

SOLAR CARPET 1

SITE2: Between Yas and Saadiyat Islands

LAGI 2010 design competition

IN THE SHADE OF A CARPET

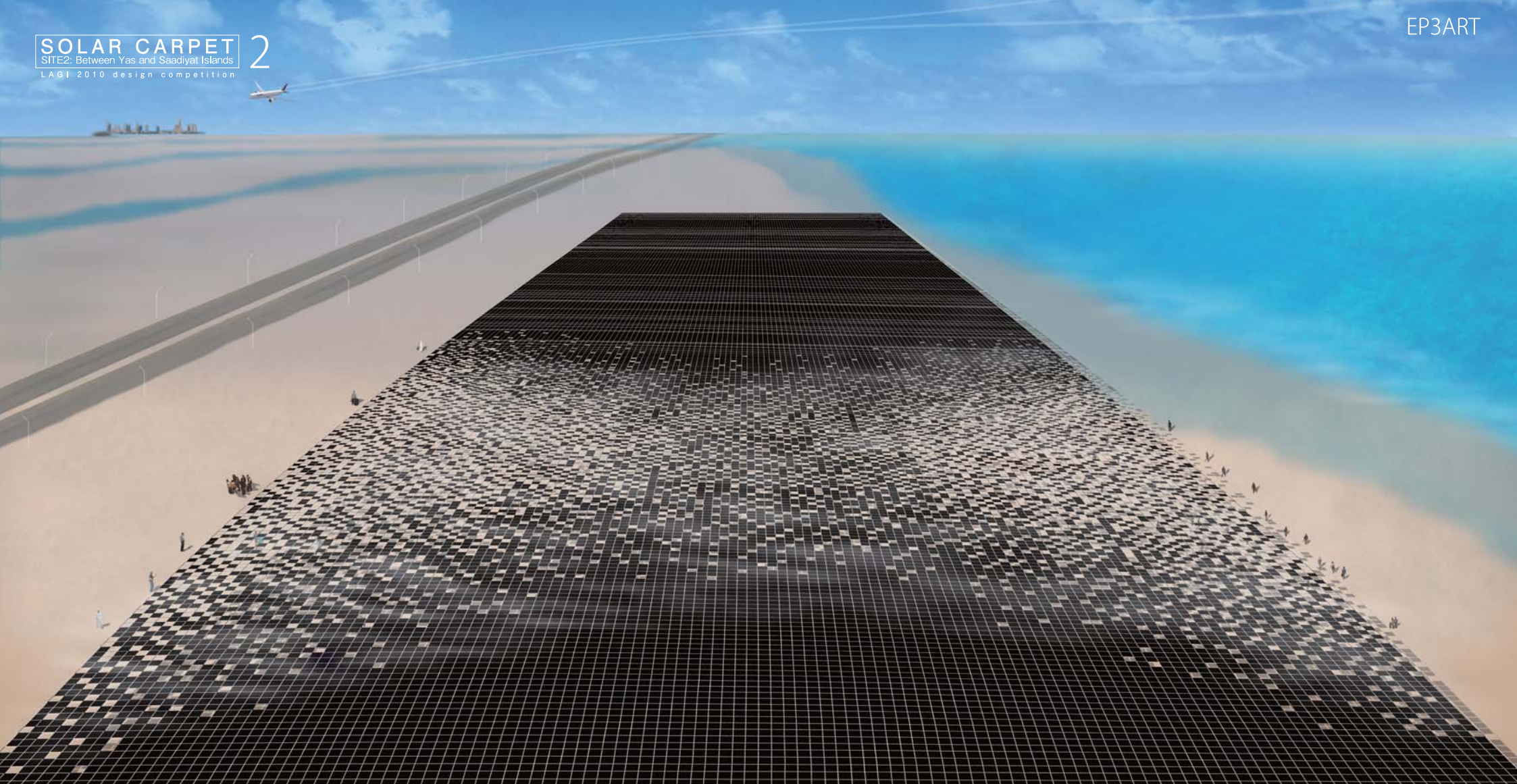
Drivers on the highway encounter a long skyline of the installation. One third of the total is deformed slightly and covered with a mist. The skyline evokes the image as a floating carpet.

The space under the carpet serves as a comfortable shade. The rays of the sun come from the random openings of the carpet, and variedly project on the white sandy soil. The horizontal pattern of openings shows the gradation from inside toward outside, which makes smooth boundary between the installation

and surroundings. That is a design strategy to mitigate an environmental impact.

The rays are also reflected in the mist and visualized as numerous luminous columns. Their directions gradually shift according to the movement of the sun. Responding to the wind velocity over the carpet, the directions of rays are changed. Visitors are able to come inside and walk through toward Dhabi Creek. They experience the space as the forest emerged in the desert with no vegetation.





