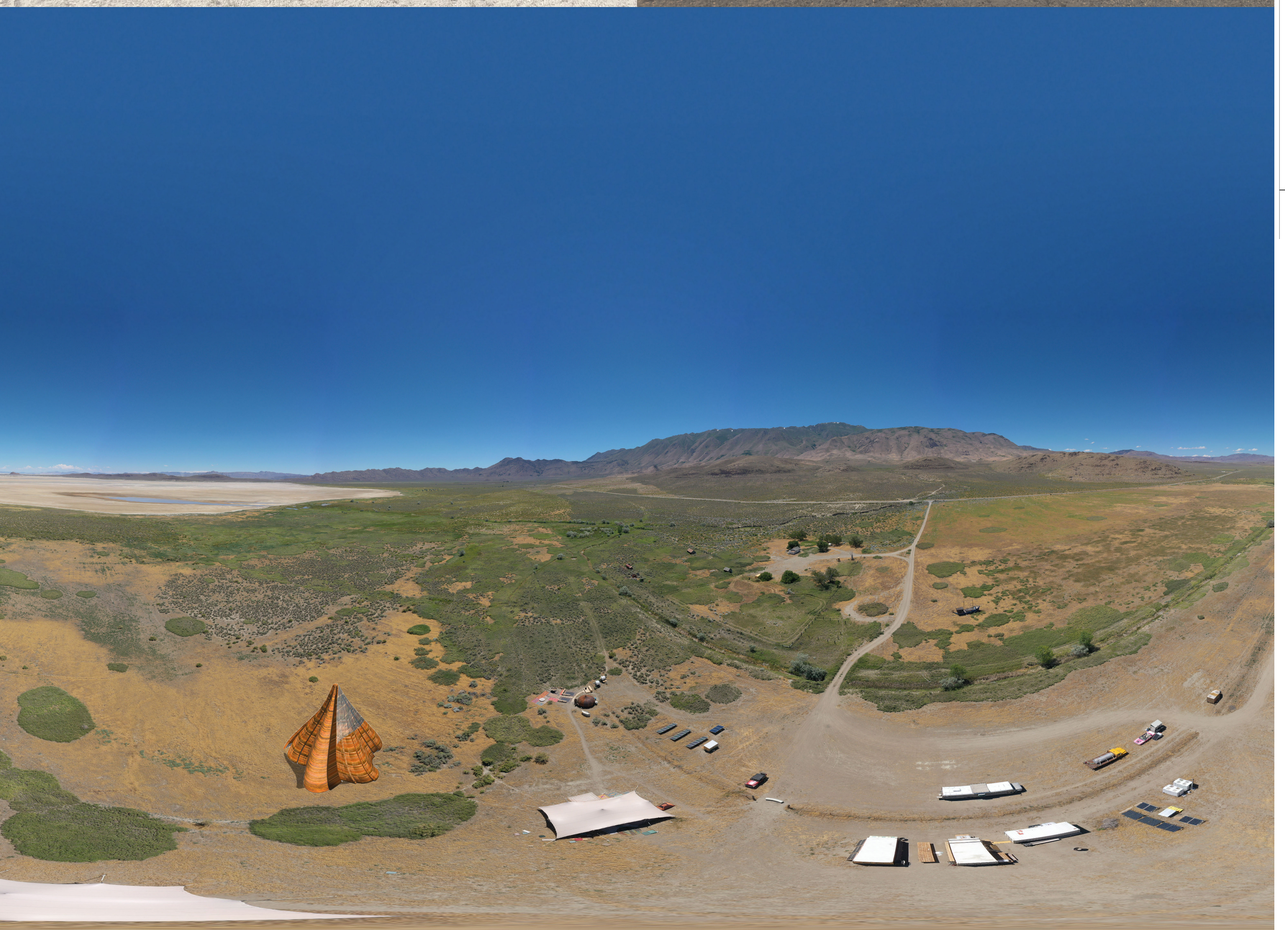
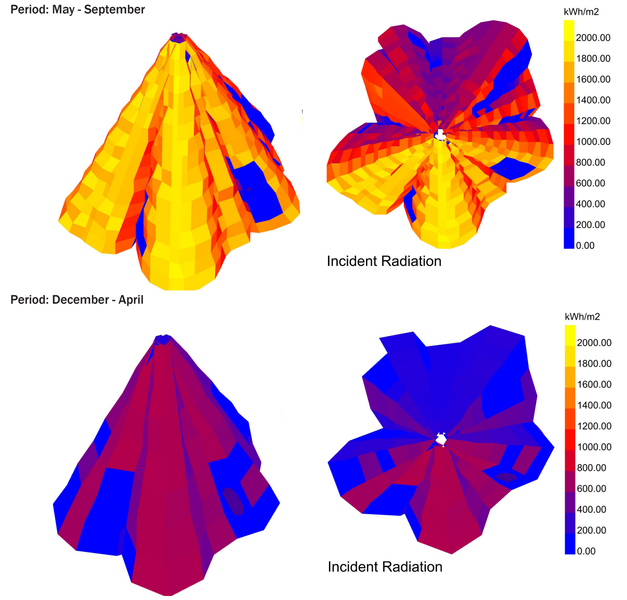


