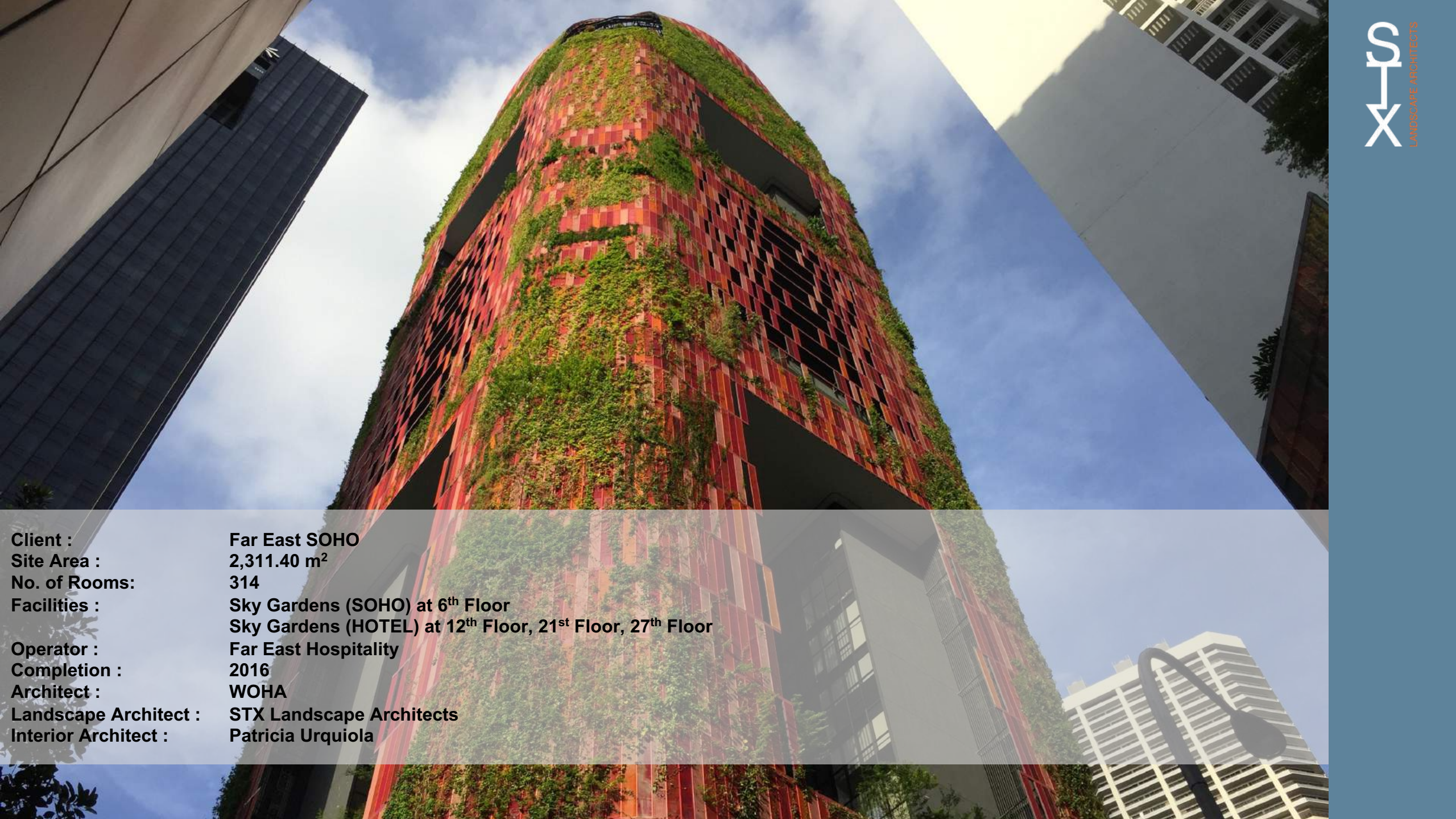


# World Architecture Festival 2017

Oasia Downtown Hotel

STX Landscape Architects

Helen SMITH-YEO Principal



**Client :** Far East SOHO  
**Site Area :** 2,311.40 m<sup>2</sup>  
**No. of Rooms:** 314  
**Facilities :** Sky Gardens (SOHO) at 6<sup>th</sup> Floor  
Sky Gardens (HOTEL) at 12<sup>th</sup> Floor, 21<sup>st</sup> Floor, 27<sup>th</sup> Floor  
**Operator :** Far East Hospitality  
**Completion :** 2016  
**Architect :** WOHA  
**Landscape Architect :** STX Landscape Architects  
**Interior Architect :** Patricia Urquiola

**Natural ecosystems** absorb roughly half of CO2 emissions generated by human activities in the world each year.

**Mitigation of climate change** consists of acting on the causes of climatic changes, such as directly reducing green house gases. Adaptation to climate change seeks to reduce its harmful effects.

