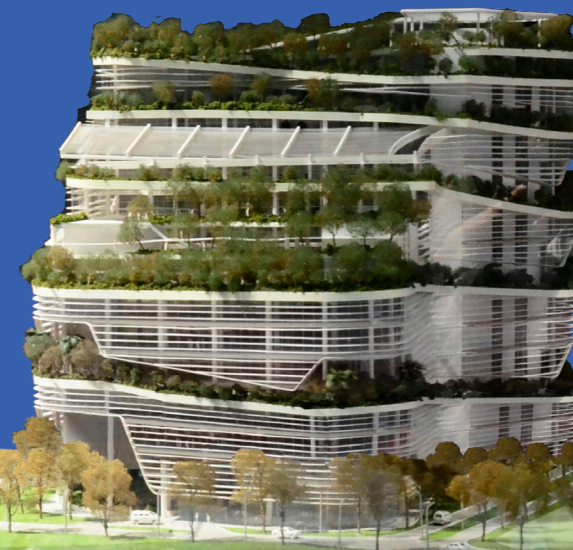


Architecture Redefined

WHY US?



OUR PRODUCT:

- design ideas
- innovations
- local base global reach

OUR PROMISE:

- innovation | ingenuity
- hypergreen | sustainability
- signature | style
- well-being | happiness
- cost control | viability

ECOARCHITECTURE & ECOMASTERPLANNING

Contact Us:

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scan
to view
webpage

what others say about us?
..3rd party endorsement..

DESIGN MAGAZINE

a journal on green architecture, design ideas, discovery and innovation

MAR 2024

WHY

local base

US?



OUR PRODUCT:

- design ideas
- innovations
- local base global reach

OUR PROMISE:

- innovation / ingenuity
- hypergreen / sustainability
- signature / style
- well-being / happiness
- cost control / viability

“ .. wind, rain and sun in the minds of most architects, they are enemies, but what if buildings can utilise and respond to the conditions of the environment? what if the urban environment itself became a living, breathing organism? To Ken Yeang it is.. ”



scan to view video

in "e² :design" Season 1 Episode 6 PBS documentary

Brad Pitt says



ECOARCHITECTURE & ECOMASTERPLANNING

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scan to view webpage

what others say about us?

..3rd party endorsement..

“..**Ken Yeang** has developed a distinctive architectural vocabulary that extends beyond questions of style..”



“..The firm's ethos is “innovation, hyper-green, signature and people's happiness-focused design”, which are its signature aesthetics and what make its work compelling..”

“..**Ken**, how many of these have you built?..
(at conference (UK) sponsored by Infosys)



“..a champion of the green design movement, **Yeang** was largely seen as a pioneer who was way ahead of his time..”



(1 November 2022) Royal Institute of British Architects

“..**Ken Yeang** is an architect and ecologist with a wealth of experience in ecological design and planning for over 50 years. He has pioneered the field of biophilic design and his ‘bioclimatic skyscraper’, is a type of high-rise now used in various cities that performs as a passive low-energy building, designed according to the location's local climate..”

ARCHITECTURAL RECORD

“..probably no individual is more important in the development of ecodesign's theory and practice than the London and Kuala Lumpur-based architect **Ken Yeang**..”



“..one of the 50 people who could save the Planet..”

it took 50 years to design the future

..about T. R. Hamzah & Yeang Sdn. Bhd..

An experienced architecture, masterplanning and interior design company with demonstrated history of skills in designing and delivering signature award-winning super-green solutions.

Since **START**

1971 pioneer research on Ecological Design (Cambridge University)

1976 establishing of company, over 5 decades of experience & dependability brought to benefit the development

Principals



Tengku Robert Hamzah



Ken Yeang (Dr. Dato')

Experience

over 500 completed projects (since 1976)
over 800 projects in more than 10 countries

Differentiation

- * design innovation
- * specialist in ecological design (pioneered since 1971)
- * signature aesthetics
- * over 70 design awards
- * design happiness & well-being for human society

Our values

quality in everything we do
we are committed to do work in the pursuit of excellence.

Our mission

'saving the planet by design':
design to fix the environmental crisis

Our vision

develop architectural and planning solutions to fight climate change to address the environmental crisis

Offices

Malaysia:
T. R. Hamzah & Yeang Sdn. Bhd.
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68000 Ampang, Selangor, Malaysia

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Ken Yeang Design International Ltd.
4A Avery Row, London, W1K 4AL

China:
North Hamzah Yeang Architectural Engineering Design Co. Ltd.
Guide International Centre B-10F,
Nanbina Road 27 Beijing, 10055

see our website: <https://trhamzahyeang.com/>

Personal Awards

- 2005 • WACA (World Association of Chinese Architects) Gold Medal Award
- 2011 • Merdeka Award for the 'Environment' category
 - PAM Gold Medal Award
- 2014 • Design Master of World Alliance of Sustainable Cities Design (WSC)
 - MGBC Leadership in Sustainability Awards 2014 for Excellence and Leadership in Sustainability
- 2015 • BCA-SGBC Green Building Individual Awards - Green Architect Lifetime Achievement Award
- 2016 • Liang Sicheng Architecture Prize, China
 - BUILD Award 2016: Sustainable Building Awards - Best Green Architect
 - Identified as the 40th Most Famous Architects of the 21st Century
- 2022 • Australian Institute of Architect - Leadership in Sustainability Prize
- 2023 • DOTY (Designer Of the Year) Lifetime Achievement Award (ACG Media)

our chief executive officer

*..by signature ecology-based approach
supplemented by meticulous management..*

AA Dip. / APAM / FSIA / RIBA / FRSA /
Hon. FAIA, D.Lit (Hon.) (Sheffield), PhD. (Cantab)
Professor (Graham Willis Chair, Sheffield University)
Adjunct Professor (RMIT, Melbourne)
Adjunct Professor (University of Hawaii)
Adjunct Professor (University of New South Wales, Sydney)
Distinguished Plym Professor (University of Illinois)

KEN YEANG

Ken Yeang is an architect, ecologist and author known for his work in the field of ecological design. He is recognised as a pioneer in sustainable architecture. Yeang's approach involves integrating ecology-based principles into architectural structures as Applied Ecology, promoting environmentally sensitive, carbon neutral and energy-efficient solutions. His innovative ideas focus on creating buildings that harmonise synergistically with nature while addressing contemporary environmental challenges. He is among the few architects who does research, designs, builds and writes.

Yeang trained at the Architectural Association (London). His Cambridge doctorate was published as 'Designing With Nature' by McGraw-Hill (1985). His awards include the Aga Khan Award, Prinz Claus Award, Auguste Perret Award (from International Union of Architects), Liang SiCheng International Award (from Architectural Society of China), Gold Medal (from Malaysian Institute of Architects). In recognition of his green architecture, the Guardian named him one of the 50 people who could save the planet.

Ken Yeang received
Aga Khan Award in 1996



Ken Yeang meets HH The Aga Khan
(second left) at the 1986 AgaA Khan
Award for Architecture Presentation
Ceremony in Marrakesh, Morocco



Architectural Society of China Liang Sicheng Award 2016
received from Minister of Construction, China



scan for
video of lecture

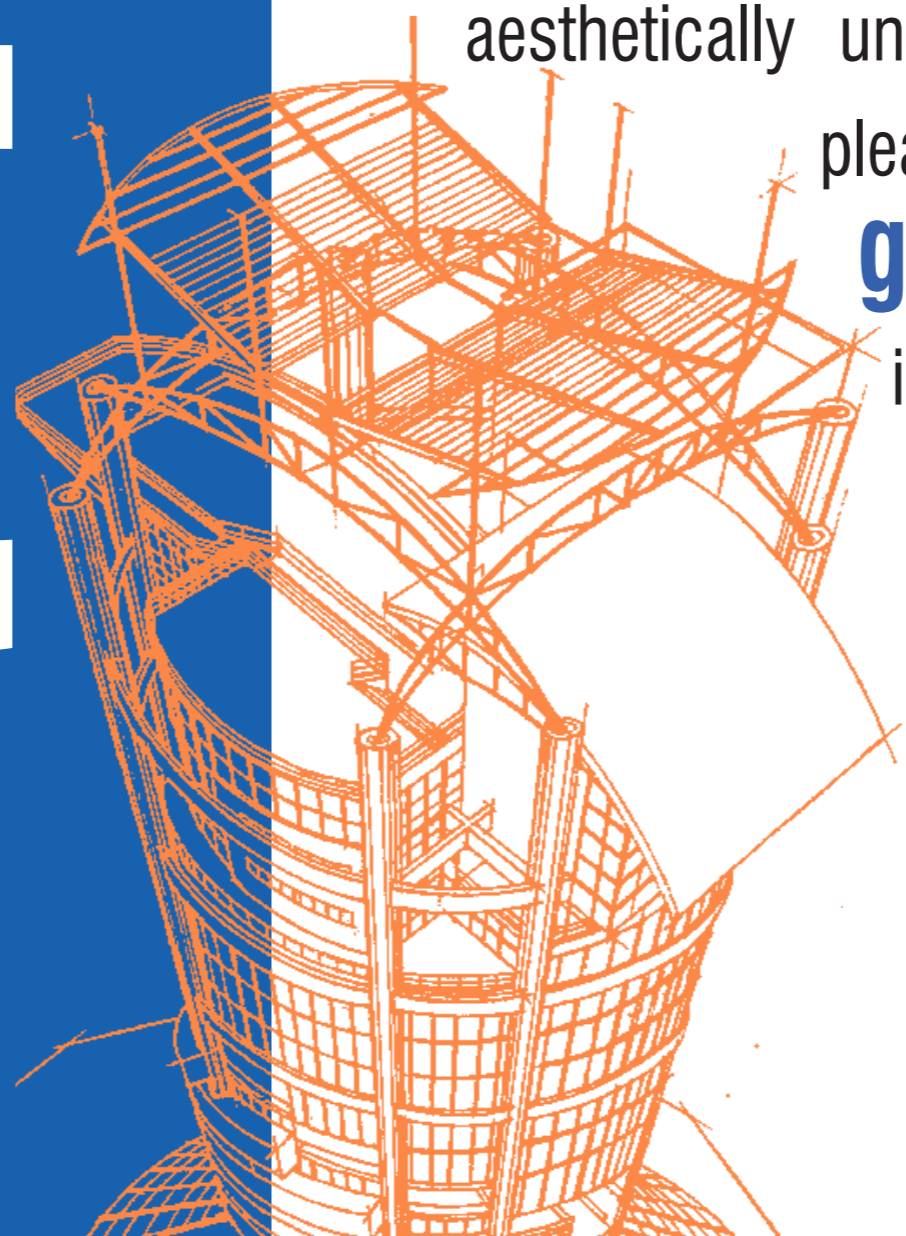
Receiving the Government of
Malaysia Merdeka Award
for the 'Environment' category
(2011) from Prime Minister



what we do?

what we do that others do not?
..fixing the planet for future generations..

...We are the only architect firm worldwide that delivers **ecologically-authentic signature 'super green' architecture and masterplans** for environmentally-aware **investors**, who want **signature designs** that are aesthetically unique, identifiably world class, pleasurable to use, **super green** (beyond rating systems), innovative & **delivered professionally** on time, on budget that are durable and built with high quality...



- T. R. Hamzah & Yeang Sdn. Bhd. -

delivering the spirit of innovation

..by specialist expertise in low energy design..

what delights users?

covered verandahway

pedestrian arcade are designed with 'songket' patterned fritted-glass canopy to enhance pedestrians comfort.



central promenade

active public realm are designed with seating zones and planting areas as temporal event spaces that are shaded by the shadow of the tower blocks.



balconies with planter boxes

protruding balconies with landscape planters are visible from beyond the vertical glass sun-shading, and create random patterns on the overall facade.



what makes it sustainable?

biodiversity matrix as basis of habitats creation

Biodiversity Target for Suasana Putrajaya, Malaysia.

Plan	Target Species
<p>Habitats</p> <p>create habitats</p> <p>Flora Species</p> <p>Target Flora Species</p> <p>select native fauna species to be brought back to locality for feeding, breeding, nesting from any</p> <p>establish interactions between fauna and habitats</p> <p>select non-invasive flora species to attract fauna</p>	<p>Target Species</p> <p>Flora Species</p> <p>Flora Success</p>



Green Building Index (GBI)-Silver

fritted-glass solar shading

skycourt

planter box

promenade

what makes it innovative?



