



Putrajaya

LOW CARBON GREEN CITY

INITIATIVES REPORT

NINTH EDITION • DECEMBER 2024



Putrajaya Low Carbon Green City Initiatives Report

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Ninth Edition

December 2024

Foreword

from the President



Assalamualaikum warahmatullahi wabarakatuh and greetings,

Alhamdulillah, congratulations and well done on the publication of the ninth edition of the Low Carbon Green City Initiative Report. This report is published to document various initiatives that are the collaboration between members of the Low Carbon City Task Force, strategic partners, and the Putrajaya community, in support of the Government's goal to make Putrajaya a low-carbon city model in Malaysia. The initiatives implemented are based on the seven (7) Focus Areas of Putrajaya Green City 2025 and the six (6) themes of the Putrajaya Climate Action Plan 2030.

The Putrajaya Climate Action Plan 2030 has set a target to reduce GHG carbon emissions (absolute) by 33% by 2030. To achieve this target, the Putrajaya Low Carbon City Model Roadmaps have been developed, identifying 147 initiatives to be implemented by the Low Carbon City Task Force until 2030. In addition, to ensure the 33% target can be achieved within the specified timeframe, two interim targets have been set; 1) an annual carbon avoidance target of 52.6ktCO₂eq; and 2) a quantitative target based on the 6 action themes. The achievement of all these targets is also recorded in this report.

I would like to express my deepest appreciation for the continuous cooperation and support from all members of the Putrajaya Low Carbon City Task Force in implementing all low-carbon initiatives within the set implementation timeline. May this effort continue in the coming years as Putrajaya's commitment to supporting the Government's recommendation to become a Low-Carbon City Model in Malaysia.

Thank you.

DATO' TPR. FADLUN BIN MAK UJUD
PRESIDENT
PUTRAJAYA CORPORATION
DECEMBER 2024



Message

from the Vice President



Assalamualaikum warahmatullahi wabarakatuh and greetings,

All praise and gratitude are due to Allah SWT, for by His grace, the Putrajaya Low Carbon City Task Force and strategic partners have successfully implemented various low-carbon city initiatives throughout 2024. Overall, as of December 2024, out of the 147 initiatives outlined in the Putrajaya Low Carbon City Model Roadmaps, 15% have been successfully implemented, 47% are currently being executed, and 38% are planned for future implementation.

Some of the key initiatives that have been implemented in 2024 include:

- i) Putrajaya Green Residence Incentive (IKH);
- ii) Installation of solar panels and energy-saving campaigns at the PPj Complex;
- iii) Provision of electric vehicle charging facilities;
- iv) E-scooter rental services along the Putrajaya Promenade ;
- v) Testing of the Automated Rapid Transit (ART) service;
- vi) Launch of the Nadi 10 & Nadi 30 Cards;
- vii) Tree planting programme;
- viii) Used beverage carton collection with incentive campaigns.
- ix) Ban on the use of single-use plastic at PPj;
- x) Putrajaya Community Waste to Wealth Project; and
- xi) Putrajaya Green Initiative Award (AIH).

In conclusion, my sincere appreciation to all parties who have contributed their expertise and involvement in implementing the low-carbon city initiatives. A special thanks also goes out to all strategic partners who have shown commitment and support to the Corporation.

Thank you.

TPr. HJH. SALMAH BINTI HJ. SALMAN
VICE PRESIDENT OF CITY PLANNING PUTRAJAYA
CORPORATION DECEMBER 2024

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1.0 CITY AND BUILDING PLANNING

1.0 CITY AND BUILDING PLANNING

1.1 The Building Sector Energy Use and Carbon Reporting Programme (BECO₂R) 2024

The Building Sector Energy Use and Carbon Reporting Programme (BECO₂R) aims to encourage the monitoring of monthly building performance through a voluntary reporting method by building owners/managers to the Corporation.

In addition, it helps to raise awareness regarding building management aspects at the operational level. As of the end of 2024, a total of 99 buildings with active status are participating in the BECO₂R programme, as listed in Table 1.1.

Table 1.1: Total Number of Buildings in the BECO₂R Programme until 2024

Building Type	Total Buildings
Government Office Building	79
Commercial Building	10
Hotel Building	2
Public Facilities Building	3
Residential Building (apartment)	3
School/University Building	1
Other Building	1
TOTAL	99

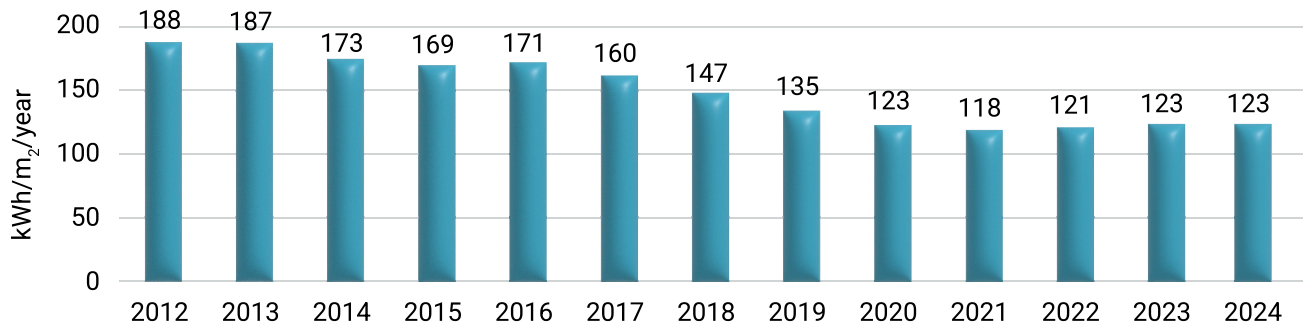


Three new buildings joined BECO₂R in 2024, namely PR1MA Apartment P11, PPAM Pudina Apartment P17, and Neighbourhood Commercial Centre 1 (NCC1) P9.



Based on the data reporting from the BECO₂R programme in 2024, the Building Energy Index (BEI) has shown a significant decrease of 35% (123 kWh/m²/year) compared to the BEI in 2012 (188 kWh/m²/year).

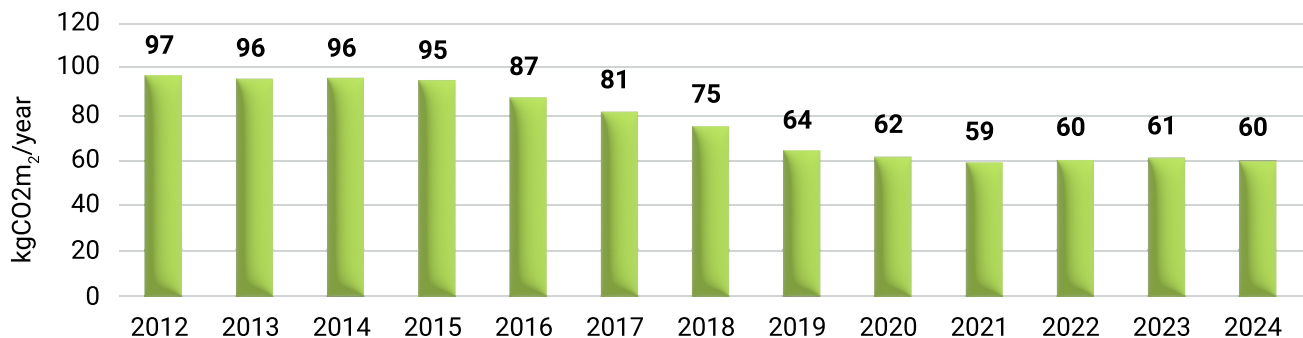
**Chart 1.1: Building Energy Index (kWh/m²/year)
Government Office Buildings in Putrajaya 2024**



Source: Building Consumption Input System (BCIS)

In terms of the Building Carbon Index (BCI) for 2024, it has shown a 39% decrease (60kgCO₂/m²/year) compared to BCI in 2012 (97kgCO₂/m²/year).

**Chart 1.2: Building Carbon Index (kgCO₂/m²/year)
Government Office Buildings in Putrajaya 2024**



Sumber: Building Consumption Input Sistem (BCIS)



1.1.1 Briefing for New Participants 2024

Date : 17 January 2024
Time : 10:30 AM – 12:30 pm
Location : Putrajaya Corporation Complex
No. Participants : 22 people
Objective : Providing an explanation and offering opportunities for private sectors participation in the BECO₂R programme in Putrajaya.

This briefing is an annual activity by the Putrajaya Corporation to increase the participation of private premises in the BECO₂R programme.



The participants consist of representatives from private companies such as 7 Eleven, Public Islamic Bank, Petronas, and the Strata Scheme Management Bodies. Participants were briefed on the importance of participation, their roles, and the incentives they will receive as the BECO₂R participants.



1.1.2 Incentives of the BECO₂R Programme

The Corporation has offered various types of incentives to BECO₂R participants for the year 2024. The incentives implemented include the following:

Building Energy Management Clinic 2024

This incentive is implemented in collaboration with a strategic partner, Tenaga Nasional Berhad (TNB), by providing building energy management advisory services and free walk-through audits to help reduce energy consumption and building utility costs.

A total of 3 series of Building Energy Management Clinics were held in 2024, involving the following buildings:

- i. PR1MA Apartment, Precinct 11
- ii. PPAM Pudina Apartment, Precinct 17
- iii. Neighbourhood Commercial Centre 1 (NCC1), Precinct 9

Date : 25 April 2024 (Series 1)
Time : 2:30 pm - 4:30 pm
Location : Apartment PRIMA, Precinct 11



A briefing session on the energy management clinic regarding the building profile with Prima Management Corporation representatives before the walk-through audit began.



The clinic session continued with a visit around the building management office to inspect the electrical wiring system and electrical equipment/machines used.





The air conditioners in used are recommended to be upgraded to energy-efficient with a 5-star rating. The room temperature was recorded at 26°C, despite the air conditioner being set to 24°C. This indicates a difference of 2°C or equivalent to 10% of energy being wasted.



The lights used are energy-efficient types, namely LED T8. The lighting level of 302 lumens in the office space is sufficient and appropriate, falling within the recommended range of 200-400 lumens.





Conventional fluorescent public lighting are recommended to be replaced with energy-efficient lighting such as LEDs. The installation of a dedicated TNB meter for public lighting has yet to be implemented to facilitate energy usage monitoring.



The lighting used in the parking area consists of energy-efficient LED T8 lights and utilizes natural sunlight during the day for energy savings.



Energy-efficient LED downlights are used in the lift lobby and operate 24 hours a day. Improvement measures, such as the installation of motion sensors, are encouraged.





The 6 lift units and water pumps in this building are among the equipment that consume a significant amount of energy in building operations. Maintenance issues and the selection of energy-efficient models should be prioritized by the building manager.



The installation of separate meters for the telco antenna structure, kindergarten, and daycare centre is encouraged to facilitate monitoring, raise awareness of energy savings, and reduce the electricity bill burden on the management body.



Date : 30 April 2024 (Series 2)
Time : 9:30 am – 12:30 pm
Location : PPAM Pudina Apartment, Precinct 17



A brief session of the energy management clinic was conducted with representatives of the PPAM Pudina Management Corporation regarding the building profile and operational methods before the walk-through audit began.



The Corporation and TNB conducted a site visit around the building to inspect the electrical wiring system and the electrical equipment/machines in use.



There are 17 units of 1HP air conditioners and 6 units of 2HP air conditioners. The air conditioner being used is not energy-efficient; it has a 5-star rating. The room temperature is found to be 23°C even though the air conditioner is set to 20°C." This indicates a difference of 3°C or equivalent to 15% of energy being wasted.





The lights used are energy-efficient types, namely LED T8. The level of illumination in the restaurant space is sufficient and suitable for food premises, ranging from 200-400 lumens. It is recommended that during the day, the lights in the meeting room can be turned off and natural sunlight can be utilized.



The public lighting used is LED, which is energy-efficient. The installation of a dedicated TNB meter for public lighting has yet to be implemented to facilitate energy usage monitoring.





The lighting used in the parking area consists of energy-efficient LED T8 lights and utilizes natural sunlight during the day for energy savings.



Energy-efficient LED downlights are used in the lift lobby and operate 24 hours a day. Improvement measures, such as the installation of motion sensors, are encouraged.



Energy-efficient LED downlights are used in the corridor area. The use of natural sunlight during the daytime is beneficial as an effort to save energy.



Energy-efficient LED downlights are used in the corridor area. It is recommended that the electrical wiring system be modified to separate some of the lights, ensuring no energy is wasted when only part of the space is in use.





The 26 lift units and water pumps in this building are among the equipment that consume a significant amount of energy in building operations. Maintenance issues and the selection of energy-efficient models should be prioritized by the building manager.



Digital billboards in lifts are also encouraged to be monitored, with the selection of energy-efficient models and improvements such as the installation of motion sensors for energy savings.



The meter separation for tenants of 4 shop units and 1 surau has been successfully implemented. The monthly electricity usage by tenants is encouraged to be monitored, along with raising awareness of energy savings to reduce the electricity bill burden on the management body.



Date : 23 April 2024 (Series 3)
Time : 2:30 pm - 4:30 pm
Location : Neighbourhood Commercial Centre 1 (NCC1), Precinct 9



The NCC1 representative explained the building profile and its operational procedures. Briefing on the walk-through session and the incentives of the BECO₂R program was delivered by the PPj representative.



A survey of all electrical equipment by the Energy Management Clinic team to ensure the level of energy efficiency at Shell Precinct 18.

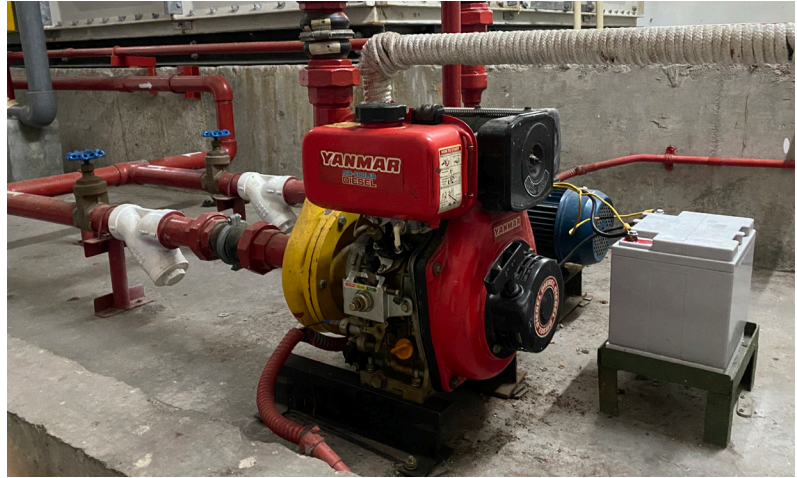


The air conditioners in use have a 3-star energy rating. It is recommended to use 5-star energy-efficient appliances to save on utility bill costs.



Conventional fluorescent public lighting are recommended to be replaced with energy-efficient lighting such as LEDs. It is recommended that regular cleaning and maintenance be performed to ensure optimal use of the lighting.





There are 4 lift motor units and water pumps in this building, which are among the equipment that consume a significant amount of energy in building operations. The selection of energy-efficient models and regular maintenance should be prioritized by the building manager.



The area lights and spotlight fixtures in the corridor are of low energy efficiency. Improvement recommendations include installing energy-efficient lighting such as LED. The corridor spotlights are recommended to be placed lower to ensure optimal lighting usage.



1.2 Sustainable Building Rating Status

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

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

The rating status for each type of system for the year 2024 is as shown in Table 1.2 to Table 1.4.