SOLAR RADIATION ANALYSIS

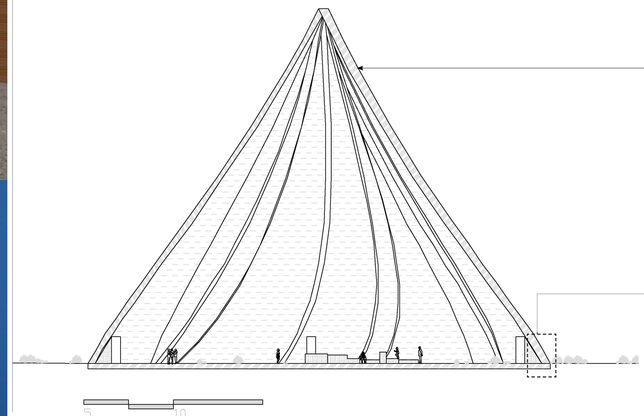


The solar radiation analysis showed a peak load of 2000kWh/m2 on the facade between May and September. The lowest incident solar radiation is during winter months (December to April) with a peak of around 600 kWh/m2. Therefore the proposed facade areas where concentrated photovoltaic panels are most efficient are on the South, East and West elevation. Concentrated photovoltaic panels, unlike conventional PV uses lenses or curved mirrors to focus sunlight onto small, highly efficient, multi-junction (MJ) solar cells. With proposed area of 600m2, the assumptions (in yellow) and results (in green) are shown on Table 1. The proposed orientation, renewable technology and area are sufficient to be able to generate 53 158 kWh/year even if we take winter months as a worst case scenario. However, during summer, the annual capacity increases to 177 MWh/year.

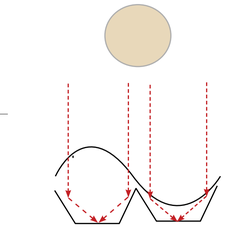
Table 1. Annual renewable energy capacity

E = Energy (kWh)	53158	kWh/year
A = Total solar panel Area (m²)	600	m²
r = solar panel yield (%)	19.70%	
H = Annual average irradiation on tilted panels (shadings not included)*	600	kWh/m² year
PR = Performance ratio, coefficient for losses (range between 0.9 and 0.5, default value = 0.75)	0.75	
Total power of the system	118.2	kWp
Losses details (depend of site, technology, and sizing of the system)		
- Inverter losses (6% to 15 %)	8%	
- Température losses (5% to 15%)	8%	
- DC cables losses (1 to 3 %)	2%	
- AC cables losses (1 to 3 %)	2%	
- Shadings 0 % to 40% (depends of site)	3%	
- Losses weak irradiation 3% yo 7%	3%	
- Losses due to dust, snow... (2%)	2%	
- Other Losses	0%	

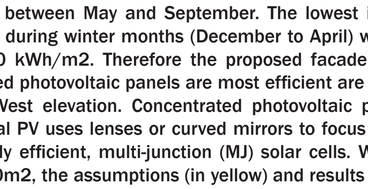
THE ARCHITECTURE



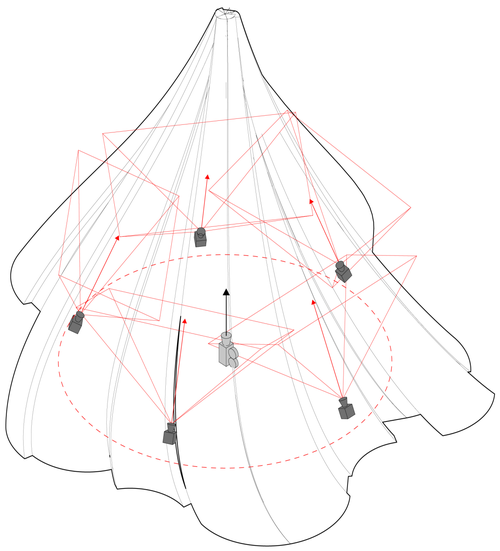
Building Section



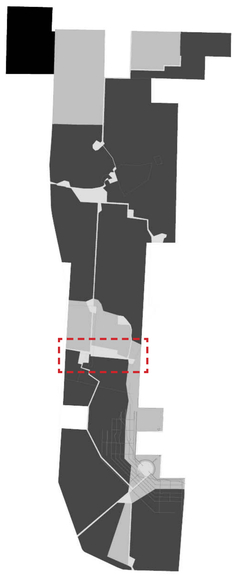
Principle of Concentrated Photovoltaic Panels



Detail Section



Axonometric View - Camera Arrangement



THE FUTURE OF WAS

The proposed event space seeks to expand itself beyond its physicality. The proposed plot (1C) is considered as most appropriate due to already established transport links and surrounding buildings.

However the concept of WAS could appear in multiple locations throughout the site, giving a chance for new landmarks and new projected reconstructions to happen as a test ground for more permanent structures to come.

THE PROTOTYPE

The prototype will aim to construct the highest rammed earth structure so far (surpassing the current 30m tall Telenor Campus) while integrating renewable energy sources. The prototype will aim to generate enough power and be completely self-sufficient for the projection to the opening of the first World Art Station platform.