

Technical Assistance Form - Solar Prize Round 7
Pavilion Solar Team - EnPods, The Superior Alternative to Rooftop Solar

1. Testing the ability of EnPods to withstand climate catastrophes

By leveraging technical assistance from national labs, private facilities and/or members of the AmericanMade Network, Pavilion Solar can assess the ability of EnPods to withstand intense climate events. This is specifically relevant to our innovation as EnPods are designed to be marketed in Coastal Areas that are prone to extreme weathers and hurricanes.

Florida International University (FIU) Wall of Wind:



Figure 1: Florida Wall of Wind Facility

FIU Wall of Wind enables Pavilion Solar to verify the structural analysis performed through engineering calculations, which reflect EnPods capability to withstand Category 5 Hurricanes, 180 mph winds and downward wind pressure of 75 PSF, inline with Florida Building Code Standards. Special rates are given to projects that are aligned with federal funding initiatives, for example, from the NSF. Having access to the Wall of Winds facility at said discounted prices would enable Pavilion Solar to utilize this facility in the later stages of the competition. Data from this test can be used to verify the structural integrity of EnPods, assess areas of improvement, resilience of the assembly method, and footing strength required.

On-site testing to assess performance and costs of concrete and helical pile footing

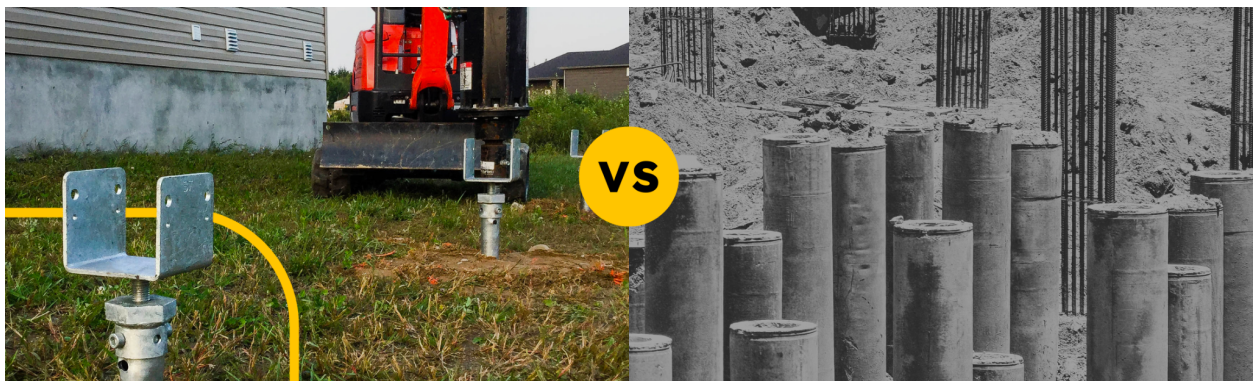


Figure 2: Comparative picture of helical piles vs concrete foundations

Pavilion Solar is considering two options to place EnPods to the ground, and ensure they can provide the structural integrity necessary to hold the EnPods steady. Concrete footings are typically less expensive than helical pile foundations. However, the cost savings come at the expense of stability and durability. Concrete footings may be more susceptible to shifting, cracking, and settling over time. Although helical piles may come with a higher initial price tag than conventional concrete footings when comparing only raw material, the savings in terms of reduced labor costs and installation time will more than compensate for the additional material expenses.

Leveraging the engineering expertise within the DOE, National Labs and American Made Network, Pavilion Solar would be able to assess the cost, performance and time of both methods, determine how to test them and integrate the optimal one in our commercialization strategy.

2. Working with Patent Attorneys to define an Intellectual Property Strategy

Pavilion Solar can use assistance developing an intellectual property strategy that enables us to protect our technology against established industry players and upcoming competitors. From a utility patent perspective, the following are aspects that we'd like to consider in our IP strategy:

- Leveraging additive manufacturing evaporative casting (AMEC) for Solar Carports to produce pieces that can't be produced through extrusion methods
- Integrating Storage into the columns of the Solar Carport, to add weight to the structure and serve as a resilient energy microgrid.
- Integrating Storage into the base of the Solar Carport to serve as a footing alternative, setting the design to use old/retired batteries from EV

Design patents can also be pursued, which capture the aesthetic value of the EnPods and protect us from competitors copying our structure design, its rapid assembly method, and our ease of expanding it from single to multi-unit capacity.

3. Work with Certification and Permitting experts to streamline the deployment of EnPods for future clients and

Although Pavilion Solar has identified experts in the field that can provide this type of assistance, such as Al-Farooq Corporation and Intertek, having the support from the DOE to ensure EnPods are on path to be certified by third parties and have allowable permits as soon as possible would be very beneficial. Product Approval seal, and UL Certification (specifically "PV mounting systems certification" and "PV module certification"), in states like Florida and Texas can make a massive difference in the rate of adoption by end users.

Pavilion Solar team thoroughly appreciates this technical assistance offered, and is looking forward to engaging in conversations with potential partners that we can collaborate with to tackle these specific areas.