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

No.	Building	Certification Status
A. Completed Buildings:		
1.	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.	Malaysian Anti-Corruption Commission (SPRM), 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 Block A & B	GBI provisional rating CERTIFIED (NRNC), 2017
11.	Putrajaya Islamic Complex C	GBI provisional rating CERTIFIED (NRNC), 2017
12.	Putrajaya Islamic Complex 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 Buildings with MyCrest Certification

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

Source: Construction Industry Development Board (CIDB) Malaysia



Table 1.4: List of Buildings with GreenPASS Certification

No.	Building	Certification Status
1.	Ministry of Finance Malaysia	3 Diamonds
2.	Galeria PjH	2 Diamonds
3.	The Everly Hotel	2 Diamonds
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 Diamonds

Source: Sustainable Energy Development Authority

Table 1.5: List of Buildings with National Building Energy Intensity (BEI) Labelling

No.	Building	Certification Status
1.	PMO of the Perdana Putra Building	5 Star
2.	C1 Public Service Department	4 Star
3.	C2 Public Service Department	5 Star
4.	C3 Public Service Department	5 Star
5.	C4 Ministry of Science, Technology and Innovation	4 Star
6.	C5 Ministry of Science, Technology and Innovation	4 Star
7.	C6 Department of Statistics Malaysia	4 Star
8.	C7 Department of Statistics Malaysia	5 Star
9.	D1 Ministry of Home Affairs	3 Star
10.	D2 Ministry of Home Affairs	3 Star
11.	D3 Ministry of Human Resources	2 Star
12.	D4 Ministry of Human Resources	3 Star
13.	D5 Prime Minister's Department	3 Star
14.	D6 Ministry of Home Affairs	5 Star
15.	D7 Ministry of Home Affairs	3 Star

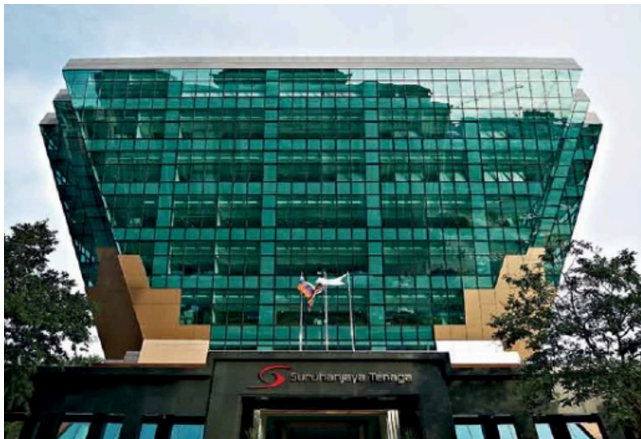


No.	Building	Certification Status
16.	D8 Ministry of Home Affairs	4 Star
17.	D9 Ministry of Home Affairs/ RELA	4 Star
18.	E4/5 Ministry of Entrepreneur Development and Cooperatives	4 Star
19.	F1 Public Services Commission of Malaysia / MYGCC	5 Star
20.	F2 National Audit Department	5 Star
21.	F3 National Audit Department	5 Star
22.	F5 PLANMalaysia	4 Star
23.	F6 Property Management Division	3 Star
24.	F7 Public Works Department Malaysia	3 Star
25.	F8 MPH	3 Star
26.	F9 MOH & Education Service Commission	4 Star
27.	F10 JLN/I-LEAD/BPA/KKM	4 Star
28.	F11 Ministry of Natural Resources and Environmental Sustainability	4 Star
29.	Z10 Office Tower	5 Star
30.	2G1 Accountant General's Department of Malaysia	3 Star
31.	2G1 Royal Malaysian Customs Department	3 Star
32.	2G2 Ministry of Finance Malaysia (MOF) / Treasury I	3 Star
33.	2G3 Ministry of Domestic Trade and Cost of Living	4 Star
34.	2G5 National Registration Department	3 Star
35.	2G6 Menara Usahawan	3 Star
36.	2G8 Ministry of Finance Malaysia / Treasury II (2M11)	3 Star
37.	2G8 Public Sector Home Financing Board (2M10)	4 Star
38.	2C10 Election Commission	3 Star
39.	Energy Commission	5 Star
40.	PjH Tower	5 Star
41.	3G1 Legal Affairs Building	3 Star
42.	3G3 Palace of Justice	4 Star
43.	Putrajaya Islamic Complex A&B	3 Star
44.	Putrajaya Islamic Complex C	3 Star



No.	Building	Certification Status
45.	Putrajaya Islamic Complex D	3 Star
46.	4G4 Ministry of Youth and Sports	3 Star
47.	4G8 Ministry of Rural and Regional Development	4 Star
48.	4G9 Ministry of Communications	3 Star
49.	PjH Gallery	4 Star
50.	5G2 Ministry of Tourism, Arts and Culture (Tower 1)	3 Star
51.	5G2 Ministry of Higher Education	4 Star
52.	4G1 Ministry of Agriculture and Food Security (Wisma Tani)	4 Star
53.	4G2 Ministry of Agriculture and Food Security (Wisma Tani)	4 Star
54.	Malaysian Anti-Corruption Commission (Headquarters)	3 Star
55.	Putrajaya Hospital	2 Star
56.	Fire and Rescue Department of Malaysia Headquarters	4 Star
57.	Fire and Rescue Department of Malaysia	4 Star

Sumber: Energy Commission



Energy Commission Building, Precinct 2
(GBI-PLATINUM)



Ministry of Finance Malaysia, Precinct 1
(GreenPASS - 3 Diamond)



1.3 Putrajaya Low Carbon City Model Roadmaps

In line with the government's announcement during the 2024 Budget on 13 October 2023, that Putrajaya will be low-carbon city model for Malaysia, Putrajaya Low Carbon City Model Roadmaps has been prepared as a guide for implementing low-carbon actions until 2030.

Launching Ceremony

Date : 22 February 2024

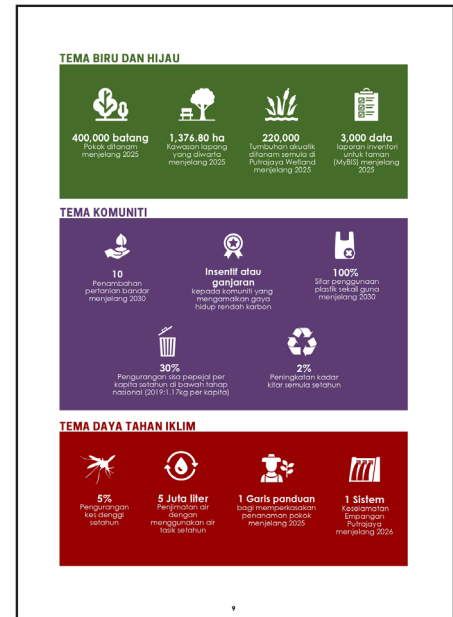
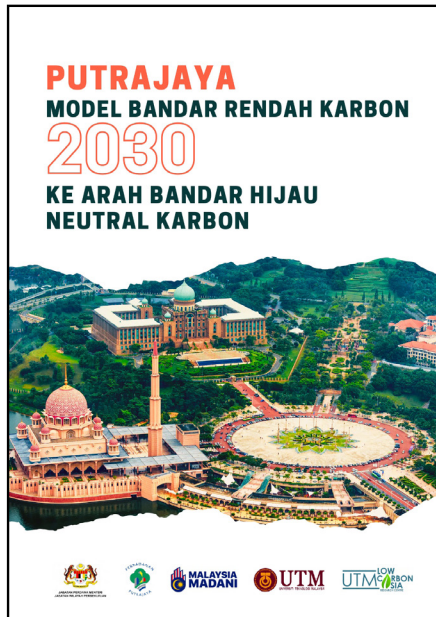
Time : 9:30 pm - 11:00 am

Location : Auditorium Tun Azizan Zainul Abidin, Kompleks PPj



The document was launched by YB Dr. Zaliha Binti Mustafa, Minister at the Prime Minister's Department (Federal Territories), during the 2024 Aspiration Ceremony: Together Driving a Prosperous Federal Territory.





High-impact low-carbon actions have been identified based on six (6) themes, namely:

- Energy
- Urban Planning and Building Regulations
- Mobility
- Blue and Green
- Community
- Climate Resilience

The implementation of this roadmaps will contribute to achieving the target of a 33% absolute reduction in greenhouse gas (GHG) emissions by 2030, as outlined in the National Low Carbon City Master Plan (NLCCM).



Exhibition on Putrajaya Low Carbon City Initiatives



YB Dr. Zaliha binti Mustafa, along with the President of Putrajaya Corporation and heads of agencies, visited the Putrajaya Low Carbon City exhibition, showcasing green technology products and information on low-carbon initiatives in Putrajaya.



1.4 GCoM Asia Closing Workshop – Advancing Sustainable Climate Action in Asia for Resilient Cities

- Date** : 12 & 13 June 2024 (Wednesday & Thursday)
- Location** : Bangkok Marriott Hotel The Surawongse, Thailand
- No. Participants** : 150 people (33 cities, 12 countries)
- Organizer** : Global Covenant of Mayors for Climate and Energy (GCoM) and European Union
- Objectives** :
- 1) Reporting the status of implementation and achievements of low-carbon actions for the pioneer cities sponsored by GCoM in the preparation of CAP2030.
 - 2) Showcasing actions/initiatives that have been implemented and sharing experiences among GCoM member cities.



The opening ceremony by H.E. David Daly, Ambassador of the European Union to Thailand; H.E. Chadchart Sittipunt, Governor of Bangkok, and Irene Mingasson, Head of FPI Unit, European Commission, Brussels.

Introduction to Climate Change Actions in Asia and Europe



A briefing on the implementation of climate change plans in Europe and Bangkok was delivered by Paulo Barbosa, European Commission, and Mr. Khun Prom Vikitsreth, Chief Sustainability Official, BMA.



GCoM Panel Briefing Session



A total of 6 briefing sessions were delivered by GCoM panel members, consisting of experts in climate change and low-carbon cities from various countries. The discussion topics included adaptation to climate change, circular economy and waste management, sustainable mobility, energy transition, GHG mitigation reporting, and climate finance in Asia and Europe.



Presentation of Appreciation Tokens to GCoM Asia and European Union (EU) Representatives



The presentation of souvenirs as a token of appreciation by the PPj representative to Pablo Gándara, Team Leader of GCoM Asia, and Alexandra Lehmann, European Union (EU). The polyAl souvenirs, made from community products, also serve as a promotion of the Waste to Wealth Putrajaya project to GCoM and the EU.



A total of 150 participants from various countries such as Malaysia, Japan, Korea, India, Thailand, Vietnam, Indonesia, China, the Netherlands, Germany, Portugal, and Denmark participated in this workshop.



Interactive Workshop - Climate Actions in European and Asian Cities



A total of 16 cities from Southeast Asia, 4 from India, 5 from Japan, and 5 from South Korea presented their respective city climate action plans (CAP). The PPj representative also explained the mitigation and adaptation targets, the status of action implementation, the implementation achievements (report card), and highlighted several interesting initiatives in Putrajaya.



Site Visit : A Bubble Barrier for Bangkok's Waterways



The visit took the delegation on a boat ride to the project site on the Chao Phraya River, Bangkok. Ms. Anne Marieke Eveleen, an expert from The Great Bubble Barrier (TGBB), explained the feasibility study results for the installation of the Bubble Barrier, its operation method, and its function in trapping solid waste in the Chao Phraya River to reduce pollution.







2.0 INTEGRATING NATURE INTO THE URBAN FABRIC

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2.1 Tree Planting Programme

2.1.1 100 Million Tree Planting Campaign at the federal territory of Putrajaya

The Malaysia Greening Programme through the 100 Million Tree Planting Campaign was simultaneously implemented nationwide on 5 January 2021, with the theme “Greening Malaysia: Our Trees, Our Life”. The Federal Territories Department also supports this campaign and has set a target of planting one million trees in the Federal Territory, with a specific target of 400,000 trees in Putrajaya for five (5) years, from 2021 to 2025.

The campaign targets and achievements at the Federal Territory of Putrajaya level are 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 (including shrubs)
1.	2021	68,850
2.	2022	91,614
3.	2023	121,647
4.	2024	106,280
	Total	388,391
	2025	400,000 (target)



Tree Planting with the Minister of Federal Territories in conjunction with the Putrajaya Corporation Healthy Steps Programme

- Date** : 07 August 2024 (Wednesday)
Time : 5:00 pm - 6:30 pm
Location : Jalan P18, Precinct 18, Putrajaya
Organized by : Putrajaya Corporation in collaboration with the Education Department of Federal Territories.
Objective : 1) Supporting the recommendation of Cultivating an Active Lifestyle in Putrajaya as an Initiative under the Malaysian National Health Agenda.
2) Responding to the recommendation of the YAB Prime Minister, where every tree cut down will be replaced by planting 100 new trees.



This programme was officiated by YB Dr. Zaliha Binti Mustafa, Minister in the Prime Minister's Department (Federal Territories), and the Federal Territories Department (JWP) and Putrajaya Corporation staff.





A total of six Mangosteen trees (*Garcinia mangostana*) were planted as a symbolic representation of the planting of 100 trees to replace the removal of high-risk *Casuarina* trees along Jalan P18, Precinct 18.



Sekatarakyat Golden Jubilee Tree Planting Programme 2024

- Date** : 28 September 2024 (Saturday)
Time : 8.00 am – 11:00 am
Location : Laman Putra 5, Jalan Alamanda, Precinct 1, Federal Territory of Putrajaya
Organized by : Koperasi Kakitangan Bank Rakyat Berhad (Sekatarakyat) in collaboration with Putrajaya Corporation.
Objective : Supporting the Malaysia Greening Program through the 100 Million Tree Planting Campaign.



*This program is part of Sekatarakyat's Corporate Social Responsibility (CSR) initiative in conjunction with the 50th anniversary celebration of the establishment of Koperasi Kakitangan Bank Rakyat Berhad. Sekatarakyat has allocated RM10,000.00 to Perbadanan Putrajaya for the cost of planting five Tekoma trees (*Tabebuia rosea*) and five Rainbow Eucalyptus trees (*Eucalyptus deglupta*), including tree maintenance costs for six (6) months.*





A total of 22 participants from Sekatarakyat, including Top Management, Board Members, Managers, and Executives, participated in this tree planting program.



2.2 Putrajaya Public Parks Promotion Programme

2.2.1 SMArt Botanic Edu-CARE 3.0 Programme – The Heart of Tropical Rainforest

The SMArt Botanic Edu-CARE Programme has been an annual programme since 2022. The implementation of this program is also in line with the 2nd focus scope: Integrating Natural Ecosystems into the Built Environments while enhancing the urban carbon sink.

- Duration** : 16 November until 7 December 2024
- Objectives** : Encouraging SMArt learning (Learning by Doing) in botanical knowledge and enhancing creativity through the ART of landscape design while fostering an appreciation to CARE for the environment.
- Organized by** : Putrajaya Corporation, in collaboration with researchers from SPiCE (Sustainable Practice in Conserving Environment), Department of Landscape Architecture, Faculty of Design and Architecture, Universiti Putra Malaysia.



The participants were students from Sekolah Menengah Kebangsaan Putrajaya and third-year Bachelor of Landscape Architecture students from FRSB, UPM. Participants were exposed to basic botanical knowledge and underwent practical landscape design and management training.



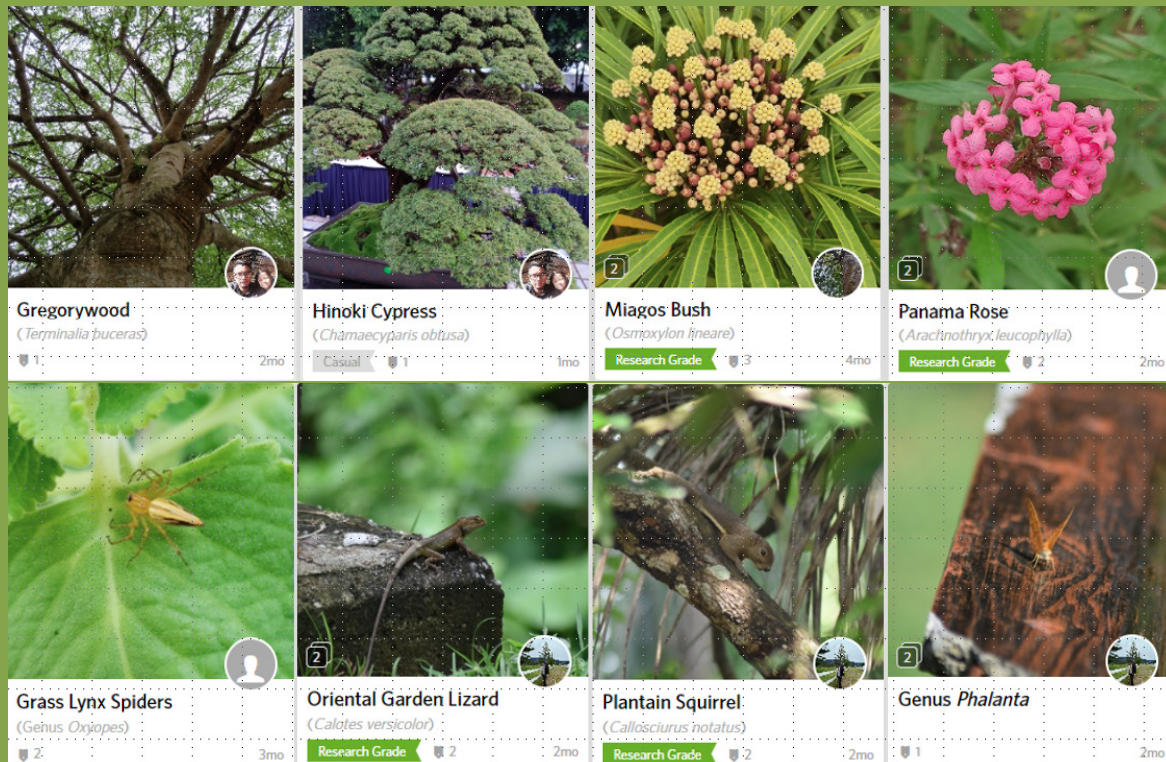


The Interpretive Trail Design Competition for the Tropical Forest Education Park provides essential exposure to park interpretation and its importance in educating the public to appreciate the environment.



