

# Initiatives for achieving carbon neutral Smart Home Community connected by a micro-grid

8 August 2022 (Mon)

Osamu Kanda, Supervisor, Department of Futuristic City Promotion, Urban Strategy Division, Saitama City

## Land Re-Zoning Project

Land Re-Zoning Project  
Approx. 320<sup>ha</sup> of city-owned land

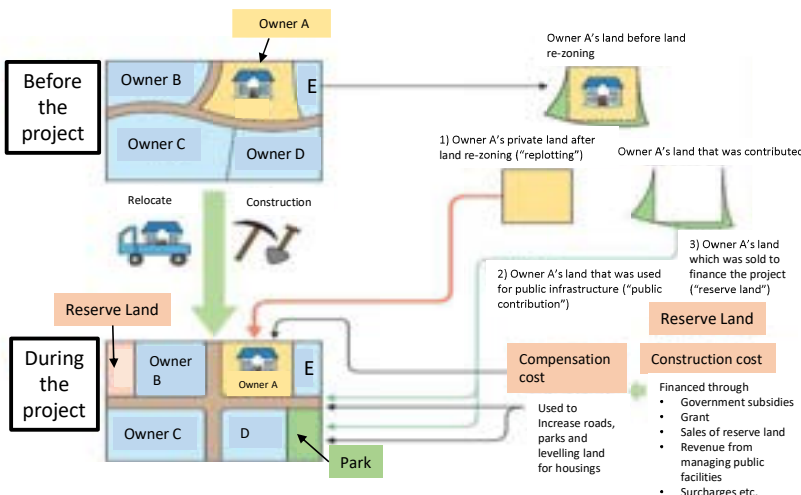


Utilise for community development



Call for project proposals

- City that guarantees energy security and is low-carbon
- Fostering a face-to-face close-knit local community, and a city that is comfortable to live in



# HEAT20 Grade 2

- Highly insulated highly airtight performance housing (HEAT20 Grade 2)

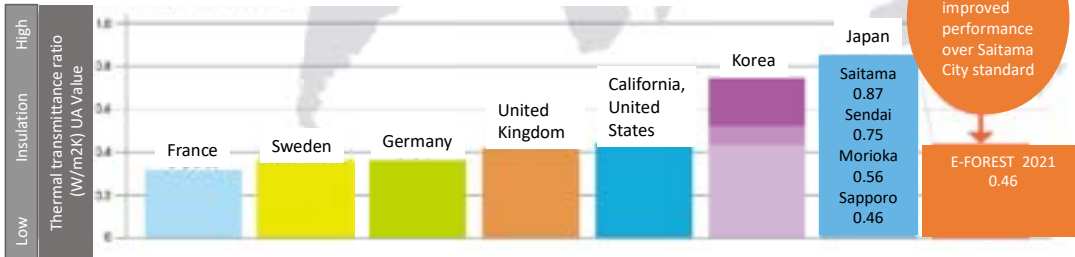
- Prevents heat shock and hypothermia
- Enhances energy conservation
- Improves level of health as room temperature fluctuations are small year round

High airtightness and high insulation standard "HEAT20 Grade 2"

With a UA value of 0.46, the average thermal transmittance of external walls maintains a room temperature of approximately 15° C even when the building is not heated in winter, thereby preventing hypothermia and heat shock.



International comparison of housing standards for thermal transmittance of external walls (UA value)



# Undergrounding of Power Lines/Common Spaces

- Undergrounding of power lines improves the landscape and protects the town from collapsed utility poles during disasters



(Source) Ministry of Land, Infrastructure, Transport and Tourism website: [http://www.mlit.go.jp/report/press/road01\\_hh\\_001086.html](http://www.mlit.go.jp/report/press/road01_hh_001086.html)



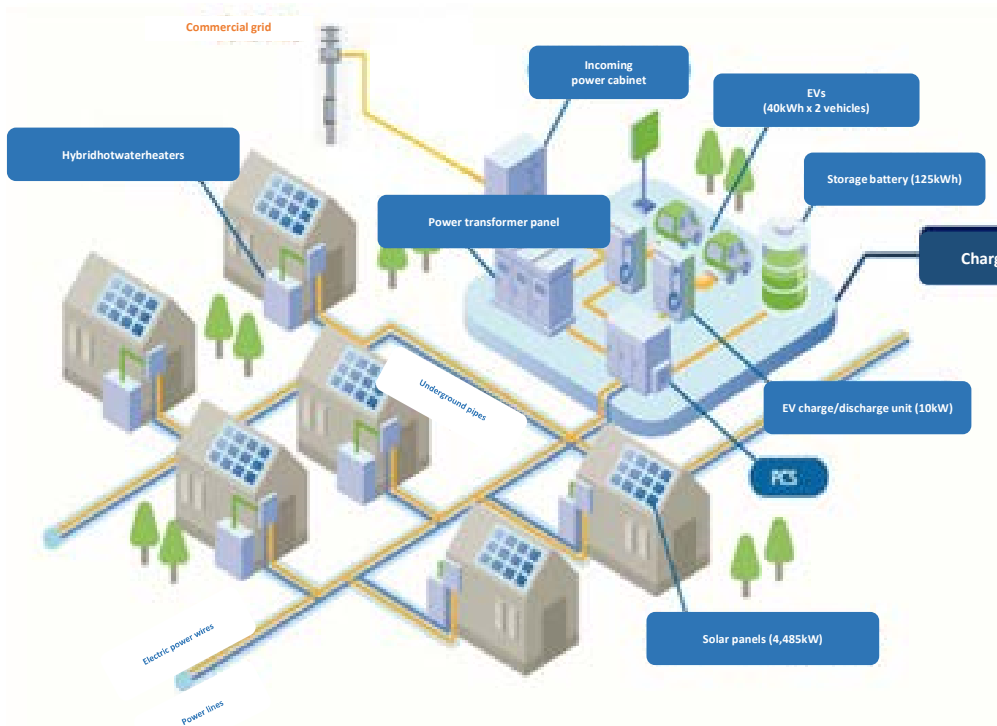
Photo courtesy of Tepco Town Planning Co., Ltd.



- Layout that facilitates neighbourly relationships between residents
- Formation of management associations, mini-events for residents

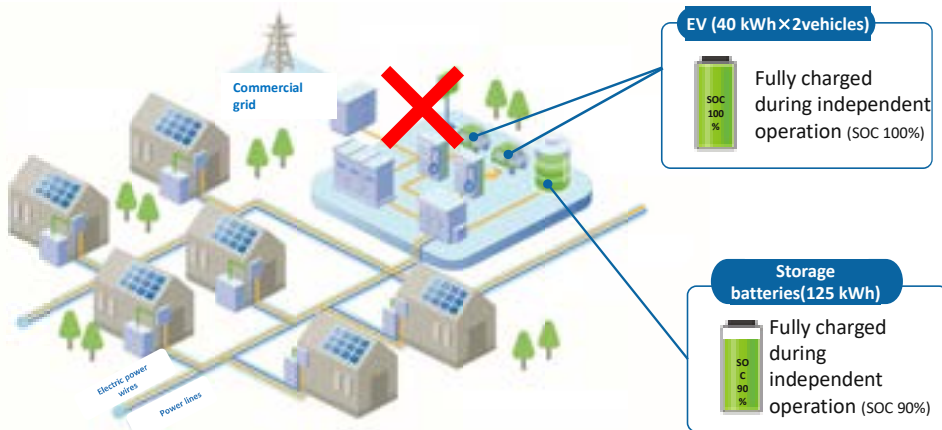


# PPA (Power Purchase Agreement)



5

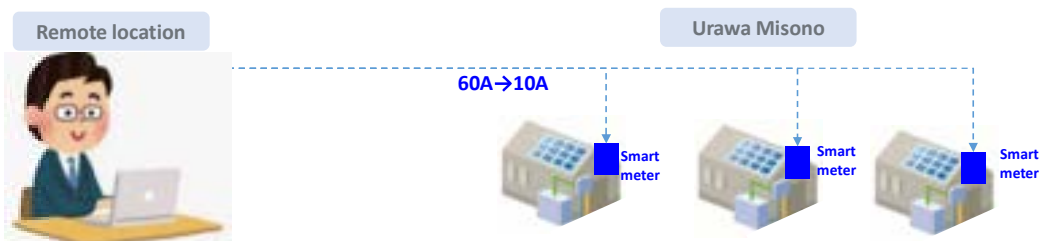
# Safeguard resilience



In autonomous operation, up to 1,000 W is available at the same time!

