

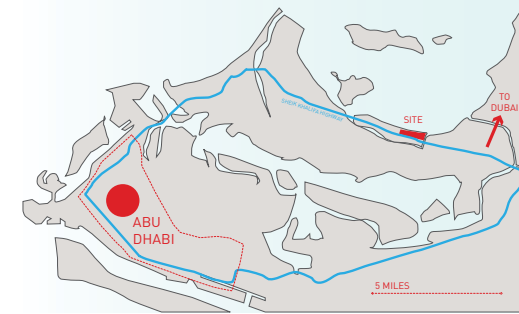
PRISM CLOUD 01

Mirage: Bent Light

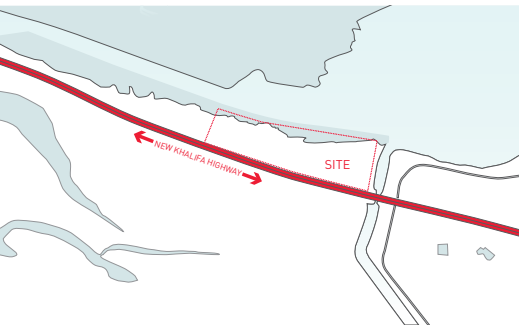
The Prism Cloud hovers over the desert, alternately casting shadows and spectral light on its surface. It attempts to render the invisible visible, calling attention to atmospheric elements that might otherwise go unnoticed. Within the empty context of a desert, the Prism Cloud creates an experiential *fullness*. Light is made visible by splitting prismatically into its various colors. Wind is made visible and audible as the canopy ripples and moves. The sky and the sand are framed in experiential oases made from concrete, which act as focal points and structure for the canopy. The canopy also harnesses solar energy through its array of photovoltaic cells. The project finds beauty in the extreme nature of the landscape, amplifying its effects. The elemental qualities of the site become focused at the point where the desert meets the water under a vast sky.

Mirage: Bent Light

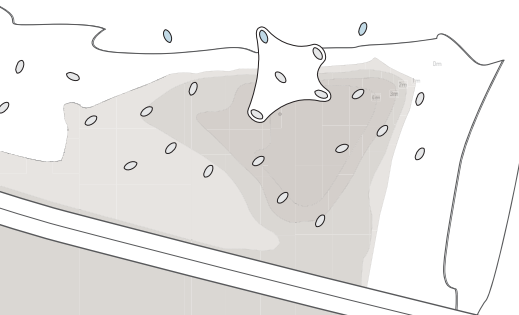
From the New Khalifa Highway, the Prism Cloud appears as a mirage, an optical trick. Its reflective upper surface shimmers, seeming to bend the light. This effect acts as a kind of beacon, drawing visitors to the site.



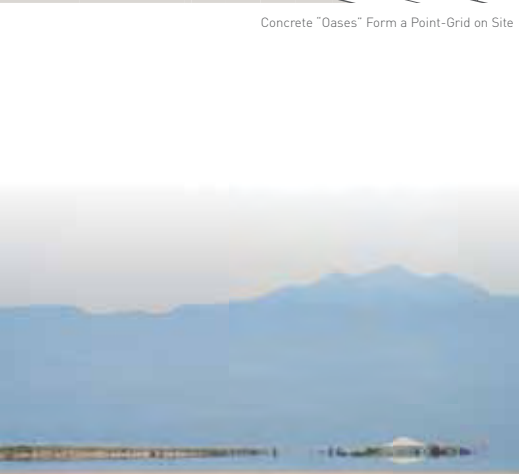
Site is 12 Miles from Abu Dhabi, in a Network of Islands



Site Situated Between Desert, Highway, and Water



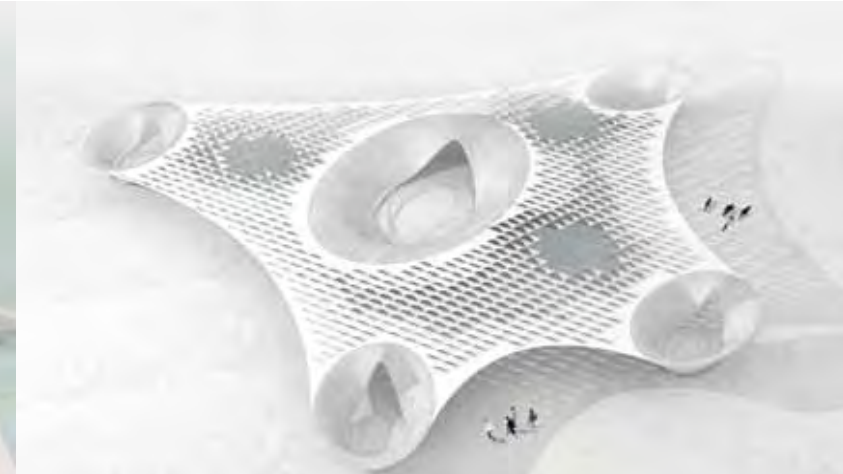
Concrete "Oases" Form a Point-Grid on Site