2.3 Putrajaya Urban Biodiversity Challenge 2023 Series 2 (PUBC 2.0)

- Duration** : 31 August until 31 December 2023
- Objectives** : To raise awareness and provide benefits to more residents and visitors of Putrajaya about the importance of conservation and the sharing of urban biodiversity information, particularly on flora and fauna in Putrajaya.
- Strategic Partner** : i) Ministry of Natural Resources, Environment and Climate Change (NRES).
ii) Department of Wildlife and National Parks Peninsular Malaysia (PERHILITAN).
iii) Forest Research Institute Malaysia (FRIM)

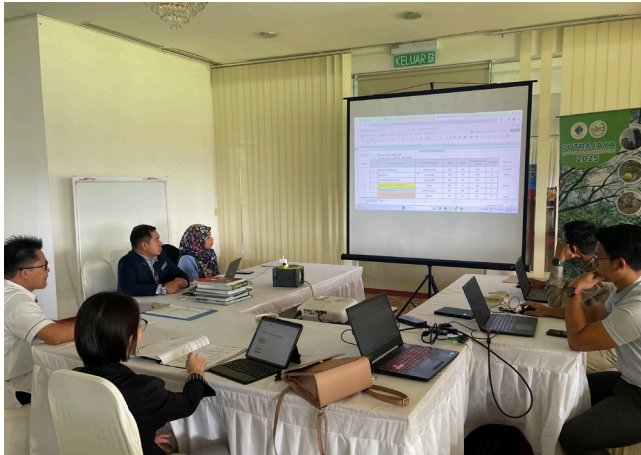


Putrajaya Urban Biodiversity Challenge 2023 Series 2 (PUBC 2.0) is a continuation of the first edition held in 2023 under the Putrajaya Green City initiative and innovation. There were 34 entries, and a total of 11,245 observation images of flora and fauna, covering approximately 2,136 species, were received.



Judging Session

Date : 9 & 10 January 2024
Time : 9:00 am until 5:00 pm
Location : Putrajaya Equestrian Park, Precinct 5



The jury panel consists of representatives from NRES, DWNP, FRIM, and the Botany Division, Department of Landscape and Parks, Putrajaya Corporation. The evaluation criteria are based on the number of observation images, the ratio of flora and fauna observation images, and the quality of the images.



Prize Giving Ceremony

Date : 30 January 2024
Time : 10:30 am until 1:30 pm
Location : Anggerik Room, Putrajaya Corporation Complex



The prize-giving ceremony was officiated by YBr. Mr. Shamsul Bahrin Bin Rahmat, Vice President, Department of Urban Planning. A total of 15 winners received prizes in the form of certificates, cash, and accompanying gifts.







3.0 TRANSPORTATION AND MOBILITY

3.0 TRANSPORTATION AND MOBILITY

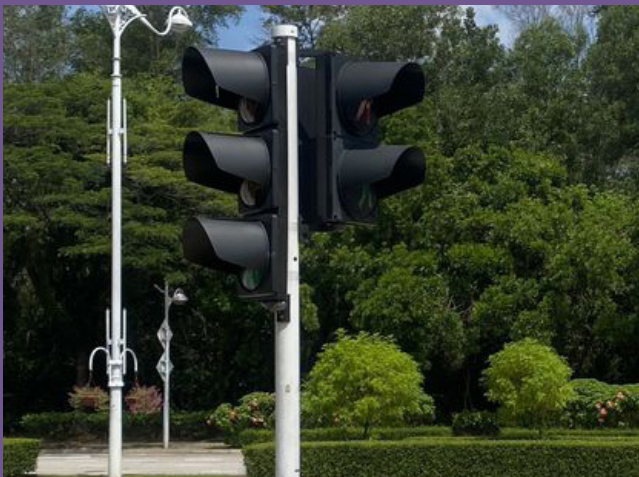
3.1 Improvement of Pedestrian Walkway and Bicycle Lane Facilities

For the year 2024, improvement works were continued in Precincts 5 & 14. Efforts to enhance the comfort and safety of bicycle and pedestrian path users involve the scope of replacing safety signage.

Installation of Safety Signage

28 units of safety signage at 11 main intersections have been installed with word “Turn left if there are no vehicles, pedestrians & bicycles.”

Before



After



Intersection of Jalan P5 and P5A/ 1, Precinct 5



Before**After***Intersection of Jalan P14 and P14J, Precinct 14***Before****After***Intersection of Jalan P14 and Jalan Diplomatik, Precinct 14*

3.2 Low Carbon Mobility Promotion Programme

3.2.1 Putrajaya Car Free Day

Date : 3 August 2024 (Saturday) – Series 1
Time : 7.30 am - 11:00 am
Location : Dataran Putrajaya, Precinct 3
No. of Participants : 5,000 people



The Car Free Day (CFD) programme returns after its last event in 2019. The programme is planned to be held on the fourth Saturday of each month, providing opportunities for external agencies to collaborate in organizing activities.



The inaugural CFD event of 2024 was enlivened by the MAPPA XIX Run Programme, which involving participation from civil servants and various Putrajaya community groups.





Side activities included a walkathon, RAHMAH and FAMA sales, and recreational activities, providing Putrajaya residents an opportunity to enjoy their weekend without vehicle disturbances.

Date : 21 September 2024 (Saturday) – Series 2
Time : 7.30 am - 11:00 am
Location : Dataran Putrajaya, Precinct 3
No. of Participants : 2,000 people



Car Free Day Putrajaya is organized in conjunction with the Putrajaya Cultural Festival. Programme participants consist of the Putrajaya community and Putrajaya Corporation staff.



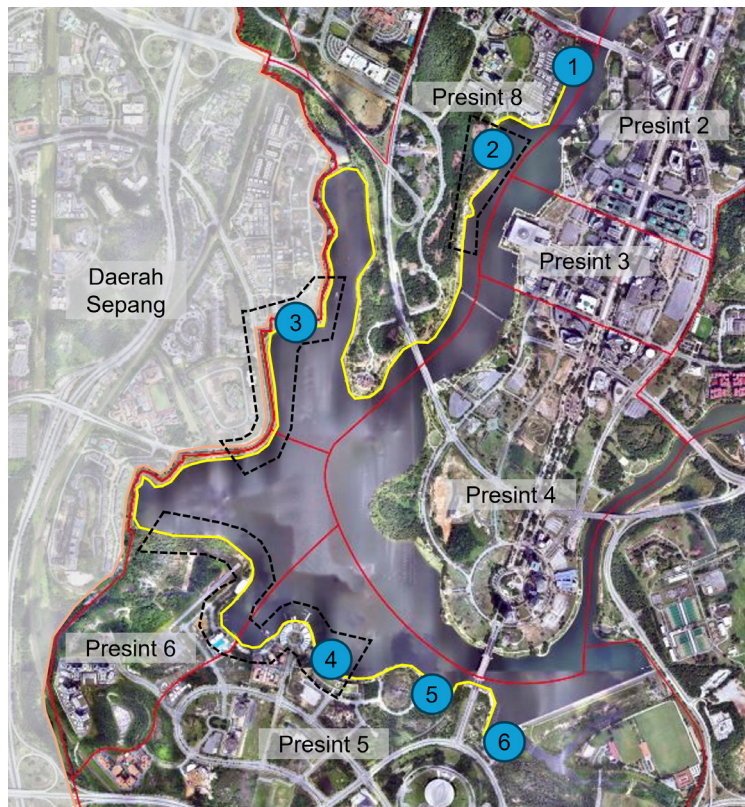


Let's go! Breakfast & Relaxation, Balloon Distribution, Coloring Contest, and Lego Block Building Competitions were among the activities organized to enliven Car Free Day Putrajaya.



3.2.2 E-Scooter Rental Service in Putrajaya

Date of commencement of operation	: 1 August 2024
No. of users	: 6,465 people (August to December 2024)
Total distance (km)	: 15km
Total units in operation	: 90 units
Speed	: 10km/hr - 15km/hr



E-Scooter Rental Station

1. Putrajaya Lake Club, Precinct 8
2. Ayer@8, Precinct 8
3. Promenade, Precinct 7
4. Heriot-Watt University, Precinct 5
5. Seri Gemilang Bridge
6. Taman Seri Empangan, Precinct 5

Legend:

- E-scooter lane
- Boundary
- E-scooter rental station
- ■ Low-speed zone

*There are 6 e-scooter stations provided along Putrajaya Promenade area.
The rental rate charged is RM 0.50 per minute.*





Promenade, Precinct 7



Taman Seri Empangan, Precinct 5



3.3 Improvement of Public Transportation Services in Putrajaya

3.3.1 Testing of Automated Rapid Transit (ART) Service

Route : Precinct 9 – MRT Putrajaya Sentral – Dataran Putra (Precinct 2)
 – Lingkaran Gemilang (Precinct 4)

Trial period : 13 May – 31 July 2024

No. of users : 2,600 people



The ART service is based on a 'trackless tram' concept and using electric power, which is provided for FREE. The public can enjoy this service for free.



3.3.2 Promotion of Nadiputra Bus Service and Nadi Card

This programme promotes public transportation and the Nadi Card, a monthly unlimited travel pass that helps users save on Nadiputra bus fares.

Date : 3 April 2024 (Saturday) – Series 1
Time : 8:30 am - 10:00 am
Location : Transit Hub, Complex E, Precinct 1, Putrajaya



The program is implemented in conjunction with the month of Ramadan and the Hari Raya Aidilfitri celebration. Souvenirs such as drink containers, Raya money packets, and dates were distributed to bus users as a token of appreciation.



Date : 4 April 2024 (Saturday) – Series 2
Time : 3:00 pm – 4:30 pm
Location : C/D Bus Stop Complex, Precinct 1 and Dataran Gemilang Transit Hub, Precinct 4.



This programme promotes the Nadi 10 Card and Nadi 30 Card, which are unlimited travel monthly passes. Bus users will also receive a special Nadiputra edition Raya money packet in conjunction with the upcoming Syawal celebration.

Date : 13 August 2024 (Tuesday) – Series 3
Time : 3:30 pm – 5:00 pm
Location : C/D Bus Stop Complex, Precinct 1



This programme is held in conjunction with the Independence Day celebration. During the vibrant Independence Month celebration, bus users were given Nadiputra bus service brochures, Nadi cards, and the Jalur Gemilang to ignite patriotism.



Date : 10 September 2024 (Saturday) – Series 4
Time : 2:30 pm – 4:00 pm
Location : Route P106



This programme focuses on school students in Putrajaya to raise patriotic awareness and love for the country while also appreciating Nadiputra bus users.

Date : 28 October 2024 (Saturday) – Series 5
Time : 2:30 pm – 4:00 pm
Location : Route P102 - Residential Bus Stop Precinct (Zone 6B)

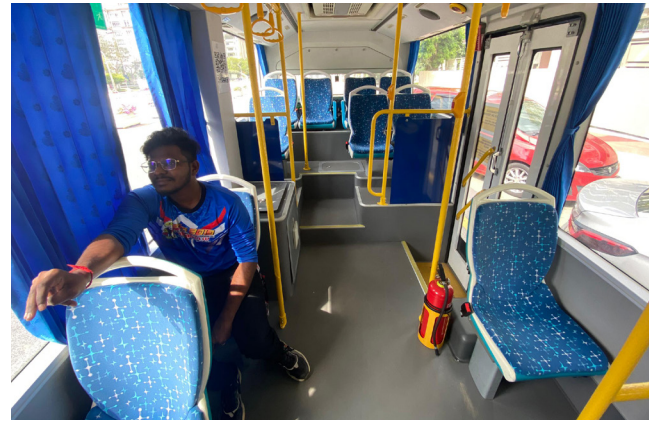


This programme is organized to promote the Nadiputra Putrajaya Bus service for Route P102 in conjunction with the 2024 Deepavali celebration. The use of the Nadi card is also promoted to school students.



3.3.3 Autonomous Electric Bus Testing in Putrajaya

Trial Period	: 18 November to 31 December 2024
Route	: Putrajaya Corporation (North) – PERKESO Tower – Ministry of Finance – Housing Loan Board (South) – Ministry of Transport – Ministry of Rural Development
Speed	: 30km/h - 40km/h
Objective	: To Increase public transport usage and reduce accident rates, operational costs, and workforce dependency.



This Autonomous Electric Bus service is equipped with 5G technology, public WiFi, a CCTV system and telemetry to enhance safety and operational reliability. The public can enjoy this service for FREE.



3.4 Provision of Electric Vehicle Charging Facilities in Putrajaya

The Putrajaya Low Carbon City Roadmap targets a total of 100 electric vehicle (EV) charging facilities in Putrajaya by 2030. One-Stop Centre (OSC) Committee Meeting No. 13/2024 pada 20 September 2024 has stipulated that EV charging facilities are to be provided, with 1 unit at Residensi Madani and 5 units at Residensi Harga Bebas.

Table 3.1 Number of Electric Vehicle Charging Facilities Installed and Operating in Putrajaya

Type	Open	Limited	Total
Charging station	23	5	28
Charging plug	3	4	7
Socket outlet	0	10	10
Total	26	19	45

**Notes:*

- (1) Open - Accessible to the public.*
- (2) Limited - Access restricted to owners, residents, tenants, or premise customers.*



Charging station at Tamara Residence, Precinct 8



Charging plug at Block F6, Kompleks F, Precinct 1



Socket outlet at Zenith Hotel, Precinct 2



3.4.1 Launching Ceremony of the Electric Vehicle (EV) Charging Station

Date : 17 October 2024 (Thursday)
Time : 9:00 am – 10:30 am
Location : Putrajaya Equestrian Park
Organized by : Gentari Sdn Bhd in collaboration with Putrajaya Corporation



This EV charging station, providing AC power of up to 7kW, was officially launched by the President of PPj, YBhg. Dato' TPr. Fadlun Mak Ujud and Chief Operation Officer of Gentari Green Mobility, Haikal Zubir.



3.4.2 Handover Ceremony of the Government Vehicle Transition Guidelines to Electric Vehicles and Launch of the EV Fast Charging Station (DCFC)

Date : 17 December 2024 (Tuesday)
Time : 2:00 pm – 4:30 pm
Location : Ministry of Natural Resources and Environmental Sustainability (NRES)
Organized by : Malaysian Green Technology and Climate Change Corporation (MGTC) in collaboration with the Ministry of Natural Resources and Environmental Sustainability (NRES).

This Guideline for Transitioning Government Vehicles to Electric Vehicles emphasizes data-driven assessment. It aligns the selection of Battery Electric Vehicles (BEV), providing specific guidance for government agencies in replacing fossil fuel-based vehicles with BEVs. This guideline also serves as a strategic planning framework for an efficient, cost-effective, and environmentally friendly transition to BEVs in government fleet operations.

Meanwhile, the Electric Vehicle Charging Bay (EVCB) Planning Guideline issued by PLANMalaysia emphasizes the technical aspects of providing electric vehicle charging infrastructure.



The ceremony was officiated by the Minister of the Ministry of Natural Resources and Environmental Sustainability (NRES), YB Tuan Nik Nazmi Bin Nik Ahmad and the handover of the guideline document to the representative of the Ministry of Finance, Encik Zureen Bin Zubir, Head of the Public Asset Management (PAM) Section.





This DC-type electric vehicle charging station with a power of up to 60kW has been officially launched by YB. Mr. Nik Nazmi also conducted a demonstration using the country's first electric car, the Proton e.MAS 7.





