



# Putrajaya

## LOW CARBON GREEN CITY INITIATIVES REPORT

Seventh Edition | December 2022



## **Putrajaya Low Carbon Green City Initiatives Report**

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Seventh Edition  
December 2022

# FOREWORD FROM THE PRESIDENT



Assalamualaikum warahmatullahi wabarakatuh and greetings,

Alhamdulillah, the Putrajaya Corporation has been able to produce the seventh edition of the Green City Initiative Report. This edition is a continuation of previous editions in highlighting Putrajaya's green city initiatives.

Various efforts have been implemented in Putrajaya to reduce the level of carbon emissions in order to achieve the goal of Putrajaya Green City 2025. The efforts carried out include seven focus areas namely: city planning & building; integrating nature into the built fabric; transportation and mobility; energy usage; water usage; solid waste management; city administration and management.

The preparation of the Putrajaya Climate Change Action Plan 2030 (PCAP2030) by the Putrajaya Corporation (PPj) in collaboration with Universiti Teknologi Malaysia and the Global Covenant of Mayors for Climate and Energy (GCoM) has completed the setting of climate change mitigation target and adaptation goals to be implemented in Putrajaya.

This publication shall report on the status of the inventory of greenhouse gas emissions in Putrajaya and record the various green initiatives that have been implemented by PPj together with Putrajaya Green City Committee Members. The initiatives include aspects such as physical projects, capacity development, incentive programmes, campaigns and promotions.

I wish to express my deepest appreciation to all the parties involved in planning and implementing the various programmes and initiatives that contributing towards Putrajaya Green City 2025 (PGC2025) and further achieve the mitigation and adaptation targets of PCAP2030. I hope that these collaboration and efforts will continue in the future.

Thank you.

**DATO' TPr. FADLUN BIN MAK UJUD**  
**PRESIDENT**  
**PUTRAJAYA CORPORATION**  
**DECEMBER 2022**

# MESSAGE FROM THE VICE PRESIDENT

Assalamualaikum warahmatullahi wabarakatuh and greetings,

First and foremost, all praise is for Allah SWT because with His abundant grace and permission, members of the Putrajaya Green City Committee have successfully implemented various green city initiatives and programmes throughout 2022. All the agencies/departments involved are the key players that help PPj achieve the Green City status and carbon emissions reduction targets by 2025.

Among the main green initiatives that have been carried out through the collaboration of the Putrajaya Green City Committee and strategic partners are as follows:

- i. Putrajaya Climate Action Plan 2030
- ii. Building Sector Energy Use and Carbon Reporting Programme (BECO<sub>2</sub>R)
- iii. Building Energy Management Clinic
- iv. Youth Environment Living Labs (YELL)
- v. CAREton@Putrajaya

Guided by the Putrajaya Climate Action Plan 2030, efforts to deal with climate change issues are always on the agenda of urban management and administration in Putrajaya. The implementation approach of such initiatives is also in line with the first core value of Malaysia Madani which is Sustainability.

Finally, my deepest gratitude to all the parties who have contributed in the effort to implement the Putrajaya Green City initiatives; and all the strategic partners who have given their commitment and assistance to the Corporation.

Thank you.

**SHAMSUL BHRIN BIN RAHMAT**  
**VICE PRESIDENT OF CITY PLANNING**  
**PUTRAJAYA CORPORATION**  
**DECEMBER 2022**



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# 1.0

## City Planning and Building

## 1.1 THE BUILDING SECTOR ENERGY USE AND CARBON REPORTING (BECO<sub>2</sub>R) PROGRAMME 2022

The Building Sector Energy Use and Carbon Reporting Programme (BECO<sub>2</sub>R) has recorded a total of 94 buildings with an active reporting status for year 2022. The list of the buildings by building types as in Table 1.1.

New participants of BECO<sub>2</sub>R included as many as 3 commercial buildings namely:

- i. KK Super Mart Precinct 15
- ii. KK Super Mart Precinct 8
- iii. Suasana PJH Precinct 2

**Table 1.1: Number of Participating Buildings in the BECO<sub>2</sub>R Programme for year 2022**

Building Type	Number of Buildings
Government Office Buildings	79
Commercial Buildings	7
Hotel Buildings	2
Public Facilities Buildings	3
Residential Buildings (apartment)	1
School/University Buildings	1
Other Buildings	1
<b>TOTAL</b>	<b>94</b>



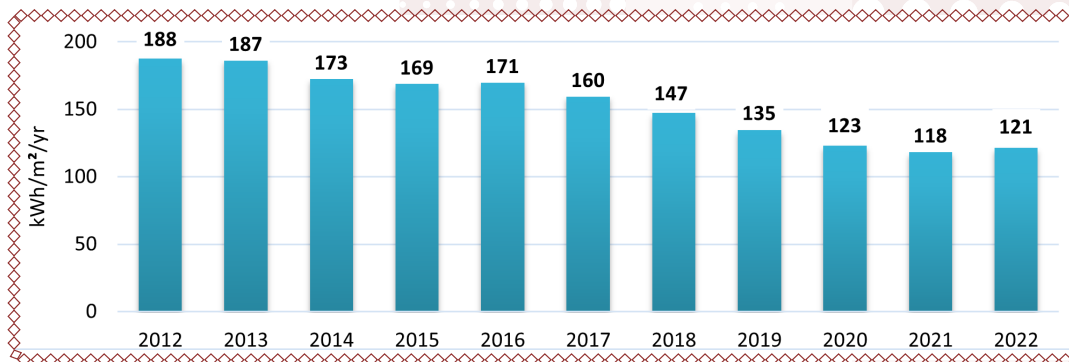
Suasana PJH Precinct 2



KK Super Mart Precinct 15

Based on the BECO<sub>2</sub>R 2022 Programme data reporting, the Building Energy Index (BEI) has shown a decrease of 36% (121kWh/m<sup>2</sup>/year) compared to the BEI in 2012 (188kWh/m<sup>2</sup>/year).

**Chart 1.1: Building Energy Index (kWh/m<sup>2</sup>/year) for Government Office Buildings in Putrajaya 2022**



Source: Building Consumption Input System (BCIS)

In terms of the Building Carbon Index (BCI) for 2022, it has shown a decrease of 38% (60kgCO<sub>2</sub>/m<sup>2</sup>/year) from the BCI for year 2012 (97kgCO<sub>2</sub>/m<sup>2</sup>/year).

**Chart 1.2: Building Carbon Index (kgCO<sub>2</sub>/m<sup>2</sup>/year) for Government Office Buildings in Putrajaya 2022**



Source: Building Consumption Input System (BCIS)

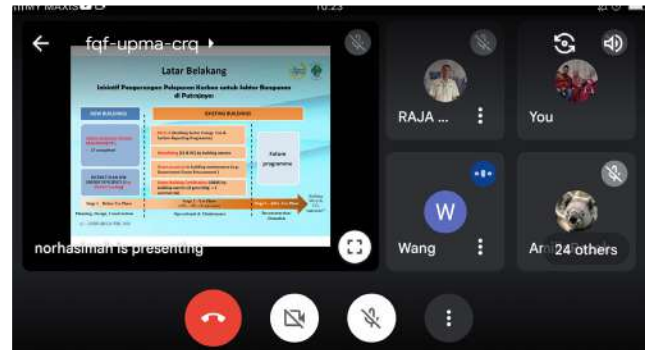
### 1.1.1 BECO<sub>2</sub>R Incentives (Capacity Building)

Putrajaya Corporation has offered various types of incentives in the form of capacity building to BECO<sub>2</sub>R participants for the year 2022. Among those that have been implemented are as follows:

#### Briefing on the Building Sector Energy Use and Carbon Reporting Programme (BECO<sub>2</sub>R) in Putrajaya

A briefing session on the Building Sector Energy Use and Carbon Reporting (BECO<sub>2</sub>R) Programme was held online to introduce the BECO<sub>2</sub>R Programme to new participants.

**Date** : 20 January 2022  
**Time** : 10:00 am – 11:30 am  
**No. Participants** : 29

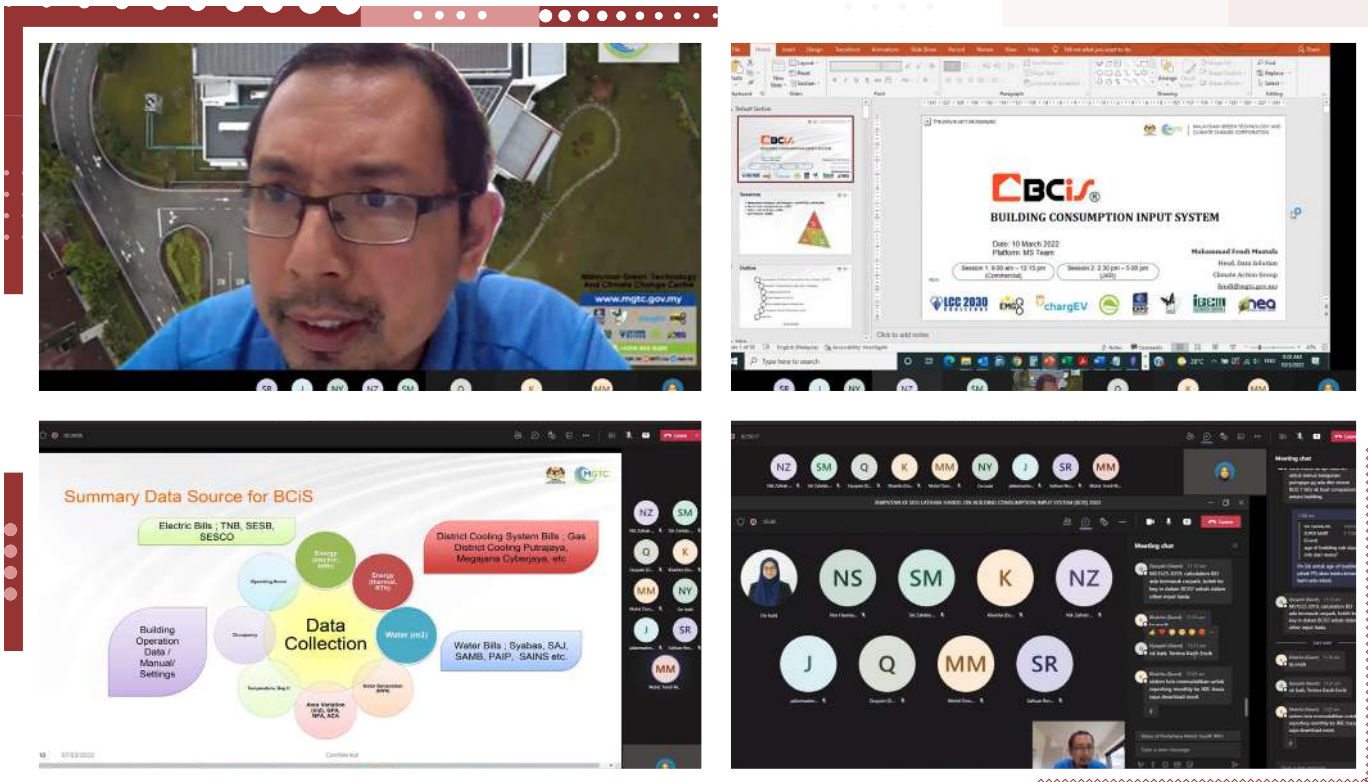


The briefing session was delivered by the representative of Putrajaya Green City Section, TPr. Wang Tze Wee. Participants were from the Public Works Department (JKR) Putrajaya, building managers for government office complexes, commercial complexes and retail premises such as 7-Eleven and KK Super Mart.

## Online Data Reporting System Training

This exercise was carried out with a strategic partner, the Malaysian Green Technology and Climate Change Corporation (MGTC), in line with the requirements of the BECO<sub>2</sub>R component, which is to submit a monthly 'building performance' report. Two training sessions were held online.

**Date** : 10 March 2022  
**Time** : 9:00 am – 1:00 pm (Session 1)  
2:30 pm – 5:00 pm (Session 2)  
**No. Participants** : 9 (Session 1)  
12 (Session 2)



Participants of session 1 were new personnels from the facility management companies of government office complexes and private building managers such as KK Super Mart.

**BCiS<sup>®</sup>**  
**BUILDING CONSUMPTION INPUT SYSTEM**

Date: 10 March 2022  
Platform: MS Team

Session 1: 9:00 am – 12:15 pm (Commercial)  
Session 2: 2:30 pm – 5:00 pm (JKR)

Muhammad Fendi Mustafa  
Head, Data Solution  
Climate Action Group  
fendi@mgct.gov.my

Logos: LCC 2030, EMO8, chargEV, EXPD, iGEM, neo

**Features**

- Consumption data input form (Energy and Water), which also includes five (5) optional parameters (selectable by Users): Photovoltaic generation kWh, Ambient Temperature, Variance of Area (GFA, NFA, ACA), Occupancy and Operating Hours.

**Original Data Inputs**

- Monthly Electrical Energy (kWh)
- Electrical Maximum Demand (kW)
- Energy On-site Water (m<sup>3</sup> or litres)
- Maximum Demand (kW or tonnes)
- Other Consumables, etc.

**Additional Inputs (Optional)**

- Photovoltaic Generation (kWh)
- Ambient Temperature (°C or °F)
- Variance of Area (GFA, NFA, ACA, etc)
- Occupancy (person)
- Operating Hours (hrs)

**Consumption Data Entry**

Building Name: [text input]  
Year: [text input]  
Month: [text input]

Building Occupancy: [text input]  
Energy On-site Water (m<sup>3</sup>): [text input]  
Water Consumption (litre): [text input]

Buttons: Add New, Cancel, OK

**Building Account Type (Building)**

1 Registrant Account is connected to at least a Building Account (need to setup a building unit first)

Building Account can be transferred or share with other Registrant Account but with the Administrator's assistant.

If there is the Building Account Owner (The first person who setup the Building Account can refer to other Registrant Account)

**USER A**  
Owner: can edit General Details of the building and add/ edit / delete data

**USER B**  
Can add/ edit / delete data

**USER C**  
Can add/ edit / delete data

Can transfer this Building Account to other Registrant Account

Participants of session 2 were JKR officers who are new in the BECO<sub>2</sub>R programme.

## 1.2 SUSTAINABLE BUILDING RATING STATUS

In general, there are four types of ratings schemes in Putrajaya were adopted by building stakeholders to assess the sustainability of a building design and operation, namely:

- i. Green Building Index (GBI).
- ii. MyCrest.
- iii. GreenPASS.
- iv. Building Energy Intensity Labelling (BEI Labelling)

The rating status of each type of system for the year 2022 is as shown in Table 1.2 to Table 1.4.

