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| **CAES ENERGY FRONTIERS CHALLENGE FY 21-22 APPLICATION** |

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| **PROPOSAL TITLE:** |

**PRINCIPAL INVESTIGATOR:**

**CAES INSTITUTION AFFILIATION:**

**CO-INVESTIGATORS:**

**CAES INSTITUTION AFFILIATIONS:**

**ENERGY FRONTIERS INITIATIVE (Choose One):**

\_\_\_ A Resilient Critical Materials Economy

\_\_\_ Energy Transitions

\_\_\_ Advanced Manufacturing for Extreme Environments

\_\_\_ Other (Please Describe) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **BUDGET SUMMARY** |

*Note: Duration may not exceed 12 months, nor may it be used to:*

Co-mingle with Direct-funded INL Programs or LDRDs; Collect data or perform R&D activities; Purchase equipment or upgrades; facility upgrades; Memberships to professional societies and subscriptions; Development of licenses, spinoffs or technology commercialization; Recruiting, hiring, or relocating new employees.

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| **TOTAL AMOUNT REQUESTED for Seed Funding:** |
| **Justification for Amount Requested:** |

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| **ENERGY FRONTIERS PROJECT DESCRIPTION** |

Applications for the Energy Frontiers Program should adhere to the criteria found below. Evaluation criteria will follow the NSF evaluation criteria of Intellectual Merit and Broader Impacts. Components of the application are listed below.

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| **Project Summary** (maximum 1 page) |
| The Project Summary should consist of three brief sections: 1) Overview of Project, 2) Scientific Merit, and 3) Societal Impacts. The first paragraph in the Overview Section should begin with “Proposed Vision”. |

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| **Project Description** (maximum 4 pages total) |
| The Project Description must contain the following sections:   1. Currently Planned ***Proposing Team***: The description must start with a table that has four columns: (1) Name of the PI or Co-PIs, (2) Institution(s), (3) Department(s), and (4) Most Relevant Field(s) of Expertise. There will be up to five rows, one for the PI and one each for up to four Co-PIs. 2. ***Targeted Societal Impact*:**Describe the specific societal impact(s) that the intended program will potentially target. 3. ***Rationale*:**Make the case for why the program is appropriate and why a convergent research approach is needed for the targeted societal impact. Identify some key, enabling ideas that will be built upon. Describe the intellectual approach and qualifications for carrying out the proposed strategies. 4. ***Expected Benefits*:** What would the planning grant enable that isn’t currently in place? 5. ***Stakeholder Community*:**Describe the proposed strategies that will be used to better understand and engage the stakeholder community most appropriate for your program. The stakeholder community should be identified with consideration of all key components of a targeted mid- to large- scale Funding Opportunity Announcement. The scale of funding should be appropriate to support the proposed team’s convergent research efforts. 6. ***Team Formation*:**Describe the proposed strategies that will be used to identify and bring together the best team, including effective leadership/management, to address engineering challenges for the targeted societal impact. 7. ***Planning Procedures***Please describe in detail how you will use this planning grant. Include possible dates, locations, participants, objectives and outcomes of proposed planning meetings or activities, and any other relevant information. In addition, include a brief contingency plan in case in-person meetings are not possible. 8. ***Extended Impacts*:**What aspects of the proposed approach would be most likely to change as a result of the activities described in this planning grant? Where do you see the planning grant having the most impact? What are the anticipated impacts of the activities listed in the previous section? How do you assess these impacts? |

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| **References Cited** (maximum 1 pages) |
| References to scientific publications, national reports and strategy documents, and other related sources are highly encouraged. |

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| **Curriculum Vitae** (PDF Format) |
| A full CV must be included for the PI with a full list of publications and related funding. Short 2-page biosketches for up to four co-PIs should also be included. |

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| ***Budget Overview*** |
| Budget justification should explain how the budget allocation supports the overall goal of the planning grant. Reviewers will closely examine all allowable expenses such as Salary/wages, Materials, Concept development, Facilitators, Teaming Activities, Training, Travel, Participant support costs for planned workshops, and Other (specify). Note that the award funds are not meant to be used for research activities, such as preliminary research, or for proposal writing. The planning grant is for one year and the proposed budget for each planning grant should not exceed **$50,000.** |

*Please submit* ***PDF files*** *of this application and* ***attach PDF files of PI and Co-PI curriculum vitae*** *to CAES Energy Frontiers Coordinator, Dr. Hillary Fishler to* [*Hillary.Fishler@inl.gov*](mailto:hillary.fishler@inl.gov) *by* ***11:59pm on April 22, 2021.***

**Awards are expected to be announced by: May 8, 2021.**