ZENITH PUTRAJAYA



4.0 ENERGY USAGE

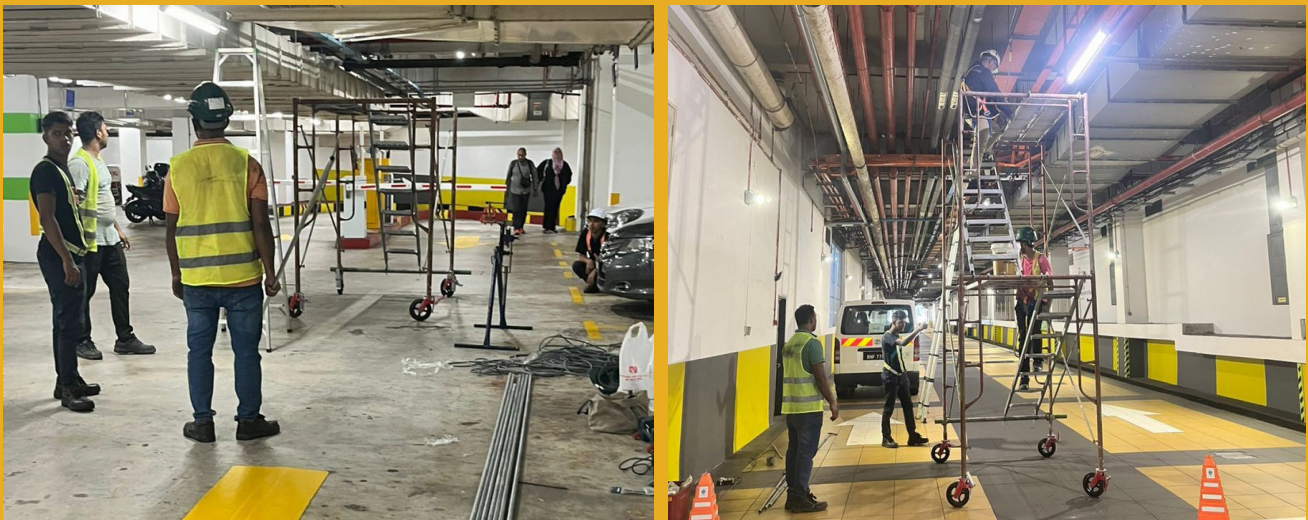
4.0 ENERGY USAGE

4.1 Improvement of Energy Efficiency

4.1.1 Putrajaya Corporation Complex

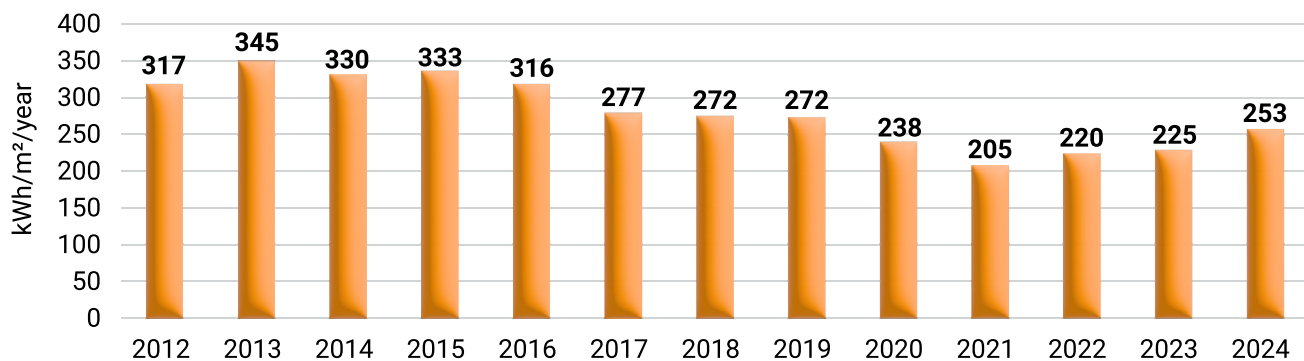
Throughout the year 2024, efforts to improve the energy efficiency of the PPj Complex for seventh phase were implemented at the Annex Block (Screen Wall) and PPj Gateway. As a result of these efforts, annual electricity consumption was successfully reduced by 32% (8,779,575 kWh) compared to the 2012 level (12,894,876 kWh).

The results of these efforts also show a decrease in the Building Energy Index (BEI) and Building Carbon Index (BCI). The BEI decreased by 20% and the BCI by 29% compared to the 2012 levels (Chart 4.1 and Chart 4.2).

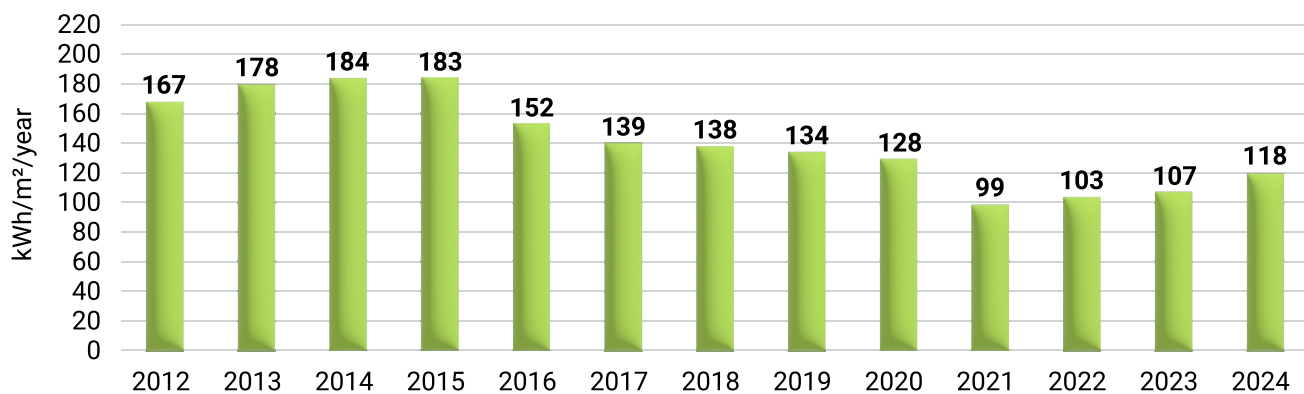


Implementing wiring works for the Annex Block and Gateway of the PPj Complex.



Chart 4.1 Putrajaya Corporation Complex's Building Energy Index (BEI)

Source: Building Consumption Input System (BCIS)

Chart 4.2 Putrajaya Corporation Complex's Building Carbon Index (BCI)

Source: Building Consumption Input System (BCIS)



4.1.2 Public Lighting

Efforts to improve energy efficiency in Putrajaya continue by replacing public lighting, involving streetlights and area lights of the high-pressure sodium valve (HPSV) type with more energy-efficient LED lights. The Putrajaya Low Carbon City Roadmap has set a target for 100% of public lighting to use LED by 2030.

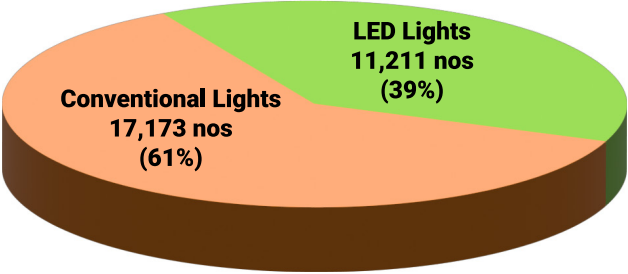
In 2024, 3,018 light units were replaced with LED lights. The installation locations are listed in Table 4.1.

Table 4.1: Locations of LED Street Light Installed in Putrajaya for year 2024

No.	Location	Number of Lights
A) Street Lights		
1	Lebuh Bestari	15
2	Jalan P9C/1, Precinct 9	2
B) Area Lighting		
3	Promenade Precinct 2, 3 & 8 (Neon Strip)	2190
4	Promenade Masjid Putra (Neon Strip)	625
5	Promenade Precinct 5 (Neon Strip)	30
6	Promenade Precinct 4 (Neon Strip)	150
7	TLK in front of PPAM Ketumbar, Precinct 17	6
Total		3018

Source: Department of Engineering and Maintenance, Putrajaya Corporation

Chart 4.3: Status of Public Lighting in Putrajaya in 2024



Source: Department of Engineering and Maintenance, Putrajaya Corporation





Promenade Precinct 5 (Neon Strip)



Promenade Precinct 4 (Neon Strip)



Car park in front of PPAM Ketumbar, Precinct 17



Lebuh Bestari



4.1.3 Energy Saving Campaign at the PPj Complex

The Energy Saving Campaign for PPj-owned buildings is one of the initiatives under the Energy Theme in the Putrajaya Climate Action Plan 2030 (PCAP 2030). This campaign aims to cultivate a culture of electricity savings among PPj personnel. Putrajaya Corporation launched the Energy Saving Campaign in May 2024 through the following media:

- Placement of bantings on each floor.
- Placement of posters on notice boards in each elevator.
- Dissemination email to staff.
- A public service announcement recording was made and began airing on 17 October 2024, at 4:15 pm daily.



Campaign posters on notice boards in each elevator.



Campaign bantings are placed on each floor of the PPj Complex.



4.2 Renewable Energy

4.2.1 Signing Ceremony of the Memorandum of Understanding (MoU) and Supply Agreement – Renewable Energy (SARE) between PPj and Tenaga Nasional Berhad

Date : 4 June 2024 (Tuesday)
Time : 8:00 am - 11:00 am
Location : Pulse Grande Hotel Putrajaya, Precinct 1

The Putrajaya Low Carbon City Roadmap has set a target of generating 15,000 MWh of electricity per year from solar energy by 2030. Through this collaboration, the installation of DC-type rooftop solar panels (with a capacity of 364 kWp) is carried out in partnership with TNB for 20 years (at no cost to PPj), including maintenance throughout the agreement period.



The MoU was signed by YBhg. Dato' Fadlun Mak Ujud, President of PPj, and YBhg. Datuk Ir. Megat Jalaluddin Megat Hassan, Chief Executive Officer of TNB, witnessed by YB Dr. Zaliha Mustafa, Minister in the Prime Minister's Department (Federal Territories).

The areas of cooperation that will be established include development, maintenance, research, and training related to:

- Renewable energy, including the development of rooftop solar.
- Electric vehicles and related infrastructure.
- Energy related to public infrastructure.
- Putrajaya as the Living Lab for energy-related technologies.



4.2.2 Pilot Project for the Installation of Wind Trees at the Botanical Garden

Period : May to October 2024
Location : Taman Seri Empangan, Precinct 1
Implementation by : Syarikat IONICE Sdn. Bhd.
Objective : Reducing Putrajaya's carbon footprint through renewable energy, namely wind and solar energy.
Energy generated : 86,400 kWh/year (involving 12 units of small wind turbines and solar panels).
Average wind speed: 4.7m/s



The Wind Tree is designed to resemble a real tree, featuring small wind turbines (leaves) placed on its branches and equipped with solar panels to generate electricity, which is supplied to the surrounding public lighting.





5.0 WATER USAGE

5.0 WATER USAGE

5.1 Lake Water Quality Control

The Putrajaya Corporation has undertaken various initiatives to preserve and ensure water quality in Putrajaya Lake. Key measures include integrated monitoring by the Environmental, Lake and Wetland Division and lake maintenance activities such as cleaning operations and wetland replanting programmes.



Maintenance works for wetland vegetation were carried out at Wetland cells Upper North (UN) 1, 2, 4, 5, and Upper East 1 (UE1).

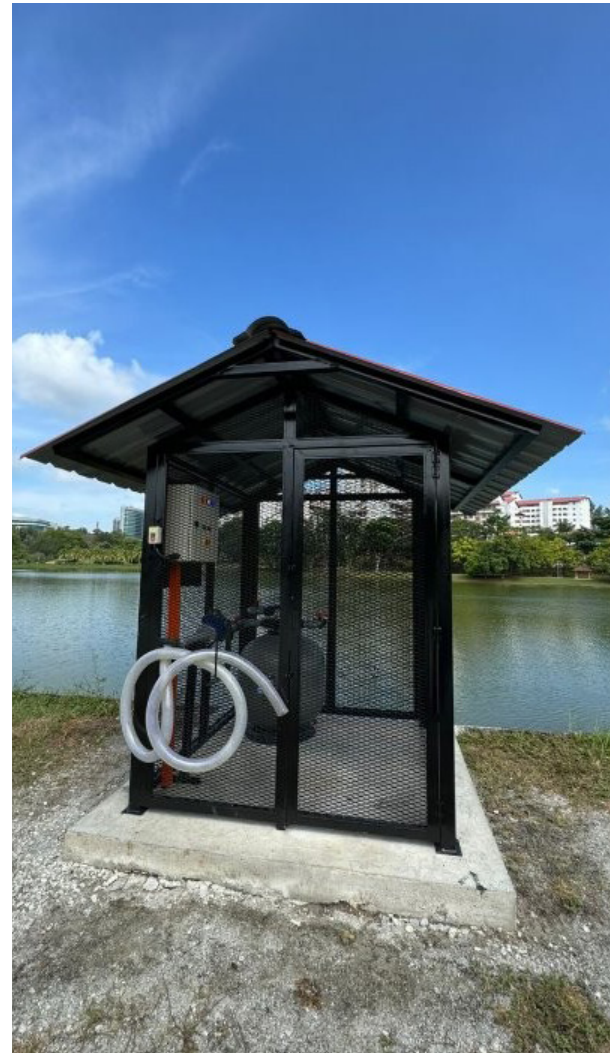


5.2 Water Conservation Initiatives

5.2.1 Metered Lake Water Intake Station

Putrajaya Lake serves as a city-scale Rainwater Harvesting System (RWHS). Lake water is utilised for landscape irrigation, dust suppression on roads, and cleaning and spraying works at construction sites.

Putrajaya Corporation has constructed metered lake water intake stations to ensure a more systematic water extraction method from the lake. In addition, this initiative contributes to water conservation and reduces the cost of treated water bills for urban maintenance works.



A metered lake water intake station is located at the Boat Maintenance Centre, Precinct 19



5.2.2 Water-Efficient Product Labelling Scheme (WEPLS)

WEPLS is a scheme introduced by the National Water Services Commission (SPAN). The WEPLS label provides consumers with information on a product's water efficiency level, enabling them to make informed decisions when purchasing water-efficient products. The objectives of this scheme include:

- i. To raise consumer awareness about the availability of water-efficient products.
- ii. To encourage water-saving practices among consumers.
- iii. To promote technologies that help reduce expenses and improve water efficiency

Product ratings in the market are evaluated based on their level of water efficiency:

- i. 1 star – Water-efficient product
- ii. 2 stars – Highly water-efficient product
- iii. 3 stars – Most water-efficient product



There are five (5) types of water-efficient products under the WEPLS : taps, toilet equipment, urinals, showerheads, and washing machines.



An example of a label on a product with a star rating in the market.



5.3 Putrajaya Lake and Wetland Explorace 2024

Date	: 2 March 2024 (Saturday)
Time	: 07:00 am – 5:00 pm
Location	: Padang Semarak, Putrajaya Wetland Park
Objective	: To raise awareness about the functions and significance of lake and wetland management in Putrajaya
Organised by	: Putrajaya Corporation in collaboration with the Federal Territories Department, the UNESCO-IHP Malaysia Committee on Education, Training, and Public Information.
No. of Participants	: 228 people



The participants comprise students from higher learning institutions and representatives from invited agencies.





This activity involves observing and understanding bird species through a task that requires participants to collect and assemble picture puzzles of bird species found in Putrajaya Wetland Park before moving on to the next checkpoint.



A learning activity focused on the fauna species in Putrajaya Wetland was conducted through a species recognition game that involves identifying and matching fauna.





An activity aimed at observing and understanding the microorganisms present in water.



Birdwatching was also carried out as part of the programme to introduce bird species found in Putrajaya.





The Fear Factor challenge and lake crossing were among the more challenging activities, requiring participants to navigate difficult paths and cross the wetland lake using ropes.



Throughout the 8-hour programme, participants took on a series of technical and tactical challenges along a 16km route spanning 170 hectares of terrain.





6.0 SOLID WASTE MANAGEMENT



6.0 SOLID WASTE MANAGEMENT

6.1 CAREton@Putrajaya Programme

6.1.1 Collection of Used Beverage Cartons (UBC) With Incentives Campaign 2024

Campaign Series 1

Date : 24 February 2024

Time : 10:00 am – 4:00 pm

Location : Precinct 9 Recycling Centre, Putrajaya



Approximately 67 members of the public participated in this campaign, and a total of 2,698 UBCs were successfully collected.



Campaign Series 2

Date : 15 June 2024
Time : 10:00 am – 4:00 pm
Location : Precinct 9 Recycling Centre, Putrajaya



Approximately 54 public members participated in this campaign, and 2,177 UBCs were successfully collected.



Campaign Series 3

Date : 15 October 2024

Time : 10:00 am – 4:00 pm

Location : Sustainable Corner, Putrajaya Corporation Complex



75 staff and residents around Putrajaya participated in this campaign, and 1,500 UBCs were successfully collected.



6.1.2 Putrajaya PolyAI Bank Initiative

The Putrajaya PolyAI Bank initiative continues in 2024 by channelling resources to those in need to implement projects that benefit the local community. This year, the polyAI bank has contributed polyAI boards to the following three community projects.

Project 1: Kitty Kingdom Signboard @ Food Court/ Public Market

Date : Starting 14 May 2024

Location : Putrajaya Food Court and Public Market

Objective : Addressing complaints regarding stray cat disturbances at food courts/public markets owned by Perbadanan Putrajaya.