**Table 1.2: List of Building with Green Building Index (GBI) Certification**

No	Building	Certification Status
<b>A. Completed Building:</b>		
1.	The Ministry of Science, Technology, and Innovation (MOSTI), Precinct 1	GBI final rating SILVER (NREB), 2011
2.	Suasana PJH, Precinct 2	GBI provisional rating SILVER (NRNC), 2014
3.	The Malaysian Anti-Corruption Commission (MACC), Precinct 7	GBI provisional rating CERTIFIED (NRNC), 2014
4.	Danau Suria Precinct 16	GBI provisional rating CERTIFIED (RNC), 2014
5.	MRCB Tower, Precinct 2	GBI provisional rating GOLD (NRNC), 2015
6.	Office Tower on Plot Z10, Precinct 1	GBI final rating CERTIFIED (NRNC), 2015
7.	3 Star Hotel on Plot Z10 (The Everly Putrajaya)	GBI final rating CERTIFIED (NRNC), 2015
8.	Energy Commission Building	GBI #1 rating PLATINUM (NRNC), 2016
9.	Perdana Putra Building	GBI #1 rating PLATINUM (NREB), 2017
10.	Putrajaya Islamic Complex Blocks A & B	GBI provisional rating CERTIFIED (NRNC), 2017
11.	Putrajaya Islamic Complex Block C	GBI provisional rating CERTIFIED (NRNC), 2017
12.	Putrajaya Islamic Complex Block D	GBI provisional rating CERTIFIED (NRNC), 2017
13.	Heriot-Watt University Malaysia Putrajaya	GBI final rating CERTIFIED (NRNC), 2017
14.	PJH Tower	GBI #1 rating GOLD (NRNC), 2018
15.	Government Building Block F1	GBI provisional rating GOLD (NRNC), 2013



No	Building	Certification Status
16.	Government Building Block F2	GBI provisional rating GOLD (NRNC),2013
17.	Government Building Block F3	GBI provisional rating GOLD (NRNC),2013
18.	Government Building Block F4	GBI provisional rating GOLD (NRNC),2013
19.	Government Building Block F5	GBI provisional rating GOLD (NRNC),2013
20.	Government Building Block F6	GBI provisional rating GOLD (NRNC),2013
21.	Government Building Block F7	GBI provisional rating GOLD (NRNC),2013
22.	Government Building Block F8	GBI provisional rating GOLD (NRNC),2013
23.	Government Building Block F9	GBI provisional rating GOLD (NRNC),2013
24.	Government Building Block F10	GBI provisional rating GOLD (NRNC),2013
25.	Government Building Block F11	GBI provisional rating GOLD (NRNC),2013
26.	Shaftsby Putrajaya	GBI provisional rating CERTIFIED (RNC),2017
27.	Zenith Hotel Putrajaya	GBI provisional rating SILVER (NRNC),2013
28.	Hening (39 Terrace House Units)	GBI provisional rating CERTIFIED (RNC), 2014
29.	Office Tower @ Z1, Precinct 1	GBI provisional rating CERTIFIED (NRNC),2020
30.	Shell Petrol Station, Precinct 18	GBI provisional rating CERTIFIED (NREB), 2022

Source: Green Building Index Sdn Bhd

Note: NRNC-(Non-Residential New Construction), NREB-(Non-Residential Existing Building), RNC-(Residential New Construction)

**Table 1.3: List of Building with MyCrest Certification**

No	Building	Certification Status (Star)
1.	The Ministry of Communications and Multimedia (KKMM)	2 Stars
2.	The Ministry of Foreign Affairs (WP1)	2 Stars
3.	The Ministry of Foreign Affairs (WP2)	1 Star
4.	The Ministry of Women, Family and Community Development (KPWKM)	1 Star
5.	The Ministry of Rural and Regional Development (KKLW)	1 Star

Source: Construction Industry Development Board (CIDB) Malaysia

**Table 1.4: List of Building with GreenPASS Certification**

No	Building	Certification Status
1.	The Ministry of Finance Malaysia	3 Diamond
2.	Galeria PjH	2 Diamond
3.	The Everly Hotel	2 Diamond
4.	Dorsett Hotel Putrajaya	1 Diamond
5.	Putrajaya Islamic Complex (A&B)	1 Diamond
6.	Putrajaya Islamic Complex (C)	1 Diamond
7.	Putrajaya Islamic Complex (D)	1 Diamond
8.	Zero Energy Home P14	5 Diamond

Source: Sustainable Energy Development Authority



Office Tower @ Z1, Precinct 1 (GBI-Certified)



Hening (39 Terrace House Units) (GBI-Certified)



Government Building Block F1 & F2 (GBI-Gold)



The Ministry of Rural and Regional Development (MyCrest-1 Star)



Putrajaya Islamic Complex (C) (GreenPASS-1 Diamond)



Zero Energy Home P14 (GreenPASS-5 Diamond)

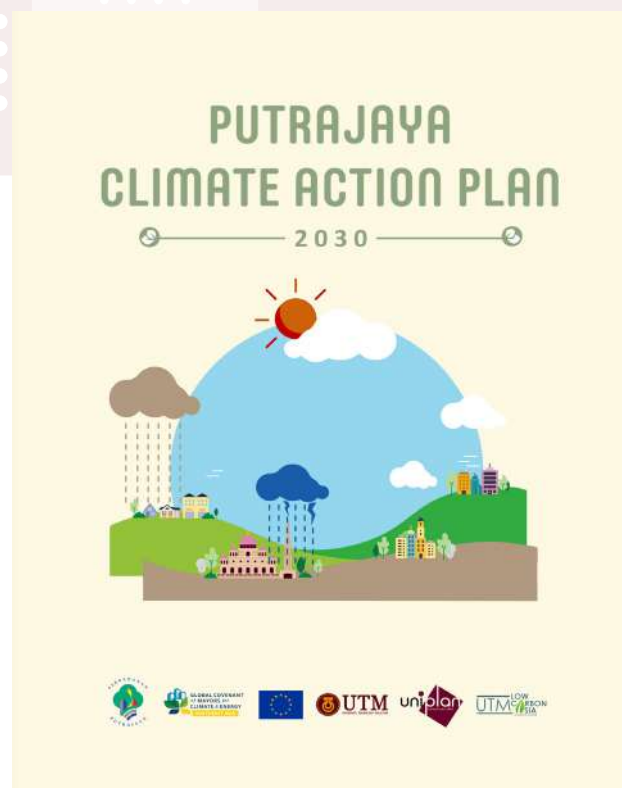
### 1.3 PUTRAJAYA CLIMATE ACTION PLAN 2030 (PCAP 2030)

The Putrajaya Climate Action Plan 2030 (PCAP 2030) is a continuous document to the Putrajaya Green City 2025 – a baseline study which will expire in the next three years.

The preparation of the PCAP 2030 involved a collaboration between the Putrajaya Corporation and the Global Covenant of Mayors for Climate and Energy (GCoM) and was assisted by the research team from UTM-Low Carbon Asia Research Centre (UTM-LCARC).

Among the main scopes of PCAP 2030 is to:

- i. Prepare Greenhouse Gas Inventory using the City Inventory Reporting and Information System (CIRIS) method.
- ii. Carry out a climate risk and vulnerability assessment (CRVA) for Putrajaya.
- iii. Set climate change mitigation and adaptation targets.
- iv. Formulate climate change mitigation and adaptation action plan.



Putrajaya Climate Action Plan 2030 report

Figure 1.1: Mitigation Target of GHG Emission



Source : National Low Carbon Cities Masterplan

Figure 1.2: Adaptation Goals for PCAP 2030



Figure 1.3: Six Themes of Putrajaya CAP 2030



### 1.3.1 Putrajaya CAP 2030 Focus Group Discussion (FGD)

**Date** : 19 July 2022  
**Time** : 8.45 am – 1:00 pm  
**Venue** : Pulse Grande Hotel, Putrajaya

The Putrajaya CAP 2030 Focus Group Discussion (FGD) was held to present information and preliminary findings of the Greenhouse Gas Inventory (GHGI) based on the CIRIS and CRVA methods. Preliminary proposals for climate targets and actions covering Putrajaya's climate mitigation and adaptation were also presented by the UTM-LCARC FGD facilitator to obtain feedback and suggestions from the various agencies in attendance. Representatives from the GCoM as fund sponsors also participated in the FGD.



The Putrajaya CAP 2030 Focus Group Discussion (FGD) participants from various government departments, ministries, Government Linked Companies (GLC) and university research team.



Putrajaya CAP 2030 FGD opening speech by the President of Putrajaya Corporation



Participants were briefed on the preliminary study of the Putrajaya CAP 2030



Group 1: *Inventory Reporting and Information System (CIRIS)*





Group 2: Climate Risk and Vulnerability Assessment (CRVA)



Summary of FGD Findings delivered by Prof. TPr. Dr. Ho Chin Siong, Director of UTM-LCARC and a speech of appreciation by TPr Noor Sita binti Abbas, Director of Sustainable Development and Housing Division



## Appreciation To Strategic Partners



Collaboration appreciation souvenirs were presented to UTM-LCARC and GCoM representatives

### 1.3.2 Climate Action Plan 2030 Capacity Building Workshop

**Date** : 23 August 2022  
**Time** : 9:00 am - 1:00 pm  
**Venue** : PJ Eco Recycling Plaza, Level 3, Jalan SS8/39, Petaling Jaya, Selangor

The Climate Action Plan Preparation Capacity Building Workshop organized by GCoM aims to provide Greenhouse Gas Inventory (GHGI) training using the City Inventory Reporting and Information System (CIRIS) method; and Climate Risk and Vulnerability Assessment (CRVA) to GCoM member cities namely Petaling Jaya and Putrajaya. In addition, this workshop may improve the capacity of the Local Authority (PBT) officers of the two cities in the preparation of climate action plans based on the Common Reporting Framework (CRF).



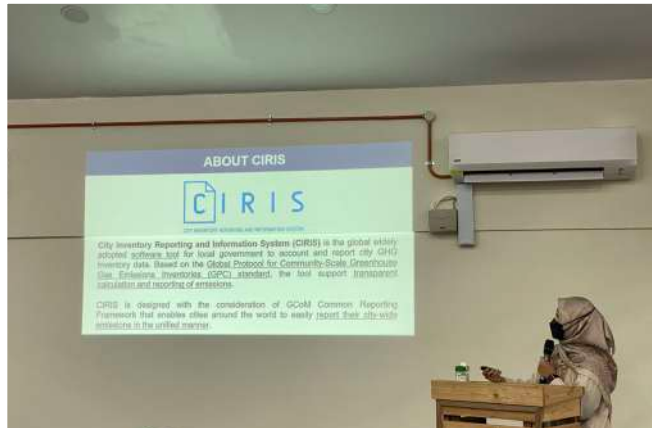
A total of 27 participants were involved in this training workshop consisting of officials from Petaling Jaya City Council (MBPJ), Putrajaya Corporation (PPj) and Kuala Lumpur City Hall (DBKL). The workshop was inaugurated by Mr. Francesco Floris, Head of Trade and Economic Relations - EU Delegation to Malaysia

## Module 1: GCoM CRF Introduction and Guide to 'How to Prepare a Climate Action Plan'



Information related to GCoM & the Common Reporting Framework (CRF); Commitment & Compliance Badges; and Climate Change Mitigation & Adaptation Pillars presented by TPr. Chau Loon Wai, representative of UTM-Low Carbon Asia Research Centre

## Module 2: City Inventory Reporting and Information System (CIRIS)



Explanation of data requirements and data entry steps into the CIRIS software

## Module 3: Climate Risk and Vulnerability Assessment (CRVA)



The basic concept of climate change adaptation and CRVA was presented by Dr. Teh Bor Tsong, representative from the University of Malaya. This module provided training on the identification of climate hazards, collecting, validating, and organizing data and adaptation strategies to achieve the goals that have been set.

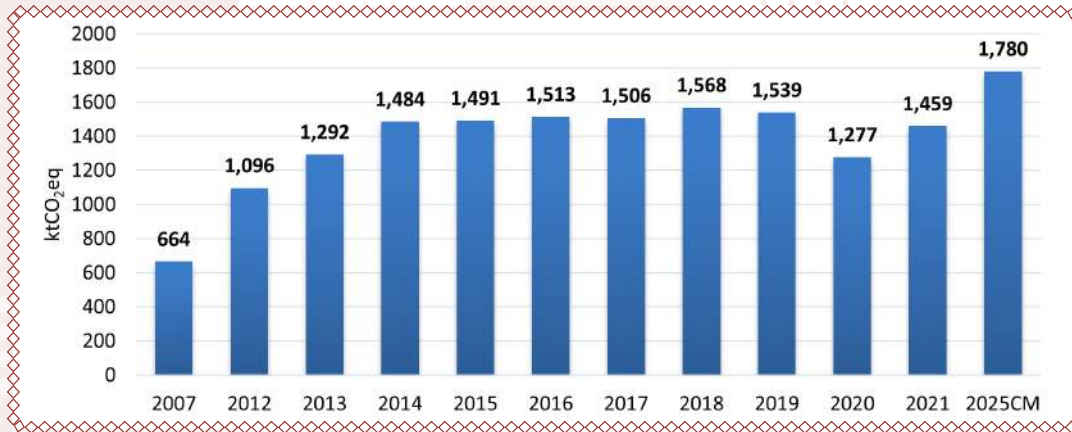
## Module 4: Climate Action Plan Development and Implementation



Participants were given exposure to draft climate action proposals according to themes for mitigation & adaptation as well as identification of themes & sectors in line with the Low Carbon Cities Framework (LCCF)