Examples of what can be used

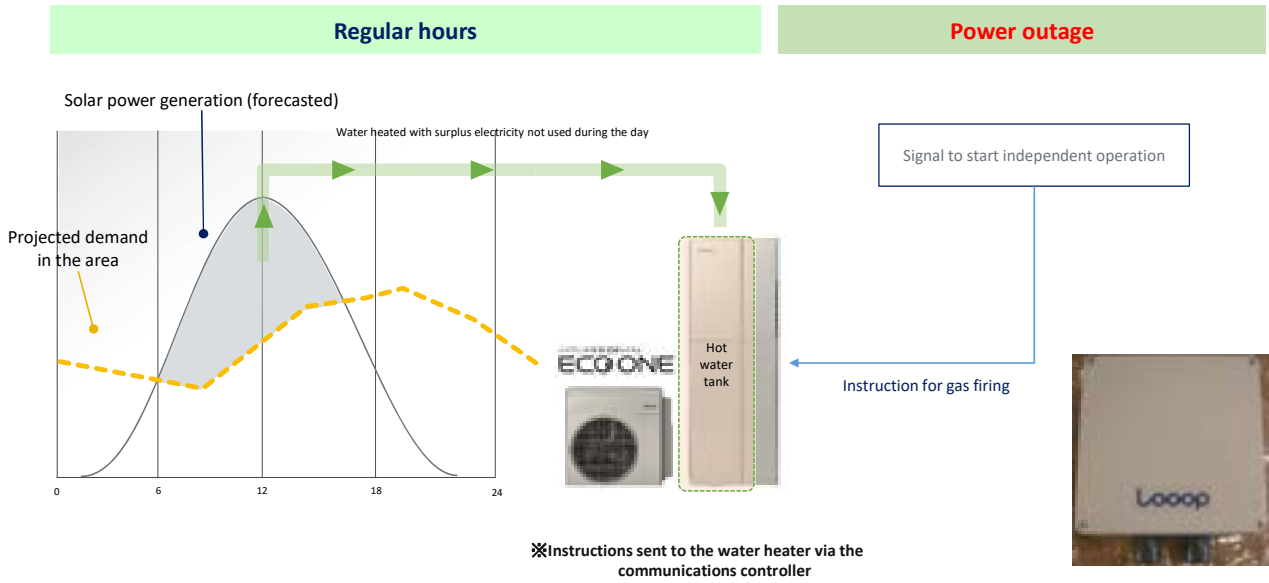
Refrigerator 300 W	Smartphone 5 W	TV 500 W	Lights 80 W



6

# Peak shift

## Hybrid hot water control



7

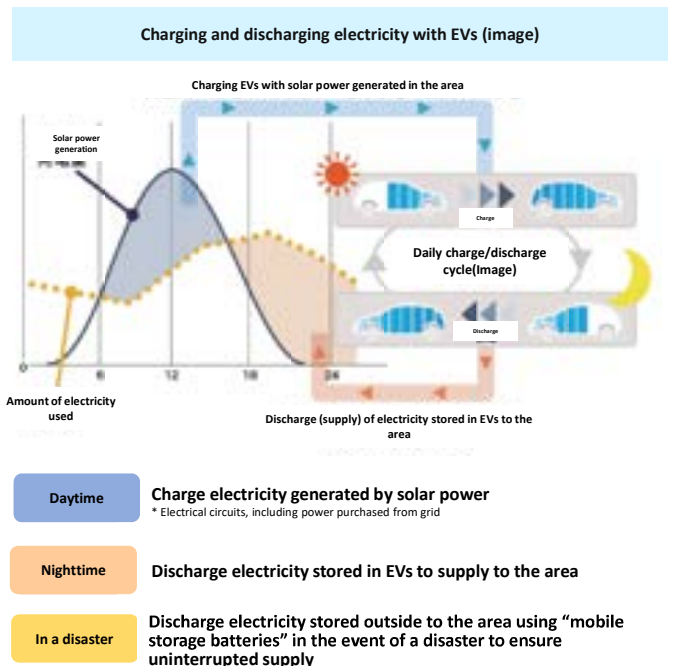
# Peak shift

## Dynamic Pricing

<b>Basic rate</b> (Contracted ampere user: 60A)		¥2,500/month (incl. tax)
<b>Metered rate</b>		
<b>Daytime</b> (6:00-23:00)	<b>Phase 1</b> When the surplus rate is negative (less than 0%)	¥30/kWh
	<b>Phase 2</b> When the surplus rate is between 0% and under 70%	¥25/kWh
	<b>Phase 3</b> When the surplus rate is 70% or above	¥20/kWh
<b>Nighttime</b> (23:00-6:00)		¥30/kWh

\* Surplus rate = (Forecasted solar power generation - forecasted electricity usage in area) / forecasted electricity usage in area  
 \* If no electricity is used at all, the basic rate is equivalent to 50%.  
 \* All rates above include the equivalent of consumption tax.

## Shared services for EVs



Thank you for your attention!



For more information: Department of Futuristic City Promotion, Urban Strategy Division, Saitama City

TEL: +81-48-829-1329

E-mail: [e-kizuna.project@city.saitama.lg.jp](mailto:e-kizuna.project@city.saitama.lg.jp)

# DECARBONIZATION & LOW CARBON CITIES



Photo by Norman Goh / DPA / AP / 25



**DATUK SERI MAHADI CHE NGAH**  
Mayor of Kuala Lumpur  
November 10<sup>th</sup>, 2022 (Thursday)



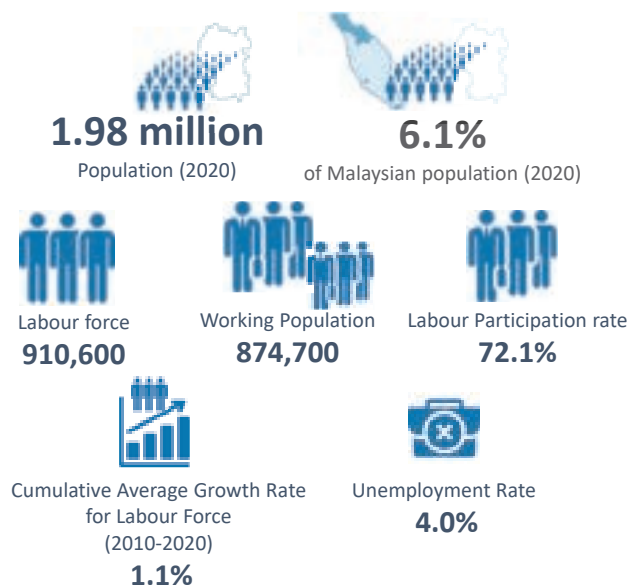
## KUALA LUMPUR



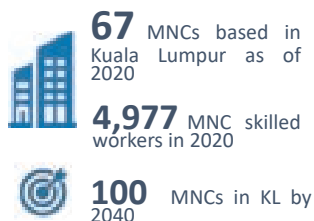
**KUALA LUMPUR**

Today, with a population of two million people spread across 243 square kilometres, our city stands strong as Malaysia's cultural and economic axis.

## KUALA LUMPUR TODAY



### Multinational Companies (MNCs)



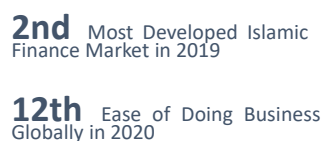
### Tourist Destination



### Global Employment Hub



### Global Positioning



\*Source: PSKL 2040

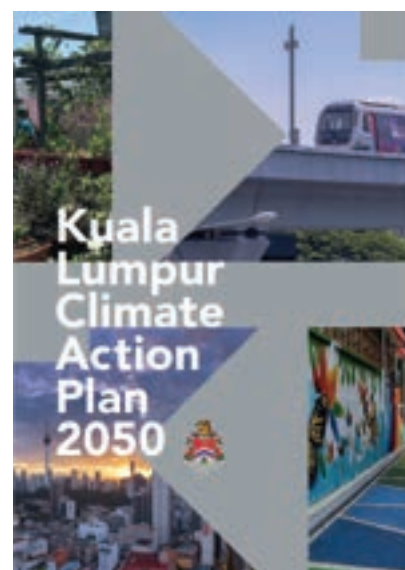
## THE MASTER PLANS



**CARBON MANAGEMENT PLAN 2022**



**KUALA LUMPUR LOW CARBON SOCIETY BLUEPRINT 2030**



**KUALA LUMPUR CLIMATE ACTION PLAN 2050**

# SUSTAINABLE DEVELOPMENT GOALS



Raise public awareness of our commitment to our sustainability agenda

# KUALA LUMPUR SDG CENTRE





## KL CITY HALL-LOW CARBON INITIATIVES (Renewable Energy)



PV Street Lights-Sungai Bonus



Pasar Keramat-KLCH

Kuala Lumpur City Hall has reduced emissions from this effort by 32 kilo tonnes of CO2 which is equivalent to 1960 matured trees.



PV Street Lights-Bukit Jalil



RE: Vertical Axis Turbine-Zero Energy Kiosk



Pasar Harian Selayang-KLCH



## PLANTING MORE TREES



From 2010 until 2022, Kuala Lumpur has planted a total of 170,351.00 mature trees and it can absorb carbon in the city as much as 2,810,792 tonne CO2.



Pocket Park



## 1 COMMUNITY 1 RECYCLE PROGRAMME

In 2021, Kuala Lumpur has reduced carbon emissions by 47.29 kilo tonnes of CO<sub>2</sub>, the difference with 2014. The difference is equivalent to the planting of 2866 trees



## OUTREACH PROGRAMME



Organising outreach programmes with schools and resident associations to educate them on the impact of climate change



## EV BUS : FIRST-MILE LAST-MILE CONNECTIVITY



**GoKL City Bus free bus service to go fully electric by early 2023, using 60 Malaysian-made SKS EV buses**

in Hybrids, EVs and Alternative Fuel, Local News, Public Transport / By Anthony Lim / 28 October 2021 9:42 pm / 0 comments

Since the use of EV GOKL Buses in 2022, Kuala Lumpur has reduced as much as 593 tonne CO2 which is equivalent to 36 matured trees.



## ELECTRIC TRAIN : FIRST-MILE LAST-MILE CONNECTIVITY



The Electric Train Transportation System has successfully enabled the transportation sector to contribute to the reduction of Kuala Lumpur City's carbon emissions by 47,341 tonne Co2 in 2022. This value is equivalent to carbon absorption by 2869 trees.