The Nuisance Control Unit, Department of Urban Services, carried out the Kitty Kingdom signboard project as an initiative to reduce stray cats at business premises by installing signboards made from PolyAI. The signboard displays information about the project and the procedure for lodging complaints regarding stray cat disturbances.





The Kitty Kingdom Program was officially launched on 19 January 2025 at the Precinct 11 Neighbourhood Complex. An engagement session with traders and maintenance personnel was also held to provide an understanding on methods for controlling stray cat disturbances.

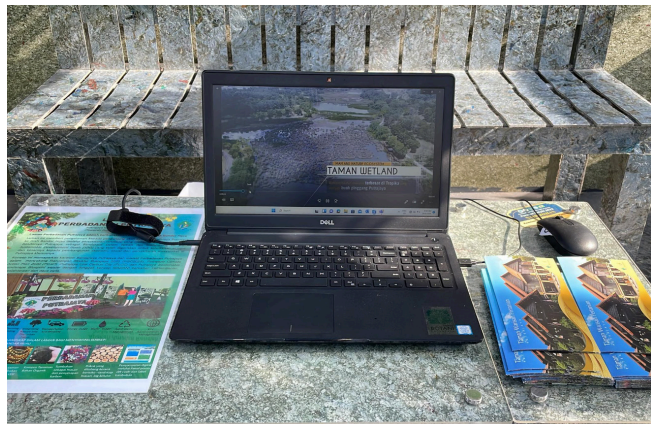


Project 2: Exhibition in Conjunction with National Landscape Day 2024

Date : 24 May until 2 June 2024

Location : Shah Alam Lake Garden, Selangor

National Landscape Day 2024 (HLN2024) was organized with the theme “The Landscape Industry as a Driver of MADANI Development.” Putrajaya Corporation was invited as an exhibitor during the HLN2024 celebration, showcasing floral landscape designs and architecture using recycled materials, specifically Poly Aluminium (PolyAl).



PolyAl boards were used as signboards, decorative fences, and the main structure of Perbadanan's exhibition booth. PolyAl furniture such as tables and benches were also showcased during HLN2024.



Project 3: Waste to Wealth Project at PPAM Pudina, Precinct 17

CAREton@Putrajaya has supported the Putrajaya community through capacity building, emphasizing the circular economy concept by producing PolyAl-based products.

The community's products serve as a source of supplementary income for the Putrajaya community while promoting low-carbon practices by recycling used beverage cartons (UBCs). Among the products produced by the PPAM Pudina community are as follows:



Souvenir boxes



Green city mascot luggage tags



Mini baskets



Putrajaya scenery keychains



Project 4: Improvement of Bulk Waste Houses in Precinct 9

To address the issue of bulk waste storage, the Environmental Health Division of the Urban Services Department has upgraded waste houses at two residential locations by using polyAl boards as partitions for designated bulk waste collection areas.

Before



After



Putra Harmoni Apartments, Precinct 9

Before



After



Phase 3 Quarters, Precinct 9



Promotion of PolyAI Products by the Putrajaya Community

To create a circular economy and provide an additional source of income for the Putrajaya community. Products created through the Waste to Wealth Project were showcased in exhibitions and served as souvenirs for dignitaries and international delegates. This indirectly promotes the community's products to a wider audience beyond the local society.



Promotion of Putrajaya community's PolyAI products to YAM Tengku Amir Shah Sultan Sharafuddin Idris Shah, Raja Muda of Selangor, during the EU-Sunway University Campus With A Conscience event held from 23 to 25 September 2024.



Promotion of Putrajaya community's PolyAI products to Pablo Gándara, Team Leader of GCoM Asia, during the GCoM Asia Closing Workshop held on 12 & 13 June 2024 in Bangkok.



6.1.3 LAMPU 3R Creativity Competition 2024 in Conjunction with the Lentera Festival 2024

Duration	: 24 January until 24 February 2024.
Objectives	: Promoting the use of green technology materials such as polyAluminium (polyAl) boards and further enhancing the creativity of the local industry.
Participation	: 18 groups comprising Putrajaya residents' associations, higher learning institutions, and professional companies from across Malaysia.
Strategic Partners	: Tetra Pak Nestle Malaysia and Malaysian Design Council (MRM)

Exhibition of Competition Entries and Public Voting

Date	: 24 February until 03 March 2024
Time	: 5:00 pm - 11:00 pm
Location	: LAMPU 3R Creativity Competition Site, Anjung Floria, Precinct 4, Putrajaya



18 lamp designs made using polyAl boards were showcased. In addition to participants from Putrajaya and the Klang Valley, entries from Melaka, Muar, Batu Pahat, and Machang, Kelantan were also accepted.





Visitors were given the opportunity to vote for their favourite design. A total of 10 lucky voters were selected to win prizes worth RM100 each.

Judging Session

Date : 26 February 2024

Time : 8:00 pm - 10:30 pm

Location : LAMPU 3R Creativity Competition Site, Anjung Floria, Precinct 4, Putrajaya



The panel of judges consisted of representatives from the Malaysia Design Council, Tetra Pak Malaysia, and internal officers from PPj. The judging criteria were based on creativity, use of green technology elements, structural strength, safety, and compliance with the competition rules.



Prize Giving Ceremony

Date : 02 March 2024
Time : 8:30 pm - 10:00 pm
Location : VIP, Anjung Floria, Precinct 4, Putrajaya



The prize-giving ceremony was officiated by YBhg. Dato' Fadlun Bin Mak Ujud, President of Putrajaya Corporation, officiated the ceremony and presented tokens of appreciation to the panel of judges.





Champion – PPB4AP9 from the Block 4A Residents' Association, Precinct 9, received a certificate of appreciation and a cash prize worth RM5,000.

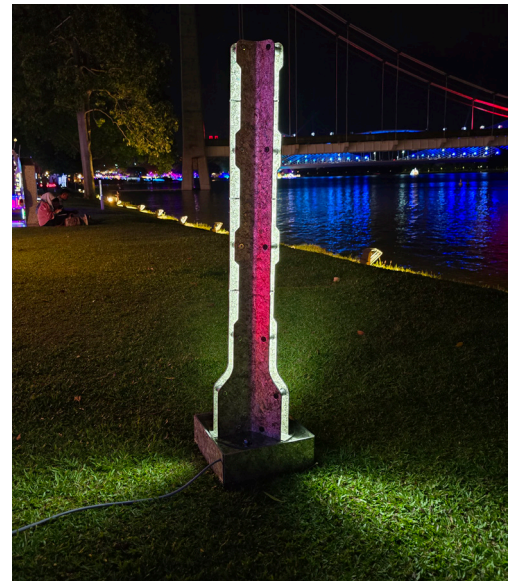


First Runner-up – Industrial Design MIA from the Malaysian Institute of Art, received a certificate of appreciation and a cash prize worth RM3,000.





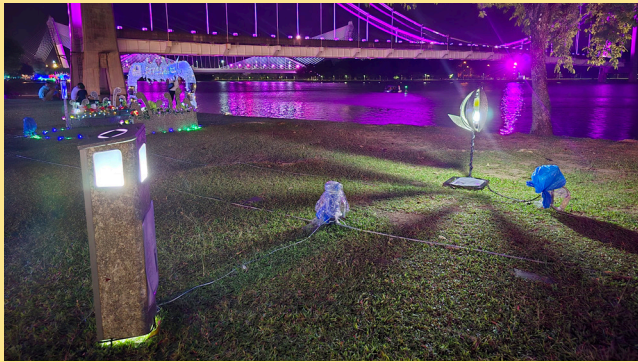
Second Runner-up – Biomimic from UiTM Melaka Branch received a certificate of appreciation and a cash prize worth RM2,000.



The Special Award winner, Futurenitive Studio, received a certificate of appreciation and a cash prize worth RM1,000.



14 Consolation Prize Winners:



Arah Design Studio



Smart Green PBS from Politeknik Banting Selangor



*Kebun Pudina from Pudina Community Garden,
Precinct 17*



*Kebun Komuniti 4 from the Community Garden
Entrepreneurs Association 4 Putrajaya*



*Green Galaxy from the P8E2 Residents' Association,
Putrajaya*



*P14D from the Precinct 14D Residents' Association,
Putrajaya*





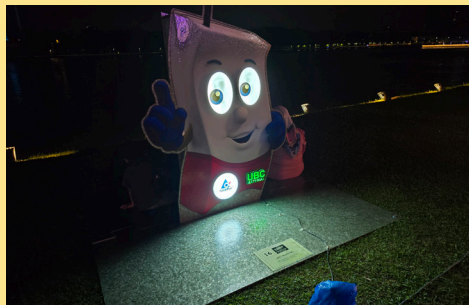
*Mache from UiTM Machang Branch,
Kelantan*



Ezy Light from EZtech Engineering Sdn Bhd



*UTHM from Universiti Tun Hussien
Onn Malaysia, Batu Pahat*



UBC Material Products Manufacturer



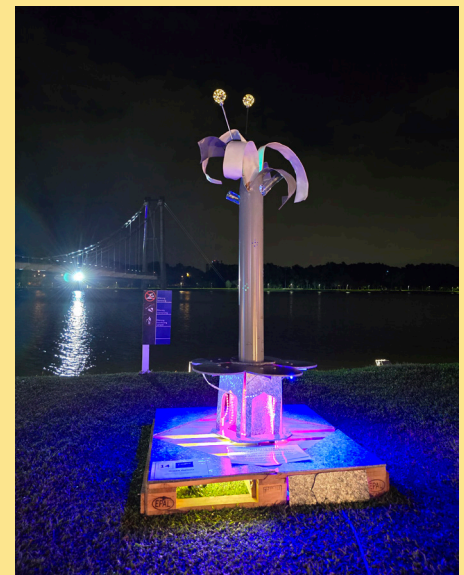
Gain Place Trading



*Sukarelawan PBS from Politeknik
Banting Selangor*



*IDE Power Solution from UiTM Melaka
Branch*



*14ECO from the Kawasan Rukun
Tetangga 14E*



Public Voting Winner:



The top 3 Public Voting Winners, namely Mache from UiTM Machang, PPB4AP9 from the Block 4A Residents' Association, Precinct 9, and Kebun Pudina from the Pudina Community Garden, Precinct 17, each received a certificate of appreciation and a cash prize of RM100.



A photography session with the LAMPU 3R Creativity Competition 2024 winners during the Lantern Carnival 2024.



Site visit session to the LAMPU 3R Creativity Competition 2024 venue

Date : 02 March 2024

Time : 8:30 pm - 10:00 pm

Location : LAMPU 3R Creativity Competition Site, Anjung Floria, Precinct 4, Putrajaya



YBhg. The President Dato' also visited the competition site and was briefed about the concept behind the lamp designs after the prize-giving session.



6.1.4 CAREton@Putrajaya Outreach Program with Alamanda Shopping Centre

Date : 24 May 2024
Time : 10:00 am – 12:00 pm
Location : Alamanda Shopping Centre, Precinct 1

This program is one of the initiatives under the CAREton@Putrajaya project. The briefing aims to provide exposure regarding the initiative for collecting used beverage cartons (UBC) to the Alamanda Shopping Centre Management Division, represented by Encik Junaidi Bin Jamaludin, the Alamanda Shopping Centre General Manager.

This program aligns with Perbadanan's goal to reduce solid waste sent to landfills. In addition, it supports the target of a 2% annual increase in the recycling collection rate in Putrajaya.



A briefing session and explanation regarding the CAREton@Putrajaya project with the management of Alamanda Shopping Centre.



A site visit to the solid waste collection location at Alamanda Shopping Centre.



6.1.5 CAREton@Putrajaya Exhibition in Conjunction with the Putrajaya Community Carnival and Water Festival 2024

Duration	: 19 Ogos until 22 September 2024.
Location	: Futsal Complex, Precinct 18, Putrajaya
Objectives	: Promoting and highlighting Putrajaya's role as a low-carbon city model in Malaysia to the Putrajaya community.
Participation	: 18 groups comprising Putrajaya residents' associations, higher learning institutions, and professional companies across Malaysia.
Strategic Partners	: Tetra Pak Malaysia.

CAREton@Putrajaya Exhibition



The CAREton@Putrajaya exhibition was held to provide exposure to the Putrajaya community about the programs and initiatives carried out by the Corporation under the CAREton@Putrajaya Program. In addition, interactive activities targeted at children, such as puzzle and memory games, were also held.



Collection of Used Beverage Cartons (UBC) With Incentives Campaign, 21 September 2024



A UBC collection campaign was also held for community members who wished to submit their UBCs and redeem incentives in the form of RM5.00 99 Speedmart vouchers and Nestle products for every 20 UBCs submitted.



6.1.6 Laman Rusa @ Putrajaya Botanical Garden

Location : Putrajaya Botanical Garden, Precinct 1

Laman Rusa@Putrajaya Botanical Garden is a project involving sheltered seating areas that incorporate architectural designs using recycled materials, specifically PolyAl boards.



This project aligns with Perbadanan's aspiration to increase visitor numbers to Putrajaya's public parks while simultaneously promoting recycling practices in Putrajaya, especially the recycling of used beverage cartons (UBC) as durable and eco-friendly building materials. Additionally, it supports Putrajaya's target of achieving a 2% annual increase in recyclable material collection rates.





PolyAl boards were used as roofing for shelters, information panels, and signboards. Laman Rusa has become a new attraction for visitors to the Putrajaya Botanical Garden.



6.2 Single-Use Plastic Reduction Programme

Date : 27 March 2024
Location : Putrajaya Ramadan Bazaar Site, Precinct 3
Objective : Raising community awareness to reduce single-use plastic consumption to advance the environmental sustainability agenda.
Organized by : Department of Environment

The Single-Use Plastic Reduction Programme was organized in conjunction with the Earth Day 2024 celebration-themed “Planet vs Plastic”. This program also aligns with the concept of sustainable consumption or a sustainable lifestyle that is aimed at being instilled among Malaysians.



All visitors to the Putrajaya Ramadan Bazaar were given reusable bags as alternatives to single-use plastic and encouraged to bring their own food containers when purchasing food at the bazaar or elsewhere.



A Recycling Market was also organized by the Solid Waste Management and Public Cleansing Corporation (SWCorp). Famous YouTuber iChang RM also joined the program to enliven the distribution of reusable bags and free Tepung Pelita desserts to visitors.



6.3 Putrajaya Low-Carbon Community Initiative

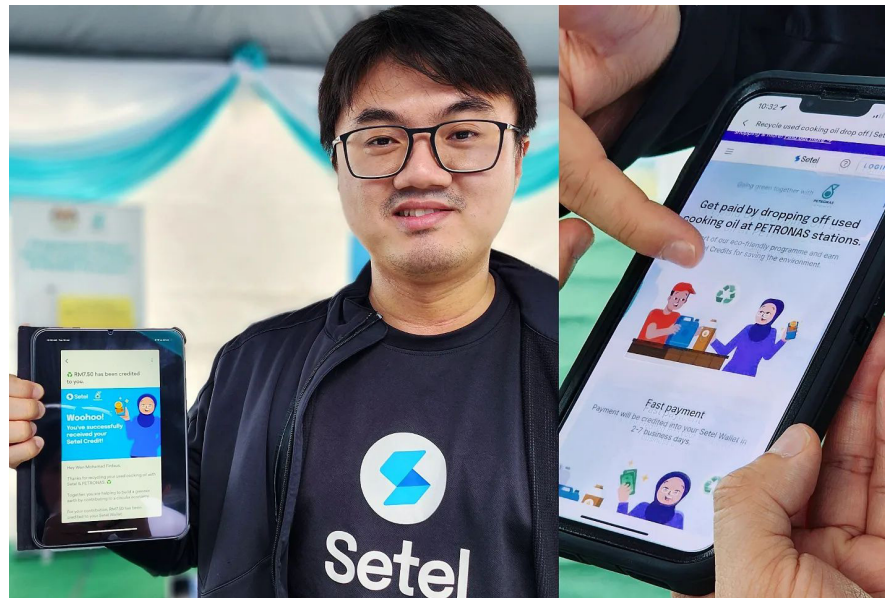
6.3.1 Used Cooking Oil Collection

- Location** : Petronas Petrol Station Putrajaya 1, Precinct 9
- Organized by** : Ministry of Plantation and Commodities (KPK) in collaboration with Petronas
- Objective** : 1) Used as a primary raw material to produce sustainable aviation fuel (SAF) to reduce greenhouse gas (GHG) emissions.
2) Increasing public awareness about proper waste management through correctly disposing of used cooking oil.
3) Generating additional household income.



This program is held twice monthly so the public can drop off used cooking oil at the Petronas Petrol Station, Putrajaya 1, Precinct 9. The accumulated collection will be sold to the overseas market. A total of 25,143kg of used cooking oil has been successfully collected from July 2023 to April 2024.





