



IGES HIGH-LEVEL TALKS : TOWARDS SMART, ZERO CARBON & CLIMATE- RESILIENT CITIES IN KUALA LUMPUR

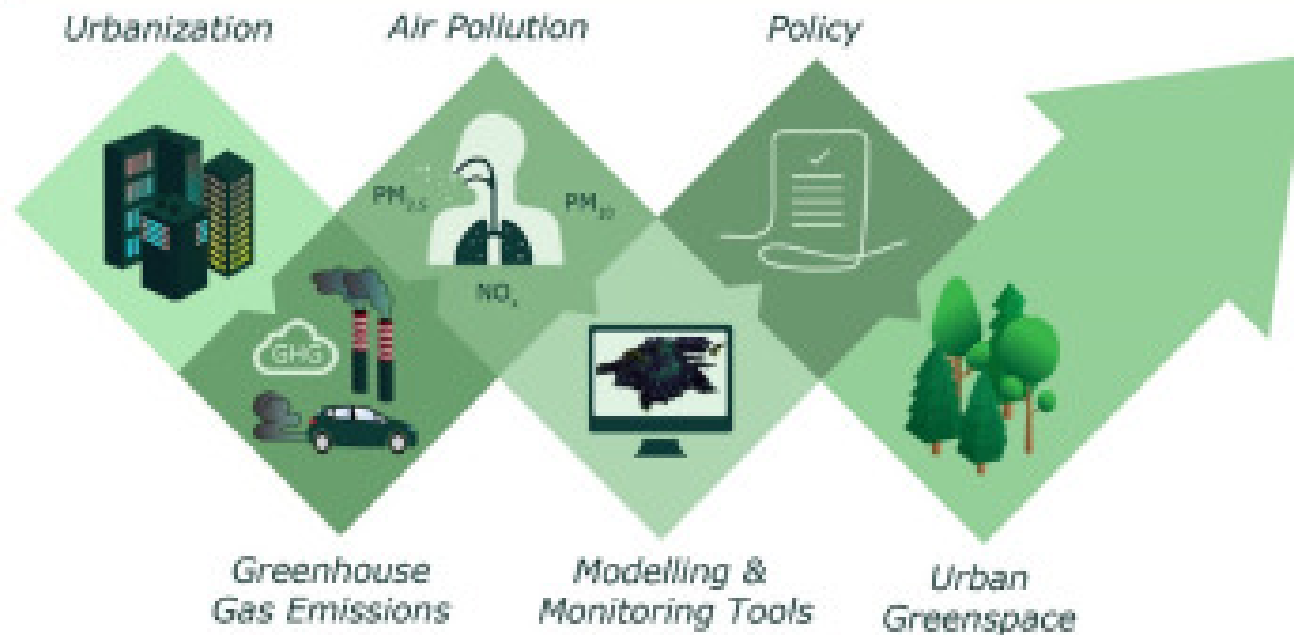
Datuk Sr. Hj. Kamarulzaman Bin Mat Salleh

Mayor of Kuala Lumpur,

Kuala Lumpur City Hall

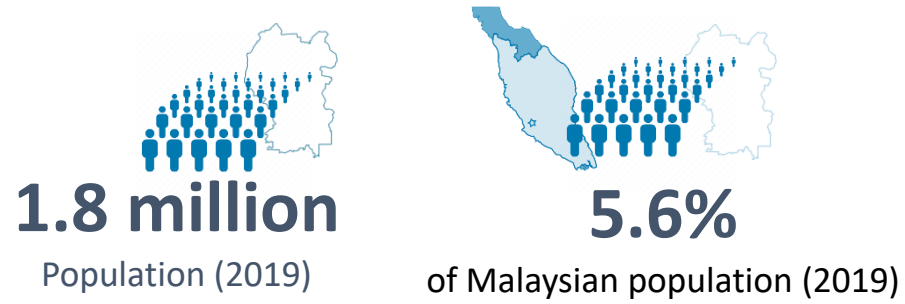
SMART, ZERO CARBON, CLIMATE – RESILIENT CITIES

Towards Sustainable and Net-Zero Cities

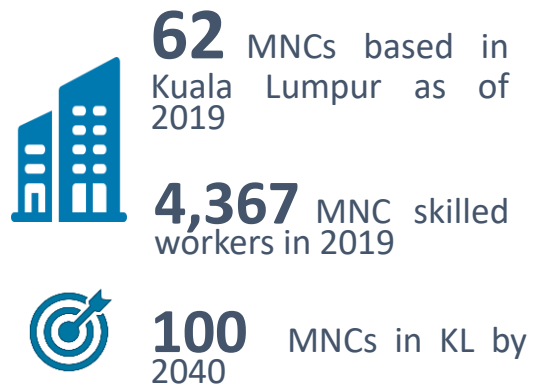


Smart, Zero-carbon, climate-resilient cities are ones where people live in communities where all necessities are within a short walk, bike ride, or public transport trip. They are filled with green spaces that are accessible to all and provide cool spaces for residents to escape the heat.

KUALA LUMPUR TODAY



Multinational Companies (MNCs)



Tourist Destination



Global Employment Hub



Global Positioning

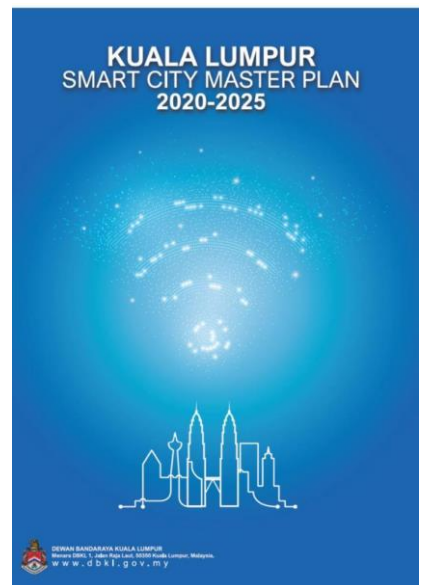
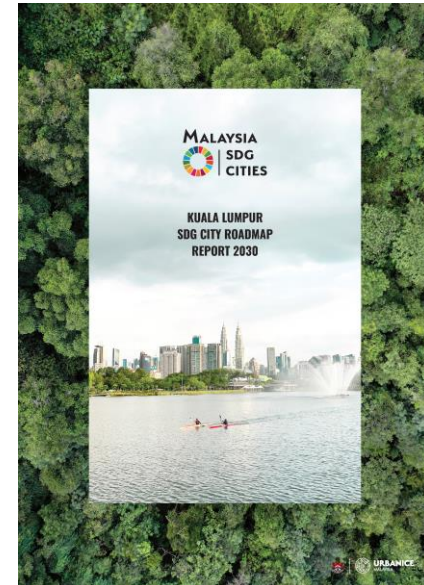
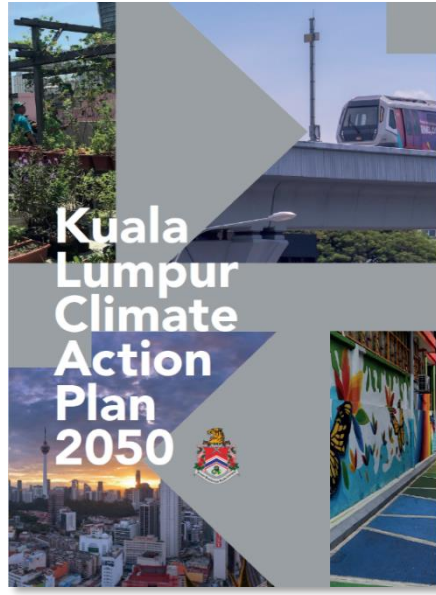
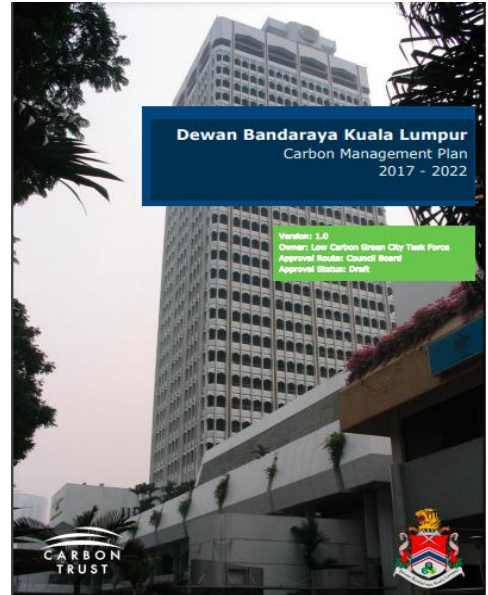
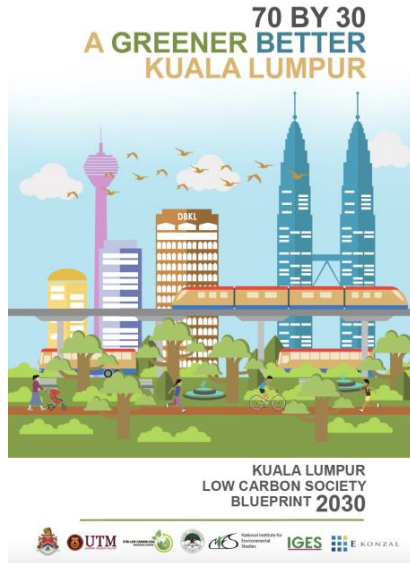


