Icarus RT, Inc. (Icarus) is an advanced solar engineering firm developing a hybrid photovoltaic/thermal (PV/T) solar plus storage system. Icarus technology improves PV panel efficiency by 12% and stores thermal waste heat for domestic hot water use or on-demand power generations. Icarus has built a 2.4 kW proof of concept prototype at the University of California, San Diego (UCSD) Englekirk Structural Engineering Facility (ESEF) (see Fig. 1). Our team is currently testing prototypes on-site to optimize PV panel cooling, thermal energy storage, and a monitor and control system for optimizing the array power output. Icarus seeks business development, testing and validation, manufacturing and assembly, and mentorship and coaching assistance from the American-Made Solar Network to fast-track the commercialization of our technology. We have established solid connections with the National Renewable Energy Lab (NREL) through the Shell Gamechanger Program (GCxN), which provides technical assistance and general design guidance. We are current participants in the 2020 Cleantech Open (CTO) Accelerator Program which provides coaching to develop our investor pitch. We were selected as a runner-up of the CTO Western region and will participating in the CTO National Final event. We are also working with Cleantech San Diego who has assisted us on business development from the early days of the company. Icarus is eager to expand partnerships in the public and private sectors through the American-Made Solar Network.

Fig. 1 – Icarus' solar lab at the UCSD Englekirk Structural Engineering Facility.

Icarus seeks the guidance of American manufacturing experts such as NREL's Advanced Manufacturing Team, Xometry, and the Wilton E. Scott Institute for Energy Innovation to develop large-scale manufacturing plans for Icarus' solar panel heat extractor (see Fig. 2), the energy storage system, and monitoring & control system. With the help of manufacturing connectors, we will be able to scale up production of the Icarus systems. By manufacturing components at high volumes, Icarus will lower the costs for our end-users and make solar plus storage easier to purchase.

We are also soliciting help in business development to analyze cost and value of the entire Icarus system at various scales. The estimated cost of a 100kW pilot project is approximately $250,000, depending on location, state regulatory issues, the specific application, and other parameters. The target cost for the Icarus system for a commercial 100 kW project is $100,000. This target cost estimate only accounts for manufacturing and installing the Icarus heat extractors, hot water storage system, and control & monitoring system at an installation where a PV array already exists. With further mentorship in

business development, Icarus will identify locations where it can reduce system costs and deliver better value to its end-users.

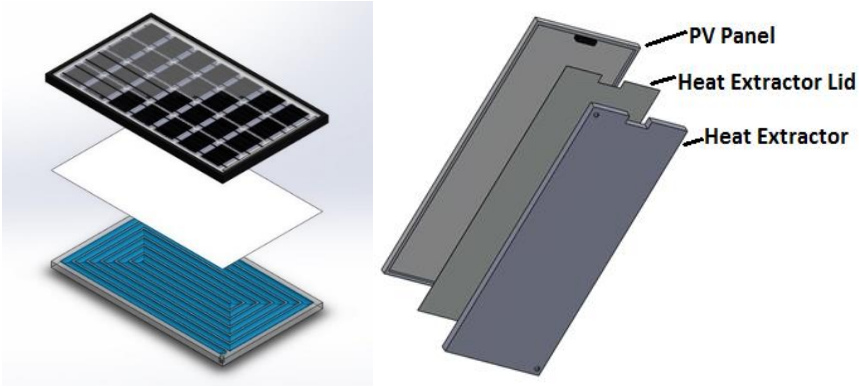

Fig. 2 – The Icarus heat extractor is attached to the back of a PV solar panel

Icarus is also prospecting pilot projects with commercial scale partners to advance commercialization of our technology (see Fig. 3). The American-Made Network has the potential to connect us with commercial partners who are open to pilot projects ranging between 50 to 200 kW. Icarus is specially interested in pairing with hospitals, convention centers, and other commercial buildings with existing PV systems or in the process of having one installed. Icarus' plan is to install its hybrid solar PV/thermal plus storage system to boost daytime PV energy production and generate on-demand hot water and/or power for end-users at a lower cost than current state of the art PV plus storage systems. These pilot projects will validate the performance of Icarus' solar plus storage system in a commercial setting and advance it from TRL 8 to TRL 9.

Fig. 3 – 3D rendition of an Icarus commercial pilot project.

Finally, Icarus seeks technical assistance from the American-Made Network to pursue UL certification for its technology. Icarus wants to establish connections with partners experienced with the process to approach it correctly and properly complete required system validation. With UL certification, end-users will be assured of the quality and safety of Icarus' technology.