

## Verde Technologies Solar Prize Technical Assistance Request

The areas Verde could use technical support are the following:

-Techno-economic analysis of system design - The Verde team has conducted a high level TEA but a major reason for applying for the Solar Prize is help ensure this analysis and the assumptions imbedded are as accurate and detailed as possible. The team could use support accounting for how economies of scale will impact the cost of sourcing racking components, interconnection hardware, cabling, and membrane materials. This TEA work is likely best supported by a National Lab or large construction company with experience in assessing economic viability of new technologies and mounting schemes at scale.

-Wind and snow loading analysis - We are aware that analysis tools exist for estimated the forces imparted on a solar system during high wind and snow loading events but we lack access to these tools. If members of the American Made Network (such as national labs) have access to these analysis tools that would substantially accelerate our development efforts.

-Engineering and CAD modeling - Our team has created conceptual designs of our system but the next step of development will be creating more sophisticated engineering designs of our solar system using engineering design software such as CAD modeling. Support from experienced design firms in the American-Made Network could help accelerate these efforts.

-Estimation of installation and labor costs - An important part of assessing the viability of this project is the creation of accurate predictions of the labor and soft costs associated with a new site installation. Many elements of this will have to be determined experimentally through field trials of deploying the novel system. However, access to existing data sets of the labor costs associated with existing installation methods could help direct efforts towards validated approaches that reduce real-world labor cost and manual installation complexity. This data on existing installations costs may be available via National Labs or private entities with a long track record of installations of various solar technologies.