



PUTRAJAYA

LOW CARBON GREEN CITY

INITIATIVES REPORT

Eighth Edition | December 2023



Putrajaya Low Carbon Green City Initiatives Report

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Published by:
PUTRAJAYA CORPORATION,
KOMPLEKS PERBADANAN PUTRAJAYA,
24, PERSIARAN PERDANA, PRESINT 3,
62675 PUTRAJAYA, MALAYSIA

Eighth Edition
December 2023

FOREWORD FROM THE PRESIDENT

Assalamualaikum warahmatullahi wabarakatuh and greetings,

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

Various efforts have been carried out in Putrajaya to support the Government's aspiration to make Putrajaya a low-carbon city model in Malaysia, as announced during the budget presentation for the year 2024 on 13 October 2023. The implementation of the efforts undertaken is guided by the seven focus areas of Putrajaya Green City 2025 and the six themes of the Putrajaya Climate Action Plan 2030 (PCAP2030).



The 'Science to Action (S2A)' approach that has been adopted has helped the Corporation to determine clearer quantitative targets and facilitate the measurement of achievements of the initiatives that have been implemented. Through the publication of this report, the status of the greenhouse gas (GHG) emissions inventory in Putrajaya will be reported, and it will record various green initiatives that have been implemented by PPj along with members of the Putrajaya Low Carbon City Task Force. These initiatives encompass aspects such as physical projects, development capacity, incentive programs, campaigns, and promotions.

I would like to express my highest appreciation to all parties involved and hope for enhanced collaboration between PPj, private companies, and the Putrajaya community to further achieve the mitigation and adaptation targets of PCAP 2030. Subsequently, Putrajaya achieves the status of a low-carbon city model in Malaysia.

Thank you.

DATO' TPr. FADLUN BIN MAK UJUD
PRESIDENT
PUTRAJAYA CORPORATION
DECEMBER 2023

MESSAGE FROM THE VICE PRESIDENT

Assalamualaikum warahmatullahi wabarakatuh and greetings,

Grateful to Almighty Allah SWT because with His grace and permission, the Putrajaya Low Carbon City Task Force members have successfully carried out various initiatives including planned innovation programs throughout the year 2023. All agencies, private companies, and the involved communities are 'key players' that help PPj achieve the PCAP2030 mitigation target of reducing carbon emissions by 33% by the year 2030.

We need to be aware that urban development or urbanization is one of the main cause of GHG emissions that contribute to the problem of global climate change. The building, transportation, and solid waste sectors are the main sectors that are constantly monitored for GHG emissions in Putrajaya.

Therefore, to achieve the mitigation and adaptation targets of PCAP2030, we need to move in line with the first pillar of the 'Malaysia Madani' concept, which is Sustainability. Among the main initiatives that have been successfully implemented through collaboration between PPj and strategic partners are as follows:

- i. Building Energy and Carbon Reporting Program (BECO₂R)
- ii. Building Energy Management Clinic
- iii. Putrajaya Green Initiative Award
- iv. CAREton@Putrajaya
- v. Putrajaya Urban Biodiversity Challenge 2023

In conclusion, all parties need to incorporate low-carbon principles and practices so that the implementation of a low-carbon city is comprehensive, multidisciplinary, and covers various sectors. Highest appreciation to all parties who have contributed their expertise and involvement in implementing low-carbon city initiatives.

Thank you.

SHAMSUL BAHRI BIN RAHMAT
VICE PRESIDENT OF CITY PLANNING
PUTRAJAYA CORPORATION
DECEMBER 2023



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MENARA KBS

PIHAK BERKUASA PENERBANGAN AWAM MALAYSIA

1.0

CITY PLANNING AND BUILDING

1.1 THE BUILDING SECTOR ENERGY USE AND CARBON REPORTING (BECO₂R) PROGRAMME 2023

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

Additionally, it helps to increase awareness of building management aspects at the operational level.

New participants in BECO₂R for 2023, namely

- I. Secret Recipe Diplomatic Precinct
- II. Shell Precinct 18
- III. Caltex Precinct 8

Table 1.1: Total Number of Buildings in the BECO₂R programme until 2023

| Building Type | No. of Buildings |
|----------------------------------|------------------|
| Government Office Building | 79 |
| Commercial Building | 9 |
| Hotel Building | 2 |
| Public Facilities Building | 3 |
| Residential Building (apartment) | 1 |
| School/University Building | 1 |
| Other Building | 1 |
| TOTAL | 96 |



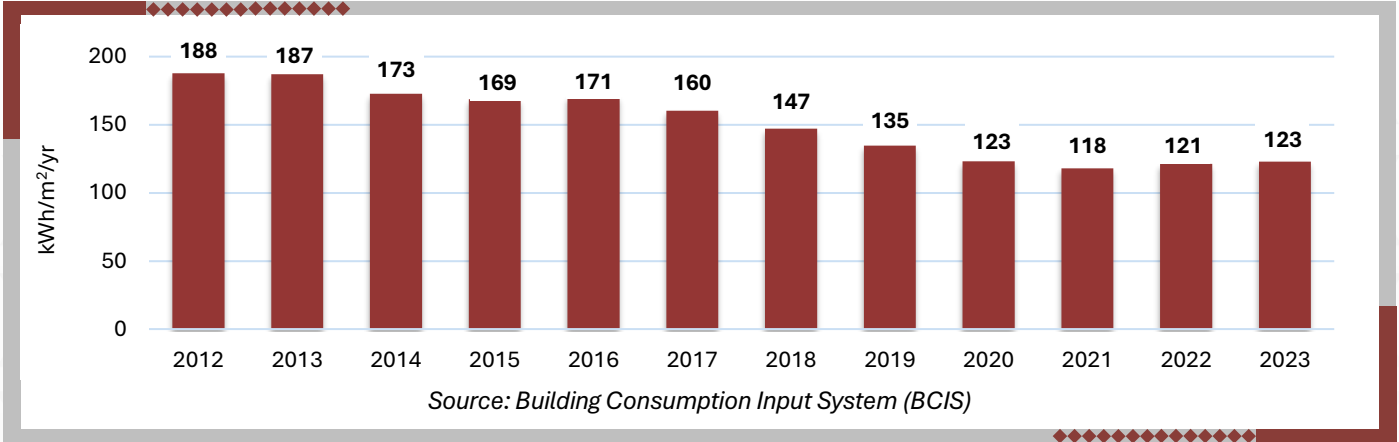
Secret Recipe Diplomatic Precinct



Caltex Precinct 8

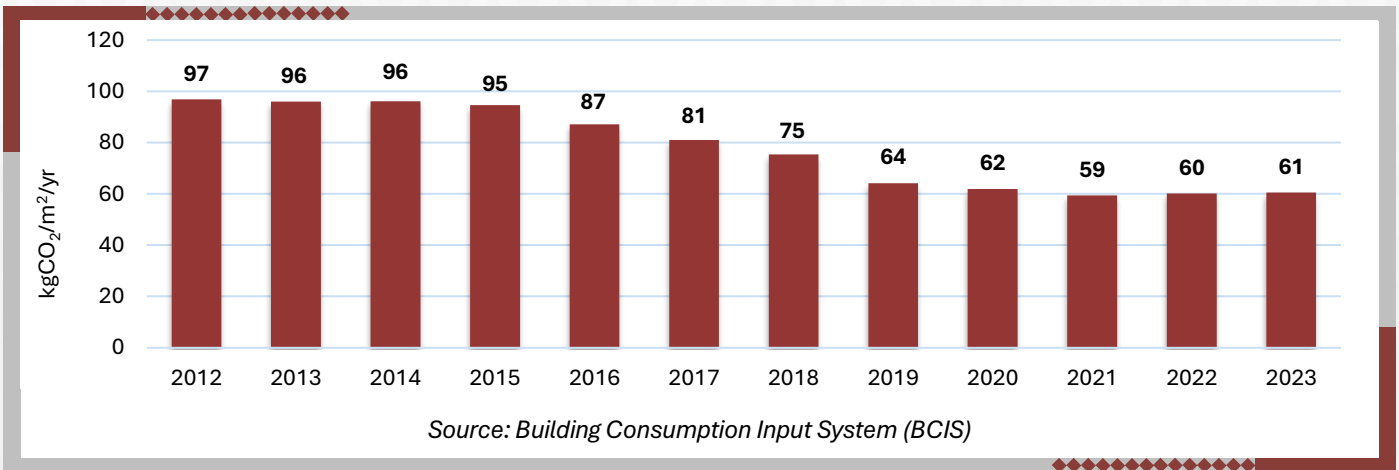
Based on the data reporting from the BECO₂R programme in 2023, the Building Energy Index (BEI) has shown a significant decrease of 35% (123 kWh/m²/year) compared to the BEI in 2012 (188 kWh/m²/year).

**Chart 1.1: Building Energy Index (kWh/m²/year).
Government Office Buildings in Putrajaya 2023**



In terms of the Building Carbon Index (BCI) for 2023, it has shown a decrease of 38% (61 kgCO₂/m²/year) from the 2012 level (97 kgCO₂/m²/year).

**Chart 1.2: Building Carbon Index (kgCO₂/m²/year).
Government Office Buildings in Putrajaya 2023**



1.1.1

Briefing for New Participants 2023

| | |
|-------------------------|--|
| Date | : 17 January 2023 |
| Time | : 11:00 am – 12:30 pm |
| Location | : Putrajaya Corporation Complex |
| No. Participants | : 15 people |
| Objective | : Providing information and offering opportunities for private sector participation in the BECO ₂ R 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 Secret Recipe, KK Super Mart & Superstore, Caltex, Petronas Petrol Station, 99 Speedmart, and Facility Managers of government buildings in Putrajaya.



Komponen Program BECO₂R

| Scope | Description |
|----------------------------------|--|
| WHAT YOU need to do? | SUBMIT your monthly energy consumption data (electricity, water, chilled water) to PIC through a FREE online reporting system. |
| | SETTING your building energy reduction targets. |
| | DISCLOSE your building performance (i.e: energy/CO ₂ intensity) to PIC/ building owner/ occupants/users/ public. |
| WHAT PIC provides to you? | RECOGNITION & CERTIFICATION SCHEME of energy / carbon reduction/ voluntary reporting. (i.e: PPJ President Recognition, Green PASS - SEDA Malaysia). |
| | INCENTIVE - CAPACITY BUILDING Free trainings, technical advices, walk through audit sessions, forum & green tour. |

Participants were informed about the importance of their participation, their roles, and the incentives they would receive as participants in the BECO₂R programme.

1.1.2 Incentives of the BECO₂R Programme

The Corporation has offered various types of incentives to BECO₂R participants for the year 2023. The incentives implemented include the following:

Hands-On Training Session on the Building Consumption Input System (BCiS) 2023

| | |
|-------------------------|---------------------------------|
| Date | : 28 February 2023 |
| Time | : 9:00 am – 1:00 pm |
| Location | : Pulse Grande Hotel, Putrajaya |
| No. Participants | : 22 participants |



This free hands-on training is an annual programme for all new BECO₂R participants. The strategic partner, Malaysian Green Technology and Climate Change Corporation (MGTC), is the trainer for this programme.



Participants include officers from the Public Works Department (JKR), government building management companies, and representatives from private premises such as Secret Recipe and Shell.

Building Energy Management Clinic 2023

The Building Energy Management Clinic is one of the incentives for BECO₂R participants. This initiative is implemented through walk-through audits, providing free advisory and guidance services for building energy management.

Improvement actions from various aspects have been proposed for the owners or managers of the buildings to take action. A total of 6 series of Building Energy Management Clinics were held in 2023, involving the following buildings:

- I. Secret Recipe Diplomatic Precinct
- II. KK Super Mart Diplomatic Precinct
- III. Caltex Precinct 8
- IV. KK Super Mart Precinct 8
- V. Shell Precinct 18
- VI. Suasana PjH Precinct 2

Date : 23 May 2023 (Series 1)
Time : 10:00 am – 11:30 am
Location : Secret Recipe Diplomatic Precinct



A brief briefing session on the walk-through session and explanation of building consumption trends by a representative from Putrajaya Corporation to the Manager of Secret Recipe Diplomatic Precinct.



The clinic session continued with a tour of the building to review the electrical equipment used during business operations.



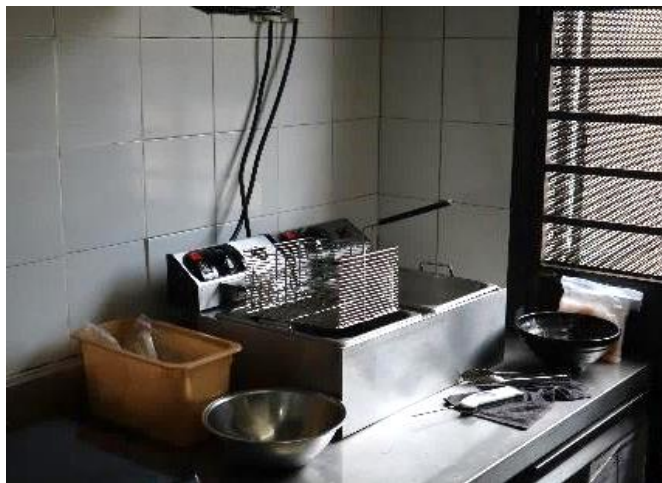
The level of illumination in the restaurant space is sufficient and suitable for food premises, ranging from 200-400 lumens. The lights used are LED type. It is recommended that during daylight hours when there is sufficient sunlight, some of the lights inside the shop can be turned off.



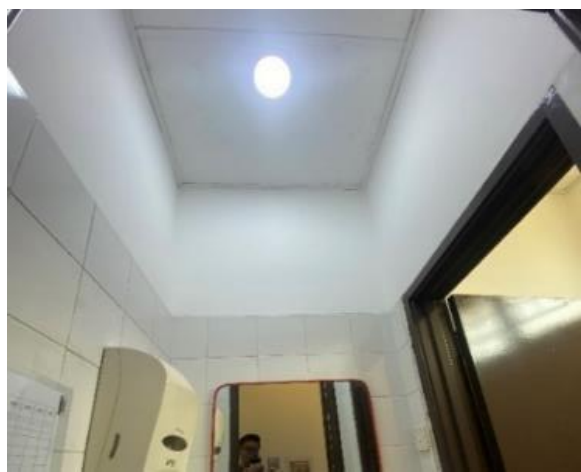
The air conditioner is set at 16°C, however, the room temperature is found to be 24°C. This indicates a difference of 8°C or equivalent to 40% of energy being wasted. Among the contributing factors are the heat from the open kitchen area and the heat reflection from glass surfaces without curtains/UV barriers.



The temperature of the chiller and display chiller ranges between 3°C – 8.6°C, suitable for storing food items like cakes. The proposed improvement is to increase the distance between the chiller and the surrounding surfaces to facilitate better heat flow from the chiller.



The installation of a hood in the cooking area is beneficial for helping to vent the kitchen's heat outside the building.



The restroom light is always left on even when not in use. Improvements can be made by installing lux/motion sensors to prevent electrical waste



A photography session with Mr. Mohd Faizul Mazlan, Manager of Secret Recipe Diplomatic Precinct, and the building energy management clinic team.

Date : 23 May 2023 (Series 2)
Time : 2:30 pm - 4.30 pm
Location : KK Super Mart Diplomatic Precinct



The walk-through session began with a briefing on the building profile and building operation procedures by a representative from the Putrajaya Corporation to the supervisor of KK Super Mart Precinct Diplomatic.



The Corporation and Tenaga Nasional Berhad (TNB) conducted a tour around the building to review the electrical equipment used and the level of energy efficiency.



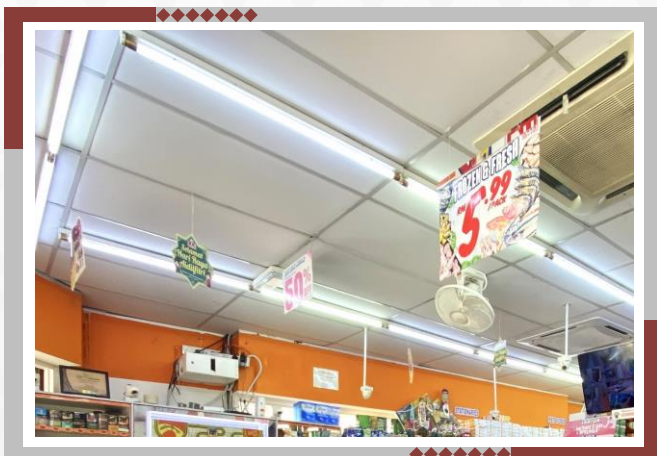
KK Super Mart's efforts in using energy-efficient equipment, such as fans, are seen as commendable in saving electricity consumption.



Four air conditioners are installed." However, using only 2 air conditioners at a time in a rotating manner is a good practice.



There are 4 chillers and 6 freezers, which are seen as among the electrical appliances that consume a significant amount of energy in this building. It is recommended that KK Super Mart use chillers and freezers with 5-star energy efficiency ratings to save on electricity consumption.



The lights used are energy-efficient types, namely LED T8. It is recommended that during daylight hours when there is sufficient sunlight, some of the lights inside the shop can be turned off



The air curtain being used is less effective. The room temperature is found to be 29°C even though the air conditioner is set to 16°C." This indicates a difference of 13°C or equivalent to 65% of energy being wasted. It is recommended to install the air curtain in a U-shape or to install doors to prevent outside heat from entering the building.



