



CENTER OF EXCELLENCE FOR ENERGY

Call for Joint Research Proposals

Arizona State University Faculty

Timeline:

- Proposal submission deadline: Feb 10, 2023
- Reviews and final announcement: 6 weeks after deadline

I. Program overview:

Arizona State University (ASU-US) established the Center of Excellence for Energy (COE/E) in Egypt with funding and support from the United States Agency for International Development (USAID/Egypt) in November 2021. COE/E is a partnership between ASU-US and three Egyptian partner universities (EPUs): Ain Shams University (ASU-EG), Aswan University (AU), and Mansoura University (MU).

Energy is the defining challenge of the 21st century. As part of COE/E, ASU-US and EPUs aim to conduct research in areas that meet Egypt’s most critical energy sector needs—such as developing renewable and sustainable energy sources, progressing new technologies to help curb energy demand, studying implications for climate change and the environment, and formulating appropriate and timely policy responses. Research will have a direct impact on Egypt’s energy economy, industry, utilities, and workforce.

COE/E is launching a joint research grant program to support high-quality applied research projects in key energy-related areas. Faculty at EPUs are invited to submit proposals in key areas defined below.

All proposals are required to form partnerships and support from industry, utility companies, the government, and/or civil society for research support, matching funds, and project directions. The support can be in forms of financial support, in-kind, and/or direct technical engagement of industry in the project. EPU faculty are responsible for partnerships/support, though ASU-US faculty can provide connections/suggestions.

All joint research proposals should have one ASU-US faculty member designated as a Co-PI. EPU faculty submitting proposals will identify a relevant faculty member from ASU-US to serve as Co-PI.

Joint research proposals should have plans to develop transformative, multi-disciplinary approaches to energy solutions that will make a significant impact on Egypt’s energy sector. For more details, please see **COE/E Research handbook** available on the COE’s website.

II. Proposal Guidelines

The proposals must follow the requirements discussed in the “COE/E Research Handbook” and include all the sections and required forms in the template.

Team members: Each proposal should have a team consisting of one PI from an EPU, one Co-PI from ASU; Co-PIs from EPUs (Medium & Large projects only); and Student



Researchers (from ASU-US and EPU). Team size and composition will vary with project size; however, all projects will include one ASU-US Co-PI and two graduate students. Only faculty members from EPU can submit joint research proposals. Each proposal must involve one ASU-US faculty member as a Co-PI. ASU-US faculty will be contacted by EPU faculty. Each proposal will have a team consisting of the following team members:

- **Principal Investigator (PI):** A designated EPU faculty member who will be responsible for the leadership of the project. The PI is responsible for proposal submission and project reporting and will be responsible and accountable for the proper conduct of the project. There can be only one PI on a proposal, and the PI is required to be a faculty member at an EPU.
- **Co-Principal Investigator (Co-PI):** A designated faculty member working in partnership with the PI in the management, development, and/or execution of the project.
- **ASU-US Co-PI:** All the projects must have one ASU-US faculty member as Co-PI.
- **Student Researchers:** Designated postgraduate (PhD, MS) or undergraduate (BS) students who will participate in the research project under the direction of PIs and/or Co-PIs.
 - The number of ASU-US graduate students supported depends on project size (see below).
- **Large Proposals:** Large proposals must include at least one faculty from the other EPU universities. Faculty members from Egyptian Universities may submit only one large collaborative proposal per grant cycle, as a PI.

Proposals: All the proposals should follow the proposal format, and resume format outlined in the **COE/E Research handbook**. One proposal should be submitted for each group consisting of ASU-US and EPU faculty; EPU faculty will submit the proposal.

- **Industry and other partnership:** All the proposals should have partnership and support (financial, in-kind, and/or technical) from industry, utility companies, government, and/or Egyptian civil society. EPU faculty are responsible for partnership/support, though ASU-US faculty may provide suggestions and support.
- **Impact on the Egyptian energy sector:** All proposals must clearly discuss how the proposal will make an impact in the Egypt's energy sector.

Research Areas: Proposals are required to be within the defined areas of research outlined below and have clearly identified the research area in the proposal.

III. Research areas

One of our key goals will be the development of the National Energy Roadmap that can assist in Egypt's 2035 climate goals. Working with the stakeholders, government, industry,

academic, and researchers, COE/E has identified a set of the topics and areas of research. Proposals are required to be within the following areas based on the strategic roadmap and stakeholders' feedback are:

1. Climate, Energy-Environment Interdependency, Sustainable energy

- Energy-climate change solutions, Carbon footprint/neutralizing carbon, etc.

2. Electric Vehicles

- Electric Vehicles (EV), charging of EVs, chargers, electric grid integration, smart transportation, batteries.

3. Energy Efficiency & Energy Automation

- Efficient energy generation, transmission, and distribution.
- Sensors, communications, efficient generation, transmission, and use,
- Energy management applications, smart homes& cities, Smart distribution networks, Energy systems monitoring and evaluation, etc.
- Architecture, Buildings, transportation, systems automation, sensors, etc.

4. Renewable Energy

- Solar, Bio, Fuel cell, Wind, Hybrid System, Geo, etc.
- Applications, home & industry, water pumping, water desalination, etc.
- Clean Energy Technology, Green hydrogen, Carbon neutral conversion of gas to hydrogen, etc.

5. Energy System

- Electrical Power System, Generation, Grid & micro-grid, Efficient Generation, Transmission, and distribution, etc.
- Thermal system, Mechanical Energy System, etc.
- Energy Storage, Batteries, Hydro storage, Hydrogen Storage, etc.

