TECHNICAL ASSISTANCE REQUEST (2 pages, including images, will be made public)

Provide a two-page description of the unique challenges and needs a national lab, private facility, and/or member of the American-Made Network could potentially help you resolve. The Prize Administrator will make this request broadly available so members of the American-Made Network can understand your needs and assist you through the voucher program or otherwise.

Rise Energy Systems (RES) is developing a novel approach to residential and commercial solar arrays. Instead of permanent fixtures on the roof or ground, RES aims to create a remotely deployable solar array. This allows the array to utilize existing paved areas when those areas are not being used by vehicles. Benefits of this approach include providing solar access to those without suitable roofs, reducing soft costs, increasing cleaning cycles, reducing required racking costs, and improving solar purchasing for renters. There are several main categories in which the American Manufacturing Network could assist RES in this venture.

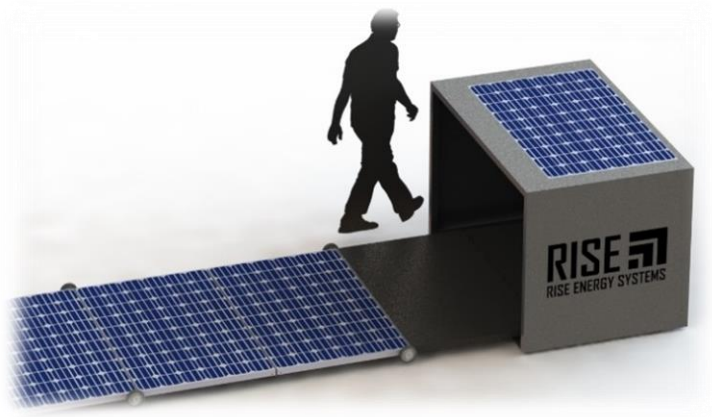

Figure 1: RES 4.5kW array (array continues off of image)

Prototyping and Manufacturing

RES would benefit from reduced-cost access to the following materials for prototyping: standard-sized photovoltaic panels, tube steel, DC gear motors, welding equipment, and various electrical supplies. Access to a makerspace at or below cost would be invaluable for prototyping. Later in the development process, access to a small-scale manufacturing line, aid in designing for large-scale manufacturing, and assistance in researching manufacturing partners would significantly improve the timeline of our venture.

Electrical and Wind Load Testing

RES's units will need to undergo several rounds of testing before being introduced into the market. Assistance from national Labs that can perform UL testing would be very helpful in our venture. In addition, assistance from national labs with large-scale wind tunnels would be very helpful. We will need to test our units in a large-scale wind tunnel to determine the maximum safe wind speed at which to retract our panels into the storage container, as well as the wind speed at catastrophic failure if the automatic retraction mechanism was to malfunction.

Business Plan Development

Our team leans heavily towards design, fabrication, and prototyping, without a wealth of experience in business development. We would appreciate technical assistance in the following areas: business plan development, marketing, and market research. In addition, access to large data sets regarding roof-based and ground-mounted solar would be invaluable as we research how to best position ourselves in the residential/commercial solar space.