A brief briefing session on the walk-through session and an explanation of building consumption trends by a representative from the Corporation to the Manager of KK Super Mart.



TNB has explained the results of the assessment and several suggestions for improving energy usage during business operations at KK Super Mart Diplomatic Precinct.



A photography session with Ms. Siti Zahilda Mohd Zahari, Corporate Relations Manager of KK Super Mart, and the building energy management clinic team.

Date : 26 June 2023 (Series 3)
Time : 9:30 am – 11:00 am
Location : Caltex Precinct 8



A briefing by the building supervisor regarding the building's profile and its operational methods.



Walk through the building was conducted to inspect electrical equipment and assess the level of energy efficiency.



Most of the lights used are energy-efficient types, namely LED and T8 lamps. Suggestions for improvement can be made by installing lux sensors/motion sensors to optimize energy usage.



The air conditioner being used is not energy-efficient; it has a 2-star rating. The set temperature is 16°C, but the measured room temperature is 24°C, resulting in a 40% energy wastage. It is recommended to use 5-star energy-efficient air conditioners to save on utility costs.



All the fans installed are of 5-star energy efficiency rating. This effort is good for saving electricity consumption.



The results of the assessment and several suggestions for energy usage improvement have been explained by a TNB representative.



Photography session with the supervisor of Caltex Precinct 8 and the building energy management clinic team.

Date : 26 June 2023 (Series 4)
Time : 11:00 am – 12:30 pm
Location : KK Super Mart Precinct 8



The walk-through session began with a survey of all electrical equipment and the level of energy efficiency at KK Super Mart in Precinct 8



The operation of air conditioning on an 'alternate' basis and the use of fans from 2 am to 8 am are among the practices that can help in energy conservation.



A total of 5 chiller units and 4 freezer units, which operate 24 hours a day, are among the main electrical equipment contributing to the energy consumption in the operation of this premise. It is encouraged to adjust the temperature to the optimum level and to use 5-star energy-efficient appliances to save on utility bill costs.



The lights used are energy-efficient type, which is LED. It is recommended to switch to lower wattage lights (10 watts) or to turn off some lights by alternating them during the day when natural sunlight is sufficient. It is recommended to switch to lower wattage lights (10 watts) or to turn off some lights by alternating them during the day when natural sunlight is sufficient.



The room temperature was found to be 24°C - 26°C even though the air conditioner was set at 16°C. Approximately 5-10% of energy is wasted due to gaps in the entrance doors. It is recommended to install an air curtain aligned at the top of the entrance door or to install an automatic sliding door.



The hot water dispenser used does not have an energy efficiency star rating label. It is recommended to use 5-star energy-efficient appliances to save on utility bill costs.



The findings of the survey and several suggestions for improving energy use were explained by the representative from TNB.

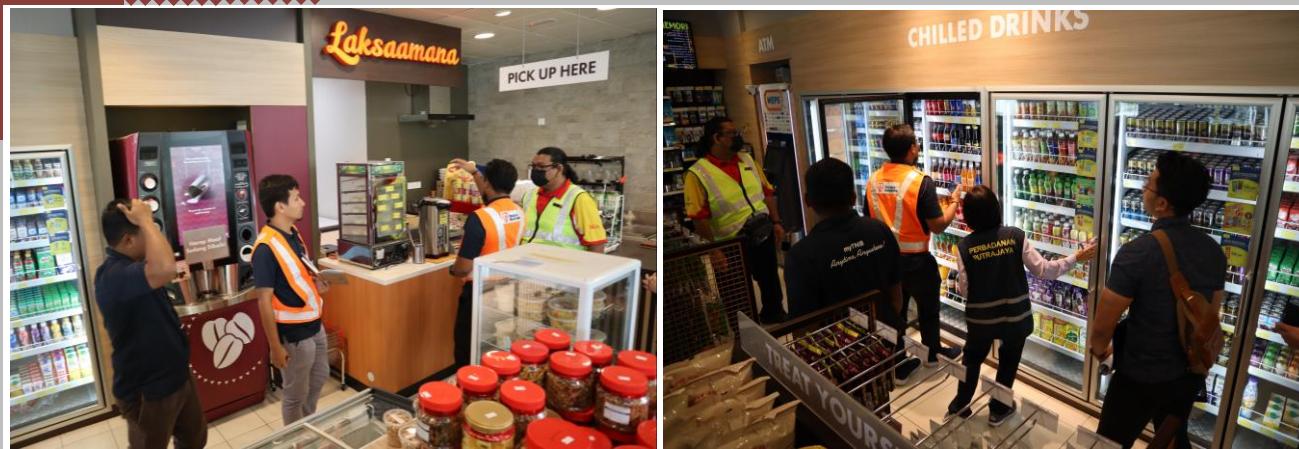


It is advised to utilize appliances with a 5-star energy efficiency rating to reduce utility bill expenses.



A photography session with Ms. Noor Fazilah Binti Abdullah, Corporate Affair Officer at KK Super Mart, and the building energy management clinic team.

Date : 6 July 2023 (Series 5)
Time : 11:00 am – 12:30 pm
Location : Shell Precinct 18



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



Chillers and freezers operating 24 hours are among the main electrical equipment contributing to energy consumption in the operation of this premise, and these appliances does not have energy efficiency label. It is encouraged to adjust the temperature to the optimum level and to use 5-star energy-efficient appliances to save on utility bill costs.



There are also coffee makers and kitchen appliances such as microwaves, ovens, waffle makers, and steamers contributing to energy usage in this building. It is recommended to use 5-star energy-efficient appliances to save on utility bill costs.



There are 6 air conditioning units, with 3 units operating 24 hours and the other 3 units equipped with sensors, automatically operating when the room temperature rises to the set temperature.



There are also 3-star rated air conditioners used in the surau. It is recommended to use 5-star energy-efficient appliances to save on utility bill costs.



All lights use energy-saving LED lamps. However, the location of the lights is too close. It is recommended that during daylight hours when there is sufficient sunlight, some of the lights inside the shop can be turned off. It is recommended to install motion sensors for the lights in the surau to optimize energy usage.





The lights on the exterior use LED bulbs equipped with lux and motion sensors. It is recommended that regular cleaning and maintenance be performed to ensure optimal use of the lighting.



There is a fan in the prayer room, which is a non-energy efficient appliance, rated below 4 stars. For upcoming fan replacements, it is recommended to use fans with a 4 or 5-star energy efficiency rating.



The initiative to install a 70kWp capacity Photovoltaic Solar system can reduce the use of grid electricity and save on utility bills.



The findings of the survey and several suggestions for improving energy usage were presented by representatives from TNB and the Corporation.



Used of rain water harvesting (SPA) and tree planting are good green initiatives and can serve as examples for other petrol stations to contribute to carbon emission reduction in Putrajaya.



A photography session with Mr. Jamaan Syaban Murad, Manager of Shell Precinct 18, and the building energy management clinic team.

Date : 6 July 2023 (Series 6)
Time : 2:30 pm - 4.30 pm
Location : Suasana PjH, Precinct 2



A brief briefing session by Nur Adilah, Electrical Executive of Suasana PjH, regarding the building profile and building operation procedures.



Suasana has a building automation system to control the electrical usage system. This system can display and monitor energy usage data.



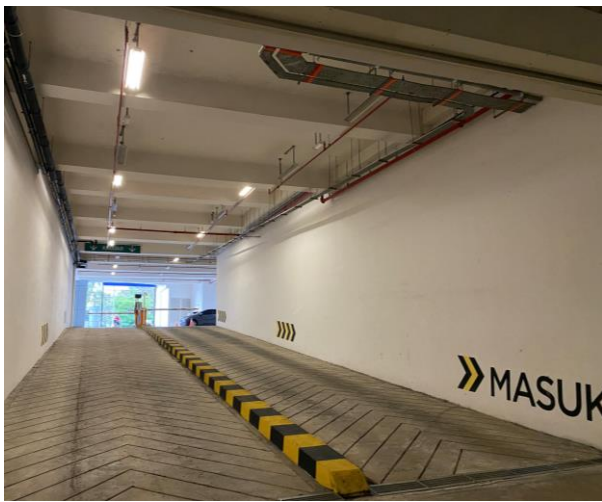
There are only 30 air conditioners (split units), and their operation can be monitored through the building automation system."



There are 4 Chilled Water Pumps (CWP) among the equipment that contribute to energy consumption. Only 3 units are in use at any given time.



Suasana PjH has 80 units of Air Handling Units (AHU) in the system to maintain a temperature of 22-24°C. Chilled water is supplied to the Air Handling Units (AHU) from the Gas District Cooling (GDC) system.



Turning off some of the lights in the parking area and alternating them during the daytime is a good effort for energy conservation.



Elevators are one of the machines that contribute significantly to energy consumption. There are a total of 26 elevators in this building.



The lights used are not energy-efficient types, they are fluorescent lights. It is recommended to replace the lights with LED types in the future to save on electricity bills.



The findings of the survey and several suggestions for improving energy use were explained by the representative from TNB.



Photography session with the representatives of PjH and the building energy management clinic team.

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

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

The rating status of each type of system for the year 2023 is as shown in Table 1.2 to Table 1.4.

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

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

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

Source: Green Building Index Sdn Bhd

Note: NRNC-(Non-Residential New Construction),

NREB-(Non-Residential Existing Building),

RNC-(Residential New Construction)

Table 1.3: List of Building with MyCrest Certification

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

Source: Construction Industry Development Board (CIDB) Malaysia

Table 1.4: List of Building with GreenPASS Certification

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

Source: Sustainable Energy Development Authority



Shell Petrol Station, Precinct 18 (GBI-Certified)



Galeria PjH, Precinct 4 (GreenPASS -Certified)

1.3

Focus Group Discussion (FGD) Putrajaya Climate Action Plan 2030 (PCAP 2030)

- Date** : 15 February 2023 (Wednesday)
Time : 9:00 am - 5:00 pm
Location : Putrajaya International Convention Centre (PICC), Precinct 5, Putrajaya
No. Participants : 60 people
Objective : Presenting proposed climate action initiatives encompassing both mitigation and adaptation to achieve the objectives of PCAP 2030 and detailing the initiatives (programmes/projects) for the period from 2023 to 2030.



Welcome speech by TPr Noor Sita Binti Abbas, Director of Sustainable Development and Housing Division, Department of Urban Planning.



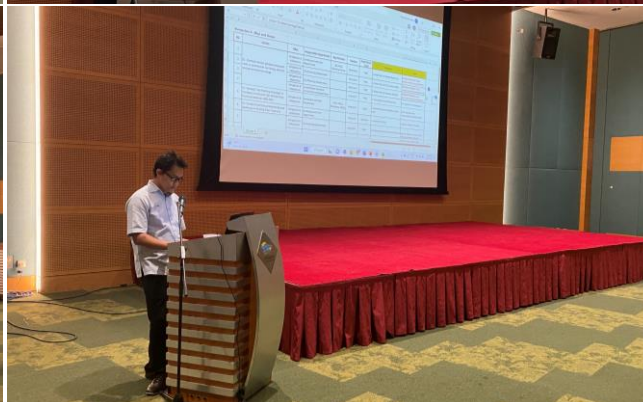
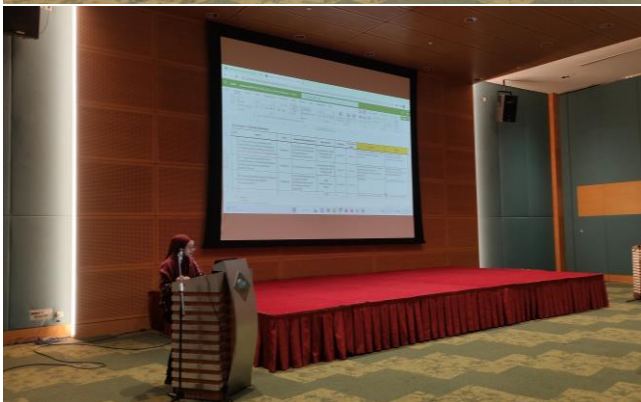
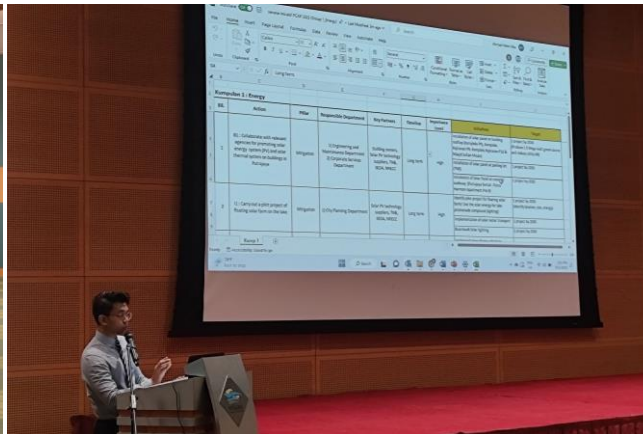
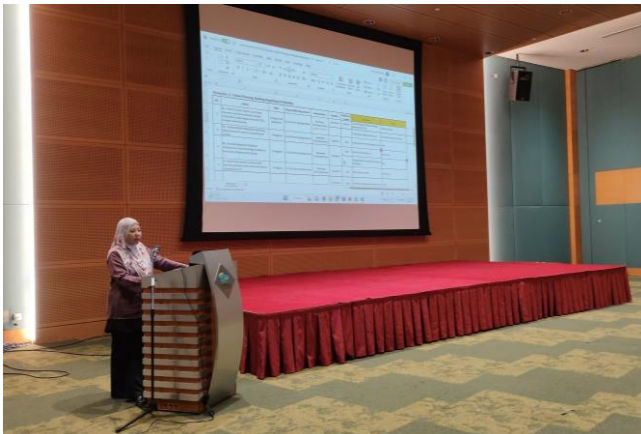
The PCAP 2030 briefing was delivered by TPr. Wang Tze Wee, Assistant Director General, Urban Planning Department, Putrajaya Corporation

The participants were divided into groups based on themes, which are:

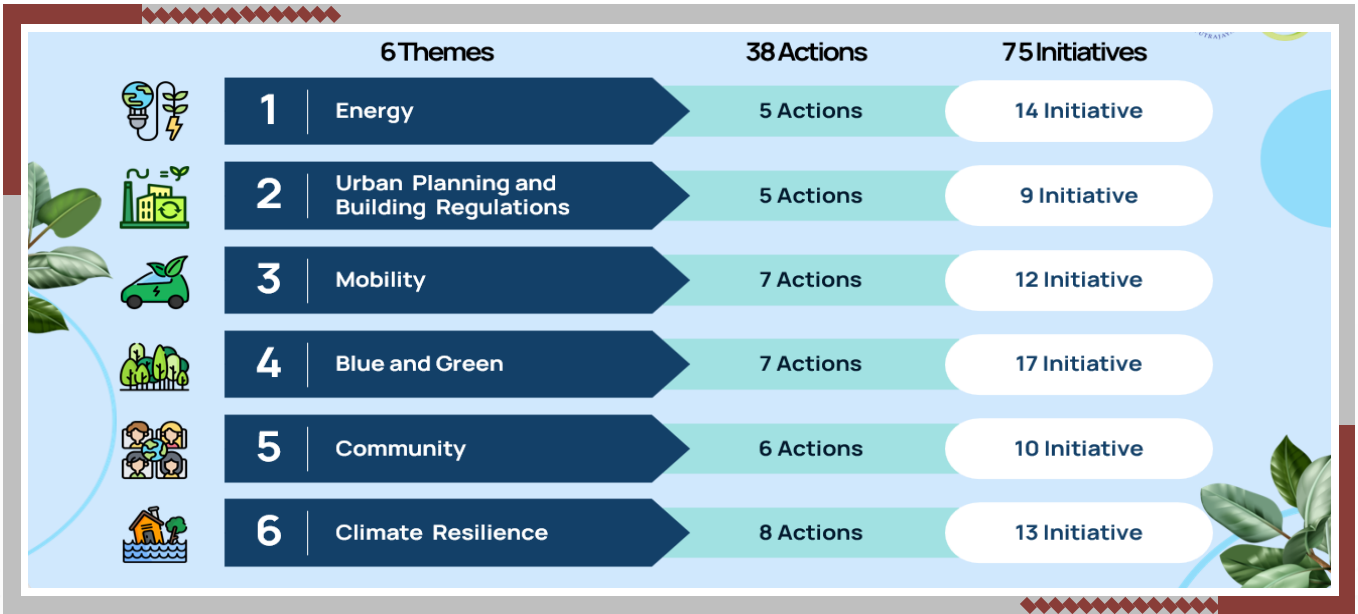
- I. Theme 1: Energy
- II. Theme 2: Urban Planning & Building Regulations
- III. Theme 3: Mobility
- IV. Theme 4: Blue and Green
- V. Theme 5: Community
- VI. Theme 6: Climate Resilience



The group discussion detailed the initiatives to be implemented, whether they are long-term, short-term, or quick-win initiatives.



The session includes the presentation of discussion outcomes in groups and a question-and-answer session related to the implementation of the PCAP 2030 initiatives.



A total of 75 initiatives have been identified based on the 38 actions set out in the PCAP 2030.