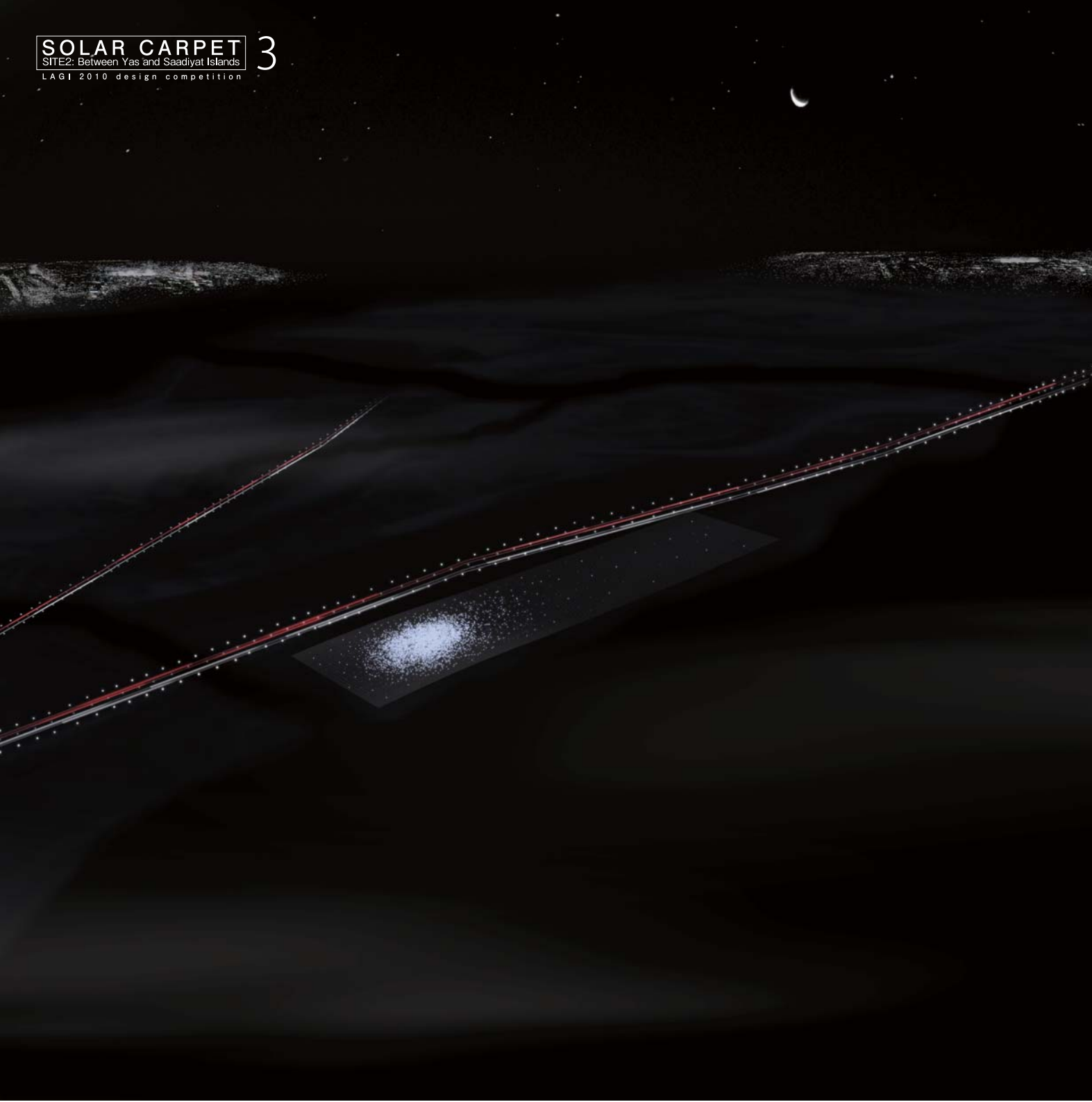
ON THE CARPET

Having the sensitivity to the environment and local ecosystems, 450,000 solar panels are placed on the land with no touch on the water. They become a great scale solar carpet as the symbol of clean energy development in the near future.

The public is restricted to the specific area with safety to view it. Under the carpet of that area, a viewing platform is formed on the hill by making maximum use of the existed geographical characteristics.

At the top of the platform visitors have a view of the extensive solar carpet from above, on which a sea of clouds is wafting and wind power generators are rotating. The clouds of mist cool down the hot solar panels on front of the viewers. On the other hand, the wind power generators reflect sunlight and surroundings on the mirror surface, as well as absorb sunlight energy on the phosphorescent surface. Their rotations form the drops with blur silhouette.





NIGHT VIEWS

During night, the luminous particles on the solar carpet welcome the tourists in cabin just before arriving at the Abu Dhabi International Airport.

The area in which visitors are able to come is restricted just around the viewing platform. On the top of the area they come across the following unique appearances. The twinkle led lights synchronize with wind velocities and visualize the real-time environmental shift. The wind power generators supply electricity to the led lights. In addition, the phosphorescent surfaces of the generators emit blur luminosity according to the amount of energy absorbed during the daytime.