KL SENTRAL



## PEDESTRIAN AND CYCLING NETWORK



## CAR FREE AREA

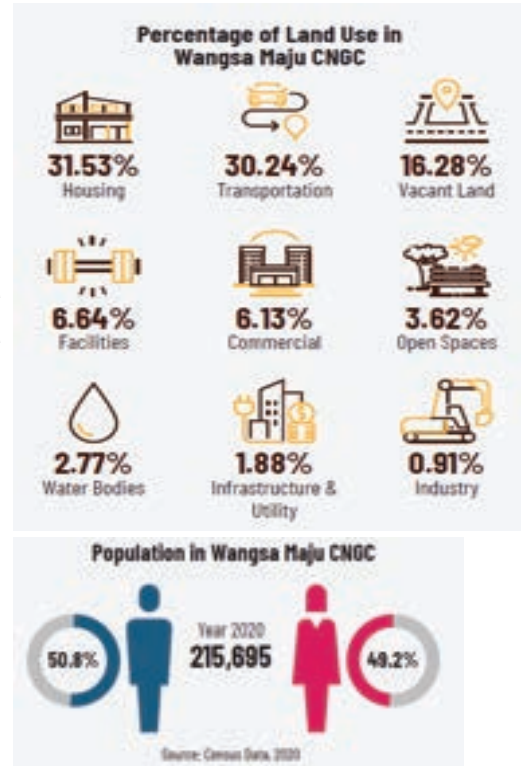
This Car Free Area is fully pedestrianised with street artists, buskers, entertainers, cultural performances and food carts.



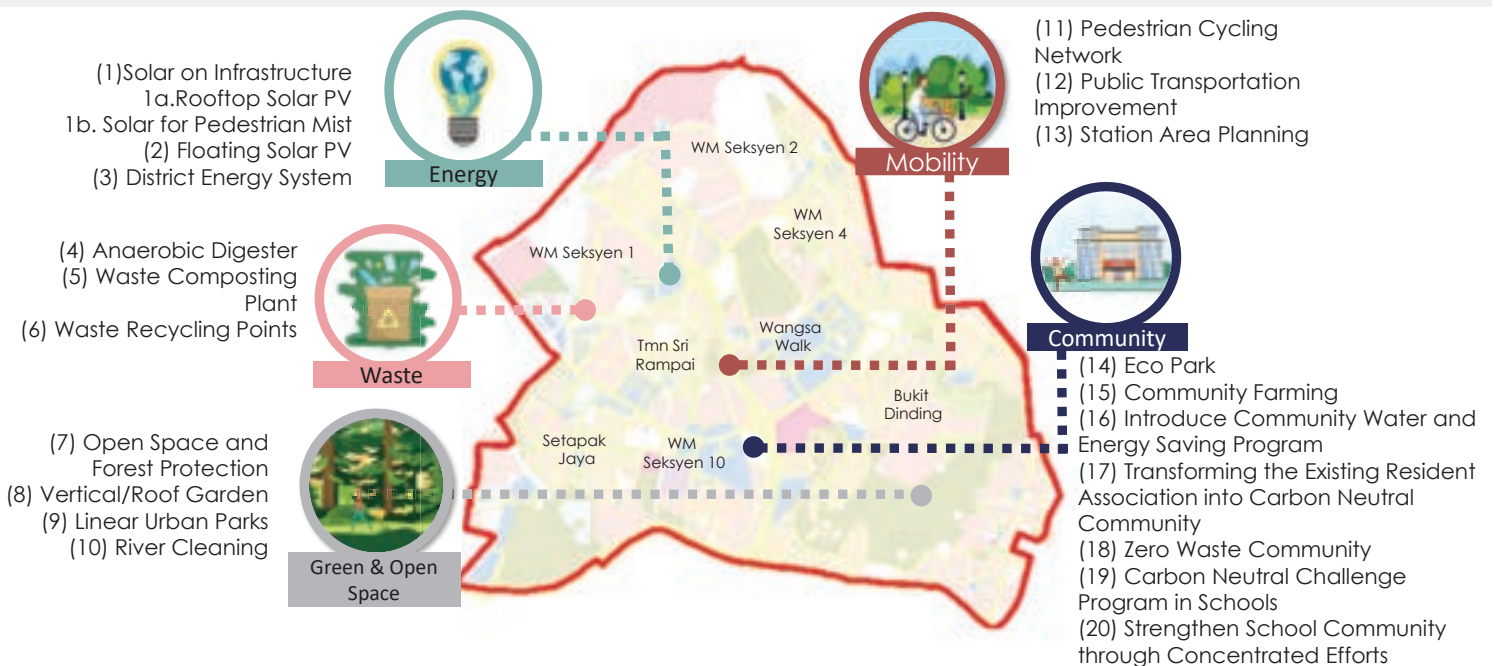
## WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE



Wangsa Maju Carbon Neutral Growth Centre will set the stage for a greener and more sustainable and liveable Kuala Lumpur



## CARBON NEUTRALITY OPPORTUNITIES IN WANGSA MAJU GROWTH CENTRE



# PARTNERS & COLLABORATORS

## NATIONAL



## INTERNATIONAL



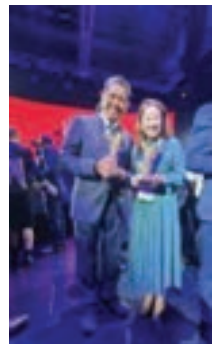
## UN-HABITAT SCROLL OF HONOUR AWARD

-KUALA LUMPUR-TOKYO

WUPF LEGACY PROJECTS  
**UN-HABITAT SCROLL OF HONOUR AWARD**  
 Hold the Cass, Leave No One and Place Behind



2022 UN-HABITAT



Aldia Ahaba Amsterdam Beijing  
 Dhaka North Englewood Irvine Lima  
 Lisbon Metropolitan Area of Guadalajara  
 New York Pune Quezon City Quito Roma  
 São Paulo Seattle Seoul  
 Tokyo-Kuala Lumpur Wuhan

Congratulations to the  
 2022 C40 Cities Bloomberg  
 Philanthropies Awards Finalists  
<https://www.c40cities.org/>



## LOW CARBON INITIATIVE FOR KLCH'S BUILDINGS



- KLCH has collaborated with **TMG, IGES, UTM** and **SEDA Malaysia** since 2019.
- Now the collaboration has entered **Phase 4**
- New collaboration partner is **Saitama City**.



- KLCH TOWER 1, 2, 3, and IDB**
- Pilot Projects - EE
  - Power Consumption
  - Air-condition Equipment
  - Kuala Lumpur Low Carbon Target

**DATA ON 4 MAIN KUALA LUMPUR CITY HALL BUILDINGS**

Building	Area (sqm)	Power Consumption (kWh)	Air-condition Equipment	Other Data
IDB	100,000	100,000	100,000	100,000
KLCH TOWER 1	100,000	100,000	100,000	100,000
KLCH TOWER 2	100,000	100,000	100,000	100,000
KLCH TOWER 3	100,000	100,000	100,000	100,000



**IDB-KLCH**



**KLCH TOWER 2**

**KLCH TOWER 3**

**KLCH TOWER 1**

## COLLABORATION WITH TMG, IGES AND SAITAMA CITY



### KUALA LUMPUR SOLAR PV AND RENEWABLE ENERGY

AEON Wangsa Maju has installed solar panels on their rooftops and parking areas, provided recycling centres in the mall as well as a dedicated section for the public to learn more about sustainability.



**AEON-Wangsa Maju**

Kuala Lumpur has reduced emissions from this effort by 91,699 tonnes of CO2 which is equivalent to 5558 matured trees.

## VISIBILITY IS KEY

### CONCLUSION





Thank You!  
Terima Kasih!

**KUALA LUMPUR**  
CITY FOR ALL



Nov 10th 2022, 17:00 pm to 18:30  
UNFCCC/COP27 Japan Pavilion Side Event

“Japan-Malaysia City to City Carbon Neutral Collaborations  
– Celebrating the 40th Anniversary of the Look East Policy

# Tokyo Initiatives

for “Carbon Half” by 2030,  
and Collaboration with Kuala Lumpur

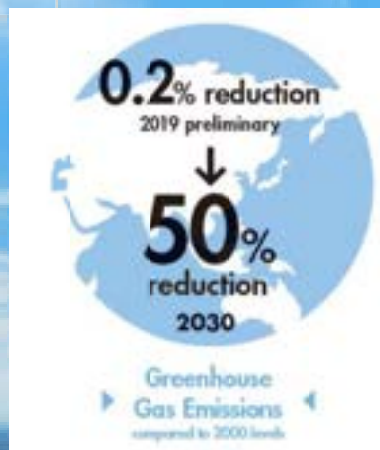
Bureau of Environment  
Tokyo Metropolitan Government

