

Interconnected St. Kilda: People, Land and Water

With this proposal, piezo and wave energy will be integrated into this public space in ways that educate, inspire, and are responsive to the history, culture, and nature of St. Kilda. The goal is to create a world that is culturally rich and beautiful as we transition to more sustainable and resilient forms of energy. Interconnected St. Kilda is a proposal that will contribute to the efforts to achieve Victoria's goal of net neutrality by 2050.

Piezo Tower: Piezo floor tiles are specialty tiles that are designed to convert the applied force of a person's weight into usable energy. According to Tourism Research Australia statistics, each year more than 1.3 million people visit St Kilda and is the second most visited area, in the State of Victoria, by domestic and international overnight visitors to Melbourne. The piezo electric floor tile company Pavegen claims that one footstep is capable of powering an LED-streetlamp for 30 seconds. Imagine what foot steps from 1.3 million visitors could produce annually! Estimates show that when regularly visited, the floor of the tower could power most, if not all the power needed for the cultural center on site.

Wave Power Island: An Oscillating Water Column (OWC) is a device that consists of an inclined concrete cylinder that uses the natural motion of ocean waves to compress air within the column and drive a turbine, similar to a piston compression cycle. The OWC design usually employs a Wells Turbine which has the unique ability to rotate in the same direction despite the direction of air flow (in the case of both compression and decompression cycles). It is estimated that a wave power station about the size of the one in the wave power island can provide sufficient energy for 400 households,

