

# Sustainable Putrajaya

from **Garden** to **Green**



**Webinar Normal Baharu Bandar Rendah Karbon: Jadikannya Realiti ! 1 September 2020**  
**WANG TZE WEE (TPr.) \* Bahagian Pembangunan Mampan\* Perbadanan Putrajaya**



# Background of Putrajaya as a Green City

- In tabling the 2010 Malaysian Budget, the Prime Minister announced to “develop Putrajaya and Cyberjaya as pioneer township in Green Technology as a showcase for the development of other townships” .



The green city of Putrajaya aims:

- to minimise negative environmental impacts and degradation.
- to encourage human interaction back with nature.
- to reduce the carbon emissions from human activities.



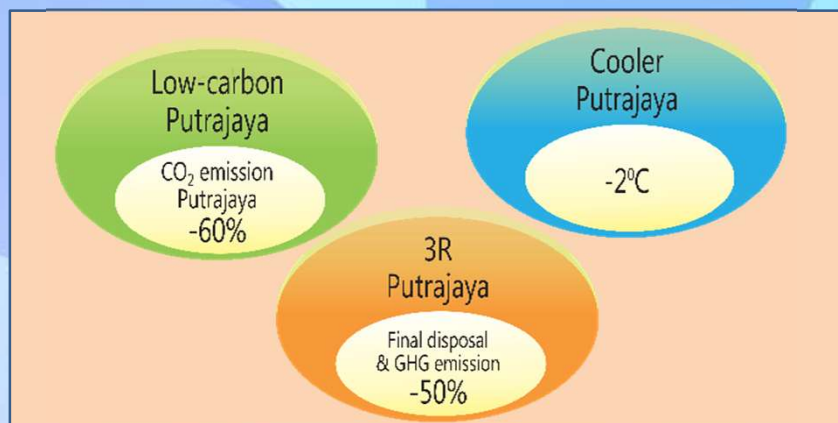


# Putrajaya Green City 2025

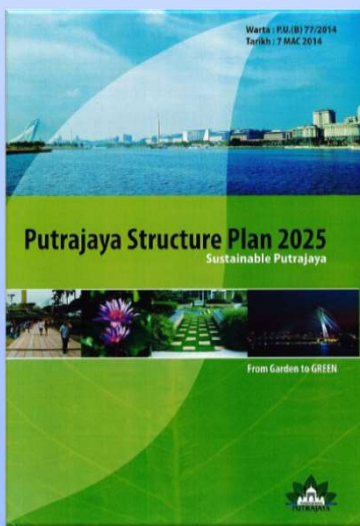
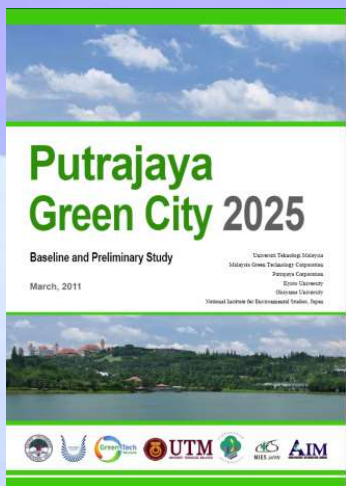
## Implementation Approach

**S2A** [Science + Policies = Actions]

### Three quantitative environmental targets



### Green Initiatives by seven focus areas



### POLICY 5: MOVING PUTRAJAYA TOWARDS GREEN CITY

Moving Putrajaya towards Green City requires improvement plans and road map that will guide the creation of green community, adoption of green technology and sustainable building practices that lead to the reduction of carbon footprint in the city.

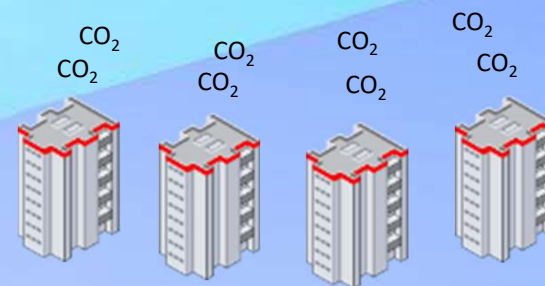
Sustainable development practices have been long embedded in Putrajaya in line with its Garden City theme. Putrajaya has designated more than half of its area for parks, recreational areas and water bodies, created green linkages as one its city

Putrajaya will be moving towards a Green City through the following initiatives:

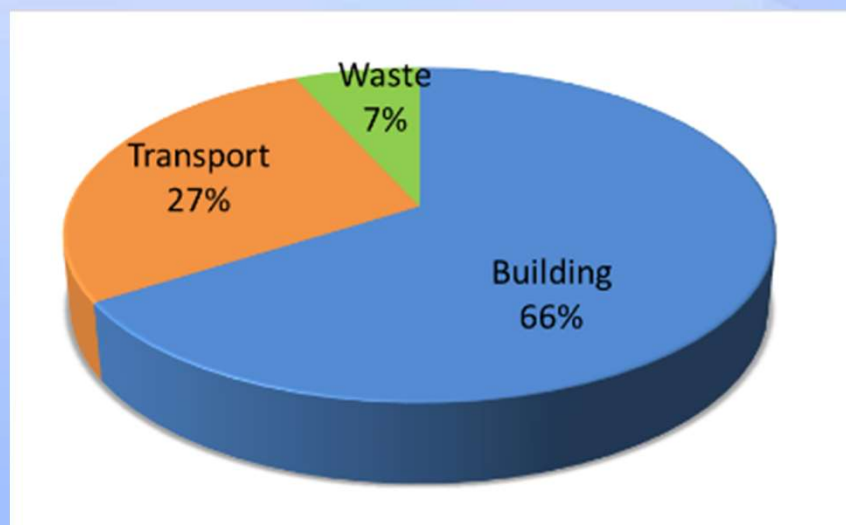
- |     |   |
|-----|---|
| 5.1 | Enhance ecology, water body and bio-diversity   |
| 5.2 | Application of green technology, infrastructure and practices in city planning and management |
| 5.3 | Adopting Sustainable Building Practices   |
| 5.4 | Establish model green community committed to reduction of carbon footprint                    |

# Inventory of Putrajaya City GHG Emissions

## GHG Emissions in Putrajaya



## GHG Emissions by Three Main Sectors, 2018



10%

90%

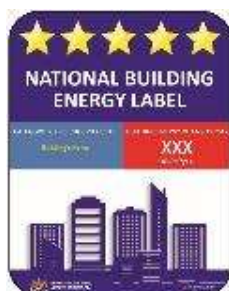
# HOW GREEN IS OUR CITY?



**70%**

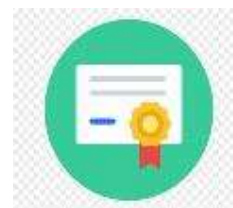
Government complexes with BEI below 150kWh/m<sup>2</sup>/year in 2019

No. of Buildings with National BEI Labeling (2019)



**11** 5 star  
**25** 4 star  
**19** 3 star  
**12** 2 star

No. of certified green/low carbon buildings



**28** GBI  
**5** MyCREST  
**3** GreenPASS



**694,164**

Trees planted (CO<sub>2</sub> sequestration 20,825tCO<sub>2</sub>).



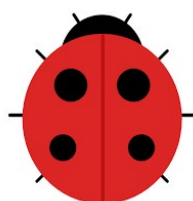
**100**

Bird species recorded in 2019



**19**

Fish species recorded in 2019



**676**

Insect species recorded in 2019



**390km**

Bicycle lane & pedestrian walkway

Environmental Friendly Public Buses



**4** Electric  
**30** Natural Gas



# HOW GREEN IS OUR CITY?



**1.05mil.**

Annual bus  
passengers in  
2019



**3.06mil.**

Annual ERL  
passenger at  
Putrajaya Sentral  
station in 2019



**2186MWh**

Annual electricity  
generates from  
solar PV system



**23%**

Electricity save  
with retrofit at  
Complex PPj.



**6%**

Street lightings  
using LED.

Buildings with rainwater  
harvesting system (2016-2019)



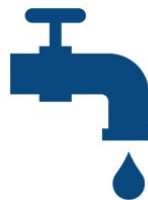
**110** residential

**52** non residential



**Class II**

Lake water  
quality index



**153mil. litres**

Savings of treated  
water by using lake  
water in 2019



**10%**

Recycling rate in  
2019



**RM4.05mil**

Green procurement  
by PJC in 2019

# FA1: City Planning & Building

- i. Planning principles that contributes towards reduction of carbon emission
- ii. Reuse of Local Resources for Construction
- iii. Green Initiatives for Building Sector by lifecycle



## NEW BUILDINGS

### GREEN BUILDING DESIGN REQUIREMENTS:

- 66 completed

### DISTRICT PLAN FOR ENERGY EFFICIENCY (Gas District Cooling)

Stage 1 – Before Use Phase

Planning, Design, Construction

## EXISTING BUILDINGS

**BECO<sub>2</sub>R** (Building Sector Energy Use & Carbon Reporting Programme)

**Retrofitting** (EE & RE) by building owners

**Green practices** in building maintenance (e.g: Government Green Procurement )

**Green Building Certification** (O&M) by building owners (MyCrest (5); GreenPASS (3); BEI Labeling (67))

Stage 2 – Use Phase  
(80% - 90% of emissions)