A Mirage: Light is Bent Due To Differences in Temperature



Over Time, the Prism Cloud Can Be Arrayed Across the Landscape

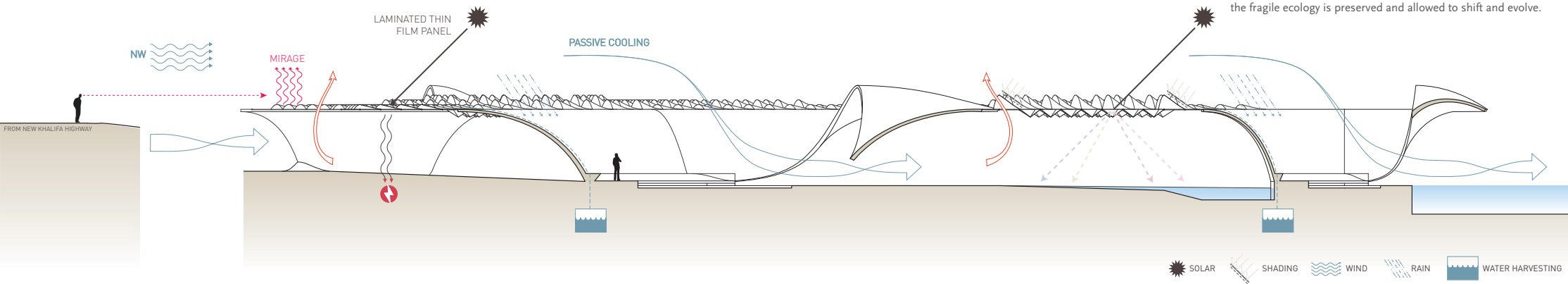


| SYSTEM LOCATION | | PV SYSTEM SPECIFICATIONS | | YEARLY RESULTS |
|-----------------|----------|--------------------------|------------|---|
| Latitude: | 24.43° N | DC Rating: | 120 kW | Solar Radiation (Average): 6.54 kWh/m ² /day |
| Longitude: | 54.65° E | DC to AC Derate Factor: | 0.77 | AC Energy: 192,591 kWh |
| Elevation: | 5m | AC Rating: | 92.4 kW | Energy Value: 32,740 dirhams/year |
| | | Array Type: | Fixed Tilt | |
| | | Array Tilt (Average): | 24.4° | |
| | | Array Azimuth: | 180° | |

THIN FILM SOLAR ARRAY CALCULATIONS

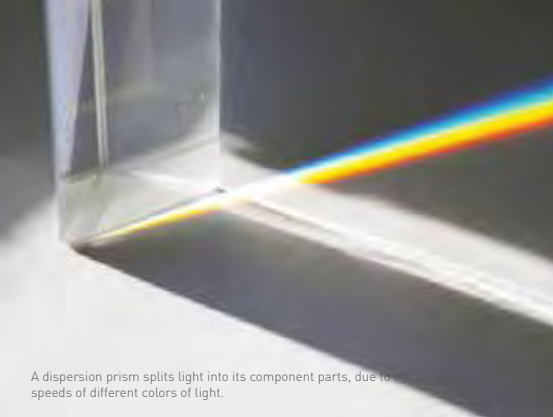
Canopy: Shaded Light

The cable net canopy forms a tensile structure. As wind moves over the cable net, it flexes, creating moving shadows and prismatic light. The northwest wind is drawn through the structures of the photovoltaic cells, cooling the shaded space even further. Because the primary structure is a cable net suspended above the desert, the fragile ecology is preserved and allowed to shift and evolve.