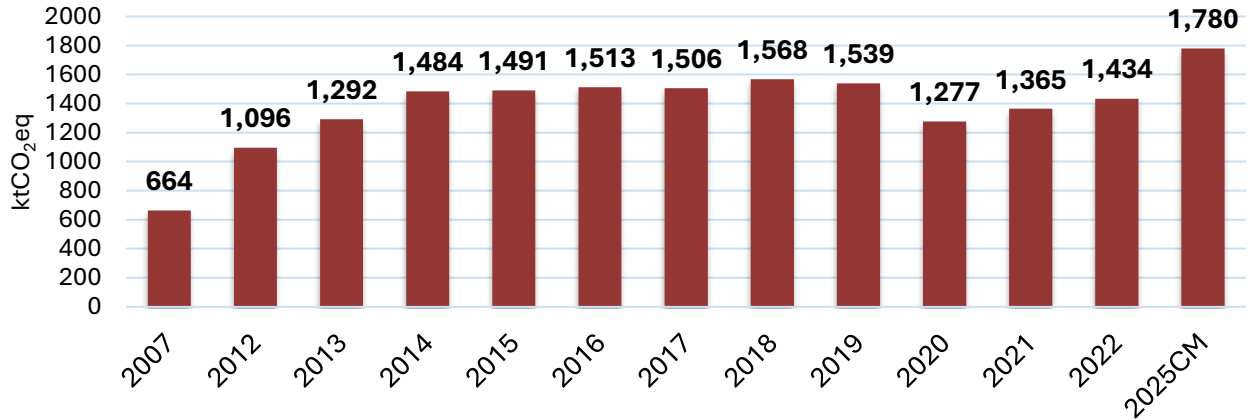


The participants consist of representatives from PPj's internal departments, ministries, development agencies, and The Global Covenant of Mayors for Climate & Energy (GCoM) representative.

1.4

Quick Facts

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



Notes:

2007: base year; 2025: target year.

Chart 1.4: GHG Emissions from the Seven Sectors

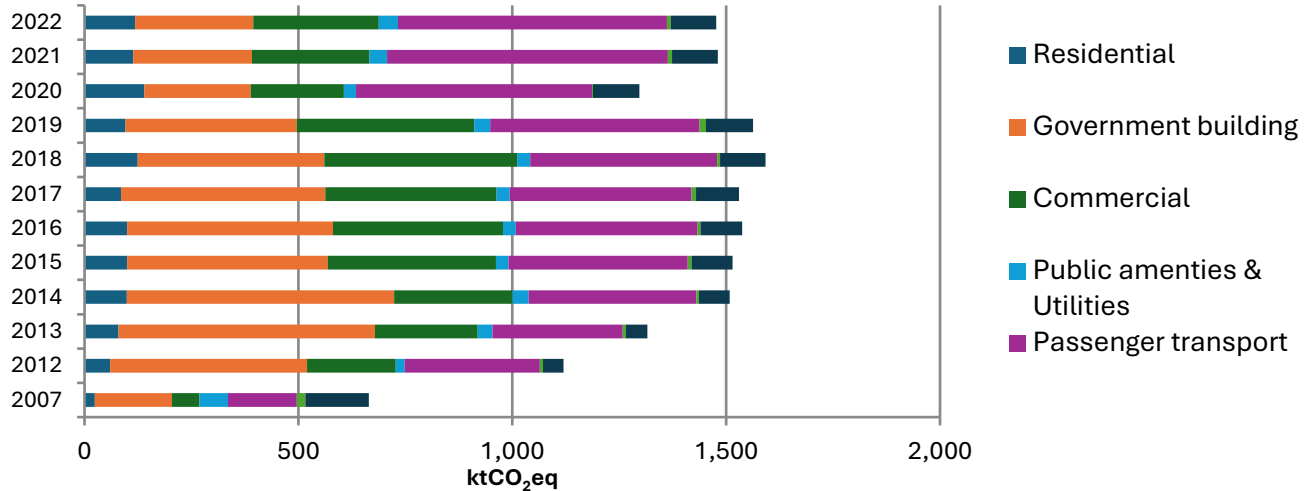


Chart 1.5: GHG Emissions from the Three Main Sectors 2022

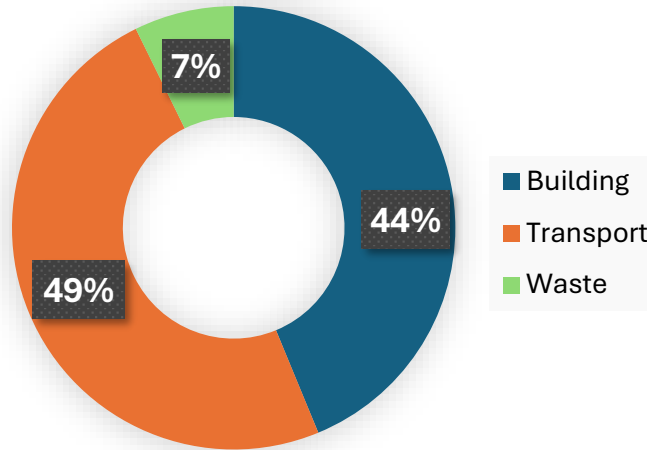


Chart 1.6: GHG Emissions Per Capita 2022

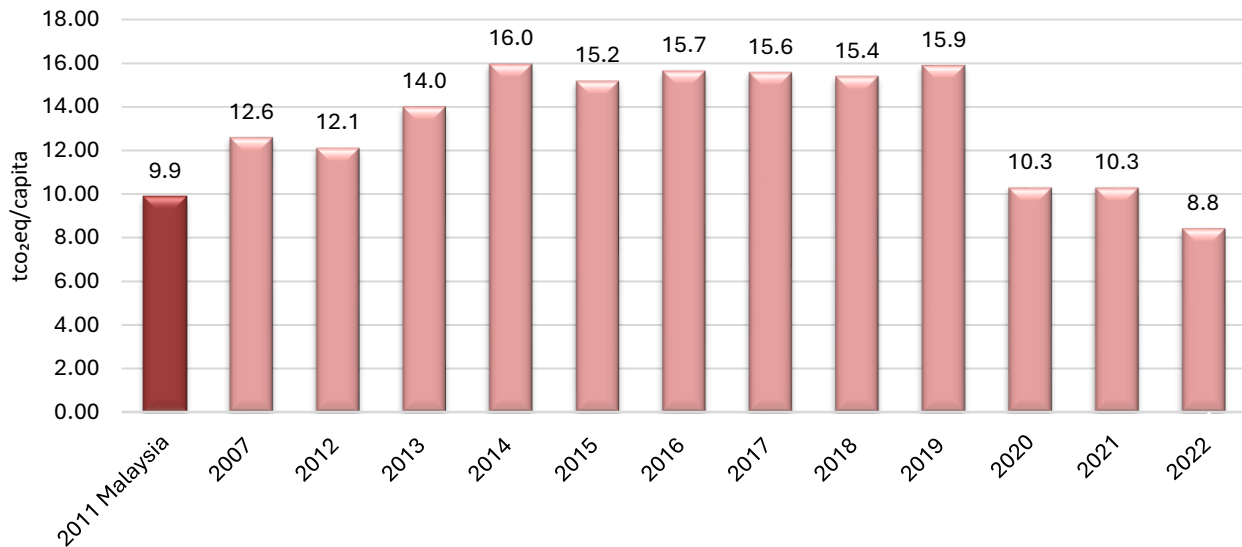


Chart 1.7: Building Sector Carbon Emissions 2022

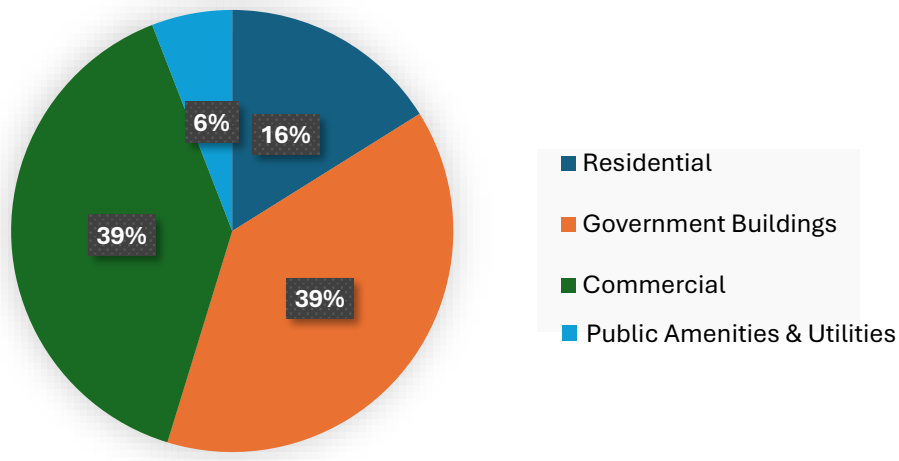


Chart 1.8: Emissions Intensity by Floor Area (tCO₂/m²)

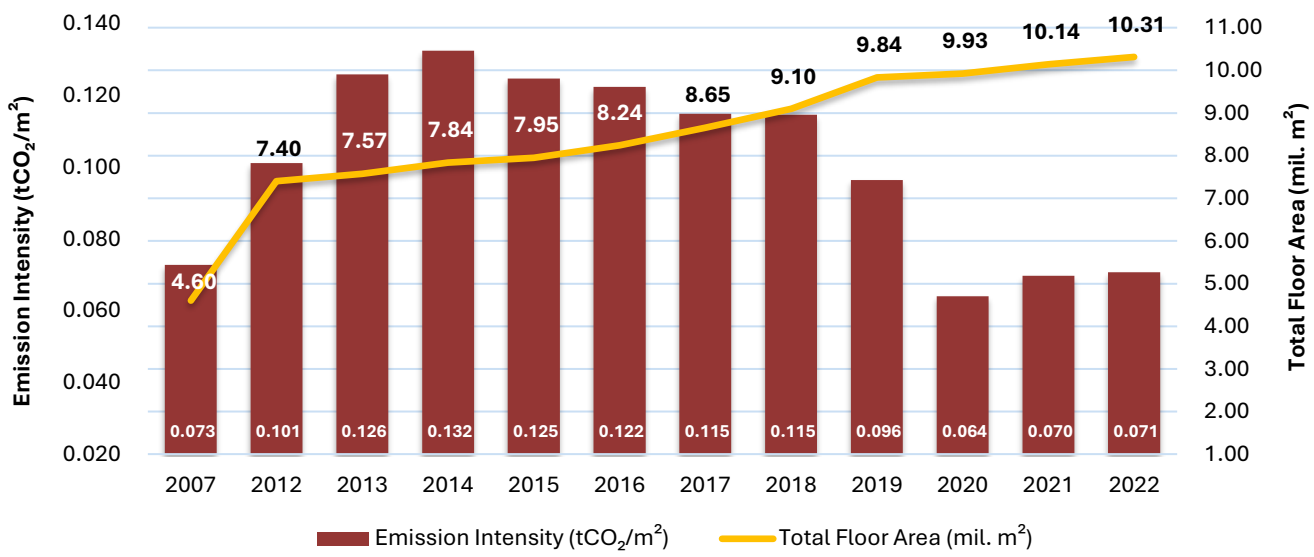


Chart 1.9: Transportation Sector Carbon Emissions 2022

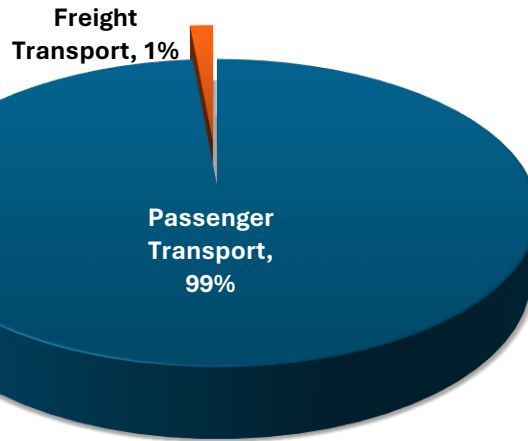
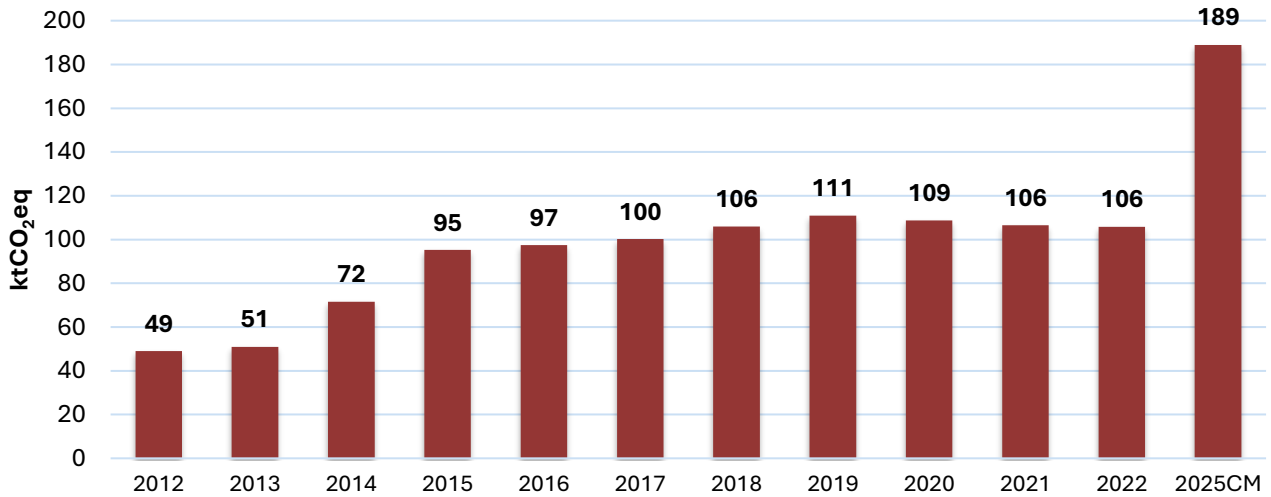


Chart 1.10: GHG Emissions Trend for Solid Waste Sector [ktCO₂eq]





2.0

**INTEGRATING NATURE
INTO THE URBAN FABRIC**

2.1 TREE PLANTING PROGRAMME

2.1.1 100 Million Tree Planting Campaign at the Federal Territory of Putrajaya

This campaign is an annual programme from 5 January 2021, until 2025. The targets and achievements of the campaign at the Federal Territory of Putrajaya level are shown in Table 2.1.

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

| No. | Year | Number of Trees (including shrubs) |
|--------------|------|------------------------------------|
| 1 | 2021 | 68,850 |
| 2 | 2022 | 73,938 |
| 3 | 2023 | 120,744 |
| Total | | 263,532 |
| 2025 | | 400,000 (Target) |

Amenity Tree Management (Arboriculture) Putrajaya 2023

Date : 27 September 2023 (Wednesday)

Time : 08:30 am – 12:00 pm

Location : Taman Rimba Desa, Precinct 9, Putrajaya

Organized by : Putrajaya Corporation in collaboration with Malaysian Society of Arborist (PArM)

Objectives :

- 1) Guiding and enhancing the knowledge of technical staff with the correct landscape maintenance techniques based on the 'Best Horticulture Practices'.
- 2) Supporting the Malaysian Greening Programme through 100 Million Tree Planting Campaign.



A total of 150 participants consisting of 17 local authorities (PBT) from all over Malaysia, private agencies, and landscape maintenance contractors in Putrajaya.



A total of 31 trees were planted by the participants, which are species of *Garcinia mangostana* (Mangosteen), *Citrus grandis* (Pomelo), *Syzygium jambos* (Rose Apple), *Psidium guajava* (Guava), *Citrus suhuiensis* (Honey Citrus), *Archidendron bubalinum* (Kerdas), *Mangifera pajang* (Bambangan), and *Mangifera indica* (Mango).

2.2

PUTRAJAYA PUBLIC PARKS PROMOTION PROGRAMME

2.2.1

Botani Edu Hunt

- Date** : 10 January 2023
- Time** : 2:30 pm - 4:30 pm
- Location** : Putrajaya Botanical Garden
- Organized by** : Putrajaya Corporation in collaboration with Federal Territory of Putrajaya Education Department
- Objectives** : 1) A botany education module for the basic introduction of plants.
2) Providing an opportunity for students to see and understand firsthand the unique collection of plants found in the Putrajaya Botanical Garden.



A total of 80 primary school students from 38 schools across Malaysia were selected to participate in Botani Edu Hunt at the Putrajaya Botanical Garden.

2.2.2

My Beautiful Malaysia Exhibition – Fauna Panorama

- Date** : Jun - December 2023
Time : 7:00 am– 7:00 pm
Location : Putrajaya Botanical Garden
Organized by : Putrajaya Corporation in collaboration with the Department of Wildlife and National Parks (PERHILITAN) of Peninsular Malaysia.

The Visitor Interpretive Centre (VIC) at the Putrajaya Botanical Garden has established a new exhibition corner showcasing various species of real wildlife trophies inhabiting the tropical rainforest areas in Malaysia.



The concept of this exhibition brings elements of the rich Malaysian forest with its diversity of flora and fauna species.



All of these exhibitions feature deceased wild animals that have died due to illness, public confiscation, and roadkills, which have been preserved.

The SMArt Botanic Edu-CARE programme is an annual programme initiated by PPj starting in 2022 with the aim of maintaining gardens towards environmental sustainability and promoting sustainable practices in their design. The implementation of this programme is also in line with Focus Area 2: Integrating Nature into The Urban Fabric, while enhancing the urban carbon sink.