**Preserved eco-systems** act as buffers to the effects of climate change and can be seen to reduce the risks and severe impacts of extreme weather events.

**Urban Greenery or Greening** limits the <<Urban heat island>> phenomenon - one of the most prominent consequences of climatic change is the increase of the median temperature of the Earth. This perceptible heating manifests notably in the heat island phenomenon which is expressed in localised rise of temperatures, particularly the maximums of day and night temperatures in cities as compared to neighbouring forested areas or rural zones.

**How does one combat this** in any city where real estate is scarce and expensive and especially in a city-state country like Singapore where there are no real rural zones or large forested tracts of undeveloped land ?

## What is urban greening ?

Some possibilities are

the planting of trees;

the creating of little pockets  
of coolness;

the covering of roofs with  
vegetative material;

the erecting of green walls;

the integrating of architecture and  
landscape architecture



## The results :

**Plants influence** the degree of localised humidity and temperature and mitigate extreme variations of climate.

**Leaves intercept** and absorb the reflectance of solar radiation. In this way foliage cuts solar intensity and therefore the heat which results from the radiation, thus regulating microclimate.

**Plant material filters** polluted air and ameliorates the retention of water and absorbs CO<sub>2</sub>.

**Vegetated surfaces** have the potential to increase or introduce biodiversity where multiple species are used.

**Greenery that provides visual comfort** has a therapeutic effect on people's state of mind as it creates public spaces which are pleasing, valued and functional.





Southeast view – a “living breathing cloak” augmenting biodiversity and promoting the reduction of urban heat island effects

**BEFORE**  
MAY 2016



**AFTER**  
MAY 2017



North view – Airspace as landscape space

## The economic benefits :

Energy use = cost.

**The insulating quality**, in terms of heat, means that less money need be spent on cooling measures for building inhabitants.



The service area behind the vines



Close-up of the blanket of vines



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Energy use = cost.

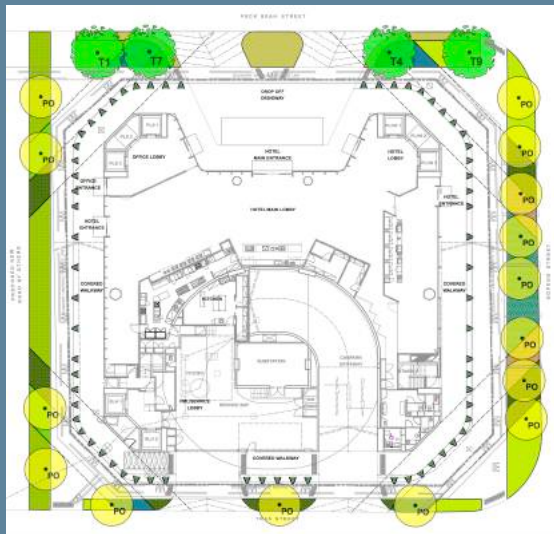
**Architect's manipulation of building mass** also gives priority to natural ventilation in the creation of breezeways for good air circulation for thermal comfort of inhabitants without reliance on air-conditioning 24/7.



Level 12



Level 21



Ground Floor Plan



L12 Sky Terrace Plan



L21 Sky Terrace Plan

**The tower is horizontally stratified into four sections** : levels 6 to 11 are designated to individual SOHO owners; the Hotel occupies levels 12 to 20 and levels 21 to 26 belong to the Hotel Club rooms and activities. Level 27 houses common recreational activities for both Hotel and Club guests.

**The building footprint occupies entirely the tiny site**, minus the mandatory planting buffers. With the tower in stratum – each for the different sections of accommodation – the surface area of the site is multiplied four times, as the four sky gardens at levels 6, 12, 21, 27 become as “new ground” planes overlooked by either apartments or hotel rooms, one sheltered by the next terrace above, until the last plane is open to sky at level 27.

The eventual sky terraces were a result of back and forth collaborations between the architect, the landscape architect and the interior architect.