*Source: Draft of PSKL 2040

*Source: Draft of PSKL 2040



MASTER PLANS



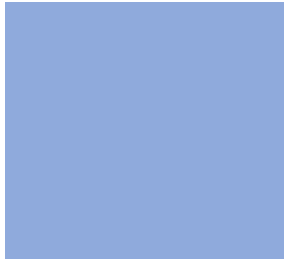
THE AREAS WE WORK IN ARE EXTREMELY DIVERSE



Security, reconstruction and peace



Environment and climate



Rural development



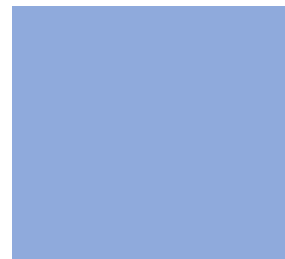
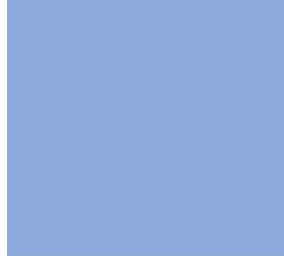
Sustainable infrastructure



Global health and social development



Economic development and employment



Governance and democracy



Digitalisation

EVOLUTION OF 'MAINSTREAMING' LOW CARBON DEVELOPMENT





Towards Carbon Neutrality 2050





KUALA LUMPUR LOW CARBON SOCIETY BLUEPRINT 2030

**70 BY 30
A GREENER BETTER
KUALA LUMPUR**

**KUALA LUMPUR
LOW CARBON SOCIETY
BLUEPRINT 2030**

Logos: UTM, National Institute for Environmental Studies, IGES, E KONZAL

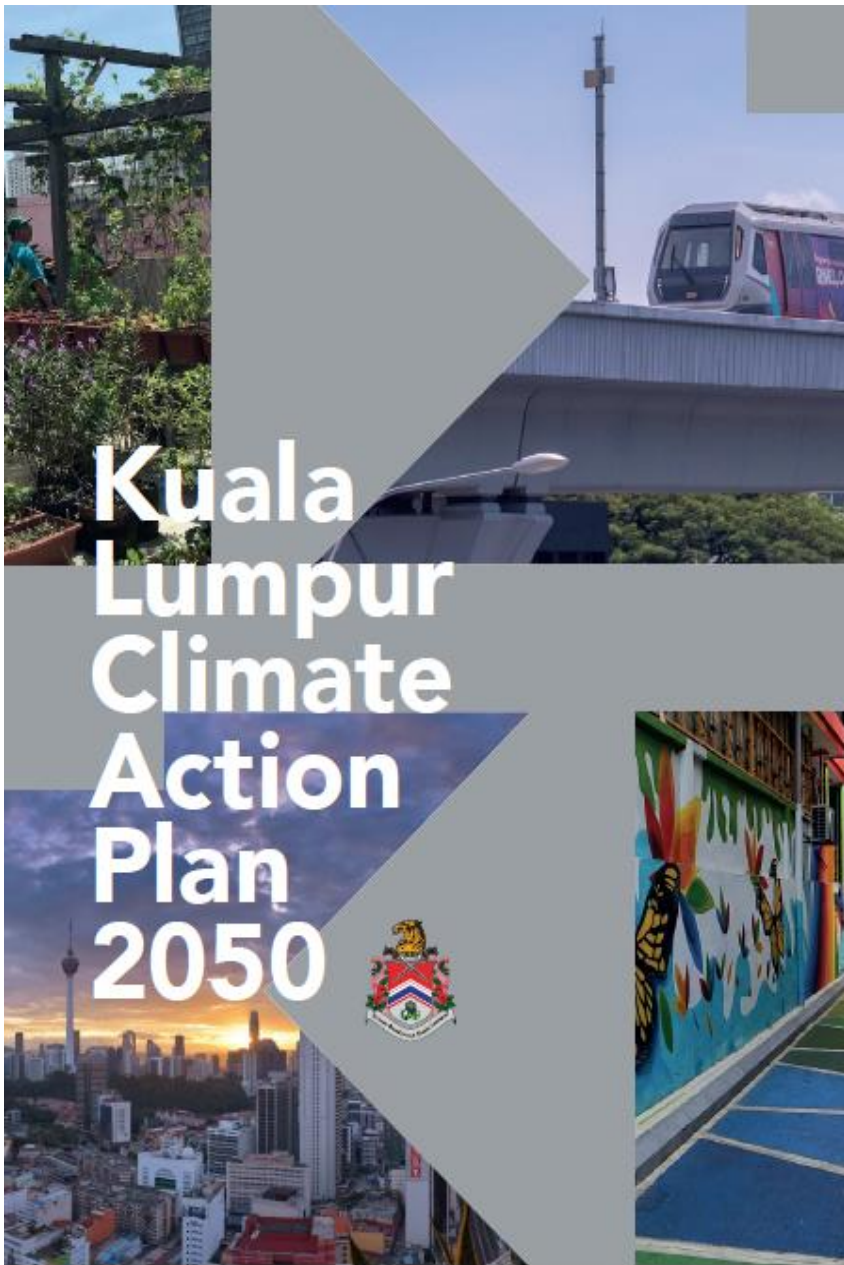
**70 BY 30 A
GREENER
BETTER
KUALA
LUMPUR**