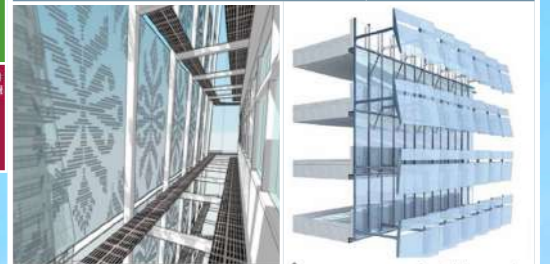
glass sun-shading



fritted glass pattern provides 98% shading openings inspired by leaf cracks sunshade glazing assist in establishing comfortable micro-climates of the building's habitable spaces



double-skin façade



crystalline diamond-like facade are presented by wrapping the building with angled glass sun-shading



"eco cells"



continuous vegetation ramp that connects green from the ground level down to the basement level



natural daylighting



8 storey high central atrium with glass canopy above that provides maximum natural daylight to penetrate into the internal space and reducing energy usage

unique features:

Putrajaya 2C5 is a 2 towers of 14-storey mixed-commercial development in the city of Putrajaya, Malaysia which is completed in 2017.

the double-skin facade are designed with 1 clear glass layer and a fritted (in Malay 'Songket' pattern) glass layer with 50% opaque coverage that provide sun-shading to the internal spaces.

awards received

- Bronze Award - Regional Holcim Awards 2011
- Silver Award - Green Building Index (GBI) 2014
- Winner - Cityscape Global Awards 2018/2019
- Winner - Malaysia GBC Best New Green Commercial Building 2020

photo shows the public enjoyment of building during Independence Day

SUASANA PUTRAJAYA

PUTRAJAYA PRECINCT 2, MALAYSIA

what makes it innovative?

•sun-shading

sunshading blades boldly define the tropical aesthetics and provide sunshading & anti-glare performance that gives the image of a contemporary climatic-responsive built-form

UNSDG
3 GOOD HEALTH AND WELL-BEING

•low energy design

passive mode strategies used are assembled together as collective strategy for low energy and high comfort building.

UNSDG
3 GOOD HEALTH AND WELL-BEING
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY

BCA Green Mark Platinum

delivering the spirit of innovation
..by biophilic vegetated skycourts..

what delights the users?

•public realm

the Public Events Plaza is a communal space that becomes main focal point of the site and subsequently leading visitors to the main foyer and library.

UNSDG
3 GOOD HEALTH AND WELL-BEING
11 SUSTAINABLE CITIES AND COMMUNITIES

what about the interiors?

•vegetated skycourts

Over 6,300 m² are designed as 'green space' that creates urban "skycourts" providing a positive psychological effect on building users and improving general working environments.

UNSDG
3 GOOD HEALTH AND WELL-BEING
8 DECENT WORK AND ECONOMIC GROWTH

•green materials

use of recycled and reused materials (eg. carpet, wall fabrics and sustainable-forested local timber) contribute to an environmentally low impact design.

UNSDG
3 GOOD HEALTH AND WELL-BEING
13 CLIMATE ACTION

- awards received**
- **BCA Green Mark Platinum 2005**
 - **Silver Award - 3rd SIA Façade Design Excellence Awards 2006**
 - **Shortlisted in sustainability category - RICS Awards 2006**
 - **First Prize - ASEAN Energy Efficiency Awards 2007**
 - **Silver Award - BCA's Universal Design Awards 2007**
 - **BCA Green Mark Platinum 2009**

skycourt

unique features:

The Client wanted a cultural and tropical building to which the Architect responded with an open-to-the-sky naturally-ventilated civic plaza on the ground plane with opportunities for cultural activities and various 'outdoor' events. A rooftop 'bubble' designed to face the nearby waterfront was also popular with people for holding various functions. NLB was the outcome of a winning competition scheme that underwent several design revisions before it was accepted by the Client.

NATIONAL LIBRARY
VICTORIA ST, SINGAPORE

unique features:

The Great Ormond Street Hospital is located in London, the building is the first "Excellent" BRE-rated hospital in the UK. A key feature of the hospital extension is the flue wall which is an energy efficient fabric and ventilation system expressed on the façade facing Guilford Street. The design solution establishes a sense of order, ease of use, comfort and inspiration to the campus, providing facilities befitting Great Ormond Street's status as the world's leading tertiary children hospital.

BREEAM
"Excellent"
rated

upper valve

thermal
cooling flue

lower valve:
mixed mode floors
(3 floors)

delivering the spirit of innovation

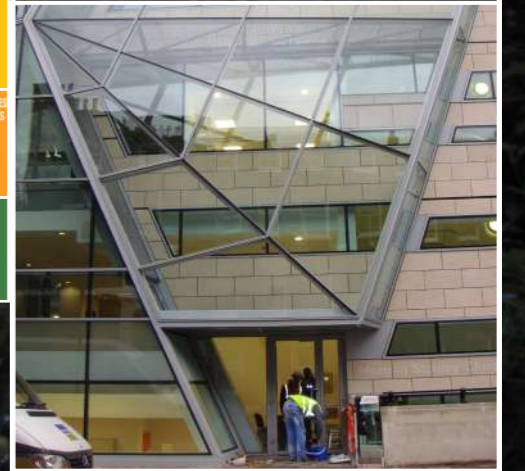
..by mixed-mode glass-flue to reduce energy consumption in temperate climatic conditions..

what makes it innovative?



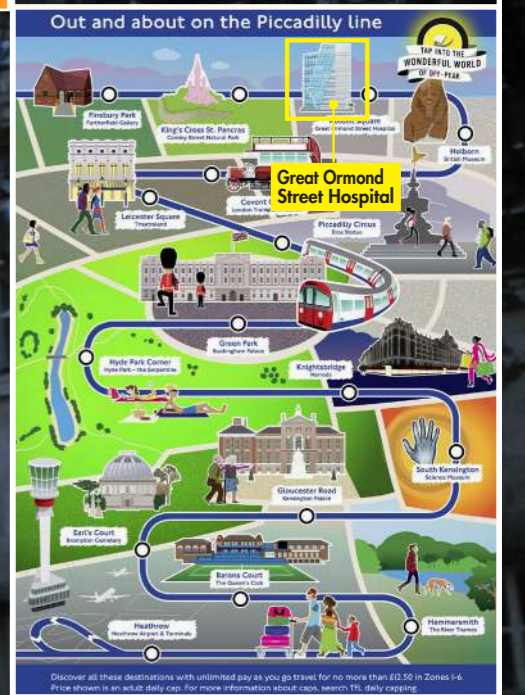
•the "flue wall"

Naturally ventilates the lower 3 floors during the mid-seasons (Spring & Autumn) and reduces annual energy consumption.



•featured building

Great Ormond Street Hospital is featured in a poster at the London Underground Station.



GREAT ORMOND STREET CHILDREN HOSPITAL EXTENSION

LONDON, UK

what makes it innovative?

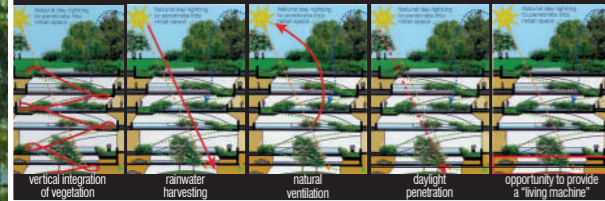
•experimental diagonal light shaft

Innovating environmental device is the "Solar Shaft" that cuts through the upper floors of Tower A to allow daylight to penetrate into the deep interior spaces.

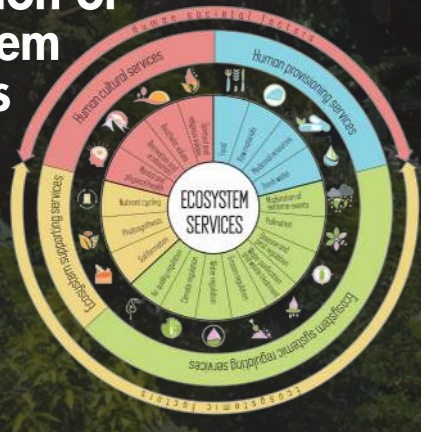


•"eco cells"

"eco cell" is a device that allows for vegetation, daylight, natural ventilation and rainwater harvesting to extend into the car-park levels below.



•provision of ecosystem services



unique features:

The main ecological sustainable significance of the project is its 1.5 km long continuous perimeter landscaped ramp from the basement to roof garden, which demonstrating ecological nexus and connectivity. Furthermore, the vegetation has compensates cleared vegetation for construction on-site, which exceeding site footprint by 80%. These is how Solaris strives to enhance its site's existing ecosystems.

awards received

- First Prize - *Skyrise Greenery Awards 2009*
- Platinum Rating - *BCA GreenMark 2009*
- *Green GOOD DESIGN Award 2010*
- *Gold Medal - WACA Award 2011*
- *Gold Award - PAM Awards 2011*
- *Finalist - RAI International Architecture 2012*
- *NPark Leaf Certificate Awards 2014*
- *AIA IR Design Awards 2014, Hong Kong*
- *FuturARC Green Leadership Award 2015*
- *FIABCI World Prix d' Excellence Awards 2016*

BCA GreenMark Platinum

mid roof garden

uppermost roof garden

spiral ramp as "Vertical Linear Park"

"Eco Cells"

delivering hypergreen

..by the 1.5km vertical linear park..

what delights users and public?



•roof gardens



sky-terraces at the corner of the building that forms interesting green landscapes and contributes unique social meeting points connected to nature.



•"vertical linear park"



the 1.5 km long continuous green ramp acts as an ecological armature. The spiral ramp expands into generous double-volume sky-terraces at the building corner.



•operable louvers over atrium

the automated operable louvers open to optimise ventilation in the atrium and automatically close to keep out the rain.



SOLARIS
ONE-NORTH, SINGAPORE

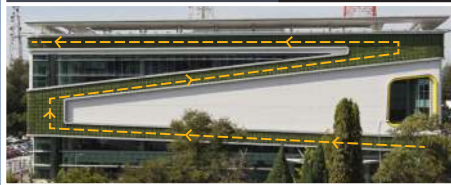
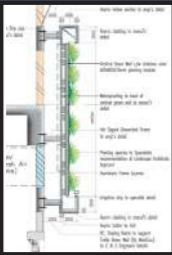
delivering hypergreen

..to enhance phytoremediation and sequestering of aerial contaminants...

what makes it innovative?

•continuous vertical green wall

the extensive vertical green walls on façades act as living habitats. The large greenery components act as means of filtering and improving the building's ambient indoor air quality.



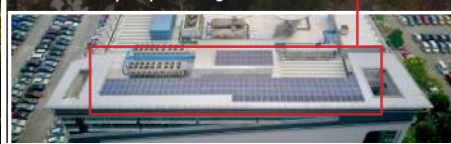
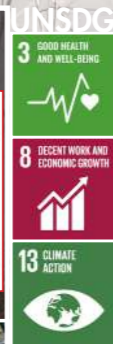
•solar shading

the building is clad with white aluminium panels, clear glass windows, and spandrels with horizontal blades that provides solar shading and anti-glare performance that gives the image of a contemporary climatic responsive built form.



•renewable energy

an array of photovoltaic panels is installed on the building's uppermost roof area. The 234 m² PV array generates approximately 35.28KWh of electricity on site with all power generated feeding directly back into the municipal power grid.



continuous green wall for ecological nexus

Green Building Index (GBI)-Gold

photovoltaic roof canopy

naturally ventilation to elevated lobby

what delights users and public?



•spacious interior with natural daylighting

the main office and circulation spaces are glazed using full-height Low-E curtain walls to provide maximum daylight penetration and enables energy efficient lighting systems within the spaces. Secondary rooms are also fitted with operable windows for natural ventilation and daylight.



unique features:

The DIGI Technology Operation Centre located in Malaysia's Subang High Tech Park was completed in 2010 and has since been awarded a GBI Gold rating. The Client's brief was to design a data centre with ecological features and is based on the 'IT Data Centre's Uptime Institute' Tier III platform with the possibility of scaling up to Tier IV security. A key feature of the DIGI Centre is a vegetated green wall that wraps around its four façades - meant to act as living habitats and as means of filtering and improving its ambient indoor air quality.

