

R015-C: Innovative Lithium Battery Production for Renewable Energy Storage Systems

Submitted by Clean Republic LLC

Principal Investigator: Yong Hou & Michael Shope

Request for \$185,000; Total Project Costs \$398,000

Technical Advisor Comments

- All 4 reviewers scoring recommended funding be considered.
 - 1 reviewer initially scored the proposal as do not fund. After reviewing the applicant's response, the score increased enough to meet the criteria for consideration.
- Applicant will provide a 53% match. 62% of the match is cash, and the remaining 38% is in-kind. Most of the match comes from the applicant; \$15,000 comes from Solargy (\$3,000 cash, \$12,000 in-kind.)
- 1 reviewer questioned why ND should be a center of lithium ion battery manufacturing, "an industry which has seen recent bankruptcies because it is highly cost-competitive and crowded."
 - The applicant has listed several reasons including: cheap electricity, cold climate, educated workforce, close proximity to 2 universities, strong economic growth, and nearby suppliers.
- 3 reviewers questioned whether the project was achievable, noting that the proposal failed to outline an advantage in cost and performance.
 - While the applicant did provide additional information, the reviewer that reviewed it said it did not ease his concerns.
- 3 reviewers felt the methodology was below average.
- 2 reviewers felt that the proposal failed to demonstrate a novel approach.
- 3 reviewers felt that the applicant's awareness of current research was inadequate.
- 2 reviewers felt the proposed value of the budget was low due to a "low likelihood of this turning into a commercially viable manufacturing operation."
 - The other 2 reviewers felt it was above average.

Technical Advisor Recommendations

Funding may be considered. None of the reviewers strongly endorsed the proposal. The three main criticisms of this proposal include:

1. A lack of discussion of research that has already been completed and competitive efforts being pursued or currently commercialized.
2. The proposed technology is not unique.
3. There isn't any information on a competitive advantage in a market that "has seen very significant price-based competition over the past decade."

If successful, this proposal would result in commercialization in North Dakota. The proposal comes from industry and the match comes from industry as well. This strengthens the proposal.

Perhaps the best assessment comes from Reviewer 1B, "To find this proposal fundable, I would need to better understand that the investigators have tracked down many of these researchers and existing companies, examined not only what is currently commercially available but what is also being developed, and make an informed argument that this proposed effort would result in a differentiated and cost-competitive opportunity that would warrant the extremely capital-intensive effort of building out a battery manufacturing operation."

Suggested Contingencies If Funded

- None.