1. ***INSTRUCTIONS***

*Prior to submitting a full proposal, please read the* [*terms of the Cooperative Research and Development Agreement (CRADA)*](https://woodheat.bnl.lbl.gov/sites/default/files/2023-06/WHICCRADA_15JUN2023_1.docx)*. The Wood Heater Innovation Collaboration (WHIC)* [*Common CRADA template*](https://woodheat.bnl.lbl.gov/sites/default/files/2023-06/WHICCRADA_15JUN2023_1.docx) *has been reviewed and approved by all participating DOE labs. This template will be used for all WHIC projects and is non-negotiable. The CRADA is applicable only to WHIC projects where there is at least one non-DOE lab party, although there may be any number of DOE labs.*

*A CRADA project is a partnership between a government agency and a private sector company to collaborate on research and development activities. The goal of a CRADA project is to leverage the expertise, resources, and capabilities of both parties to develop new technologies, products, or services that can benefit society.*

*All DOE Bioenergy Technologies Office (BETO) funding will go directly to the national laboratories to execute the scope of the project, with the partnering applicant committing a minimum of 20% cost share to the project. Further details of this funding opportunity announcement can be found on the Wood Heater Innovation Collaboration website:* [*woodheat.bnl.lbl.gov*](http://woodheat.bnl.lbl.gov/)*.*

*Using the template provide in Section C, please describe the work you propose to carry out in* ***no more than ten (10) pages****. Project duration is 12 to 24 months. Replace text in brackets with appropriate text. All sections must be completed. Note that section lengths in parentheses are suggestions and can be removed before submission. Actual section lengths are at the discretion of the author. Percentages in parentheses provide prior to the section title are the score weighting of each reviewer-scored section.*

*Please work with your partnering National Laboratory to complete the proposal tasks and budget. Submit the proposal to* [*woodheat@ee.doe.gov*](mailto:woodheat@ee.doe.gov?subject=Proposal%20Submission) *by 11:59 PM PDT on date specified in the announcement (see* [*woodheat.bnl.lbl.gov*](http://woodheat.bnl.lbl.gov/)*). You will receive a confirmation of receipt by email. No late submissions will be accepted.*

1. ***REVIEW CRITERIA***

*BETO and a panel of non-conflicted external reviewers selected by BETO will perform proposal reviews based on review criteria outlined in Section B.1. Reviewers will score the proposals based on the associated weighting of each criteria. Final funding decisions will be made by BETO based on funding availability and portfolio requirements.*

*PROPOSAL REVIEW CRITERIA*

*Proposals are evaluated based on the following factors below. Be sure to address all sub-criteria described in the bulleted points.*

***Project Goal and Overview (20%)***

* ***Measurable****: The project goal is clearly defined and measurable, with specific metrics for success.*
* ***Related to BETO Portfolio/Goals****: The project goal is relevant to overall BETO objectives and aligns with the needs of BETO.*
* ***Feasibility of Approach****: The project goal is feasible within the available resources, including time, budget, and personnel. The overall proposal is clear, well-organized, and coherent, with a logical flow of ideas and a clear connection between the project goal and technical approach (section 6). The feasibility of the proposed work is justified by appropriate background, theory, simulation, modeling, experimental data, or other sound scientific and engineering practices.*
* ***Innovative****: The project goal demonstrates innovation and creativity in addressing a relevant challenge or problem.*
* ***Impact****: The project goal and plan are expected to have a significant impact on the relevant field or community, and the proposed outcomes are meaningful and relevant. The project goal is advanced compared to existing or emerging technologies.*

***Identification of risks and risk mitigation strategies (15%)***

* ***Identification and Risk Mitigation****: The risk identification process is comprehensive, identifying all possible risks that may impact the project's success. The risk mitigation strategies are feasible within the project's resources, including time, budget, and personnel. The risks are prioritized based on their potential impact.*
* ***Impact****: The risk management plan is expected to have a little to no significant impact on the project's success. The risk mitigation strategies are expected to be effective in minimizing or eliminating the potential impact of the identified risks.*

***Impact and Supporting Disadvantaged Communities (20%)***

* ***Inclusion****: The project has identified or includes a clear plan for engaging and involving disadvantaged communities in the project's development and implementation.*
* ***Equity****: The project demonstrates a commitment to equity, addressing social and economic disparities, and promoting inclusive practices.*
* ***Impact****: The project demonstrates a clear understanding of the challenges and needs of disadvantaged communities and has a significant impact on improving their quality of life. The impact of the project is relevant to the needs of stakeholders and contributes to addressing a relevant challenge or problem.*