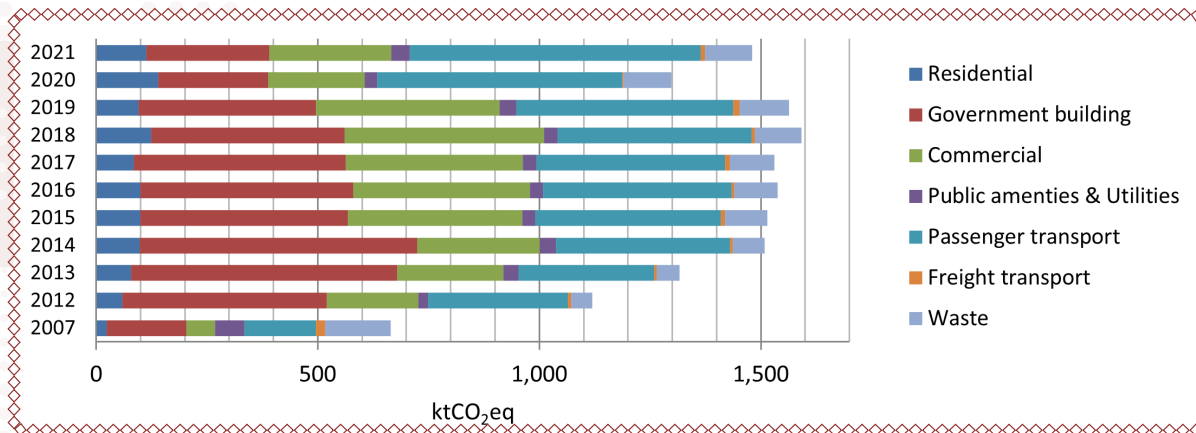
## 1.4 QUICK FACTS

Chart 1.3: GHG Emissions Trend in Putrajaya [ktCO<sub>2</sub>eq]

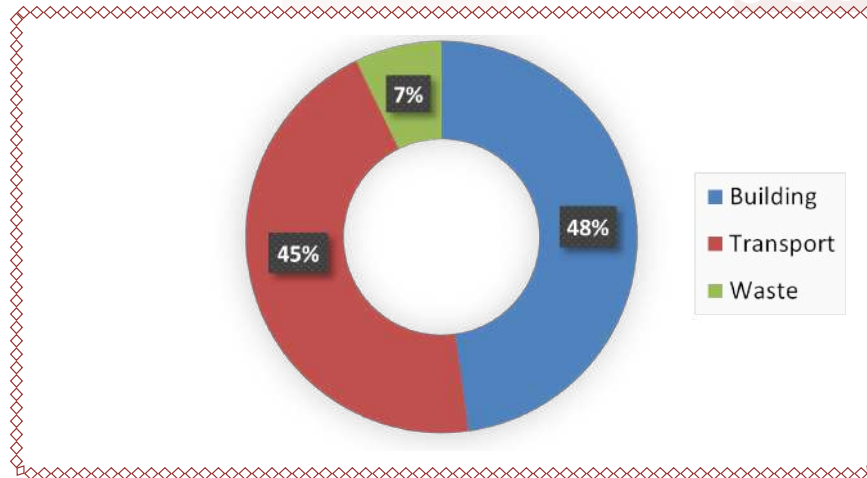


Notes: 2007 base year; 2025 target year.

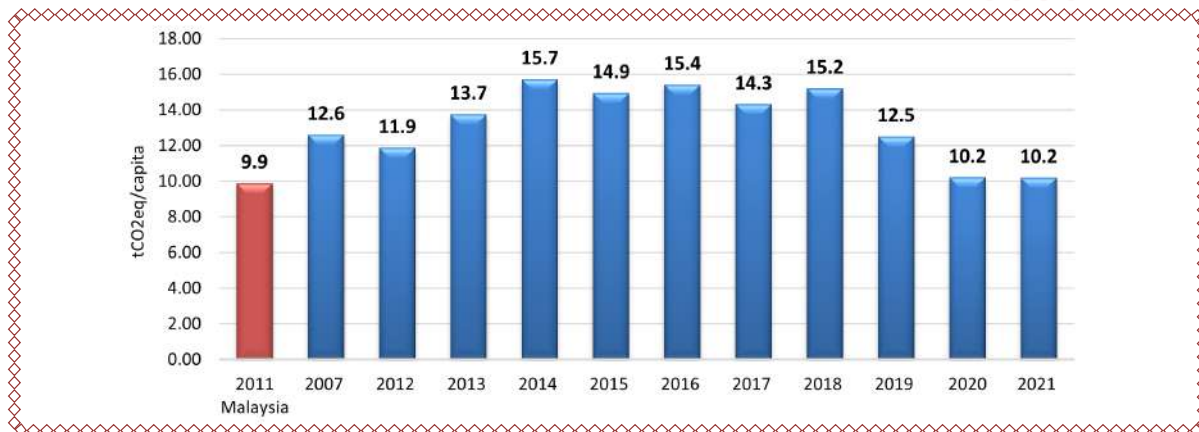
Chart 1.4: GHG Emissions from the Seven Sectors



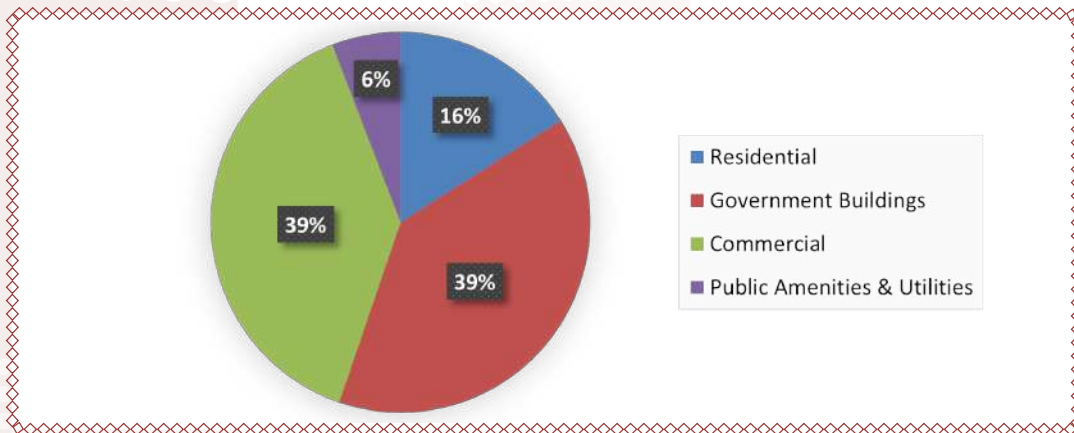
**Chart 1.5: GHG Emissions from the Three Main Sectors 2021**



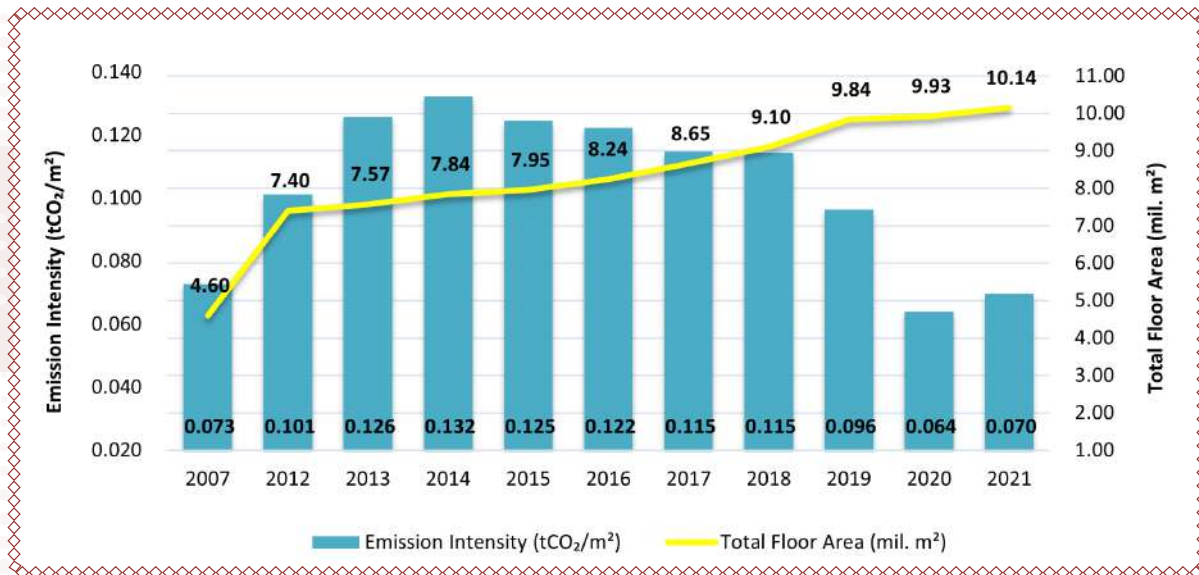
**Chart 1.6: GHG Emissions Per Capita 2021**



**Chart 1.7: Building Sector Carbon Emissions 2021**



**Chart 1.8: Emissions Intensity by Floor Area (tCO<sub>2</sub>/m<sup>2</sup>)**



**Chart 1.9: Transportation Sector Carbon Emissions 2021**



**Chart 1.10: GHG Emissions Trend for Solid Waste Sector [ktCO<sub>2</sub>eq]**



*Notes: 2007 base year; 2025 target year.*







# 2.0

## Integrating Nature Into The Urban Fabric

## 2.1 TREE PLANTING PROGRAMME

### 2.1.1 100 Million Tree Planting Campaign at Putrajaya

The campaign to plant 100 million trees was inaugurated by YAB The Prime Minister and began to be implemented throughout the country from 5 January 2021. The achievements of this campaign in the Federal Territory of Putrajaya are as shown in Table 2.1.

**Table 2.1: Achievements of the 100 Million Tree Planting Campaign in the Federal Territory of Putrajaya**

No.	Year	Number of trees
1.	2025	400,000 (target)
2.	2021	68,850
3.	2022	65,725
	Total	134,575

### The 50,000th Tree Planting in conjunction with Federal Territory Day 2022

**Date : 8 February 2022**

**Time : 5:30 pm – 6:30 pm**

**Venue : Sisiran Tasik Precinct 2 Putrajaya**



This campaign was continued in 2022 and the symbolic activity of planting the 50,000th tree was completed by the Minister of Federal Territories in conjunction with Federal Territory Day 2022.

## 2.1.2 The Largest Gutta Percha Tree Planting Programme in Malaysia

**Date : 17 May 2022**

**Time : 8:30 am – 12:30 pm**

**Venue : Putrajaya Botanical Garden**

The Largest Gutta Percha Tree Planting Programme in Malaysia was a collaborative effort between Yayasan Telekom and 18 other strategic partners with the involvement of 1,000 volunteers. This programme was held simultaneously in 23 locations and was recognized by the Malaysia Book of Records.

The launch of the initiative was completed by the Deputy Minister of Communications and Multimedia, YBhg. Datuk Zahidi bin Zainul Abidin at the Putrajaya Botanical Garden, in conjunction with World Telecommunication and Information Society Day 2022.



The opening ceremony was also attended by YBhg. Dato' Haji Rosli bin Isa, Secretary General of the Ministry of Energy and Natural Resources and YBhg. Dato' Indera Mohd Ridza Awang, Director General of Forestry Department of Peninsular Malaysia

## 2.2 PUTRAJAYA PUBLIC PARKS PROMOTION PROGRAMME

### 2.2.1 Putrajaya Botanical Garden Ecosystem Exploration Programme

**Date : 1 October 2022**

**Time : 8:00 am – 4:30 pm**

**Venue : Putrajaya Botanical Garden**

The Ecosystem Exploration Programme organized by Putrajaya Corporation through the Environment, Lakes and Wetlands Division was successfully conducted with the participation of 50 school students in Putrajaya and the surrounding areas. This programme focused on achieving the objective of empowering the knowledge and practices of the younger generation in preserving and conserving the environment.

The programme was also one of the initiatives that focused on education and awareness by providing an understanding of the concept of environmental well-being and sustainable development.



The closing ceremony of the Ecosystem Exploration Programme was completed by En. Shamsul Bahrin Rahmat, Vice President of the City Planning Department

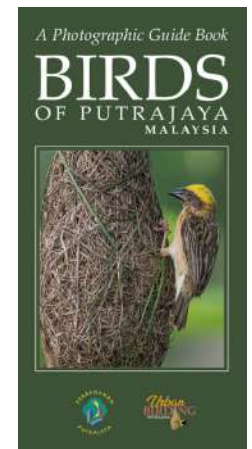


The programme focused on the 'Exploring Our Flora' and 'Let's Recycle' activities. Participants were introduced to the surrounding flora and given exposure to solid waste management and recycling practices.

## 2.2.2 Urban Birding Putrajaya Hotspot

In line with the vision of Sustainable Putrajaya 2025, Putrajaya also became an annual destination for migratory birds. The Putrajaya Corporation promoted urban birding as one of the attractions that could improve Putrajaya’s eco-tourism by highlighting the concept of “Bringing Back Nature into The Urban Fabric”.

Visitors had the opportunity to observe and record the number of bird species from the 18-meter observation tower or walk along the nature trails at either the Putrajaya Wetlands Park, the Botanical Garden and the Rimba Alam Park.



Visitors may scan the provided QR Code to provide survey feedback and get the e-book “A Photographic Guidebook: Birds of Putrajaya Malaysia” for free.

## 2.3 SMART Botanic Edu-CARE Programme

SMART Botanic Edu-CARE is a botanical and landscape education programme for secondary school teachers and students in Putrajaya. This programme aims to instil sustainable practices in designing and maintaining parks towards environmental sustainability. The programme promotes the learning of botanical science through the SMART concept (Learning by Doing) and enhances creativity through the art of landscape design. The implementation of this programme is also in line with the focus scope of Putrajaya's Green City, especially in terms of promoting human interaction with nature and increasing the carbon sink in the city.

Putrajaya Corporation's strategic partners for this programme included the SpiCE (Sustainable Practice in Conserving Environment) Research Group, the Faculty of Design and Architecture, Universiti Putra Malaysia (UPM) and the Education Department of the Federal Territory of Putrajaya.

A total of 72 secondary school students in Putrajaya and 95 landscape architecture students from Universiti Putra Malaysia participated in SMART Botanic Edu-CARE. The SpiCE Research Group, the Putrajaya Corporation and the Federal Territory of Putrajaya Department of Education were the facilitators of the programme.

The implementation of SMART Botanic Edu-CARE involved several levels of activities as follows:

- i. SMART Botanic Edu-CARE 2022 Webinar Session
- ii. Design Development Process
- iii. Phase 1 Judging: Landscape Masterplan Proposal
- iv. Implementation of the Five Best Designs on the School Site
- v. Phase 2 Final Judging
- vi. SMART Botanic Edu-CARE Appreciation Ceremony



## SMART Botanic Edu-CARE 2022 webinar Session.

Date : 9 April 2022

Time : 8.45 am – 12.30 pm

Venue : Online



A total of 208 participants took part in the webinar including secondary school students, teachers, UPM Landscape Architecture students and facilitators from the Putrajaya Corporation & UPM. Participants were exposed to basic botanical knowledge, practical training, landscape design and management by landscape & agriculture experts.

