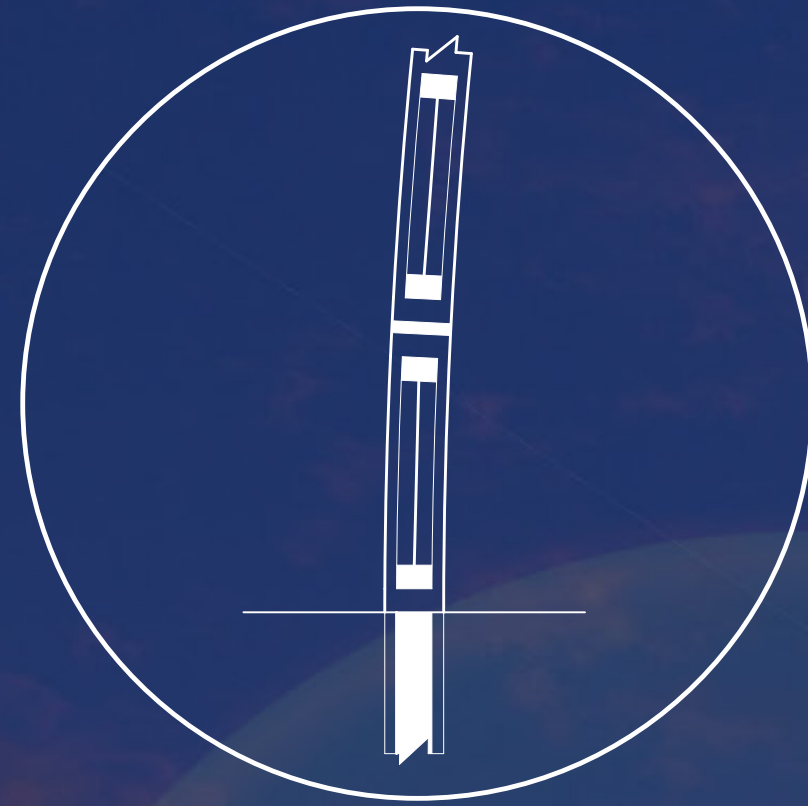




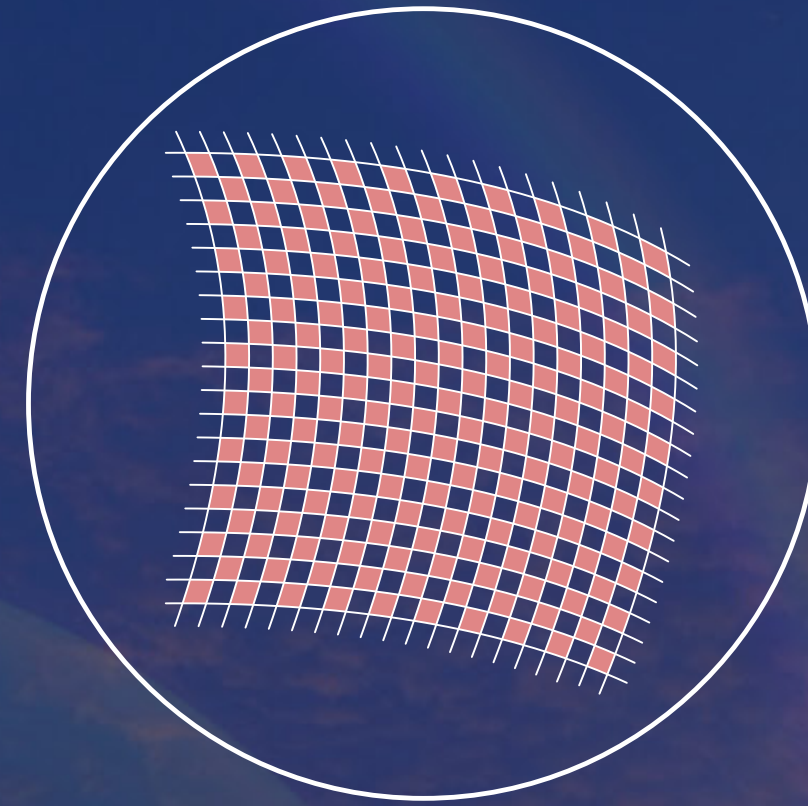
Wind Energy

Wind from off the bay powers the installation, allowing for the poles and fabric to sway, collect energy, and store for future use. Based on the various speed of the wind at any given time of day, the energy output can vary drastically, in which case the flags can be interacted with and used in different ways.



Piezoelectric Pole

In each pole there are a number of piezoelectric magnetic discs. Each one is connected to another by a cord, reaching from top to bottom of each individual pole. When the wind activates the poles, the piezoelectric disks within the poles are forced into motion and compress when the pole bends, generating a current through the cables, collecting the energy.



Triboelectric Fabric

Stretchable conductive fabric-based triboelectric generators (TENG), are used to harvest energy at low frequency. Stretchable conductive nylon-fabric and carbon-based elastomer composites produce a small amount of electrical power from mechanical and hybrid motion.

The power generated is based on wind speed and deployment of the poles at a given time across the field. Based on average annual wind speeds in St. Kilda (14.7 km/hr) and the pole heights (~3-7m), and the pole width (0.10-0.20m) the nearly 100 poles have an opportunity to generate nearly 10,000W annually each.

