**PROJECT TITLE (250 characters or less)**

*Pages 1-4 of this document contain confidential, proprietary, or privileged information that is exempt from pub­lic disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source.*

Principal Investigator, Lead Organization (City, State)

**1. OVERVIEW**

|  |  |
| --- | --- |
| ARPA-E Contact: | Enter the name of any ARPA-E contact spoken to about the proposed concept prior to applying (if any). |
| Technical Subcategory: | Enter the most relevant technical subcategory for the proposed concept from those given in Table 1, Section I.D of the FOA (e.g., a battery concept would be “3.4 Chemical-Electrical”). Select the only one technical subcategory, even if the proposed topic falls within multiple categories.  |
| Funding Request: | Enter the funding request in U.S. dollars (no more than $500,000). |
| Project Duration: | Enter the project duration in months (no longer than 12 months). |
| Project Abstract: | Write brief abstract (1-3 sentences, 4000 characters or less) that describes the proposed concept, the problem that it solves, and the impact it could have on energy. |

**2. IMPACT**

* What is the current U.S. energy problem this concept will address?
* If this concept is successful, will it matter? Quantify how this concept will make a positive impact on at least one of ARPA-E’s Mission Areas (see Section I.A of the solicitation).

**3. STATE OF THE ART**

* What solution is practiced today? What other competing technologies are being developed?
* Why is the current technology insufficient or undesirable?

**4. INNOVATION**

* What is the new idea or information that will be obtained?
* How does it work? Describe in detail how the new concept works, with no jargon. Use a diagram if appropriate.
* Has this concept been tried before? If so, what new developments will enable a working concept or overcome past failures?
* If successful, how would the proposed technology/work advance the state of the art? To the extent possible, provide quantitative metrics in a table that compares the proposed technology to commercial and other competing technologies.

**5. RISKS AND CHALLENGES**

* What makes the proposed technology/work a significant challenge? What are the technical risks for the proposed concept?
* Does the approach require one or more entirely new innovations to be successful? (e.g.; a never-before‑demonstrated fabrication technique, greater-than-previously-shown subcomponent performance, or material property for a yet-unknown material).
* What techno-economic challenges must the proposed technology overcome to be relevant in the marketplace?

**6. PROJECT PLAN**

* What will be accomplished by the end of the project? What are the objectives and performance characteristics of the proposed effort? Indicate the technical goals and anticipated results using appropriate metrics for the project.
* What work will be associated with the proposed effort? (e.g.; algorithm development, prototyping, modeling and simulation, architecture definition, study, etc.).

**7. TEAM**

* What organizations will be involved with the proposed effort and what will each contribute?
* Who are the key team members on the proposed effort? For each key team member, include their name, position, institution, and 1-2 sentences about the skills or experience that make them ideally suited for the proposed effort.

**CONCEPT PAPER TEMPLATE INSTRUCTIONS**

**CONTENT REQUIREMENTS:**

1. The above Concept Paper template and content provide should be used to prepare Concept Papers.
2. Applicants should ensure the accuracy of their Concept Paper by reviewing and/or printing prior to the proposal submission.
3. Confidential, proprietary, or privileged information should be indicated by including in the footer of every page the following: “Contains Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.” In addition, every line and paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.
4. Delete these template instructions and the prompt questions in Sections 2-7 above prior to submitting Concept Papers.

**FORMAT REQUIREMENTS:**

1. Concept Papers must be submitted in Adobe PDF format, be written in English, use black 12 point Times New Roman font, use 8.5 inch by 11 inch paper, be single-spaced, and have margins no less than 1 inch.
2. Concept Papers shall not exceed four (4) pages in length including graphics, figures, and/or tables.
3. Concept Papers must have the Principle Investigator’s (PI’s) Last Name and the ARPA-E assigned Control Number in the upper right corner of each page.