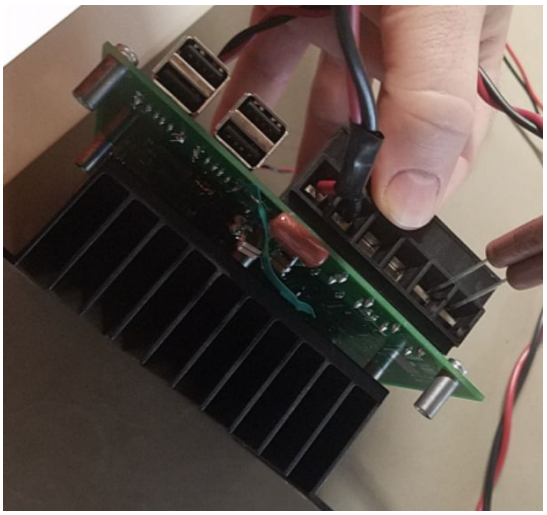
SEED-SOS
Storage Optional System

Solar SEED Team
Benedetta Piantella
Kobby Osei-Kusi
R. David Gibbs
david@solarseed.energy

American-Made Challenges: Solar Prize

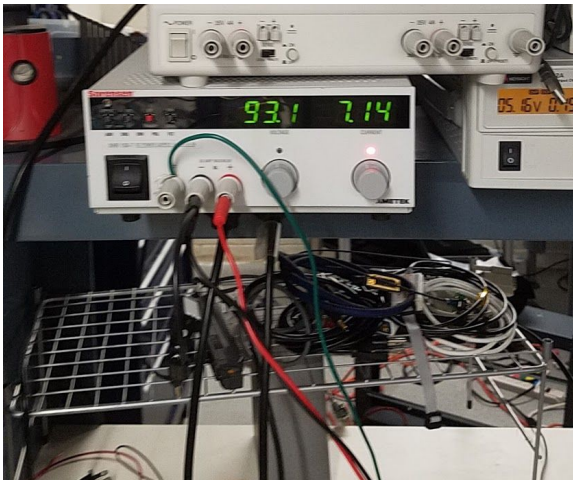
Technical Assistance Request



The Solar SEED-SOS Inverter is our teams most ambitious undertaking, having many technological challenges to overcome and requirements to fulfill. Working with James Bonanno at Atlantix Engineering have benched testing the Solar SEED controller circuit design and have explored the competitive landscape, in addition, to completing teardowns of charge controllers with similar power capacities, manufactured by well-established brands, like Morningstar, Renogy, Victron Energy, and Blue Sky Energy. There are specific needs we foresee having to further develop the device into a marketable consumer product, therefore design, engineering, and manufacturing assistance will be required to achieve full techlogocial maturation of SEED-SOS, while keeping in mind manufacturing and mass production. We would be interested in partnering with various National Laboratories to develop SEED-SOS and best define it's feature and fuctionalities and ensuring complete code compliance.

Testing and Certification is another critical part of the design and production process. This ensures the product operates safely and is suitable for the masses. The team does have considerable experience with fabricating small scale electronic prototypes and product design, but this will provide an amazing learning experience. We have initiated conversations with UL and ETL regarding performing a Preliminary Investigation of our technology prior to full Certification of our controller technology. Presently our circuit is being tested at Typhoon HIL by Dr. Edwin Fonkwe and we have connected with Dr. Andy Walker at the Energy Systems Integration Facility at NREL, as well as meeting with Bruce Norman and colleagues at Lawrence Berkeley National Labs earlier this year. Any partner with the capacity to do accelerated life-cycle testing would be hugely useful in analyzing how Solar SEED-SOS performs in real-world conditions, and technical assistance with inverter and DER experts would ensure the SEED-SOS design will meet all IEEE, IEC, UL and NEMA certification requirements. We believe the

Energy System Integration Facility at NREL, Lawrence Berkeley National Laboratory, Sandia National Laboratory, and Washington's Clean Energy Testbeds have these capabilities. *PHOTO: Testing circuit to 93VDC input*



Business Plan Development & Marketing will be an ongoing process which is something the team has the least amount of experience with, so finding a partner who will work with us to grow this fledgling operation is very important to the success of this endeavor. As tenants at NY Designs incubator in Queens, NY, we are presently receiving business development, legal, and IP advice. A few key American-Made Network members we would be interested in working with include Elemental Excelerator, Powerhouse, and Greentown Labs. Such partnerships will allow us to leverage their unique expertise to improve our design, model for expansion, and approach to manufacturing. Our initial focus area is developed markets (residential and commercial back-up power), but other future opportunities lie in emerging markets and locations suffering from energy insecurity (off-grid and back-up power).