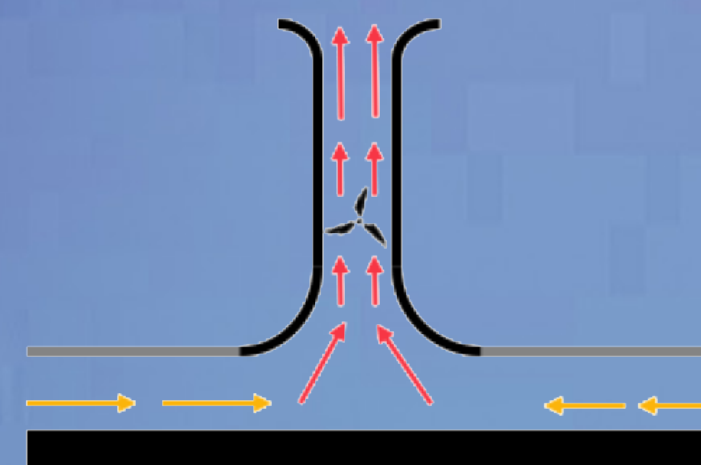


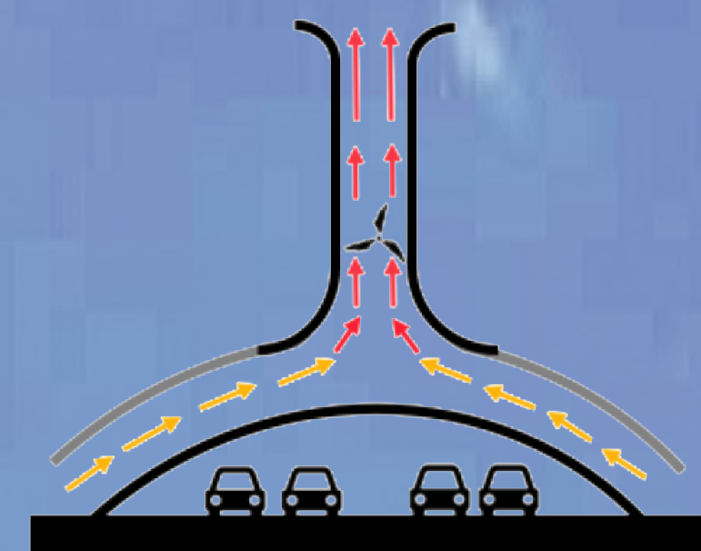
SOL TOWER

LAND ART GENERATOR INITIATIVE 2018

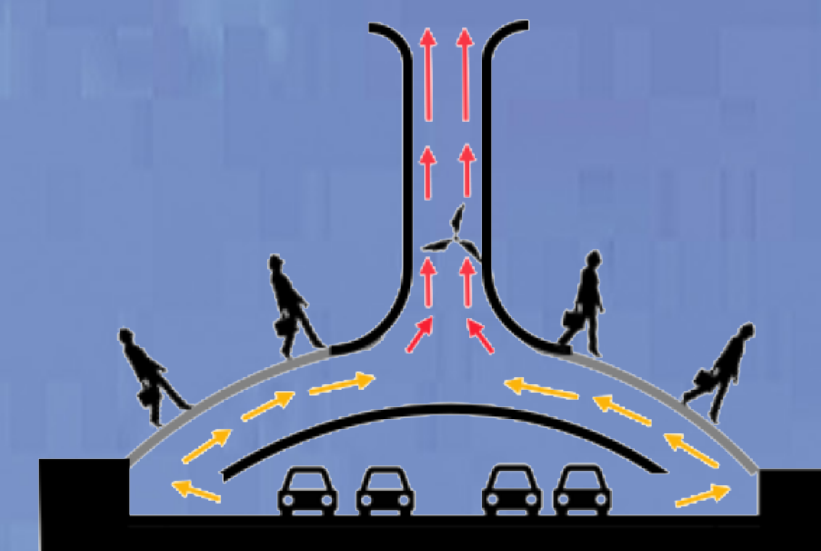
THE SOL TOWER INSTALLATION ON ST KILDA TRIANGLE RENDER A **FESTIVE SYMBOL** TO MELBOURNE'S SUSTAINABLE APPROACH TO ENERGY. COMBINING THE TWO MOST ABUNDANTLY AVAILABLE NATURAL RESOURCES – **SUN AND WIND** – THIS INSTALLATION CAN GENERATE **NET POSITIVE ENERGY** CONTRIBUTION TO THE EXISTING GRID SYSTEM. THE ESSENTIAL ELEMENTS OF PHOTOVOLTAIC PANEL ARRAY, THE BLADELESS WIND OSCILLATORS AND A THERMAL WIND UPDRAFT TURBINE ARE COMBINED TO CREATE THE **FUNCTIONAL** YET **SCULPTURAL** LAGI INSTALLATION.



