The SOLAR-**PLANE**

Picture a sheet of fabric gently billowing in the breeze. Its ever-changing form and asymmetrical beauty is pleasing both to the eye and to the mind.

Like the fabric, the Solar-Plane in its essence is an ever-changing kinetic sculpture suspended high above the ground. In addition, like the fabric it is hypnotically interesting to all who view it. However, it is more than a conceptual art object.

Although the Solar-Plane finds inspiration in the desert wind, it is the sun, which gives it its true meaning and significance.

For it is a work of sculptural expression and a statement in high technology all in one.

It is an installation with a surprise element; the ability to generate clean, sustainable and renewable energy.

**POWER GENERATION**

Triangular-shaped photovoltaic collection panels are stitched together to form a fabric-like canopy which faces the sun daily. There is as much positive as negative surface area in the undulating form. Computer controls adjust the shape of the canopy in order to maximize sun exposure using a simple suspension cable system.

Suspension cables support the Solar-Pane and change its shape by extending or retracting. The result is an infinitely changing kinetic sculpture giving visitors a new impression each time they come.

Ideally, up to two thousand solar panels make up the surface area. In total, they are capable of generating 1 Gigawatt of electrical power per year. This figure assumes at least 5 hours of direct sunlight with each panel generating approximately 500 kilowatts of energy per year.

**MATERIALS**

The specifications for the Solar-Plane call for the use of advanced materials and construction methods. The bulk of the superstructure will be made of high tensile aluminum alloys and stainless steel. Key stress joints and tower anchor points call for the use of titanium. These metals will enable the slender shaped towers to withstand maximum loads even in high wind conditions.

Advanced aluminum alloys and high strength carbon fiber will allow the canopy structure to remain lightweight while enabling it to perform its motion function.

The kinetic nature of the canopy is a key element of the Solar-Plane concept. Carbon fiber elements support the solar panels. Articulating joints link the solar panel sections to each other to form a continuous fabric like structure.

Throughout the day, the canopy structure moves and changes shape by means of high strength cables. The cables run from the support towers to key attachment points on the canopy.

Computer controlled servomotors adjust the cables which in turn change the orientation of the solar panels. This occurs throughout the day as the canopy adjusts to the location of the sun based on the time of day and the season of the year.

**TRADITIONAL MATERIALS**

The site at ground level will mostly feature reinforced concrete, local building products, pavers, and native plant species. The hard landscaping work demands onsite construction. The Solar-Plane fabrication will occur at various contractors. They will then ship the components to the building site for final assembly. The last phase will involve landscape work.

**A GARDEN**

The Solar-Plane will feel like a park to those who walk its many paths within the site perimeter. The greenery as well as the shade of the canopy many meters above will refresh them.

Strategically placed gaps between the solar panels will allow for air circulation and for the sun to reach the plants underneath.

Visitors will enjoy walking and exploring amongst a diverse setting of exotic flora from the region as well as from around the world. They will relax and enjoy the setting with family or friends.

The canopy above will shield them from the hot sun. A fine spray mist will condition the air making the temperatures even more pleasant.

In some areas of the site, a simulated rain will fall from the canopy watering the plants and reproducing as natural a setting as possible.

**A GATHERING PLACE**

Aside from the clear benefit of creating clean, sustainable, and renewable power, the Solar-Plane functions as a community gathering place.

People will enjoy spending time sitting on its many benches and congregating at its gathering spots. They will look up and around to admire and take in the sights, sounds, and scents.

*Separate additional material as requested:*

**ENVIRONMENTAL IMPACT STATEMENT**

The Solar-Plane does not anticipate a significant environmental impact on the proposed site and surround area.

AIR QUALITY: The concept will not produce any air pollution

WATER: There will be no run-off or other contamination of the water resources above or below ground

LAND: The project will not negatively affect any native bird, animal, insect, or plant species.

CHEMICAL: No contamination of a chemical nature will occur.

NOISE: The power generation will be by photovoltaic means. The project will not produce any noise

CARBON: The construction will be of solar reflecting light colored materials in order for the site not to become an urban hot zone. Renewable, sustainable, and clean electric generation will help reduce Climate Change.