

MICHAEL BREITUNG PHOTOGRAPHY



LOOKING BACK AT THE PROGRESS MADE THROUGH THE PARTNERSHIP AND FUTURE PERSPECTIVES

Kuala Lumpur City Hall



High Level Talks: A Review On Progress Made For Smart, Zero Carbon And Climate-Resilient Cities In Malaysia & Japan | 21 January, 2025

Background



Collaboration KL-TMG-SC

TOKYO TO KUALA LUMPUR LOW CARBON SYSTEM (T2KLLCS)

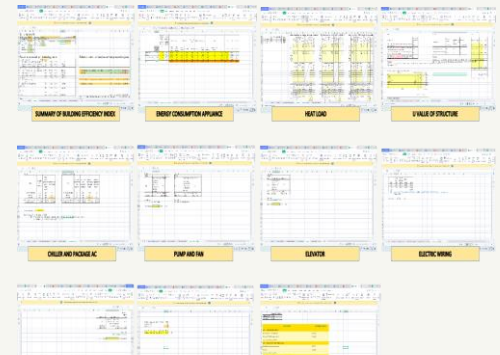


FY 1 (2019) - The partnership launched, emphasizing strategic planning and timeline development.

DATA ON 4 MAIN KUALA LUMPUR CITY HALL BUILDINGS

KLCH Buildings	GA (sq.m)	NRA (sq.m)	Condition of Area (sq.m)	MEI (RM/VA/year)	Space Cooling Equipment (year installed)	No. of Elevators (year installed)	No. of Pumps (year installed)	No. of Chillers (year installed)	Chiller status	Other equipment			
KLCH1	245,306.66	237,947.67	33,041.54	190	30 unit AHU 1998 20 unit FCU 1998 6 unit WCU 1998	7 2009	6 unit domestic water pump 2 unit chilled and condenser water pump 7 set sprinkler, wet riser and hose reel	150 RT durham bush 2019 150 RT durham bush 2019 35 RT durham bush 1998 35 RT durham bush 1998	4 unit Chiller Ground Floor (2019) 5 unit cooling tower (2019)	2 unit chiller and condenser water pump 1 unit sprinkler pump 2 unit domestic water pump 2 unit chilled 75hp & 2 unit condenser water pump 100hp 4 set sprinkler, 2 wet riser and 1 wet hose reel pump	2 unit York 400RT 2019 2 unit York 150RT 2019	Chiller Ground Floor (2018) Chiller level 12 (2018)	5 unit cooling tower (2019)
KLCH 2	51,949.05	50,300.31	3,814.60	71	16 unit AHU 2010B 19 unit FCU 2010 3 unit WCU 2010	7 2011	2 unit domestic water pump 2 unit chilled and condenser water pump 1 unit sprinkler pump 2 unit domestic water pump 2 unit chilled 75hp & 2 unit condenser water pump 100hp 4 set sprinkler, 2 wet riser and 1 wet hose reel pump	2 unit York 400RT 2019 2 unit York 150RT 2019	Chiller Ground Floor (2018) Chiller level 12 (2018)	2 unit cooling tower (2019)			
KLCH 3	50,569.25	48,046.30	4,035.20	101	42 unit AHU 1999 19 unit FCU 1999 18 unit CCFCU 1998	9 2009	6 unit domestic water pump 2 unit chilled 15hp & 2 unit condenser water pump 1 set sprinkler and 1 wet hose reel pump	2 unit 675 RT York 1999 1 unit Chiller (2019)	2 unit cooling tower (2019)				
KLCH TRAINING CENTER (IDB)	64,110.00	62,218.00	1,994.86	23	3 unit AHU 2009 2.5 unit FCU 2009	7 2009	6 unit domestic water pump 2 unit chilled 15hp & 2 unit condenser water pump 1 set sprinkler and 1 wet hose reel pump	2 unit 120 RT York 1999 1 unit Chiller for Meeting Hall (2009)	Office & training centre using VRF system Chiller for Meeting Hall (2009)	2 unit cooling tower (2009)			

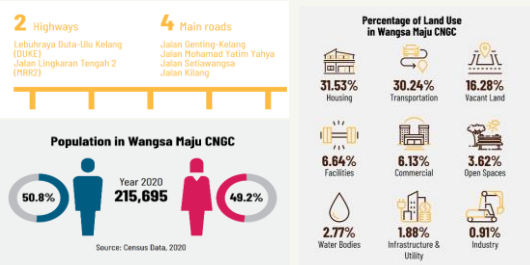
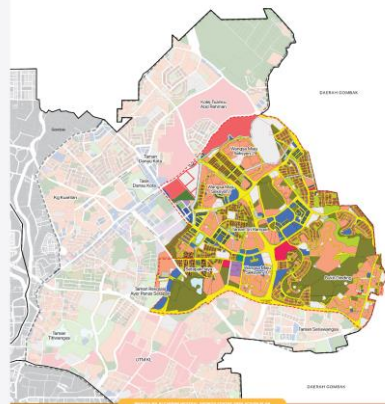
FY 2 (2020) - Efforts centered on data collection for EE and RE initiatives in KLCH Tower 1



FY 3 (2021) : Implementation of the identified initiatives marked an early success.

