fiber, concrete, or other products.
- **Solutions for Carbon Sequestration:** to reduce the amount of carbon dioxide in the atmosphere with measurable goals in reducing climate change.
- **Solutions for Energy Storage:** that store surplus energy made by renewable sources, or create more durable, efficient or safe energy storage.
- **Solutions for Renewable Energy Production:** including new techniques, or improvements to existing techniques in production, efficiency, or cost per BTU
- **Research in the Energy Informatics field:** covering analyzing, designing, and implementing systems to increase the efficiency of energy demand and supply systems. This requires the collection and analysis of energy data sets to support optimization of energy distribution and consumption networks.
- **Solutions for Smart Grids for Energy Production and Distribution:** to reduce energy consumption and cost while improving grid stability and reliability.
- **Solutions for Sustainable Mobility/Transport:** to reduce emissions, increase efficiency, and reduce the social and environmental impact of transportation.
- **Solutions for Building Energy Efficient:** to retrofit old buildings with sustainable energy systems and new buildings designed to provide significant reduction of the heating and cooling needs.
- **Solutions for Hard-to-Abate Industrial Sectors:** to help industry transition to 100% carb-free energy suppliers to power operations.