**KUALA LUMPUR LOW CARBON SOCIETY BLUEPRINT 2030
SUMMARY FOR POLICYMAKERS 4th EDITION**

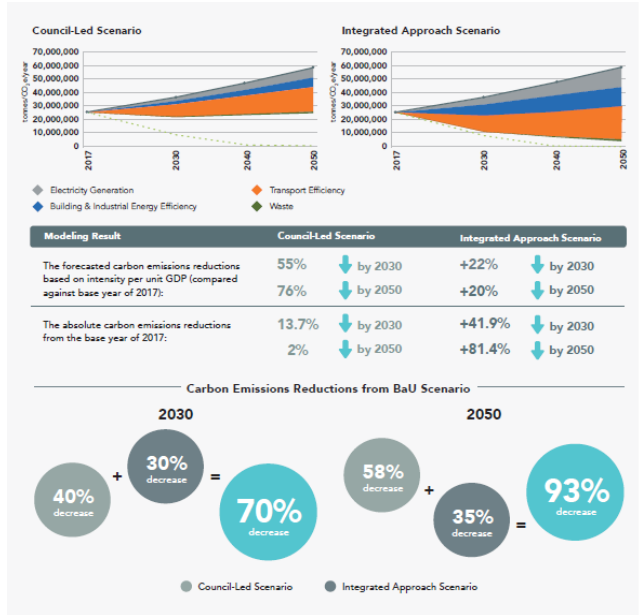
JULY 2018

Logos: UTM, National Institute for Environmental Studies, IGES, E KONZAL

Current Vision KLSP 2020 Draft KLCP 2020	WORLD CLASS CITY 2020		
LCS Vision for Kuala Lumpur	WORLD CLASS SUSTAINABLE CITY 2030 70 by 30: A Greener Better Kuala Lumpur		
Triple Bottom line of sustainability	Economy	Social	Environment
Thrusts	Thrust 1 Prosperous, Robust and Globally Competitive Economy	Thrust 2 Healthy, Creative Knowledgeable and Inclusive Community	Thrust 3 Ecologically Friendly Liveable and Resilient Built Environment
Sustainable Development Goals 2030	Goals: 1,2,7,8,9,11,12,13,17	Goals: 3,4,5,10,11,12,13,16,17	Goals: 6,11,13,14,15,17
New Urban Agenda Transformative Commitments	Sustainable and Inclusive urban prosperity and opportunities for all	Sustainable urban development for social inclusion and ending poverty	Environmentally sustainable and resilient urban development
Key Principles Draft KL City Plan 2020	World-class Business Environment	World-class Working Environment	World-class Living Environment
KL Low Carbon Society Actions	World-class Governance		
	Green Growth	Community Engagement and Green Lifestyle	Low Carbon Green Buildings
	Energy Efficient Spatial Planning		Green and Blue Network
	Green Mobility		Sustainable Waste Management
	Sustainable Energy System		Sustainable Water and Wastewater Management
Green Urban Governance			



Kuala Lumpur Climate Action Plan 2050



EMISSIONS NEUTRAL
Develop a pathway to deliver an emissions neutral city by 2050 and set an ambitious interim target for 2030

GOVERNANCE & COLLABORATION
Detail the governance, powers and the partners to engage in order to accelerate the delivery of the city's mitigation targets and adaptation goals



RESILIENCE TO CLIMATE HAZARDS
Demonstrate how the city will adapt and improve its resilience to the climate hazards that will intensify over time

INCLUSIVITY AND BENEFITS
Outline the social, environmental and economic benefits expected from implementing the plan, and ensure the equitable distribution of these benefits



DBKL has identified that strong partnerships and collaborations with stakeholders are crucial across all key sectors to ensure that these ambitious targets will be achieved.

IMPLEMENTATION

- Develop Low Carbon GHG Building Roadmap & outline targets
- Roadmap targets applicable to all new residential and commercial buildings
- LCB Roadmap Subsidies available for 3–5 Pilot Projects
- Near-zero performance standards implemented across 10% of new buildings
- Expand LCB Roadmap subsidies by KLCH to 10–15 pilot projects
- >30% of Total Buildings meet minimum Energy Consumption Targets
- All commercial buildings meet target Building Energy Intensity (BEI)





SUPPORTING KUALA LUMPUR'S CLIMATE ACTION PLANS

Energy Efficient Retrofitting: Reducing greenhouse gases by improving the energy performance of 27 public buildings in Kuala Lumpur

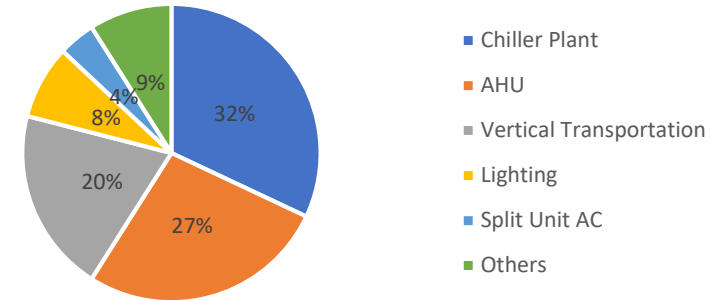
District Cooling System: Improving the energy efficiency of DBKL Tower 1 and Tower 2 through a river water-based District Cooling System.

Low Carbon Buildings:

- 1) Implementing a Low Carbon Building Checklist
- 2) Energy Efficiency and Renewable Energy Plan and Actions towards Net Zero Emission Buildings



Load Apportioning for DBKL (Tower 1)



District Cooling System Pilot (DBKL Tower 1+2)

Financing	Benefits*
Expected investment volume: EUR 2.5 million Financing instrument: City budget	CO ₂ emissions reductions: 1,680 t annually Operational costs saving: RM 1.9 million Reduced Electricity Demand: 2,128 MWh annually* (37%) Jobs created: 50 job years, 68% in KL itself

*Preliminary benefits assessment by C40, May 2023

District cooling system, schematic representation

- > Improving energy efficiency of two public buildings by implementing a District Cooling System (DCS) thereby reducing air conditioning usage and electricity consumption.
- > **Prove financial viability** of DCS by retrofitting older buildings (pilot project for Malaysia)
- > Potentials for **upscaling** and public sector **replication**

Renewable energy and energy performance of 27 public buildings

Financing	Benefits*
Expected investment volume: EUR 7.5 million + EE Financing Instrument: Public-Private-Partnership	CO ₂ emissions reductions: 11,016 t annually (RE) + EE Operational costs saving: RM 7 million from electricity usage (add. savings by EE) Electricity Generation: 14,045 MWh annually* Jobs created: 255 job years, 80% in KL itself