01 Location:
Northern part of Kuala Lumpur

02 Strategic Zone:
Wangsa Maju- Maluri Strategic Zone



FY 4 (2022) - The establishment of the Wangsa Maju 2050 Carbon Neutral Growth Center

Tokyo to Kuala Lumpur Low Carbon System (T2KLLCS) KLCH-TMG-SAITAMA CITY COLLABORATION

2. MICROGRID SMART-HOME



T2KLLCS2030 PHASE 5(2023)

SMART-HOME

51 houses consists of thin film solar cell panels, a home rechargeable battery unit, household gas engine cogeneration unit and hot water supply system, and the Smart e Mix Manager. The Smart e Mix Manager is a comprehensive energy management device which applies optimal control to electricity supplied from the commercial grid and generated by each energy device in the system.

MICROGRID

Maximize the renewable energy rate, leveling demand, and creating adjustment power by accommodating renewable energy with solar power, storage batteries, and EV in 51 houses.

FY 5 (2023) - Expansion into research areas into smart-home microgrids

Enhancing Climate Resilience and Zero-Carbon Cities Together



SDG Centre KL

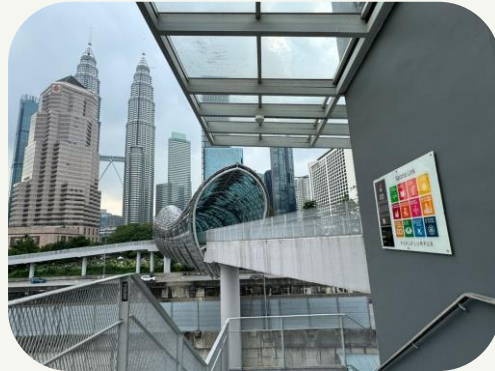
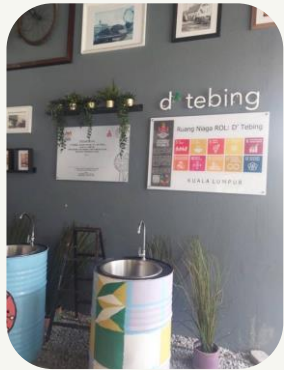
Driving Kuala Lumpur's commitment to the United Nations Sustainable Development Goals, fostering collaboration, innovation, and sustainable urban progress.



ESG Centre KL

Empowering Kuala Lumpur to lead in Environmental, Social, and Governance practices, shaping a responsible, inclusive, and resilient urban future.

1. SDG Centre KL & SDG Plague:



SDG Plagues

2. ESG Centre KL



Progress Made Through Partnerships



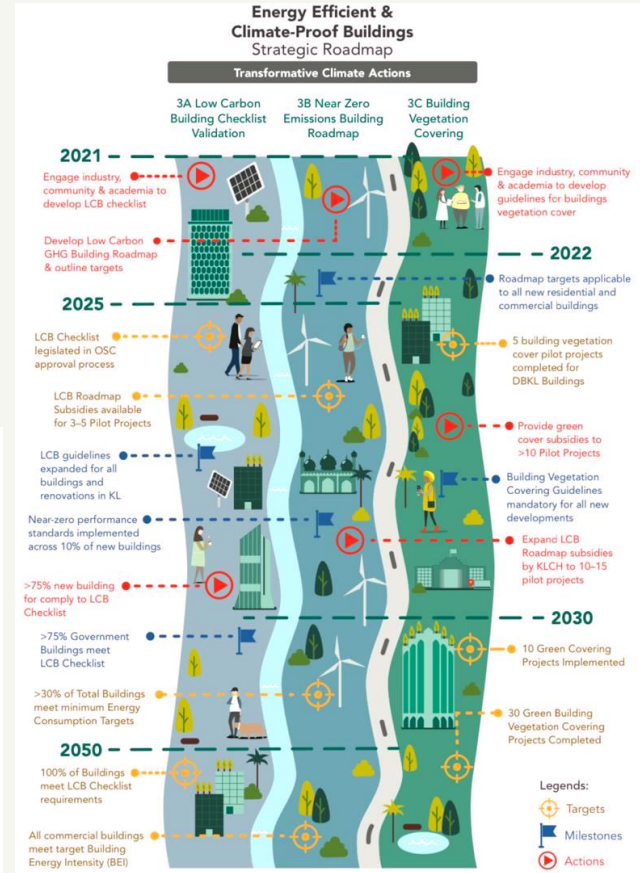
1. Urban Planning and Low-Carbon Infrastructure:



Figure 1 adopted KL CAP, this framework forms the basis of LCBC

Kuala Lumpur Low Carbon Building Checklist

Low carbon principles	KOD 00 Planning strategies
Compliance to Standards	1.1.1 The use of appropriate materials on the surface of the building roof and terrace
EE encouragement	1.1.2 Increase the green coverage requirements of buildings
RE integration	1.1.3 Enhanced green coverage on flat roof of existing building
Waste reduction	3.1.1 Best Management Practices (BMPs) at construction sites
Monitoring & evaluation	Kod 01 Passive Strategies
	1.2.1 Building envelope minimum requirement (heat conduction)
	1.2.2 Enhanced building envelope for existing building
	1.2.3 Heat gain reduction from direct solar radiation
	1.2.4 Maximized daylighting zone
	1.2.5 To encourage the use of natural ventilation
	1.3.1 Implementation of rainwater harvesting
	1.3.2 Savings on the use of treated water
	1.3.3 Increase the use of water in existing buildings
	1.3.4 Reuse of building materials for redevelopment projects
	Kod 02 Active strategies
	2.1.1 Energy efficient air conditioning system
	2.1.2 Conversion to energy efficient air conditioning
	2.1.3 Energy Efficient Lighting System
	2.2.1 Conversion to energy efficient lighting
	2.3.1 Installation of renewable energy system
	2.3.2 Implementation of Net Energy Metering (NET) for Solar Panel (PV-Photo Voltaic) Systems
	2.3.3 BEI (Building Energy Index) calculation for low-carbon green buildings
	Kod 04 Low Carbon Components
	4.1.1 Sustainable Domestic Waste Management
	4.2.1 (BEMS - Building Energy Management System)
	4.2.2 Smart and central building data collection
	4.2.3 Green building user manual



2. Renewable Energy Initiatives:



IKEA Cheras



KLCC

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



Pasar Keramat-KLCH



TLK TAMAN METROPOLITAN KEPONG



PV Street Lights-Bukit Jalil

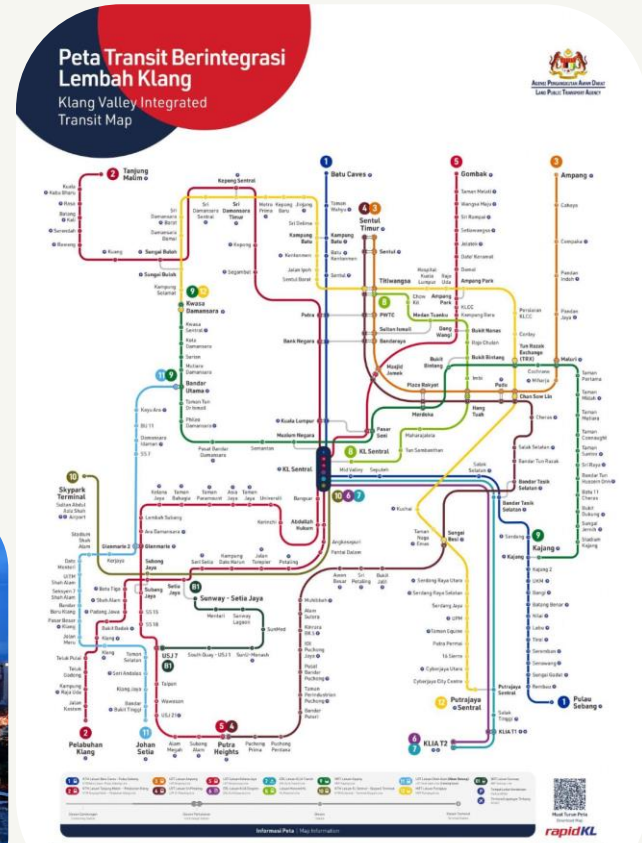
3. Green Mobility and Sustainable Transport:

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 6:42 pm / 5 comments



Kuala Lumpur has achieved a CO2 emission reduction of approximately **117.00 tons in 2024**, representing a **59% decrease** compared to conventional diesel buses.