***Team Organization and Capabilities (15%)***

* ***Expertise and Experience****: The team possesses the necessary expertise and qualifications to successfully execute the project, with a diverse skill set that aligns with the project requirements. The team members have relevant experience in similar projects or domains, demonstrating their ability to handle project challenges effectively.*
* ***Team Organization****: The team organization is clearly defined, with well-defined roles and responsibilities for each team member. Roles and responsibilities have been delegated for each team. The team has identified ways for effective communication and collaboration through planned meetings to ensure coordination.*
* ***Capabilities****: The team has access to the required resources, including personnel, equipment, and facilities, to support the successful execution of the project. The team has highlighted their strengths and synergies, showcasing how the combination of individual capabilities will contribute to the overall success of the project*

***Technical Tasks/Deliverables, Schedule, and Budget (30%)***

* ***Timeline****: The technical approach is clearly and thoroughly described, with specific steps and methods that align with the project goal. The proposed duration of the project is realistic and accounts for the complexity of tasks, potential challenges, and available resources. The tasks are sequenced in a logical order, taking into account dependencies and interrelationships between tasks. The project includes well-defined milestones that mark significant progress points and help track the overall timeline*
* ***Tasks and Deliverables****: The tasks and deliverables are clearly defined, with specific details on what needs to be accomplished and what will be delivered. The tasks and deliverables directly contribute to achieving the project goal and are aligned with the overall project objectives.*
* ***Budget****: The budget is accurately estimated and justified, with clear explanations of the costs associated with each task and deliverable.*

1. ***PROPOSAL PAPER TEMPLATE: Prior to submitting the proposal, remove this page and all blue instructional text throughout this template and ensure text in brackets are complete.***

**[Project Title]**

**[Submitting Organization]**

**[Point of Contact Name/Email/Phone/Address]**

**with**

**[Partnering National Lab]**

**[Point of Contact Name/Email/Phone/Address of Partnering National Lab]**

**[Date]**

**By submitting this proposal, the applicant certifies they:**

*All boxes must be checked prior to submission. If boxes are not checked, then the proposal will not be reviewed or considered for funding.*

*This cover page does not count to this page limit. The 10-page limit begins with executive summary below.*

Have reviewed the [non-negotiable CRADA](https://woodheat.bnl.lbl.gov/sites/default/files/2023-06/WHICCRADA_15JUN2023.docx), which governs intellectual property and contractual terms. If your organization cannot agree to the terms and conditions enclosed, it will not be possible to support your project.

Are requesting assistance that is not reasonably available in the private sector. Projects are intended to make available the specialized expertise and equipment at the WHIC national labs, not compete with the private sector.

Commit to at least 20% cost share, which can be in-kind. Federal funds may not be used as cost share.

Will allow non-proprietary information about your organization and the success of the assistance to be featured in publicly available stories by the U.S. Department of Energy (DOE) and the national labs.

Will be subject to DOE reviews and reporting requests, a statement of the anticipated cost share and regular reports detailing how this requirement is being met, as well as the execution of all appropriate partnership documents required by DOE.

**1.0 Executive Summary**

*The Executive Summary should represent the proposal in miniature. Briefly describe the technical problem, application, its economic & environmental impact, and program-building value of the project for advancing wood heaters. Describe the approach, key risk(s), mitigations, involved labs, budget and timeline. Provide necessary background information.*

**2.0 (20%)**

**Project Goal and Overview**

*Address the following items:*

* *Describe the scientific or technological motivation, long-term goals, and significance of the project in the context of advancing wood heaters.*
* *Describe the immediate goal in the context of a one-year Wood Heater Innovation Collaboration project.*
* *Provide a brief overview of the project plan and how it will achieve the project goal(s). Clearly outline the work to be conducted both at the home institution and at the National Laboratory Facilities of your choice, emphasizing how each entity contributes to these goals. Summarize the resources that will be leveraged, emphasizing their critical role in the project’s success*
* *Describe the overall expected outcomes of the project, underscoring their significance in relation to the objectives.*
* *If necessary, include background information to demonstrate how the approach will work, highlighting expected technical achievements. Figures and charts may also be included to illustrate key points.*