## The environmental benefits :

The covering of « roofs », in this case « elevated ground » is not a new technique but is today all the more important within the perspective of increasing biodiversity in the urban environment, particularly with regards to concerns with quality of air and the mitigation of urban heat islands.



Level 6 ground



Level 21 ground





Level 12

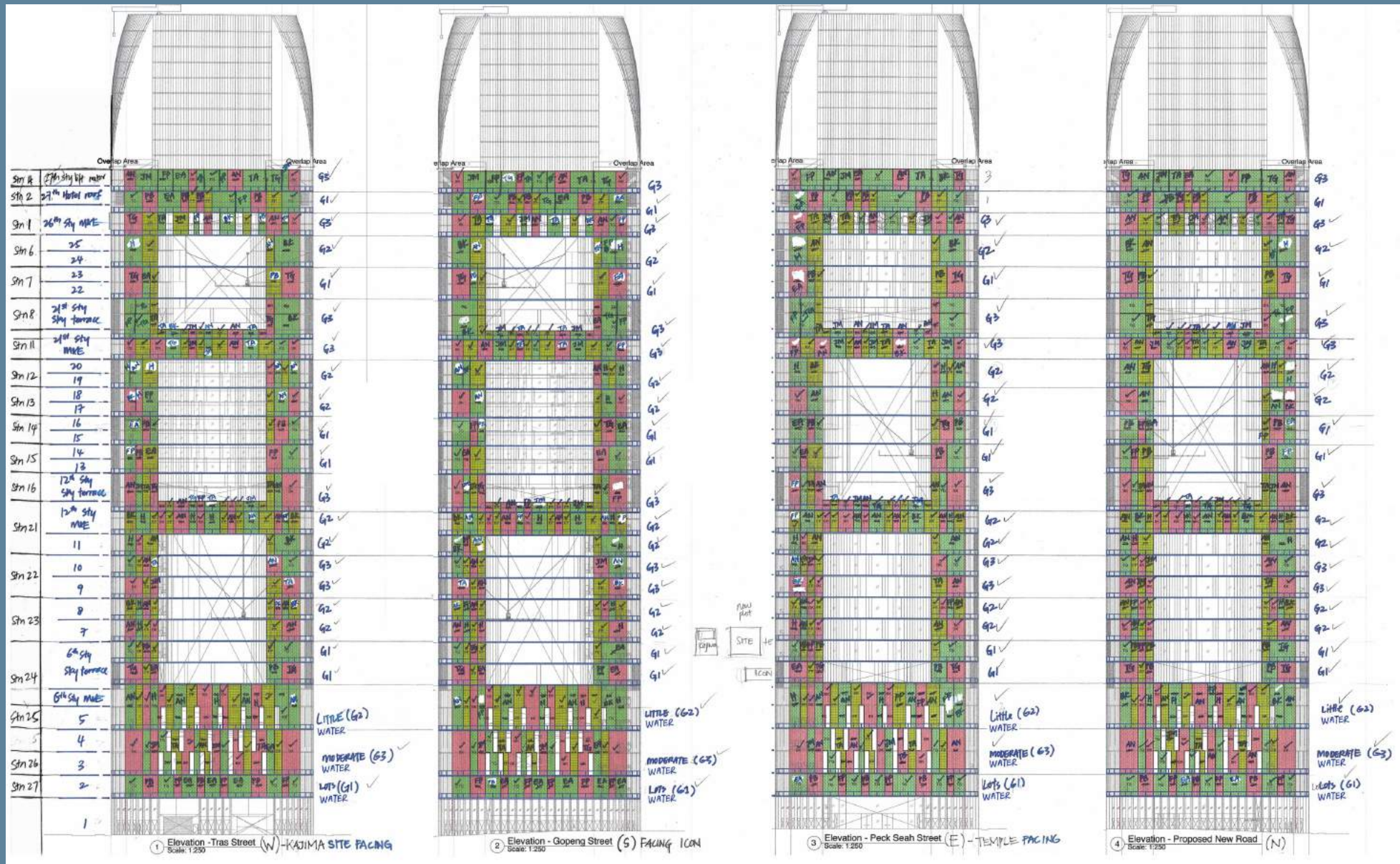
## The maintenance factor :

**Ultimately, there is cost involved** in maintaining such an extent of vertical greenery.

**In the interest of the long term,** the landscape architects stressed the necessity of good soil depth of minimum 1M and maintenance access to ALL the planters serving the iconic image of this “living breathing” façade.