For each sale of used cooking oil, a credit of RM3.00/kg will be awarded and credited through the SETEL app, which can be redeemed at any Petronas petrol station or Kedai Mesra.



6.3.2 The Putrajaya House Bin Facility

PPj has introduced a new facility called the Putrajaya House Bin with the aim of:

- 1) Increasing the recycling rate by 2% annually in Putrajaya.
- 2) Raising public awareness in maintaining cleanliness in our city.
- 3) This allows for the separation of food waste and recyclable materials, which can be collected before being sent to the Recycling Innovation Facility (FIKS), Precinct 5.



A total of 4 house bins have been placed at Dataran Putra, Precinct 1, to collect recyclable materials. The bin is made from aluminium composite material and is equipped with solar panels for lighting at night.



A Poly Aluminium house bin has been provided at Laman Putra, Precinct 1, to facilitate traders in disposing of domestic waste.



6.3.3 Used Clothing Collection Day

Date	: 18 & 19 May
Time	: 9:00 am– 5:00 pm
Location	: Parking Area of Tuanku Mizan Zainal Abidin Mosque, Precinct 3
Objective	: To reduce solid waste disposal by allowing the community to recycle used clothing and cultivate a recycling culture.

The Used Clothing Collection Day is an annual program organized by the Religious Officers Staff Association (PKPU JAKIM) in collaboration with Life Line Clothing Malaysia Sdn Bhd. Life Line Clothing Malaysia Sdn Bhd is a textile recycling company that collects and supplies textile waste for recycling purposes. Items in good condition, such as clothes, shoes, and bags that can be reused are collected and exported as bundle clothing to developing countries such as those in Africa and the Pacific region.



The public dropped off used clothing via drive-thru at the parking area of Tuanku Mizan Zainal Abidin Mosque, Precinct 3, Putrajaya.



The types of items collected through this program are:

- New/used clothing.
- Fabric & Textiles (Bedsheets, pillowcases, curtains, handkerchiefs, blankets, comforters/toto).
- Other items (luggage, belts, wallets, shoes, handbags, and others).



This 2-day program successfully collected 103,589kg of used clothing and items. A portion of the collected used clothing from this program will be distributed to charitable organizations and welfare centres, such as the National Cancer Council (MAKNA).





7.0 CITY ADMINISTRATION AND MANAGEMENT

7.1 Putrajaya Green Residence Incentive 2024 (IKH Putrajaya 2024)

Duration	: 5 April – 5 May 2024
Objective	: To further enhance low-carbon practices among Putrajaya residents, particularly in electricity and water savings, solid waste reduction, and the use of Nadiputra buses and electric/hybrid vehicles.
No. Applicant	: 51 applicants
Strategic Partners	: Tenaga Nasional Berhad (TNB), Pengurusan Air Selangor Sdn. Bhd., Alam Flora Environmental Solutions Sdn. Bhd. and Energy Commission (ST).

The Putrajaya Green Residence Incentive 2024 (IKH Putrajaya 2024) is one of the initiatives under the Putrajaya Climate Action Plan 2030 (PCAP2030) – Action S1: *Transform existing Resident's Association, Local Business and Industries into Low Carbon Communities.*

Figure 7.1 Four (4) Putrajaya Green Residential Incentive 2024 Assessment Criteria



Annual electric
saving



Annual water
saving



Use of electric
vehicled & public
transportation



Solid waste
management

The rebate rate is determined based on criteria such as annual electricity savings (kWh), annual water usage (m³), public transport usage, ownership of electric or hybrid vehicles, and the total amount of recycled materials collected (kg).



A total of 51 applications were received, and 26 applications were eligible for the assessment tax rebate. The details are as shown in Figure 7.2. The initiative with the highest number of applications is electricity savings, with 51 applicants, while the initiative with the lowest number of applications is solid waste management, with 13 applicants.

Figure 7.2 Summary of Applicants for Putrajaya Green Residential Incentive in 2024 Based on Assessment Criteria

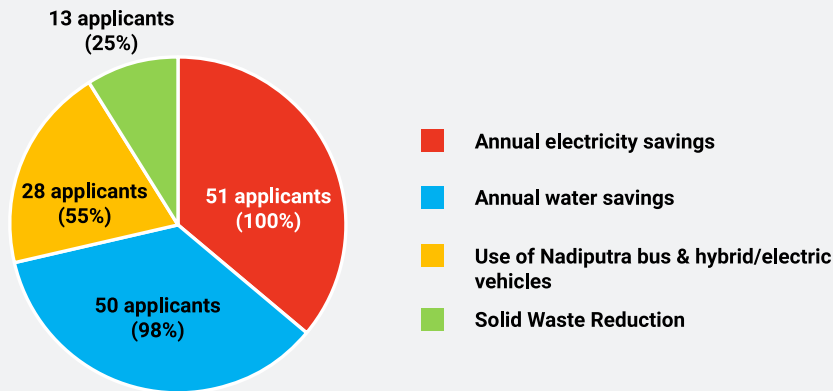


Figure 7.3 details the number of recipients of the assessment tax rebate. The highest rebate rate is 10% of the assessment tax, with a total of 11 recipients. Only 1 recipient successfully received the maximum rebate rate of 24%.

Figure 7.3 Summary of Recipients for Assessment Tax Contrar

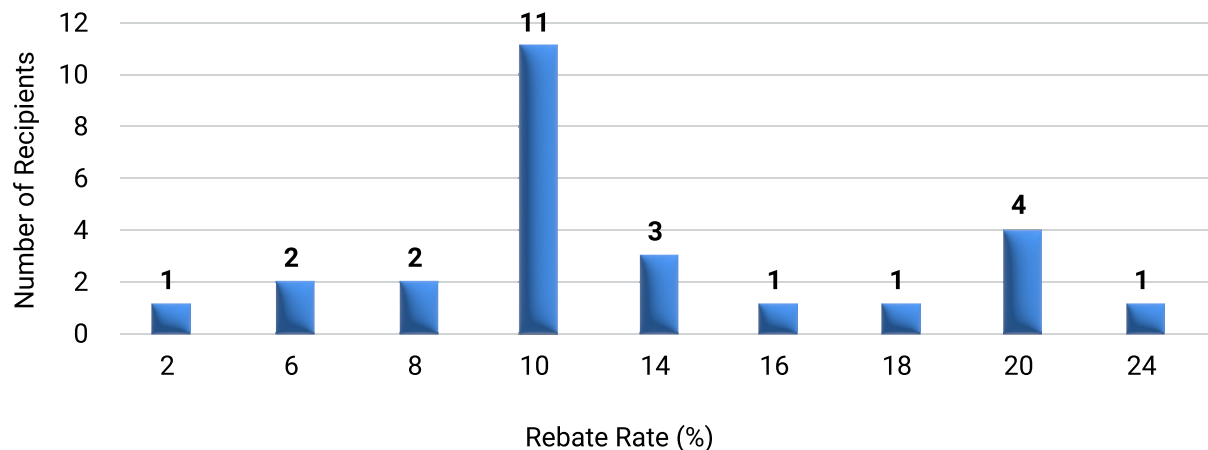


Figure 7.4 Summary of Participation in Putrajaya Green Residential Incentive



Initiatives

Electricity savings:

- Total eligible for IKH 2024: **12 out of 51 total applicants**
- Electricity Reduction Percentage: **min = 2.3%; max = 81.4%**
- Average Electricity Reduction: **19.3%**



Initiatives

Water savings:

- Total eligible for IKH 2024: **18 out of 50 total applicants**
- Water reduction percentage: **min = 2.2%; max = 94.1%**
- Average water reduction: **21.4%**



Initiatives

Use of Nadiputra Bus & Hybrid/Electric Vehicles

- Total Eligible for IKH 2024 (Nadiputra Bus Usage): **2 out of 25 total applicants**
- Total eligible for IKH 2024 (hybrid/electric vehicle usage): **0 out of 3 total applicants**



Initiatives

Solid Waste Reduction

- Total eligible for IKH 2024: **5 out of 13 total applicants**
- Total recyclable collection: **min = 10kg; max = 512kg**
- Average recycling sales: **154kg**



7.2 Putrajaya Green Initiative Award 2024 (AIH Putrajaya 2024)

- Duration** : 5 July – 5 August 2024
- Objectives** : To appreciate and recognize public and private institutions that have consistently implemented low-carbon initiatives in Putrajaya.
- No. Participation** : 23 participants & 6 recipients of the President's Special Award
- Strategic Partners** : Tenaga Nasional Berhad (TNB), Pengurusan Air Selangor Sdn. Bhd., Alam Flora Environmental Solutions Sdn. Bhd. and Energy Commission (ST).

AIH Putrajaya is one of the initiatives under the Putrajaya Climate Action Plan 2030 (PCAP2030) – Action S1: Transform existing Resident's Association, Local Business and Industries into Low Carbon Communities. Participation in AIH Putrajaya is free and open to all public and private institutions in Putrajaya.

Figure 7.5 Putrajaya Green Initiative Award 2024



Electricity Saving
Initiatives



Water Saving
Initiatives



Solid Waste
Reduction Initiatives



Low Carbon
Vehicle Initiatives



Figure 7.6 Participation in Putrajaya Green Initiative Award 2024

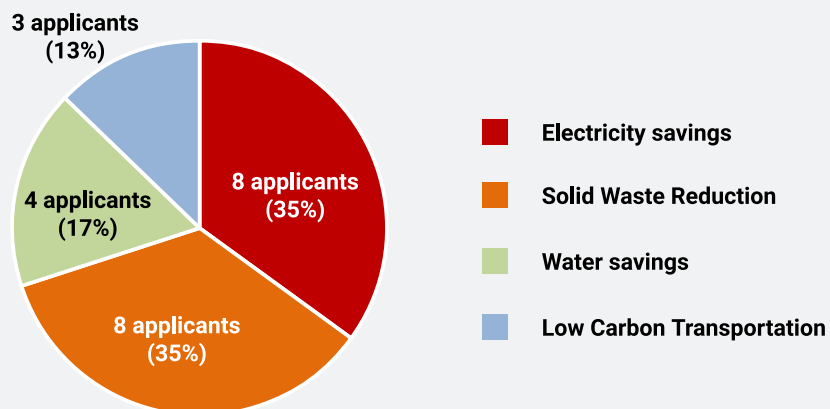
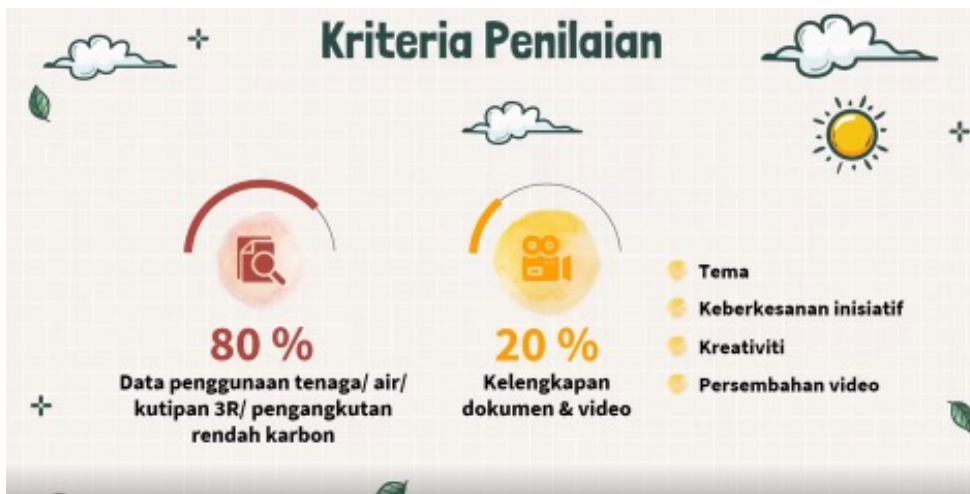


Figure 7.6 details the number of participations by initiative. The most participations were recorded under the electricity savings and solid waste management initiatives, with 8 participations each.

Figure 7.7 Putrajaya Green Initiative Award 2024 Assessment Criteria



AIH Putrajaya 2024 Participation Document



The participation document includes the consent form for electricity and water usage records, recycling sales receipts, low carbon transportation information, and a video of green practices implemented at the premises (not exceeding 2 minutes).

AIH Putrajaya 2024 Presentation Ceremony

The AIH Putrajaya 2024 ceremony was held on 10 September 2024 at the Putrajaya Corporation Complex. YBhg Dato' Fadlun Bin Mak Ujud, President of Putrajaya Corporation, presented the awards.



A total of 15 AIH Putrajaya winners received cash prizes as follows:

- i) Champion : RM1,500.00
- ii) Runner-up : RM1,000.00
- iii) Third place : RM800.00 :
- iv) Consolation prize : RM500.00
- v) President's Special Award : RM400.00



Recipients of AIH for Electricity Saving Initiative



Champion:
SMK Putrajaya Precinct 14(1)
achieved a 24% saving.



Third:
The Ministry of Higher Education
achieved a 19% saving.



Consolation prize:
Ministry of Natural Resources
and Environmental Sustainability
achieved 18% savings.



Consolation prize:
Ministry of Rural and Regional Development
achieved 18% savings.



Consolation prize:
National Landscape Department – Block F10,
with a savings of 18%.



Consolation prize:
Putrajaya Hospital, with a savings of 14%.



Consolation prize:
National Cancer Institute, with a savings of 14%.



Recipients of the AIH for the Solid Waste Reduction Initiative



Champion:
Putrajaya Hospital, with a total of 24,206kg of recycled materials collected.



Runner-up:
Property Management Division, with a total of 7,819kg of recycled materials collected.



Third:
SMK Putrajaya Precinct 14(1), with a total of 5,413kg of recycled materials collected.

Recipient of AIH for Water Saving Initiative



Champion:
SMK Putrajaya Precinct 11(1), with a savings of 57% (75.2 points).



Runner-up:
SMK Putrajaya Precinct 14(1), with a savings of 69% (68.9 points).



Third:
Ministry of Rural and Regional Development, with a savings of 37% (67.9 points).



Recipients of the AIH for the Low Carbon Vehicle Initiative



Champion:

Property Management Division uses
4 electric vehicles (EVs) and
1 EV charging facility.



Runner-up:

Heriot-Watt University Malaysia,
using 1 electric vehicle (EV).



Third:

MK Putrajaya Precinct 14(1),
using 1 electric vehicle (EV).

Recipients of the President's Special Award

The President's Special Award is given to private premises that implement low-carbon practices, particularly for the installation of solar systems at their premises.



Shell Petrol Station, Precinct 18.



Shell Petrol Station, Precinct 16.



Petronas Petrol Station Putrajaya 1,
Precinct 9.



Petronas Petrol Station, Precinct 9D.



Petronas Petrol Station, Precinct 11.



Petronas Petrol Station, Precinct 16.



Presentation of Certificates of Appreciation and Souvenirs to the Jury Panels



Tenaga Nasional Berhad:
Mr Norzaide Bin Mohd Nor, Smart Meter
Specialist Putrajaya & Cyberjaya.



Pengurusan Air Selangor Sdn Bhd:
Mrs Nurul Farhana Binti Abd Aziz, Assistant
Vice President II.



**Alam Flora Environmental Solutions
Sdn Bhd:** Ts. Ismi Azura Binti Istear
Khan, Manager, Recycling Department.

Presentation of Certificates of Appreciation and Souvenirs to Strategic Partners



Tenaga Nasional Berhad:
Mrs Rozianis Binti Mohd Noor



Pengurusan Air Selangor Sdn Bhd:
Mrs Nurnajihah Binti Ibrahim



**Alam Flora Environmental Solutions
Sdn Bhd:** Mr Badrulhisyam Fauzi.



7.3 Putrajaya Low Carbon City Exhibition

7.3.1 Putrajaya Open Day (POD) 2024

Date	: 1 – 4 February 2024
Time	: 9:00 am – 5:00 pm
Location	: Putrajaya Corporation Complex, Precinct 3
Strategic Partners	: Tetra Pak Malaysia & Nestle Malaysia
Visitor	: 1,000 people

POD 2024 was organized in conjunction with the 50th anniversary of the establishment of the Federal Territories and the 28th anniversary of PPj. Various exhibitions and exciting activities for visitors have been organised as follows:

Exhibition & Quiz on Putrajaya Low Carbon City



Visitors were briefed on the low-carbon initiatives implemented in Putrajaya, had the opportunity to participate in a quiz, and received souvenirs, including a voucher worth RM5.



CAREton Exhibition & Fun Game



The CAREton exhibition was also held to give visitors insights into recycling used beverage cartons (UBC). Visitors who brought UBC had the opportunity to play two types of games and were given prizes, such as notebooks.



Green Portfolio Activity



The Green Portfolio Activity was one of the most popular activities and involved the whole family. This PPJ publication is provided free of charge to primary school children to learn about green practices in Putrajaya.