DIGI DATA CENTRE

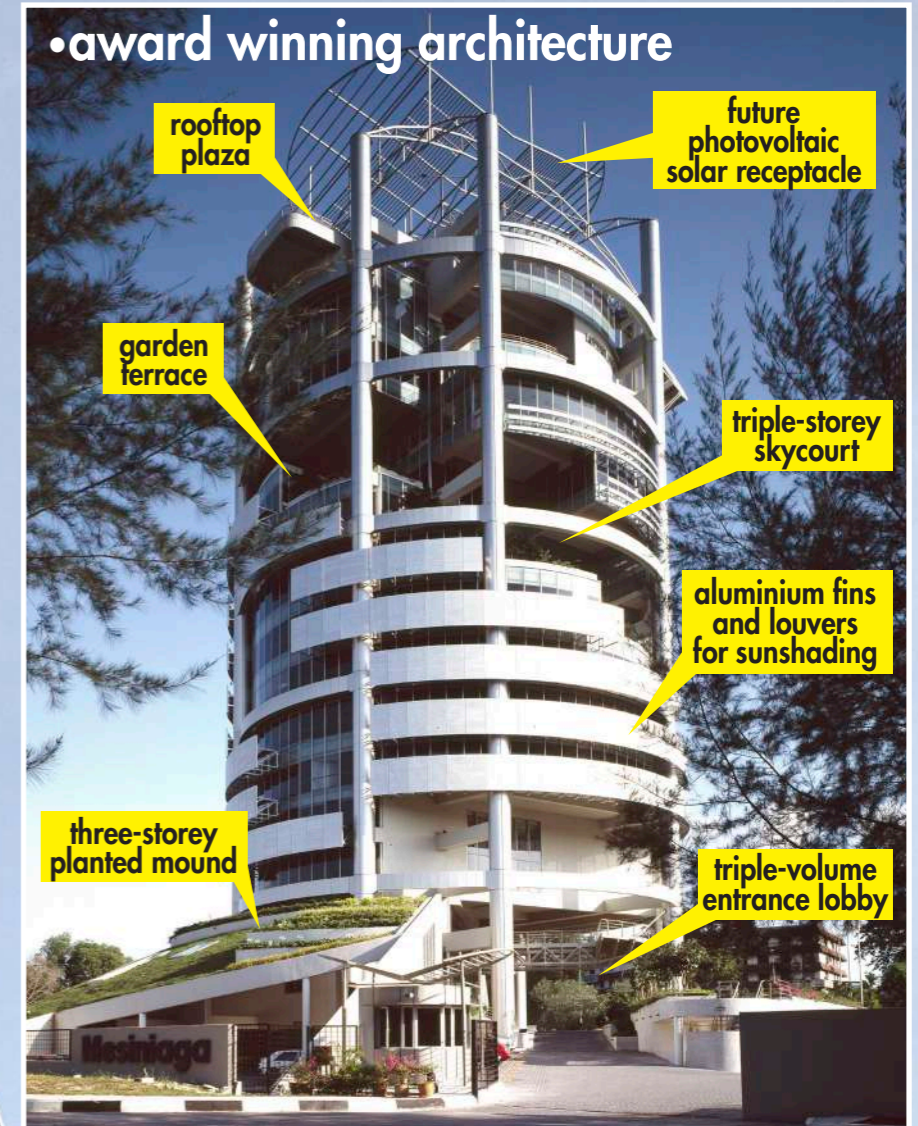
SUBANG JAYA, MALAYSIA

delivering signature & recognizable icon

..by designing a legacy as a bioclimatic skyscraper..

what makes it significant?

•award winning architecture



The Aga Khan Award for Architecture

Aga Khan Award for Architecture 1996

signature features:

Menara Mesiniaga is one of our early buildings that launched our work in ecological design as low-energy (bioclimatic) architecture and which received the Aga Khan Award. The year was 1992, and the building marked the beginning, both literally as well as figuratively, a new era in our work on deep green design.

MENARA MESINIAGA

SUBANG, MALAYSIA

delivering iconic & distinctive aesthetic

..by modular roof units..

homogeneous canopy roof design to reduce energy consumption



XIONG'AN STATION
BEIJING, CHINA

engendering happiness hormones 😊

- dopamine
- serotonin
- oxytocin
- endorphins

bringing natural day light into the retail space

natural ventilated cool plaza

enhancing comfort & well-being

..by mixed-mode cooling retail complex (without air-conditioning)..

what makes it innovative?



•extractor fans



extractor fan

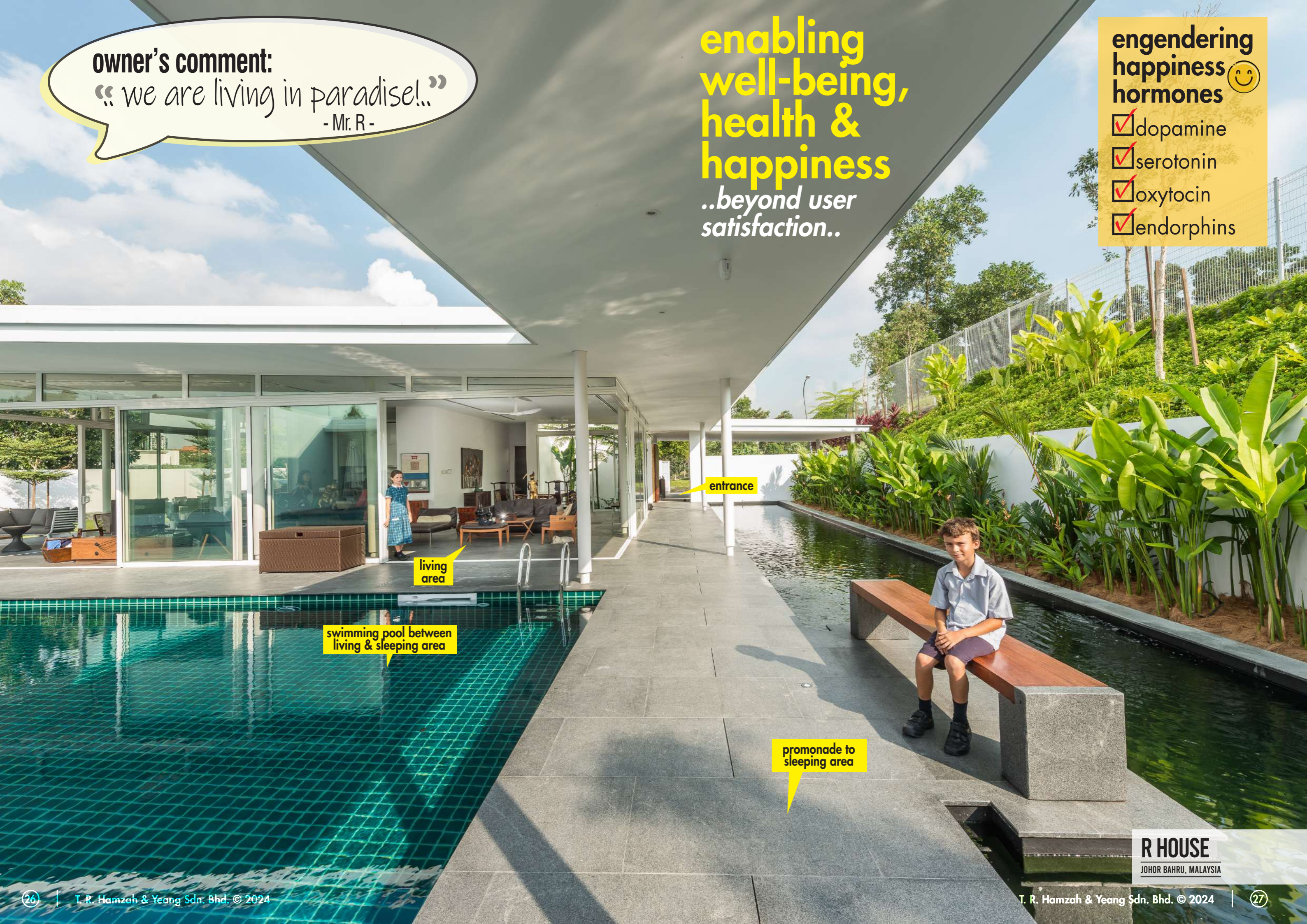
owner's comment:

“ we are living in paradise!.. ”
- Mr. R -

enabling
well-being,
health &
happiness
..beyond user
satisfaction..

engendering
happiness 😊
hormones

- ✓ dopamine
- ✓ serotonin
- ✓ oxytocin
- ✓ endorphins



entrance

living
area

swimming pool between
living & sleeping area

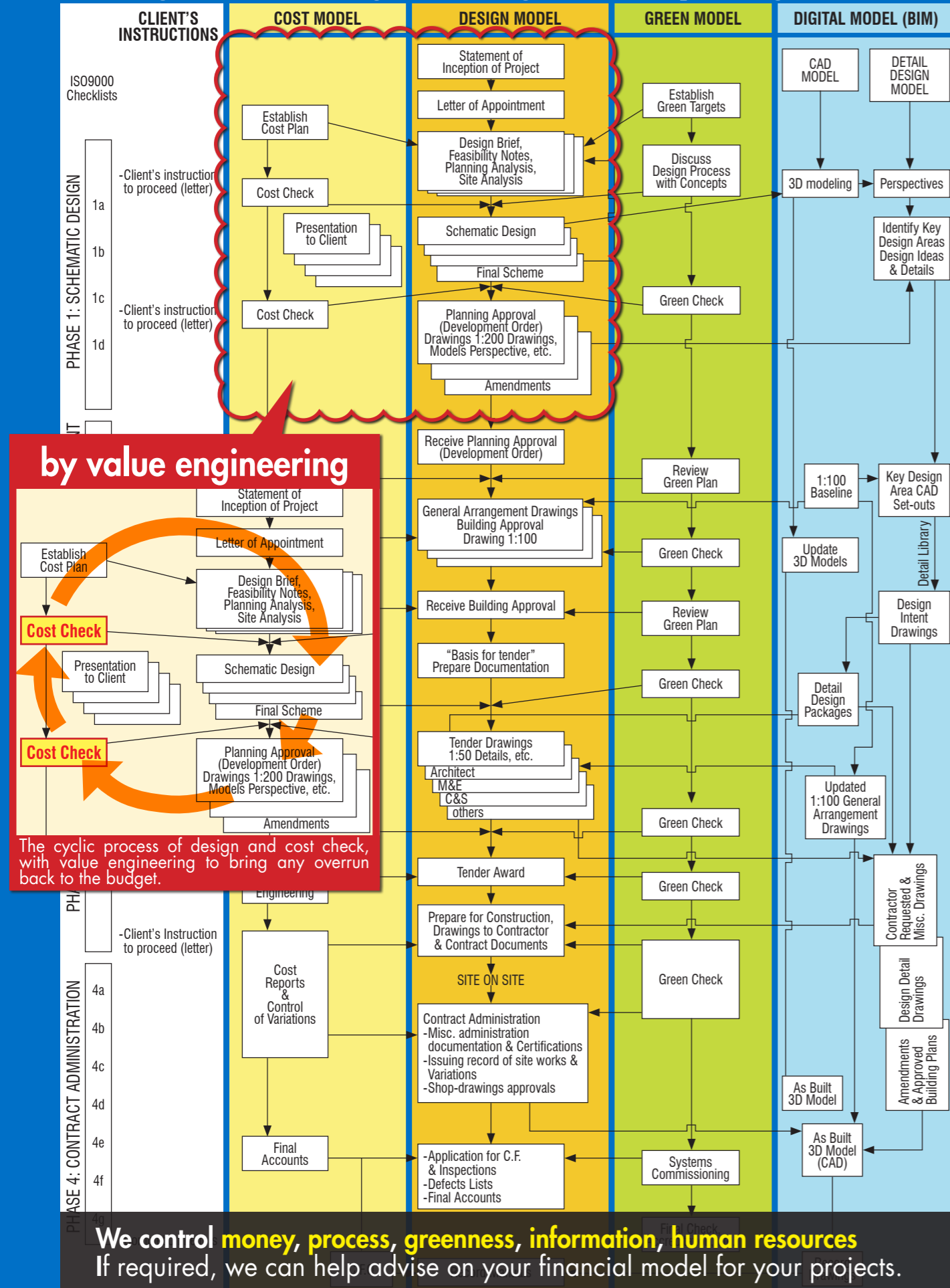
promenade to
sleeping area

R HOUSE
JOHOR BAHRU, MALAYSIA

effecting cost control

..through value engineering at every stage..

our promise
..this is what you get from us..