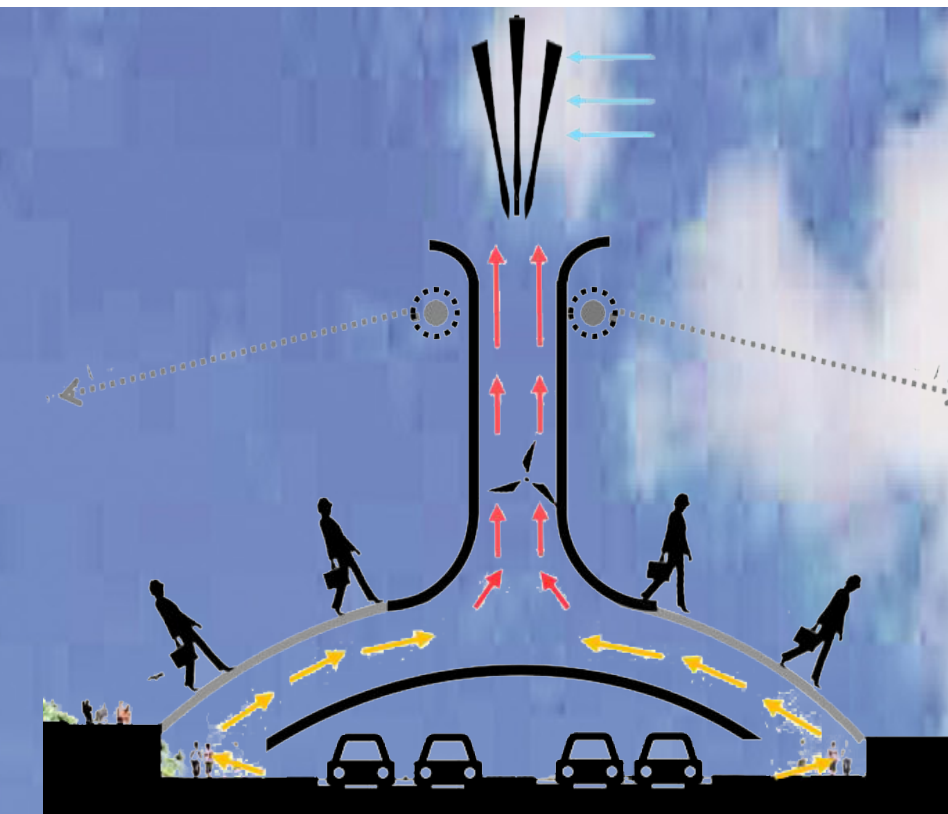
1. THE INSPIRATION OF SOL TOWER COMES FROM THE SOLAR UPDRAFT WIND TURBINE CONCEPT, WHICH LEVERAGES SOLAR THERMAL HEAT PRINCIPLES. THE AIR AT THE BASE (COLLECTOR AREA) GETTING WARMER NEEDS TO MOVE UPWARDS, WHERE THE POSITIVE TEMPERATURE DIFFERENCE (ΔT) BETWEEN THE BASE AND THE TOP OF THE TOWER CREATES AIR FLOW.



2. FROM THIS BASIC CONCEPT, OUR TEAM MODIFIED THE DESIGN WITH A HYPERBOLIC SHAPED COLLECTOR BASE. THE SHAPE OF THE BASE IS DESIGNED TO ENHANCE EFFICIENCY IN THE AIR FLOW, AND WIND VELOCITY. THE HIGH HUMIDITY OF COASTAL AIR WILL ALSO CONTRIBUTE TOWARDS A HIGHER ENERGY OUTPUT. THE BOTTOM OF HEAT COLLECTOR IS DESIGNED WITH WATER-FILLED BLACK TUBES FOR THERMAL STORAGE, WHICH WILL REJECT THE HEAT DURING NIGHT TO MAINTAIN ROUND THE CLOCK TURBINE OPERATION AND POWER GENERATION.



3. THE HYPERBOLIC ARCH OF SPANS OVER JACKA BOULEVARD, AND BECOMES A WALKWAY BRIDGE. PEOPLE WILL BE ABLE TO CROSSOVER THE VEHICULAR TRAFFIC FROM THE TERRACE TO THE BAY TRAIL BOARDWALK.



4. THE BLADELESS WIND OSCILLATORS AT THE TOP WILL TAKE ADVANTAGE OF THE AIRFLOW COMING FROM THE WIND TUNNEL OF THE SOL TOWER, AND PRODUCE MORE ENERGY FROM IT. PERPENDICULAR TO THE BRIDGE WILL BE ARRAYS OF SOLAR CELLS, FACING SOUTHERN SKY. THUS, FACTORING EVEN MORE ENERGY HARVEST INTO THE TOTAL EQUATION. THE INSTALLATION WILL HOST A VERTICAL DROP AMUSEMENT RIDE, WITH VISTA OF ST KILDA AND THE THRILL OF A FREE-FALL.