# Tokyo

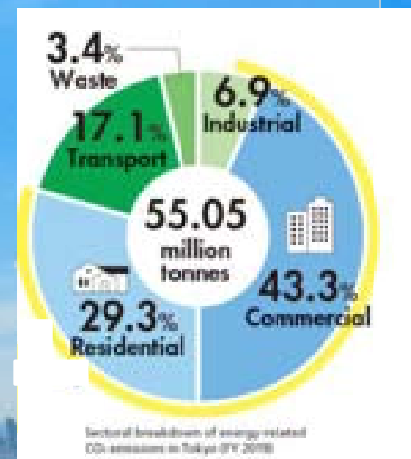


Yuriko Koike,  
Governor of Tokyo

## 2030 GOALS

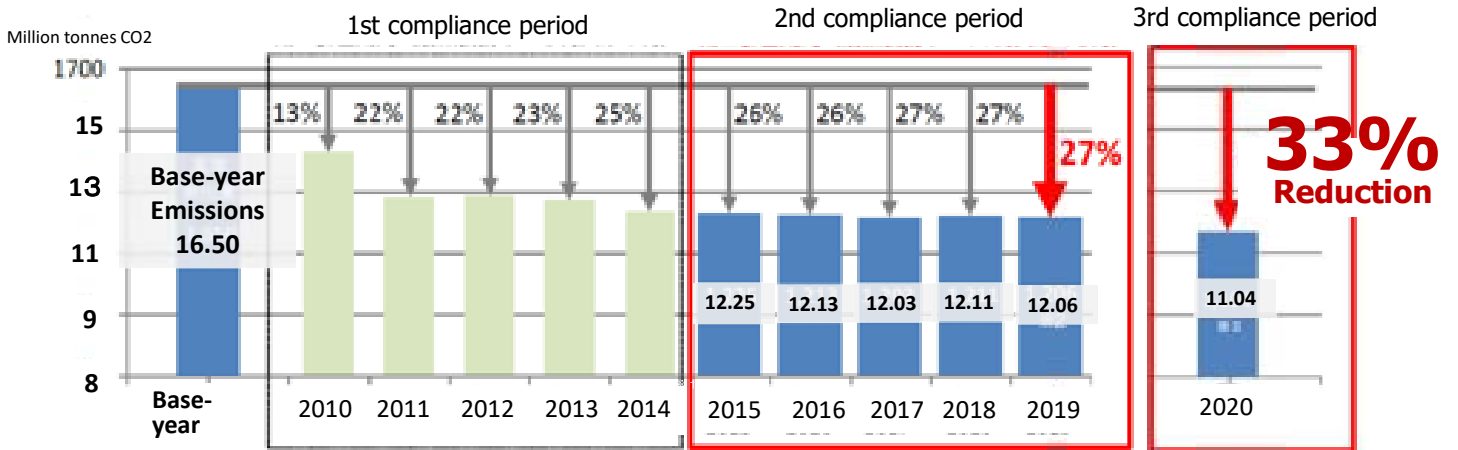


Buildings account  
for approx. **70%**



# Tokyo Cap-and-Trade Program

- **Mandatory CO2 reduction program for large-sized existing buildings** \*Launched in 2010 by Tokyo ordinance



TOKYO METROPOLITAN GOVERNMENT

## TOKYO TO KUALA LUMPUR LOW CARBON SYSTEM

# T2KLLCS

-1<sup>st</sup> Stage (2019-2021)

-2<sup>nd</sup> Stage (2022~)



# C40 Cites Bloomberg Philanthropies Awards!



Building a Climate Movement

Tokyo / Kuala Lumpur

Global North and South collaboration to decarbonise the building sector



## Integrated Promotion of Decarbonization and Energy Security

**Reduce** energy consumption

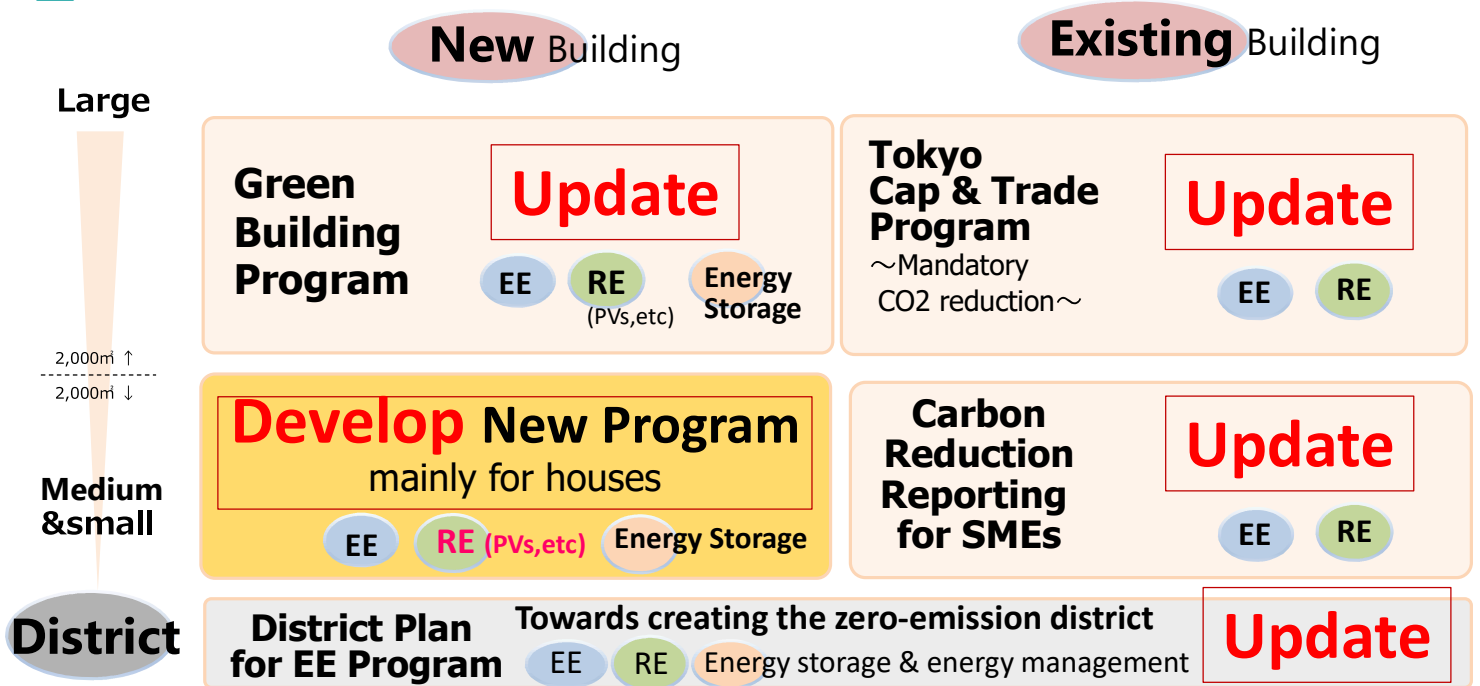
**Generate** power, **Store** and **use** power

**Building** (incl. house)

**District** (ex, creating the zero-emission district)

*Benefits of the Tokyo itself*

# Direction of Strengthening Each Programs on Buildings by Tokyo Ordinance



# The 40th Anniversary of the Look East Policy -Carbon Neutral Collaborations-



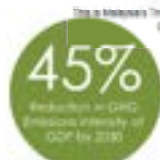
Climate action initiatives and way forward to strengthen city-to-city cooperation between Malaysia and Japanese cities for carbon neutrality in the region.

PROF. DR. TPr HO CHIN SIONG and TPr CHAU LOON WAI, UTM-  
LOW CARBON ASIA RESEARCH CENTRE



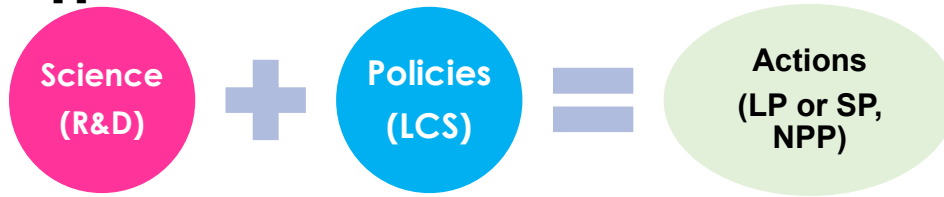
## Malaysia Commitment to the Paris Agreement (COP21 Paris) – Carbon Neutral 2050

Malaysia signed and ratified the Paris Agreement in 2016 and submitted the first NDC., *Malaysia pledged its intention to reduce the GHG emissions intensity of GDP up to 45% by 2030 compared to the emissions intensity of GDP in 2005.*



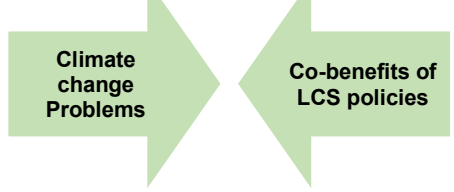
- To address climate **change across all** GHG emitting sectors, namely energy, transport, IPPU, waste management, agriculture, forestry and land use.
- **Collaborative efforts** among Federal, state and local governments as well as the **private sector and CSOs** will be intensified to support the **transition to a low-carbon nation**
- Malaysia's commitment to the Paris Agreement of the UNFCCC to reduce up to 45% GHG emissions intensity to GDP by 2030 based on emissions intensity in 2005, the focus will be on **developing enabling instruments for climate action, including carbon pricing.**
- Promoting **green and resilient cities and townships**, enhancing green mobility and augmenting the consumption of low carbon energy as well as expanding the green market and GGP.
- Aim for a **more ambitious climate outcome** and collaboration among all stakeholders towards a more sustainable future and contribute to the achievement of

# Harnessing contribution of Japanese Science and Technology Sustainable development approach/ Climate Actions



**R&D and UNIVERSITIES COLLABORATIONS**  
 1) MALAYSIA JAPAN INSTITUTE TECHNOLOGY (MJIT) KUALA LUMPUR  
 2) SATREPS PROGRAM INVOLVING UTM, NIES, IGES , KYOTO U/ OKAYAMA U

**CITY TO CITY COLLABORATIONS**  
 -1) ISKANDAR MALAYSIA, KYOTO CITY/ TOYAMA CITY  
 ,-2) KUALA LUMPUR /TOKYO METROPOLITAN GOVERNMENT/ SAITAMA CITY HALL



Promoting resilient, low carbon, resource efficient and socially inclusive development



## Tagline

Engineering the Nation With Precision For Sustainable Development

Vision  
 "Leading in cutting edge technology education and research"

Mission  
 - Providing Japanese style engineering education blended with Malaysia distinctiveness for sustainable industry and society. Leading in academic and research excellence in Electronics, Precision, Environmental & Green Engineering and Management of Technology