## Design Development Process



The next activity was to produce a Landscape Master Plan that was held from 10 April 2022 to 12 May 2022. Inventory, site analysis and site area measurements were performed before the process of designing the proposed Landscape Master Plan.

## Phase 1 Judging: Landscape Master plan Proposal



A total of 9 mini garden Landscape Master Plan recommendations were produced. The judging session was held on 13 May 2022 at the Faculty of Design and Architecture, Universiti Putra Malaysia (UPM). The jury panel comprised professional experts from UPM, the Education Department of the Federal Territory of Putrajaya and the Putrajaya Corporation.

## Implementation of the Five Best Designs on the School Site

Based on the Phase 1 judging, five of the best proposals were selected and announced on 16 May 2022 for implementation in schools. The five best designs selected were from:

- i. Sekolah Menengah Kebangsaan Putrajaya Precinct 5 (1)
- ii. Sekolah Menengah Kebangsaan Putrajaya Precinct 8 (1)
- iii. Sekolah Menengah Kebangsaan Putrajaya Precinct 9 (2)
- iv. Sekolah Menengah Kebangsaan Putrajaya Precinct 11 (1)
- v. Sekolah Menengah Kebangsaan Putrajaya Precinct 16 (1)



The activity of developing a mini garden at the school was carried out in a period of 2 weeks, starting from 17 to 30 May 2022.

## Phase 2 Final Judging



The final judging session was held on 31 May 2022. The jury panel included professional experts from Universiti Putra Malaysia (UPM), the Education Department of the Federal Territory of Putrajaya and the Putrajaya Corporation.

## SMArt Botanic Edu-CARE Programme Appreciation Ceremony

The SMArt Botanic Edu-CARE Programme Appreciation Ceremony was held on 30 June 2022. The schools crowned as winners were SMK Putrajaya Precinct 5(1) (Champion), SMK Putrajaya 9(2) (Runner-up), SMK Putrajaya Precinct 16(1) (Third Place), SMK Putrajaya Precinct 11(1) (Merit) and SMK Putrajaya Precinct 8(1) (Merit).



The winners who were celebrated took a photo together right after the ceremony ended at Dewan Seri Seroja, Diplomatic Precinct, Putrajaya.

## 2.4 QUICK FACTS

**Table 2.2: Public Open Space to 1,000 Population Ratio in Putrajaya**

Year	Total Open Space <sup>(1)</sup>	Population <sup>(2)</sup>	The Size of Open Space (hectares): 1,000 population <sup>(3)</sup>
2014	1,925.30	82,200	23.42
2015	1693.93	81,400	20.81
2016	1693.53	84,400	20.07
2017	1,693.53	86,900	19.49
2018	1,941.44	90,400	21.47
2019	1941.44	103,800	18.70
2020	1941.44	113,300	17.14
2021	1941.44	116,100	16.72
2022	1,968.00	134,391	14.64
2025 <sup>(4)</sup>	1930.43	347,700	5.5

Source:

(1): Planning and Development Control Division, Putrajaya Corporation.

(2): MURNInets.

(3): Planning Guidelines of Open Space and Recreational Areas.

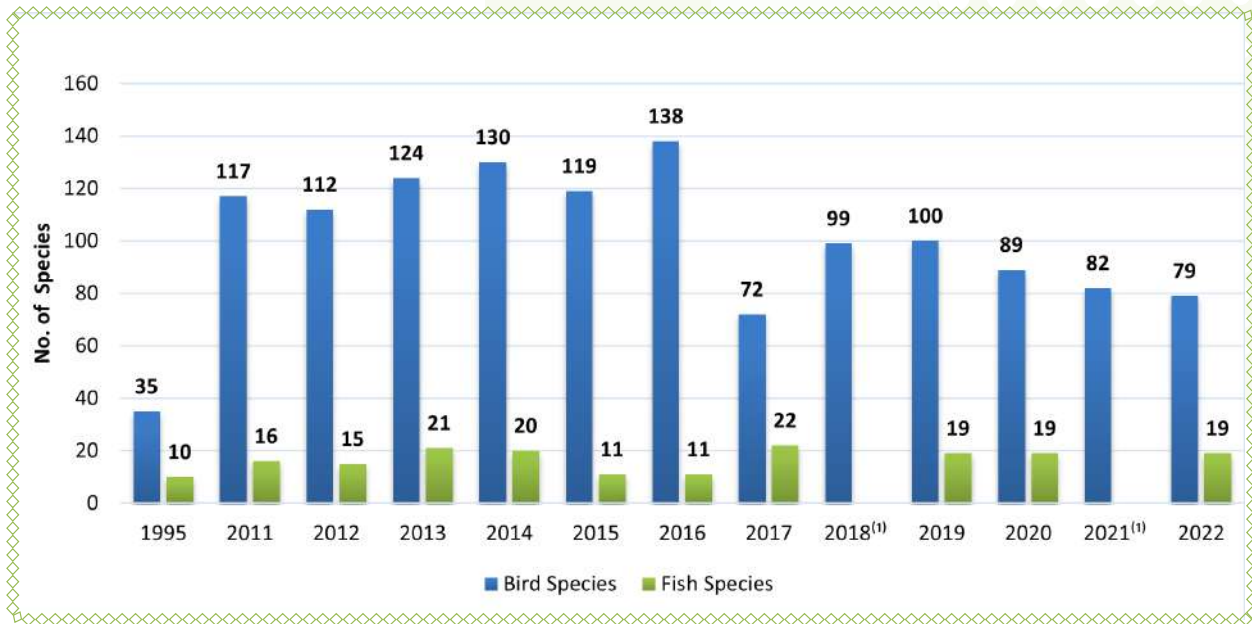
(4): Putrajaya Structure Plan Inspection Report.

**Table 2.3: Number of Species Found in Putrajaya Lakes and Wetlands Until 2022**

Fauna species	2007 (Baseline)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Insects	21	21	343	445	767	1084	924	928	523	800	676	900	898	1058
Amphibian	2	5	5	8	13	9	8	11	9	10	9	7	6	6
Reptile	5	4	15	15	14	10	8	11	7	9	10	10	10	9
Mammal	7	5	8	11	9	13	9	10	11	13	12	9	9	8

Source: Environment, Lakes and Wetlands Division, Putrajaya Corporation.

**Chart 2.1: Number of Bird and Fish Species in Putrajaya**



Source: Environment, Lakes and Wetlands Division, Putrajaya Corporation.

Note: (1) Fish sampling was not carried out in 2018 and 2021.







# 3.0 Transportation and Mobility

### 3.1 IMPROVEMENT OF PEDESTRIAN WALKWAY AND BICYCLE LANE FACILITIES

In 2022, improvement works were continued at Precinct 5. Efforts to improve the comfort and safety of bicycle and pedestrians path involved the main scopes as follows;

- i) Replacing pedestrian and bicycle lane signs.
- ii) Marking of pedestrian and cycling lane symbols.
- iii) Installing a warning tactile and guiding block.
- iv) Kerb cut treatment.
- v) Painting zebra crossings.
- vi) Installation of safety signs.

#### Replacing pedestrian and bicycle lane signs



A total of 39 units of pedestrian and bicycle lane signs were replaced around the locations of Lebu Gemilang and Jalan P5.

## Marking of Pedestrian and Cycling Lane Symbols



A total of 30 pedestrian and bicycle lane markings were added to lanes along Lebuhraya Gemilang, Jalan Venna P5/1 and Jalan P5.

## Installation of Warning Tactile and Guiding Blocks

A total of 16 intersections have been equipped with warning tactile and guiding blocks for persons with disabilities (OKU).



Jalan P5A



Lebuhraya Sentosa

## Kerb cut Treatment

A total of 2 intersections that have been installed with kerb cuts.



Jalan P5



Jalan P5A

## Painting Zebra Crossings

Two faded zebra crossings were repainted.



Jalan P5



Lebuah Gemilang

## Installation of Safety Signs



41 units of safety signs with the addition of the word “bicycle” were installed throughout Precinct 5.



## Pit Stop for Cyclist

In line with the initiative to make Putrajaya a Bikeable City, the Putrajaya Corporation has provided a new support facility which is a pit stop for cyclists. This new facility also received funding support from the Ministry of Natural Resources, Environment and Climate Change (NRECC) and Alam Flora Sdn. Bhd.



Dataran Putrajaya, Precinct 3



Putrajaya Steps, Precinct 1

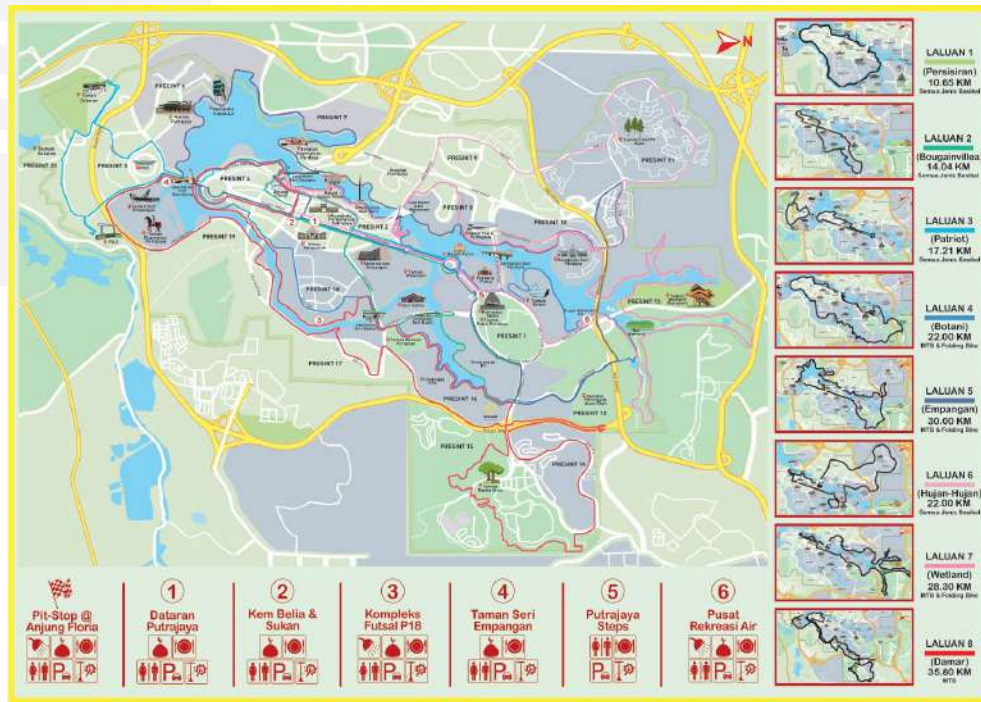


Futsal Complex, Precinct 18



Water Recreation Centre, Precinct 13

## Support Facilities at Pit-Stops



There are 8 routes recommended for recreational purposes. The difference between the routes is in terms of the scenery and difficulty of the different routes such as the lake side route, the trail route and the hilly route.



Check Point sign



Bicycle rack



Water cooler machine



Bike repair station

## 3.2 CYCLING CAMPAIGNS AND PROGRAMMES

### 3.2.1 Putrajaya Fun Ride

In conjunction with the closing ceremony of the Green Technology Application for the Development of Low Carbon Cities (GTALCC) project, a Fun Ride programme was organized on 27 May 2022 at Anjung Floria Precinct 4, Putrajaya. This closing ceremony was also a sign of appreciation for the collaboration of the GTALCC project with the Putrajaya Corporation especially in the implementation of the Putrajaya Bikeable City initiative.

#### Closing Ceremony



Opening speech by Dato' Fadlun Bin Mak Ujud, President of Putrajaya Corporation



Speech by Dr. Sugumari Shanmugam, Secretary of Climate Change Division, The Ministry of Natural Resources, Environment and Climate Change (NRECC)

## Fun Ride



A total of 143 participants participated in this fun ride, consisting of various age groups and local communities from inside and outside Putrajaya.

## Lucky Draw



Lucky draw prize giving ceremony for fun ride participants.

### 3.2.2 Let's Cycle to Office

In an effort to respond to the call and aspirations of the Malaysian Government towards a net zero carbon nation in 2050, the Ministry of Natural Resources, Environment and Climate Change (NRECC) started an initiative to encourage more ministry staff members to cycle to work through the “Let's Cycle to Office” programme on 1 July 2022.

The programme was part of a sustainable mobility initiative in addition to promoting a healthy lifestyle. This initiative was also in line with the aspirations of Putrajaya Bikeable City which was being promoted by the Putrajaya Corporation.



A total of 40 NRECC members participated in the programme. The participants rode bicycles from several directions namely Precinct 11 and Precinct 14 to the NRECC building at Complex F, Precinct 1.





The arrival of the cyclists was welcomed by YB Dato' Mansor bin Hj Othman, Deputy Minister of NRECC and Dato' Seri Ir. Dr. Zaini bin Ujang, Secretary General of NRECC

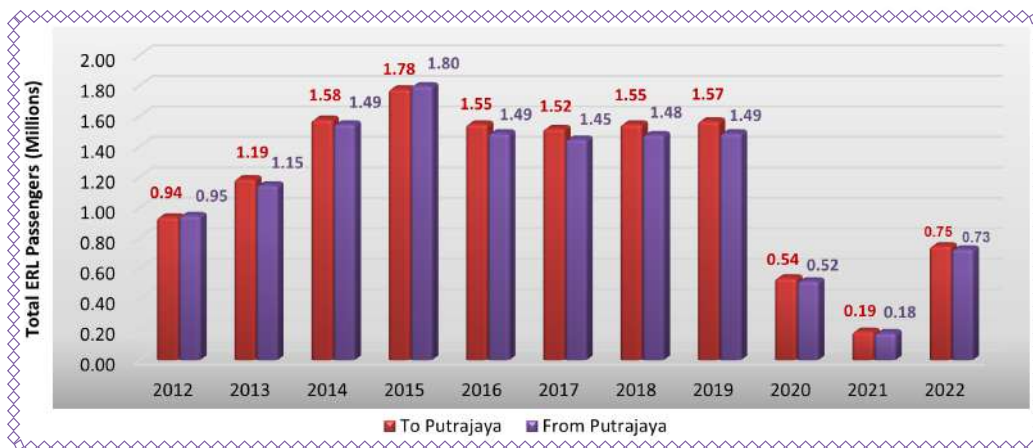
### 3.3 QUICK FACTS

Chart 3.1: Annual Bus Ridership in Putrajaya



Source: Putrajaya Travel & Tours Sdn. Bhd. Public Transport

Chart 3.2: Annual Express Rail Link (ERL) Ridership at in Putrajaya Sentral Station 2012-2022



Source: Express Rail Link Sdn. Bhd.