Design With Nature - Kitchen Garden Master Plan Competition

Duration : 20 October 2022 until 19 January 2023

Objective : Promoting Putrajaya Botanical Gardens and highlighting the role of landscape architecture and naturalistic design in society.

Organized by : Putrajaya Corporation in collaboration with the Department of Landscape Architecture, Faculty of Design, Universiti Putra Malaysia.



A total of 44 masterplans were successfully produced by students involving second-year students, and ultimately 8 concepts of the best Kitchen Garden design plans were identified. The selection of winners is based on the idea of concept and the presentation of an attractive landscape design, in line with the theme, showcasing the best landscape design and potential for implementation at the actual site located at the Kitchen Garden of Putrajaya Botanical Garden, Precinct 1, Putrajaya.

SMArT Botanic Edu-CARE Exhibition: Plants and People

Date : 1 until 31 October 2023
Time : 9:00 am– 5:00 pm
Location : Putrajaya Botanical Garden, Precinct 1, Putrajaya



SMArT Botanic Edu-CARE Exhibition : Plants And People was inaugurated on 12 October 2023, by LAr. Haslinda Khalid, Vice President of the Department of Landscape and Parks. Also present was the Director of the Botany Division, Tn. Haji Mohd Tajuddin Bin Idris, and Associate Prof. LAr. Dr. Suhardi Bin Maulan, Acting Dean of the Faculty of Design and Architecture, Universiti Putra Malaysia.



This exhibition is held to provide an opportunity for visitors to interact and understand the landscape design process of a specific project, particularly at the Putrajaya Botanical Garden.



In addition to the inauguration of this exhibition, a prize-giving ceremony for the Design With Nature - Kitchen Garden Master Plan competition was also held. This competition was organized among students from the Faculty of Design and Architecture, Universiti Putra Malaysia (UPM), to realize the design plan for a kitchen garden at the Putrajaya Botanical Garden.

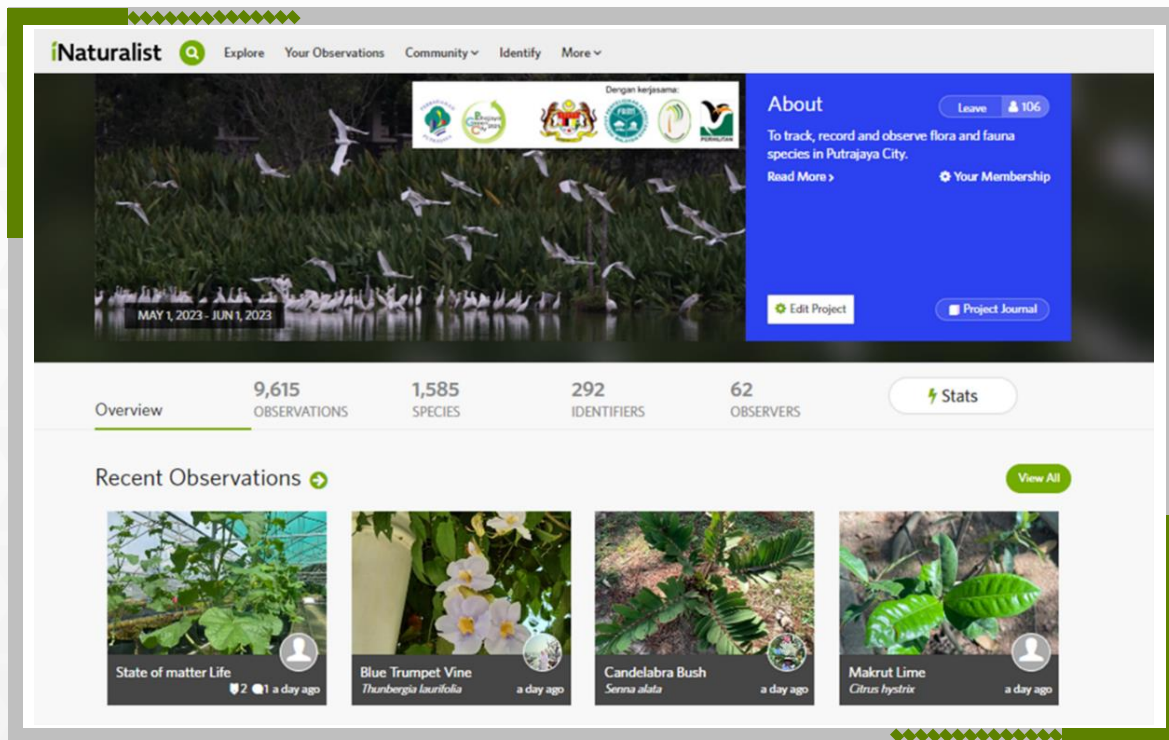
2.4

Putrajaya Urban Biodiversity Challenge 2023 (PUBC 2023)

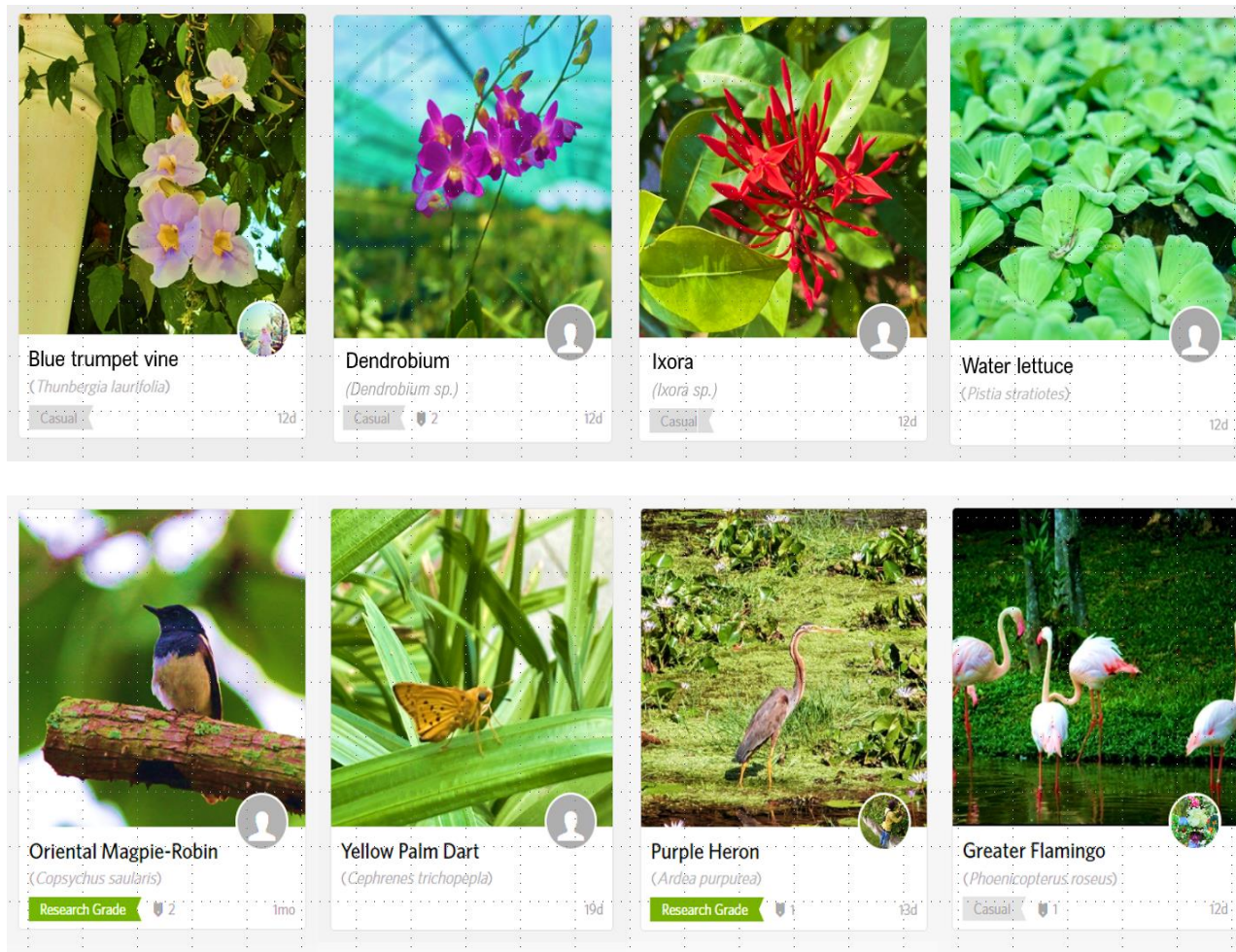
Duration : 2 May until 1 June 2023

Objective : To provide exposure to the general public and visitors of Putrajaya regarding urban biodiversity, particularly flora and fauna.

Strategic Partner : i. Ministry of Natural Resources and Environmental Sustainability (NRES).
 ii. Department of Wildlife and National Parks (PERHILITAN) Peninsular Malaysia.
 iii. Forestry Department of Peninsular Malaysia (JPSM).
 iv. Forest Research Institute Malaysia (FRIM)



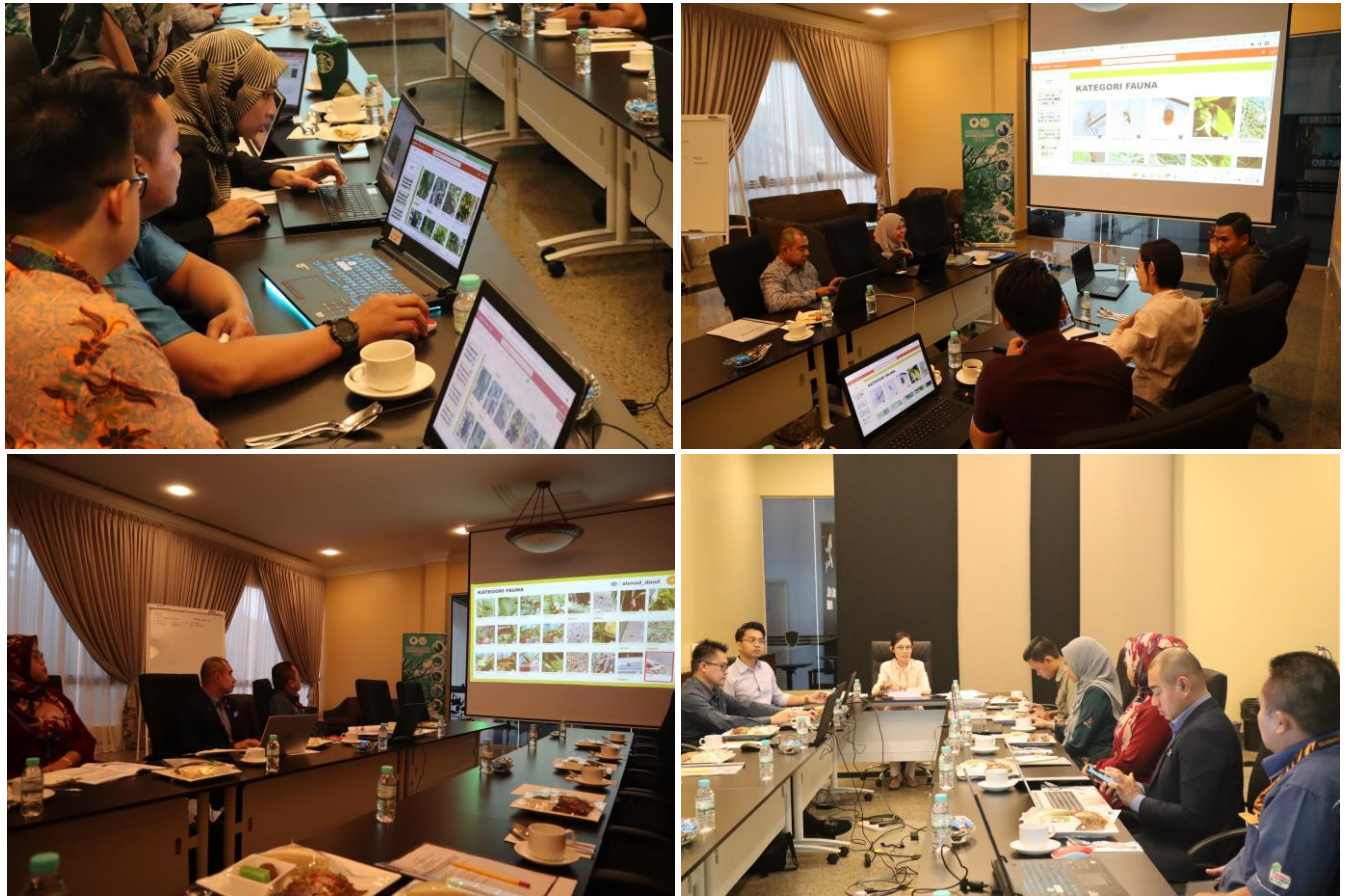
Participation in PUBC 2023 is free and open to all residents, the general public, and workers in Putrajaya. The 'iNaturalist' software is used as the participation platform for PUBC 2023. The method of participation requires participants to choose and join the 'Putrajaya Urban Biodiversity Challenge 2023' through the 'iNaturalist' app to qualify for participation and subsequently upload observation photos.



The picture above is among the collection of photos that have been successfully uploaded by participants in the 'iNaturalist' app, located around Putrajaya. There was a total of 62 entries and as many as 9,615 observation photos covering approximately 1,561 species (flora & fauna) that have been identified and accepted by participants for evaluation.

Judging Session

Date : 7 & 8 June 2023
Time : 9:00 am until 5:00 pm
Location : Putrajaya Equestrian Park, Precinct 5



The jury panel consists of representatives from NRES, PERHILITAN, JPSM, FRIM, and the Botany Division, Department of Landscape and Parks, Putrajaya Corporation. The evaluation criteria are based on the number of observation photos, completeness of information, authenticity of the images, and the number of flora or fauna species discovered.

Prize Giving Ceremony

Date : 3 July 2023
Time : 11:30 am until 1:30 pm
Location : Anggerik Room, Putrajaya Corporation Complex



The prize giving ceremony was officiated by The Honorable Dato' TPr. Fadlun Bin Mak Ujud, President of Putrajaya Corporation. A total of 30 winners received prizes in the form of certificates, cash, and accompanying gifts.

2.5 Quick Facts

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 | 1,693.93 | 81,400 | 20.81 |
| 2016 | 1,693.53 | 84,400 | 20.07 |
| 2017 | 1,693.53 | 86,900 | 19.49 |
| 2018 | 1,941.44 | 90,400 | 21.47 |
| 2019 | 1,941.44 | 103,800 | 18.70 |
| 2020 | 1,941.44 | 113,300 | 17.14 |
| 2021 | 1,941.44 | 134,391 | 14.45 |
| 2022 | 1,968.00 | 143,363 | 13.72 |
| 2023 | 1,968.00 | 154,093 | 12.77 |
| 2025 ⁽⁴⁾ | 1,930.43 | 347,700 | 5.5 |

Source:

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

(2): MURNInets.

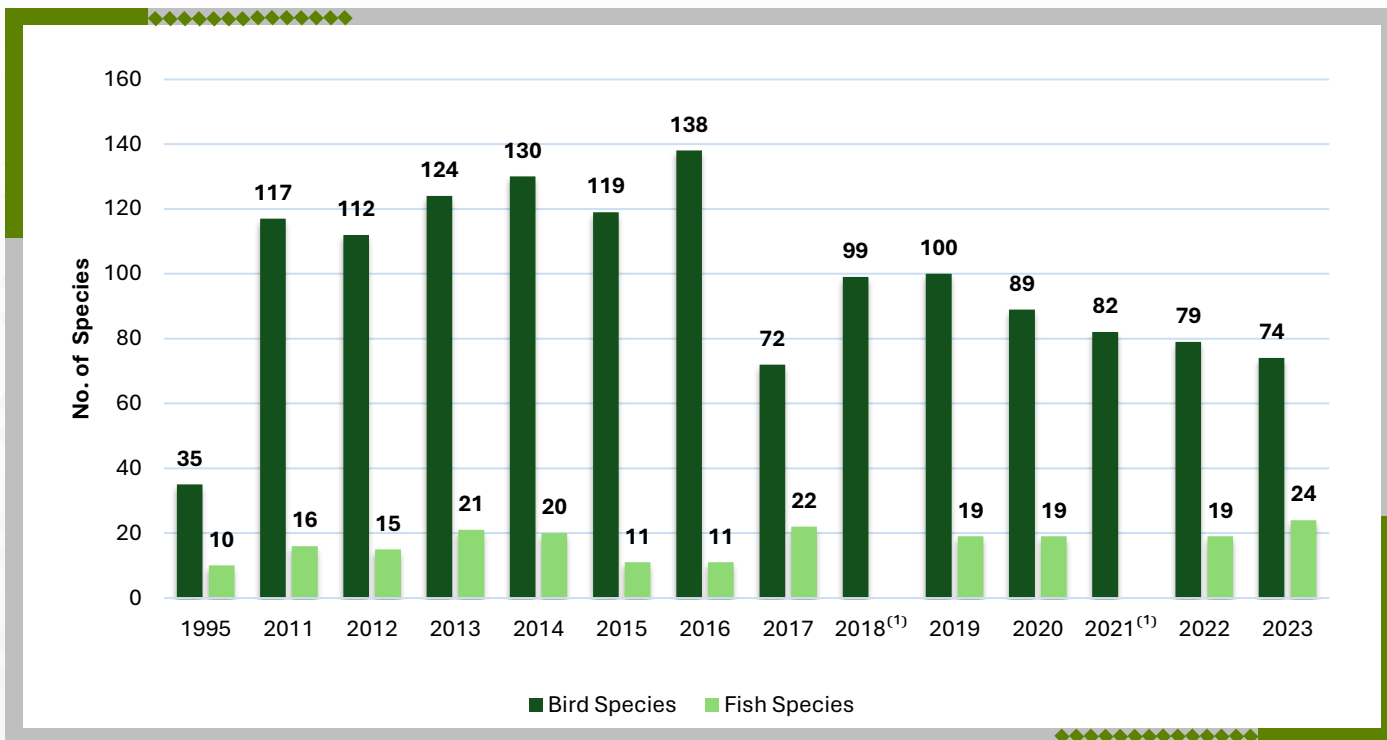
(3): Planning Guidelines of Open Space and Recreational Areas.