MJIT was established under the agreement between Japanese and Malaysian governments in September 2011. It is a higher education institute located in Malaysia which provides Japanese-style engineering education to young Malaysian and international students. MJIT has many R&D on Green Engineering and Management of Technology related to climate actions and Disaster Risk management



# SCIENCE AND TECHNOLOGY RESEARCH PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT PROGRAM ( SATREPS )



## Project for Development of Low Carbon Society Scenarios for Asia Regions 2011

Ho Chin Siong and Matsuoka Yuzuru



5

### CO2 Modelling /LCS blueprint on the Case study of Iskandar Malaysia Project Background



Site: Iskandar Malaysia

(Iskandar Regional Development Authority)

#### Objective:

i. To draw up **key policies and strategies** in guiding the development of Iskandar Malaysia in **mitigating carbon emission**. *Transforming Iskandar Malaysia into a sustainable low carbon metropolis by adopting green growth strategies/roadmap.*

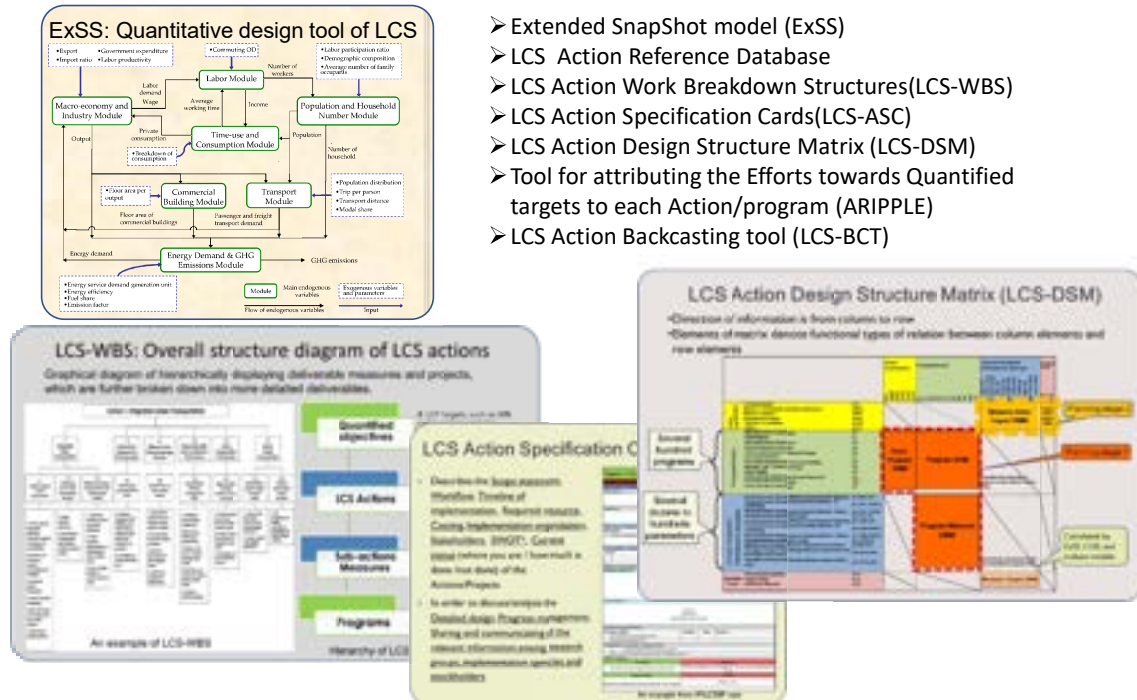
ii. To respond to the nation's aspiration for **ensuring climate-resilient development for sustainability**.

Target Year: 2025 (2005 – 2025)



# OUTPUT 1: Methodology

Development of supporting tools for designing and managing LCS scenarios

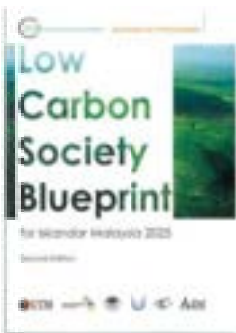


- Extended SnapShot model (ExSS)
- LCS Action Reference Database
- LCS Action Work Breakdown Structures(LCS-WBS)
- LCS Action Specification Cards(LCS-ASC)
- LCS Action Design Structure Matrix (LCS-DSM)
- Tool for attributing the Efforts towards Quantified targets to each Action/program (ARIPPLE)
- LCS Action Backcasting tool (LCS-BCT)

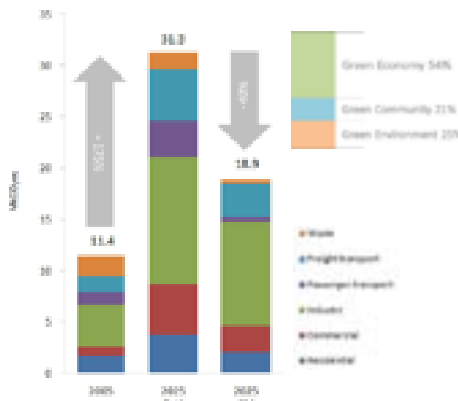
7

# OUTPUT 2: LCS scenarios for policy development in IM

## The *Low Carbon Society Blueprint for Iskandar Malaysia 2025*



- Document that presents comprehensive climate change mitigation policies and detailed strategies to guide development of Iskandar Malaysia
- Stress on the **holistic and integrated approach to decouple economy and environment development**  
Comprise of two principal components:
  - I) Narrative on growth scenarios, policies, measures and programs to achieve a minimum targeted **40% reduction in carbon emission by 2025** based on the 2005 level and;
  - II) **scenario-based modelling** and projection of carbon emission reductions achievable.

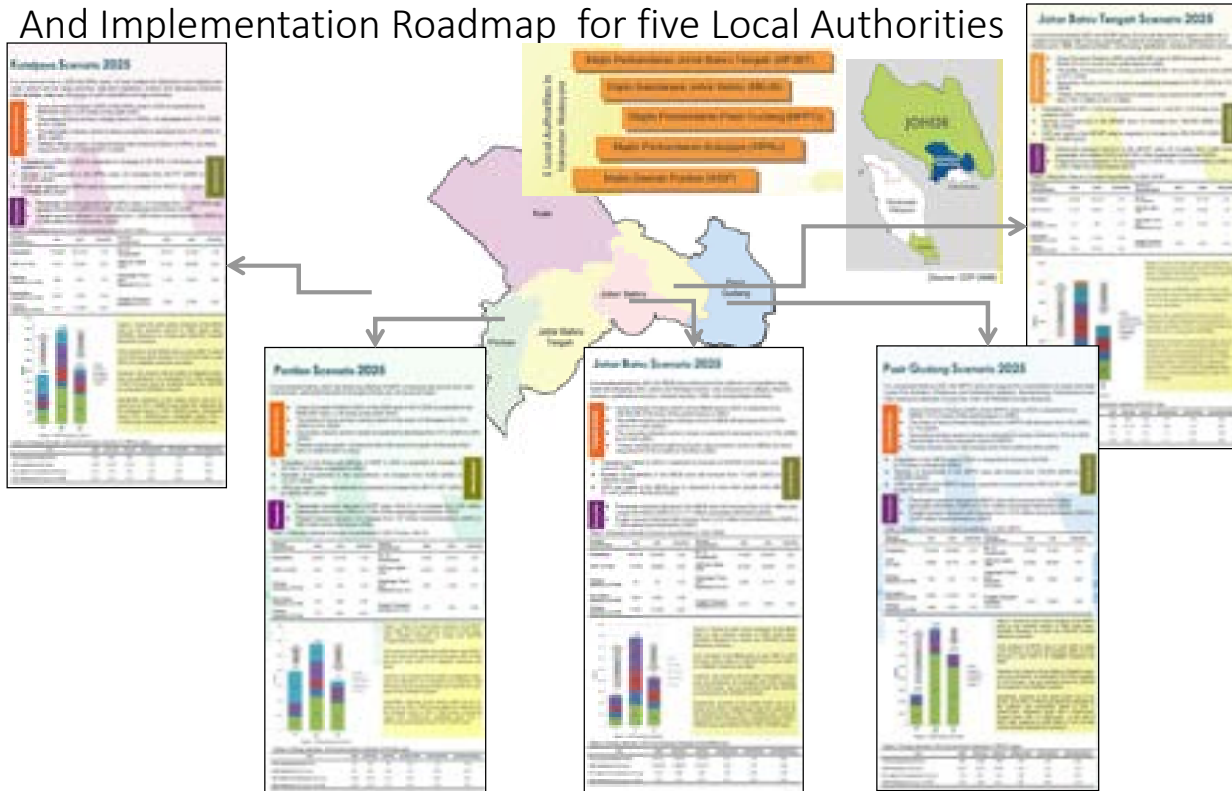


GHG reductions by Actions

Mitigation Options	ktCO <sub>2</sub> Reduction	%
<b>Green Economy</b>	<b>6,937</b>	<b>54%</b>
Action 1 Integrated Green Transportation	1,916	15%
Action 2 Green Industry	1,094	9%
Action 3 Low Carbon Urban Governance**	-	-
Action 4 Green Building and Construction	1,203	9%
Action 5 Green Energy System and Renewable Energy	2,725	21%
<b>Green Community</b>	<b>2,727</b>	<b>21%</b>
Action 6 Low Carbon Lifestyle	2,727	21%
Action 7 Community Engagement and Consensus Building**	-	-
<b>Green Environment</b>	<b>3,094</b>	<b>25%</b>
Action 8 Walkable, Safe and Livable City Design	263	2%
Action 9 Smart Urban Growth	1,214	10%
Action 10 Green and Blue Infrastructure and Rural Resources	392	3%
Action 11 Sustainable Waste Management	1,224	10%
Action 12 Clean Air Environment**	-	-
<b>Total</b>	<b>12,467**</b>	<b>100%</b>