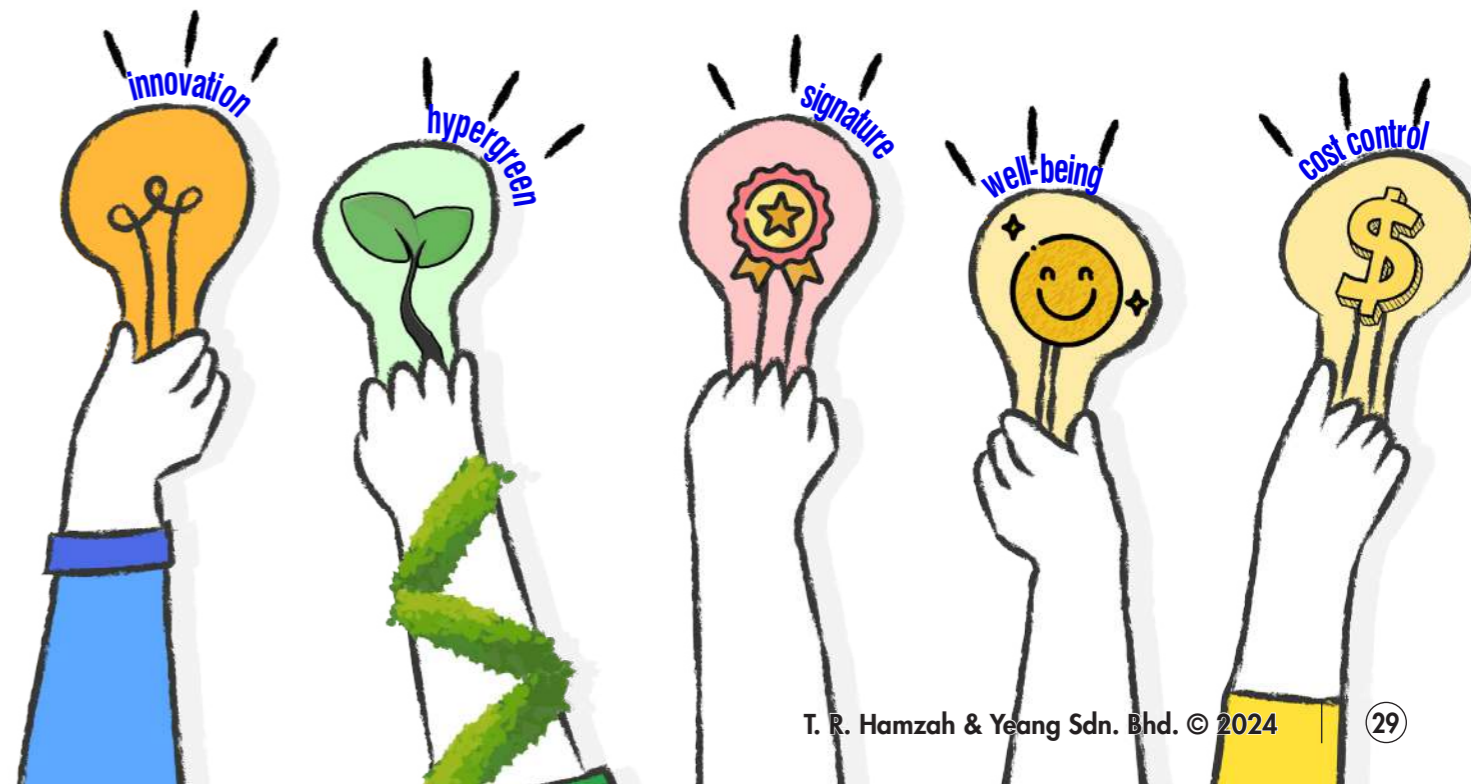
• **innovation** *ingenuity*

• **hypergreen** *sustainability*

• **signature** *style*

• **well-being** *luxury*

• **cost control** *viability*



We control **money, process, greenness, information, human resources**
If required, we can help advise on your financial model for your projects.

*positive action
on climate change*

why
we do it?

we exist to fix the earth

SAVING THE PLANET

the only one we have!

BY DESIGN

*enable investor, developers & end users
achieve their ESG aspirations &
to address the environmental crisis*

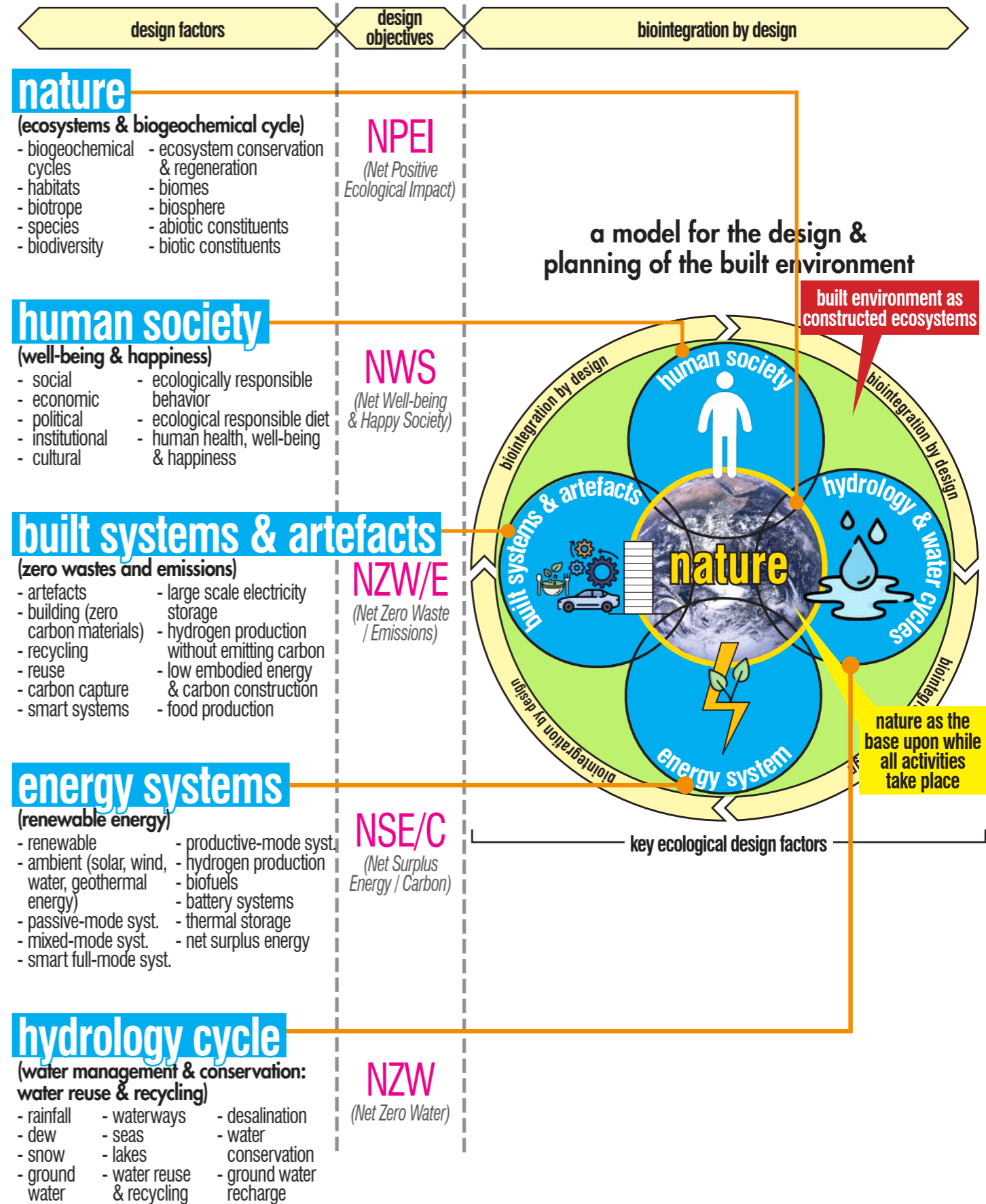
our system

now
we do it?

ecological design model

..as basis for design..

Ecological design by seamless & benign biointegration of the 5 sets of ecoinfrastructure to create human-made constructed ecosystems



increasing local biodiversity

..using Biodiversity Targets Matrix as basis for design of habitats to enhance local biodiversity..

Plan

Habitats

1 create habitats

Level 1 Promenade	Level 1 External Planters	Level 1 Trees	Level 2 Trees & Shrubs	Level 3 Shrubs	Level 6-13 Shrubs

Flora Species

- Level 1 Promenade: *Zephyranthes candida*, *Tristellateia australasiae*, *Acalypha siamensis*, *Ficus pumila*, *Phyllanthus myrtifolius*, *Spathiphyllum cannifolium*, *Costus speciosus 'Marginatus'*, *Orthosiphon aristatus*, *Brunfelsia calycina*, *Canna indica*, *Vernonia elliptica*, *Loropetalum*, *Justicia gendarusa*, *Loro Topiary*
- Level 1 External Planters: *Cassipouira ferra*, *Ficus nitida*
- Level 1 Trees: *Eucalyptus deglupta*, *Plumeria obtusa*
- Level 2 Trees & Shrubs: *Cyathea cooperi*, *Pisonia alba*, *Brunfelsia calycina*
- Level 3 Shrubs: *Argemone sarcarifolia*, *Belamcanda chinensis*, *Osmoxylon chinensis*, *Osmoxylon lineare yellow*
- Level 6-13 Shrubs: *Pisonia alba*, *Vernonia elliptica*, *Allamanda nerifolia*, *Costus speciosus 'Marginatus'*

Target Species

- Priority species for nature conservation
- Flagship species that could symbolise scheme success
- Indicator of good populations of small mammals
- Indicator of good population of small birds
- Indicator of good populations of fish/amphibians
- Indicator of good populations of invertebrates
- Indicator of good water quality
- Species with special aesthetic qualities or interest to man, eg. conspicuous beauty, song or tendency to use artificial refuges.

Keys

- R Root
- W Water Quality
- F Feeding
- DPS Dominant Plant Species
- H Host
- B Breeding

Species with Social/Amenity/Cultural/Educational Values:

- FS 'Flagship' - species that champion the biodiversity of the wider landscape in which they are found, often because of their conspicuousness, appealing appearance/behaviour or cultural iconography
- IA 'Innate Appeal' - Species of above-average value to people in terms of its aesthetic value or curiosity value; for example, a species of bird with particularly melodious song or perhaps a plant with particularly appealing perfume; or species contributing to a valued whole ecosystem aesthetic such as 'lushness' or 'multicoloured beauty' to which society responds positively
- EW 'Early Warning' - species that may give an early warning of threats to our own health rather like a Canary in a coal mine. Classic examples include the Peregrine Falcon and DDT, lichen assemblages and sulphur dioxide and invertebrate populations in rivers and water pollution
- CP 'Conservation Priority' - species of innate biodiversity value which may be assessed, for example, on the basis of rarity or value as a particularly high-quality example of its kind.
- KS 'Keystone' - species having a disproportionate effect in the functioning of the local environment.
- US 'Umbrella' (US) - species of value in making conservation-related decisions, typically because protecting these species indirectly protects a wide variety of other species and habitats. They are species which characterise the presence of an overall balanced habitat at good conservation status.

Flora Species

- Leopard Tree
- Indian Laurel Fig
- Rainbow eucalyptus
- Frangipani
- Fairy lily
- New Caledonia
- Tea leaf
- Creeping fig
- Mossy plant
- Peace Lily
- Spiral ginger Var.
- Cat's Whiskers
- Yerd-Today-Timur
- Bunga Tasbih
- Curtain Creeper

Target Fauna Species

<i>Cynopterus brachyotis</i> Lesser Short-Nosed Fruit Bat	CP		R				
<i>Streptopelia chinensis</i> Spotted Dove	IA	R					
<i>Geopelia striata</i> Zebra Dove	IA	R					
<i>Caprimulgus macrurus</i> Large-tailed Nightjar	IA						
<i>Apus affinis</i> House Swift	US IA						
<i>Megalaima haemacephala</i> Coppermouthed Barbet	IA			B			
<i>Aegithina tiphia</i> Common Iora	IA			F B			
<i>Lanius schach</i> Long-tailed Shrike	IA						
<i>Pycnonotus goiavier</i> Yellow-vented Bulbul	IA	R		F B			
<i>Oriolus chinensis</i> Black-naped Oriole	IA	R		F B			
<i>Copsychus saularis</i> Oriental Magpie-robin	IA			F B			
<i>Gerygone sulphurea</i> Golden-bellied Gerygone	IA			F B			
<i>Orthotomus sutorius</i> Common Tailorbird	IA			F R			
<i>Anthreptes malacensis</i> Brown-throated Sunbird	FS IA			F			
<i>Anthreptes simplex</i> Plain Sunbird	FS IA			F			
<i>Cinnyris jugularis</i> Olive-backed Sunbird	FS IA	R		F B			
<i>Dicaeum cruentatum</i> Scarlet-backed Flowerpecker	FS IA			F			
<i>Appias libythea olferna</i> Striped Albatross	IA	R		F			
<i>Catopsilia pomona pomona</i> Lemon Emigrant	IA	R		F			
<i>Chilades pandava</i> Cycad Blue	IA	R		F			
<i>Danaus chrysippus chrysippus</i> Plain Tiger	IA	R		F			
<i>Delias hyparete metarete</i> Painted Jezebel	IA	R		F			
<i>Euploea mulciber mulciber</i> Striped Blue Crow	KS IA	R		F			
<i>Hypolimnas bolina jacintha</i> Great Eggfly	IA	R		F			
<i>Junonia almana javana</i> Peacock Pansy	IA	R		F			
<i>Rapala iarbus iarbus</i> Common Red Flash	IA	R		F			

2 select native fauna species to be brought back to locality: for feeding, breeding, refugee from prey (based on ecological survey of site and surrounding)

3 select non-invasive flora species to attract fauna

4 establish interactions between flora, fauna and habitats

5 create landscape conditions for habitats to survive at all season

achieving Net Zero Energy

..by progressive energy reduction..