(4): Putrajaya Structure Plan Inspection Report.

Table 2.3: Number of Species Found in Putrajaya Lakes and Wetlands Until 2023

| Fauna species | 2007 (Baseline) | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|--------------------|------|------|------|------|-------|------|------|------|------|------|------|------|-------|-------|
| Insects | 21 | 21 | 343 | 445 | 767 | 1,084 | 924 | 928 | 523 | 800 | 676 | 900 | 898 | 1,058 | 1,158 |
| Amphibian | 2 | 5 | 5 | 8 | 13 | 9 | 8 | 11 | 9 | 10 | 9 | 7 | 6 | 6 | 6 |
| Reptile | 5 | 4 | 15 | 15 | 14 | 10 | 8 | 11 | 7 | 9 | 10 | 10 | 10 | 9 | 7 |
| Mammal | 7 | 5 | 8 | 11 | 9 | 13 | 9 | 10 | 11 | 13 | 12 | 9 | 9 | 8 | 8 |

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

Chart 2.1: Number of Bird and Fish Species in Putrajaya

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

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





3.0

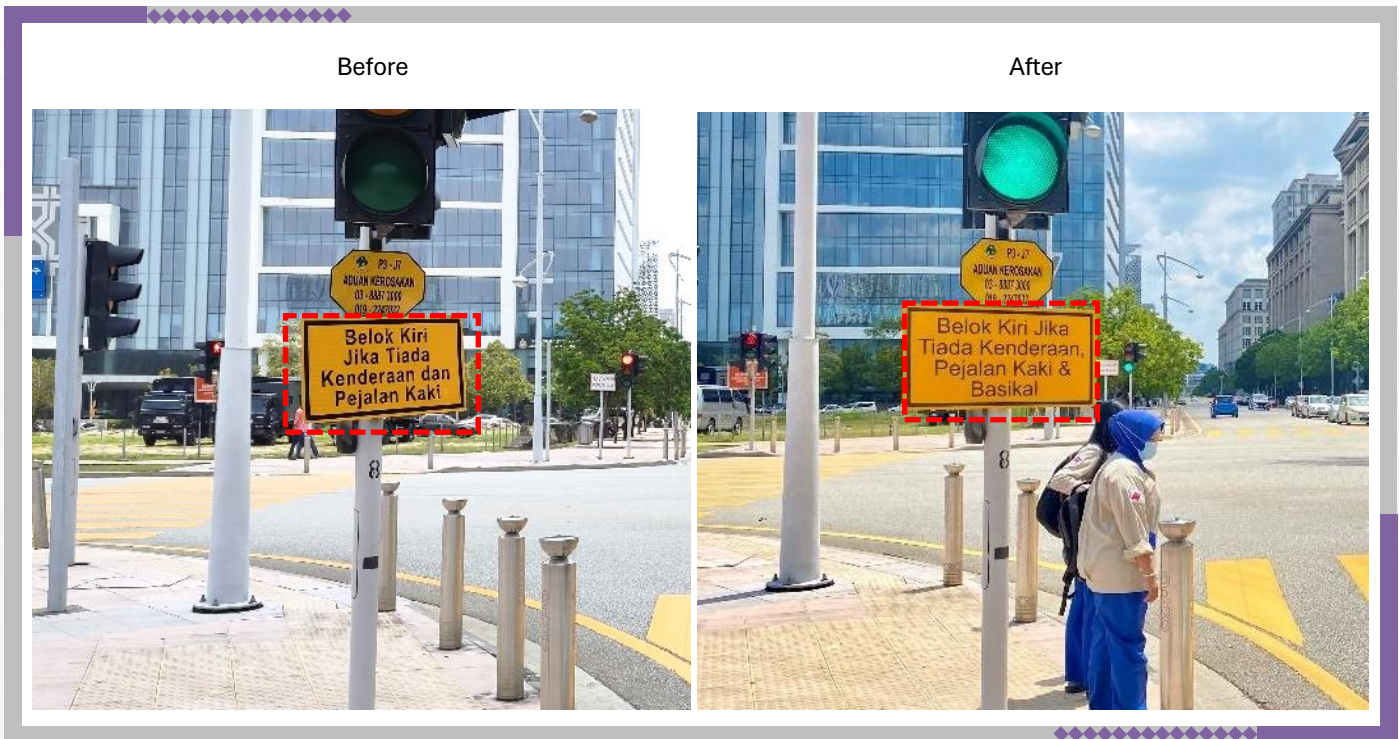
TRANSPORTATION AND MOBILITY

3.1 Improvement of Pedestrian Walkway and Bicycle Lane Facilities

In 2023, improvement works were continued in Precincts 2, 3, and 4. Efforts to enhance the comfort and safety of bicycle and pedestrian path users involved the scope of replacing safety signboards.

Replacements of Safety Signage

17 safety signages at 10 major intersections have been added with the word "bicycle".



Intersection of Jalan Pembangunan and Jalan Permodenan, Precinct 2

Before



After



Intersection of Jalan Tun Hussein and Jalan Pembangunan, Precinct 2



Intersection of Jalan Tun Abdul Razak and Jalan Kemerdekaan, Precinct 3



Intersection of Jalan Tunku Abdul Rahman and Lebuh Sentosa, Precinct 4

3.2

Low Carbon Mobility Promotion Programme

3.2.1

Putrajaya Bridge Night Ride 2023

| | |
|-------------------------|--|
| Date | : 15 July 2023 (Saturday) |
| Time | : 9:00 pm - 12:00 am |
| Location | : Anjung Floria, Precinct 4, Putrajaya |
| No. Participants | : 5,000 people |
| Organizer | : Ministry of Tourism, Arts and Culture (MOTAC), Putrajaya Corporation (PPj) and Syarikat Red Adventure. |



The flag-off session was officiated by Mr. Khairul Fairus Akbar Khan, Deputy Minister of Tourism, Arts and Culture, together with Dato' TPr. Fadlun Bin Mak Ujud, President of Putrajaya Corporation (PPj).



There were 4 categories of rides with route distances of 7km, 12km, 20km, and 30km. The routes for the 20km and 30km ride categories would pass through 7 iconic bridges in Putrajaya, namely Putra Bridge, Seri Wawasan Bridge, Seri Saujana Bridge, Seri Gemilang Bridge, Seri Ihsan Bridge, Seri Setia Bridge, and Seri Perdana Bridge.



PBNR 2023 was also participated by 20 members of the Vintage Bicycle Group, who styled themselves in various old-fashioned outfits from the past such as police uniforms, military, mail carriers, and many more.



The Putrajaya Cycling Fest in conjunction with PBNR 2023, themed around family leisure sports recreation, became a focal point for the public with activities such as sessions of cultural arts and music performances.



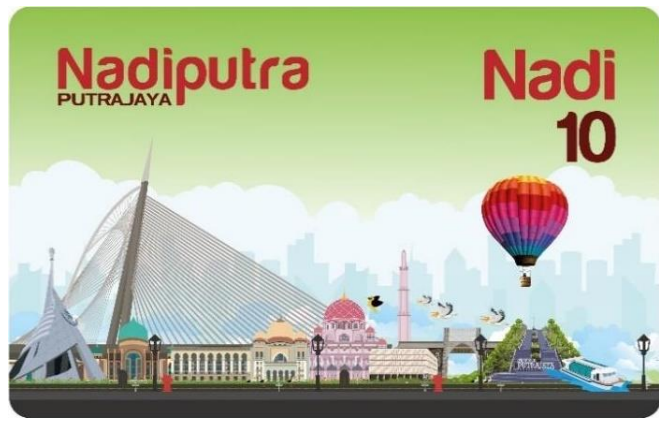
Side activities of the Cycling Fest: Pushbike clinic, BMX bicycle demonstration, skateboarding, and lucky draw.

Starting 1 January 2023, the Putrajaya public bus service, Nadiputra, began operations under the company Rapid Bus Sdn. Bhd. (Rapid Bus). The bus fare is RM1 per trip, while the P101 route is free of charge. The seven (7) bus routes provided are as follows:

- i. P101 : Kompleks F - Persiaran Sultan Salahuddin Abdul Aziz Shah - Persiaran Perdana - Precinct 5
- ii. P102 : Persiaran Sultan Salahuddin Abdul Aziz Shah - Precinct 11
- iii. P103 : Persiaran Sultan Salahuddin Abdul Aziz Shah - Precinct 14
- iv. P104 : Dataran Gemilang - Precinct 5
- v. P105 : Dataran Gemilang - Persiaran Sultan Salahuddin Abdul Aziz Shah
- vi. P106 : Persiaran Sultan Salahuddin Abdul Aziz Shah - Precinct 16 - Wisma Kementerian Belia & Sukan
- vii. P108 : Terminal Putrajaya Sentral - Precinct 7 - Precinct 9 - Persiaran Sultan Salahuddin Abdul Aziz Shah



Route P101, which connects all government office complexes for free, starting 1 January 2023.

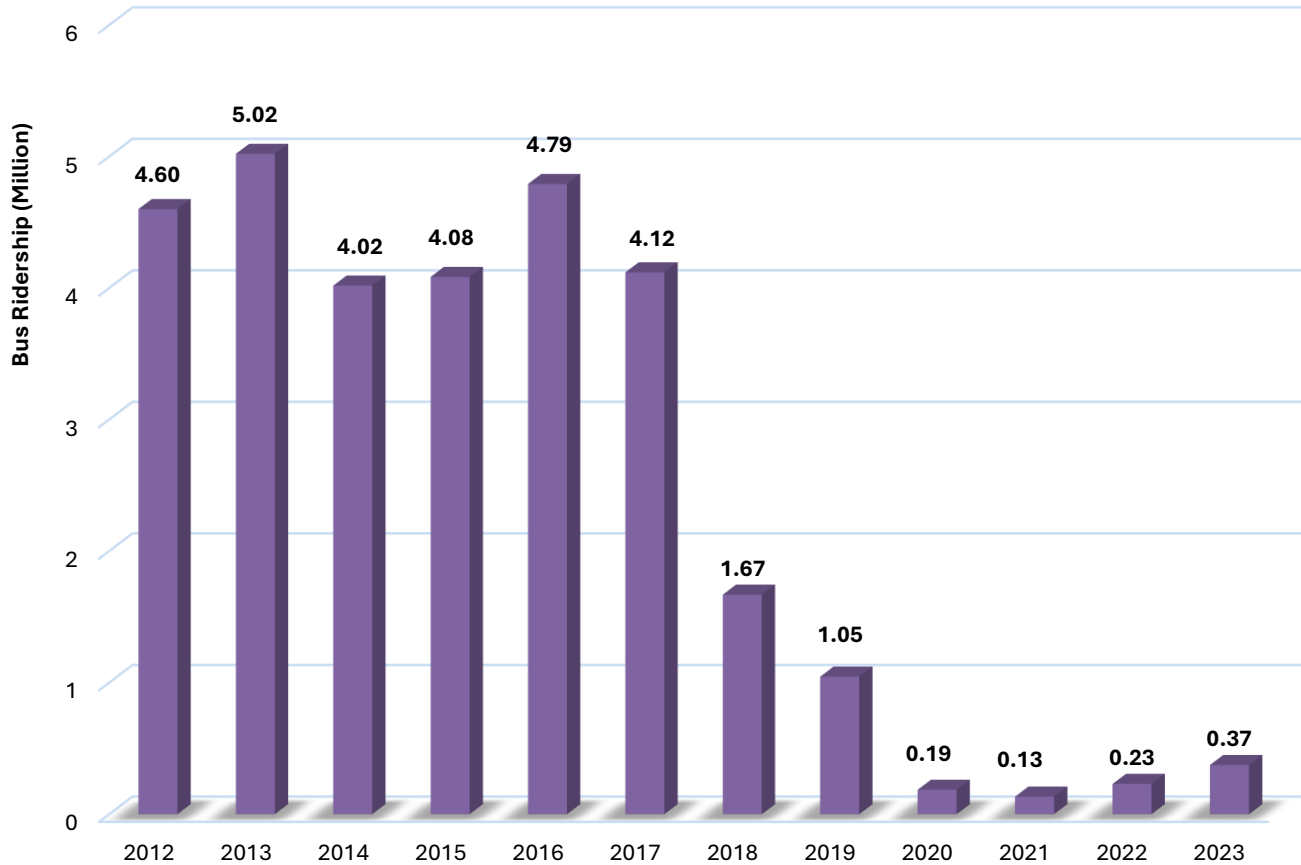


Bus fares can be paid using the Touch 'n Go card or an unlimited monthly pass, which is the Nadi 30 card. The Nadi 10 card was introduced for groups such as senior citizens, persons with disabilities (OKU), and students.



Starting on 14 March 2023, all Putrajaya Corporation staff can ride the Nadiputra Bus for free on all service routes.

Chart 3.1: Annual Bus Ridership in Putrajaya 2012-2023

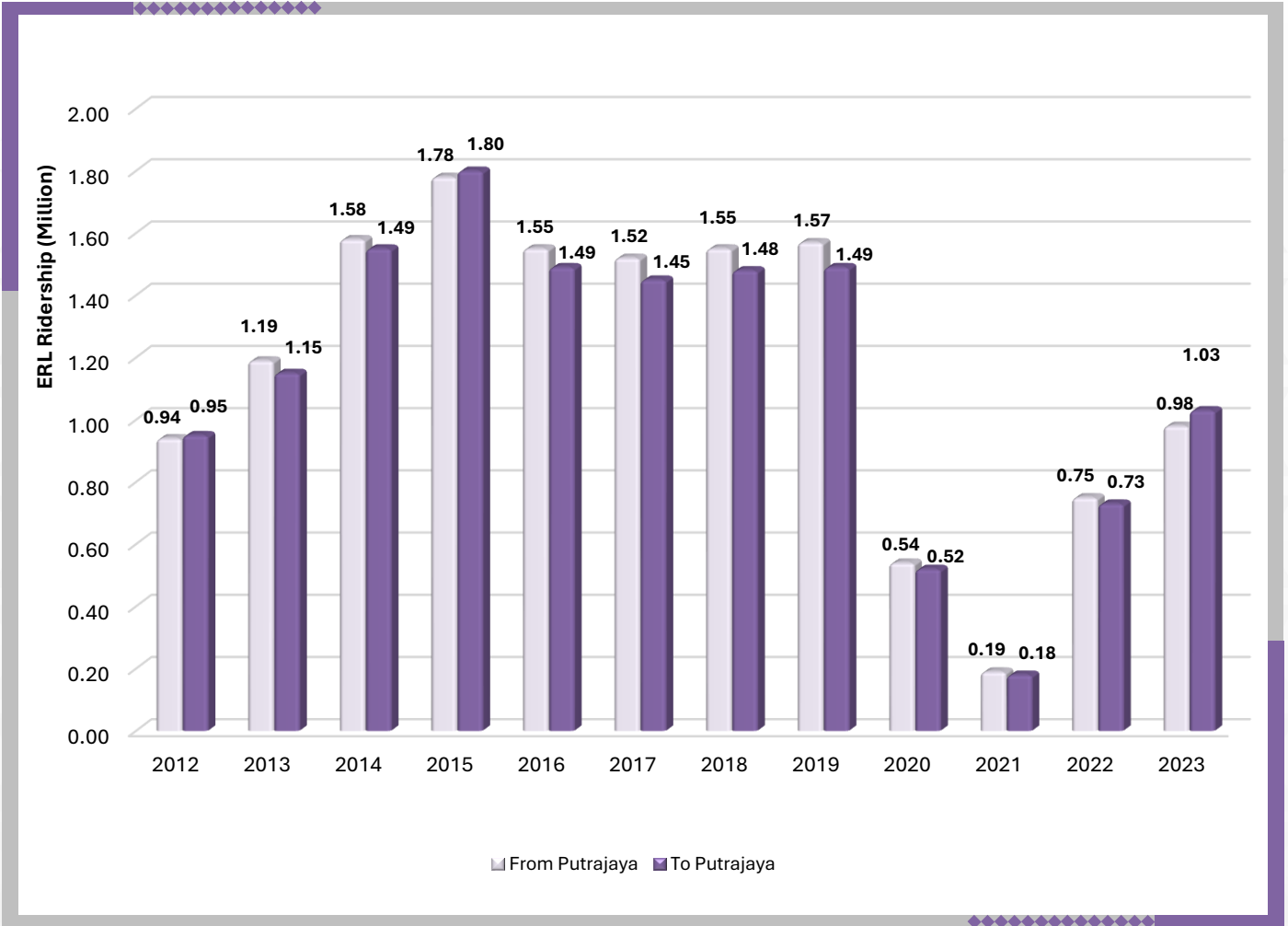


Source:

(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



Source: Express Rail Link Sdn. Bhd



4.0

ENERGY USAGE

4.1

Improvement of Energy Efficiency

4.1.1

Putrajaya Corporation Complex

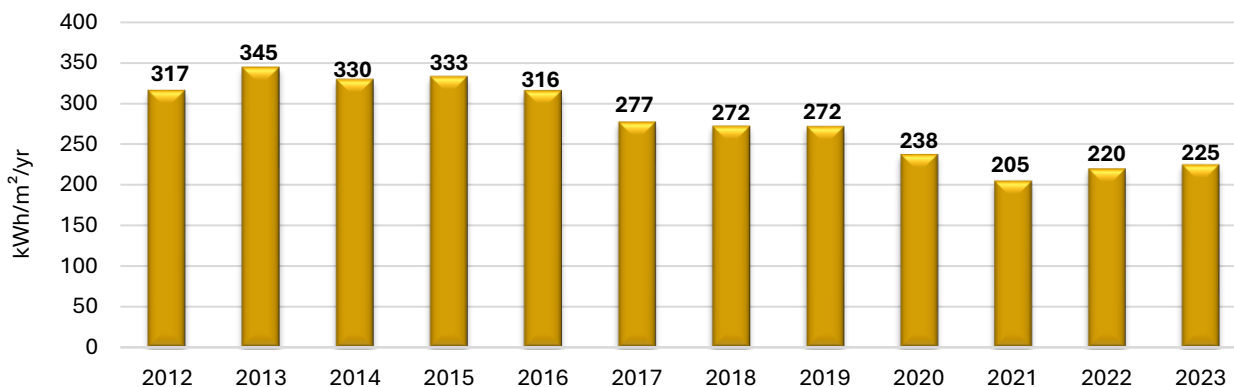
Throughout the year 2023, efforts to improve the energy efficiency of the PPj Complex for the sixth phase (6) continued at the Conference Hall block (Screen Wall), PPj Gateway, and Dewan Seri Siantan. As a result of these efforts, annual electricity consumption was successfully reduced by 39% (7,916,110 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 29% and the BCI by 36% compared to the 2012 levels (Chart 4.1 and Chart 4.2).