8

### OUTPUT 3 Make the Actions more close to the People / Set LCS Action Plans And Implementation Roadmap for five Local Authorities



9

### OUTPUT 4 -Set up UTM-LCS centre under SATREPS program- GHG Emission and Asia Pacific Integrated (AIM) Modelling

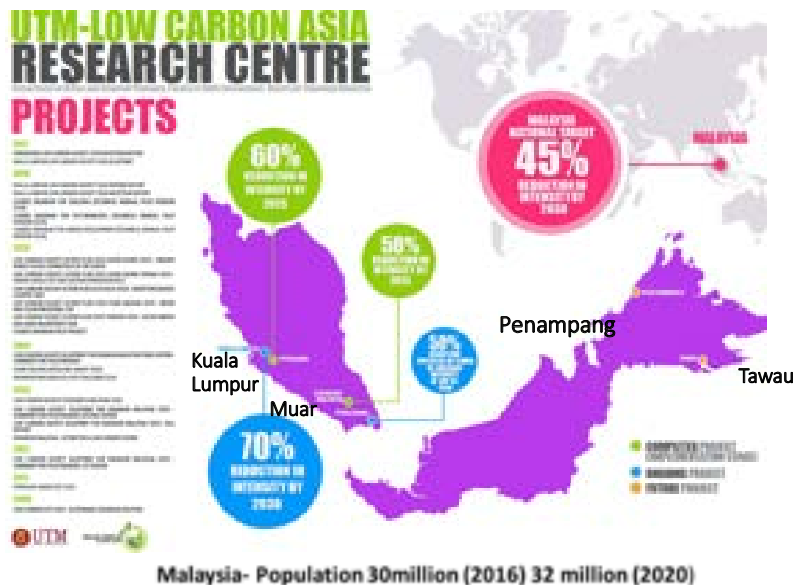
Climate Action Plans for Four (4) Malaysia Pilot cities commissioned by Global Covenant of Mayors International Urban Cooperation (GCoM-IUC) Brussels Jan – Dec 2020

4 cities are Muar, Hangtuh Jaya Tawau city, Penampang City are also using AIM modelling to determine GHG emission for the year 2030

Another 4 new cities using AIMS modelling for this year are Putrajaya City, Petaling Jaya, Iskandar Puteri and Segamat

Kuala Lumpur City Local Plan 2040 commissioned by Kuala Lumpur City Hall (KLCH) Nov 2020- July 2021

Project developing framework for building energy efficiency through City to City collaboration between Kuala Lumpur and Tokyo Metropolitan Government (2nd Year) commissioned by IGES and funded Ministry of Environment (MoEJ) JAPAN 2020-May – March 2021



BUR 3 Report (2020)	CO2 emission ('000metric tons)	CO2 per capita metric ton (Population 30.68mil)
Total emission 2016		
without LULUCF	316,833.23	10.32
With LULUCF	75,488.48	2.46

# Capital city KUALA LUMPUR collaboration with Tokyo Metropolitan Government/ Saitama city Hall



70%  
Reduction in  
GHG Emissions  
Intensity of GDP  
by 2030

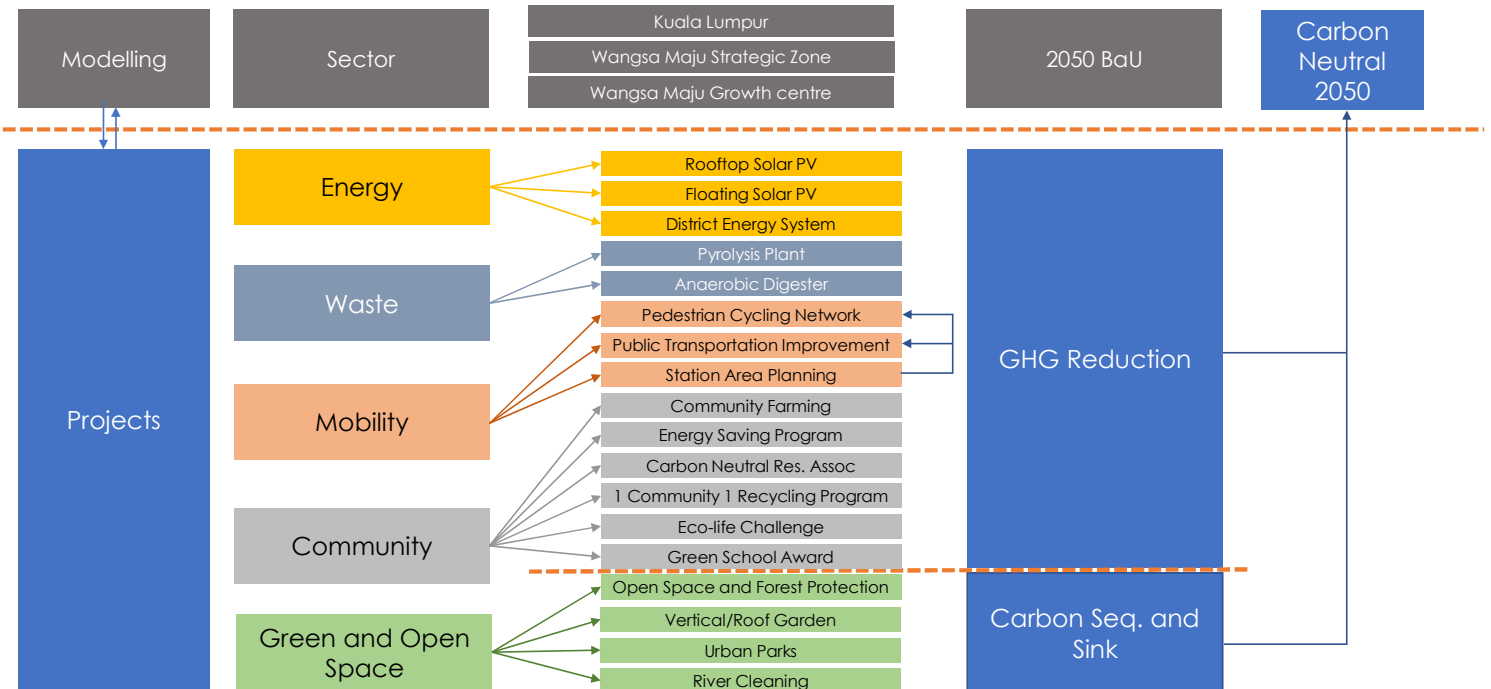


Carbon  
Neutral  
by 2050

**Kuala Lumpur**  
national capital of Malaysia

## Local Governments Initiatives Impact the Regional-Global Agenda on Climate Sensitive Urban Sustainable Development : Kuala Lumpur's Local Innovations

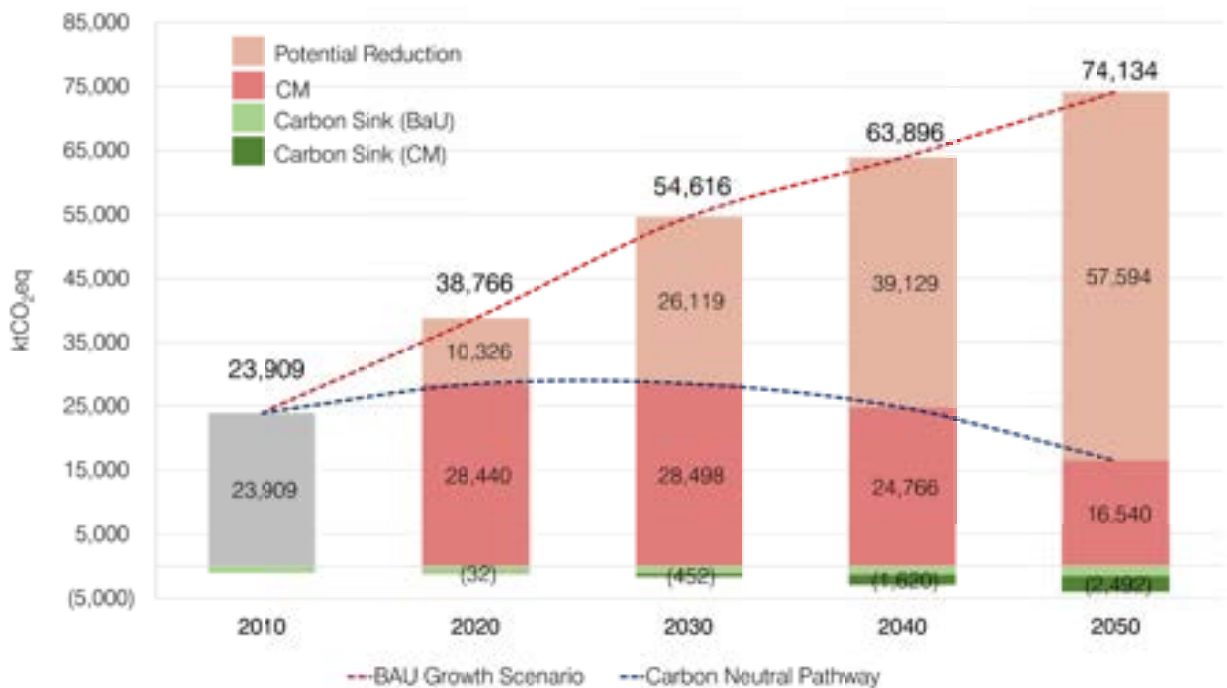
### ROADMAP FOR KUALA LUMPUR CARBON NEUTRAL CITY 2050