Operational & Maintenance

Future programme

Stage 3 – After -Use Phase

Deconstruction/  
Demolish

Building lifecycle CO<sub>2</sub> emissions<sup>(1)</sup>

(1) : UNDP-SBCI & WRI, 2010





## **FA2: Integrating Nature into the Urban Fabric**

- Landuse Planning for Open Spaces
- Gazetting Open Spaces
- Putrajaya Greening Programme
- Putrajaya Urban Farming Programme





**Safety is important**



## **FA3: Transportation & Mobility**

- Extensive Networks of Pedestrian Walkways & Cycleways
- Environmental Friendly Vehicles (NGV/EV buses, electric bicycle)
- Community Cycling programmes





**Improve convenience for cyclist..... Create shorter route for cyclist**

**Before**



**After**





# FA4: Energy

- **Renewable Energy**
- **Energy Efficiency**
- **Energy Conservation**



Sensor & energy saving lights

## Klinik Pengurusan Tenaga



# FA5: Water

**Alternative Water Resources:  
Putrajaya Lake Water,  
rainwater, treated waste water**

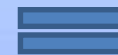


## Benefits of city scale rainwater harvesting system



**RM 0.25 mil**  
Savings of water bills

**153 mil. litres**  
Savings of treated  
water by using lake  
water in 2019



**2,068 person**  
Water consumption



# FA6: Solid Waste Management

- i. Separation at Source
- ii. Food & garden waste composting

## Landed Housing



## Strata Housing



## Food waste composting



### iii. Provision of 3R facilities

### Fasiliti Inovasi Kitar Semula (FIKS)



### Integrated Recycling facility (IRF)







#### iv. CAREton@Putrajaya Program Pengumpulan & Penghasilan Produk menggunakan Kotak Air Minuman Terpakai Bersama Komuniti



Eco UBC Card  
Holder/Wallet





# FA7: City Administration & Management

- Children-led climate change adaptive initiative (GreenROSE@Putrajaya)
- fun walk / ride with President PPj
- Government Green Procurement

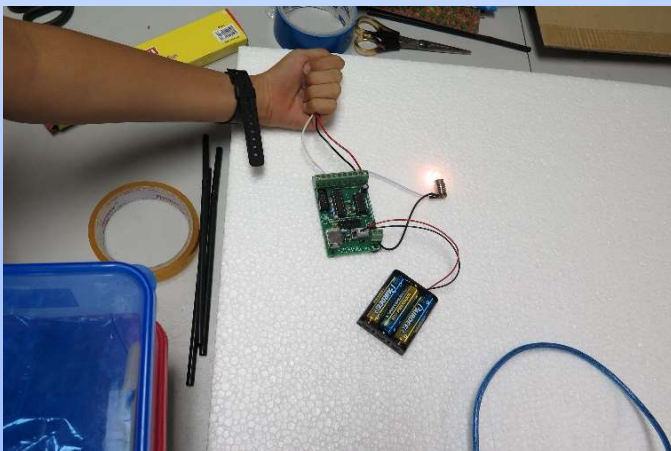
## Eco Stories by Children of Putrajaya



## Eco Boat



## Smart Street Light





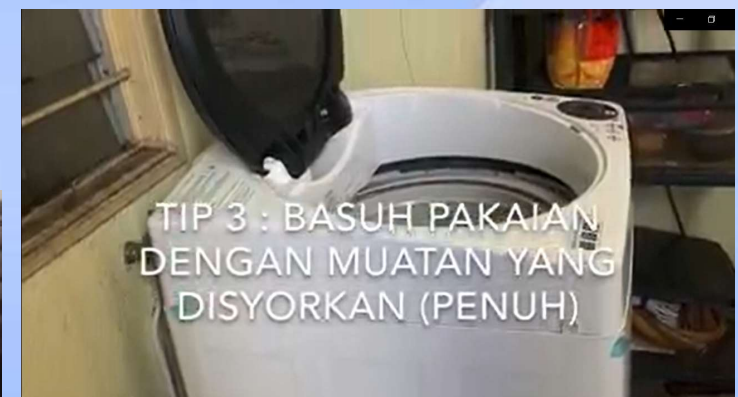
**iv. Awards & Recognition:**

- **Anugerah Inisiatif Hijau Putrajaya 2020 (AIH Putrajaya 2020)**
- **Kreativiti 3R**

**Kreativiti 3R (2015-2018)**



**AIH Putrajaya 2020  
(During MCO – May 2020)**





# CONCLUDING REMARKS

- Putrajaya is planned with urban quality of life in mind and based on sustainable development principles.
- The focus of development now is to move from garden to green and from government to other economic activities.

## Sahabat Bumi Bandar Hijau Putrajaya





# THANK YOU



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Perbadanan Putrajaya



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