# 4.0

Energy Usage

## 4.1 IMPROVEMENT OF ENERGY EFFICIENCY

### 4.1.1 Putrajaya Corporation Complex

Throughout the year 2022, efforts to improve the energy efficiency of the Putrajaya Corporation Complex for phase five (5) were continued around the office blocks, Annexe block, Cempaka Sari Auditorium, Seri Melati Hall and Kiblat Walk parking area. As a result of these efforts, the annual electricity consumption has been reduced by 40% (7,656,333kWh) compared to the level of 2012 (12,894,876kWh).

The result of this effort also indicated a decrease in the *Building Energy Index* (BEI) and *Building Carbon Index* (BCI). There was a decrease in BEI by 31% and BCI by 38% compared to the level of 2012 (Chart 4.1 and Chart 4.2).

Chart 4.1: Putrajaya Corporation Complex Building Energy Index (BEI)



Source: Building Consumption Input System (BCIS)

**Chart 4.2: Putrajaya Corporation Complex Building Carbon Index (BCI)**



Source: Building Consumption Input System (BCIS)

### 4.1.2 Street Lights

Efforts to improve energy efficiency in Putrajaya were continued through the conversion of existing high pressure sodium valve (FPSV) lights to the energy efficient type Light Emitting Diode (LED). The Strategic Plan of Putrajaya Corporation 2021-2025 also stipulates annual electricity bill savings for street lighting of 2%. As of December 2022, a total of 4,490 street lights have been replaced with LED lamps. The installation location as listed in Table 4.1.

**Table 4.1: Locations of LED Street Light Installed in Putrajaya for year 2022**

No.	Location	Number of Lights
1.	Persiaran Timur	340
2.	Lebuh Sentosa	425
3.	Precinct 8	435
4.	Precinct 9 and Precinct 16	420
5.	Precinct 14	30
6.	Precinct 15	80
	<b>TOTAL</b>	<b>1,730</b>

Source: Engineering and Maintenance Department, Putrajaya Corporation



LED street light replacement works at Lebu Bestari, Precinct 16



LED street light replacement works at Persiaran Timur

## 4.2 PUTRAJAYA ENERGY MANAGEMENT CAMPAIGN 2022

Putrajaya Corporation together with strategic partners Tenaga Nasional Berhad (TNB) and Malaysian Green Technology and Climate Change Corporation (MGTC) have organized the Putrajaya Energy Management Campaign 2022 on 13 April 2022 (Wednesday) through Perbadanan Putrajaya's official Facebook page. The campaign aimed to provide exposure and increase awareness among workers and communities in Putrajaya regarding energy management in the office and also at home.

The image displays promotional materials for the Putrajaya Energy Management Campaign 2022. On the left is a Facebook Live event poster with the following details:

- Event:** KEMPEN PENGURUSAN TENAGA PUTRAJAYA 2022
- Date:** 13 APRIL 2022 (RABU)
- Time:** 9:15 PAGI – 12:30 TENGAH HARI
- Prize:** 100 Peserta Terawal akan mendapat RM10 ebaucarTnG e-Wallet
- Theme:** JOM JIMAT ELEKTRIK
- Speakers:**
  - Encik Muhd Muhtazam Bin Noor Din**, Head of Sustainable Communities, MGTC. Topic: "Kecekapan Tenaga - Apakah Sumbangan Kita di Rumah dan Pejabat ke arah Kelestarian Alam Sekitar"
  - Encik Fadhi Bin Abdullah**, Head of Customer, Advanced Metering Infrastructure, Distribution Network, TNB. Topic: "Benefit of Smart Meter towards Smart Energy User"
- Activity:** KUIZ Kahoot!
- Prize:** HADIAH KESELURUHAN: RM2,000 eBAUCAR TnG E-WALLET

On the right, there are two screenshots from the Facebook event. The top one shows a video feed of Encik Shamsul Bahrin Bin Rahman, Vice President of Urban Planning, speaking. The bottom one shows a meeting view with three participants and a list of comments on the right side of the screen.

The campaign was inaugurated by Encik Shamsul Bahrin Bin Rahman, Vice President of Urban Planning; and successfully attracted 260 participants. The first 100 participants to register were given a Touch and Go (TnG) e-wallet voucher worth RM10.



## Live Facebook Talk

Two briefings were held, namely:

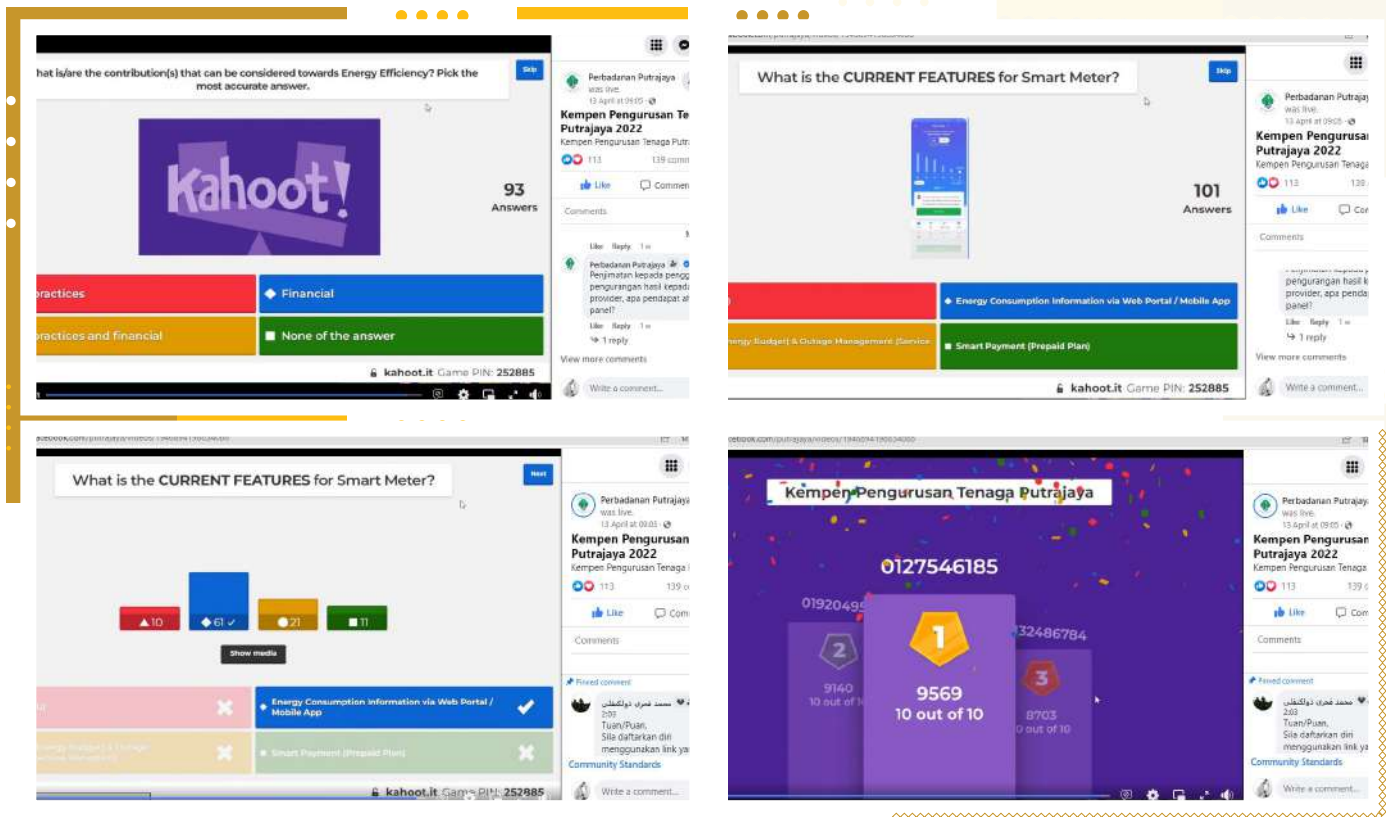
- Energy Efficiency - What is Our Contribution at Home and Office towards Environmental Sustainability** by Encik Muhd Muhtazam Bin Noor Din, Head of Sustainable Communities, Malaysian Green Technology And Climate Change Corporation.
- Benefit of Smart Meter towards Smart Energy User** by Encik Fadhli Bin Abdullah, Head (Customer), Advance Metering Infrastructure, Distribution Network, Tenaga Nasional Berhad.

Participants learnt on measures to reduce energy consumption and the advantages of smart meter technology used at homes.

## Kahoot Quiz

At the end of the live FB talk, a kahoot quiz session was held to test the understanding of the participants. Prizes amounting to RM2,000.00 TnG e-wallet vouchers were awarded to the 60 participants with the highest scores as follows:

- First place : RM200.00
- Second place : RM150.00
- Third Place : RM100.00
- Consolation (no. 4 to 10) : RM50.00
- Consolation (no. 11 to 30) : RM30.00
- Consolation (no. 31 to 60) : RM20.00



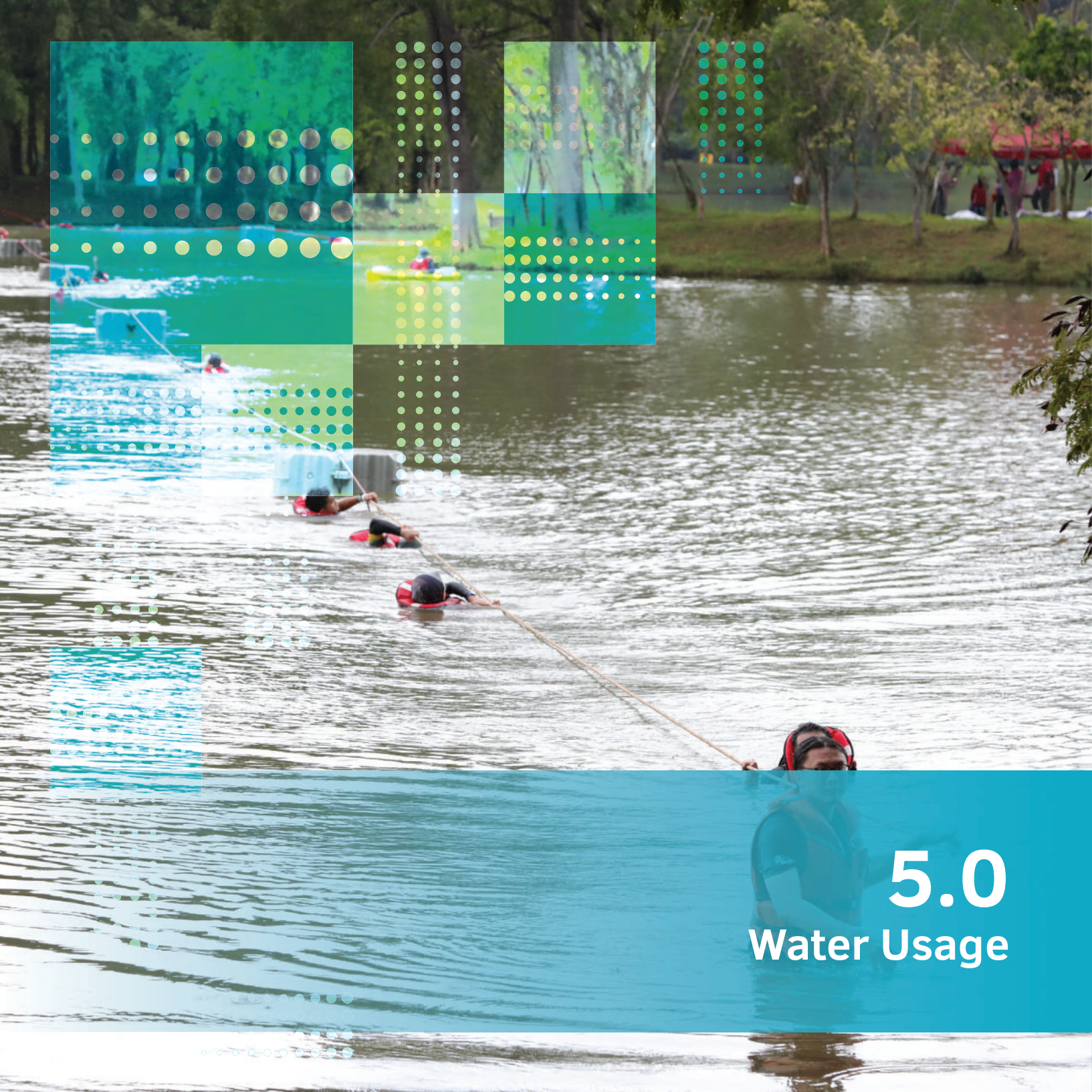
A total of 10 questions based on two live fb talk topics were asked and the winner was evaluated based on the criteria of the correct number of questions and the speed with which the participants answered the questions.

## 4.3 QUICK FACTS

Table 4.2: Total Electricity Consumption (kWh) Per Capita in Putrajaya

Description	2017	2018	2019	2020	2021	2022
Total Domestic Electricity Consumption (kWh)	111,214,485	171,393,692	124,216,389	226,298,670	153,238,209	155,879,867
Total Population	86,900	90,400	103,800	113,300	116,100	120,300
Annual Electricity Consumption / Capita (kWh)	1,280	1,896	1,196	1,997	1,319	1,296
kWh/day/capita	3.51	5.19	3.28	5.47	3.61	3.55

Source: Putrajaya Sustainable City Reports for 2017-2022



# 5.0

## Water Usage

## 5.1 LAKE WATER QUALITY CONTROL

Various actions were taken by the Putrajaya Corporation in maintaining the water quality of Putrajaya Lake. Among the actions implemented was through an innovative approach, namely the development of a mini wetland in Taman Lembah Tasik, Precinct 8. The area was planted with aquatic plants, landscape ornamental plants (shrubs) and ground covers and creepers. Aquatic plants that were planted would absorb pollutants such as nutrient nitrates and phosphates.

The development of the mini wetland was one of the best methods to ensure the quality of runoff water from the upstream area that flowed into the Taman Lembah Tasik was in the best condition before entering the Putrajaya Lake.



*Thalia geniculata*, *Nelumbo nucifera*, *Ruellia simplex* dan *Calathea lutea* thrive in the area. The existence of these aquatic plants improve the water quality of the lake, and the landscape plants also increase the aesthetic value and become a habitat for small fauna such as dragonflies.



The installed of litter trap helps prevent litter such as bottles, plastic and fallen leaves from entering the pool.