Design Process (1 to 5) to progressively reduce the dependency on non-renewable resources

1 roof-roof house

2 TTDI Plaza

3 Dhaka Masterplan

4 Data-Centre

passive mode strategies: (bioclimatic design / no M&E systems)

- by builtform orientation
- by builtform massing & configuration
- by solar shading
- by facade & enclosural design
- by optimising ambient energies
- by natural ventilation
- by natural daylight

mixed-mode strategies: (partial M&E systems)

- by building orientation & configuration
- by operable facade/enclosural systems
- by natural ventilation (eg. during mid-seasons)
- by use of fans & extractors
- by address seasonal variations
- by ground source heat pump

full mode strategies: (full M&E systems)

- by smart systems
- by high efficiency M&E systems
- by low embodied energy
- by internal loads reduction

productive mode strategies: (renewable energy systems)

- wind energy
- solar energy
- geothermal energy
- off-site, on-site green power

energy level embodied

5 surplus energy

baseline (establish design targets)

minimise carbon footprint of built systems

minimise carbon footprint of built systems & operational energy consumption

minimise carbon footprint of built systems & operational energy consumption

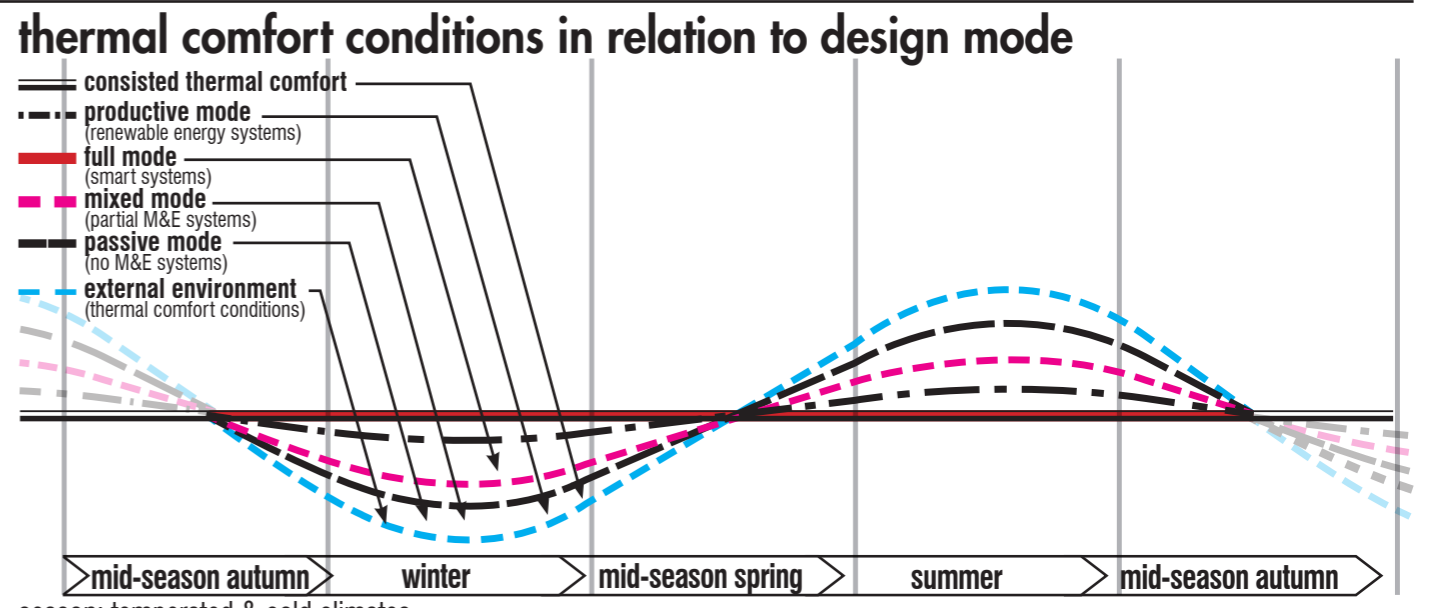
minimise carbon footprint of built systems & operational energy consumption

Net Zero minimise carbon footprint of built systems & operational energy consumption

*assess EEI (Energy Efficiency Index)(kWh/sqm/year), EUI (Energy Use Intensity) & embodied energy (by others) in every stage

energy conservation measures

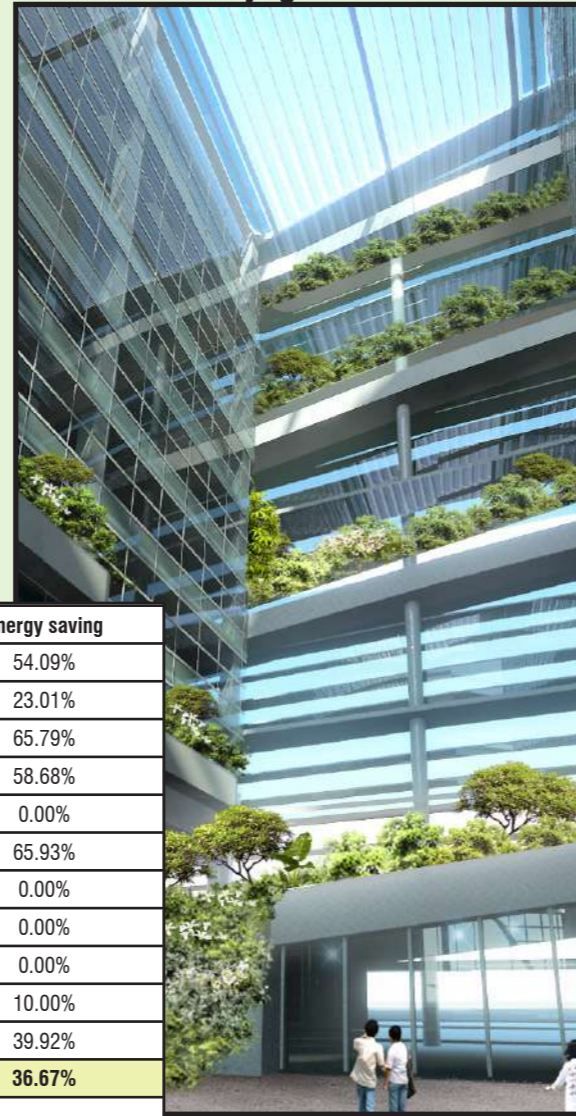
- continuous insulation
- airtightness & vapour control
- no thermal bridging
- high performance windows
- heat recovery ventilation
- domestic hot water
- heating supply
- cooling supply
- renewable energy
- embodied carbon



effecting energy & water cost savings ..by sustainable design..

(case-study: Solaris, Singapore)
Green Mark Platinum

“..the daylight central atrium..”



annual energy savings

Items	Reference(MWh/year)	Proposed (MWh/year)	Energy saving
AHU and FCU Fans	2,861.45	1,313.58	54.09%
Split Cooling Unit	5.14	3.96	23.01%
Mechanical Fans	699.87	239.41	65.79%
Chilled Water Pumps	239.5	98.95	58.68%
Domestic Pump	43.54	43.54	0.00%
Exterior Lighting	191.39	65.21	65.93%
Office Receptacle	1,845.84	1,845.84	0.00%
Retail Receptacle	41.01	41.01	0.00%
Water Heater	17.33	17.32	0.00%
Lifts	647.62	582.86	10.00%
Lighting	2,348.98	1,410.84	39.92%
Total Energy Consumption	8,940.98	5,662.52	36.67%
	Reference (Tons)	Proposed (Tons)	
Cooling load Reduction	1,998.55	1,667.65	16.56%

annual water savings

Items	Reference(m³)	Proposed (m³)	Saving (m³)
Water efficient fittings	54,752	42,970	111,782
Rainwater collection	0	-3,105	3,105
AHU Condensate	0	-904	904
Total	54,752	38,961	15,791

“..the vertical linear park..”

estimated annual savings:

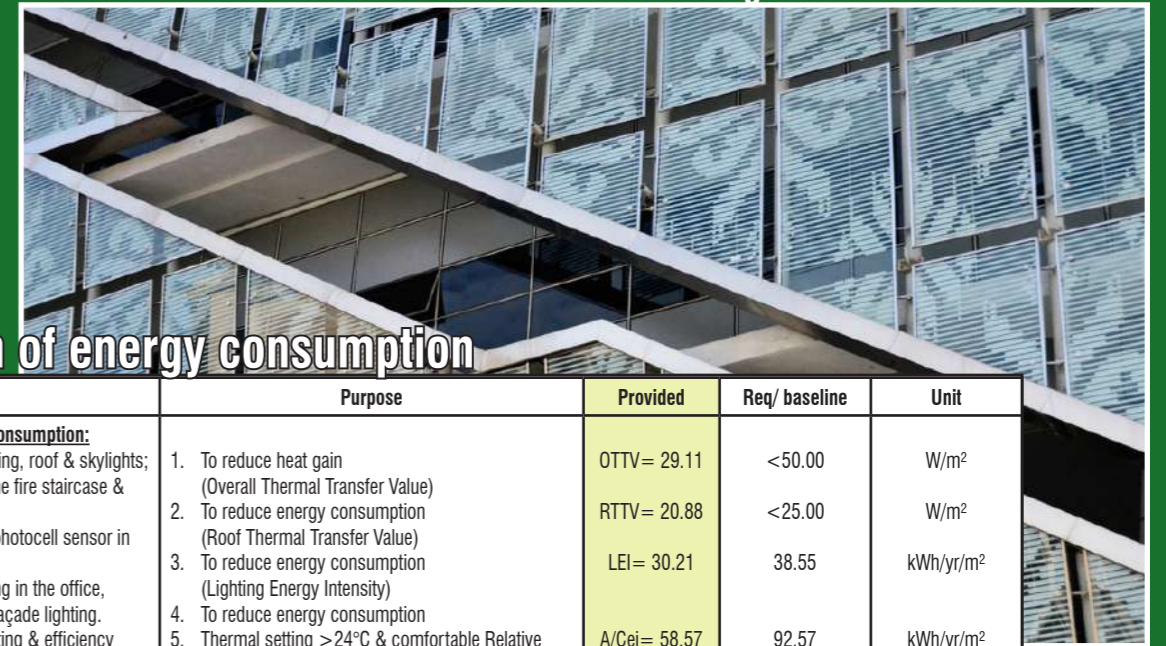
SGD 655,692 (energy)
+ SGD 36,335 (water)
SGD 692,047 (USD 530,000)



effecting energy & water cost savings ..by sustainable design..

(case-study: Suasana Putrajaya, Malaysia)
Green Building Index Silver rating

“..the fritted glass double skin facade..”



reduction of energy consumption

	Purpose	Provided	Req/ baseline	Unit
Reduction of energy consumption:				
1. Façade of the building, roof & skylights;	1. To reduce heat gain (Overall Thermal Transfer Value)	OTTV= 29.11	<50.00	W/m²
2. Motion sensor in the fire staircase & toilets;	2. To reduce energy consumption (Roof Thermal Transfer Value)	RTTV= 20.88	<25.00	W/m²
3. Lighting zoning & photocell sensor in the office area.;	3. To reduce energy consumption (Lighting Energy Intensity)	LEI= 30.21	38.55	kWh/yr/m²
4. LED & T5 light fitting in the office, common areas & façade lighting.	4. To reduce energy consumption			
5. ACMV: thermal setting & efficiency	5. Thermal setting >24°C & comfortable Relative Humidity level of 55%.	A/Cei= 58.57	92.57	kWh/yr/m²
6. Plug load (energy consumption)	6. To measure the energy efficiency of a building.			
7. Building Energy Intensity (BEI)	7. To encourage enhancement of building EE performance & reducing CO2 emission			
8. BCS (Building Control System) installation in the Control Room;	8. To monitor energy consumption	BEI= 136.00	<150.0	kWh/yr/m²



“..ecocell..”

