**2000 MURNONGS**

The bold yellow flowers of the Murnong plant graced the foreshore landscape of St Kilda for many thousands of years. In fact, due to its apparently wonderful tasting, yam-like root, it is said that the local Aboriginal people cultivated the Murnong plant, as an important source of nutrition. In less than two-hundred years, invasive pastural practices, land clearing and introduced species such as sheep and rabbits have all but rendered the Murnong plant extinct.

Our proposal seeks to tell the story of the Murnong; employing a forward-looking design lens to bring attention to the forgotten food source offering of the St Kilda foreshore also to help the City achieve its ambitious target of zero net greenhouse gas emissions by 2020.

Through creating a self-sustaining energy landscape, harnessing the site’s wind to generate electricity, we wonder; can the Murnong’s spirit resonate in news ways across its former landscape?

**2000 MURNONGS** is a collection of 2000 elevated planter boxes with native trees and Murnong plants dancing gracefully in the St Kilda wind; all the while producing sustainable energy. The gesture of suspending these 2000 planter boxes – from Luna Park to the Palais Theatre, from the St Kilda Foreshore back to its CBD – pays respect to the roots of the Murnong. Like the plant seeking out important nutrition, our installation will form a productive landscape network between the culturally significant spaces of St Kilda.

**Harvesting the St Kilda Wind**

St Kilda has a strong and consistent wind resource with the average of 20 kmh speed.

Wind energy is generally harnessed though the use of wind turbines, driven by large spinning blades. The construction and maintenance of these large wind turbines is expensive and challenging in urban areas.

**2000 MURNONGS** proposes the use of two innovative, low-cost and small-scale energy production technologies:

**Wind belt**: A wind belt is a machine that generates electricity through vibration which wind causes of its own vane. It does not require a turbine, blades or bearings as used in a wind turbine. This results in a much smaller footprint and lower maintenance requirements - making it suitable for urban applications. Additionally, a wind belt does not require high wind speeds for effective energy production.

**Spring-type piezoelectric** energy harvesters effectively generate electricity using tree’s branches as sail, they convert the mechanical energy using the weight and motion between and converting it into electricity, via piezoelectric effect and amplified conversion.

Our installation has been designed as an elevated ‘swing’ landscape system that harvests wind to produce energy based on these combined technologies.

We assume our generators can produce more than 150 MWh

Wind belt: 50 MWh annually

Spring Type Piezoelectric: 100 MWh annually

The design could play a big role and significantly reduce the warming trend and helps with Greenhouse gas reduction over 50%.

**An Electric Landscape**

**2000 MURNONGS** will be a network of suspended planter box network generating electricity. To communicate with its audience, the planter boxes and cables will form a field of yellow LED lights. As energy is produced, the yellow diodes will gently sparkle and glow across the soffit of the installation. The yellow glow transposing memories of the fields of yellow Murnong which once graced this landscape onto this new urban landscape.

**Environmental impacts summary**

By drawing on the timeless importance of indigenous plant species and harnessing wind as a design element, **2000 MURNONGS** seeks to make the urban landscape productive while fulfilling its role as both art and green energy generator.

It will demonstrate how inexpensive and productive a living structure designed to harvest energy can become through careful design, whilst establishing a unique destination for 1 million people annually.

The design strategy was based on careful site analysis and a deep understanding of the local indigenous landscape. The design is underpinned by site specific cultural narrative.

Capturing the spirt of the site’s story and location, the design offers a positive connection between St Kilda’s contemporary public spaces, interpreting the indigenous landscape within a future landscape form.

Luna Park is known as a Melbourne attraction that brings both city and water front together. This installation aims to further enhance these connections, its network of elevated planter boxes spanning between CBD and foreshore to harness wind.

It is an innovation artwork, themed around the site’s indigenous planting. Its design draws on references to the numerous entertainment activities in the St Kilda precinct and has been developed as a new green infrastructure that will become a regional attractor. The native and sometimes rare indigenous trees have been chosen to reflect upon the memory of Port Phillip’s beautiful indigenous foreshore landscape.

The project aims to deliver an increase tourism by providing greater amenity to both city and water front spaces and delivering a new energy to St Kilda.

**2000 MURNONGS** aims to:

- increase the site’s biodiversity and ecosystem value
- improve the wellbeing of residents and visitors through offering stronger visual connections to landscape whilst reducing heat island effects through shading
- increase the amenity of public spaces by mitigating wind and improving air quality
- efficiently produce sustainable energy by harvesting prolific winds from the site
- become a local cultural landmark and an international icon, educating people about Australia’s indigenous people and landscape