Luminous pattern



Evening

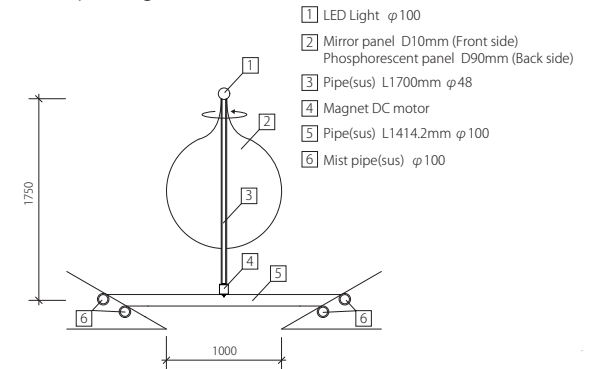


Night



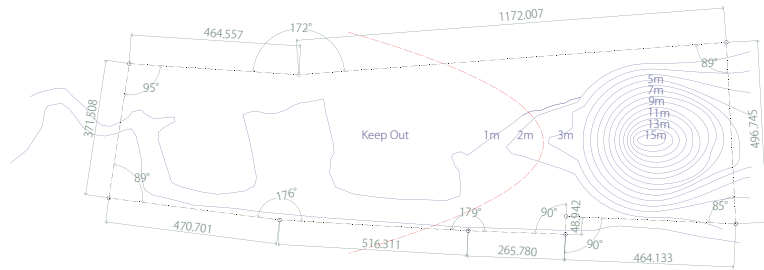
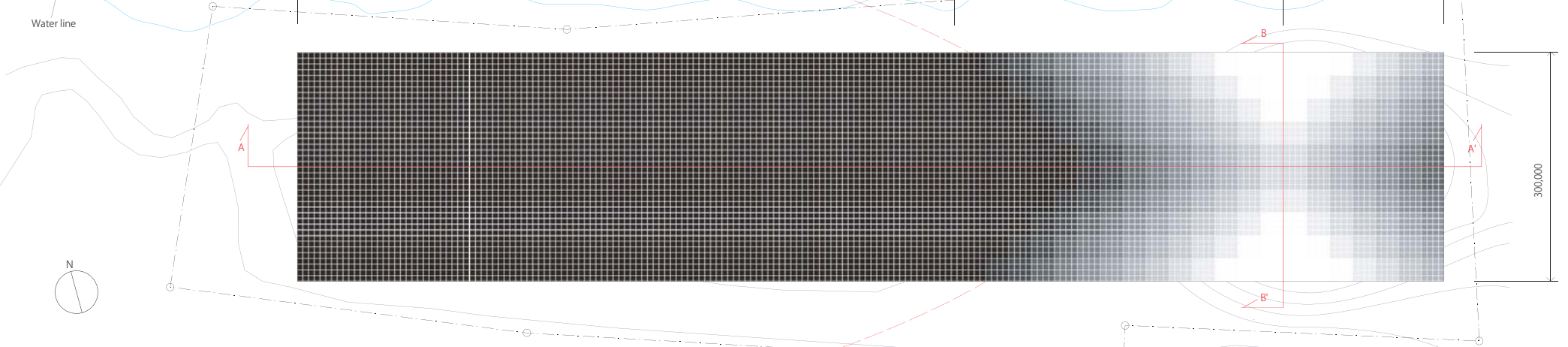
Midnight

Wind power generator



SOLAR CARPET 4

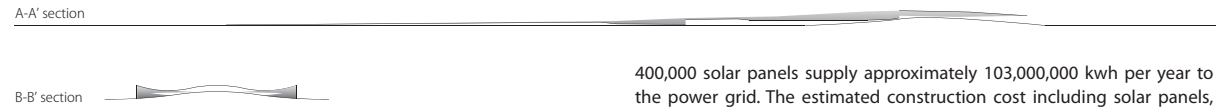
Plan



Section

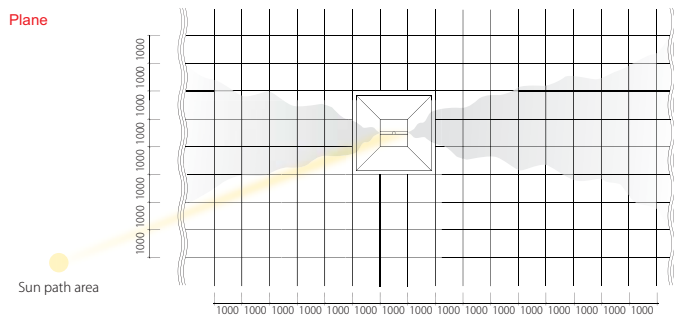
A-A' section

B-B' section

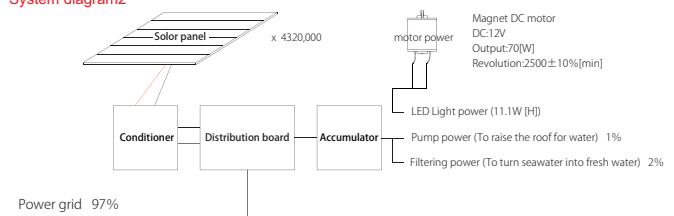


400,000 solar panels supply approximately 103,000,000 kwh per year to the power grid. The estimated construction cost including solar panels, wind power generators, the mist system and the structure is \$450,000,000.

Plane



System diagram2



100 tons of sea water is filtered into fresh water per hour, pump up into the carpet and sprayed out from each opening.