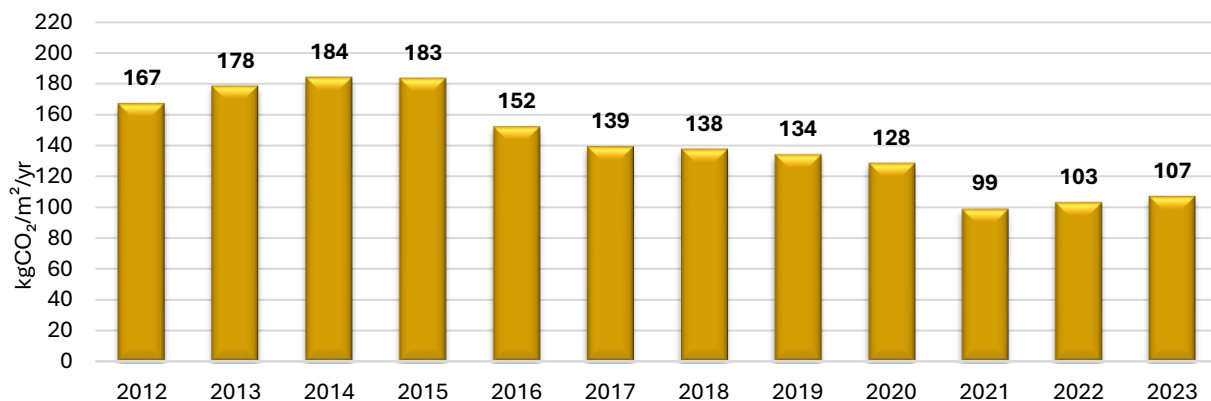
Screen Wall at the Conference Hall, Putrajaya Corporation Complex

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 through the action of replacing public lighting, involving streetlights and area lights of the high-pressure sodium valve (HPSV) type with more energy-efficient LED types. The Putrajaya Corporation Strategic Plan 2021-2025 also sets an annual electricity bill savings target of 2% for street lighting.

By December 2023, a total of 2,534 units of lights have been replaced with LED lights. The installation locations are listed in Table 4.1.

Table 4.1: Locations of LED Street Lights installed in Putrajaya in 2023

| NO | LOCATION | NUMBER OF LIGHTS |
|----|---|------------------|
| 1 | Precinct 11 (Backlane of the entire precinct) | 2,077 |
| 2 | Precinct 9 (Backlane at P9A, P9B, P9D & P9G) | 254 |
| 3 | Precinct 8 (Shops at Jalan P8C/1) | 15 |
| 4 | Promenade Boardwalk (Precinct 10) | 157 |
| 5 | Saujana Hijau Park (Highmast) | 12 |
| 6 | Equestrian Park Putrajaya | 19 |
| | Total | 2,534 |

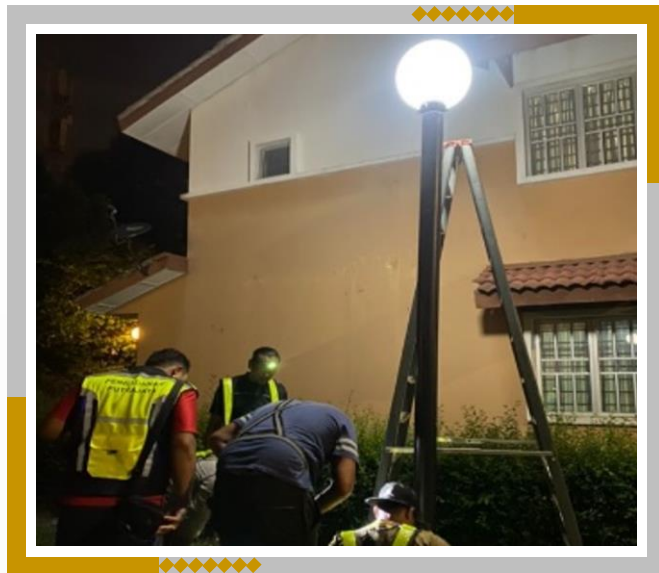
Source: Engineering and Maintenance Department, Putrajaya Corporation



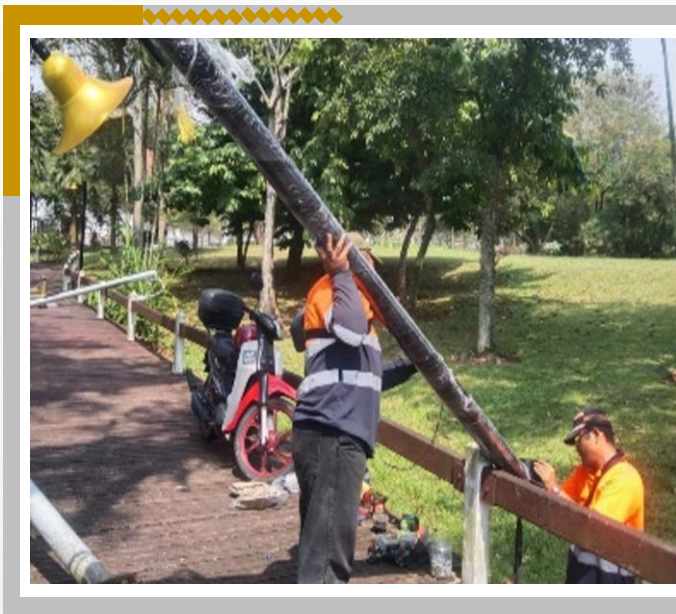
Saujana Hijau Park (Highmast)



Precinct 8 (Shops at Jalan P8C/1)



Precinct 9 (Backlane at P9B)



Promenade Boardwalk (Precinct 10)

4.2 Quick Facts

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

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

Source: Putrajaya Sustainable City Reports for 2017-2023



5.0

WATER USAGE

5.1

Water Use Efficiency Initiatives at Government Complexes

Complex F

Complex F is a Government Office Complex that has been constructed taking into account green development such as the use of photovoltaic solar and the rainwater harvesting system (RWHS).

In 2023, Complex F received the Green Initiative Award for its water saving initiative. Complex F recorded a water savings achievement of 35% or RM88,200.00 for the assessment period from May 2019 to June 2021.



Every building is equipped with a rainwater harvesting system (RWHS) for the purposes of landscape irrigation and toilet flushing.



Flow Limiter

Penggunaan Flow Limiter di setiap paip dan Bidet



Flow Limiter

Penggunaan Flow Limiter di setiap paip dan Bidet

Flow limiters are also used to save water usage in office buildings.



Paparan Maklumat Infografik

Pemaparan maklumat tentang penggunaan dan sistem air di Parcel F



Sistem Pemantauan Air

Memantau kebocoran dan penggunaan air di setiap aras

Infographics regarding water savings are also displayed in each building to raise awareness among users. Water usage within the building is also monitored by the building's facility manager to control leaks and water wastage.

5.2

Water Awareness Programme

5.2.1

Putrajaya Lake and Wetland Explorace 2023 School Youth Category

Date : 21 May 2023 (Sunday)
Time : 7:00 am – 2:00 pm
Location : Padang Semarak, Putrajaya Wetland Park



This programme is organized by Putrajaya Corporation in collaboration with the Federal Territories Department, Education, Training and Public Information Committee, UNESCO-IHP. A total of 104 participants, consisting of secondary school students in Putrajaya, have joined this programme aimed at providing exposure regarding the functions and importance of managing Putrajaya Lake and Wetlands.

Task 1 : Observation and understanding regarding bird species



The participants were tasked with collecting and assembling puzzle pictures of bird species found in Putrajaya Wetland Park before proceeding to the next checkpoint location.

Task 2 : Observation and understanding regarding plant species



The participants were assigned to collect plant samples found around Putrajaya Wetland according to species.

Task 3 : Lake crossing



The participants were tasked with crossing the wetland lake using a rope.

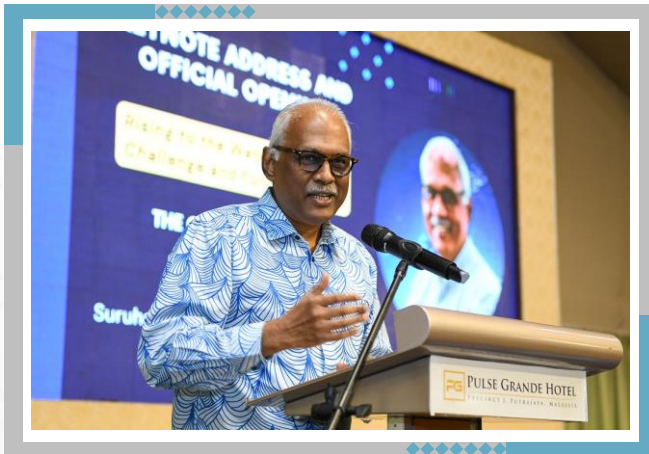


This 4-hour programme showed participants undertaking various technical and tactical tasks over a distance of 6.5km and gaining knowledge related to the ecosystem at Putrajaya Wetland Park.

5.2.2

One-Day Industry Forum: Challenges in Meeting Regulatory Requirement for the Water Industry

- Date** : 26 September 2023 (Thursday)
- Location** : Pulse Grand Hotel, Precinct 1
- Objective** : This forum is to gather stakeholders in the water industry to discuss and focus on development, progress, and challenges faced in the water and wastewater sector.
- Organized by** : Malaysian Water Association (MWA).



Opening speech by Mr. Charles Santiago, Chief Executive Officer, National Water Services Commission (SPAN).



Dialogue session SPAN with MWA. SPAN, as the regulatory body for water services in Peninsular Malaysia and WP Labuan, shared their objectives, goals, and aspirations for water management in Malaysia.



A stakeholder engagement session involving agencies and stakeholders in Malaysian water industry such as Ministry of Natural Resources & Environmental Sustainability (NRES), Water Asset Management Company (PAAB), Indah Water Konsortium Sdn Bhd, and state water supply operators.

5.2.3 SPAN School Partner Programme (SRS)

- Date** : 12 July 2023 (Wednesday)
Location : SMK Putrajaya Precinct 11 (1)
Objective : Providing exposure to school students about the importance and management of water through briefing sessions and demonstrations.
Organized by : National Water Services Commission (SPAN)



A briefing session on water use and conservation by a representative from the National Water Services Commission (SPAN), while a special briefing on the sewage system was delivered by a representative from Indah Water Konsortium (IWK).



A demonstration session on chlorine detection testing and a quiz were also conducted by the Enforcement Division of SPAN.

5.3

Quick Facts

Table 5.1: Water Loss Rate in Putrajaya 2017 to 2023

| Year | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|------------|------------|------------|------------|------------|------------|------------|
| Total treated water generated (m ³) | 26,290,642 | 27,051,975 | 26,680,374 | 28,084,916 | 25,525,322 | 26,893,281 | 27,106,214 |
| Total water used officially (m ³) | 21,900,836 | 22,586,900 | 22,132,634 | 23,495,901 | 23,433,000 | 24,092,421 | 23,947,600 |
| NRW (m ³) | 4,389,806 | 4,465,075 | 4,547,740 | 4,589,015 | 2,092,322 | 2,800,860 | 3,158,614 |
| NRW (%) | 16.70 | 16.51 | 17.05 | 16.34 | 8.2 | 11 | 11.7 |

Source: MURNInet Sustainable City Indicators Report 2017-2023

Table 5.2: Comparison of Lake and River Water Quality Index

| Location | Lake and River Water Quality Index | | | | | | | | | |
|----------------------------|------------------------------------|--------------------|--------------------|---------------------|---------------------|---------------------|--------------------|--------------------|--------------------|--------------------|
| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
| Chuai River Inlet | 78.4 (Class II) | 78.7 (Class II) | 80.2 (Class II) | 70.1 (Class III) | 73.6 (Class III) | 73.1 (Class III) | 77.5 (Class II) | 84.6 (Class II) | 84.8 (Class II) | 82.7 (Class II) |
| Lake Water | 90.4 (Class II) | 90.5 (Class II) | 90.0 (Class II) | 90.4 (Class II) | 90.4 (Class II) | 91.3 (Class II) | 92.8 (Class I) | 93.3 (Class I) | 93.6 (Class I) | 93.8 (Class I) |
| Outlet after Putrajaya Dam | 90.9 (Class II) | 89.8 (Class II) | 89.4 (Class II) | 87.6 (Class II) | 90.6 (Class II) | 89.8 (Class II) | 90.5 (Class II) | 92.6 (Class II) | 92.7 (Class II) | 91.5 (Class II) |

Source: Environment, Lake and Wetland Division

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

| Item | 2012- 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|-------------------------|------------------------|----------------------|------------------------|------------------------|---------------------|
| Approved Annual Lake Water Intake (million litres) | 1,525.0 | 153.20 | 70 | 104 | 162 | 0.73 |
| Savings from Not Consuming Treated Water (RM) ⁽¹⁾ | RM2,463,285 | RM246,652 | RM112,700 | RM166,764 | RM260,820 | RM1,175 |
| Annual Water Consumption ⁽²⁾ | Equals 20,198 people | Equals 2,068 people | Equals 945 people | Equals 1,398 people | Equals 2,186 people | Equals 10 people |
| Carbon Reduction CO ₂ (kgCO ₂) ⁽³⁾ | 641,066 | 64191 | 29330 | 43400 | 67878 | 306 |

Note:

- 1) Based on government departments' rate at RM1.61/m³.
- 2) Estimated based on Malaysia average daily domestic consumption (203 liters/person) x 365 days.
- 3) LCCF: The system processes for 1 m³ emit 0.419kgCO₂





6.0

SOLID WASTE MANAGEMENT

6.1

CAREton@Putrajaya Programme

6.1.1

Collection of Used Beverage Cartons (UBC) With Incentives Campaign 2023

Campaign Series 1

- Date** : 25 February 2023
- Time** : 10:00 am – 4:00 pm
- Location** : Precinct 9 Recycling Centre, Putrajaya



A very encouraging response from the residents of Putrajaya to recycle used beverage cartons (UBC). A total of 107 members of the public have joined the campaign.



Every 20 UBCs collected can redeem incentives such as a KFC voucher worth RM5, a MILO tissue box, MILO drinks, and a notepad. A total of 4,297 UBCs were successfully collected in series 1 campaign.

Campaign Series 2

Date : 24 June 2023

Time : 10:00 am – 4:00 pm

Location : Precinct 9 Recycling Centre, Putrajaya



A very encouraging response from the residents of Putrajaya to recycle used beverage cartons (UBC). A total of 107 members of the public have joined the campaign.

Campaign Series 3

Date : 10 October 2023

Time : 10:00 am – 4:00 pm

Location : Sustainable Corner, Putrajaya Corporation Complex



The third series of the campaign was organized at the Putrajaya Corporation Complex to attract the participation of workers in the Putrajaya area. The community and schools were also invited to participate.



A total of 300 members of the public have joined the third series of the campaign, and the total number of UBCs collected is 12,018 units.

6.1.2

CAREton@Putrajaya campaign in conjunction with Putrajaya Open Day (POD) 2023

CAREton@Putrajaya Campaign in Conjunction with Putrajaya Open Day (POD) 2023

- Date** : 2- 5 March 2023
Time : 09:00 am – 5:00 pm
Location : Putrajaya Corporation Complex, Precinct 3.