6. Energy Policy, Regulations, Energy Transition

- Transition Plan Policy, research, planning, Energy Economics, etc.

- Data driven energy policy making, energy management

7. Energy-Water Nexus

- Energy & Water research with focus on energy and electricity generation for water, desalination, clean energy for wastewater filtering, and related areas.

IV. Funding Information:

COE/E will fund research projects of varying scopes and sizes according to the below plan.

Funding Timeline: 2023-2025

- **Number & Size:** 5 Large projects, 5 Medium projects, and 5 Small projects
- **Duration:** Two years
- **Reporting:** Each project will be reviewed twice a year (every 6 months) by COE/E committee and ASU-US (written report and presentation to the committee)

A. Large Projects:

- **Total Number:** Five Large projects
- **EPU:** 4-6 EPU faculty (including the EPU PI) and 4-6 EPU students
- **ASU:** One ASU-US Co-PI; two ASU-US students
- **EPU student internship:** One EPU graduate student traveling to ASU-US for one term (5 months)
- **EPU faculty travel:** One EPU PI per project traveling to ASU-US for two weeks
- **Other:** Funds for equipment, EPU faculty domestic travel, and publication fees

B. Medium Projects:

- **Total Number:** Five Medium projects:
- **EPU:** 3-4 EPU faculty (including the EPU PI) and 3-5 EPU students
- **ASU:** One ASU-US Co-PI; two ASU-US students
- **EPU student internship:** One EPU graduate student traveling to ASU-US for one term (5 months)
- **EPU faculty travel:** One EPU PI per project traveling to ASU-US for two weeks
- **Other:** Funds for equipment, EPU faculty domestic travel, and publication fees

C. Small Projects:

- **Total Number:** Five Small projects
- **EPU:** 1-2 EPU faculty (including EPU PI) and 1-2 EPU students

- **ASU-US:** One ASU-US Co-PI; one ASU-US student
- **EPU student internship:** One EPU graduate student traveling to ASU-US for one term (5 months)
- **EPU faculty travel:** One EPU PI per project traveling to ASU-US for two weeks
- **Other:** Funds for equipment, EPU faculty domestic travel, and publication fees

V. ASU-US Budget:

Each ASU-US faculty and student budget is limited to the following per project:

- **Faculty support:** One (1) month ASU-US salary
- **Student support:**
 - Small projects: 12 months support for one (1) GSA
 - Large and Medium projects: 12 months support for two (2) GSAs
 - GSA support is 50% FTE (20 hrs per week) during the academic year, and 100% FTE (40 hrs per week) during summer.
 - **Tuition:** Due to the USAID grant restriction, tuition cannot be charged on this grant. We have limited number of possible tuition remission via cost sharing.

ASU-US Budget submission: ASU-US faculty should work with their RA and the ECEE RA team (joelina@asu.edu) to develop their budget. Finalized budgets should be submitted through the following link: <https://airtable.com/shri6RAR4FHPFV7s2>

EPU Faculty Budget: EPU faculty budget is a separate document with their guidelines and budget limitations. The Egyptian faculty have a separate call for proposal and budget guidelines.

Financial Non-Disclosure: All financial information related to budgets are to be kept confidential.

VI. Other Requirements

Intellectual Property: Project teams will be asked to comply with Intellectual Property and Research Guidelines Statements. Signatures on compliance statements will be required.

Conflict of Interest: COE/E and partnering universities are committed to upholding a fair and unbiased evaluation of research proposals and awarding of grant funds. Any faculty with conflict of interest will not be eligible to serve as PIs or team members on the research proposals. For more details, please see **COE/E Research handbook**. COE/E research committee members and faculty with potential for conflict of interest will not be eligible.

Diversity: COE/E encourages that at least 30% of researchers and students involved in research projects be from underrepresented groups such as women, persons with disabilities, and those from financially disadvantaged backgrounds.



Environmental Impact: Projects that incur large, substantial, and/or significant environmental impact must inform COE/E for further action.

Reporting: Each project will submit bi-annual progress reports and presentation to COE/E committees. The continuation of selected projects will be contingent upon satisfactory progress and recommendations by the review committee, technical committees, and stakeholders bi-annually. If the project is not making satisfactory progress, it will be terminated.

Signed Agreement form: All the proposals should have the COE RESEARCH AGREEMENT FORM submitted with the proposal. See the COE/E Research handbook for details.

Proposals that do not adhere to eligibility criteria above will not be considered for further evaluation. For more details, please see **COE/E Research handbook**.

VII. Proposal Evaluation

See the **COE/E Research Handbook** document (available on COE's website) for full details on how proposals will be evaluated.

Disclaimer: COE/E, ASU-US, EPU, and the individuals employed by and representing the above accept no liability of any nature whether resulting from negligence or otherwise caused arising from reliance of any applicant upon the statements contained in any call for proposals (CFP) or other digital or physical materials.

COE/E may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this document, including reporting requirements, for example the content, form, and timing of financial reporting.

The issue of an CFP does not imply that COE/E is bound to select an applicant or to award the funds related to the CFP. COE/E reserves the right to reject all or any of the proposals. The applicant shall bear all its costs associated with or relating to the preparation and submission of its proposal. All such costs and expenses will remain with the applicant and COE/E shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an applicant in preparation or submission of the proposal, regardless of the conduct or outcome of the selection process.

