Technical Assistance Request

Subject: Technical Assistance for PV-based Thermal Storage System Development

Our team has been actively working on developing a cutting-edge PV-based thermal storage battery aimed at decarbonizing process heat. This initiative has the potential to reshape the landscape of renewable energy storage and offer a sustainable solution for industries. As we endeavor to elevate our design from the prototype phase to commercial viability, we encounter specific technical challenges. While our team boasts of skilled professionals from diverse backgrounds, we recognize the necessity to leverage the unique capabilities of national labs, private facilities, and members of the American-Made Network.

Areas of Assistance Required:

- Thermal Simulation: While our team has managed initial thermal simulations, we need expertise in advanced thermal dynamics and computational fluid dynamics to achieve a precise thermal simulation model. This will ensure optimal system efficiency and longevity. National labs, especially those with prior expertise in thermal systems, could provide us with insights, tools, and models that could refine our simulation approach.

- Material Selection for Storage Tank: The selection of the appropriate material for the storage tank is vital for ensuring the safety, durability, and efficiency of our storage system. Assistance from institutions with expertise in material science, like Sandia National Labs, would help us make informed decisions on materials that can withstand high temperatures, are corrosion-resistant, and are cost-effective.
- Latest Salt Chemistry: Molten salts are at the heart of our storage system. The chemistry of these salts directly impacts the efficiency, safety, and cost of our system. We seek insights into the latest advancements in salt chemistry, specifically tailored

for high-temperature storage. Collaborative research and access to data from institutions like Sandia National Labs would aid us in selecting or developing the ideal salt chemistry for our storage system.

- Economic Analysis for Large-scale Project Deployment: While our internal team has conducted a preliminary economic analysis, an in-depth study by reputed organizations like NREL would offer us a comprehensive perspective. With their extensive knowledge in renewable energy economics, NREL could help validate our findings and provide a blueprint for scaling our project, ensuring that our system remains both technically sound and economically viable.

Our mission to revolutionize the energy storage domain with our PV-based thermal storage system is ambitious. Yet, with the combined expertise of our team and the unparalleled resources of institutions like NREL and Sandia National Labs, we are confident of achieving our goal. We earnestly request the members of the American-Made Network to consider our application for technical assistance, as their insights and capabilities could be the catalyst that propels our solution into the forefront of renewable energy solutions.

Thanks

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