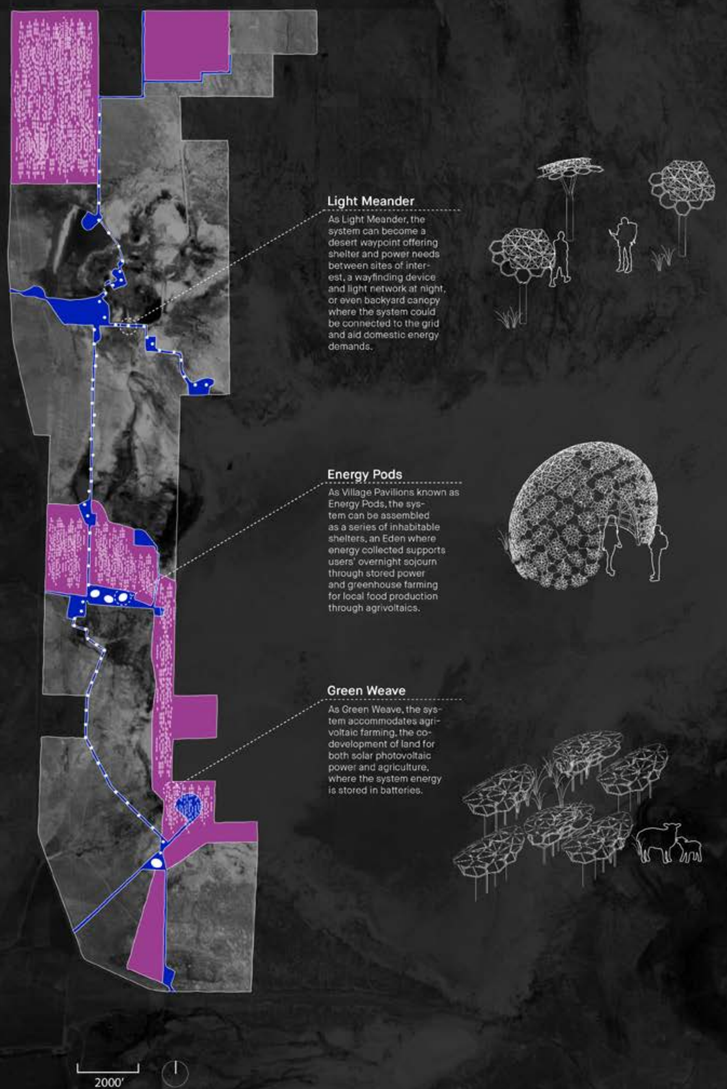


Site Plan

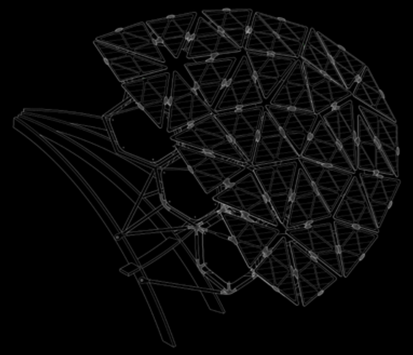
Energy Generation, Storage & Output

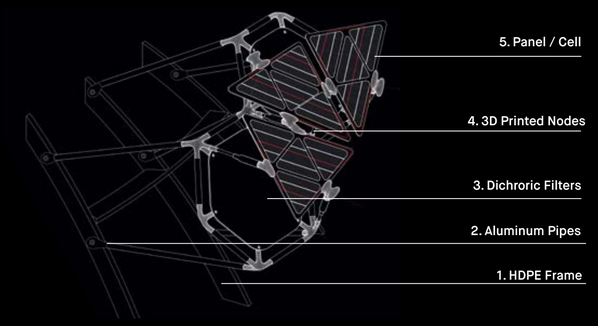
Powering Your Energy Pod with Sunlight

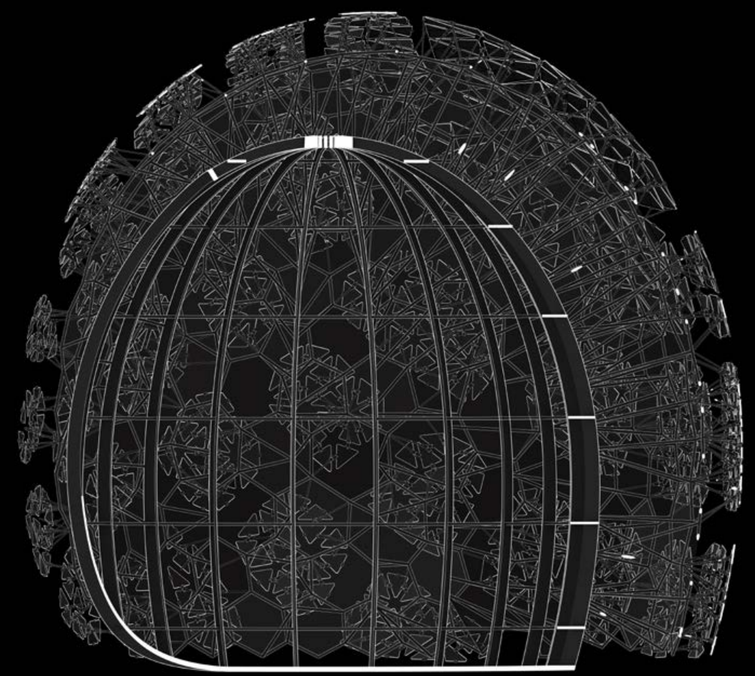
Solar enery gathered during the day is stored and emitted during the night in the form of light energy.
Three 1.2kWh Energy Cell 106RE
Nano-Carbon VRLA-AGM
Operates at 12V, 100AH, (100Ah @ 20hr)]

System

498 Cells in 125 Modules
Module Output at maximum power point
Average daily Energy Output = 3.43kWh
(mpp) measured in the lab
Current @ mpp = 2.07A
Power @ mpp = 4.12W
Voltage @ mpp = 2V

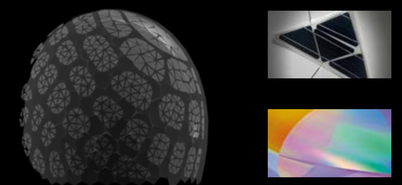






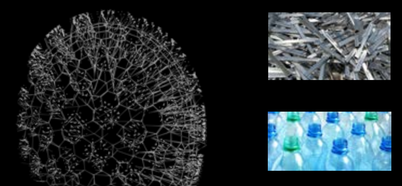
Section 1/4"=1'

Cradel to Cradel Materail System



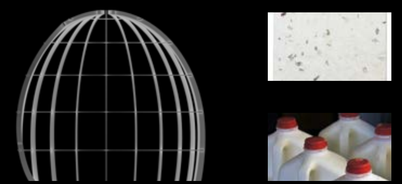
PV Cell Systems & Dichroic Filters

Altuglas® RNew 300 is a plexiglass alternative made of bioplastic. Nontraditional photovoltaic cells and modules designed to transform light into electricity, significantly reducing GHG & CO2 emissions.



3D Printed Nodes & Aluminum Pipes

Standard pipe dimensions up-cycle common aluminum scraps. The network of pipes hold panel clusters. Non-standard nodes are 3D printed using a PETG filament created from recycled plastic bottles.