# Low Carbon Programmes in Wangsa Maju Growth Centre



## BASELINE MODELLING Carbon Neutral Kuala Lumpur 2050 Scenario Pathway

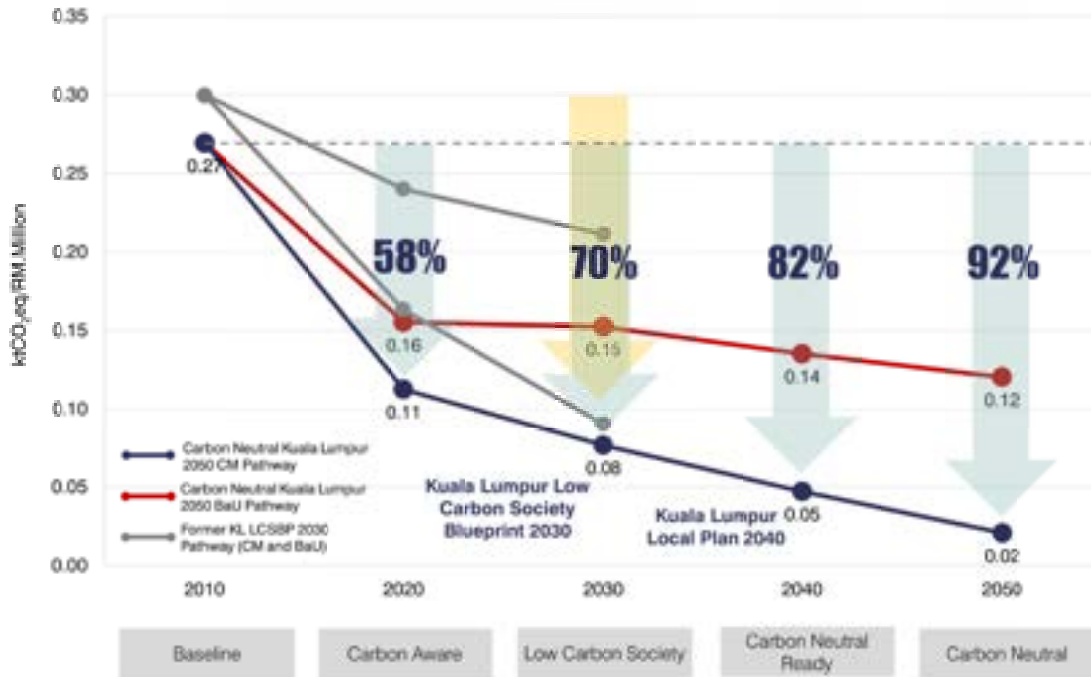


Source: UTM-LCARC Projections



# BASELINE MODELLING

## Carbon Neutral Kuala Lumpur 2050 Scenario Pathway



Source: UTM-LCARC Projections

## In line with recent National Low Carbon Cities Masterplan Malaysia: Local Actions Support National Commitment

To date, a total 19 cities and regions of Malaysia have initiated GHG emissions mitigation plan

### Low Carbon Society Blueprint/ Low Carbon City Plan (Adopted AIM modelling)

1. Kuala Lumpur
2. Putrajaya
3. Iskandar Malaysia (region)
4. Johor Bahru
5. Iskandar Puteri
6. Pasir Gudang
7. Kulai
8. Pontian
9. Pengerang

Reference:  
UTM-Low Carbon Asia Research Centre

In addition, Malaysian government aims to further promote low carbon development at local level



Target:  
33 local and regional  
governments

Reference:  
Ministry of Environment and Water (2021) National Low Carbon Cities Masterplan

## Selected Climate Action Plans by UTM-LCARC



2009-2020

# THANK YOU



UTM-Low Carbon Asia Research Centre  
Level 2, Block B12,  
Faculty of Built Environment and Surveying,  
Universiti Teknologi Malaysia,  
81310 Johor Bahru, Johor  
Tel: 07-555 7359



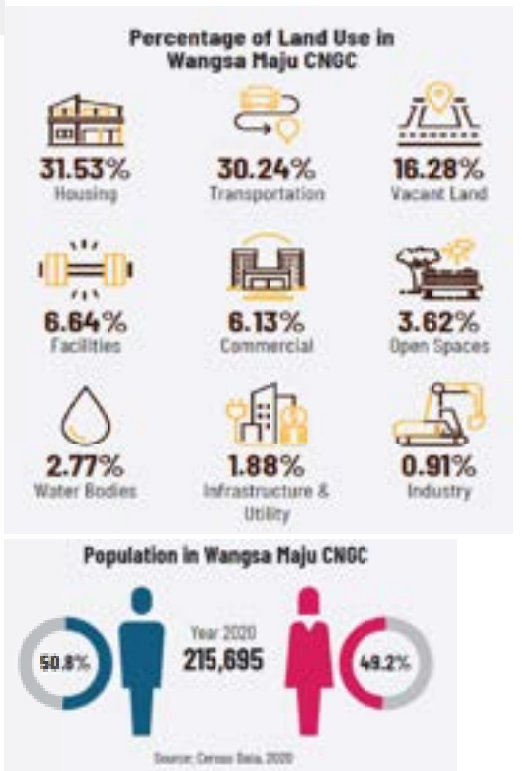
## KUALA LUMPUR NEUTRAL CARBON 2050 AND LOW CARBON 2030 INITIATIVES AT WANGSAMAJU

### KUALA LUMPUR NEUTRAL CARBON AND LOW CARBON INITIATIVES

#### WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE

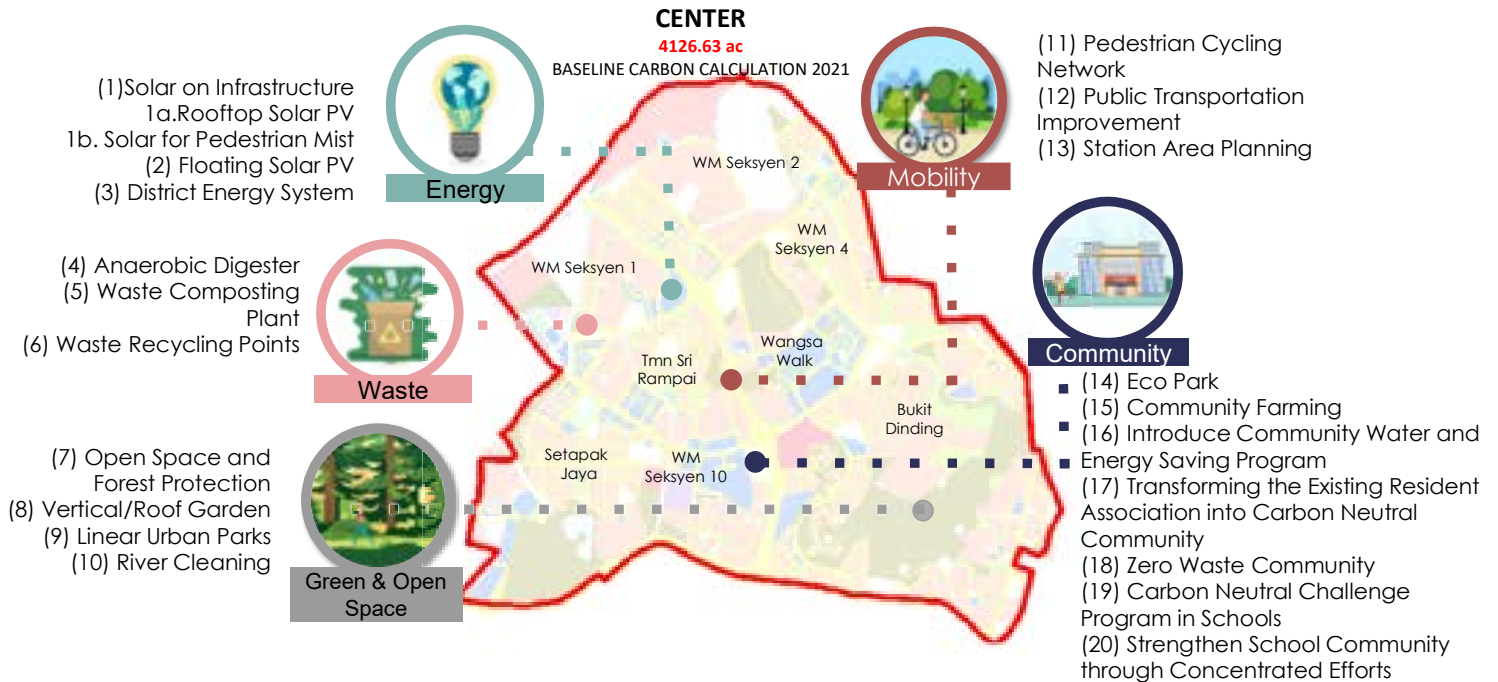


Wangsa Maju Carbon Neutral Growth Centre will set the stage for a greener and more sustainable and liveable Kuala Lumpur



## CARBON NEUTRALITY OPPORTUNITIES IN WANGSA MAJU GROWTH CENTRE

### WANGSAMAJU PILOT PROJECT- TOWN



## PROPOSAL FOR IMPLEMENTATION OF KLLCSBP2030 AND KLCN2050 IN WANGSAMAJU BY DBKL

1. AREA LIGHTING WITH SOLAR TECHNOLOGY ALONG THE BONUS RIVER
2. SOLAR PANELS ON THE ROOF OF THE BUS/TAXI STOP
3. PEDESTRIAN WALKWAY PLAN TO INSTALL WITH SOLAR FILM
4. SUNGAI BUNUS BICYCLE/PEDESTRIAN LANE FROM SEKSYEN 1 WANGSAMAJU TO SALOMA LINK TO COMPLETE
5. SOLAR PANEL ON HAWKER CENTRE AND OTHERS DBKL ASSET ROOF-TOP
6. GOKL BUSES
7. WASTE SYSTEM AND MANAGEMENT
8. URBAN FARMING ALONG SUNGAI BONUS
9. TREE PLANTING
10. FLOATING SOLAR
11. SOLAR PANEL INSTALLATION FOR COMMERCIAL BUILDING/INFRA