Pocket Talk: Recycling Used Beverage Cartons (UBC)



Pocket Talk Session: Recycling Used Beverage Cartons (UBC) was presented by the strategic partner of The Careton Project. Visitors were briefed on the method of recycling UBC into new, more valuable, and eco-friendly products.



7.3.2 EU-Sunway University Campus With A Conscience

Date	: 23-25 September 2024
Time	: 10:00 am – 4:00 pm
Location	: Sunway University, Bandar Sunway, Selangor
Organized by	: The European Union (EU) in collaboration with Sunway University
Objective	: As a platform to educate and share best practices in sustainable development on campus.

Putrajaya Corporation was invited as an exhibitor at the EU Pavilion to promote low-carbon practices and highlight the waste-to-wealth initiative. Various exhibitions and exciting activities for visitors have been organized as follows:

Low Carbon City Exhibition



The Low Carbon City exhibition received a very positive response from university students as well as government and private agencies that participated.





The Putrajaya Low Carbon City exhibition booth also received a visit from dignitaries, including YAM Tengku Amir Shah Sultan Sharafuddin Idris Shah, the Crown Prince of Selangor, and Mr. Robert Bissett, Charge d'Affaires, Canadian High Commission.

Waste-to-Wealth Project Exhibition



The CAREton exhibition was also held to give visitors insights into recycling used beverage cartons (UBC). Visitors who brought UBC had the opportunity to play two types of games and were given prizes, such as notebooks.



7.3.3 Putrajaya Recycling Day Carnival 2024

Duration	: 23 November 2024 (Saturday)
Location	: Field at Precinct 9 Neighbourhood Complex, Putrajaya
Objective	: Promoting and highlighting Putrajaya's role as a low-carbon city model in Malaysia to the Putrajaya community.

Putrajaya Low Carbon City & CAREton@Putrajaya Exhibition



Visitors were provided with insights into low-carbon city initiatives and the CAREton@Putrajaya project implemented by Putrajaya Corporation. YBhg. Dato' TPr. Fadlun bin Mak Ujud, President of Putrajaya Corporation, also visited the booths during the walkabout session at the event site.



Interactive Activities: Memory Game



An interactive activity in the form of a Memory Game was also held to attract the interest of children and teenagers and educate them about low-carbon initiatives in Putrajaya, such as energy savings, water savings, solid waste management, and low-carbon mobility.



Collection of Used Beverage Cartons (UBC) With Incentives Campaign



A UBC collection campaign was also held, with the community seizing the opportunity to submit UBC and redeem incentives in the form of a RM5.00 99 Speedmart voucher and Nestle products for every 20 UBC cartons submitted. The collection result from the campaign amounted to 2,762 UBC cartons.



7.4 Awards and Recognitions

Putrajaya Corporation received various awards and recognitions throughout 2024 in achieving the target of Putrajaya Low Carbon Green City 2025, among them are:

- i) National Scroll of Honour Award for Human Settlements 2024
 - Community Garden Category 3 @ Taman Rimba Desa, Precinct 9, Putrajaya
- ii) World Town Planning Day 2024:
 - Most Sustainable City Award 2024

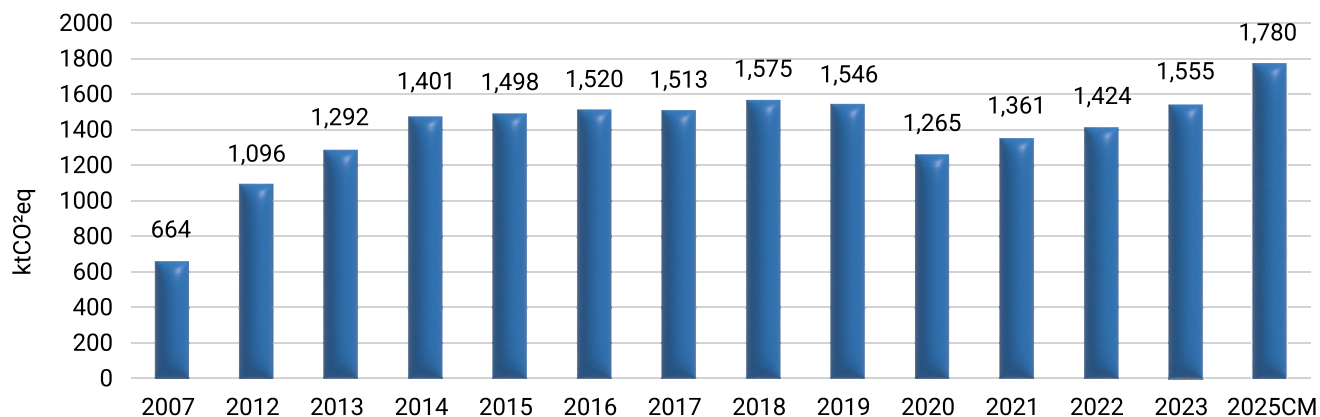


The Most Sustainable City Award 2024 presentation ceremony, in conjunction with World Town Planning Day 2024, will be held on 28 October 2024 at The Everly Hotel, Putrajaya.



APPENDIX A: QUICK FACTS

Chart 1.3 : Total Net Emissions Trend in Putrajaya [ktCO₂eq]



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

Chart 1.4: GHG Emissions from the Seven Sectors

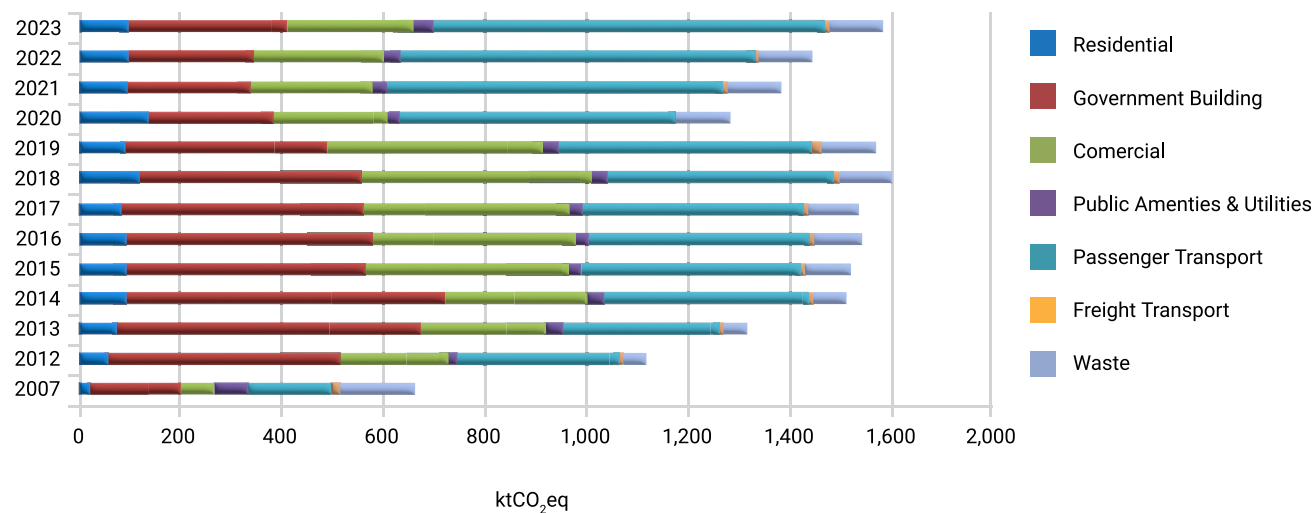


Chart 1.5: GHG Emissions from the Three Main Sectors 2023

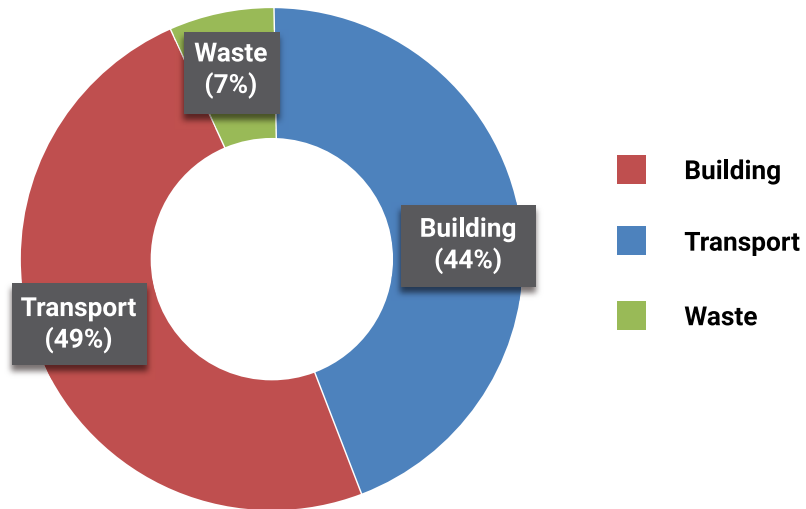


Chart 1.6: GHG Emissions Per Capita 2023

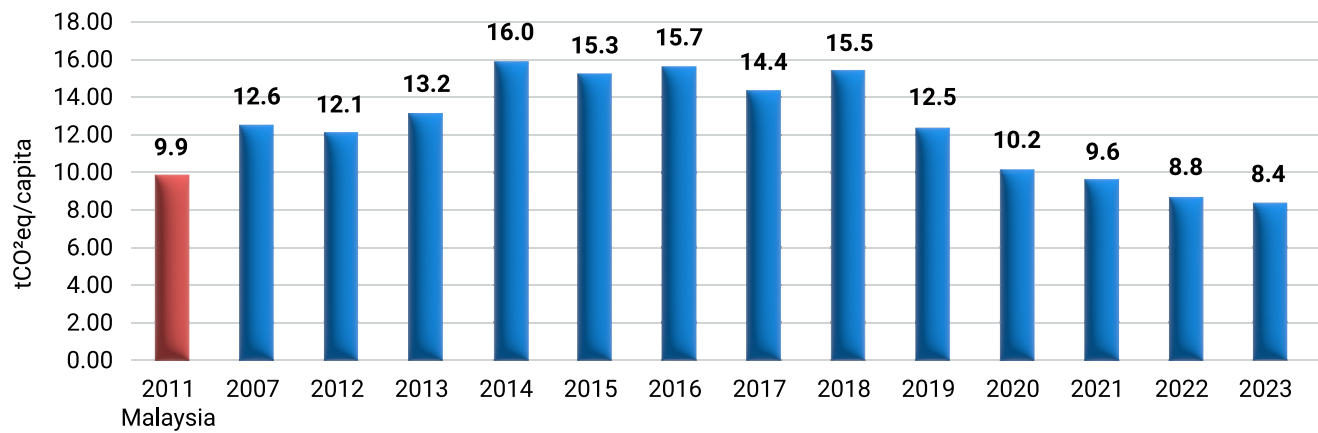


Chart 1.7: Building Sector Carbon Emissions 2023

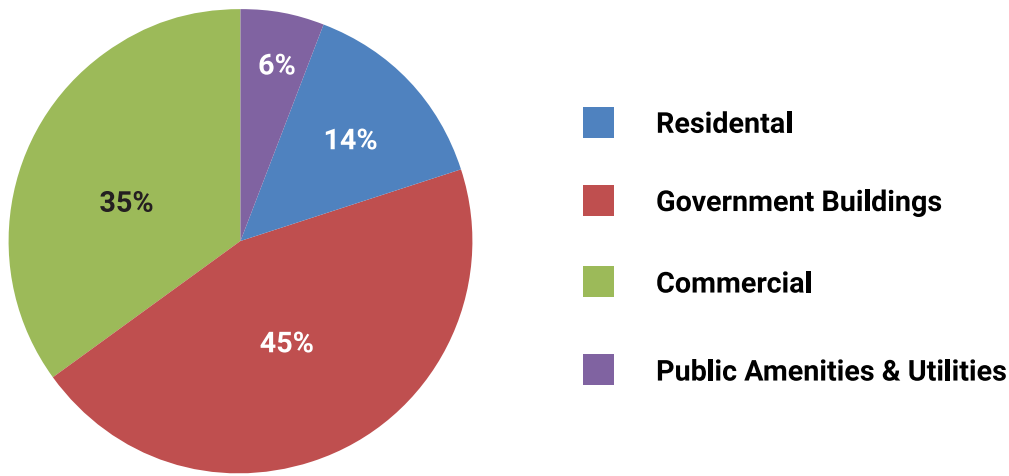
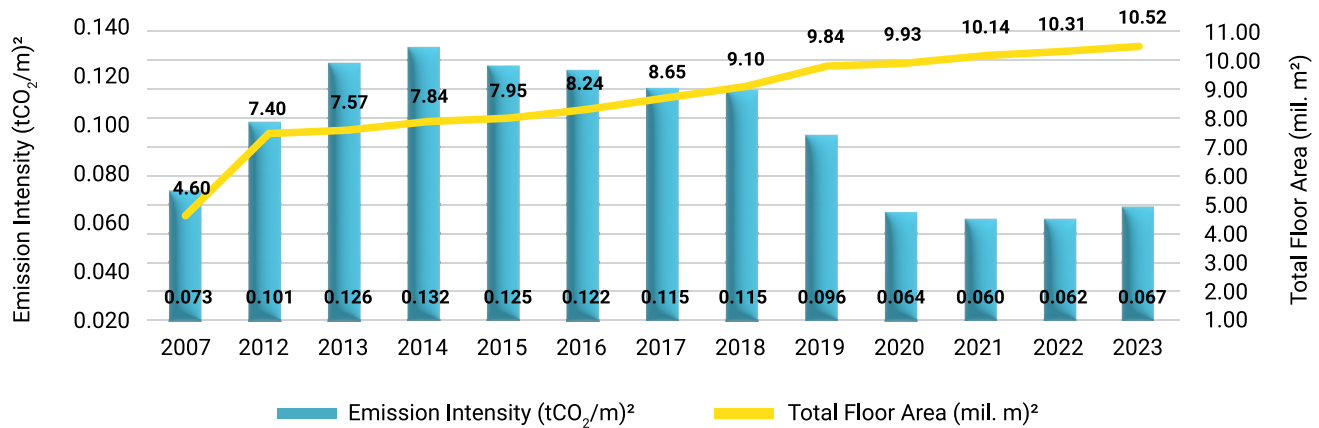
Chart 1.8: Emissions Intensity by Floor Area (tCO_2/m^2)

Chart 1.9: Transportation Sector Carbon Emissions 2023

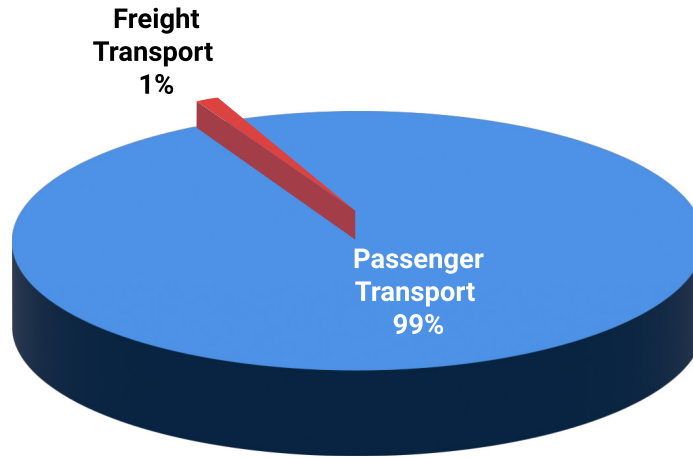
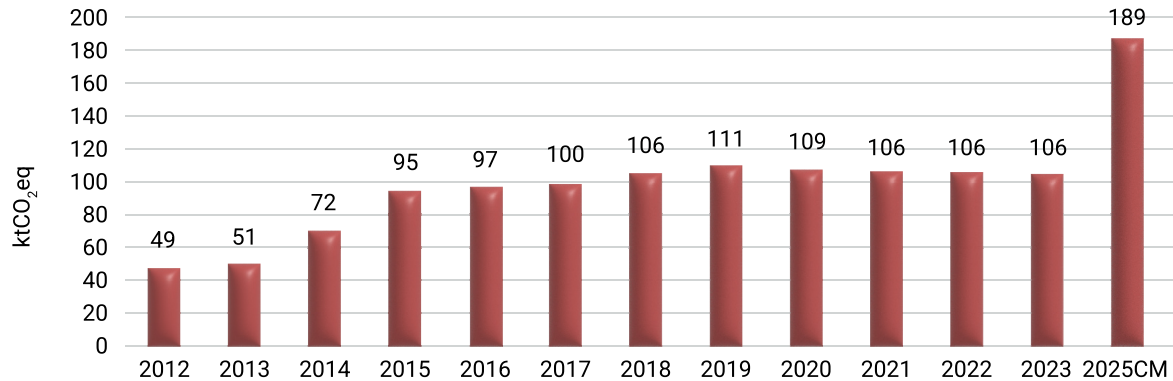


Chart 1.10: GHG Emissions Trend for Solid Waste Sector [ktCO₂eq]



Notes: 2007: base year; 2025: target year

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

Year	Total Open Space ⁽¹⁾	Population ⁽²⁾	The Size of Open Space (hectares): 1,000 population ⁽³⁾
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	1,941.44	134,391	14.45
2022	1,968.00	143,363	13.72
2023	1,968.00	154,094	12.77
2024	1,968.00	155,818	12.63
2025 ⁽⁴⁾	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.