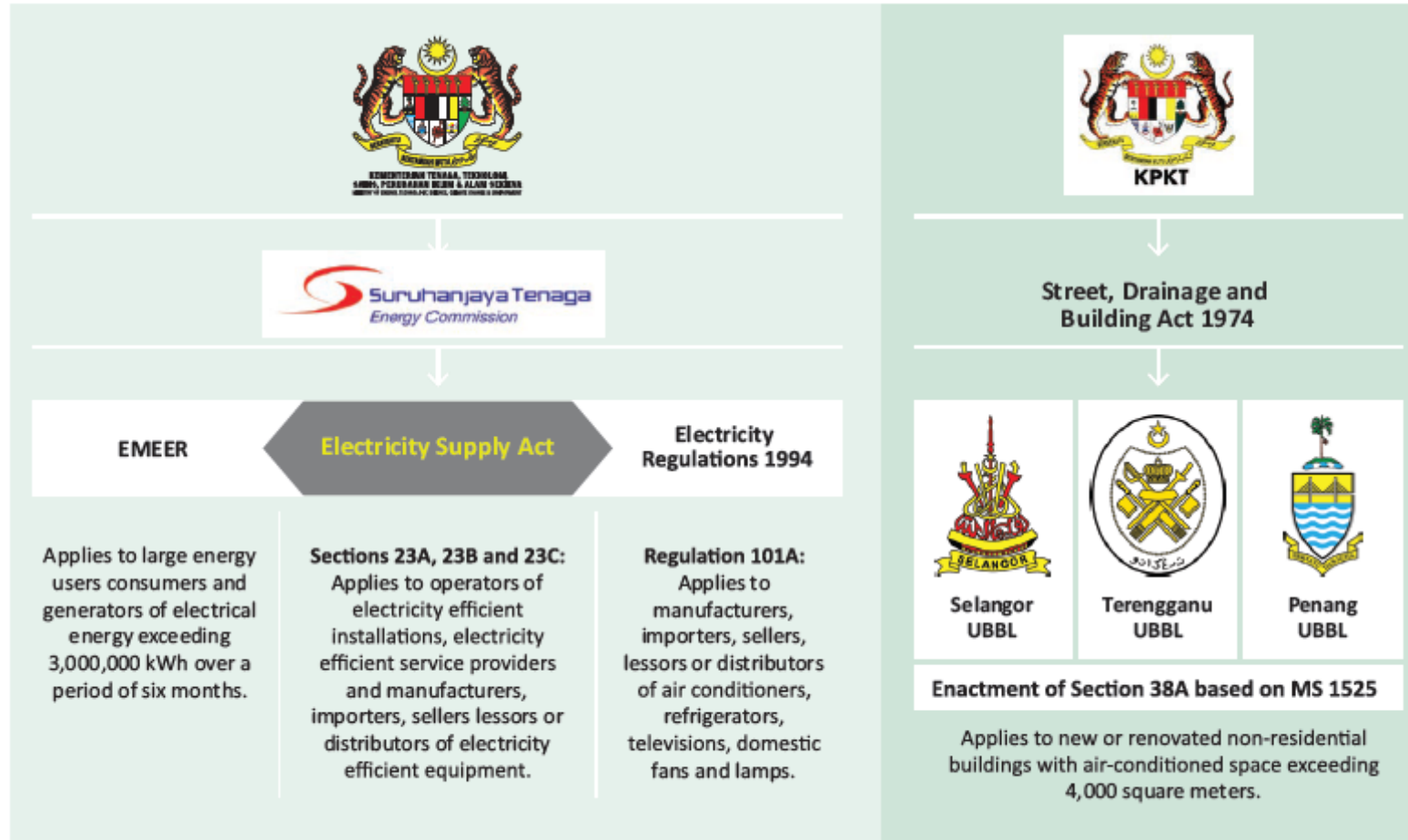
*Preliminary benefits assessment by C40, May 2023

Public building in Kuala Lumpur

- > Renewable energy and energy efficiency measures on **27 public buildings**
- > Proving **viability of national policy** for PV installation (30% of rooftop size)
- > Developing a **cost-competitive business model** for RE/EE with significant scale-up and replication potential in Kuala Lumpur and Malaysia



UBBL 2021 and MS 1525 : 2019 Energy Efficiency and Use of Renewable Energy for Non-Residential Buildings - Code of Practice (Third Revision)



WARTA KERAJAAN PERSEKUTUAN
31hb Dis. 2021] 23599

Undang-undang kecil baru 38A dan 38B

28. Undang-Undang Kecil ibu dipinda dengan memasukkan selepas undang-undang kecil 38 undang-undang kecil yang berikut:

“Kecekapan tenaga di dalam bangunan

38A. (1) Suatu bangunan bukan kediaman yang baru atau diubah suai dengan ruang penyaman udara melebihi 4,000 meter persegi—

(a) hendaklah direka bentuk bagi memenuhi kehendak-kehendak PM 1525 berkenaan dengan *Overall Thermal Transfer Value* (OTTV) dan *Roof Thermal Transfer Value* (RTTV); dan

(b) hendaklah disediakan dengan suatu Sistem Pengurusan Tenaga.

(2) Bumbung bagi semua bangunan (kediaman dan bukan kediaman) hendaklah mempunyai suatu kepancaran arus udara panas (*U-value*) yang tidak melebihi—

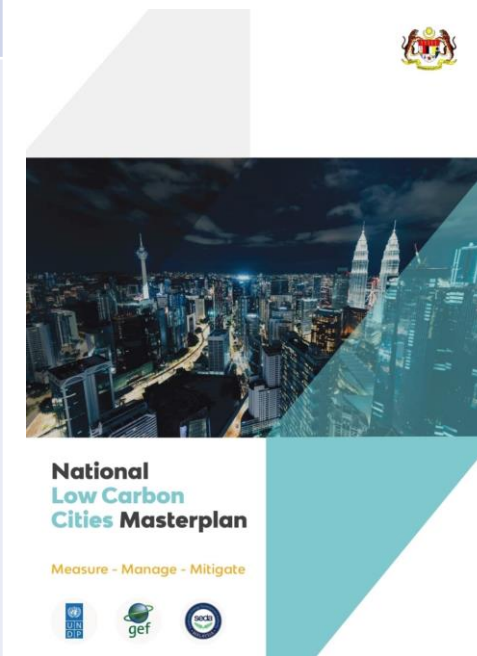
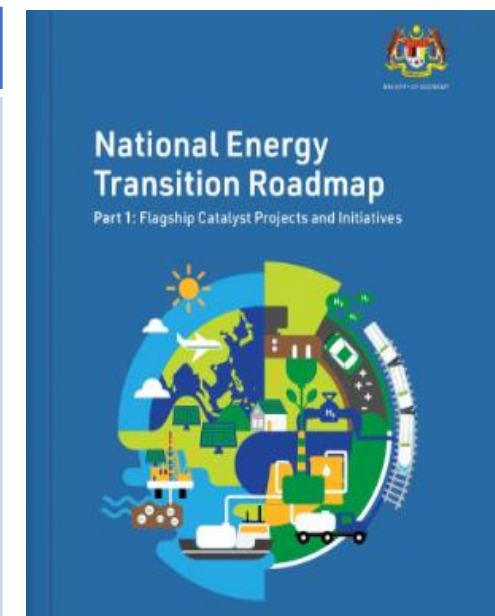
(a) 0.4 W/m²K bagi suatu bumbung bebanan ringan (di bawah 50 kg/m²); dan

(b) 0.6 W/m²K bagi suatu bumbung bebanan berat (50 kg/m² atas),

melainkan dengan cara teduhan atau penyejukan yang lain yang disediakan.



LOW CARBON 2030 AN NEUTRAL CARBON 2050		
Policies & Regulatory	<ol style="list-style-type: none"> 1. Energy Commission Act 2001 2. Electricity Supply Act 1990 3. Electricity Regulations 1994 4. Renewable Energy Regulations 2011 5. Distribution Code 2017 6. Guideline on Solar PV, Act A1501 	<ol style="list-style-type: none"> 1. Electricity Supply Act 1990 2. Electricity Regulations 1994 3. Distribution Code 4. TNB Electricity Supply Application Handbook 5. IEC & ISO 50001:2011 6. MS 1525:2019 7. National EE Action Plan & Green Tech Master Plan 8. UBBL 2021
National Energy Policy, DTN 2022-2040	<p>A7 – Solar Recourse (VPPA)</p> <p>A9 – New Energy Resources (Solar Thermal & Hybrid Battery)</p> <p>C4 – Business Platform To Access RE In Line With ESG (VPPA)</p> <p>E1 – Contribute Toward National Energy Council</p> <p>E2 – National Level Priorities</p>	<p>A10 – Demand Side Management In Industry (ESCO)</p> <p>A11 – Demand Side Management In Residential & Commercial (EPC)</p> <p>A12 – Scaled Up Demand Size (EEC & EACG)</p> <p>C2 – Carbon Reporting</p> <p>B6 – Power System (VRE & EV)</p>





Partnership towards Sustainability

PARTNERS & COLLABORATORS

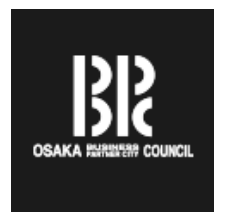
NATIONAL



PETRONAS



INTERNATIONAL



KL'S Call For Action - RECOGNITION



Global City Network for Sustainability G-NETS

Connecting cities, Creating a better future



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



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



KL'S Call For Action - COLLABORATION



Saitama City Visit Kuala Lumpur August 2023



Saitama Courtesy Call with KL Mayor Aug, 2023



KL Ambassador Tour 2023

Embassies from the 13 countries involved are Sweden, Norway, Argentina, Belgium, Turkey, Italy, France, Australia, British, Brazil, New Zealand and Mexico.



