# 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.

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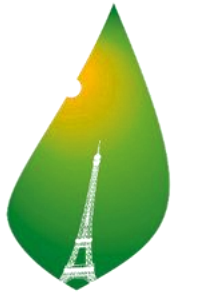
UTM UNIVERSITI TEKNOLOGI MALAYSIA

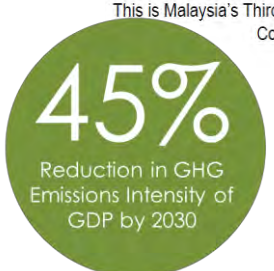
# Malaysia Commitment to the Paris Agreement (COP21 Paris) – Carbon Neutral 2050

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.***




This is Malaysia's Third Biennial Update Report submitted to the United Nations Framework Convention on Climate Change in December 2020.





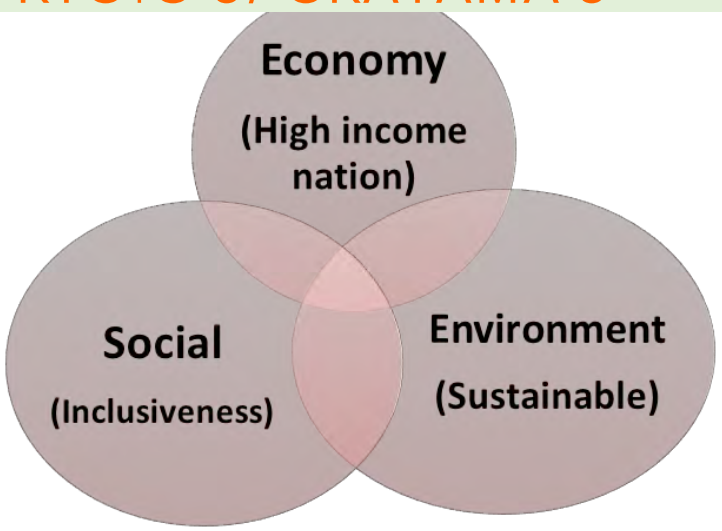
- To address climate **change across all** GHG emitting sectors, namely energy, transport, IPPU, waste management, agriculture, forestry and land use.
- **Collaborative efforts** among Federal, state and local governments as well as the **private sector and CSOs** will be intensified to support the **transition 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

Science (R&D) + Policies (LCS) = **Actions (LP or SP, NPP)**

R&D and UNIVERSITIES COLLABORATIONS
1) MALAYSIA JAPAN INSTITUTE TECHNOLOGY (MJIIT) 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




**Climate change Problems** ⟷ **Co-benefits of LCS policies**

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

UTM
UNIVERSITI TEKNOLOGI MALAYSIA
Malaysia-Japan International Institute of Technology (MJIIT)


# 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**

MJIIT 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.

MJIIT has many R&D on Green Engineering and Management of Technology related to climate actions and Disaster Risk managment

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

Development of
Low Carbon Scenarios for Asia Regions

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

Ho Chin Siong and Matsuoka Yuzuru

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

## Project Background


FLAGSHIP A
JOHOR BAHRU CITY CENTRE
- Central Business District (CBD) as heritage and cultural city
- Customs, Immigration and Quarantine Complex (CIQ)
- Johor – Singapore Causeway

FLAGSHIP B
NUSAJAYA
- Kota Iskandar
- EduCity
- Medical Park
- International Destination Resort
- Southern Industrial & Logistics Clusters (SILC)
- Pulai Harbour

FLAGSHIP C
WESTERN GATE DEVELOPMENT
- Port of Tanjung Pelepas (PTP)
- Tanjung Bin Power Plant
- 2nd Link Access to Singapore
- RAMSAR World Heritage Park
- Tanjung Piai – Southernmost Tip of Mainland Asia
- Maritime Centre

FLAGSHIP D
EASTERN GATE DEVELOPMENT
- Tanjung Langsat Industrial Complex
- Johor Port
- Tanjung Langsat Port
- Pasir Gudang Industrial Park

FLAGSHIP E
SENAI-SKUDAI
- Senai Airport City
- Senai High-Tech Park
- Sedenak Industrial Park
- MSC Cyberport City
- Johor Technology Park
- University Technology Malaysia (UTM)

Site: Iskandar Malaysia

(Iskandar Regional Development Authority)

Objective:

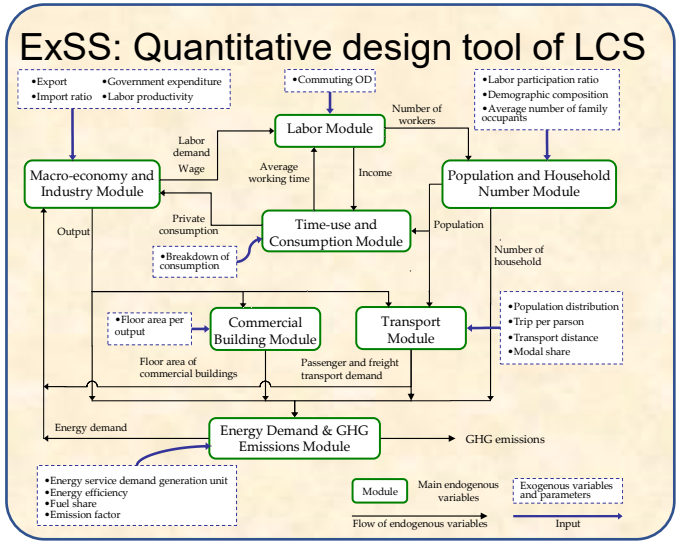
i. To draw up **key policies and strategies** in guiding the development of Iskandar Malaysia in **mitigating carbon emission**. *Transforming Iskandar Malaysia into* ***a sustainable low carbon metropolis by adopting green growth strategies/roadmap.***

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

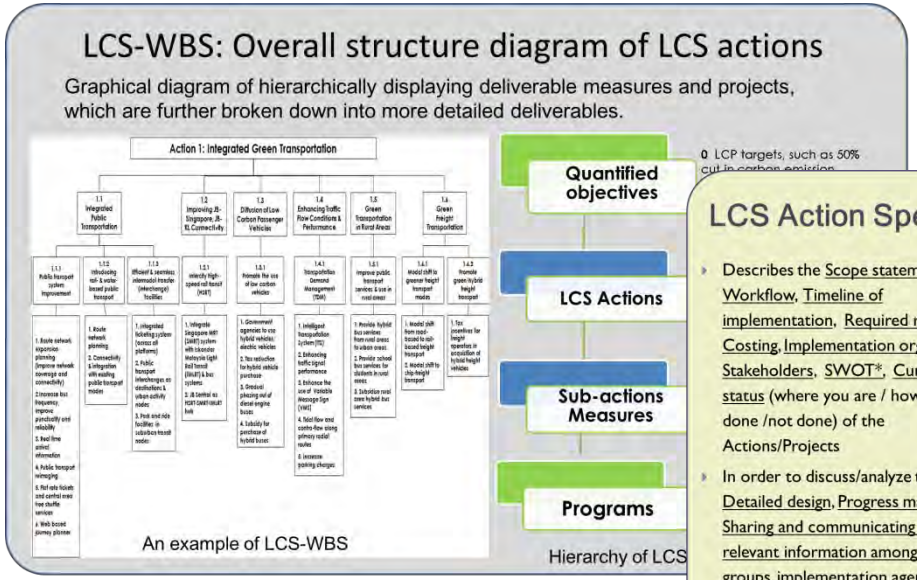
Target Year: 2025 (2005 – 2025)