4. Recognition and Leadership:



Tokyo- Kuala Lumpur Collaboration Wins 2022 C40 Cities Bloomberg Philanthropies Award!



COP28 UAE

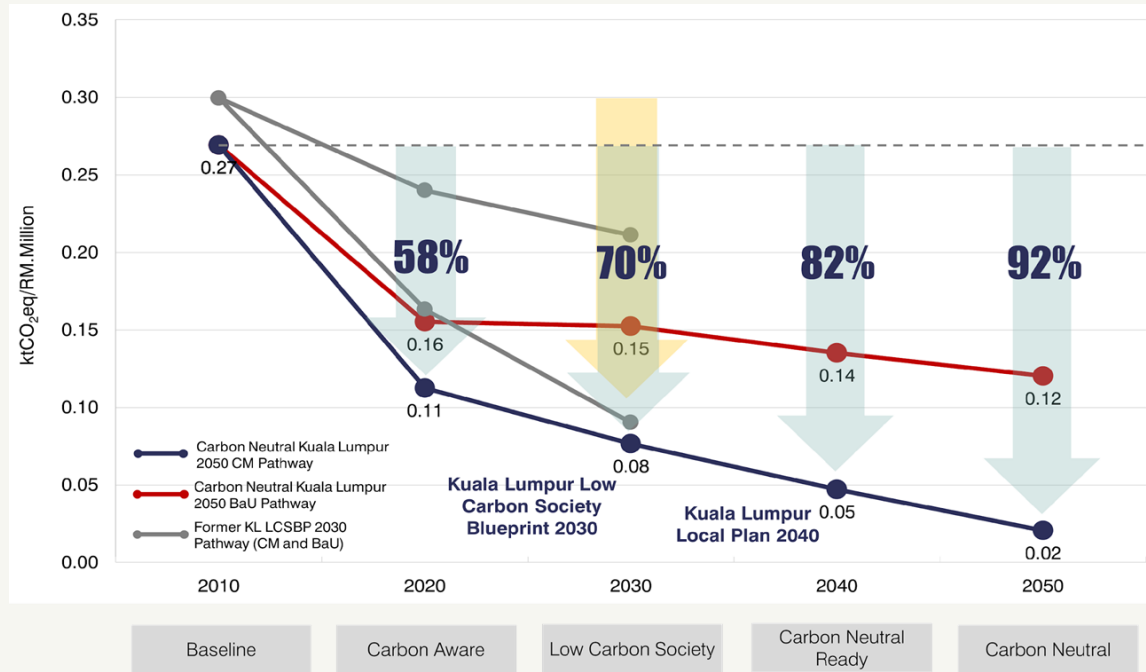
A Film Showcasing the City-to-City Collaboration with Kuala Lumpur City Hall



Future Perspectives

01

Accelerating Adoption of Zero-Carbon Standards



Future Perspectives

02

Expanding Green Initiatives



KLCC Park

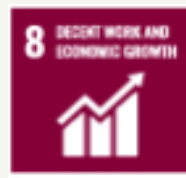


KL Pocket Park

Future Perspectives

03

Expanding Sustainable School Programme



Virtual Student Exchange Program - Discussion on the application of energy efficiency to promote energy savings and low-carbon projects.



Fujimigaoka High School : Discussion on Malaysian culture and the execution of sustainability projects in educational institutions.

Future Perspectives

04

Aligning with Global Goals

PARIS AGREEMENT GOALS

Adaptation: Addressing and reducing vulnerability to climate change

Goal 1: Increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low-GHG development, in a manner that does not threaten food production.

Mitigation: Reducing emissions to limit global temperature increase

Goal 2: Hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.

Finance: Making finance flows consistent with climate goals

Goal 3: Make finance flows consistent with a pathway towards low-GHG emissions and climate-resilient development.



Future Perspectives

05

Strengthening International Partnership



Way Forward



KUALA LUMPUR ZERO WASTE ROADMAP

2024

KUALA LUMPUR CITY HALL TOWARDS ZERO WASTE

- Domestic waste diversion
- Enforcement of single-use plastics and polystyrene
- Recycling and composting initiatives
- FGD with Departments in DBKL
- Data collection (DBKL)
- Action plan (DBKL)

2025

LAUNCHING OF ROADMAP KUALA LUMPUR TOWARDS ZERO WASTE

- Launching of DBKL towards zero waste roadmap (2025)
- Implementation of action plan (2025-2026)
- Host International Zero Waste Day
- Circular Economy Implementation
- Recycling kiosk
- Eco Recycling Park

