

PROJECT NAME:

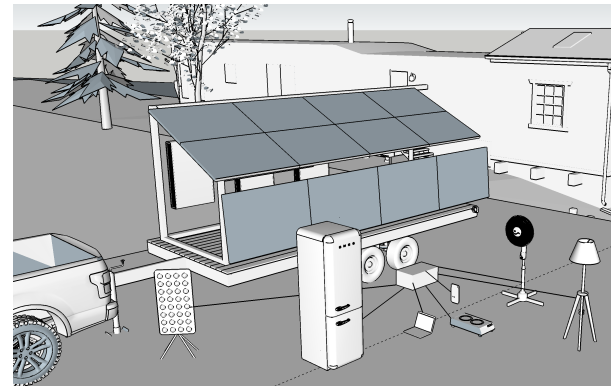
PICKUP & GO: SOLAR + STORAGE + ELECTRIFICATION

INNOVATION TAGLINE:

Life-saving electricity for critical needs delivered safely, cost-effectively, and sustainably.

BRIEF DESCRIPTION:

The Pickup & Go: Solar + Storage + Electrification project proposes an all-in-one solar + storage + electrification solution that enables cost-effective, fast, and safe deployment of critical and life-saving energy solutions to rural or tribal lands, and for use in natural disaster recovery.



This technical solution will provide power for key devices such as charging for laptops and personal electronics, emergency heating, lighting, induction cooktops, and food refrigeration within a pre-packaged system that can be set up entirely by volunteers or homeowners.

Critically and uniquely in this project, units intended for temporary post-disaster support will be provided with a custom satellite power station with outlets & safety features that can be placed inside of a house or shelter. The factory-installed power feed connection tether will be armored to provide for electrical safety during temporary use, enabling residents to use this electricity indoors safely and efficiently. No high-cost specialized labor or design reviews will be required for the placement, setup, or use of this all-in-one solar + storage + electrification product.

TECHNICAL ASSISTANCE REQUEST

To achieve success, the Pickup & Go: Solar + Storage + Electrification project must be cost-effective, safe, reliable, and market-relevant. As such, there are many unique challenges and needs that a national lab, private facility, or member of the American-Made Network could potentially help us resolve. We have summarized each area on this page and provided more detailed requests on the following page:

- PV System Sizing & Specification – optimizing for durability, reliability, and cost.
- Battery System Sizing & Specification – optimizing for weather, cost, and reliability
- Structural Analysis - analysis of skid-mounted solution for wind loading
- Customer Research – connections with resilience, tribal, and rural markets
- Satellite Power Station Design – design of power box for placement in homes or buildings
- Business Case – network expertise in business plan development & modeling
- Capital Raises – network expertise in raising capital for manufacturing
- Product Manufacturing – network expertise in manufacturing of hardware for distribution

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PV System Sizing & Specification – optimizing for durability, reliability, and cost.

While our team has the experience and expertise to evaluate the critical electrical needs of our potential customers and to size the solar system appropriately, we could benefit from engagement with solar industry professionals or laboratory experts who can help us to specify panels that are best suited for the unique condition of an all-in-one system that has to travel to multiple sites on the highway, operate reliably in a variety of climatic conditions, and provide cost-effective power for lower-income customers like Native American Tribes.

Battery System Sizing & Specification – optimizing for weather, cost, and reliability

The team will specify reliable battery storage that can be skid-mounted and pulled by a standard pickup truck for installation at a variety of remote residential and non-residential locations. The equipment will need to be prepared for exterior installation and use and be able to be safely operated when people may be nearby. Safety and specification expertise for ensuring life and product safety will be helpful.

Structural Analysis - analysis of skid-mounted solution for wind loading

The all-in-one system will be skid-mounted so that it can be easily set in place for both temporary and longer-term use. The solution will need to be able to be anchored to the earth successfully in a variety of ground conditions. Structural engineering expertise for the design of flexible anchoring systems and for validating our wind-loading and structural steel fabrication calculations will be valuable.

Customer Research – connections with resilience, tribal, and rural markets

The team has experience with rural, tribal, and resiliency markets by any further introductions, interviews, or contacts with individuals or organizations who could benefit from this all-in-one solar + storage + electrification solution could help our company succeed.

Satellite Power Station Design – design of power box for placement in homes or buildings

Critical, and unique, to the product will be the design of a satellite power box that can bring electricity into existing residences or buildings safely. The power distribution box will need to be factory installed and connected to the solar + storage module and we could benefit from safety & reliability testing in-situ, such as at the NREL ESIF, of this unique hardware.

Business Case, Capital Raises, and Product Manufacturing – network expertise in business plan development & modeling, product manufacturing, and capital raises

While our team consists of multiple business owners and founders, product development and manufacturing is relatively new for the team. Any American-Made network experience to guide our business case development and/or the raising of capital to fund manufacturing of the product, would be appreciated.