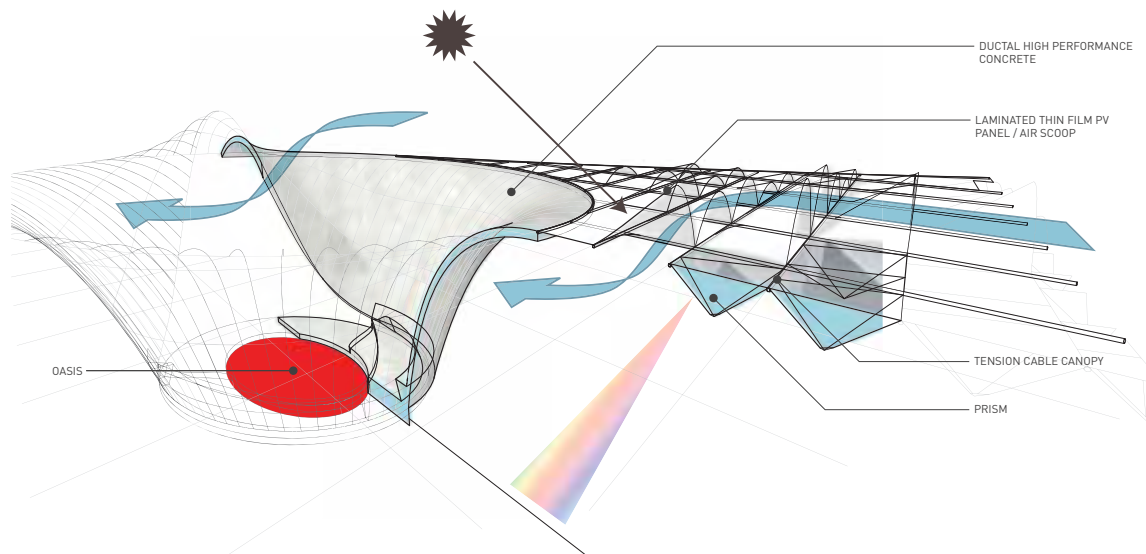
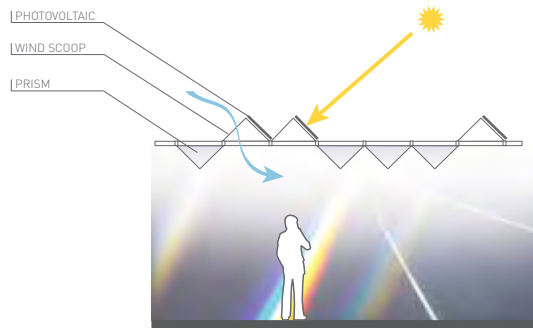


PRISM CLOUD 03

Prism: Diffracted Light

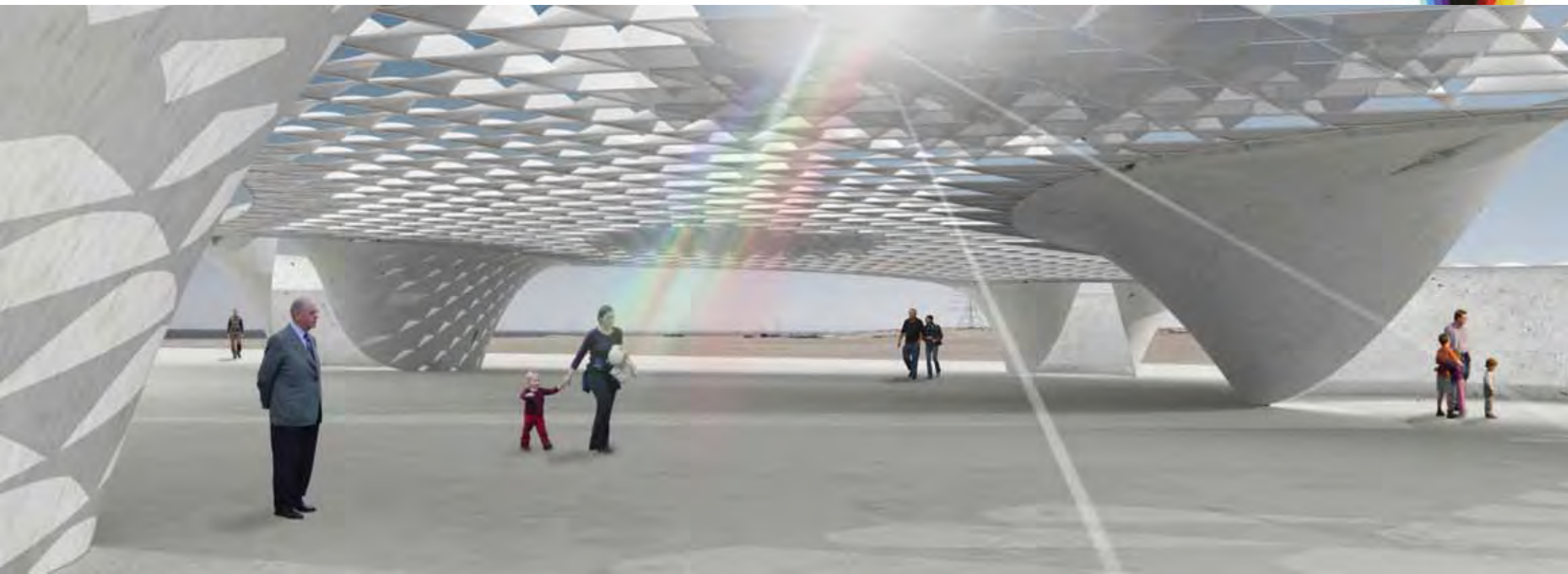


A dispersion prism splits light into its component parts, due to the varying speeds of different colors of light.