SDG CENTRE KUALA LUMPUR



Kuala Lumpur City Hall (DBKL) in collaboration with Pacific Northwest National Laboratory (PNNL) and Universiti Teknologi Malaysia (UTM) for Exploring Pathways To A Carbon Neutral Kuala Lumpur 2050



Austria



Partnership For Healthy Cities Summit London 2023



Urban Planning and Waste Management in Kuala Lumpur and Liberia.



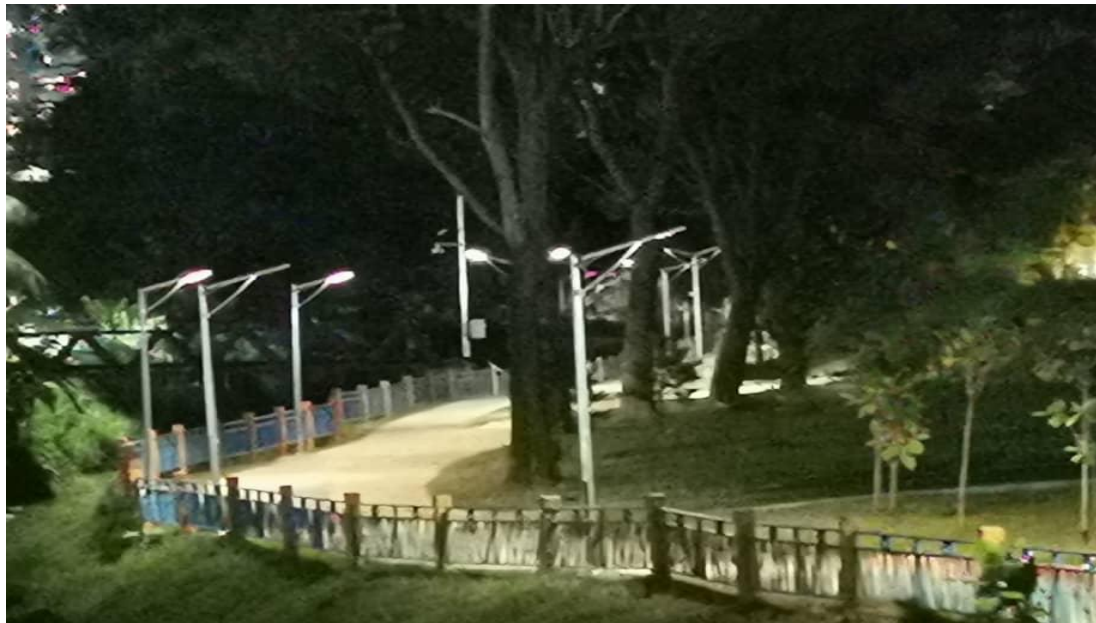
Green Initiatives

EE & SOLAR PV DBKL



WANGSA MAJU CARBON NEUTRAL GROWTH CENTRE

– SOLAR PANEL (RE) INITIATIVES



PRIVATE SECTOR



CITIES FINANCE FACILITY (CFF) - INITIATIVES



27 Public building in Kuala Lumpur



- > Renewable energy and energy efficiency measures on **27 public buildings**
- > Proofing **viability of national policy** for PV installation (30% of rooftop size)
- > Developing a **cost-competitive business model** for RE/EE with significant scale-up and replication potential in Kuala Lumpur and Malaysia

	TG 1 Energy Efficiency	TG 2 Renewable Energy	TG 3 District Cooling System
Output 1 (Capacity Development)	✓	✓	✓
Output 2 (Institutional & Legal Assessment)	According to existing guideline & bylaw		✓
Output 3 (Techno-economic assessment of project)	✓	✓	✓
Output 4 (Finance Investment)	✓ (EPC - ESCO)	✓ (Leasing)	DBKL internal financing
Output 5 (Project Roll-out, Monitoring and O&M)	✓	✓	Building plant construction require longer approval stage



Expected investment volume:
starting at **EUR 2 million**



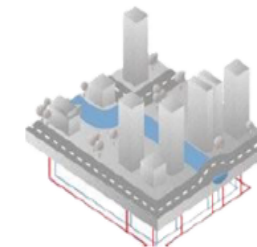
Financing source:
City budget



CO₂ emissions reductions:
3,380t annually



Financing instrument:
Various models conceivable



District cooling system,
schematic representation

- > Improving energy efficiency of two public buildings by implementing a District Cooling System (DCS) using the nearby Gombak River, thereby reducing air conditioning usage and electricity consumption
- > **Prove financial viability** of DCS by retrofitting older buildings (pilot project for Malaysia)
- > Potentials for **upscaling** and public sector **replication**



Expected investment volume:
exceeding at **EUR 7.5 million**



CO₂ emissions reductions:
8,700t annually (RE) + (EE)



Financing source:
Private sector (city budget,
guarantees, etc.)



Financing instrument:
Public-Private-Partnership



PRIVATE SECTOR-TRX City LOW CARBON EFFORTS

TRX Aligns with the following UN Sustainable Development Goals:

<p>GOAL 5 GENDER EQUALITY</p> <p>Achieve gender equality and empower all women and girls</p>	<p>GOAL 6 CLEAN WATER AND SANITATION</p> <p>Ensure availability and sustainable management of water and sanitation for all</p>	<p>GOAL 7 AFFORDABLE AND CLEAN ENERGY</p> <p>Ensure access to affordable, reliable, sustainable and modern energy for all</p>	<p>GOAL 8 DECENT WORKS AND ECONOMIC GROWTH</p> <p>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>
<p>GOAL 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> <p>Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation</p>	<p>GOAL 11 SUSTAINABLE CITIES AND COMMUNITIES</p> <p>Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>GOAL 12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> <p>Ensure sustainable consumption and production patterns</p>	<p>GOAL 13 CLIMATE ACTION</p> <p>Take urgent action to combat climate change and its impacts</p>



TRX City is excited to be part of the C40 Cities Climate Leadership Group visit and will continue to work with DBKL in shaping a sustainable and resilient Kuala Lumpur.

At TRX, we are conscious of the impact of our operations on the environment, our employees, and the communities we serve. The TRX EESG framework outlines our approach in managing our impact:

ECONOMY	Adding value to the economy through TRX City Group's real estate value chain
ENVIRONMENTAL	Reduce environmental impact of operations and be proactive in the transition to a lower-carbon economy
SOCIAL	Ensure a productive and inclusive workforce and drive social impact
GOVERNANCE	Promote good governance and effective engagement with stakeholders



World Green Building Council Asia Pacific Leadership in Green Building Awards 2022

Award Winner

Leadership in Sustainable Design and Performance Award for Commercial Category for Menara IQ by HSBC Malaysia



ASEAN Federation of Engineering Organisations (AFEO) 2022

Award Winner

ASEAN Outstanding Engineering Achievement Award for Sewerage Treatment and Plant Design by TRX City Sdn Bhd



Platinum Provisional Certificate

First district in Malaysia to achieve GBI Township Platinum Provisional Certification



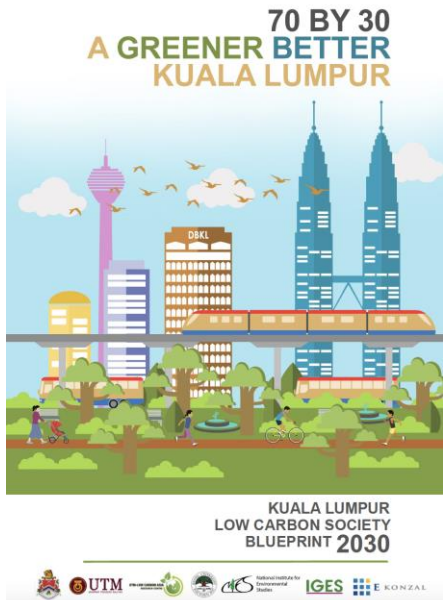
LEED (US) Green Building Council

Gold Pre-certified Plan

LEED Neighbourhood Development Gold Pre-certified Plan



MASTER PLANS – LOW CARBON CHECKLIST



OSCDBKL-P2-KM-01
BORANG SEMAK PENGEMUKAAN BORANG SERAGAM BANGUNAN RENDAH KARBON

BORANG SEMAK PENGEMUKAAN BORANG SERAGAM BANGUNAN RENDAH KARBON



Perhatian :

Sila rujuk *Panduan Pengemukaan Permohonan Kebenaran Perancangan* sebelum menyediakan dokumen dan pelan mengikut senarai semak ini. Pastikan dokumen dan pelan yang diperlukan adalah lengkap dan teratur.

