

## CENTER OF EXCELLENCE FOR ENERGY

### Call for Joint Research Proposals

#### Timeline:

- Call for Proposals: Nov 9, 2022
- Proposal submission deadline: Jan 10, 2023
  - Submission web site: The link to submit proposals is: <https://airtable.com/shrgxN7C5SYUcryao>.
- Reviews and final announcement: Feb 15, 2023

#### 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 (EPU)s: Ain Shams University (ASU-EG), Aswan University (AU), and Mansoura University (MU).

Energy is the defining challenge of the 21<sup>st</sup> century. As part of COE/E, ASU-US and EPU)s 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 EPU)s 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.

All joint research proposals should one ASU-US faculty member designated as a 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**.

#### II. Eligibility

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, one ASU-US Co-PI; Co-PI)s from EPU)s (Medium & Large projects only); and Student Researcher(s) (postgraduate or undergraduate). Number and composition of team members will

vary by project size. Only faculty members from EPU (i.e., ASU-EG, MU, or AU) can submit joint research proposals. Each proposal must involve one Arizona State University faculty member as a Co-PI. Each proposal should have a team consisting of the following team members:

- **Principal Investigator (PI):** A designated EPU faculty member who will be responsible for the scientific or technical direction 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. Projects must have one faculty member at ASU-US serving as Co-PI; there can be only one ASU-US Co-PI. Involvement of other Co-PIs from EPUs will be determined by project size.
- **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. Student(s) must be from EPUs or ASU-US; the number of students will depend on project size.
- **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.
- **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.
- **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.
- **Diversity:** COE/E encourages at least 30% of researchers and students be from underrepresented groups such as women, persons with disabilities, and those from financially disadvantaged backgrounds.
- **Format:** All the proposals should follow the proposal format, and resume format outlined in the COE/E Research handbook.
- **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.
- **Impact on the Egyptian energy sector:** All proposals must clearly discuss how the proposal will make an impact in the Egypt's energy sector.
- **Budget:** The research fund is limited to the budget guidelines provided in the CFP.

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

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**.

### 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, we have 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. Total budget will depend on the faculty ranking, equipment, and other expenses. Details of the proposal format, and other requirement are in the **COE/E Research Handbook**.

#### 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 PPT presentation to the committee)
- **Faculty & Student Consultancy Fees:** Based on STDF 50% (See the table below)

#### A. Large Projects:

- **Total Number:** Five Large projects

- **Team members:**
  - One PI (EPU only);
  - Three EPU Co-PIs (with at least one faculty from a different EPU than the PI)
  - Four EPU Student Researchers (graduate or undergraduate)
  - One ASU-US Co-PI; One ASU-US graduate student
- **Equipment:**
  - \$45,000 for two years
- **Graduate student internship:**
  - from EPU to ASU-US for one term (5 months)
  - one student per project once for one term (\$20,000)
- **Faculty Travel to US:**
  - One EPU PI per project traveling to ASU-US for two weeks
  - One trip once per project (\$7500.00)
- **Faculty Domestic Travel:** Per year (\$1000.00); must be approved in advance by COE/E
- **Publication:** per year (\$1000)
- **Total: Maximum of \$160,000 for two years for each large project**

## B. Medium Projects:

- **Total Number:** Five Medium projects:
- **Team members:**
  - One PI (EPU only);
  - Two EPU Co-PIs)
  - Three EPU Student Researchers (graduate or undergraduate)
  - One ASU-US Co-PI; One ASU-US graduate student
- **Equipment:**
  - \$30,000 for two years.
- **Graduate student internship:**
  - From EPU to ASU-US for one term (5 months)
  - One student per project once for one term (\$20,000)
- **Faculty Travel to US:**
  - One EPU PI per project traveling to ASU-US for two weeks
  - One trip once per project (\$7500.00)
- **Faculty Domestic Travel:** Per year (\$750.00); must be approved in advance by COE/E
- **Publication:** per year (\$500)
- **Total:** Maximum of \$125,000 for two years for each medium project

## C. Small Projects:

- **Total Number:** Five Small projects
- **Team members:**
  - One PI (EPU only)

- One EPU Student Researcher (graduate or undergraduate)
- One ASU-US Co-PI; One ASU-US graduate student
- **Equipment:** \$15,000 for two years
- **Graduate student internship:**
  - From EPU to ASU-US for one term (5 months)
  - One student per project once for one term (\$20,000)
- **Faculty Travel to US:**
  - PI traveling to ASU-US for two weeks
  - One trip once per project (\$7500.00)
- **Faculty Domestic Travel:** Per year (\$500.00); must be approved in advance by COE/E.
- **Publication:** per year (\$250)
- **Total:** Maximum of \$55,000 for two years for each small project

**Note:** Exact Number of large, medium and small projects and the amount maybe modified anytime time based on the budget. The COE/E will fund research projects of varying scopes and sizes according to the below plan. Total budget will depend on the faculty ranking, equipment, and other expenses. Final budgets are contingent upon approval from COE/E. For more details, please see the **COE/E Research Handbook**.

#### V. Proposal format:

The proposals must follow the required format given in the **COE/E Research Handbook**.

Submission web site: The link to submit proposals is: <https://airtable.com/shrgxN7C5SYUcryao>.

#### VI. Proposal Evaluation

See the **COE/E Research Handbook** document.

#### VII. Proposal submission

Submission web site: The link to submit proposals is: <https://airtable.com/shrgxN7C5SYUcryao>.

#### VIII. Biannual presentation review:

The funded research projects will be evaluated biannually based on the milestones indicated in the proposals. Deliverables such as research products and/or publications, presentations and/or posters at national and international scientific meetings, and patents will be considered

for milestone completion. The specifics of the biannual review criteria will be developed and communicated to PIs.

For any further questions, please email [COE-Egypt@asu.edu](mailto:COE-Egypt@asu.edu).

### IX. STDF Maximum allowable amount for faculty and students (EGP – LE)

Level of effort for COE		Monthly Consultancy Fee Approved (LE)				
		Professor	Associate Prof.	Assistant Prof.	M.S.c/ B.S.c	Student
10%	Low (Exams period)	1500	1000	700	500	350
20%		3000	2000	1400	1000	700
30%		4500	3000	2100	1500	1050
40%		6000	4000	2800	2000	1400
50%	Maximum for COE research	7500	5000	3500	2500	1750
60%		9000	6000	4200	3000	2100
70%		10500	7000	4900	3500	2450
80%		12000	8000	5600	4000	2800
90%					4500	3150
100%	Full-time dedicated				5000	3500

**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.

For more information, please see the COE/E Research Handbook.