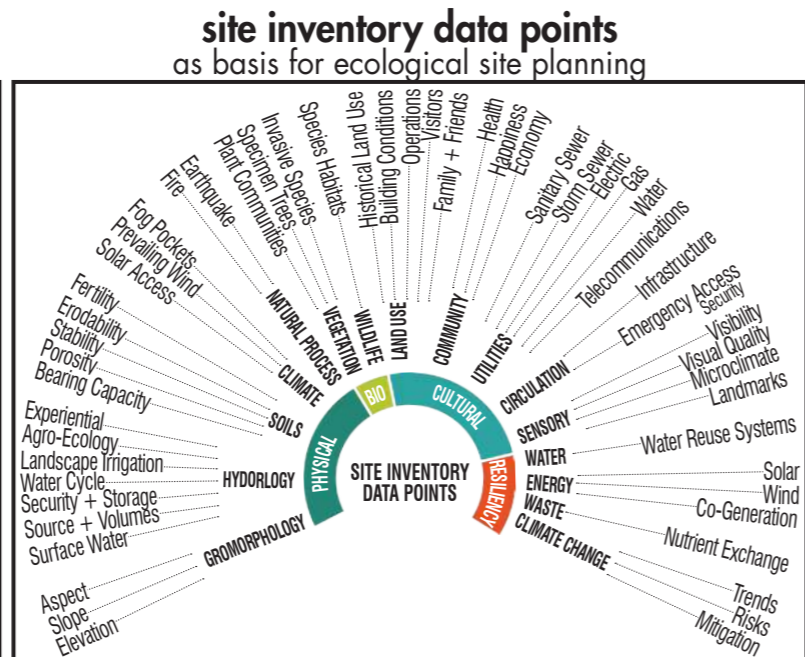
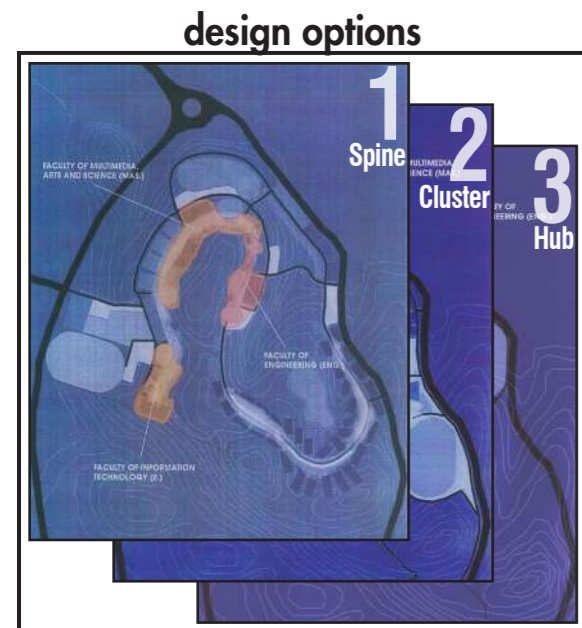
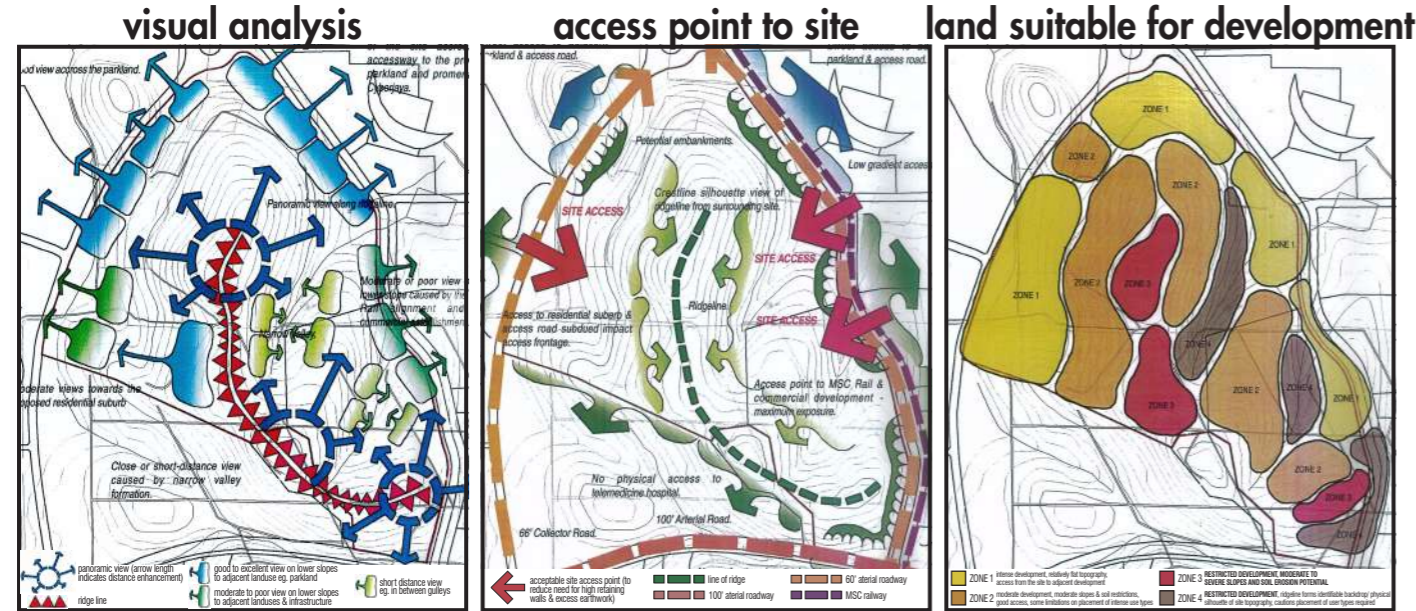
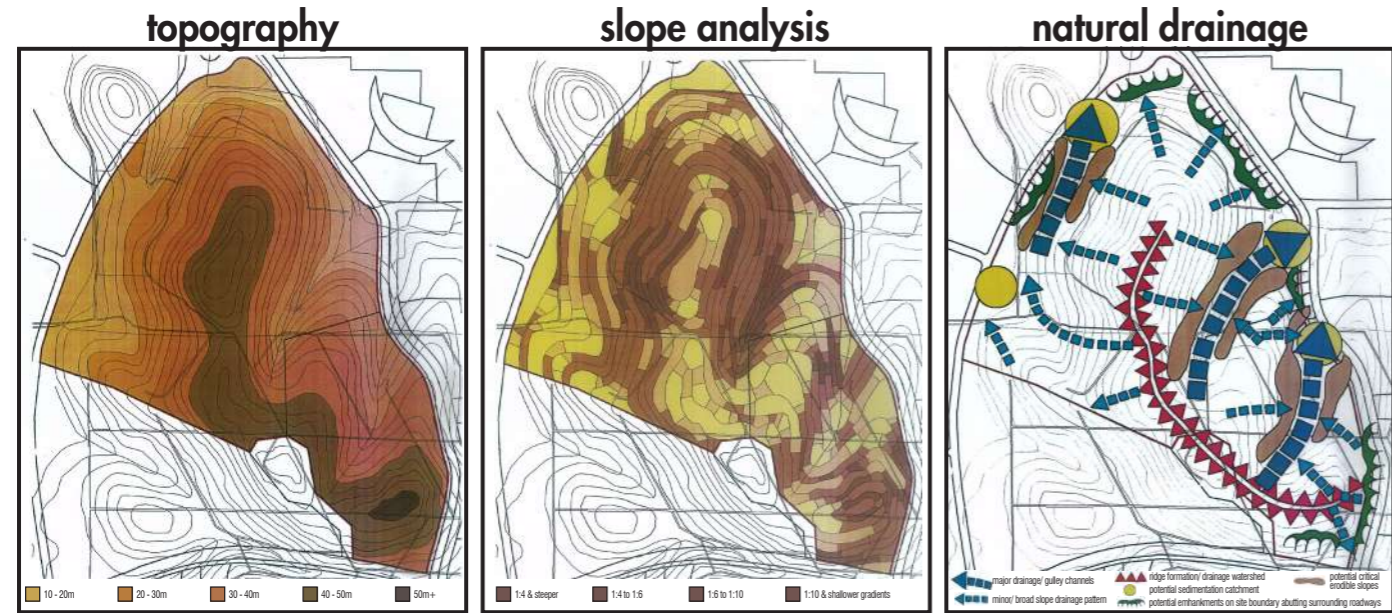
reduction of water consumption

	Purpose	Provided	Req/ baseline	Unit
Reduction of water consumption:				
1. Water efficient fitting with minimum water flow rate	1. To minimize water flow rate for toilet fittings	32,900	55,477	m³/yr
2. RWHT system for landscape irrigation	2. To harvest rainwater for landscape irrigation	11,055	-	m³/yr
3. Installation of 'Condensate Water recovery'	3. To harvest clean water for landscape irrigation	6,000	-	m³/yr
4. Landscape irrigation system	4. To reduce potable water consumption by using: Auto-control dripping system instead of sprinkler system Rain water & condensate water recovery	30,879 55.00%	- >50.00	m³/yr (demand) %reduction

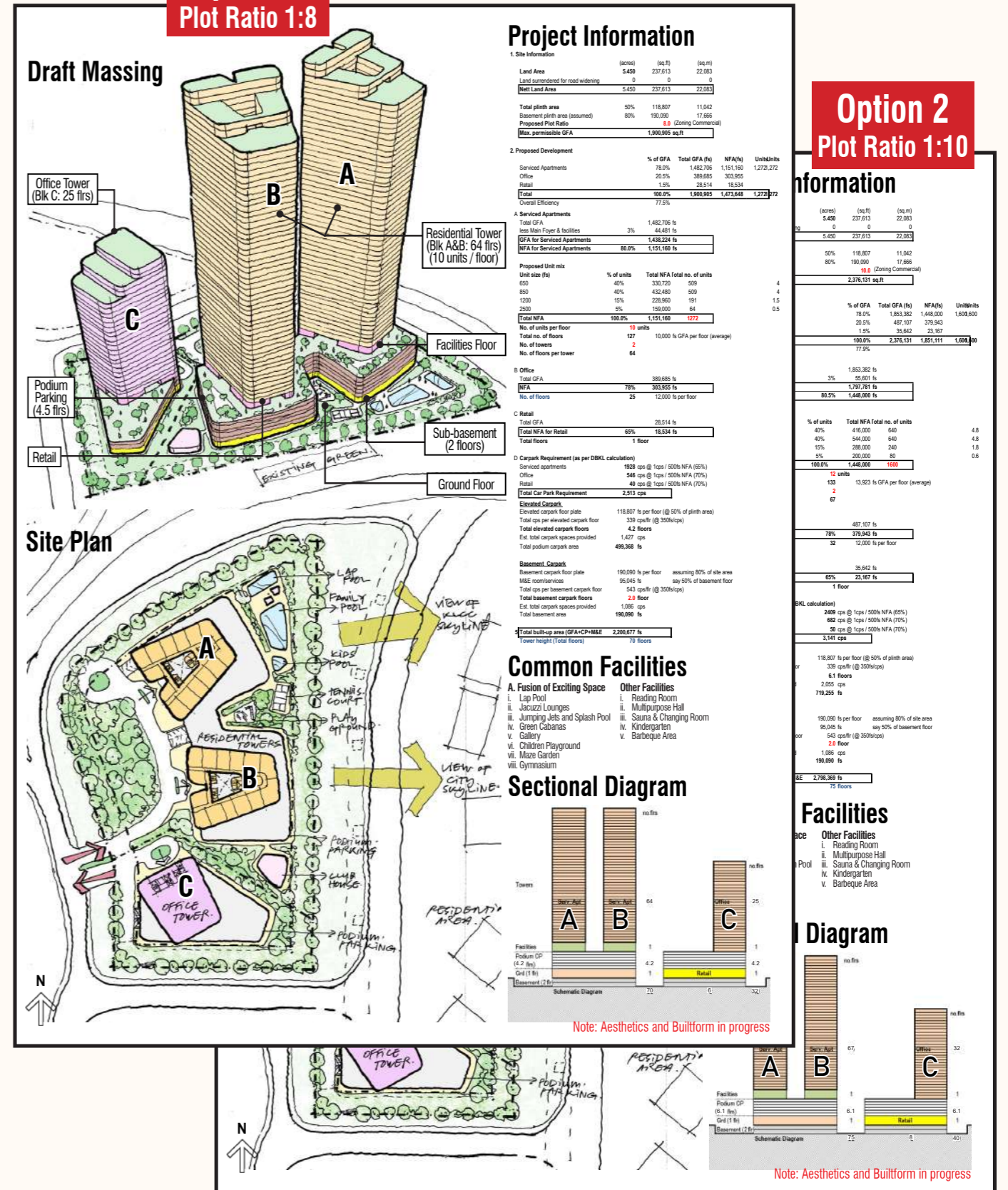
conserving the site's ecology ..by using ecological land-use method..

rapid delivering of design solutions

..by the "Basis for Design" approach..

