Strategic Energy Institute Request for Proposals

The Convergence of Electricity and Transportation

1. Background

The primary energy sources that underpin electricity and transportation systems are almost entirely independent of one another. Despite meaningful research strides, these two “energy ecosystems” barely overlap in the marketplace. Transportation remains almost completely dependent upon petroleum, but technology advances, cost-declines, and environmental constraints are bringing forward electric technologies that can meet a larger share of society’s transportation needs. As transportation electrifies, these two ecosystems will grow increasingly interconnected.

This seed funding call focuses on the convergence of electricity and transportation, including fundamental science, technology, policy, economic, and regulatory issues required to accelerate this convergence and ensure it is done well. This seed funding call is a joint call between the Strategic Energy Institute and its affiliated Energy, Policy, and Innovation Center (EPICenter). Applicants are encouraged to look at previous projects funded through EPICenter at: http://www.energy.gatech.edu/epicenter-gt.

For more context, please see Appendix A

2. Program Objectives:

Within the context of high impact research proposals at the nexus of electricity and transportation, an overarching objective of this program is to further develop and amplify interactions within Georgia Tech and with external partners, including companies, NGO’s, and national labs. SEI is particularly interested in cultivating new or existing regional ecosystems around transportation electrification that can deliver tangible results within 5-10 years. As such, proposals that develop substantive partnerships with local, state, or regional entities are of particular interest.

Proposals should also focus on one or more of the following objectives:

1) To nucleate teams capable of pursuing follow-on funding or large centers (e.g., NSF ERC, public-private partnerships, foundation grants, etc.)

2) Provide thought leadership:
   a. Guidance to society and policymakers
   b. Findings or market insight useful to corporate executives or investors
   c. Technical findings of a convergent and multi-disciplinary nature

Proposals should explicitly address how their program will address these objectives.

3. Technical Approach:

Both public and private entities are actively funding electric vehicle research. As such, proposals should address why these targeted funds are strategically needed from SEI, as opposed to originating from some external entity. Examples of areas that may differentiate Georgia Tech and build partnerships are at various system integration or key intersection points, as follows:
Table 1. Example of interacting research directions

<table>
<thead>
<tr>
<th>KEY INTERSECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPONENT</td>
</tr>
<tr>
<td>VEHICLE</td>
</tr>
<tr>
<td>TECHNOLOGY</td>
</tr>
<tr>
<td>USER-DEFINED</td>
</tr>
</tbody>
</table>

Due to complex and often system-level challenges associated with this convergence, this seed funding opportunity seeks to incentivize research proposals that explore key intersections and build multi-disciplinary research efforts. As such, proposals that include more than one program objective (above), including user-defined factors, are encouraged.

For additional information about key performance indicators and examples of suggested convergent approaches, please see Appendix B.

For some representative, non-exhaustive examples of potential areas of interest, please see Appendix C.

4. Funding Available, and Expected Allocations:
SEI is allocating a pool of $450,000 in foundation funds\(^1\) to this program. The distribution of awards will ultimately depend on many programmatic factors, including alignment with objectives.

Table 2. Funding Categories, Typical Award Ranges, and Notional Center Award Pool

<table>
<thead>
<tr>
<th>Proposal Category</th>
<th>Expected Award Range</th>
<th>Estimated Total Funding Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Proposals with an exclusively Technological Focus (TF)</td>
<td>$0 - $80,000</td>
<td>$240,000</td>
</tr>
<tr>
<td>B. Proposals with an exclusively Economic, Environmental, Social or Policy Focus (EESPF)</td>
<td>$0 - $50,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>C. Proposals with a combined TF AND EESP Focus</td>
<td>$0 - $200,000</td>
<td>$450,000</td>
</tr>
</tbody>
</table>

NOTES on Table 2:
- Estimated Ranges and Funding Limits are Approximate and Subject to Availability of Funds. Total funding allocated will vary depending on the number of proposals received and the relevance of the work to the objectives.
- The right-hand column provides an estimate of the total funds available by category.
- Typical award ranges are suggested in the middle column of Table 1.
- Proposal teams can request funding up to a maximum of $200,000.
- Proposed work can span time ranges between 6 and 24 months.