## KUALA LUMPUR NEUTRAL CARBON AND LOW CARBON INIATITIVES



### WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE

#### - BUNUS RIVER RE INITIATIVES



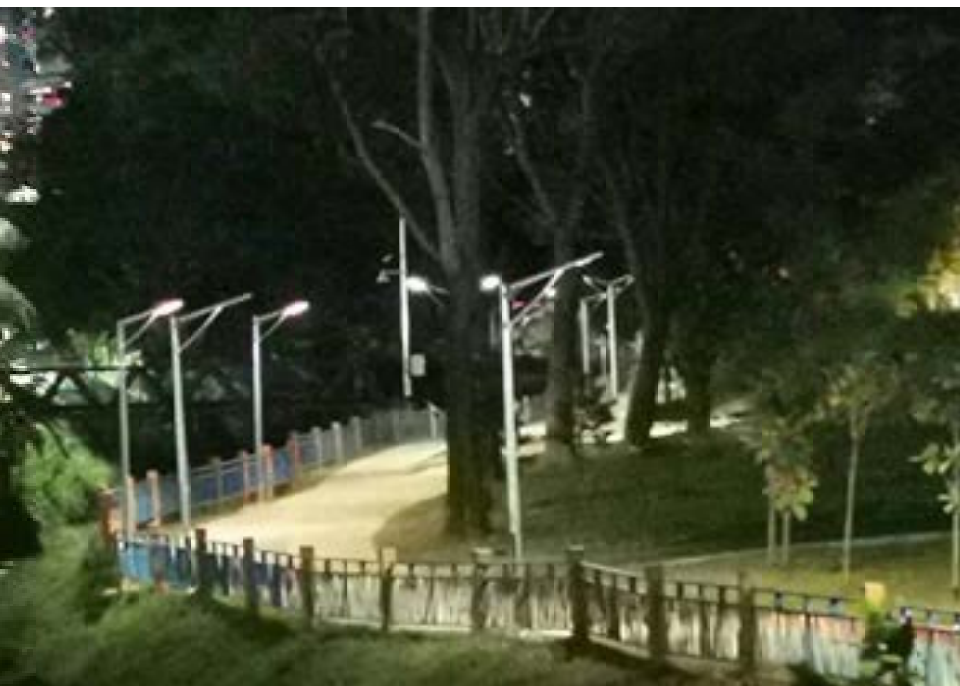
5

## KUALA LUMPUR NEUTRAL CARBON AND LOW CARBON INIATITIVES



### WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE

#### - SOLAR PANEL (RE) INITIATIVES



A total of 55 solar-type area light sticks have been installed along the bonus river phase 1.

1188 kW

831.6 a month saved  
9,979.2 a year

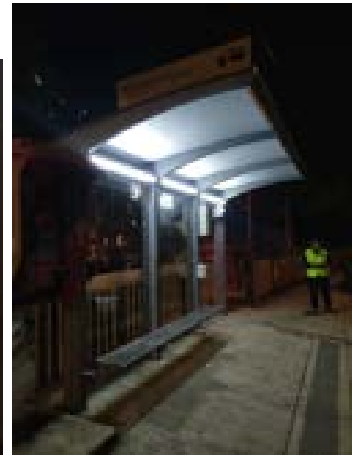
## SOLAR PANEL AT ROOF-TOP OF BUS/TAXI STAND

A total of 20 bus and taxi stops have been installed with solar panels. These 20 solar panels can provide electricity for 63 lamps

A total of 793.8kW are generated from these solar panel

Estimated cost TNB are RM555.66 saved a month.

6667.92 a year



## SOLAR PANEL AT ROOF-TOP OF BUS/TAXI STAND

1) 3.89 kwh

Project title : Solar bus stop (jalan san peng) & solar covered walkway for school children ( Sekolah Kebangsaan seri suria)

Year implementation: 2020

Project status : completed

Estimation cost : rm 30,000

2) 13.6 kwh

Project title : Solar bus stop (wangsa maju seksyen 1)

Year implementation: 2021

Project status : completed

Estimation cost : rm 180,000

3) 34.6 kwh

Project title : Solar pedestrian light (sungai bonus)

Year implementation: 2021

Project status : completed

Estimation cost : rm 420,000

**BUILDING OWNED BY DBKL IN WANGSAMAJU**

BIL	PARLIMEN	ASET
1	WANGSA MAJU	PASAR JALAN GENTING KLANG
2	WANGSA MAJU	PASAR DAN PUSAT PENJAJA SEKSYEN 1 WANGSA MAJU KAWASAN 1
3	WANGSA MAJU	PASAR DAN PUSAT PENJAJA SEKSYEN 1 WANGSA MAJU KAWASAN
4	WANGSA MAJU	PASAR DAN PUSAT PENJAJA SEKSYEN 2 WANGSA MAJU
5	WANGSA MAJU	PASAR DAN PUSAT PENJAJA SEKSYEN 4 WANGSA MAJU
6	WANGSA MAJU	Dewan Serbaguna Taman Setiawangsa
7	WANGSA MAJU	"Dewan Serbaguna Seksyen 1
8	WANGSA MAJU	"Dewan Serbaguna Seksyen 2
9	WANGSA MAJU	"Dewan Serbaguna Seksyen 4
10	WANGSA MAJU	"Dewan Serbaguna Seksyen 10
11	WANGSA MAJU	PA SERI KEDAH
12	WANGSA MAJU	PA GOMBAK 2
13	WANGSA MAJU	PA WANGSA MAJU R10
14	WANGSA MAJU	PA SERI TIOMAN I
15	WANGSA MAJU	PPR GOMBAK SETIA
16	WANGSA MAJU	PPR WANGSA SARI
17	WANGSA MAJU	PA DESA REJANG

**WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE**

**- SOLAR PV AND RENEWABLE ENERGY**

AEON Wangsa Maju has installed solar panels on their rooftops and parking areas, provided recycling centres in the mall as well as a dedicated section for the public to learn more about sustainability.



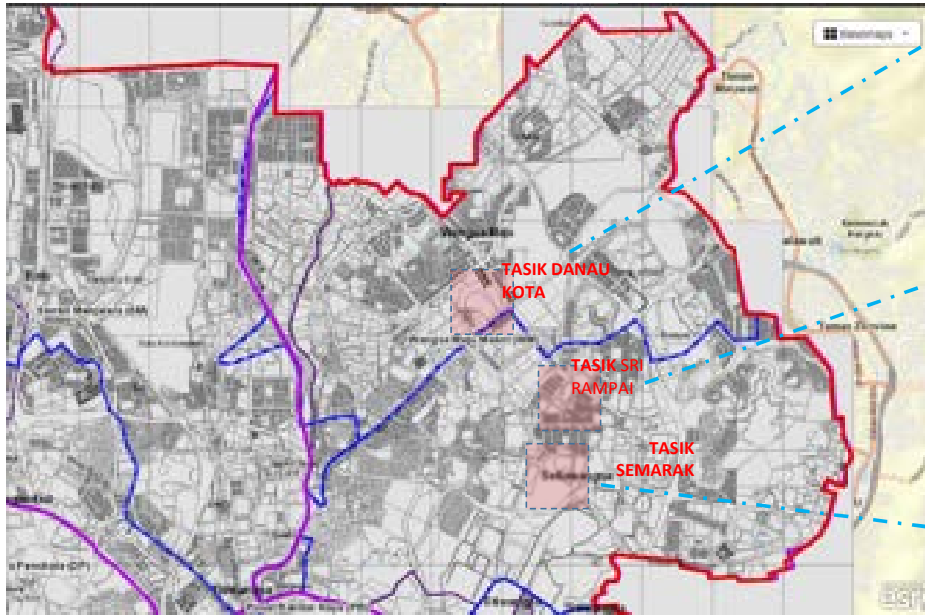
**AEON-Wangsa Maju**

Kuala Lumpur has reduced emissions from this effort by 91,699 tonnes of CO2 which is equivalent to 5558 matured trees.

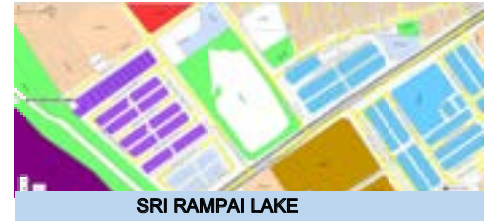
**VISIBILITY IS KEY**

# KUALA LUMPUR NEUTRAL CARBON AND LOW CARBON INIATITIVES

## WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE - FLOATING SOLAR POTENTIAL



DANAU KOTA LAKE



SRI RAMPAI LAKE



SEMARAK/ KOLAM SETAPAK JAYA LAKE

# KUALA LUMPUR NEUTRAL CARBON AND LOW CARBON INIATITIVES

## RAIN WATER HARVESTING SYSTEM

### KLCH SPORT COMPLEX AYER PANAS



令和4年度 脱炭素社会実現のための都市間連携事業委託業務(マレーシア国クアラルンプール市における建築物の省エネ普及に向けた脱炭素制度基盤構築支援事業(クアラルンプール市ー東京都/さいたま市))  
委託業務報告書

令和5年印刷

リサイクル適性の表示:印刷用の紙にリサイクルできます

この印刷物は、グリーン購入法に基づく基本方針における「印刷」に係る判断の基準にしたがい、印刷用の紙へのリサイクルに適した材料[Aランク]のみを用いて作製しています。