*Note: Detailed descriptions of project tasks should* ***not*** *be discussed here and instead be included in Section 6.*

**3.0 (15%) Identification of risks and risk mitigation strategies**

*Describe the risks associated with the proposed approaches outlined above and the risk mitigation techniques and strategies available to address them.*

**4.0 (20%) Impact and Supporting Disadvantaged Communities**

*Discuss how the proposed work will impact and advance residential wood heaters if successful. Provide a market demand and/or transition plan. A transition plan should describe how the outcomes of this research could serve as a prelude to commercialization or address critical technology gaps and resources required to significantly reduce emissions and improve efficiency of residential wood heaters.*

*Describe how this project will support underserved communities as identified by the Climate and Economic Justice Screening Tool (CJEST).*

**5.0 (15%) Team Organization and Capabilities**

*Detail the capabilities, resources, and expertise at the PIs disposal which will lead to successful research & development as well as gaps which may require coordinated support. Describe the current level of expertise of each researcher in relation to the proposed work. Include personnel at the company and at the partnering National Lab and their role with accomplishing the goals of this project.*

* PI’s skills and expertise:
* Key supporting capabilities at PI’s organization:
* Key personnel, expertise and role:
* Known or anticipated gaps in facilities or capabilities requests (e.g., no combustion modeling expertise):

**6.0 (30%) Technical Tasks/Deliverables, Schedule, and Budget**

*Provide the duration, detailed descriptions of the tasks, deliverables, schedule, and budget for the project. Task descriptions should provide enough detail to understand what the activity will include and how it helps work towards achieving the project goal. Complete the information and tables below, adjusting them as necessary to effectively summarize the key details. This includes specifying timelines, expected outcomes, and associated costs for each task.*

**Duration:**

Duration of Entire Project: *(Express, in months, the proposed length of the project from start to finish. The maximum duration is 24 months and minimum duration is 12 months.)*

**Task Descriptions and Deliverables:** *List and describe all tasks and deliverables using the format below. Include due dates for all deliverables expressed as the month due after the start date [e.g., due 12 months after start date]. Ensure that task descriptions provide a comprehensive overview of how each task contributes to the overall project objectives. An example is provided below in blue.*

*Task 1: Build Widget*

*Description: This task focuses on building the widget that will be integrated into the wood heater. Building the widget will require procuring parts and assembling parts. The company will provide parts for the partnering lab and the partnering lab will fabricate the widget. Preliminary tests will be conducted by the partnering lab to ensure the widget works as expected.*

*Company Name Deliverables: Procure and ship parts for widget to National Lab Name [3 months after start date]*

*National Lab Name Deliverables: Assembled widget and conduct preliminary testing [6 months after start date]*

Task 1:

Description: Text here

Company Name Deliverables: Text here [due date]

National Lab Name Deliverables: Text here [due date]

**Schedule:** *Using the table below as an example, approximate tasks and deliverables schedule by month. Subtasks may also be included. Tasks, subtasks, and milestones should provide enough detail so that progress can be easily tracked. Also state which party will be responsible for the task or deliverable. Examples are provided in blue. Ensure listed tasks match those described above.*

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|  |  | Completion, Months After Start of Extended Project | | | | | | | | | | | | | | | | | | | | | | | |
| Task | Work Done by: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| *Monthly Meetings* | *All [Company and Lab Name]* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* | *X* |
| *Task 1: Build Widget* | *[Company Name]* | *X* | *X* | *X* | *X* | *X* | *X* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Procure and ship widget parts* | *[Company Name]* |  |  | *X* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Assemble and test widget* | *[Lab Name]* |  |  |  |  |  | *X* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Budget**

*Complete the information below and replace text in brackets with appropriate responses. Ensure tasks align with information above.*

$XXK [National Lab Name] effort funded by DOE-BETO.

$XXK in-kind from [Company Name] for [list efforts here, some examples: equipment, supplies, personnel time, etc.]

|  |  |  |  |
| --- | --- | --- | --- |
| Task | DOE Contribution | Company Contribution  \*In-kind | Total Funds |
| *Task 1: Build Widget* | *$30,000* | *$5,000* | *$35,000* |
|  |  |  |  |
|  |  |  |  |
| **Total for Project** |  |  |  |

**7.0 References**