Nota:

1. Borang ini terpakai untuk semua skala pembangunan.
2. Perunding Bertauliah adalah di kalangan perunding yang berdaftar, membuat pengiraan dan laporan serta memperakukan data-data Bangunan Rendah Karbon yang dikemukakan.
3. Pentafsiran kepada Bangunan berskala besar pada borang ini adalah semua bangunan di Wilayah Persekutuan Kuala Lumpur yang berketinggian 5 tingkat dan ke atas atau berkeluasan melebihi 1000 meter persegi dan bukannya skala besar seperti definisi Jawatankuasa Pusat Setempat OSC.

**KOD 1.0 REKABENTUK PASIF:
1.1 Prestasi 'Building Envelope' Yang Cepak**

PENERANGAN	KATAGORI BANGUNAN	DATA ASAS (BASELINE)	DATA SEBENAR DAN PEMBUKTIAN	SEMAKAN JABATAN	BERKAITAN Tandakan (f)
1.1.1. Keperluan minimum 'building envelope'	Bangunan baharu berskala besar (komersial) ruang	OTTV < 50 W/m ² (OTTV: Overall Thermal Transfer Value)	____ W/m ² (Pengiraan, pengesahan laporan berunding)	JKB	<input type="checkbox"/>

PLANTING MORE TREES



From 2010 until 2022, Kuala Lumpur has planted a total of 170,351 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 CO₂, the difference with 2014. The difference is equivalent to the planting of 2866 trees



KUALA LUMPUR URBAN FARMING



Community Farm at PPR Intan Baiduri



Community Farm at Flat Sri Perlis 2



Transportation & Mobility

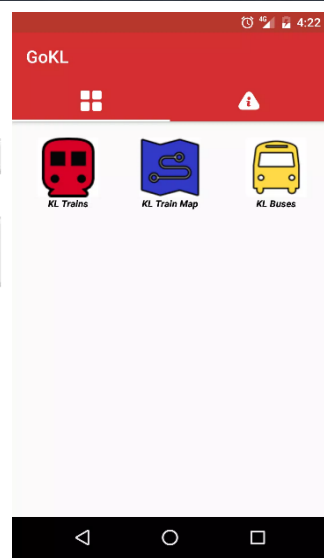
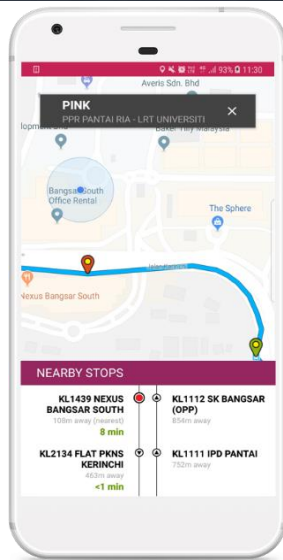
EV BUS : FIRST-MILE LAST-MILE CONNECTIVITY



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 6:42 pm / 9 comments

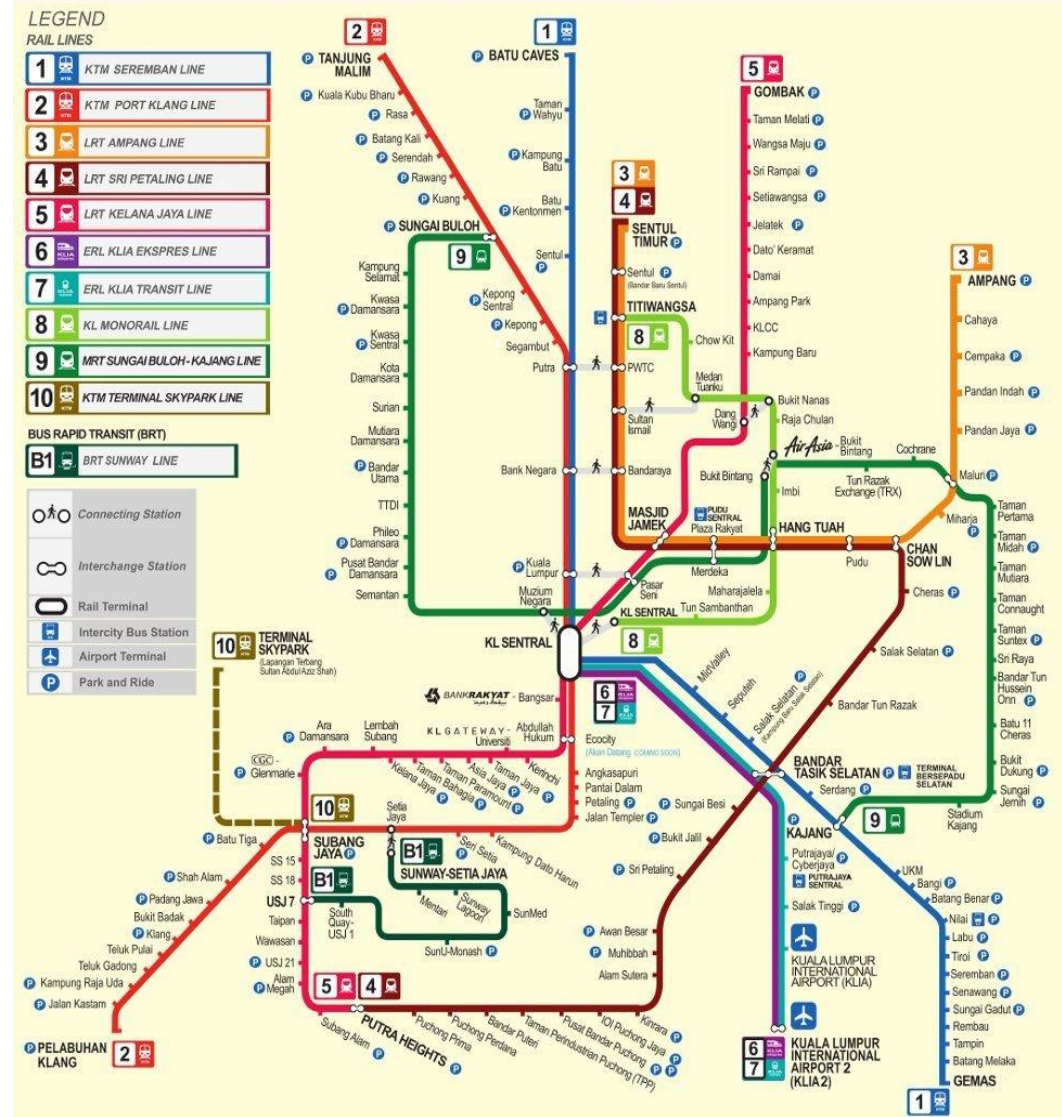
Since the use of EV GoKL Buses in 2022, Kuala Lumpur has reduced as much as 593 tonnes CO2 which is equivalent to 36 matured trees.





