U.S.-Pakistan Center for Advanced Studies in Energy
National University of Science and Technology

Call for Research Proposals

The U.S.-Pakistan Centers for Advanced Studies in Energy (USPCAS-E) at NUST working with Arizona State University (ASU) is a new initiatives funded by the USAID to address the challenges faced by the energy sector in Pakistan. The strategic goals of the Center are to develop new curriculum, research, work force, and training students in the energy area. The objective of the research proposals is to develop projects in the areas that will have direct impact on the Pakistan energy economy, industry, utilities, and workforce. We strongly encourage partnerships with industry, utility companies, and government / NGO agencies for research support, matching funds, and project directions.

USPCAS-E invites research proposals from interested Pakistani individuals and organizations to conduct independent, energy related research that is unique in nature, cost-effective and scalable. Research proposals should address one or more of the following themes:

2. Renewable Energy: Solar, PV, CPV, Biofuels, Wind power, Hydroelectricity, Solar-thermal, Geothermal, etc.
3. Applied Energy Economics and Analysis: energy economics, modeling of energy system to assist in policy, applied research impact on policy.

Information:
- Budget: Up to US $30K. Matching funds (up to $10K) from industry or government agencies is encouraged and can be in kind, cash, or related support.
• If Applicable: Other universities with Energy programs are encouraged to apply to work with NUST.
• Project Duration: The project will be for maximum of 12 months.
• Eligibility: The applicant (Principal Investigators and Co-Investigators) should be full time faculty members of HEC recognized universities. He/she should have an advanced academic degree and relevant research experience. If the PI is from outside of NUST, the Co-PI is required to be internal to NUST.

Expected Outcome:

• Projects are expected to form partnerships between the academic researchers, government, and industry to address challenges facing the Pakistan in the energy sector. Focus on practical energy problems that will make an impact on the Pakistan Energy.

• Strong collaboration with industry, utility, government, NGO, or other energy related agencies. Strong ties with other USAID funded projects are also encouraged.

• Train highly qualified graduates for public and private sector employment in the energy sector.

• Providing equitable opportunities to talented but economically disadvantaged students. Special consideration should be given to gender balance.
Proposals may be submitted to NUST on uspcase@nust.edu.pk not later than Tuesday, December 15, 2015. (No late proposal will be accepted)

For further details:

HoD (Research)
U.S.-Pakistan Center for Advanced Studies in Energy
T: +92-51-90855276
E: hod@ces.nust.edu.pk

Deputy Director (Research Projects)
National University of Science and Technology
T: +92 51-90851212
Proposal Format: The technical part of proposal should be 3-5 pages (limit the main body to 5 pages). Please follow the following format with the titles given below and cover all the topics below:

1. **Title and Summary Page** (1 page)
   - PI and Co-PI contact information, institution
   - Summary

2. **Project Description** (2-3 pages)
   - Goals and objectives (3-5 bullet items)
   - Technical Details

3. **Impact**: Project impact for improving Pakistan Energy (3-5 bullet items).

4. **Potential for commercialization** (3-5 bullet items).

5. **Deliverables**: Work plan, Demonstration, application, hardware, software, publications, patents, etc.

6. **Milestones**: Deliverables for each Quarter with specific outcomes and deadlines.

**Additional supporting information** (outside the main body of the proposal): Each proposal can include the following items beyond the 3-5 pages above:

- References / bibliography (1 page)
- Budget (see details below)
- Industry Collaboration (letter of interest, or other forms of showing collaboration or matching funds from industry)
- Brief CV of the PI and Co-PI (Not more than 2 pages)
- University Authority approval and signature (Vice Chancellor, Pro-Rector)
### Budget Guidelines:

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<thead>
<tr>
<th>S #</th>
<th>ITEMS</th>
<th>ALLOCATION</th>
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<tbody>
<tr>
<td>1.</td>
<td>Remuneration to PIs. &amp; Co-PIs</td>
<td>NUST RG &amp; P Committee may recommend remuneration depending upon project duration and extent of involvement of PIs &amp; Co-PIs. Amount should be between Rs. 15,000 -30,000 per month.</td>
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<tr>
<td>2.</td>
<td>MS/M.Phil. students</td>
<td>@ Rs. 20,000/- per month MS/M.Phil. students</td>
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<td></td>
<td>Ph.D. students</td>
<td>@ Rs. 25,000/- per month Ph.D. students (Only for approved duration of the project)</td>
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<td>3.</td>
<td>Equipment, Lab Supplies</td>
<td>Specific equipment and lab materials needed for the project. (Price quotation will be preferred)</td>
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<td>4.</td>
<td>Journals and Conference feeds</td>
<td>As per requirement of the publisher up to Rs. 80,000/-</td>
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<td>5.</td>
<td>Secretariat Staff of Research Dte &amp; USPCAS-E NUST directly involved in the project</td>
<td>Rs. 30,000 per project</td>
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<td>6.</td>
<td>Supplies</td>
<td>Rs. 20,000 per project</td>
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<td>7.</td>
<td>Audit/Accounts</td>
<td>Rs. 30,000 (maximum)</td>
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<tr>
<td>8.</td>
<td>Travel</td>
<td>Rs. 50,000 (maximum)</td>
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<td>9.</td>
<td>Other area: including conference travels, etc.</td>
<td>Depending upon the nature of the project</td>
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<td>10.</td>
<td>University overheads</td>
<td>15% - 20 % of the project total cost.</td>
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Review Process:

- Three anonymous reviewers will review each proposal. The reviews will be based on the proposal’s merit, technical content, impact to Pakistan Energy and industry.
  - Research Grant and Policy Council will finalize the selection and award of projects for their center.

Progress Report: Each project PI will be required to send:

- Bi-annual project report. Bi-annual meeting conference with presentations including posters, and demonstrations.

- Final and completion report to the Research & Policy Committee at NUST

- Agreement: Once the project is selected, the PI/Co-PI will be required to sign an agreement contract.

ASU - NUST Joint Projects

- In addition to the above projects, ASU will award ASU faculty working jointly with NUST faculty on a collaborative projects. The faculty from NUST should seek partnership with ASU or OSU faculty and submit a proposal with specific tasks for each group.

- ASU will fund several projects per year for ASU/OSU faculty working with NUST. These projects will be tied to the existing funded NUST projects.