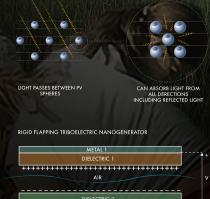


SURGE responses to local climate and culture, while balancing aesthetics, economy and safety. With the size of 300m*70m*45m(average high clearance 25m), SURGE covers the site with 19600m² projected area. The main shelter is composed of identical energy harvesting units interconnected in chains, which is low cost, simple in construction, and also adaptable to variations in space and light. The unit maximizes the collection of energy in both upward and downward directions. Transparency in the material makes large scale shading sculpture feel lighter. Ultrafine columns provide reliable support and unobstructed view, make natural ventilation and people's free activities possible. Applying cutting-edge and marketable energy technologies, combined with innovative breakthroughs in engineering, SURGE maximizes the collection of natural energy, collecting both solar, wind and human power by highly integrated design, generates 9,582,345MWh clean energy annually.





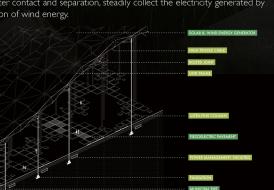
Energy harvesting unit is sized 16.6m*6.6m*2.6m, each unit is supported by a set of branching columns, with gravity converging on a spherical joint which is attached to the ultra-fine columns with a diameter of 30cm. The spherical joints are connected by a set of steel cables with a diameter of 1cm. Cables are inside the structural cavity and are conducted into the power management box underground. The gap formed by chains vertical swing plays the role of light transmission, ventilation and wind pressure balance.

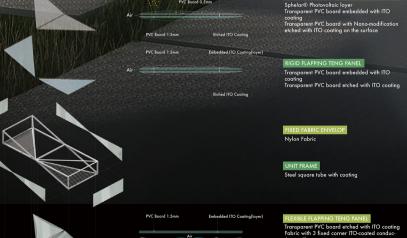
Spherical Solar Tech: Sphelar® BITV series yield more energy output and have higher efficiency than conventional solars, with excellent performance in the case

of horizontal installation and high see-throughness.

Triboelectric Nanogenerator: TENG obtains power by wind-driven flapping.

Materials with different electron gain and loss abilities can generate potential difference after contact and separation, steadily collect the electricity generated by













Piezoelectric Pavement

The piezoelectric material is embedded in the pavement in the form of cells, each of which is connected by a substrate. At the same time, rubber pad is embedded in the bottom of the unit to reduce damage and ensure resonance frequency. As a supplement of energy, piezoelectric works perfectly in a densely populated area like the site, combined with