Putrajaya Open Day (POD) 2023 was organized to celebrate the 27th anniversary of the establishment of Putrajaya Corporation. CAREton@Putrajaya also enlivened POD 2023 by organizing the special CAREton@Putrajaya campaign. Among the interesting activities that were conducted are as follows:

Green City, CAREton@Putrajaya and PolyAI Product Exhibition



Exhibition materials on the seven focus areas of Green City Putrajaya and the recycling process of UBCs. A variety of green technology products using UBCs and polyAI boards were displayed.

Fun Game CAREton



Used beverage cartons were used as tickets for visitors to play two types of games, and prizes such as notepads, calendars, and Nestle products were given away.

Photography Corner and Snap, Post & Win Contest



Zack Syeida
5 Mar · 🌐

CAREton@putrajaya memulihara alam sekitar sangat bagus Dan harus dikekalkan untuk mempertingkatkan kesedaran bandar hijau! #CAREtonPutrajayaSnapPostwin Halim Bugan



Nur Anis Afiqah is with **Nasirah Mhs** and **2 others**.
4 Mar · 🌐

Kempen kitar semula dari bahan terbuang yang kita guna hari?..rugi tau buang macam tu je,daripada bunag baik kita kitar semula betul tak..jo... See more



View insights 346 post reach

👍 Bmg BemyGuest and 73 others 12 comments · 3 shares

👍 Like 💬 Comment ➦ Share

Azleen Zairul
4 Mar · 🌐

Seronok dapat buat aktiviti dan lihat pelbagai produk baru yang dikitar semula dari kotak minuman.

#CAREtonPutrajayaSnapPostWin



View insights 175 post reach

👍 You, Bmg BemyGuest and 8 others

The CAREton@Putrajaya photography corner, decorated with various polyAl board furniture, became an attraction for visitors. In addition, a Snap, Post & Win contest was also held. A total of 34 entries were received, and 15 final winners were selected based on the criteria of the most interesting picture and written experience.

6.1.3 Putrajaya PolyAl Bank Initiative

Putrajaya Corporation launched a new initiative, the PolyAl Bank, on March 16, 2023, in conjunction with the Putrajaya Low Carbon Green City Forum 2023. Under this initiative, for every 67kg of used beverage cartons (UBC) collected in Putrajaya, a donation of one polyAluminium (PolyAl) board will be received from the CAREton project. The stock of PolyAl boards is channeled to any party in need of projects that can benefit the local community. For the year 2023, the PolyAl bank has contributed PolyAl boards to 3 community projects and institutions as follows.

Project 1: Community Garden Furniture 4, Precinct 14



Various pieces of furniture were produced for use in KK4, such as decorative lamp benches, storage racks, chairs, sinks, cabinets, and flower pot stands.

Project 2: Improvement of Bulk Waste Houses in Precincts 11 & 17

To address the issue of bulk waste storage, the Environmental Health Division, City Services Department, has improved waste houses at two residential area locations using polyAl boards as barriers for special spaces designated for bulk waste collection.



Putra Damai Apartment, Block G, Precinct 11



Government Quarters P17RK1, Precinct 17

6.1.4

CAREton@Putrajaya 2023 Mini Carnival at Putrajaya Schools Level

- Date** : 26 July 2023
- Time** : 2:00 pm – 5:00 pm
- Location** : Recycling Innovation Facility (FIKS), Precinct 5
- Objective** : Providing exposure and educating the younger generation about the recycling process of used beverage cartons (UBC) and the production of technology products, namely polyAl boards.

A total of 9 primary schools and 7 secondary schools, consisting of 78 students and teachers, participated in this mini carnival. Among the activities that were conducted are as follows:

CAREton@Putrajaya Exhibition



The CAREton@Putrajaya and Putrajaya Green City exhibition provided information about the production process of products from UBCs and Putrajaya Green City programme.

DIY PolyAl Flower Pot Workshop



A total of 30 students participated in the DIY workshop for making polyAl flower pots. The students had the opportunity to assemble provided PolyAl board pieces into flower pots and decorate them according to their own creativity.



Through the DIY PolyAl flower pots workshop that was held, 2 primary school students and 2 secondary school students were selected as winners of the 'Most Creative DIY PolyAl flower pots'.

Fun Game CAREton



Four types of games were provided: Cube Puzzle, Memory Game, Fun Quiz, and Flip, Flap, Flat Game. Students were given exposure to the CAREton project and the steps for recycling used beverage cartons (UBC).

3R on Wheel and Creative KOC



3R on Wheel is a mobile information centre that provides information on recycling, whereas Creative KOC serves as a knowledge space offering reading materials and interactive games for visitors, especially children.

The UBC Collection Competition



The UBC Collection Competition was organized from 21 June to 13 July 2023. A total of 308kg has been collected as a result of the competition that has been organized. A prize-giving ceremony was held during the CAREton@Putrajaya Mini Carnival.



The UBC Box Collection Competition saw the champion for the primary school category won by SK Putrajaya Precinct 15(1) with a UBC collection weight of 66 kg, while the champion for the secondary school category was won by SMK Putrajaya Precinct 14(1) with a collection weight of 49 kg.

6.1.5 PolyAI Board-Based Circular Design Workshop

- Date** : 1– 3 August 2023
- Time** : 9.00 am – 5:00 pm
- Location** : POINT, P16 Neighbourhood Complex, Putrajaya
- No. Participants** : 19 individuals (Putrajaya Community, Schools, and Higher Education Institutions)
- Objectives** :
- 1) To enhance the skills of institutions and communities in the aspect of producing innovative products with value added.
 - 2) To encourage the community to get involved as quality design entrepreneurs that meet market demands



The workshop opening speech was delivered by TPr. Wang Tze Wee, Deputy Director-General, Putrajaya Corporation, and Mr. Husaini Bin Ismail, Director, Malaysian Design Council (MRM).

Module 1 : Design Process (1 August 2023)

Activity 1 : Briefing on Product Development Process



Mr. Husaini gave a briefing on the basics of design and design processes for solving a problem.

Activity 2 : Experimental construction



Participants were divided into 4 groups and assigned to produce tower designs using drinking straws. This activity tested the creativity and structural durability of the towers by placing a load of 200g on them.



All tower structures produced by each group passed the durability test and received souvenirs from MRM.

Activity 3 : Briefing on the Use of Technology in Product Development



Teknologi Prototype What is Additive Manufacturing



Mr. Husaini gave a briefing on the technology used in product design production for commercial purposes, such as Computer-Aided Design (CAD) technology and prototyping.



Pendaftaran harta Intelek

6 Komponen Harta Intelek yang dilindungi



- Reka bentuk perindustrian
- Cap Dagangan
- Paten
- Petunjuk Geografi
- Hak cipta
- Reka bentuk litar bersepadu

Mr. Muhammad Faizal Fauzi gave a briefing on Intellectual Property (IP) for commercialized product outcomes. IP refers to any type of creation registered under relevant laws to prevent it from being copied by any external organization.

Module 2 : Product Concept Design Development Through Sketching (2 August 2023)

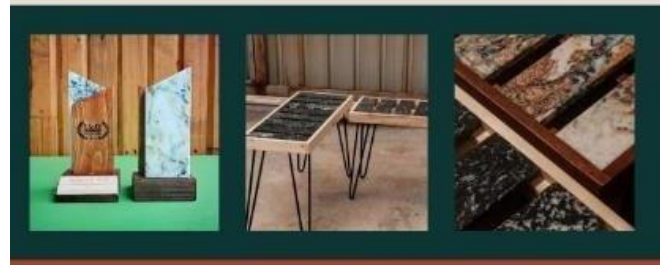
Activity 5 : Briefing on Circular Design



Wood Upcycling



Reclaimed plastic



Mr. Harith Bin Ridzuan, Director of The Green Factory, gave a brief explanation about the concept of circular design and examples of products that have been produced at his factory.

Activity 6 : Idea Generation Process



Participants were tasked with sketching product ideas to be developed according to the given themes: pet carrier, garden furniture, home furniture, souvenir box, and multipurpose bicycle rack.

Module 3: Manual Design Development (Mock Up) and Utilizing Design Technology (3 August 2023)



Participants adapted their sketches into mock-ups using cardboard and wood sheets. Each group presented their mock-up results and gave a brief explanation about the design and function of the product.

Prize Presentation of the Best Mock Up Design Award and Souvenirs to Strategic Partners



The winner of the Best Mock Up Design (Multipurpose Bicycle Rack) received a hamper and RM300 in cash.

Prize Presentation of the Best Mock Up Design Award and Souvenirs to Strategic Partners



The runner-up of the Best Mock Up Design (Garden Furniture) received a hamper and RM200 in cash.

Prize Presentation of the Best Mock Up Design Award and Souvenirs to Strategic Partners



The third place winner of the Best Mock Up Design (Souvenir Box) received a hamper and RM100 in cash.



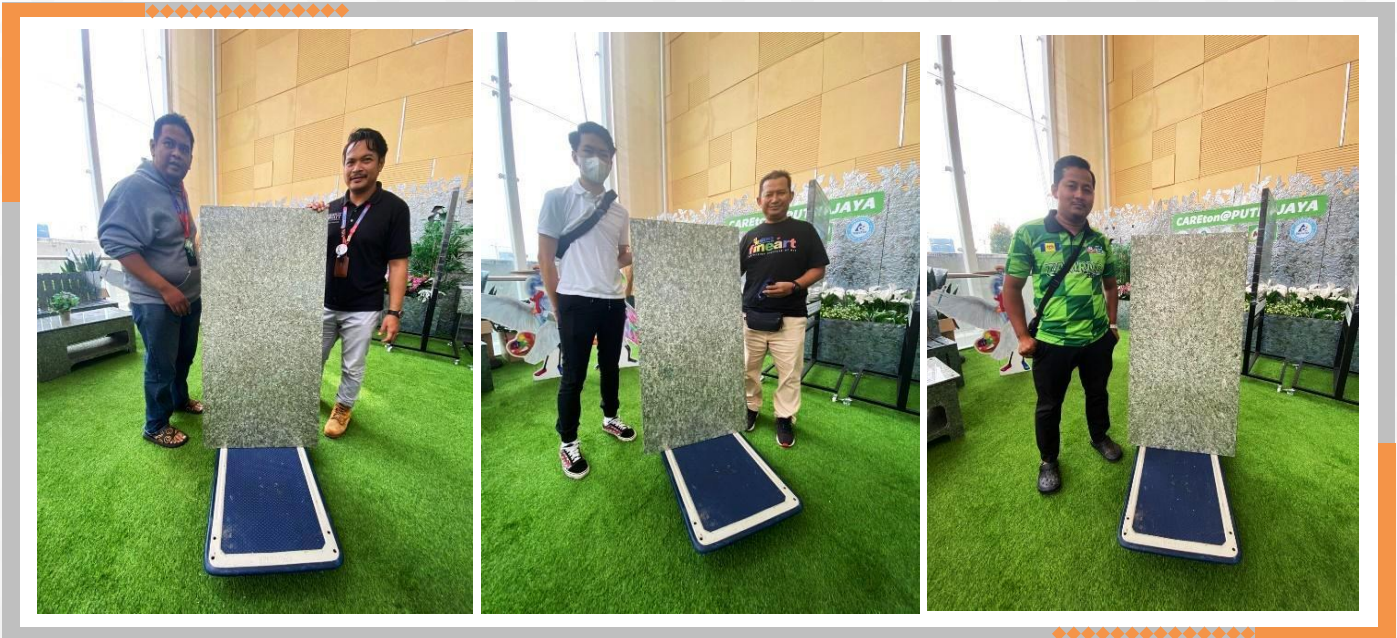
Presentation of souvenirs to strategic partners, namely the Malaysia Design Council (MRM) and the workshop operator, The Green Factory.



Photography session with participants of the PolyAl Board-Based Circular Design Workshop

6.1.6 PolyAl Furniture Competition 2023

- Competition Period** : 1 August 2023 until 15 September 2023.
- Target Participants** : Putrajaya community, professional companies, and educational institutions throughout Malaysia
- Objective** : To enhance the creativity of the industry and community in producing recycled material products.
- Competition Theme** : Street or park multi-purpose furniture
- Strategic Partners** : Tetra Pak Malaysia, Nestle Malaysia and Malaysian Design Council (MRM)

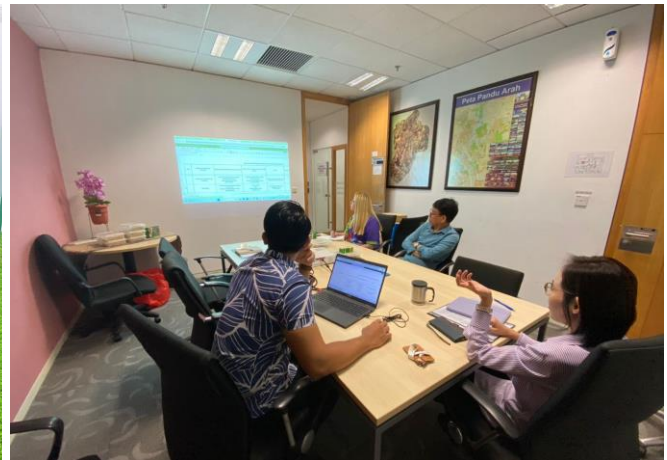
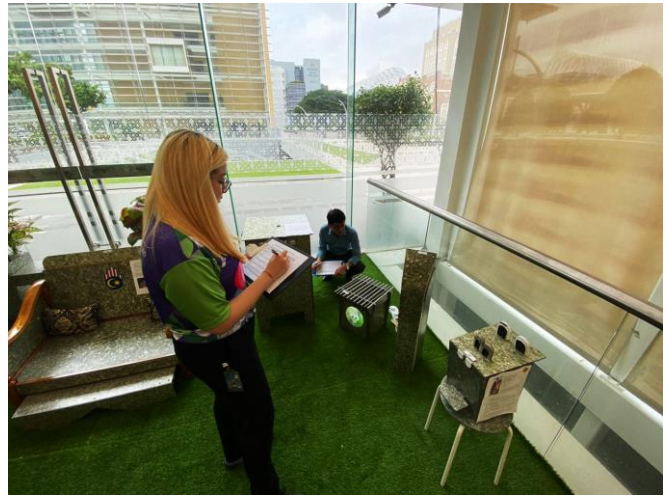


A total of 9 entries were received, consisting of furniture companies, interior designers, public and private institutions, and the Putrajaya community. Participants were provided with eight pieces of PolyAl boards measuring 2 feet x 4 feet for free to produce PolyAl furniture.

Judging Session

Date : 21 September 2023

Location : Sustainable Corner, Putrajaya Corporation Complex



The jury panel consisted of representatives from Tetra Pak Malaysia, Nestle Malaysia, and the Malaysia Design Council (MRM). The evaluation criteria were based on theme and document completeness, concept and function, creativity and aesthetics, safety and durability, percentage of PolyAl board usage, and market value aspects.

Competition Prize Giving Ceremony

Date : 19 October 2023

Location : Cempaka Sari Auditorium, Putrajaya Corporation Complex



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



The Special Award winner, Futurenitive Studio, received a certificate of appreciation, cash worth RM800, and accompanying prizes. PolyAl furniture produced : Track Bench



The champion, Malaysia Institute of Art (MIA), received a certificate of appreciation, cash worth RM800, and accompanying prizes. PolyAl furniture produced : Bold (Bollard)



The runner-up winner, Politeknik Muadzam Shah, received a certificate of appreciation, cash prize worth RM600, and accompanying gifts. PolyAl furniture produced : Picnic Barbecue Table



The Third Prize winner, Universiti Tun Hussein Onn Malaysia, received a certificate of appreciation, a cash prize worth RM400, and accompanying gifts. PolyAl furniture produced : Putra (Bench)



The Fourth Prize winner, Urban Community Gardens of Pudina Precinct 17, received a certificate of appreciation, a cash prize worth RM300, and accompanying gifts. PolyAl furniture produced : Outdoor Armchair



The Fifth Prize winner, Kebun Komuniti 4 (KK4) Putrajaya, received a certificate of appreciation, a cash prize worth RM250, and accompanying gifts. PolyAl furniture produced : Smart Dustbin

Awarding of Certificates of Appreciation and Souvenirs to the Jury Panel



Malaysian Design Council (MRM): Mr. Husaini Ismail



Tetra Pak Malaysia : Ms. Ng Qian-Yi

Prize Presentation of the Best Mock Up Design Award and Souvenirs to Strategic Partners



A representative from the Malaysian Design Council (MRM) Mr. Husaini Ismail



A representative from Nestle Malaysia: Madam Michelle Woon Pik Yee



A representative from Tetra Pak Malaysia: Madam Terrynz Tan



The winning furniture pieces from the competition and information about CAREton@Putrajaya were also showcased during the event.

The Ministry of Local Government and Housing (KPKT) has established Drive-Through Recycle Centres (DTRC) in line with the direction of the National Cleanliness Policy to ensure more efficient recycling activities in locations such as residential areas, industrial zones, commercial areas, and industries. A total of 100 DTRC will be provided nationwide by 2025. To date, a total of 32 DTRC have been developed in 7 states.

The implementation of this drive-through is expected to increase the national recycling rate by 40 percent by 2025. DTRC is a user-friendly initiative that facilitates the public in delivering segregated recyclables, while also encouraging the public to adopt recycling practices.



In Putrajaya, the DTRC location is situated at the Recycling Innovation Facility (FIKS), Precinct 5, and operating hours are from Monday to Saturday, starting from 8:30 am to 5:30 pm.