**An automatic irrigation and fertigation system** was installed, arranged by stations at each level with controls based on plants water demand – in 3 broad groups of “lots, moderate and little”.





The arrangement of over 20 species of climbers on the 4 facades of the towers taking into consideration water demand, amount of sunlight available and speed of growth, created a completely organic and abstract mosaic.

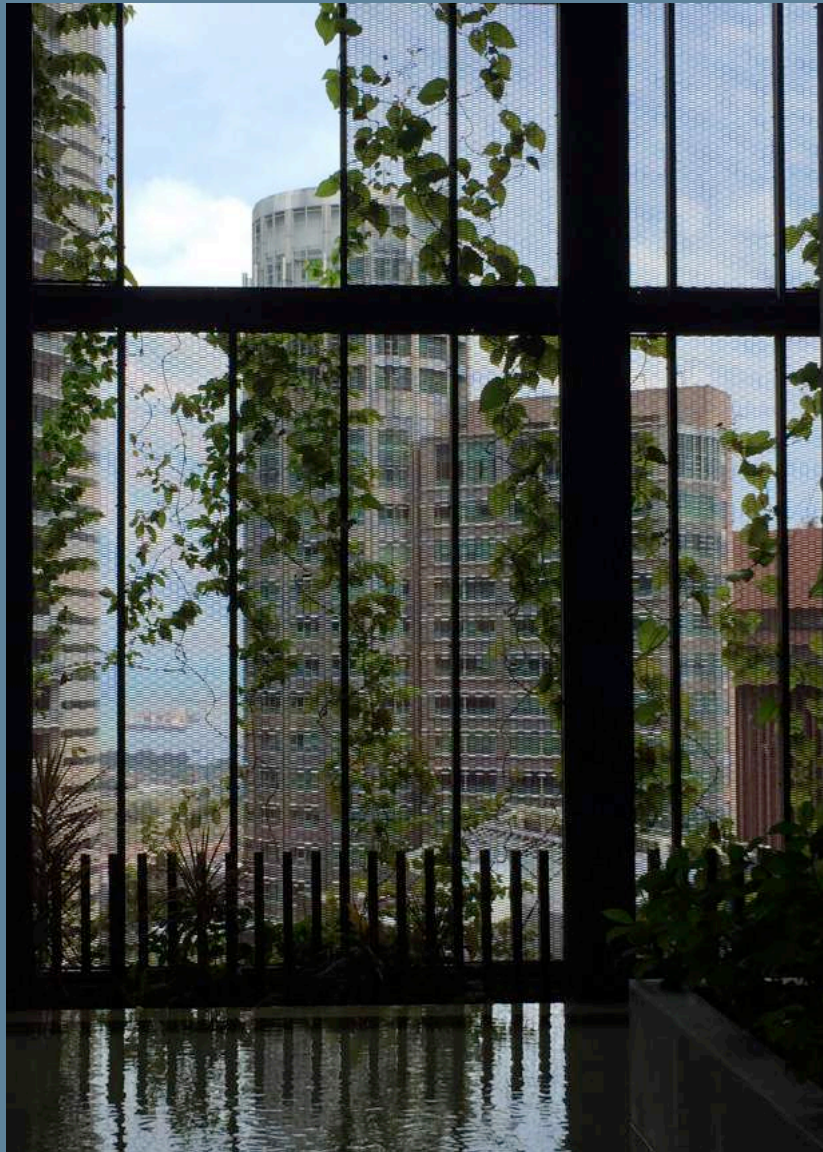
## The maintenance factor :

Ultimately, due to environmental and botanical considerations, the facade became a giant organic mosaic of different species, textures, colors and patterns “painted” on the canvas in the sky.

The future “paint brush” will be wielded by Nature herself, for this living mosaic is expected to change over time, as plants are allowed to find their own environmental equilibrium in space.

In the end Nature leading the way is an experiment for a sustainable energy saving measure for the life of the project, as it promotes reduction over long-term, of financial costs related to maintenance of the “living cloak”.





Plants which appropriate the environment and the architecture and travels according to its own wishes across this air space.







The **Oasia Downtown** is an unforgettable visual contrast against an urban back-drop of concrete, steel and glass. A single slender silhouette encased in a framework of perforated steel mesh – in pink, red, maroon and orange – wrapped in its “living cloak” of plants.

# THANK YOU