**LAGI 2018 MELBOURNE**

**ST KILDA TRIANGE PROJECT**

**DESIGN BRIEF**

A monumental “Energy Lizard” provides a new iconic image and experience for the city of Melbourne. Drawing on the latest renewable energy technologies and the ecology of Australia, the Energy Lizard unifies existing attractions on the site, provides a thrilling venue for the popular Esplanade market, educates about sustainability and generates renewable energy.

Located on the central spine of the new project site, the curving form and shell of the Energy Lizard draws inspiration from the indigenous sand monitor lizard called “Varanus Gouldii”. The form and design of the energy generating panels is inspired by the colored skin patterns of this lizard. Also the way the lizard skin functions in its own climatic territory, is also an inspiration for the envelope design of the structure.

Another inspiration for the Energy Lizard is drawn from the figures of lizards depicted on various works of Aboriginal Art. The color and geometrical pattern of energy generating panels on Energy Lizard will be placeholders for the ultimate design made by the Aboriginal Artists commissioned for the task.

Both the variety in color transitions and the affect of moving panels fluttering with the wind will make the Energy Lizard itself a work of art.

The Energy Lizard acts as a linking space, connecting St. Kilda Neighborhood to the St. Kilda Sea Shore. It also serves as an urban corridor, linking land to the sea, linking people of St. Kilda neighborhood to urban life through various uses and attractions. Being in close proximity to public transport and the underground parking area with 200 cars are the other potentials for the accessibility of the site.

The uses in and around the Energy Lizard are designed in a way to regenerate St. Kilda Triangle with art, entertainment and recreational activities that are open to public throughout the day and the whole year.

The weekly Esplanade Market is relocated inside the Energy Lizard, consisting of 100 booths, offering local arts, crafts and food. The market leaves the forecourt of the Palais Theatre, continues through the full length of the Energy Lizard, up to the pedestrian bridge, which passes over Jacka Boulevard and descends as a walkway to the park at the beach.

The new “Lizard Market”, now largely covered, will provide people with a more comfortable environment, protected from weather conditions. The exciting new presentation of this market will attract more people to the site for art, entertainment, educational and recreational activities that surround it.

On days when the Esplanade market is inactive,the Energy Lizard will shelter temporary exhibitions of any kind of artwork or craftwork, made by local artists, students, or community institutions. Besides, there will be areas allocated to street musicians, to help enliven the walk along the Energy Lizard, with their short performances.

The Esplanade is now transformed into a continuous health corridor allocated to the bike riders and pedestrians for walking, running or skating. Bike racks and bicycle sharing system located on each end of the Esplanade will encourage people to use bikes for a more healthy life in a safer environment away from vehicle traffic. Besides, solar pv modules will be installed on the bike path throughout the Esplanade, to light the road at night and to draw people’s attention to sustainability.

One of the important features of the site is the main pathway that links the forecourt area to the beach. The pathway starts from the forecourt, which is re-designed to serve both for the Palais Theatre & Luna Park and the Energy Lizard as a gathering and meeting place. After going down to the center court of the site through a ramp, the path branches to the Esplanade and cascading slopes on the north, and the carpark and service entrance on the south-est.

An artist will design the paving pattern of the main pathway and this artistic path will be illuminating with solar LED lights at night. Around this pathway, there is an amphitheater and an urban stage located right in front of the west facade of the Palais Theatre. This portion of the site will be used to gather larger groups of people for art and entertainment events and festival organizations throughout the year. Especially in the summer, this large open area will also be used as an open-air cinema.

One of other open air uses around this pathway are the playground area, outdoor gym equipment area and finally the cascading steps which can be used for relaxing or watching the attractions around the site. These steps are leaning on a long stepped green wall at the back, which intends to isolate the site from noise pollution of vehicle traffic on Jacka Boulevard.

With regards to the landscape design, the desert-like landscape of the site is inspired by the living habitat of the sand monitor lizard. The color of vegetation is designed to form a continuum from green on the upper landscape of the site to red, dark brown and to light brown and yellow tones on the lower landscape of the site.

The primary materials used for the site are; structural tubular steel studs and beams (DIA. 200mm) and secondary steels (DIA. 100mm) with unti-rust steel paint, double tempered glass for façade openings and skylights at various sizes depending on the form of the lizard, solar photovoltaic panels (1m x 1m) and aluminum wind panels (1m x 1m) positioned as square or rhombus according to the wind direction.

**ESTIMATE OF THE ANNUAL POWER GENERATED BY DESIGN**

**Energy Generated By Solar PV Panels:**

**Solar Cell Type :** Monocrystalline Maxeon Gen III

**Solar Panel Electrical Power :** 335 W

**Efficiency:** 21%

**TOTAL ANNUAL POWER GENERATED FROM SOLAR ENERGY: 480 MWh**

**Energy Generated By Wind Panels:**

**Wind Panel Electrical Power :** 3-10 W

**TOTAL ANNUAL POWER GENERATED FROM SOLAR ENERGY: 90 MWh**

**Energy Generated By Kinetic Flooring:**

**Kinetic Pavement Single Module Electrical Power :** 5 W

**TOTAL ANNUAL POWER GENERATED FROM KINETIC ENERGY: 30 MWh**

**ENVIRONMENTAL IMPACT STATEMENT**

The existing site is transformed into a sustainable environment in terms of energy and natural features. Energy generating features include the Energy Lizard’s energy-generating shell (using solar and wind energy) and interior kinetic paving that produces electricity from kinetic energy generated by people walking on modules. All these features makes the building self sufficient without a negative impact on environment. The most significant natural feature of the site is the cascading stepped slopes on the north of the building. The water feature cools the space while the plantings filled with indigenous plants create a new local fauna right near an urban setting.

The green wall is located on the west façade of the Palais Theatre is another feature that address the natural life at the site. The vegetation and coloration of this green will be chosen according to the indigenous plants of the region.