## 5.2 PUTRAJAYA LAKE AND WETLAND AWARENESS PROGRAMME

### 5.2.1 Young Ecologist Programme

**Date** : Series 1: 16 September 2022; Series 2: 19 October 2022; Series 3: 19 December 2022  
**Time** : 8:00 am – 12:00 noon  
**Venues** : Series 1: Upper Bisa Wetland, Precinct 16; Series 2: Upper Bisa Wetland, Precinct 16;  
Series 3: Taman Lembah Tasik, Precinct 8

In 2022, a total of 3 series of Young Ecologist Programme were organized and involved 234 primary, secondary and home school students between the ages of 7 and 15. The programme aimed to instil the spirit of ‘Love Putrajaya Wetland’ among the young generation of Putrajaya and was one of the actions to preserve the lake and wetland ecosystem.



Participants were exposed to ways to do water quality sampling to analyse the status of water quality and identify the Water Quality Index (WQI).



Participants were briefed on the method of insect sampling which involved identifying and isolating insects according to 'order' and understanding the importance of insects as bioindicators of the health of the Putrajaya Wetland ecosystem.



The participants were also exposed to the process of separating solid waste according to the composition of solid waste such as plastic, paper and other recyclable materials (glass / ceramics / aluminium cans).



## 5.2.2 Putrajaya Lake and Wetland Explorace 2022

**Date** : 17 December 2022 (Saturday)

**Time** : 7:00 am – 7:00 pm

**Venue** : Putrajaya Wetland Park, Precinct 13.

The Putrajaya Corporation in collaboration with the United Nations Educational, Scientific and Cultural Organization for the International Hydrology Programme (UNESCO-IHP) Malaysia organized the Putrajaya Lake and Wetland Explorace. The event aimed to provide exposure regarding the functions and importance of Putrajaya Lake and Wetland management.



The flag off session of Putrajaya Lake and Wetland Explorace 2022 was officiated by Dato' TPr. Fadlun Bin Mak Ujud, President of Putrajaya Corporation. A total of 230 participants took part in two categories, the open category and the Institute of Higher Education (IPT) category.



The participants had to complete 8 tasks in the form of observation and understanding of bird species and plants in the wetland.



There was also a Check Point that required participants to collect aquatic insect samples and carry out water quality measurement methods correctly and accurately.



Among the challenging routes that the participants had to take were the 'fear factor' and 'lake crossing'.



The programme that lasted for 9 hours saw the first place winner awarded the title of Lake Warrior 2022 and took home a cash prize of RM3,000 while second place received RM2,000 and third place received RM1,000 each, aside from certificates and medals.

## 5.3 QUICK FACTS

**Table 5.1: Water Loss Rate in Putrajaya 2017 to 2022**

Year	2017	2018	2019	2020	2021	2022
<b>Total treated water generated (m<sup>3</sup>)</b>	26,290,642	27,051,975	26,680,374	28,084,916	25,525,322	26,893,281
<b>Total water used (m<sup>3</sup>)</b>	21,900,836	22,586,900	22,132,634	23,495,901	23,433,000	24,092,421
<b>NRW (m<sup>3</sup>)</b>	4,389,806	4,465,075	4,547,740	4,589,015	2,092,322	2,800,860
<b>NRW (%)</b>	16.70	16.51	17.05	16.34	8.2	11

Source: Putrajaya Sustainable City Reports for 2017-2022

**Table 5.2: Comparison of Lake and River Water Quality Index**

Location	Lake and River Water Quality Index								
	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Chau River Inlet</b>	78.4 (Class II)	78.7 (Class II)	80.2 (Class II)	70.1 (Class III)	73.6 (Class III)	73.1 (Class III)	77.5 (Class II)	84.6 (Class II)	84.8 (Class II)
<b>Lake Water</b>	90.4 (Class II)	90.5 (Class II)	90.0 (Class II)	90.4 (Class II)	90.4 (Class II)	91.3 (Class II)	92.8 (Class I)	93.3 (Class I)	93.6 (Class I)
<b>Outlet after Putrajaya Dam</b>	90.9 (Class II)	89.8 (Class II)	89.4 (Class II)	87.6 (Class II)	90.6 (Class II)	89.8 (Class II)	90.5 (Class II)	92.6 (Class II)	92.7 (Class II)

Source: Environment, Lake and Wetlands Division, Putrajaya Corporation.

**Table 5.3: Benefits of Using Lake Water as an Alternative Water Resource**

Item	2012-2017	2018	2019	2020	2021	2022
<b>Approved Annual Lake Water Intake (million litres)</b>	1,161.03	363.96	153.20	70	104	162
<b>Savings from Not Consuming Treated Water (RM)(1)</b>	RM1,877,309	RM585,976	RM246,652	RM112,700	RM166,764	RM260,820
<b>Annual Water Consumption (2)</b>	Equals 15,286 people	Equals 4,912 people	Equals 2,068 People	Equals 945 People	Equals 1,398 People	Equals 2,186 People
<b>Carbon Reduction CO<sup>2</sup> (kgCO<sup>2</sup>)(3)</b>	488,567	152,499	64,191	29,330	43,400	67,878

Note:

- a. Based on government departments' rate at RM1.61/m<sup>3</sup>.
- b. Estimated based on Malaysia average daily domestic consumption (203liters/person) x 365 days.
- c. LCCF: The system processes for 1 m<sup>3</sup> emit 0.419kgCO<sub>2</sub>



PERBADANAN  
PUTRAJAYA

UltraJaya  
Green City  
2025

CAREton

# 6.0

## Solid Waste Management

PERSTANDIKAN  
CARETON@PUTRAJAYA  
SNAP, POST



## 6.1 CAREton@Putrajaya

### 6.1.1 CAREton@Putrajaya 2022 Promotion Campaign

The main objective of the CAREton@Putrajaya 2022 promotion campaign is to reduce solid waste especially used beverage cartons (UBC) that are sent to solid waste landfills; and at the same time, to support the annual recycling collection rate target in Putrajaya which will see a 3% increase. A total of three series of campaigns were organized throughout 2022, in different locations. This campaign was organized with strategic partners namely Tetra Pak Malaysia and Nestle Malaysia.

The activities that were carried out included an exhibition about the CAREton project, an exhibition of various types of recycled products from UBC, and the collection of used beverage cartons (UBC) with incentives. Visitors who brought a minimum of 20 UBCs regardless of brand and size were given incentives such as KFC vouchers, MILO Nutri Pluz drinks and notebooks.

#### Campaign Series 1: Sustainable Corner, Putrajaya Corporation Complex, 22 February 2022.



UBC boxes sent by visitors were checked by staff first, through three main steps 'flip, flap, flat'.



Exhibition corner of UBC recycling process, UBC 'upcycle' products and polyAl boards produced by the Putrajaya Community.



In addition to getting know about CAREton@Putrajaya, visitors who successfully collected UBC boxes were given attractive incentives.



A total of 840 Used Beverage Cartons (UBC) were successfully collected in series 1 campaign.

### Campaign Series 2: Precinct 9 Recycling Centre, 18 June 2022.



The 2nd series campaign which was held in one of the high density neighbourhood precincts received a favourable response from the residents.



An exhibition corner on the introduction of the CAREton@Putrajaya project, an explanation of the UBC recycling process and examples of UBC products were put on display for public education.



Series 2 were improved with game learning section such as fast recycling (memory test) and sort by source (know the difference between recycled materials).



In addition to getting know about CAREton@Putrajaya, visitors who brought UBC boxes were given attractive incentives.



A total of 2,269 UBCs were successfully collected in the series 2 campaign.



## Campaign Series 3: Precinct 18 Recycling Center, 22 October 2022, 10am – 4pm.



The last campaign series for 2022 received a very encouraging response from the residents of Putrajaya.



An exhibition corner on the introduction of the CAREton@Putrajaya project, an explanation of the UBC recycling process and examples of UBC products were put on display for public education.



The games learning corner featuring the Cube Puzzle Game attracted visitors, especially children.



As a result of the year-long campaign, UBC collection showed an improvement and successfully attracted involvement at the school and society level.



A total of 5,001 UBC were successfully collected in the series 3 campaign

## 6.1.2 Poly Aluminium (PolyAl) Product Workshop 2022

**Date** : 1 June 2022

**Time** : 8:30 am – 5:15 pm

**Venue** : Dewan Melati , Putrajaya Corporation Complex

Poly Aluminium (PolyAl) is a material produced from recycled used beverage cartons (UBC). It can be utilized as a material for house construction, furniture, photo frames / certificates, flower pots and other products.

This workshop aims to give exposure to the community about the use of this green technology material while promoting the CAREton@Putrajaya project. In addition, the workshop can help the community improve its green product production skills which in turn has the potential to be developed as a local economic activity.



A total of 26 participants participated in the PolyAl Product Production Workshop 2022 organized by Putrajaya Corporation in collaboration with strategic partners Nestle Malaysia, Tetra Pak Malaysia dan Epic Homes

## CAREton@Putrajaya Information Corner



Participants were briefed on the CAREton@Putrajaya project and given an understanding of Poly Aluminium boards processed from used beverage cartons.

## Module 1: Craftsman Safety Measures



Participants were given information on safety measures before using craftsman tools.

## Module 2: Getting to know Craftsman Tools (sawing, hammering, drilling, fastener and hand tools)



Participants were divided into five groups according to station, namely sawing, hammering, drilling, fastener, hand tools.



Training in the techniques of using the right craftsman tools to produce PolyAl products.



## Module 3: Production of PolyAl Products



Participants used the skills they were taught to produce their respective PolyAl products.



Certificates of participation and “The Five Most Outstanding Participants” awards were given to the participants based on the evaluation of the workshop facilitator.



Appreciation was also given to PPj strategic partners namely Tetra Pak Malaysia and Nestle Malaysia.



The participants successfully produced a product made from PolyAl board which was a green technology material recycled from used beverage cartons (UBC)

### 6.1.3 CAREton@Putrajaya Workshop in Conjunction with FLORIA 2022

Date and Time : 3 September 2022

Venue : Royal Floria Festival (Floria) 2022, Anjung Floria, Precinct 4.

In conjunction with the Royal Floria Festival (Floria) 2022, CAREton@Putrajaya organized this special session for visitors to Floria 2022. Among the interesting activities that were carried out included:

#### CAREton@Putrajaya Project Exhibition and Information Corner



CAREton@Putrajaya Project Exhibition and Information Corner showcased the process and results of the UBC recycled products. This workshop was visited by about 2000 visitors.

## PolyAl Flower Pot Production Workshop



A total of 60 visitors participated in this workshop. The participants were provided with a guide and a polyAl board to produce flower pots by self-assembly.

## CAREton 3in1 Games Corner



Three types of games namely Cube Puzzle Game, Memory Game and Fun Recycling Quiz were featured to test visitors' level of understanding of the CAREton@Putrajaya initiative.



The visitors were provided with gifts such as fertilizers, PolyAl vase and flowers, in line with the theme of Floria 2022.

## Collection of Used Beverage Cartons (UBC) With Incentives





Incentives such as flowers, notebooks and a box of MILO UHT drinks were provided to members of the public who brought UBCs. A total of 720 UBCs were successfully collected.



### 6.1.4 CAREton@Putrajaya Competition: PolyAl Furniture

The CAREton@Putrajaya: PolyAl Furniture competition was organized from 20 September 2022 to 4 November 2022. This competition aims to increase the industry's creativity in producing recycled products using PolyAl boards; in addition to introducing the circular economy concept as a new approach in solid waste reduction actions in Putrajaya.

CAREton@Putrajaya: PolyAl furniture competition is open to Putrajaya resident associations, developer companies, architects, engineers, urban planners, interior designers and landscape architects. Participants were asked to produce furniture using PolyAl board and the furniture design must use at least 50% of the PolyAl board. The organization of this competition was a collaboration with Putrajaya Corporation's strategic partners, Tetra Pak Malaysia and Nestle Malaysia.



The participants were provided with eight pieces of PolyAl boards measuring 2ft x 4ft free of charge to produce polyAl furniture.

## Judging Session of the CAREton@Putrajaya Competition: PolyAI Furniture

Dates : 22, 23 & 24 November 2022

Venue: Sustainable Corner, Putrajaya Corporation Complex



The panel of judges comprised representatives of the Building Control and Urban Design Division, Tetra Pak Malaysia and Nestle Milo UHT. The evaluation criteria were based on the results of design creativity, functionality, robustness and safety features for users.

## CAREton@Putrajaya Competition Prize Giving Ceremony : PolyAI Furniture

Date : 20 December 2022

Time : 11:00 am to 12:30 pm

Venue : Sustainable Corner, Putrajaya Corporation Complex



The prize giving ceremony was officiated by Encik Shamsul Bahrin Bin Rahmat, Vice President of City Planning, Putrajaya Corporation.



A speech from a strategic partner from Tetra Pak Malaysia, Puan Terrynz Tan, Sustainability Director of Tetra Pak Malaysia, Singapore, Philippines and Indonesia



A speech of a strategic partner from Nestle Malaysia, Dato' Adnan Pawanteh, Director of Group Corporate Affairs, Nestle (Malaysia) Berhad

A total of 11 winners received prizes including certificates of participation, trophies and cash prizes.



The first prize winner, Community Garden 4 (KK4) Putrajaya received a certificate, trophy and cash worth RM1,000. Competition product : space-saving round table KK4.



The second prize winner, Kawasan Rukun Tetangga Pudina Precinct 17 received a certificate, trophy and cash worth RM800. Competition product : Multiple-use Coffee Table



The third place winner, Sekolah Menengah Kebangsaan Putrajaya Precinct 14(1) received a certificate, trophy and cash worth RM500. Competition product : Mobile cat house.



The fourth place winner, Heriot-Watt University Malaysia received a certificate, trophy and cash worth RM400. Competition product : Tawila (Coffee Table).



The fifth place winner, Community Garden Bandar Pudina Precinct 17 received a certificate, trophy and cash worth RM350.  
Competition product : Multi Use Storage Cabinet & Stool.



Presentation of Certificate of Appreciation to the jury representative from Tetra Pak Malaysia.



Presentation of Certificate of Appreciation to the jury representative from Nestle Malaysia.



Presentation of Certificate of Appreciation to Strategic Partner Tetra Pak Malaysia.



Presentation of Certificate of Appreciation to Strategic Partner Nestle Malaysia.



The attendees visited the product from the polyAl furniture competition.

## 6.1.5 Improvement to Garbage Room for Bulk Waste

Bulk waste is a type of solid waste that is large in size and requires a larger storage space in the garbage room so as not to affect the image of the city and maintain the cleanliness of the residential area. Examples of bulk waste are furniture and electrical appliances that are no longer in use. To address the issue of bulk waste storage, the Putrajaya Corporation implemented several pilot projects to improve existing garbage rooms using PolyAl board material.