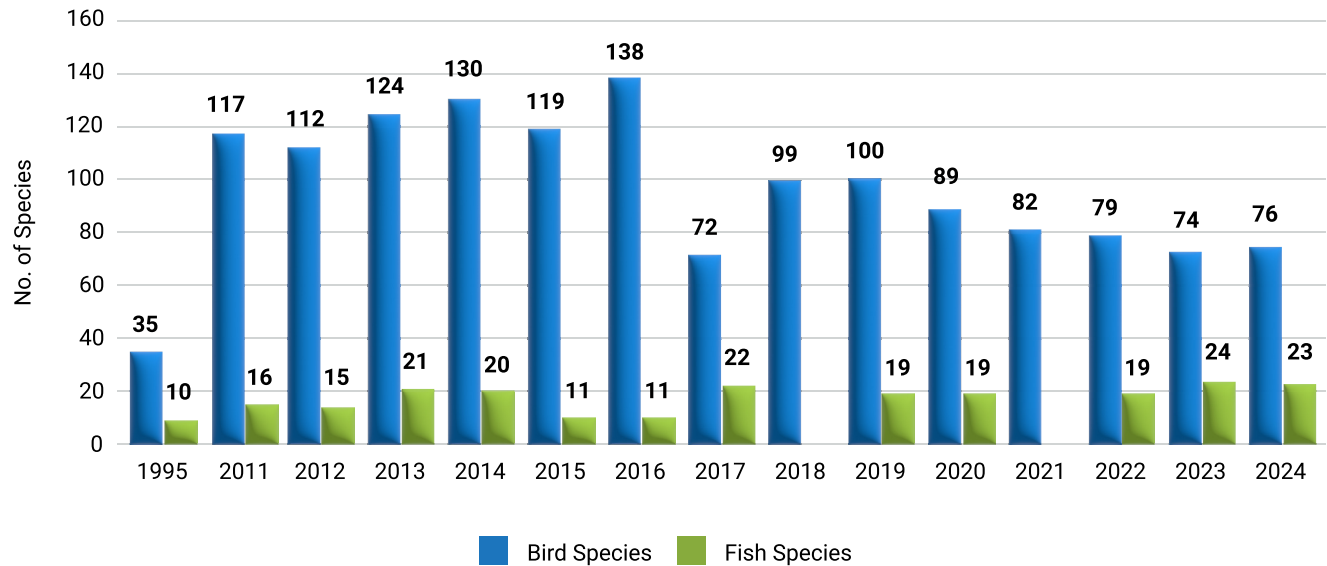
Table 2.3: Number of Species Found in Putrajaya Lakes and Wetlands Until 2024

Fauna species	2007 (Baseline)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Insects	21	445	767	1084	924	928	523	800	676	900	898	1058	1158	1092
Amphibian	2	8	13	9	8	11	9	10	9	7	6	6	6	4
Reptile	5	15	14	10	8	11	7	9	10	10	10	9	7	9
Mammal	7	11	9	13	9	10	11	13	12	9	9	8	8	9

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



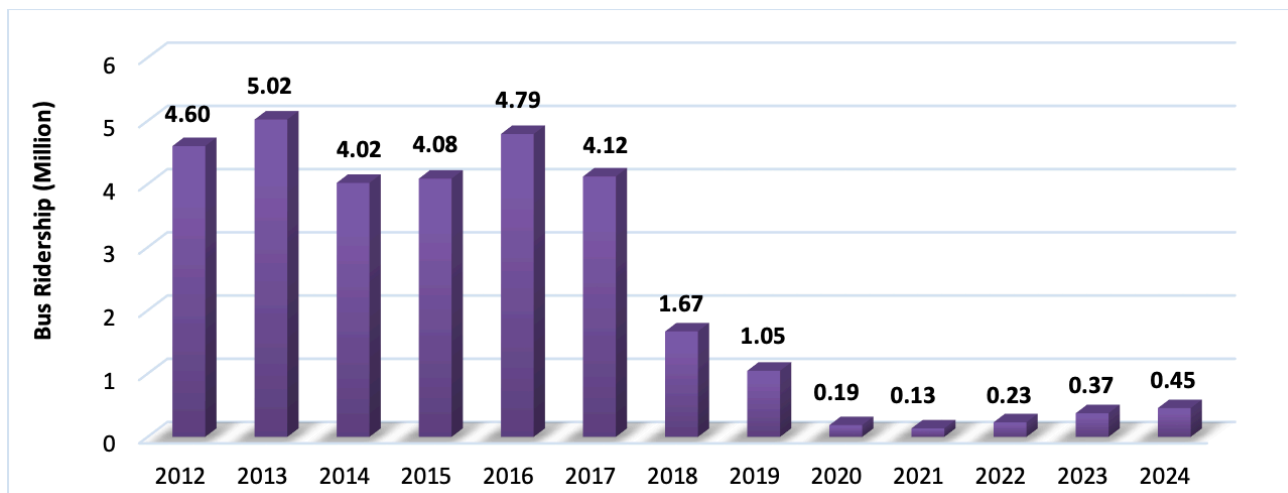
Chart 2.1: Number of Bird and Fish Species in Putrajaya Until 2024



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

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

Chart 3.1: Annual Bus Ridership in Putrajaya 2012-2023



Source: (1) Data 2012 -2022, Putrajaya Travel & Tours Sdn. Bhd. Public Transport.
 (2) Data 2023, Rapid Bus Sdn. Bhd.

Chart 3.2: Annual Express Rail Link (ERL) Ridership at Putrajaya Sentral Station 2012-2023

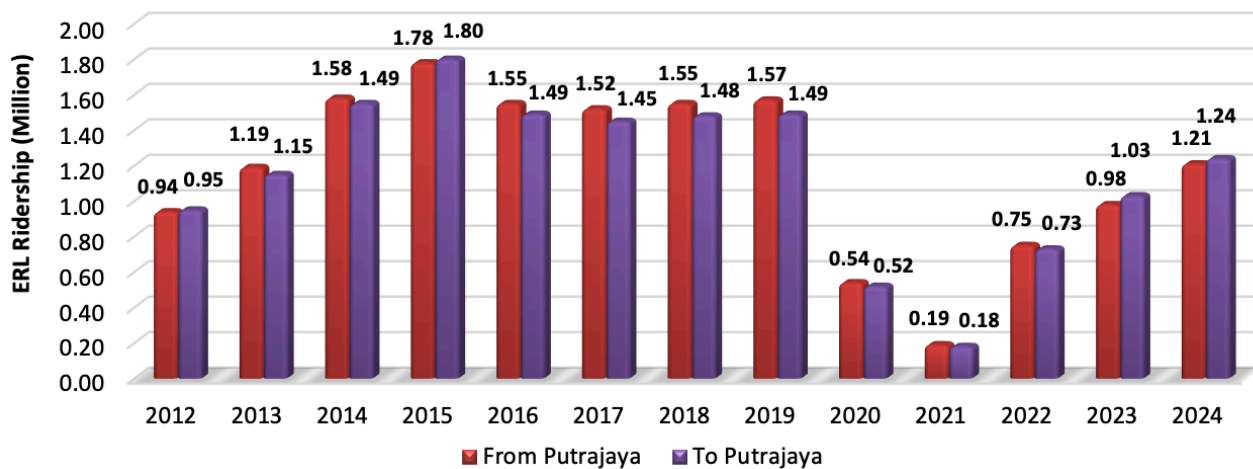


Table 4.2: Total Electricity Consumption (kWh) Per Capita in Putrajaya

Description	2017	2018	2019	2020	2021	2022	2023	2024
Total Domestic Electricity Consumption (MWh)	111,214	171,393	124,216	226,298	153,238	155,879	153,153	177,319
Total Population	86,900	90,400	103,800	113,300	134,391	143,363	154,094	155,818
Annual Electricity Consumption / Capita (kWh)	1,280	1,896	1,196	1,997	1,140	1,087	994	1,138
kWh/day/capita	3.51	5.19	3.28	5.47	3.12	2.98	2.72	3.20

Source: MURNInet Sustainable City Indicators Report 2017-2024.

Table 5.1: Water Loss Rate in Putrajaya 2019 to 2024

Year	2019	2020	2021	2022	2023	2024
Total treated water generated (m ³)	26,680,374	28,084,916	25,525,322	26,893,281	27,106,214	31,044,701
Total water used officially (m ³)	22,132,634	23,495,901	23,433,000	24,092,421	23,947,600	26,906,308
NRW (m ³)	4,547,740	4,589,015	2,092,322	2,800,860	3,158,614	4,138,393
NRW (%)	17.05	16.34	8.2	11	11.7	13.3

Source: MURNInet Sustainable City Indicators Report 2017-2024.



Table 5.2: Comparison of Lake and River Water Quality Index

Location	Lake and River Water Quality Index								
	2016	2017	2018	2019	2020	2021	2022	2023	2024
Chuaui River Inlet	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)	82.7 (Class II)	76.6 (Class II)
Lake Water	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 s I)	93.8 (Class I)	92.5 (Class II)
Outlet after Putrajaya Dam	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)	91.5 (Class II)	89.7 (Class II)

Source: Environment, Lake and Wetland Division.

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

Item	2012-2019	2020	2021	2022	2023	2024
Approved Annual lake Water Intake (million liter)	1,678.20	70	104	162	0.73	43.06
Savings from Not Consuming Treated Water (RM) ⁽¹⁾	RM2,709,937	RM112,700	RM166,764	RM260,820	RM1,175	RM69,327
Annual Water Consumption ⁽²⁾	Equals 22,266 People	Equals 945 People	Equals 1,398 People	Equals 2,186 People	Equals 10 People	Equals 581 People
Carbon Reduction CO ₂ (kgCO ₂) ⁽³⁾	705,257	29,330	43,400	67,878	306	18,042

Notes:

(1)Based on government departments' rate at RM1.61/m³.

(2)Estimated based on Malaysia average daily domestic consumption (203liters/person) x 365 days.

(3)LCCF : The system processes for 1 m³ emit 0.419kgCO₂

Table 6.1: Solid Waste Rate in Putrajaya from 2015 to 2024

Year	Total solid Waste (kg) ¹	Solid Waste (tons/day)	Total Domestic Waste (kg) ²	Domestic Waste (tons/day)
2015	37,613.32	103.1	28,987.59	79.4
2016	40,084.76	109.8	29,360.29	80.4
2017	41,516.81	113.7	28,903.84	79.2
2018	42,797.90	117.2	30,191.62	82.7
2019	40,729.37	111.5	30,539.68	83.7
2020	41,337.84	113.3	30,906.28	84.7
2021	45,890.02	125.7	33,740.22	92.4
2022	45,742.53	125.3	34,239.96	93.8
2023	45,571.75	124.9	35,325.53	96.8
2024	45,846.97	125.6	35,234.00	96.5

Source: (1),(2) Environmental Health Division, Putrajaya Corporation

Table 6.2: Domestic Solid Waste Rate per Capita in Putrajaya from 2015 to 2024

Year	Total Domestic Waste (kg) ¹	Population ²	Domestic Waste (kg/capita/day)
2015	28,987,590	81,400	0.98
2016	29,360,290	84,400	0.95
2017	28,903,840	86,900	0.91
2018	30,191,620	90,400	0.92
2019	30,539,680	103,800	0.81
2020	30,906,280	113,300	0.75
2021	33,740,220	134,391	0.69
2022	34,239,960	143,363	0.69
2023	35,325,530	154,094	0.63
2024	35,234,000	155,818	0.64

Source: (1) Environmental Health Division, Putrajaya Corporation
(2) MURNInet 2014-2020



Table 6.3: Recycle Rate in Putrajaya from 2015 to 2024

Year	Total Domestic Waste (kg) ¹	Total Recycle material Collection (kg)	Recycle Rate (%)
2015	28,987.59	2,232.84	7
2016	29,360.29	2,382.17	8
2017	28,903.84	2,503.00	9
2018	30,191.62	2,837.73	9
2019	30,539.68	3,101.90	10
2020	30,906.28	4,314.20	14
2021	33,740.22	5,310.75	16
2022	34,239.96	6,282.66	18
2023	35,325.53	7,084.90	20
2024	35,234.00	7,771.95	22

Source: Environmental Health Division, Putrajaya Corporation



APPENDIX B: LIST OF PUTRAJAYA GREEN CITY COMMITTEE MEMBERS

PATRON:

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

CHAIRMAN:

TPr. Hjh. Salmah Binti Hj Salman
Vice President City Planning.

MEMBERS:

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

TPr. Norazle Bin AB. Malek
Director 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. Megat Ahmad Tarmizi Bin Che Aini
Director Road Division,
Engineering & Maintenance Department.

Ir. Muhamad Zubir Bin Saran
Director Facility Management Division,
Engineering & Maintenance Department.

En. Mohd Hafiz Bin Abdul Khalek
Director Project Management Division,
Engineering & Maintenance Department.

LAr. En. Haris Bin Kasim
Director Horticulture and Urban Farming Division,
Landscape & Park Department.

LAr. Aida Farisa Binti Eberahim @ Ibrahim
Director Operation & Recreation Division,
Landscape & Park Department.

Encik Hazman Bin Md Zaki
Director Landscape Management &
Maintenance Division,
Landscape & Park Department.

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

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

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

SECRETARIAT

(PUTRAJAYA GREEN CITY UNIT:

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



MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL
SUSTAINABILITY MALAYSIA

MINISTRY OF TRANSPORT MALAYSIA

MINISTRY OF HOUSING AND LOCAL GOVERNMENT

DEPARTMENT OF FEDERAL TERRITORIES

DEPARTMENT OF WILDLIFE AND NATIONAL PARKS (DWNP)
PENINSULAR MALAYSIA

FOREST RESEARCH INSTITUTE MALAYSIA (FRIM)

FORESTRY DEPARTMENT OF PENINSULAR MALAYSIA

MALAYSIAN INSTITUTE OF ROAD SAFETY
RESEARCH (MIROS)

MALAYSIA DESIGN COUNCIL

PUBLIC WORK DEPARTMENT WP PUTRAJAYA

SUSTAINABLE ENERGY DEVELOPMENT AUTHORITY MALAYSIA
(SEDA)

MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE
CORPORATION (MGTC)

ENERGY COMMISSION

DEPARTMENT OF ENVIRONMENT PUTRAJAYA
SOLID WASTE AND PUBLIC CLEANSING MANAGEMENT
CORPORATION (SWCorp)

NATIONAL WATER SERVICES COMMISSION

MINISTRY OF PLANTATION AND COMMODITIES

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)

GREEN BUILDING INDEX (GBI)

ALAM FLORA ENVIRONMENT SOLUTIONS SDN. BHD. (AFES)

INDAH WATER KONSORTIUM SDN. BHD.

TETRA PAK (MALAYSIA) SDN. BHD.

NESTLÉ (MALAYSIA) BERHAD

EXPRESS RAIL LINK SDN. BHD.

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

TENAGA NATIONAL BERHAD (TNB)

PENGURUSAN AIR SELANGOR SDN BHD

GAS DISTRICT COOLING (PUTRAJAYA) SDN. BHD.

GAS MALAYSIA BERHAD (PUTRAJAYA)

GLOBAL COVENANT OF MAYORS FOR CLIMATE AND
ENERGY (GCoM)

EUROPEAN UNION (EU)

SUNWAY UNIVERISTY

PETRONAS PUTRAJAYA 1 PRECINT 9

GENTARI SDN BHD

IONICE SDN. BHD.

BANK RAKYAT COOPERATIVE BERHAD

PERSATUAN KAKITANGAN PERKHIDMATAN UGAMA
(PKPU)

LIFE LINE CLOTHING MALAYSIA SDN BHD

ALAMANDA SHOPPING CENTRE MANAGEMENT DIVISION

PANGSAPURI PR1MA PRECINT 11

PANGSAPURI PPAM PUDINA PRECINT 17

NEIGHBOURHOOD COMMERCIAL CENTRE 1

PRECINT 9

PHOTO SEPERATOR COURTESY OF:

Putrajaya Tourism and Photo Contest

Putrajaya Lake & Wetland Photo Competition





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