Rotor
Immersive Wind Energy

The Proposal

Our proposal is an immersive artwork that operates simultaneously at human and urban scales. The phenomena of wind and the renewable energy generated from it are the central themes of this installation. The artwork is designed to harness the prevailing south westerly wind blows off the bay, past Melbournians and towards the area. Rotor will sit upon the slopes of the St Kilda Triangle, which are a key feature of the masterplan. The ‘Promenade’ that snakes through the site intersects the site and acts as a centrepiece in the park.

The upper and middle layers of the structure are made up of VAWT’s (vertical axis wind turbines). Where as, Darrieus turbines rotate slower and generate power through lift, Savonius turbines rotate slower and generate power through drag. Their ability to work well in urban contexts is one of the main reasons we have chosen them for Rotor. They are omni directional, and therefore don’t need to pivot like horizontal turbines. They are smaller and lighter than horizontal turbines and therefore don’t need as much space to operate. They are a mass produced proprietary technology that’s widely available, and therefore can be easily conserved. We acknowledge that the design of the rotor is sub-optimal, we have sacrificed mechanical efficiency in order to create an immersive and engaging experience. The anticipated long lifespan of the artwork (and the ability for it to be dismantled and reinstalled) may warrant some of the embodied energy in the turbines and in the artwork’s construction. The circular plan of Rotor was chosen for a number of reasons, including its effect on the immediate environment around you are the central themes of this installation.

The Experience

The circular plan of Rotor was chosen for a number of reasons, including its effect on the immediate environment around you are the central themes of this installation. The phenomena of wind and the renewable energy generated from it, the experience of feeling it on your skin and of seeing it fleetingly present in the reflections of the panels. Rotor will appear as beacon at night and a shimmering ethereal presence externally, both up close and from far away, it is a clearly understood form, and its placement on a promontory on the triangle site means it will be visible from a distance.

Environmental Impact Summary

The primary effect of the cylindrical form in conjunction with the reflective, stainless steel surface of the ‘sheath’ will be to maximise the amount of light that reflects off the ‘plant’ and hence maximise the amount of power generated. The artwork is positioned to capitalise on experiential sight lines from the Palais Theatre, Luna Park, Jacka Boulevard and the Navy Club. The scheme integrates with the proposed St Kilda Triangle Master Plan. We have chosen to locate it upon ‘The Slopes’, which are a key feature of the St Kilda Triangle masterplan.

Energy Generated

The energy generated will be used to power a number of elements of the artwork. The reflective panels, which will be used to power the lighting. The turbine’s components would still be covered by warranties which will insulate the client from running costs.

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The Proposal seeks to engage with the widest possible public in ways that large wind turbines simply can’t due to either a combination of their size and or the need to be out at sea, or in a remote location. It seeks to harness the prevailing south westerly wind and to wind from the north and south. The scheme integrates with the proposed St Kilda Triangle Master Plan and largely builds upon proposed connections. The artwork is positioned to capitalise on experiential sight lines from the Palais Theatre, Luna Park, Jacka Boulevard and the Navy Club. The scheme integrates with the proposed St Kilda Triangle Master Plan.

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