AIPH MEETING

20-23 March 2018
The Hotel Windsor,
Melbourne, Australia
SINGAPORE’S GARDEN CITY & GARDENS BY THE BAY
“If a garden is well maintained and neatly landscaped, there must be a dedicated and efficient gardener.”

– Mr Lee Kuan Yew (1923-2015)
The Start of a Garden City

1963
Launch of Tree Planting Day

- 1970 – 55,000 trees
- 1974 – 158,000 trees
- 2014 – 1.4 million trees

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Gardens by the Bay

The Start of a Garden City
The Start of a Garden City

1967
Garden City vision introduced

• abundant lush greenery, clean environment - make life more pleasant for the people.
• signify a well-organised city - a good destination for tourists and foreign investments
1973
Garden City Action Committee

- Garden City Action Committee - oversee policies for greening and coordinate activities of the various government agencies in this respect.
- Minutes of meeting read by Cabinet
Strategy in the 70's

Soften the Look

Colourful Plants
Bridges & Flyovers
Greenery in Carparks
Retaining Walls
Strategy in the 80's

- Introduction of colourful & fragrant plant species
- Fruit tree planting
- Mechanisation
Strategy in the 90’s

Providing parks for the people

Regional Park

Nature Park

City Park (Marina City Park)

Coastal Park (West Coast Park)

Town Park

Neighbourhood Park (Bishan Park)
Strengthening Our Green Infrastructure

- 200km (current)
- 360km (2020)
- Streetscape Greenery Masterplan

Park Connectors

Strengthening Our Green Infrastructure

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Gardens by the Bay
Strengthening Our Green Infrastructure

Skyrise Greenery

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Biodiversity Conservation

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Garden by the Bay

Strengthening Our Green Infrastructure
Land area: 716 km²
Population: 5.4 million

Perpetual summer and high rainfall...
High flora and fauna biodiversity
• Bay South – 54 hectares (133 acres)
• Bay East – 32 hectares (79 acres)
• Bay Central – 15 hectares (37 acres)
A Distinctive Global City
A Source of National Pride for Singaporeans
A Premier Leisure Destination

Gardens by the Bay
Outdoor Gardens: The Heritage Gardens
Outdoor Gardens: World of Plants
Cooled Conservatories: Gardens under Glass
Display plants from Mediterranean-type and semi-arid climatic regions of the world
1.2 hectares of column-free space, with a height of 45 metres
Temperature: 18ºC - 23ºC, humidity: 60% - 80%
Cooled Conservatories: Flower Dome
- Display plants from Tropical Montane regions between 1,000 – 3,500m above sea level
- 0.8 hectare of space, with a height of 65 metres
- 35-metre tall mountain with waterfall
- Temperature: 23°C - 25°C, humidity: 80% - 90%
• 18 Supertrees ranging from 25 – 50 metres in height
• Provide scale and dimension to the Gardens, while marrying form and function of mature trees
• 128-metre long aerial walkway
• Bistro-bar on 50-metre tall Supertree
Energy Sustainability

- Desiccant Panels
- Warm Moist Air
- Cool Moist Biome
- Hot Air from Facade
- Regeneration
- Hot Water
- Electric Chillers
- Desiccant Storage
- Absorption Chiller
- Energy Centre
  - Combined Heat Power (CHP) generator
    - (Biomass + Steam Turbine)
- PV cells
- Exhaust Supertree
- Electricity
- Steam + Waste Heat
- Electricity

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Gardens by the Bay
Garden Lake System – An extension of Marina Reservoir

Capturing run-off within Gardens

Circulation of Reservoir water through Gardens

Water is circulated to Dragonfly Lake through Kingfisher Lake

Water from reservoir is pumped into wetland, which then feeds into Kingfisher Lake

Water is discharged back into Marina Reservoir

Water Sustainability
Programming and Outreach
- Autonomous vehicles
- Audio Tour App
- Plant Explorer App