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\(^1\) These are foundation funds, which means that no overhead is charged. All other charges, such as fringe and tuition, are charged.
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• It is the responsibility of awardees to adhere to all GT policies regarding food and alcohol expenditures (see links to GT policies below).
  • [http://policylibrary.gatech.edu/campus-use-facilities/campus-alcohol-policy](http://policylibrary.gatech.edu/campus-use-facilities/campus-alcohol-policy)
• If requested, food and alcohol must be included as separate line items (one for each) in the proposed budget and will be awarded separately in a designated SEI project to ensure all appropriate GT policies and procedures are followed. Any deviation may result in denial of reimbursement.
• We encourage proposal submissions to include cost share or joint funding from other interested parties, although this is not a requirement.

5. Review Criteria
Projects will be selected based upon their compliance with the guidelines and based upon their fulfillment of key criteria as generally outlined in the following table.

Table 3. Review criteria for award selection, and their approximate weightings.

<table>
<thead>
<tr>
<th>Review Criteria</th>
<th>Approx. Criteria weighting (out of 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose aligned with program objectives (Section 2)</td>
<td>30</td>
</tr>
<tr>
<td>Note: Proposals that address multiple/concurrent objectives may request more funding and/or earn more points during review</td>
<td></td>
</tr>
<tr>
<td>Active inclusion of effective internal and/or external partners</td>
<td>30</td>
</tr>
<tr>
<td>Note: can be new or existing collaborations</td>
<td></td>
</tr>
<tr>
<td>Impact of the deliverables and outcomes.</td>
<td>30</td>
</tr>
</tbody>
</table>
| Note: in addition to research findings and contributions; impacts may also include (if applicable to proposed objectives):
  • the potential to nucleate new programs;
  • the likelihood to access external funding;
  • direct economic benefits (micro or macro);
  • societal benefits (e.g., carbon reduction, energy security, mobility choices, equity, congestion relief, etc.) |
| Reasonableness of approach, schedule and budget           | 10                                     |

Note: The criteria and weightings proposed are stated generally in Table 3. During the review and selection process, SEI and its reviewers will take into account the specific program objectives (Section 2) proposed. This will be done to ensure final review criteria are appropriate for the scope and objectives self-established by the proposing teams.

6. Schedule
Key milestones and deadlines for this RFP process are provided in Table 4:
Table 4. Key Milestones

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Approximate Date</th>
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<tbody>
<tr>
<td>RFP Issued</td>
<td>September 9, 2019</td>
</tr>
<tr>
<td>Proposals Due</td>
<td>October 23, 2019</td>
</tr>
<tr>
<td>Award Decisions Expected</td>
<td>Early-Mid December 2019</td>
</tr>
</tbody>
</table>
7. Required proposal contents

All proposals must include the following:

- **SEI RFP Application Cover Sheet** (include summary/abstract)
- **Project Description** (three-page maximum, 12-point font) must include:
  - Key innovation (2 sentences)
  - Project overview (about 2-3 paragraphs):
    - purpose,
    - discussion of barriers,
    - key benefits,
    - alignment with the program goals
    - evidence of how the funds will meet a need that is currently unmet
  - Team:
    - Key investigators
    - Key partnerships and teaming
    - Please briefly discuss team integration, especially how multiple disciplines are required to study and deliver this innovation
  - Strategy & Targets:
    - Discuss plan for accomplishing proposed work (including proposed personnel activities)
    - Please discuss proposed project categories (TF, EESP, or BOTH), and key activities within sub-topic areas and collaborative effort
    - Quantitative targets, including self-defined metrics, measurement approach, and baseline reference (table of key performance indicators)
  - Deliverables and Schedule:
    - Tangible outcomes from the project. Note: Examples of deliverables could include written summary of workshop, report, whitepaper, written testimony presented, transcript, policy brief, social media outlets, etc.
    - Explanation of how these deliverables will advance the objectives of this RFP.
    - Schedule
  - Leveraging:
    - If applicable, other opportunities for how these funds will enable leveraging of other resources, and/or how these funds help facilitate regional innovation or ecosystem objectives.

- **Project Budget Sheet and budget justification**

Please see Appendix D for template Application Cover Sheet and Budget Table
Completed proposals should be sent via email to Sharon Murphy at smurphy77@gatech.edu

SEI will accept proposal submissions until **October 23, 2019.**
Awardees will be announced in December 2019 with funding to commence the first week of January 2020.

Please address questions to Rich Simmons, SEI Senior Research Engineer/EPICenter Director at rich@energy.gatech.edu.