6.3 Quick Facts

Table 6.1: Solid Waste Rate in Putrajaya from 2014 to 2023

| Year | Total Solid Waste (kg) ¹ | Solid Waste (tons/day) | Total Domestic Waste (kg) ² | Domestic Waste (tons/day) |
|------|-------------------------------------|------------------------|--|---------------------------|
| 2014 | 34,473,700 | 94.4 | 27,757,460 | 76.0 |
| 2015 | 37,613,320 | 103.1 | 28,987,590 | 79.4 |
| 2016 | 40,084,760 | 109.8 | 29,360,290 | 80.4 |
| 2017 | 41,516,810 | 113.7 | 28,903,840 | 79.2 |
| 2018 | 42,797,900 | 117.2 | 30,191,620 | 82.7 |
| 2019 | 40,729,370 | 111.5 | 30,539,680 | 83.7 |
| 2020 | 41,337,840 | 113.3 | 30,906,280 | 84.7 |
| 2021 | 45,890,020 | 125.7 | 33,740,220 | 92.4 |
| 2022 | 45,742,530 | 125.3 | 34,239,960 | 93.8 |
| 2023 | 45,571,750 | 124.9 | 35,325,530 | 96.8 |

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

Table 6.2: Domestic Solid Waste Rate per Capita in Putrajaya from 2014 to 2023

| Year | Total Domestic Waste (kg) ¹ | Population ² | Domestic waste (kg/capita/day) |
|------|--|-------------------------|--------------------------------|
| 2014 | 27,757,460 | 82,200 | 0.93 |
| 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 |

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

Table 6.3: Recycle Rate in Putrajaya from 2014 to 2023

| Year | Total Domestic Waste (kg) | Total Recycled Material Collection (kg) | Recycling Rate (%) |
|------|---------------------------|---|--------------------|
| 2014 | 27,757,460 | 2,220,000 | 7 |
| 2015 | 28,987,590 | 2,232,837 | 7 |
| 2016 | 29,360,290 | 2,382,172 | 8 |
| 2017 | 28,903,840 | 2,503,000 | 9 |
| 2018 | 30,191,620 | 2,837,733 | 9 |
| 2019 | 30,539,680 | 3,101,901 | 10 |
| 2020 | 30,906,280 | 4,314,204 | 14 |
| 2021 | 3,3740,220 | 5,310,747 | 16 |
| 2022 | 34,239,960 | 6,282,659 | 18 |
| 2023 | 35,325,530 | 7,724,993 | 22 |

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





7.0

CITY ADMINISTRATION AND MANAGEMENT

7.1

Putrajaya 2023 Low Carbon Green City Forum

- Date** : 16 March 2023 (Thursday)
Time : 8:15 am- 1:00 pm
Location : Seri Melati Hall, Putrajaya Corporation Complex
No. Participants : 200 participants

The theme for the 2023 forum is "Climate Change and Our Lives," aiming to share information with the community and workers in Putrajaya about the effects of climate change on daily life.

Three lecture forum topics are as follows:

- Climate Change: The Impact on Health by Dr. Norlen bin Mohamed**, Public Health Medical Specialist, Disease Control Division, Ministry of Health Malaysia.
- Climate Change: Low Carbon City and B40 by Ms. Manon Bernier**, Deputy Resident Representative of United Nations Development Programme (UNDP) Malaysia, Singapore & Brunei Darussalam.
- Climate Change: How far do Malaysians ready for micromobility? by Ts. Kak D-Wing**, Research Officer, Malaysian Institute of Road Safety Research (MIROS).



Speaker 1: Dr. Norlen bin Mohamed (KKM)



Speaker 2: Ms. Manon Bernier (UNDP)



Speaker 3: Ts. Kak D-Wing (MIROS)



In Putrajaya, the DTRC location is situated at the Recycling Innovation Facility (FIKS), Precinct 5, and operating hours are from Monday to Saturday, starting from 8:30 am to 5:30 pm.

Exhibition

- i. There are eight (8) agencies and private green technology companies participating in the exhibition in conjunction with this forum, namely:
- ii. Green City Section, Putrajaya, PPj
- iii. Malaysian Institute of Road Safety Research (MIROS)
- iv. Ministry of Health Malaysia (KKM)
- v. Tenaga Nasional Berhad
- vi. Pengurusan Air Selangor Sdn Bhd
- vii. Alam Flora Sdn Bhd
- viii. Nature Profusion Sdn Bhd
- ix. Maribumi Starchtech Sdn Bhd



Exhibition of Green City Initiatives in Putrajaya



Health Exhibition and Screening by KKM



Eco home care products such as multi-purpose disinfection cleaner and soap by Nature Profusion Sdn Bhd



Maribumi Starchtech Sdn Bhd introduced compostable products such as plastic bags and aprons

Launch of the Putrajaya PolyAl Bank Initiative

In conjunction with this forum, Putrajaya Corporation launched a new initiative under CAREton@Putrajaya, namely the Putrajaya PolyAl Bank. Under this initiative, for every 67kg of used beverage cartons (UBC) collected in Putrajaya, a strategic partner of the CAREton@Putrajaya project will sponsor one polyAl board. The stock of polyAl boards collected in the Putrajaya PolyAl Bank will be open for application by residents' associations, institutions, and schools in Putrajaya. With this new initiative, the Putrajaya community will benefit from the annual collection of UBCs.



This initiative is a collaboration between PPj and strategic partners, namely Nestle Milo UHT and Tetra Pak Malaysia.

New Participants of BECO₂R Programme Appreciation Ceremony



A total of 6 new participants in the BECO₂R programme received certificates of appreciation, namely, Suasana PjH Precinct 2, KK Super Mart Precinct 8, KK Super Mart Diplomatic Precinct, Shell Precinct 18, Caltex Precinct 8, and Secret Recipe Diplomatic Precinct.

Prize Presentation for the Snap, Post & Win Competition

This competition was organized in conjunction with Putrajaya Open Day 2023 (POD 2023), which took place from 3 to 5 March 2023, at the Putrajaya Corporation Complex. The competition aimed to promote the CAREton@Putrajaya initiative through sharing by visitors on social media. A total of 15 winners were selected as final winners based on the best photos and captions.



The winners took home cash prizes, certificates, and accompanying gifts.

The list of winners and prizes is as follows:

a) Main Winners - 5 individuals

| No. | Name | Prize |
|-----|-----------------------------|--------------------------------------|
| 1 | Krisnavini a/p Veli | RM200 + certificate + Nestle product |
| 2 | Nur Azleen binti Jamaluddin | |
| 3 | Pua Kai Sim | |
| 4 | Muhammad Aiman bin Zulcapri | |
| 5 | Aminah binti Abdullah | |

b) Consolation Prize Winners - 10 individuals

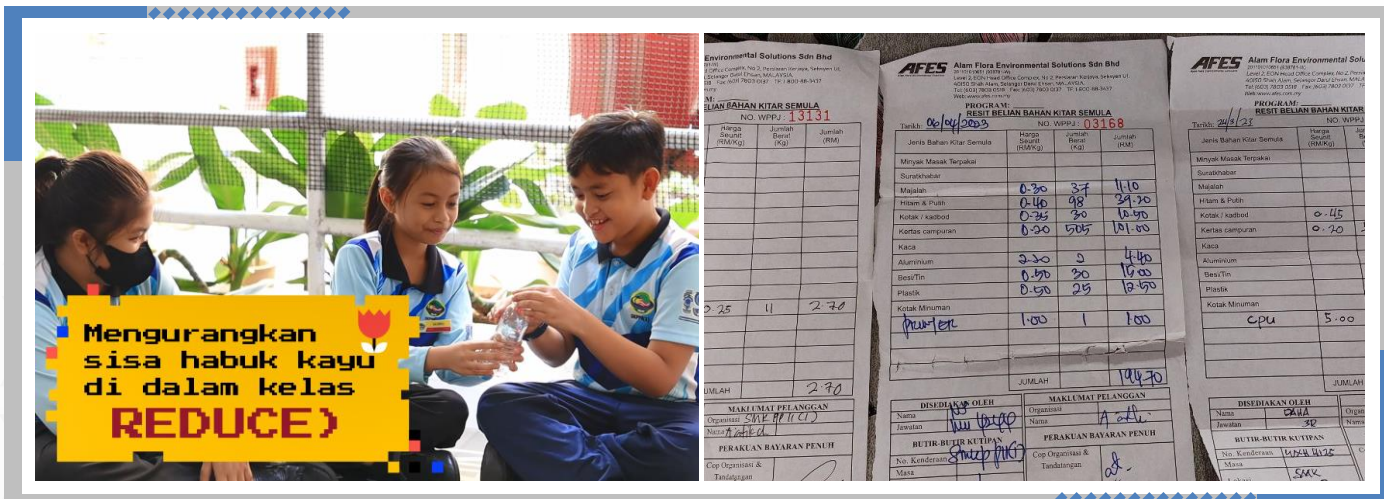
| No. | Name | Prize |
|-----|-----------------------------------|--------------------------------------|
| 1 | Nor Hasnah binti Mahassan | RM100 + certificate + Nestle product |
| 2 | Nur Hayati binti Mohd Fuad | |
| 3 | Ruhayah binti Abu Bakar | |
| 4 | Murtasimah binti Mahfoz | |
| 5 | Mohd Radzuan bin Abdul Wahab | |
| 6 | Aznira binti Awang | |
| 7 | Muhammad Izzat bin Mohamad Padzil | |
| 8 | Wong Ming Chang | |
| 9 | Rosidah binti Zakariah | |
| 10 | Noorazlina binti Mohd Nasir | |

The Putrajaya Green Initiative Award 2023 aims to enhance the involvement of residents and workers in Putrajaya in implementing creative and innovative green initiatives, particularly for saving electricity, water, and reducing solid waste. The Putrajaya AIH 2023 took place from 6 June to 6 July 2023. Participation in AIH 2023 is free and open to all residents, the general public, and workers in Putrajaya.

Figure 7.1: Participation Categories and AIH 2023 Initiatives

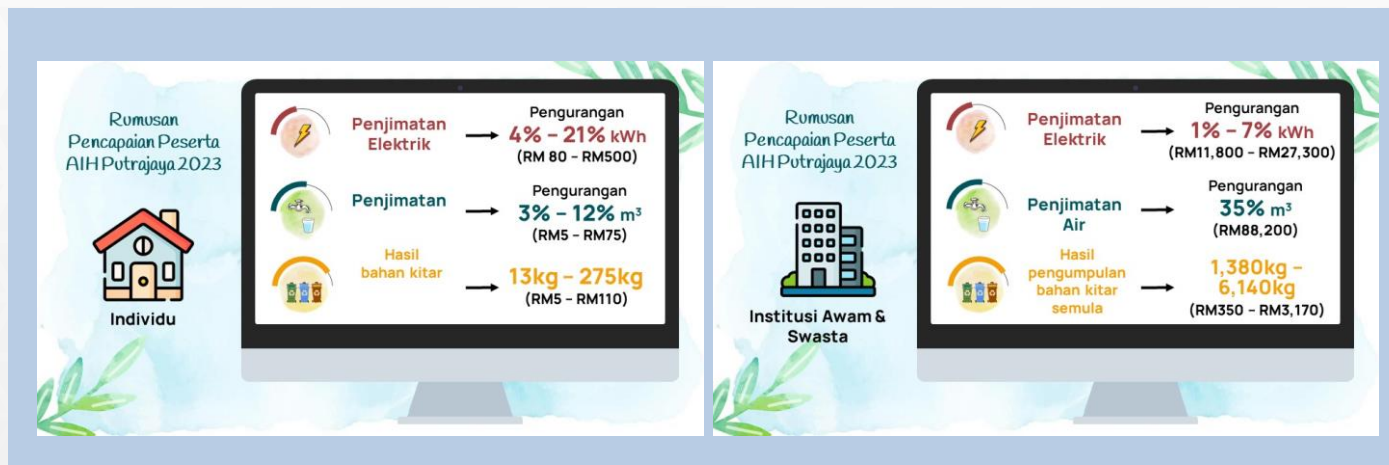


AIH Putrajaya 2023 Participation Document



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

Figure 7.2: Summary of Participants' Achievements in AIH Putrajaya 2023 by Category



AIH Putrajaya 2023 Award Ceremony

The AIH Putrajaya 2023 Award Ceremony took place on 18 August 2023, at the Putrajaya Corporation Complex, and the awards were presented by YBhg Dato' Fadlun Bin Mak Ujud, President of Putrajaya Corporation.



A total of 19 winners of the AIH Putrajaya received cash prizes as follows:

- i. Individual Category: Green Initiative Award RM500; Special Award RM400; and Consolation RM200.
- ii. Public and Private Institutions category: Green Initiative Award RM1,500; Special Award RM1,000; and Consolation RM300.

Recipients of the AIH Individual Category



Electricity savings: Siti Badariah Binti Ismail, savings of 21% kWh



Water savings: Noorazlina Binti Mohd Nasir, water savings of 12% m³.



Solid Waste Reduction: Sarina Binti Mohamad Mahbor, recycling collection of 275kg.

AIH Putrajaya 2023 Award Ceremony



Electricity savings: Block F1 (Public Service Commission of Malaysia & Ministry of Health Malaysia), achieving a savings of 7% kWh.



Water savings: Complex F, water savings of 35% m³.



Solid Waste Reduction: SMK Putrajaya Precinct 14(1), recycling collection of 6,137kg

Presentation of Certificates of Appreciation and Souvenirs to the Jury Panel



Tenaga Nasional Berhad: Mr. Mohd Fadzil Bin Abd Aris



Pengurusan Air Selangor Sdn Bhd: Madam Nurul Farhana Binti Abd Aziz



Alam Flora Sdn Bhd: Mr. Mohamad Hafizudin Bin Zainal

Awarding of Certificates of Appreciation and Souvenirs to Strategic Partners



A representative from Tenaga Nasional Berhad: Mr. Mohd Suheil Bin Mohd Zain



A representative from Pengurusan Air Selangor Sdn Bhd: Madam Jofintha Josha Anak Joseph



A representative from Alam Flora Sdn Bhd: Mr. Mohamad Hafizudin Bin Zainal

7.3 Awards and Recognitions

Putrajaya Corporation received various awards and recognitions throughout 2022 in achieving the target of Putrajaya Low Carbon Green City 2025, among them are:

Malaysian Institute of Planners MyPlace Awards 2023

- Diamond Award Winner : KEBUN KOMUNITI BANDAR PRESINT 16 - Urban Farming (Subcategory 1 : Local Council-Led)
- Sapphire Award Winner : TAMAN CAHAYA PUTRAJAYA - City and Town Park (Subcategory 1 : Below 50 Hectares)
- Special Mention Winner : LAMAN SDG PUTRAJAYA - Outdoor Space (Subcategory 1 : Public Sector)
- Special Mention Winner : FASILITI INOVASI KITAR SEMULA PUTRAJAYA (FIKS) - Indoor Space (Subcategory 1 : Public Sector)



MIP MyPlace Awards ceremony on 1 December 2023, at the Bellroom Le Maridien Hotel Petaling Jaya Paradigm, Kelana Jaya, Petaling Jaya, Selangor.

**PUTRAJAYA GREEN CITY COMMITTEES,
PUTRAJAYA CORPORATION**

PATRON:

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

CHAIRMAN:

En. Shamsul Bahrin Bin Rahmat
Vice President City Planning.

MEMBERS:

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

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

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

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

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

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

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

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

Puan LAr. Aida Farisa Binti Eberahim
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 SECTION):**

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

LIST OF APPRECIATIONS

MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL SUSTAINABILITY MALAYSIA

MINISTRY OF TRANSPORT MALAYSIA

MINISTRY OF LOCAL GOVERNMENT DEVELOPMENT OF MALAYSIA

MINISTRY OF WOMEN, FAMILY AND COMMUNITY DEVELOPMENT

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)

MAJLIS REKABENTUK MALAYSIA

PUTRAJAYA PUBLIC WORKS DEPARTMENT

SUSTAINABLE ENERGY DEVELOPMENT AUTHORITY MALAYSIA (SEDA)

MALAYSIAN GREEN TECHNOLOGY AND CLIMATE CHANGE CORPORATION (MGTC)

ENERGY COMMISSION

FEDERAL TERRITORY OF PUTRAJAYA EDUCATION DEPARTMENT

DEPARTMENT OF ENVIRONMENT PUTRAJAYA

TOWN AND COUNTRY PLANNING DEPARTMENT (PLANMALAYSIA)

SOLID WASTE AND PUBLIC CLEANSING MANAGEMENT CORPORATION (SWCORP)

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)

GREEN BUILDING INDEX (GBI)

PUTRAJAYA HOLDINGS SDN. BHD.

ALAM FLORA SDN. BHD.

ALAM FLORA ENVIRONMENT SOLUTIONS (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)

GAS DISTRICT COOLING (PUTRAJAYA) SDN. BHD.

GAS MALAYSIA BERHAD (PUTRAJAYA)

AIR SELANGOR

KK SUPER MART PRECINCT 15

KK SUPER MART PRECINCT 8

CALTEX PRECINCT 8

SHELL PRECINCT 18

SECRET RECIPE PRECINCT 15

SUASANA PjH PRECINCT 2

COMMUNITY FARM 4 (KK4), PRECINCT 14

PHOTO COURTESY OF:

Putrajaya Tourism and Photo Contest

Putrajaya Lake & Wetland Photo Competition



ISSN 2710-6888



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