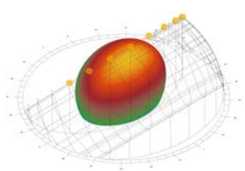


HDPE Frame Structural Frame

Recycled HDPE sheets (often made out of used plastic milk containers) will be digitally fabricated to assemble and construct the primary structural frame of the pavilion.

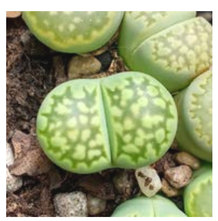
Photovoltaic Panels on Energy Pods

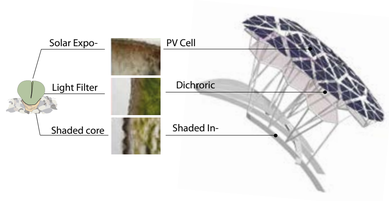
Form Finding Process and Biological Adaptations



Sun Path Based Form Finding

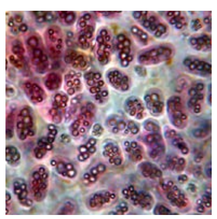
Biological adaptations of heliotropic mechanisms in sunflowers inform the form-finding process in creating a site-specific solar oriented form.

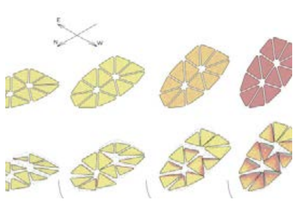




Light Scattering & Filtering

Similar to Living Stone Succulents, structural adaptations are made according to varied light conditions. In our system, Dichroic filters and PV Panels are used to scatter light and shade the interior.





PV Cell Morphology and Packing

The cellular division found in Cyanobacteria provides us with the idea to use PV panels and light filter to populate the array. This allows the system to scatter light to adjacent cells, increase solar yield, and bring light into the pavilion.