2026

IMPLEMENTATION OF ACTION PLAN

- Material recovery facility
- Recycling of C&D waste
- Waste to energy
- Composting of landscape waste
- Food waste diversion

2030

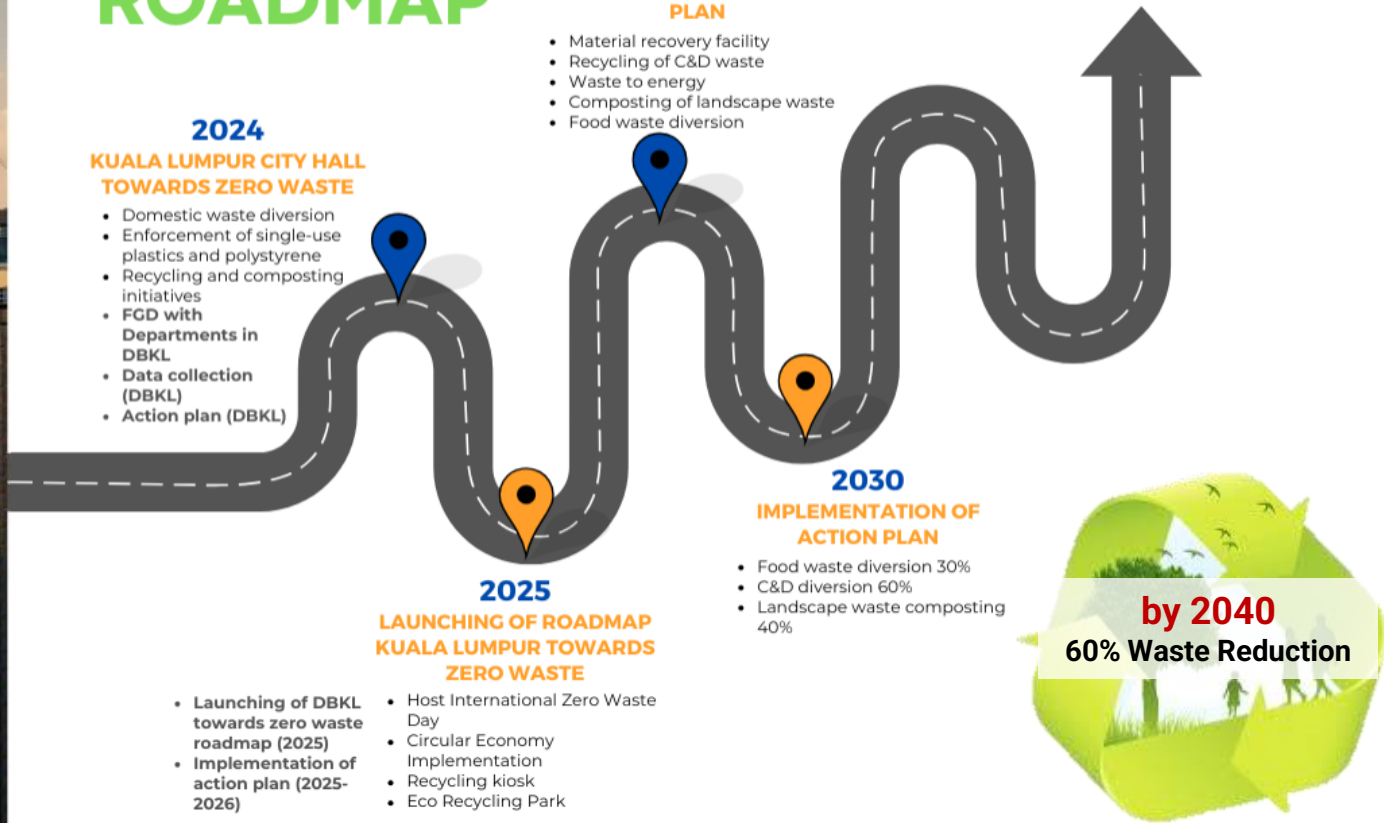
IMPLEMENTATION OF ACTION PLAN

- Food waste diversion 30%
- C&D diversion 60%
- Landscape waste composting 40%

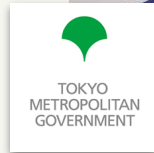
2040

KUALA LUMPUR ZERO WASTE

- Elimination of single-use plastics
- Renewable energy
- Kuala Lumpur Zero Waste City



Conclusion



Shared Vision for Sustainability
Innovative Approaches
Community and Policy Synergy
Scalable and Replicable Models

**CITY FOR ALL
NO ONE LEFT BEHIND**



Thank You