A total of 5 quarters location were selected for the pilot project to improve the bulk waste space including:

1. Precinct 5R4 Apartment
2. Precinct 9 Phase 5 Apartment
3. Precinct 9 Phase 11 Apartment
4. Precinct 9 Phase 6 Apartment
5. Precinct 18R12 Apartment



Installation of Poly Aluminium (PolyAl) boards as a barrier to separate the bulk waste space from other domestic waste spaces. An informational poster explaining the bulk waste space is also on display.



## 5R4 Apartment



## Precinct 9 Phase 5 Apartment



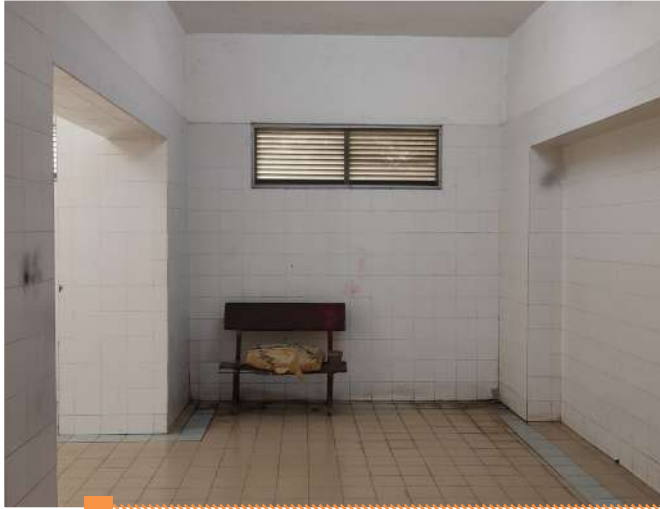
### Precinct 9 Phase 11 Apartment



### Precinct 9 Phase 6 Apartment



## 18R12 Apartment



## 6.2 USED COOKING OIL COLLECTION PROGRAMME

The *Jom Biodiesel* programme aims to increase the collection of used cooking oil from communities and business in Putrajaya. The strategic partner of this program is Alam Flora Sdn. Bhd.

The collection of used cooking oil is through 3 methods, namely:

- i. Business: during the organization of events in Putrajaya
- ii. Community: through recycling centres
- iii. Business: food courts and restaurants.

Figure 6.1: Method and Amount of Collection (kg) of Used Cooking Oil from January to December 2022.





Delivery of used cooking oil collection containers to business at the Putrajaya Ramadhan bazaar and the Putrajaya Food Carnival organized by the Putrajaya Corporation.

## 6.3 COMPOST WITH COMMUNITY PROGRAMME

**Date and Time** : 27 July 2022, 8:00 am

**Venue** : Community Garden 4, Precinct 14

The Compost with Community Programme is a project organized by the Human Development Club (INSAN), Universiti Putra Malaysia in collaboration with Community Garden 4 and the Student Affairs Division (BHEP), Universiti Putra Malaysia. The objective of this project is to give exposure to students and the community regarding the proper disposal of food waste and garden waste. In addition, it also aims to raise awareness about organic materials that can be recycled into organic fertilizers.

A total of 10 students from Universiti Putrajaya Malaysia and lecturers as well as 40 participants consisting of members of Community Garden 4 (KK4), Phase 14/7 Apartment Precinct 14 community and housing communities around Putrajaya were involved in the programme.



The participants were given information about the benefits of using compost in urban agriculture and how to produce compost at home.



Compost production activities by programme participants using food waste and garden waste brought from their homes such as fruit peels, eggshells and vegetable waste.



A photography session with UPM students and the Putrajaya community



## 6.4 QUICK FACTS

**Table 6.1: Solid Waste Rate in Putrajaya**

Year	Total Solid Waste (kg)	Solid Waste (tons/day)	Total Domestic Solid Waste (kg)	Domestic Waste (tons/day)
<b>2014</b>	34,473,700	94.4	27,757,460	76.0
<b>2015</b>	37,613,320	103.1	28,987,590	79.4
<b>2016</b>	40,084,760	109.8	29,360,290	80.4
<b>2017</b>	41,516,810	113.7	28,903,840	79.2
<b>2018</b>	42,797,900	117.2	30,191,620	82.7
<b>2019</b>	40,729,370	111.5	30,539,680	83.7
<b>2020</b>	41,337,840	113.3	30,906,280	84.7
<b>2021</b>	45,890,020	125.7	33,740,220	92.4
<b>2022</b>	45,742,530	125.3	34,239,960	93.8

Source : Environmental Health Division, Putrajaya Corporation

**Table 6.2: Domestic Solid Waste Rate per Capita in Putrajaya 2014 to 2022**

Year	Total Domestic Solid Waste (kg) <sup>1</sup>	Population <sup>2</sup>	Domestic Waste (kg/capita/day) <sup>3</sup>
<b>2014</b>	27,757,460	82,200	0.93
<b>2015</b>	28,987,590	81,400	0.98
<b>2016</b>	29,360,290	84,400	0.95
<b>2017</b>	28,903,840	86,900	0.91
<b>2018</b>	30,191,620	90,400	0.92
<b>2019</b>	30,539,680	103,800	0.81
<b>2020</b>	30,906,280	113,300	0.75
<b>2021</b>	33,740,220	134,391	0.69
<b>2022</b>	34,239,960	143,300	0.66

Source : (1), (3) Environmental Health Division, Putrajaya Corporation  
(2) MURNInet 2014-2022

**Table 6.3: Recycle Rate in Putrajaya 2014 to 2022**

<b>Year</b>	<b>Total Domestic Waste (kg)</b>	<b>Total Recycled Material Collection (kg)</b>	<b>Recycling Rate (%)</b>
<b>2014</b>	27,757,460	2,220,000	7
<b>2015</b>	28,987,590	2,232,837	7
<b>2016</b>	29,360,290	2,382,172	8
<b>2017</b>	28,903,840	2,503,000	9
<b>2018</b>	30,191,620	2,837,733	9
<b>2019</b>	30,539,680	3,101,901	10
<b>2020</b>	30,906,280	4,314,204	14
<b>2021</b>	33,740,220	5,310,747	16
<b>2022</b>	34,239,960	6,282,659	18

*Source : Environmental Health Division, Putrajaya Corporation*





### 3 JENIS INISIATIF

- 

Penjimatian Elektrik
- 

Penjimatian Air
- 

Pengurusan Sisa Pepejal

# 7.0

**City Administration and Management**

KATEGORI INDIVIDU

KATEGORI INSTITUSI AWAM

## 7.1 PUTRAJAYA GREEN INITIATIVE AWARD 2022 (AIH PUTRAJAYA 2022)

The Putrajaya Green Initiative Award is an annual PPj program aimed at promoting green city practices among the residents and workers of Putrajaya, especially regarding saving electricity, saving water, and reducing solid waste. AIH Putrajaya 2022 took place from 15 July to 30 August 2022. Participation in AIH Putrajaya is free and open to all residents and workers in Putrajaya.



**AIH 2022**  
ANUGERAH INISIATIF HIJAU PUTRAJAYA 2022

SCAN QR Untuk penyertaan  
INDIVIDU INSTITUSI

**KINI DIBUKA!**

**HADIAH KESELURUHAN BERJUMLAH RM21,900**

**3 INISIATIF**

- PENJIMATAN AIR
- PENGURANGAN SISA PEPEJAL
- PENJIMATAN ELEKTRIK

**KATEGORI PENYERTAAN**

- INDIVIDU (KEDIAMAN)
- INSTITUSI AWAM & SWASTA

DOKUMEN PENYERTAAN

- Video Inisiatif Hijau (2 minit)
- Rekod penggunaan elektrik/air/rekod 3R

**PERNYERTAAN PERCUMA**

**TARİKH PENYERTAAN: 15 JULAI 2022**


**TARİKH TUTUP: 30 OGOS 2022**

PERTANYAAN: Tfr, Wang Tze Wai: wangtze@ppj.gov.my | Ahmad Helmi B. Abu: ahmadhelmi@ppj.gov.my | Muhammad Fahri B. Zulkipri: muhammadfahri@ppj.gov.my

Logos: Putrajaya, MAMPU, TENAGA NASIONAL, Air Selangor, AFES

## AIH Putrajaya 2022 Total Participation


A total of 30 entries were received that included 11 electricity saving initiative entries; 7 water saving initiative participation and 12 solid waste management initiative participation.




**30 PENYERTAAN** ...

Category	Percentage
Pengurusan Sisa Pepejal	40%
Penjimatan Elektrik	37%
Penjimatan Air	23%




**06 : jangan biarkan pc, laptop atau monitor lcd berada dalam keadaan standby jika tidak digunakan.**



**Jangan Membazir Air. Tutup paip jika tidak digunakan.**



**PENGURUSAN SISA PEPEJAL**



Participation documents such as a 2-minute video, electricity or water bills and sales receipts for recycled goods at Recycling Centres around Putrajaya were submitted online.

## AIH Putrajaya 2022 Presentation Ceremony

The AIH Putrajaya 2022 ceremony took place on 20 October 2022 at Dewan Seri Seroja, Precinct 15 Putrajaya and the award was presented by Encik Shamsul Bahrin Bin Rahmat, Vice President of the City Planning Department, Putrajaya Corporation. AIH Putrajaya winners received participation certificates and cash prizes as follows: Winner RM600; Runner-up RM500; 3rd place RM400 and consolation RM200.



Winner of the individual category for the electricity saving initiative



Winner of the individual category for water saving initiative



Winner of the individual category for the solid waste management initiative



Winner of public and private institution category for electricity saving initiative



Winner of public and private institution category for water saving initiative



Winner of the public and private institution category for solid waste management initiative



Presentation of certificate of appreciation and souvenirs to the representative of the jury panel from the Putrajaya Corporation



Presentation of certificate of appreciation and souvenirs to the representative of the jury panel from Tenaga Nasional Berhad



Presentation of certificate of appreciation and souvenirs to the representative of the jury panel from Pengurusan Air Selangor Sdn Bhd



Presentation of certificate of appreciation and souvenirs to the representative of the jury panel from Alam Flora Sdn Bhd



Presentation of certificate of appreciation and souvenirs to the representative of AIH Putrajaya's strategic partner, Tenaga National Berhad.



Presentation of certificate of appreciation and souvenirs to the representative of AIH Putrajaya's strategic partner, Selangor Water Management.



Presentation of certificate of appreciation and souvenirs to the representative of AIH Putrajaya's strategic partner, Alam Flora Sdn. Bhd.





Photography session with the jury and the winners of the Putrajaya Green Initiative Award 2022.

## 7.2 PUTRAJAYA YOUTH ENVIRONMENT LIVING LABS (YELL) : ECO-STORIES WRITING CONTEST

The Youth Environment Living Labs (YELL) is a programme introduced by the United Nations Development Programme (UNDP) Malaysia, Singapore and Brunei Darussalam, as well as the United Nations Children's Fund (UNICEF) Malaysia in 2020 and supported by Amanah Lestari Alam (ALAM).

YELL's main objective is to provide a platform to educate and train youth to be more aware of climate change issues and environmental preservation. This programme also gives the youth an opportunity to share ideas and act together in dealing with climate change issues.

In 2022, Putrajaya Corporation for the first time collaborated with YELL in organizing the Eco-Stories Writing Contest programme. This programme aims to educate secondary school students to be more sensitive to environmental issues and the effects of climate change in their environment through storytelling.

### Eco-Stories Writing Contest Participation Briefing

**Date : 14 September 2022**

**Time : 2:30pm – 4:30pm**

**Venue : Dahlia Meeting Room, Block D, Kompleks Perbadanan Putrajaya**



A total of 13 secondary school representatives attended this briefing session as an initial introduction to the YELL: Eco-Stories Writing Contest programme that was organized

## Eco-Stories Writing Contest Workshop

Date : 12 October 2022

Time : 2:00pm – 5:00pm

Venue : Dewan Armada, Marina Putrajaya, Precinct 5

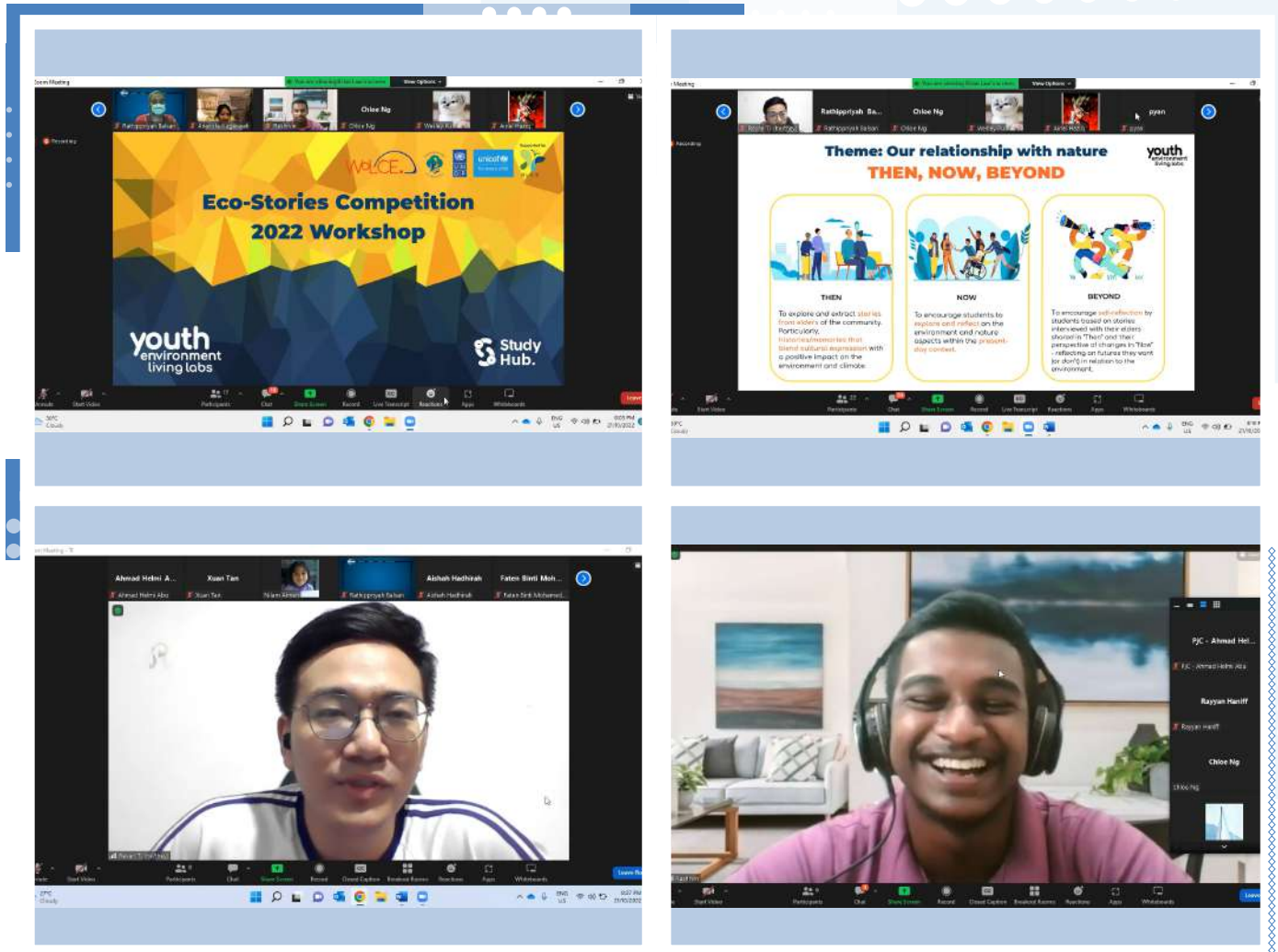


A total of 44 students from 9 secondary schools took part. The workshop started with an introduction session and an ice-breaking game. The students were given guidance on how to produce eco stories in essay and short video formats.