ELECTRIC TRAIN : FIRST-MILE LAST-MILE CONNECTIVITY

Klang Valley Integrated Transit Map



KL SENTRAL

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.



MASTER PLANS – ELECTRIC VEHICLES

CHARGING STATIONS

GREEN MOBILITY

The transportation sector has been one of the main contributors of carbon emissions in Kuala Lumpur. Thus, it is necessary for Kuala Lumpur to be greener and have a more efficient transportation system in order to stimulate growth, contribute to the CO₂ emission reduction and provide a better quality of life for Kuala Lumpur residents. It is in line with the National Policy on Climate Change which has encouraged development that promotes active mobility and the use of public transport in the city centre.

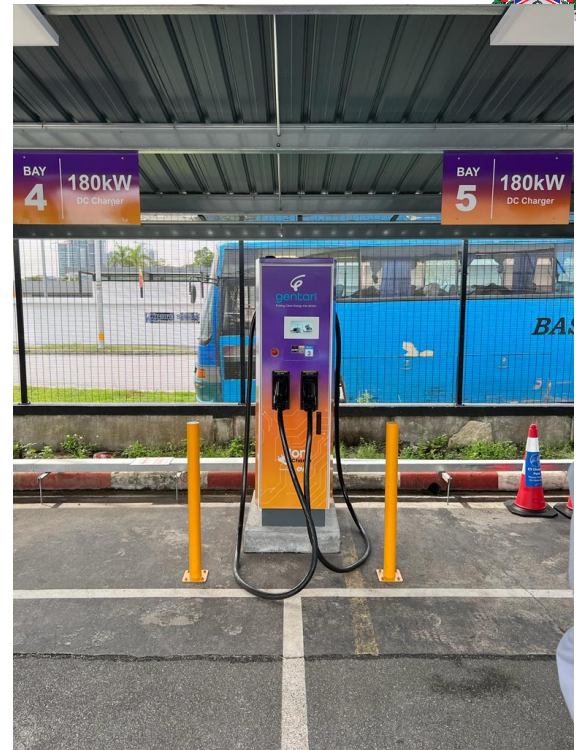
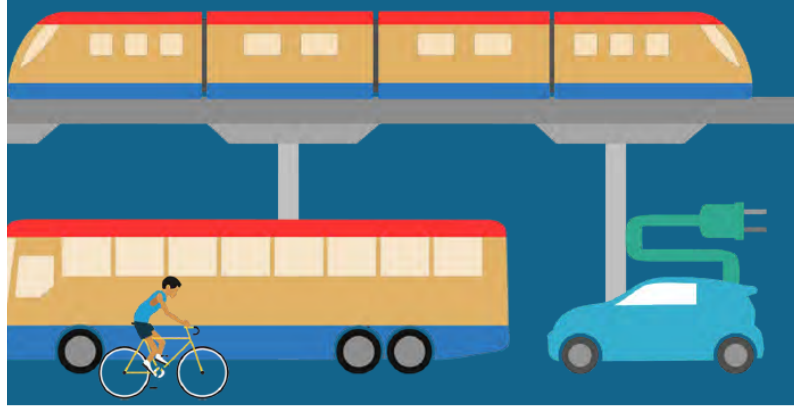
Green Mobility is about making transport convenient, easier, accessible and more efficient to get around in Kuala Lumpur. It is essential for Kuala Lumpur to venture into transportation development with a new technology and innovative solutions. These measures are extensive and investment-intensive, which can only be achieved through joint-efforts among stakeholders. Green Mobility, therefore, calls for KLCH to develop five sub-actions: (1) Active mobility, (2) Integrated public transportation, (3) Diffusion of low carbon vehicles, (4) Enhance traffic flow conditions and performance, and (5) Green freight transportation.

Why Green Mobility?

Green Mobility promotes affordable, efficient, and multiple choices of transport modes, which contribute to a vibrant economy.

Less Polluted Environment
Active mobility and green transportation mode will help reducing Kuala Lumpur CO₂ emission and leading to a stable climate future.

Money Saving
Using green mode of transportation can be more affordable than driving and can reduce the travel cost.





Building Communities

URBAN CLIMATE RESILIENCE PROGRAMME (UCRP)

Period : 3 Years, July 2023 to March 2026

Location : 2 selected communities facing heat and flooding risks

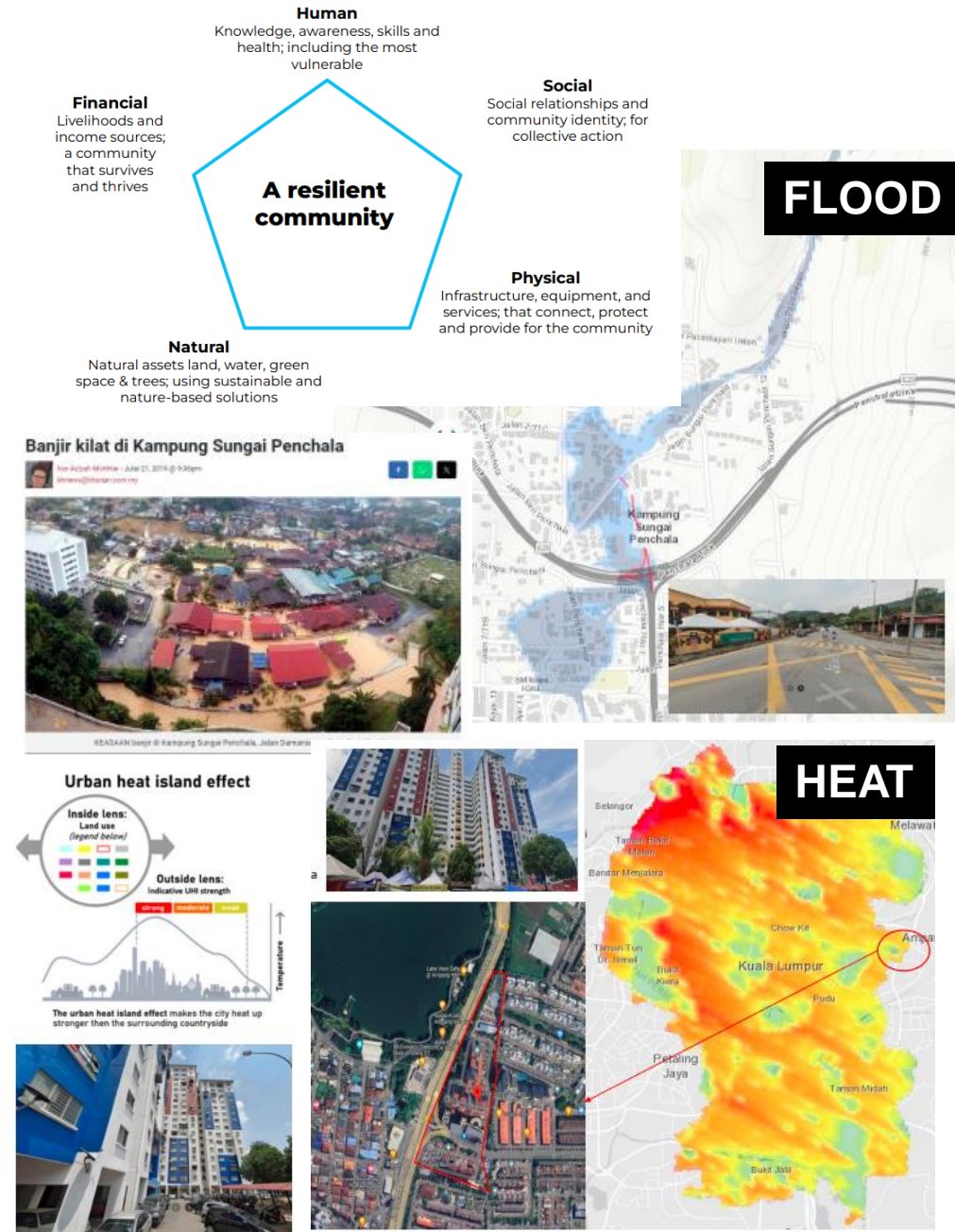
Key Activities

- Prepare and Baseline existing resilience capacity using Climate Resilience Measurement for Communities (CRMC) tool
- Vision & Action Planning to enhance community resilience
- Supporting implementation of community resilience actions
- Learning, Advocacy & Monitoring to share knowledge and sustain the programme in the long term

Impact : Observable and measurable changes in people's lives; overall resilience capacity of the city; and other programme benefits.