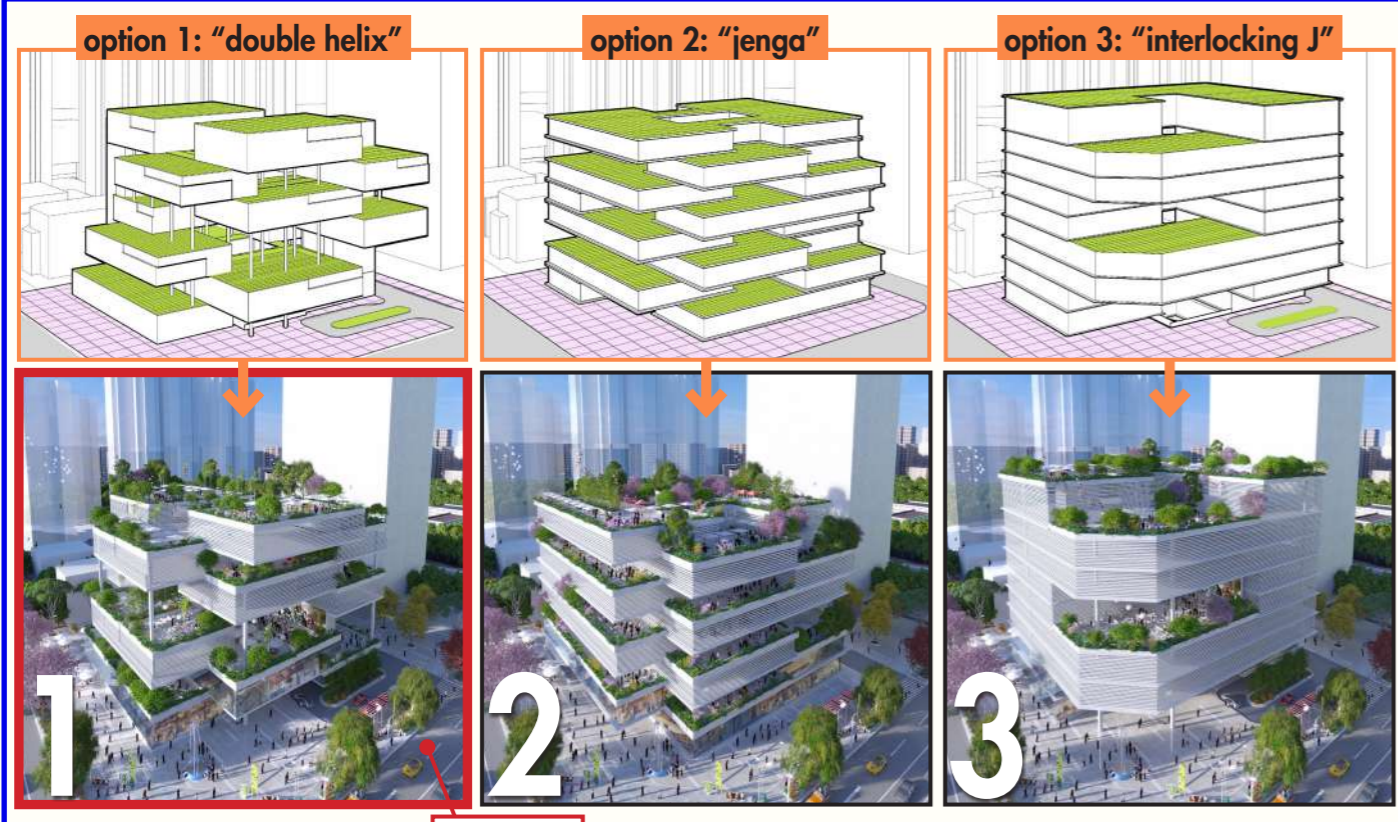


examples: **Option 1**
Plot Ratio 1:8



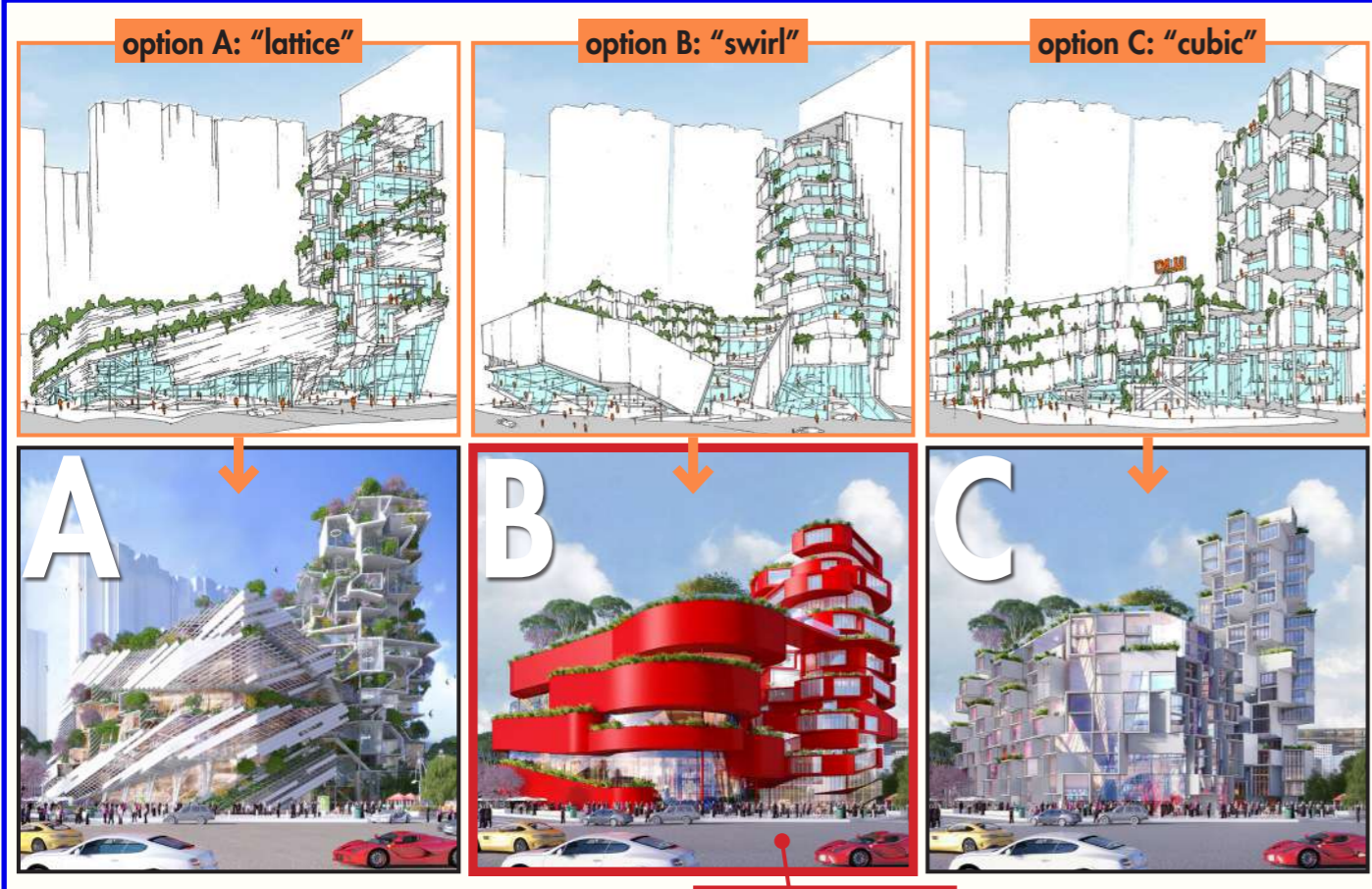
providing builtform & aesthetic options ..by innovative design solutions..

builtform options



aesthetic options

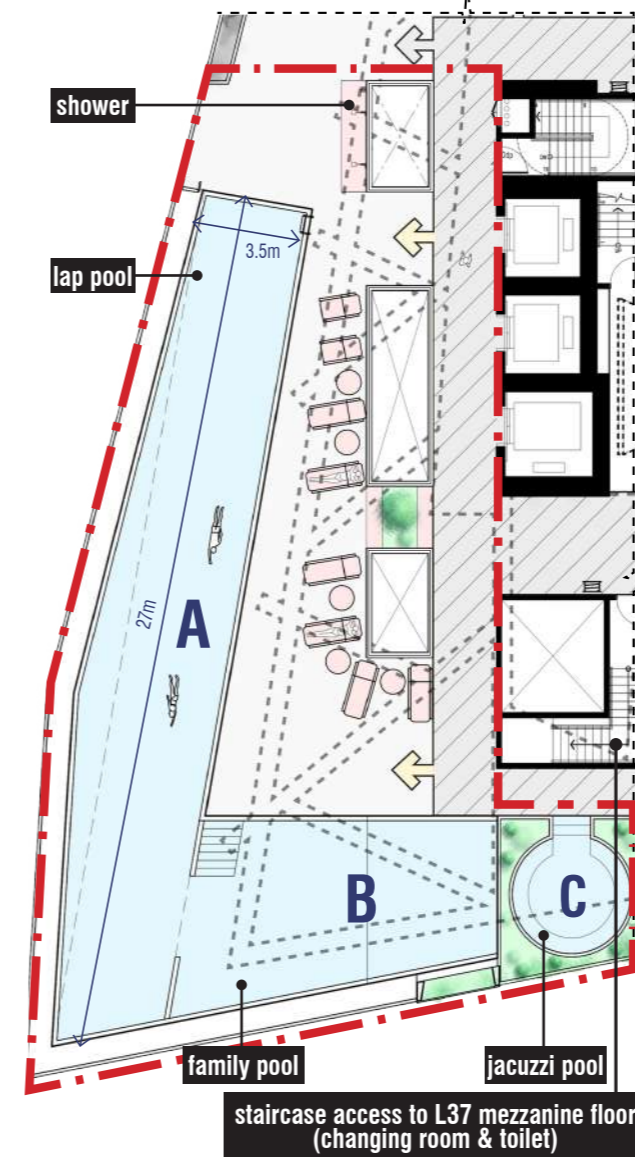
preferred



selected by Client

creating design themes to enable effective marketing ..ideas & options..

example of the rooftop of a luxury apartment with 4 pools:



Opt 1: "Caribbean, Calypso"



tropical & fun

Opt 2: "Copacabana, Ipanema"



calm & relaxing

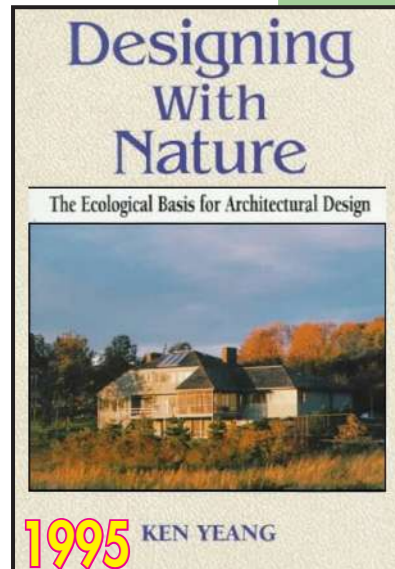
Opt 3: "Santa Monica, California"



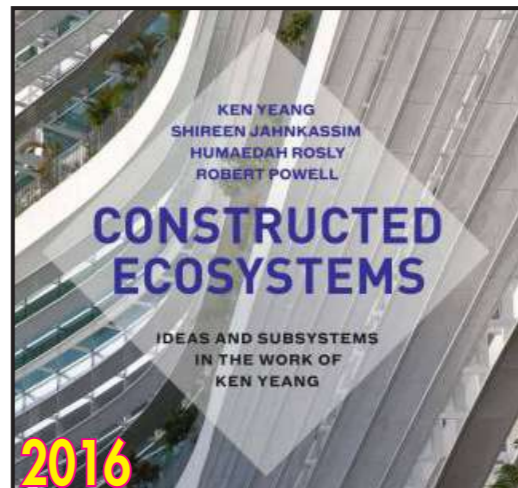
lively & energetic

achieving thought leadership
..through research to advance sustainable design..

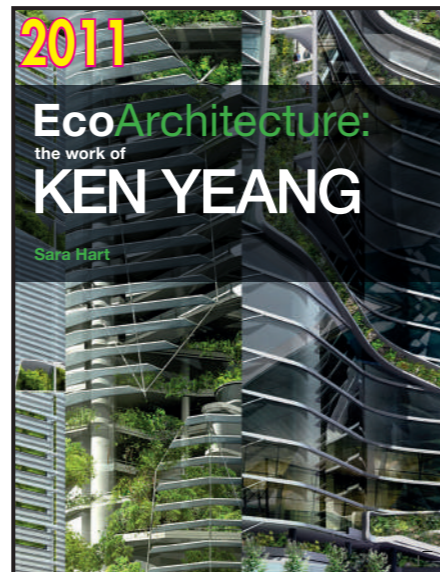
..over 14 research-based publications
authored by Dr. Ken Yeang..



▲ Yeang, K. (1995), *Designing with Nature*, McGraw-Hill, USA



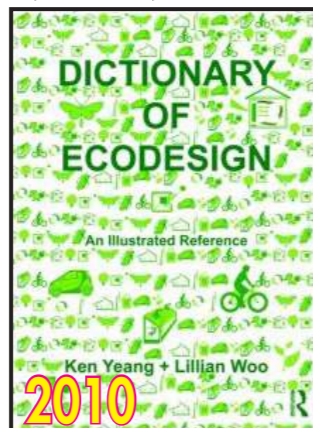
▲ Yeang, K., Kassim, Shireen, Rosly Hamaeda, (2016), *Constructed Ecosystem*, ORO Editions, USA.



