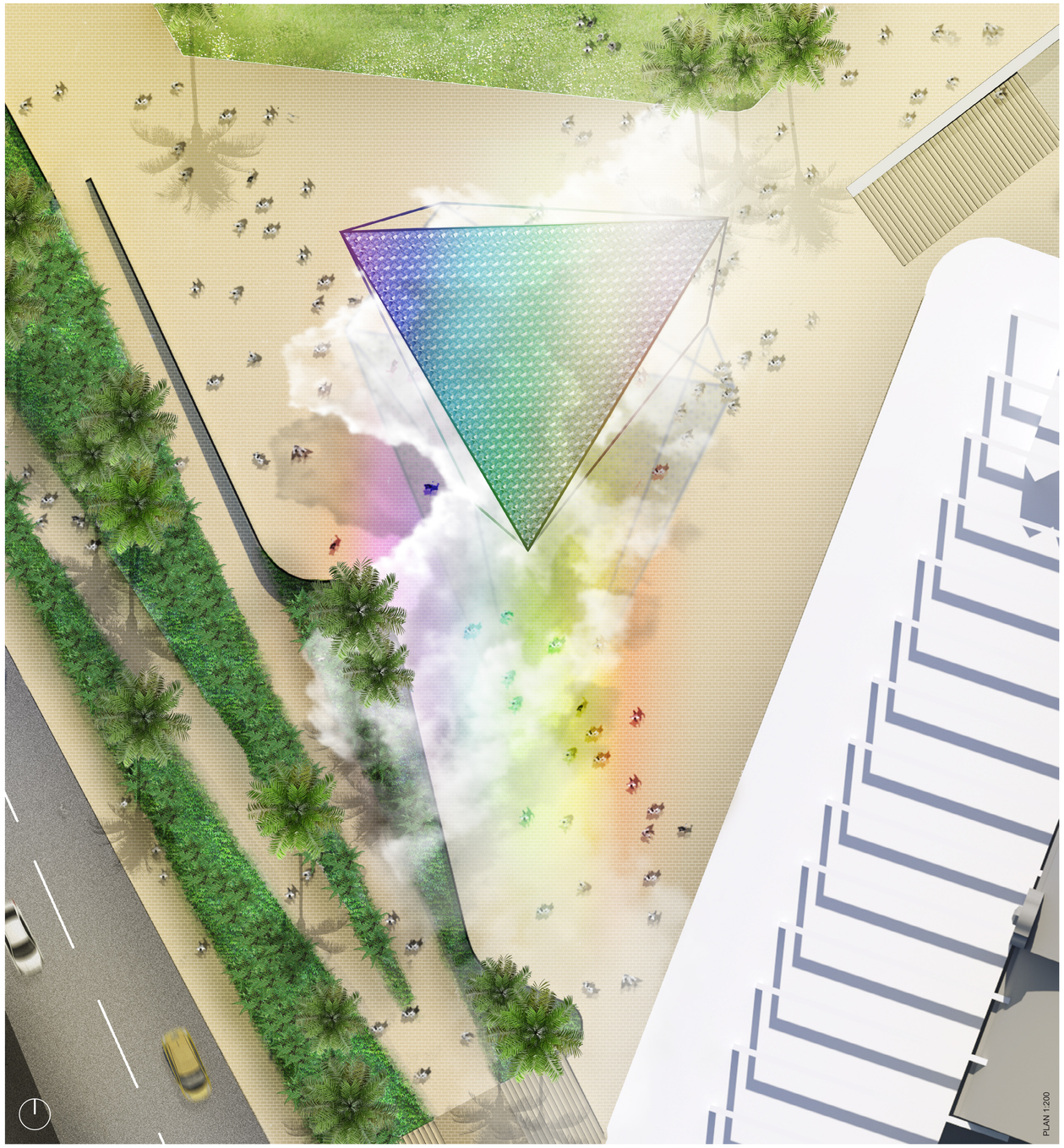

NODE

The integration of the solar art installation within the St Kilda Triangle Masterplan has been considered carefully to integrate and enhance the community driven masterplan developed by the City of Port Phillip. The pavilion has been strategically located at the three primary intersections of the St Kilda Triangle Masterplan; Luna Park (east), the Esplanade (north) and St Kilda Foreshore (west). The installation is designed to form a civic hub which is accessible all year round day or night to provide a continuous activation of the site and to enhance the St Kilda Triangle as a valuable public space. One of the primary functions of the installation is to provide a venue for some of St Kilda's events and activities including the weekly Esplanade Market and the St Kilda festival. The pavilion is positioned above underground parking as proposed within the Masterplan, which provides 350 car park spaces. each solar panel is attached to a prism, with 50% of light falling onto the solar cell to be absorbed and 50% going through the prism refracting off inside to fall beneath the pavilion canopy to enrich the St Kilda Triangle with its coloured light. Energy absorbed during the day is also used to drive mist onto the site through nozzles placed around the pavilion and to power lights placed under the solar panels at night.

The proposal draws upon the prominent cultural history of the site as a destination for leisure. A primary function of the proposal was to create renewable energy production whilst simultaneously providing an interactive art installation harnessing the same energy source in order to enrich the St Kilda Triangle. Light installations typically use energy at night when they can be witnessed / experienced but are inanimate during the day. The installation is designed to animate solar energy throughout the day with the use of glass prisms that refract sunlight into radiant colours of the spectrum that gradually change throughout the day and seasons. The water is activated when the installation is not being used as a venue and provides an element of play by giving volume to the refracted light. At night some of the energy produced from the solar panels is used to create a light show.

IMPACT

The carbon footprint to produce the structure would be 3.1 tonnes of CO2 for the 25.3 M2 of Solar Cells (6) 12 tonnes of Co2 For the 26 tonnes of scrap steel (3) and 35 tonnes of Co2 For the 25 tonnes of glass (4). Weight and material is saved from the prisms by building them out of 9mm thick recycled glass and applying a diffraction grating to achieve the same refraction properties of a solid glass prism. The structure would become carbon neutral within 10.5 Years on the assumption that it produces an average 9.549 Annual MWh each year offsetting 4.77 tonnes of CO2 per year (5). The carbon footprint of construction is hard to pin down and would greatly depend on the machinery used and speed of construction. Beyond 10.5 years the pavilion will be offsetting the carbon footprint of Melbourne by an average of 4.77 tonnes Of CO2 per year, however this figure is dependant on Melbourne's future reliance on fossil fuels.