## Online Eco-Stories Writing Contest Guidance Session Series 1 and Series 2

Dates : 21 October & 28 October 2022

Time : 8:00 pm – 10:00 pm



A total of 21 participants followed the series 1 coaching session and 25 participants followed the series 2 coaching session online. These two additional guidance sessions were to monitor the progress of the production of eco stories and answer questions from the students.

## Eco-Stories Writing Contest Prize Presentation Ceremony

Date : 17 November 2022

Time : 2:30pm – 5:00pm

Venue : Dewan Armada, Marina Putrajaya, Precinct 5



Encik Shamsul Bahrin Bin Rahmat, Vice President of the City Planning Department, Putrajaya Corporation officiated the prize-giving ceremony. A total of 19 students submitted eco stories after the guidance session. The winners received participation certificates and cash prizes as follows: Winner RM500; Runner-up RM400; 3rd place RM300, 4th place RM200, 5th place RM150 and consolation prize of RM100.



Photo Essay Winner - Muhammad Zikry Bin Mohazmi (SMK Putrajaya Precinct 8(1))



Photo Essay Runner-Up - Faten Binti Mohamed Hatta (SMK Putrajaya Precinct 5(1))



4th place Photo Essay - Muhammad Syazmil Aiman Bin Shamsul Azhar (Sekolah Sultan Alam Shah)



5th Place Photo Essay - Sofia Amani Farahiyah Binti Nor Azam (SMK Putrajaya Precinct 8(1))



Consolation Photo Essay - Aishah Hadhirah Binti Kairulanuar (SMK Putrajaya Precinct 5(1))



Consolation Photo Essay - Nur Aufa Binti Mazree (SMK Agama Putrajaya)



Consolation Photo Essay - Hanis Insyirah Binti Mohd Saufi  
(SMK Putrajaya Precinct 11(2))



Consolation Photo Essay - Daren Iman Binti Dinomasradi  
(SMK Putrajaya Precinct 5(1))



Consolation Photo Essay - Sofhian Altaf Bin Suhaimi  
(Sekolah Sultan Alam Shah)



Video Essay Winner - Tan Teng Xuan (Nexus International School Malaysia)



Video Essay Runner-Up - Nurul Farhanah Binti Mohd Azizi (SMK Putrajaya Precinct 16(1))



3rd Place Video Essay - Jasmine Ayesha Binti Muhammad Hazam (SMK Putrajaya Precinct 5(1))



4th Place Video Essay - Nilam Aiman Bin Mohd Rushdy (Sekolah Sultan Alam Shah)





5th Place Video Essay - Nur Husna Najihah Binti Adnan  
(SMK Putrajaya Precinct 16(1))



Consolation Video Essay - Nur Wajihah Binti Mohd Zairi  
(SMK Putrajaya Precinct 14(1))



Presentation of certificate of appreciation and souvenirs to the jury - Lim Su-Jin, Coordinator Youth Environment Living Labs, UNICEF, Malaysia.



Presentation of certificate of appreciation and souvenirs to the jury - Lim Kwok Foong, Digital Technologies Consultant, UNICEF, Malaysia.



Presentation of certificate of appreciation and souvenirs to the jury - Leo Shu Min, Youth-Environment Community Facilitator, UNDP, Malaysia.



Presentation of certificate of appreciation and souvenirs to the representative of strategic partner, the United Nations Development Programme (UNDP).



Presentation of certificate of appreciation and souvenirs to the representative of strategic partner, the United Nations Children's Fund (UNICEF).



A photography session with strategic partners and the winners.

### 7.3 National Workshop on Climate Change Adaptation and Climate Finance

**Date : 15 until 17 August 2022**

**Venue : Hayatt Regency Hotel, Kota Kinabalu, Sabah.**

The Putrajaya Corporation has joined The Global Covenant of Mayors for Climate and Energy (GCoM) since 2019. In line with the preparation of the Putrajaya Climate Change Action Plan 2030 (PCAP2030), GCoM organized a National Workshop on Climate Change Mitigation, Adaptation and Climate Finance as a development capacity measure for GCoM member cities.

Among the main objectives of the workshop included:

- To train local councils (PBT) in Malaysia in developing adaptation actions to climate change.
- To support cities in Malaysia in developing climate action plans.
- To showcase best practices in European and Malaysian cities in climate change mitigation and adaptation actions.

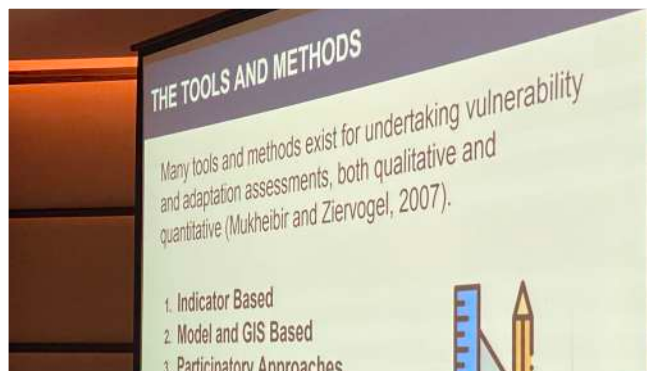


A total of 47 participants from 17 local councils in Malaysia attended the 3-day workshop.

## Training on Climate Change Adaptation and Mitigation – Introduction & Practice Exercises

Four training modules were held namely:

1. Module 1 – GCoM Common Reporting Framework Introduction and Guide.
2. Module 2 – Greenhouse Gas Inventory (GHGI) Using CIRIS.
3. Module 3 – Climate Risk and Vulnerability Assessment (CRVA).
4. Module 4 – Climate Action Plan Development and Implementation.



Training module session managed by the Low Carbon Asia Research Centre, Universiti Teknologi Malaysia (UTM-LCARC).

## Climate Finance for Programme Implementation



Sharing session by Malaysian Green Technology and Climate Change Corporation (MGTC), United Cities and Local Governments Asia Pacific (UCLG ASPAC), ICLEI Southeast Asia and CIMB Group, regarding grants under the government, as well as financial funds from GCoM and financial institutions.

## Sharing Session - Climate Actions by Malaysian Cities : Methods, Experiences & Challenges



Sharing session by Penang Green Council, Iskandar Regional Development Authority (IRDA), Sibul and Iskandar Puteri regarding best practices and challenges in dealing with climate change.

## Site Visit: TONIBUNG facility, Nampasan Village, Penampang, Sabah.



Briefing by Encik Adrian Banie Lasimbang, founder of TONIBUNG facility which is a social body that helps Sabah's young generation in the development of renewable energy technology.



Demonstration of the manufacture of recycled goods from plastic bottles and solar technology produced for the use of people living in rural areas.

### Site Visit : Kota Kinabalu Wetland, Kota Kinabalu, Sabah.



The 24-hectare Kota Kinabalu Wetland is the country's 7th Ramsar site, which is a habitat for various types of migratory birds and has been gazetted as the Kota Kinabalu City Bird Sanctuary.



There is also a species of mangrove tree that is almost extinct and difficult to find which is the berus mata buaya or the scientific name '*Bruguiera hainesii*'.

## 7.4 Awards and Recognition

The Putrajaya Corporation received various awards and accolades throughout the year 2022 in achieving the Putrajaya Low Carbon Green City 2025 target, among which were:

1. Malaysian Institute of Planners (MIP) Planning Excellence Awards 2022
  - Gold – Low Carbon Planning Award : Roles and Contributions of Lake and Wetland in Putrajaya Low Carbon City
  - Bronze – Community Based Planning Award : Community Garden Precinct 14, Putrajaya
2. National Scroll of Honour Award for Human Settlement 2022
  - First Place - City Community Garden Precinct 16, Putrajaya



MIP Planning Excellence Awards 2022 ceremony on 16 January 2023, at The Majestic Ballroom, Majestic Hotel Kuala Lumpur





The Putrajaya Corporation won two gold and two bronze medals at the MIP Planning Excellence Awards 2022



Community Garden Precinct 16 was awarded First Place, National Scroll of Honor Award for Human Settlement 2022 on 7 November 2022 at Dewan Kristal, The Ministry of Housing and Local Government (KPKT) in conjunction with the 2022 World Habitat Day Celebration



# PUTRAJAYA GREEN CITY COMMITTEES, PUTRAJAYA CORPORATION

## APPENDIX A

### PATRON:

YBhg. Dato' TPr. Fadlun Bin Mak Ujud  
President, Putrajaya Corporation

### CHAIRMAN:

En. Shamsul Bahrin Bin Rahmat  
Vice President City Planning

### MEMBERS:

Pn. Noor Sita Binti Abbas (TPr.)  
Director Sustainable Development & Housing Division,  
City Planning Department.

Pn. Hjh. Salmah Binti Hj Salman (TPr.)  
Planning & Development Control Division,  
City Planning Department.

Tn. Hj. Zainal Ariffin Bin Baseri  
Director Building Control & Urban Design Division,  
City Planning Department.

Pn. Ruhselah Binti Hj. Ismail  
Director Environment, Lakes & Wetland Division,  
City Planning Department.

En. Muhamad Zubir Bin Saran (Ir.)  
Director Road Division,  
Engineering & Maintenance Department.

En. Megat Ahmad Tarmizi Bin Che Aini  
Director Facility Management Division,  
Engineering & Maintenance Department.

Tn. Hj. Jalani Bin Abdullah  
Director Project Management Division,  
Engineering & Maintenance Department.

En. Mohd Suzilan Bin Sahak  
Director Traffic & Public Transport Division.  
Engineering & Maintenance Department.

En. Mustafa Kamal Bin Ismail  
Director Horticulture and Urban Farming Division,  
Landscape & Park Department.

En. Haris Bin Kasim (LAr.)  
Director Operation & Recreation Division,  
Landscape & Park Department.

Pn. Asmah Binti Yahaya  
Director Landscape Management &  
Maintenance Division,  
Landscape & Park Department.

Dr. Mohd Helmi Bin Abdul Hamid  
Director Environmental Health Division,  
City Services Department.

En. Ahmad Faizal Bin Abu Bakar  
Senior Assistant Director, Procurement Management Section,  
Finance Department.

### SECRETARIAT (PUTRAJAYA GREEN CITY SECTION):

Wang Tze Wee (TPr.)  
Ahmad Helmi Bin Abu  
Muhammad Fahri Bin Zulkipli  
Muhammad Syafiq Fauzan Bin Othman

MINISTRY OF NATURAL RESOURCES, ENVIRONMENT AND CLIMATE CHANGE

MINISTRY OF TRANSPORT MALAYSIA

MINISTRY OF LOCAL GOVERNMENT DEVELOPMENT OF MALAYSIA

MINISTRY OF WOMEN, FAMILY AND COMMUNITY DEVELOPMENT

DEPARTMENT OF FEDERAL TERRITORIES

PUTRAJAYA PUBLIC WORKS DEPARTMENT

SUSTAINABLE ENERGY DEVELOPMENT AUTHORITY MALAYSIA (SEDA)

MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CORPORATION (MGTC)

ENERGY COMMISSION

FEDERAL TERRITORY OF PUTRAJAYA EDUCATION DEPARTMENT

DEPARTMENT OF ENVIRONMENT PUTRAJAYA

TOWN AND COUNTRY PLANNING DEPARTMENT (PLANMalaysia)

SOLID WASTE AND PUBLIC CLEANSING MANAGEMENT CORPORATION (SWCorp)

NATIONAL SOLID WASTE MANAGEMENT DEPARTMENT (JPSPN)

NATIONAL WATER SERVICES COMMISSION (SPAN)

DEPARTMENT OF IRRIGATION AND DRAINAGE (DID)

SEWERAGE SERVICES DEPARTMENT (JPP)

NATIONAL WATER RESEARCH INSTITUTE OF MALAYSIA (NAHRIM)

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)

GREEN BUILDING INDEX (GBI)

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP) MALAYSIA

GREEN TECHNOLOGY APPLICATION FOR THE DEVELOPMENT OF LOW CARBON CITIES (GTALCC)

PUTRAJAYA HOLDINGS SDN. BHD.

ALAM FLORA SDN. BHD.

INDAH WATER KONSORTIUM SDN. BHD.

TETRA PAK (MALAYSIA) SDN. BHD.

NESTLÉ (MALAYSIA) BERHAD

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

UNITED NATIONS CHILDREN'S FUND (UNICEF)

AMANAH LESTARI ALAM (ALAM)

STUDY HUB ASIA

EXPRESS RAIL LINK SDN. BHD.

PENGANGKUTAN AWAM PUTRAJAYA TRAVEL & TOURS SDN. BHD. (PAPTT)

TENAGA NATIONAL BERHAD (TNB)

GAS DISTRICT COOLING (PUTRAJAYA) SDN. BHD.

GAS MALAYSIA BERHAD (PUTRAJAYA)

AIR SELANGOR

KK SUPER MART PRECINCT 15

KK SUPER MART PRECINCT 8

SUASANA PjH PRECINCT 2

COMMUNITY FARM 4 (KK4), PRECINCT 14

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