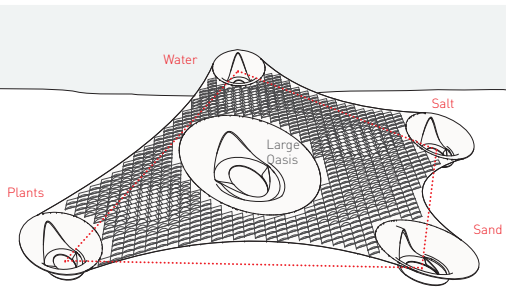
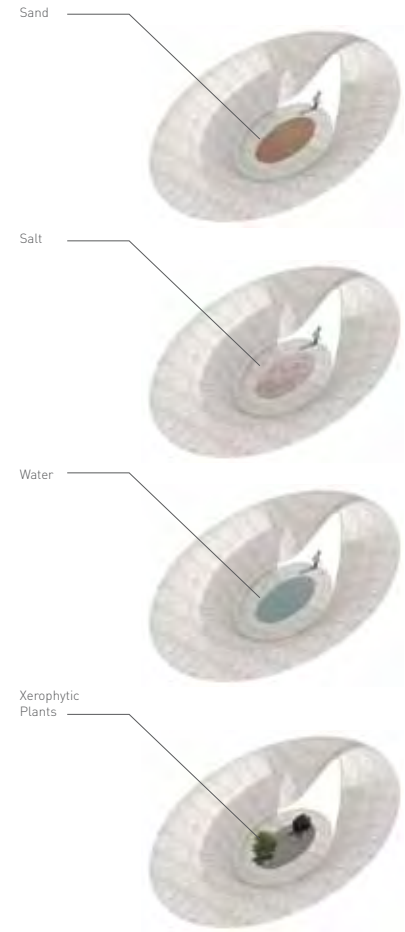
Prism: Diffracted Light

The canopy of the Prism Cloud is constructed from a steel cable net attached to concrete piers (oases.) Embedded within the cable net are alternating glass prisms and photovoltaic cells. The prisms split the sunlight into spectral colors, which are refracted onto the surface of the desert below. These create pools of multicolored light through which visitors can wander. Photovoltaic cells are pyramidal structures that absorb solar energy on their south sides, and act as wind-scoops on their north sides.

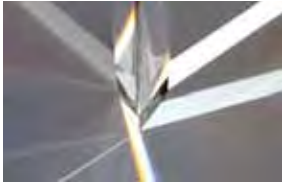


DESERT ECOLOGY

Each oasis frames a unique aspect of desert ecology, rendering visible the hidden conditions of the landscape. Sand, salt, water, and drought- and salt-tolerant plants (xerophytic and halophytic) are isolated within the oases.



MATERIALS
Glass Prisms



Ultra-Ductile Concrete



Thin Film Solar Panels



Cable-Net Structure



ECOLOGICAL FEATURES

Desert and Shoreline Fauna



Sand



Drought and Salt-Resistant Plants



Volcanic Rock



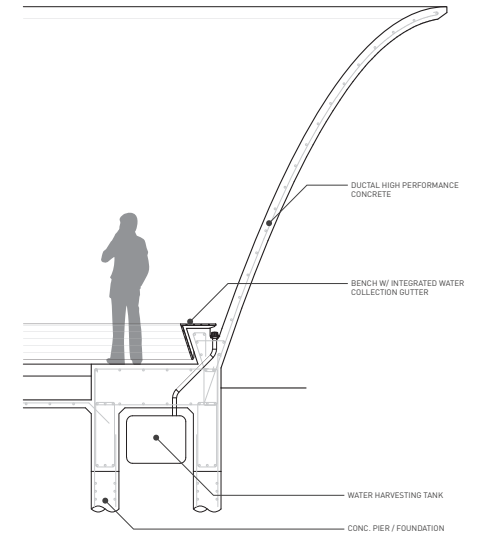
PRISM CLOUD 04
Oasis: Framed Light

Oasis: Framed Light

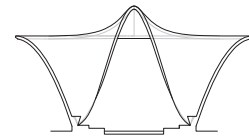
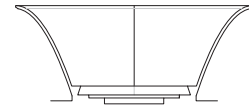
The unordered field of the prism canopy is punctuated by five concrete oases. As visitors wander from under the canopy into each oasis, they are made aware of the elemental condition of the desert. The sky is vast and framed by the upper edge of the oasis. Sunlight fills the space, while the ground is either pure sand or water, creating a plane of a singular material. Sky, sand, and the meridian in between.

Environmental Impact Statement

The Prism Cloud is minimally invasive to its environment and the surrounding desert ecology, since the only point at which it touches the ground is at the concrete piers, which can be spaced far apart. The primary structure is a cable net that never touches the ground.



WALL SECTION



CROSS SECTIONS