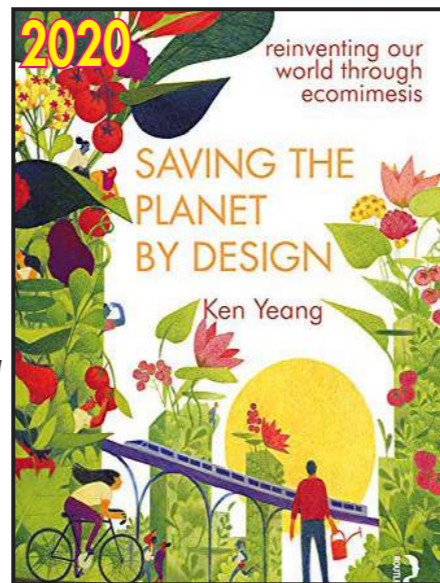
▲ Yeang, K. (2011), *EcoArchitecture: the work of Ken Yeang*, John Wiley & Sons



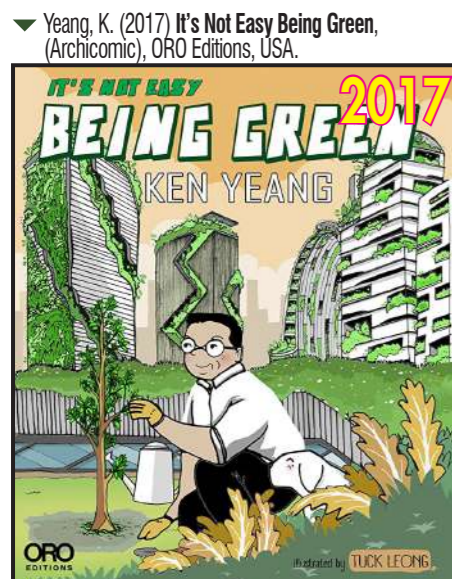
▲ Yeang, K. (2009), *Ecomasterplanning*, John Wiley & Sons, UK.



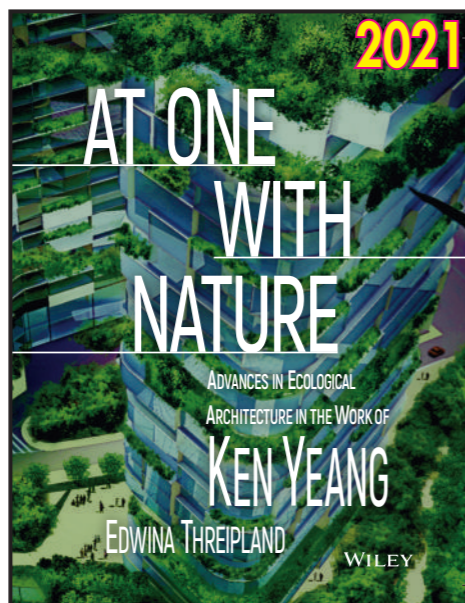
▲ Yeang, K. (March 2010), *Dictionary of Ecodesign* (with Lillian Woo), Taylor and Francis (UK).



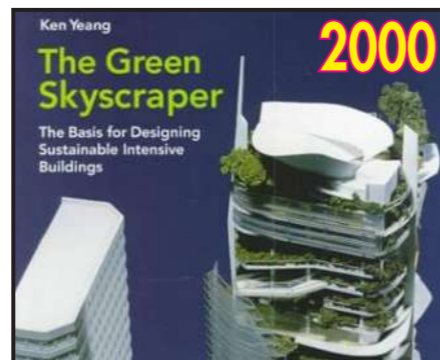
▲ Yeang, K., (2020), *Saving The Planet By Design: Reinventing Our Cities Through Ecomimicry*, Routledge & Kegan (Taylor and Francis) (UK)



▲ Yeang, K. (2017) *It's Not Easy Being Green*, (Archicomic), ORO Editions, USA.

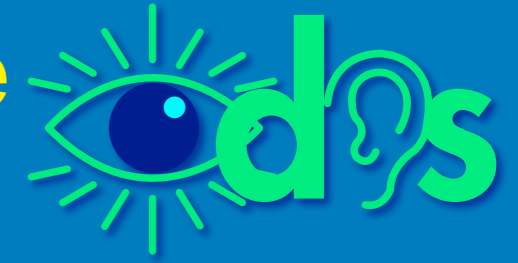


▲ Yeang, K., (2021), *At One With Nature: Advances in Ecological Architecture in the Work of Ken Yeang*, Edwina Threipland, (John Wiley & Sons) (US).



▲ Yeang, K. (2000) *The Green Skyscraper: The Basis for Designing Sustainable Intensive Buildings*, Prestel, Munich, Germany

generating creative
& inspired ideas
..over 800+ projects worldwide..



• masterplan • architecture • interior •



UM Masterplan (Malaysia)
 fritted-glass canopy



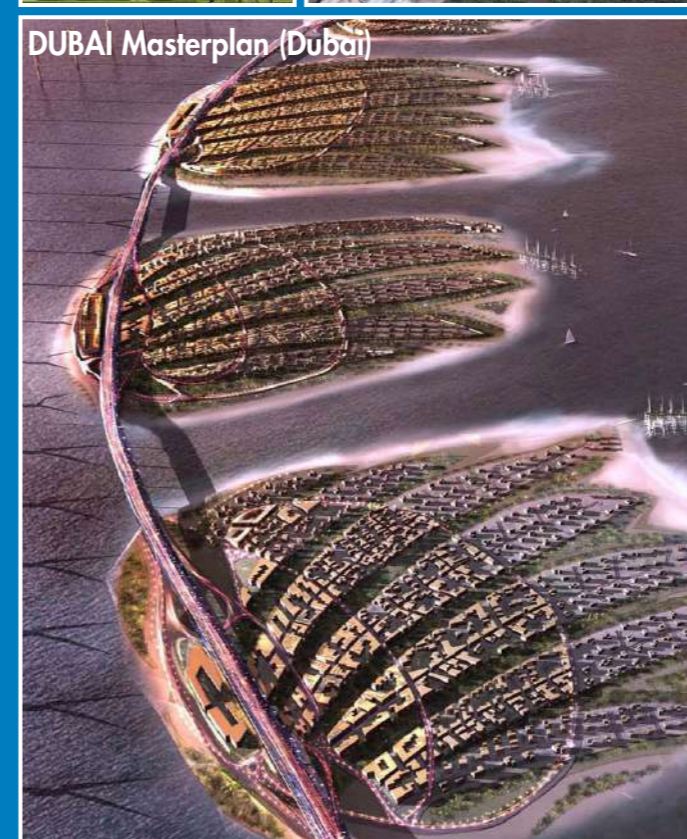
Sepang Waterfront (Malaysia)
 ecological-driven landscaping



EDITT Tower (Singapore)
 SOMA Masterplan (India)
 continuous ecological nexus
 ecobridge



DALU Teoli mixed-development (China)
 unique & iconic facade design
 roof garden



DUBAI Masterplan (Dubai)



Ganendra Art House (Malaysia)
 vegetated ramp



Millenium Monument (Malaysia)
 landmark

innovation

signature

well-being & happiness

and more...

our ambitions & goals

what

are the values?

**our design ethos:
what defines us?**
..make us what we are today..

**management excellence:
our vision, mission, strategy, goals & action**



what you get from us?

..creating a high-value product for you..



well-designed, refined, elegant and exquisitely beautiful



design that gives the **highest level of pleasure**



exclusiveness of product that many others cannot have or enjoy



product possession by purchasers as **reward of their personal success**



possession of well-designed exclusive product as **proof of financial standing**



product possession as by owner's **recognition of status**



accompanying **privileges and service** created for the designed product

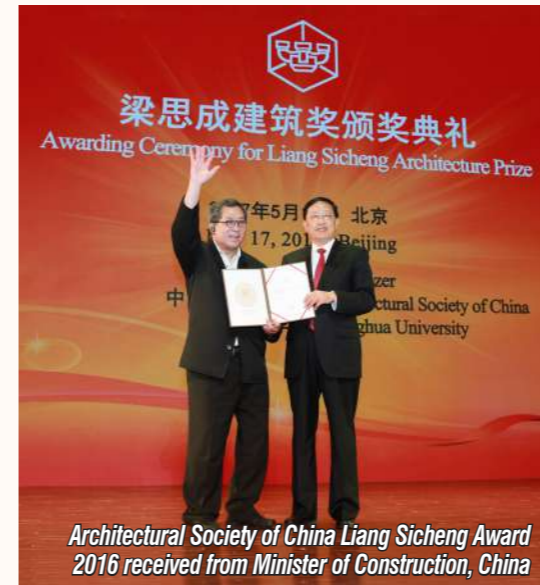


functional rationale for ownership of designed product

bringing our award-winning experiences to benefit your projects

..over **70⁺** awards in **25** years..

- 2022 Australian Institute of Architect - 2022 Leadership in Sustainability Prize
- 2021 The Edge Malaysia-PAM Green Excellence Award (Honorary Mention)- Putrajaya Suasana (2C5)
- 2021 PAM Gold Medal Award 2020: Commercial (High Rise) Category - Putrajaya Suasana (2C5)
- 2020 ASA Gold Medal
- 2020 Global Forum on Human Settlements (supported by UN Environment Sustainable Development) Planning and Design for Putrajaya Suasana (2C5)
- 2020 Global Forum on Human Settlements (supported by UN Environment Sustainable Development) Outstanding Contribution
- 2020 Malaysia Green Building Council Best Research
- 2018 Malaysia Green Building Council Best Commercial Building Putrajaya
- 2017 Suasana Cityscape Award for Putrajaya Suasana 2C5
- 2016 Liang Sicheng Architecture Prize, China
- 2016 FIABCI World Prix d' Excellence Awards: Solaris (Fusionopolis)
- 2016 PAM Award Commendation: Single Residential - R-House
- 2015 40th Most Famous Architects of the 21st Century
- 2015 The Malaysian Construction Industry Excellence Awards: Prominent Player
- 2015 BCA-SGBC Green Building Individual Awards: Green Architect Lifetime



- 2014 FuturARC Green Leadership Award: Solaris (Fusionopolis)
- 2014 World Alliance of Sustainable Cities Design: Design Master
- 2014 AIA IR Design Awards, Hong Kong: Solaris, Fusionopolis
- 2014 NPark Leaf Certificate Awards: Solaris, Fusionopolis
- 2013 MGBC Excellence & Leadership in Sustainability Award
- 2013 ARCASIA Award: Honorary Mention, Industrial Building - DIGI
- 2013 Universiti Malaya - Honorary Doctorate in Architecture
- 2012 Green Building Index, Malaysia - Plaza VADS (Annex Block)
- 2012 RIAA International Architecture Award: Finalist - Solaris (Fusionopolis)
- 2012 Green Building Index, Malaysia: Gold - DiGi
- 2012 Council on Tall Buildings and Urban Habitat: Finalist
- 2011 RIBA International Award: Solaris, Fusionopolis
- 2011 Regional Holcim Award for Sustainable Construction: Putrajaya Lot 2C5
- 2011 WACA Gold Medal Award: Solaris (Fusionopolis)
- 2011 LEEDS Platinum status on the pre-certification for Spire Edge, India
- 2011 PAM Gold Medal Award: Solaris (Fusionopolis)
- 2011 PAM Award Commendation: Ganendra Art House
- 2011 Merdeka Award for the 'Environment' category
- 2011 Fast Company, March Issue: TOP 10 Most Innovative Architect Firm

- 2010 Green Good Design Awards - Solaris (Fusionopolis)
- 2010 MATRADE Export Excellence Award: Services
- 2009 CNBC Asia Pacific Property Award: Spire Edge, Manesar, India
- 2009 BCA Green Mark Platinum Award: Solaris & Singapore National Library
- 2009 CNBC Asia Pacific Property Award: Best Residential Apartment - TTDI Plaza
- 2008 MATRADE Export Excellence Award: Winning Entry - Solaris (Fusionopolis)
- 2007 ASEAN Energy Efficient Building Awards: 1st prize - 'New & Existing' Buildings
- 2007 BCA Singapore Silver Award: Universal Design
- 2006 Lynn Beedle Award (Council of Tall Buildings and Urban Habitat)
- 2006 Royal Institute of Chartered Surveyors (RICS) Award
- 2006 SIA Facade Design Excellence Silver Award: Singapore National Library
- 2006 MCIEA (Malaysian Construction Industry Award)
- 2005 BCA Singapore Green Mark Platinum Award: Green and Sustainable Building
- 2005 World Association of Chinese Architects (WACA): Gold Medal Award
- 2001 Hunter Douglas Competition (Open), Malaysia: Winning Entry
- 2000 Beijing World Science & Trade Centre Competition (Invited): Winning Entry
- 2000 Huannan Masterplan Competition for Hopsons Award, China: Winning Entry
- 1996 RIAA International Architecture Award: Menara Mesiniaga
- 1996 Aga Khan Award for Architecture, Switzerland: Menara Mesiniaga



Our ethos:



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