Collaboration with C40 Cities

Stakeholders : Related agencies, Local Communities dan NGOs



KUALA LUMPUR SUSTAINABLE SCHOOL PROGRAM



VISION : School communities embrace and practice sustainability culture towards achieving Kuala Lumpur Sustainable Community.

MISSION :

- To create knowledgeable, innovative and pro-active School Communities.
- To develop school communities in the process to establish the Kuala Lumpur Sustainable Community.
- To establish Sustainability Practice Icon among the School Communities .

GOALS : Strive to make school in Kuala Lumpur a Sustainable School

PILOT project : 15 Schools (9 primary, 6 secondary)

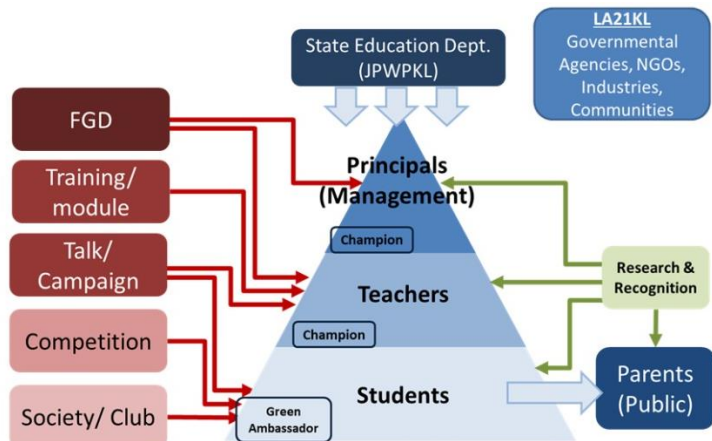


Figure 3.59: Model to inculcate carbon neutrality awareness to school community for KLCH



Children International Exchange Seminar On Climate Change Action And SDGs Initiatives: **Energy Efficiency And Renewable Energy** – Tokyo- KL 18 Nov 2023



SCHOOL PROGRAM INITIATIVES

Engagement with teachers



Smart Water Consumption and Management Programme.



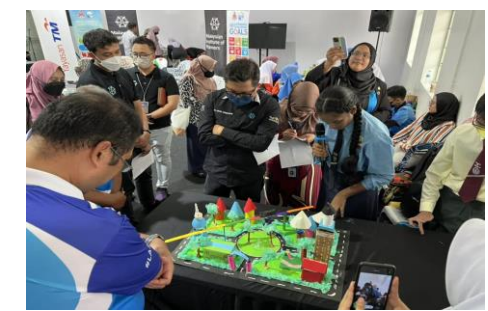
Schools Urban Farming



SDG Camps



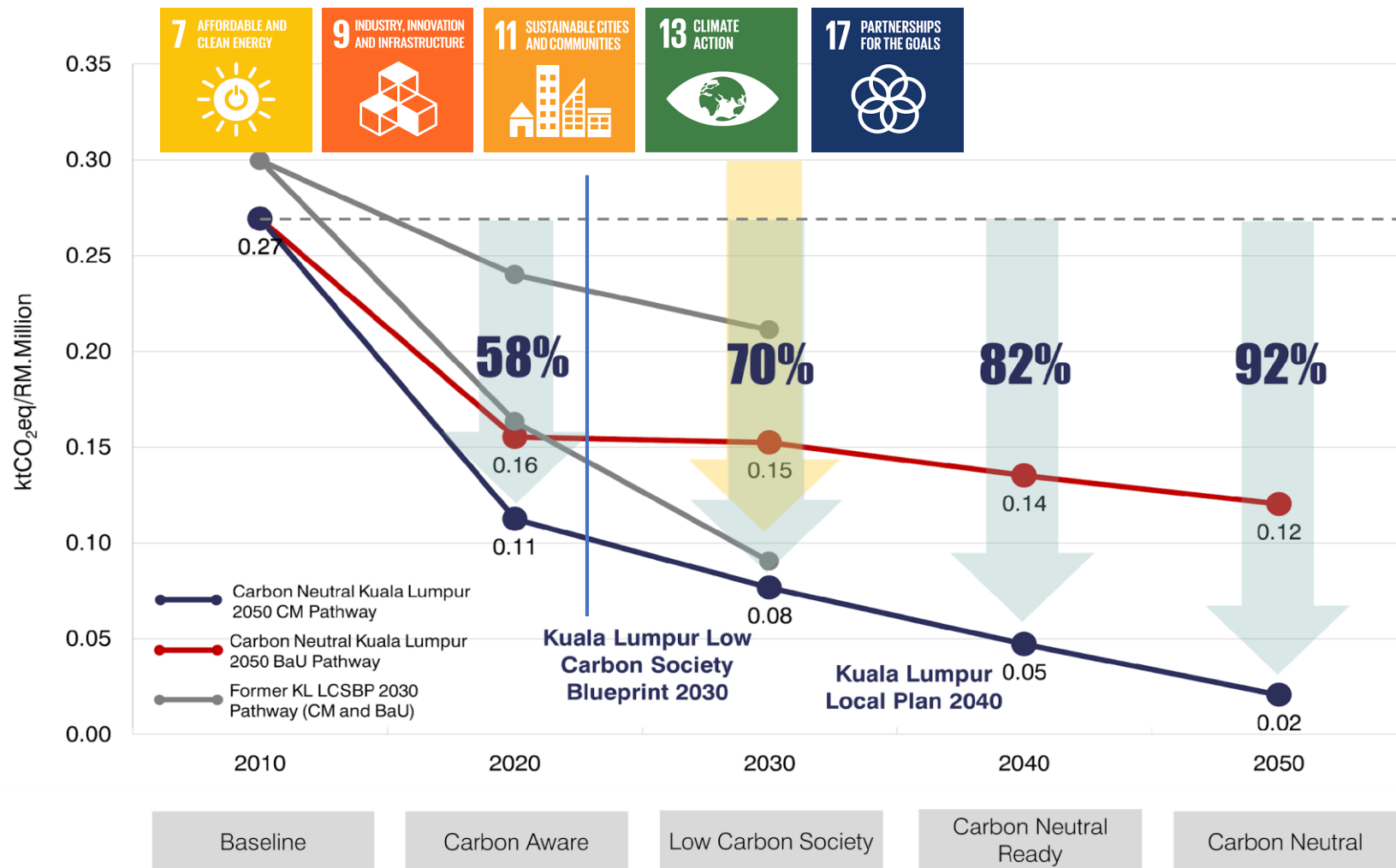
Students Placemaking – Low Carbon Cities





CARBON NEUTRAL KUALA LUMPUR BY 2050

Carbon Neutral Kuala Lumpur 2050 Scenario Pathway



Kuala Lumpur City Hall (KLCH)

Kuala Lumpur aims to become
Carbon Neutral Kuala Lumpur
by
2050



THANKYOU ♦ TERIMA KASIH



KUALA LUMPUR
CITY FOR ALL
VISIBILITY IS KEY