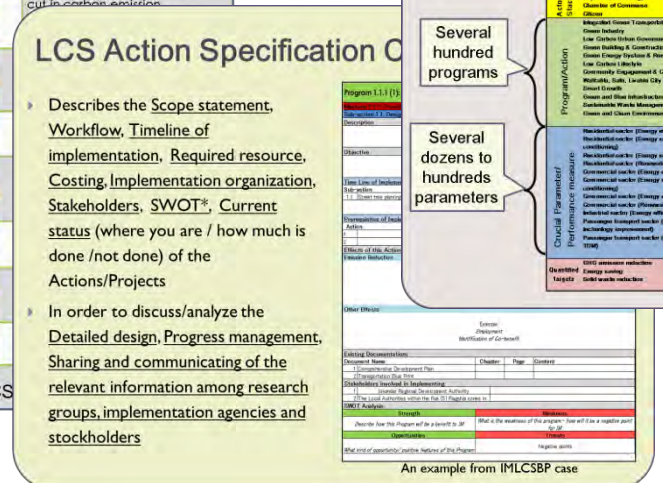
# OUTPUT 1: Methodology

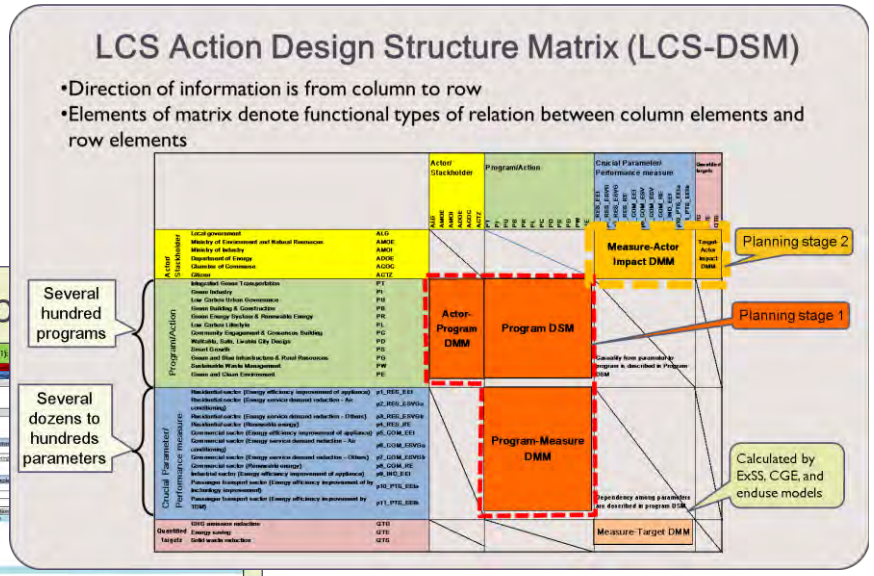
## Development of supporting tools for designing and managing LCS scenarios




- 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)

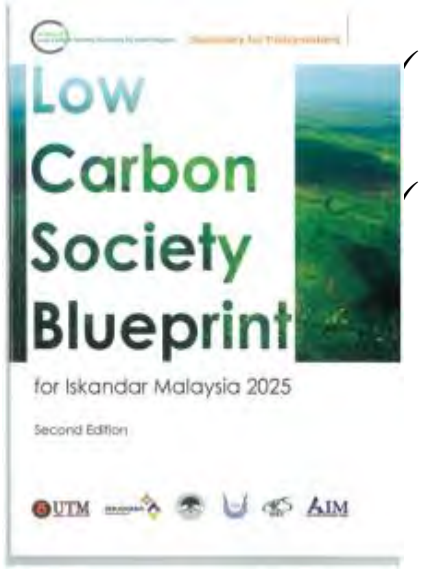


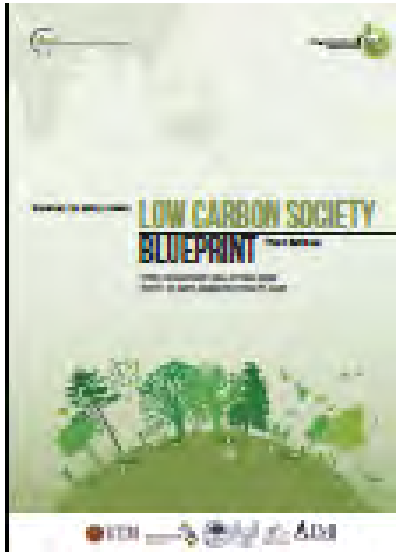



# OUTPUT 2: LCS scenarios for policy development in IM

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

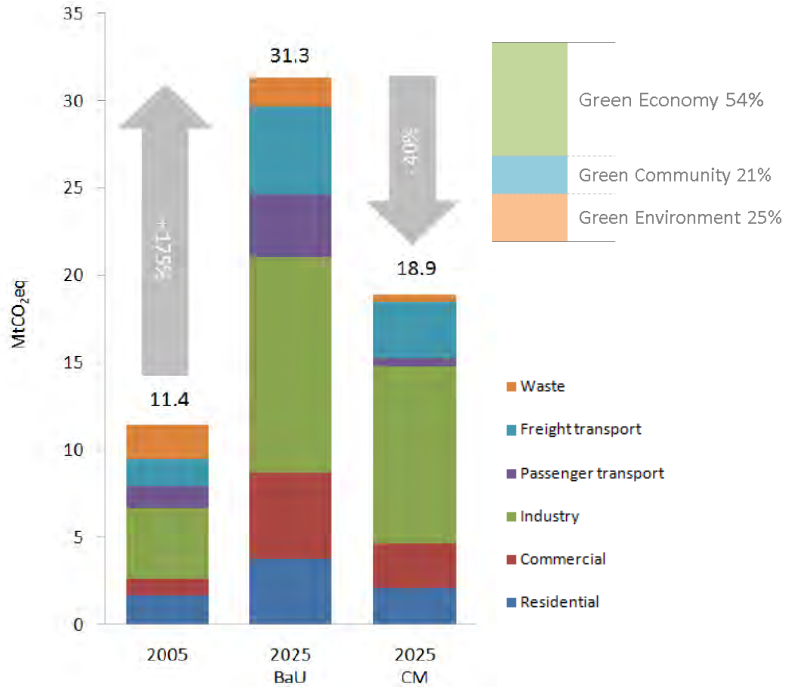



- Document that presents comprehensive climate change mitigation policies and detailed strategies to guide development of Iskandar Malaysia
- Stress on the **holistic and integrated approach to decouple economy and environment development**
  Comprise of two principal components:

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;

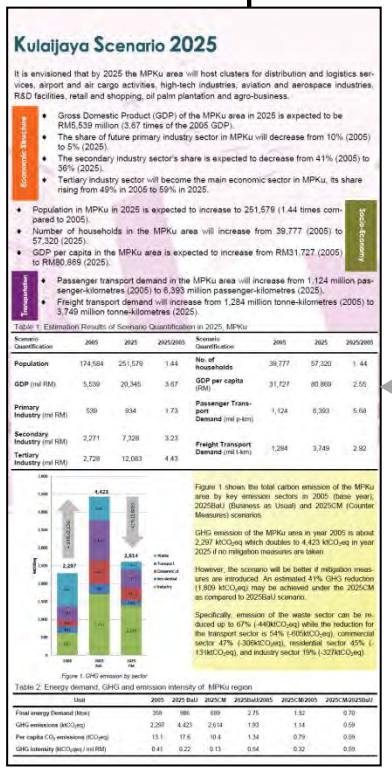
II) **scenario-based modelling** and projection of carbon emission reductions achievable.



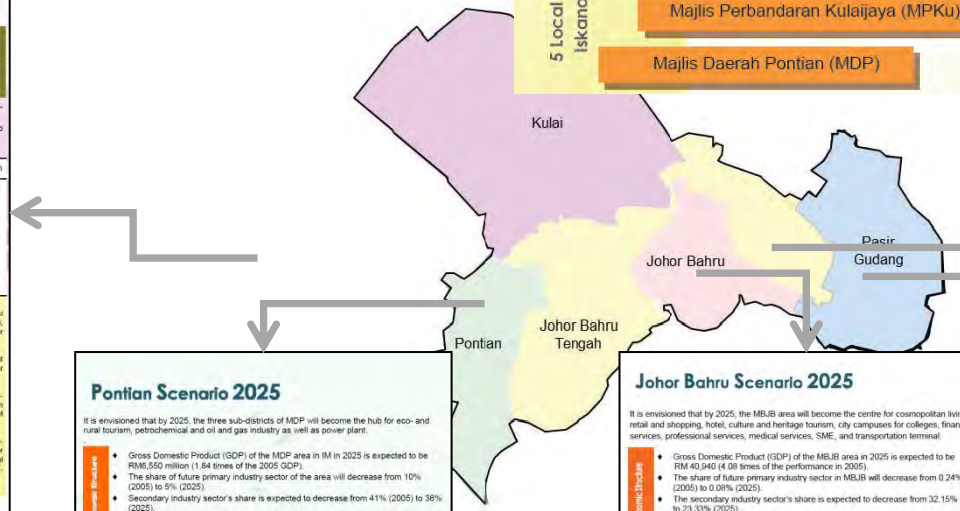

GHG reductions by Actions

| Mitigation Options | $ktCO_2$ Reduction | % |
|---|---|---|
| Green Economy | 6,937 | 54% |
| 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% |
| Green Community | 2,727 | 21% |
| Action 6 Low Carbon Lifestyle | 2,727 | 21% |
| Action 7 Community Engagement and Consensus Building** | - | - |
| Green Environment | 3,094 | 25% |
| 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** | - | - |
| Total | 12,467** | 100% |

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

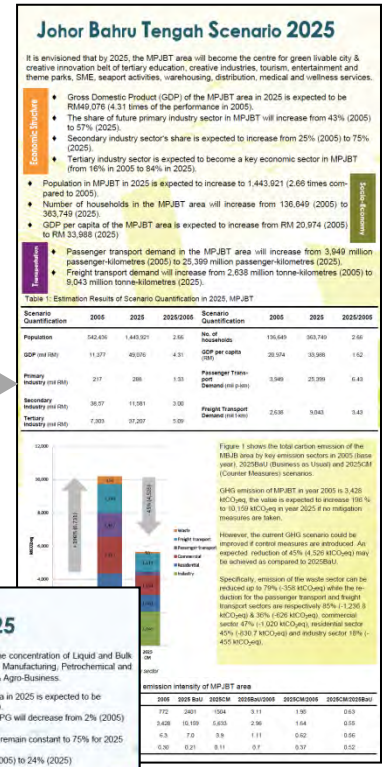


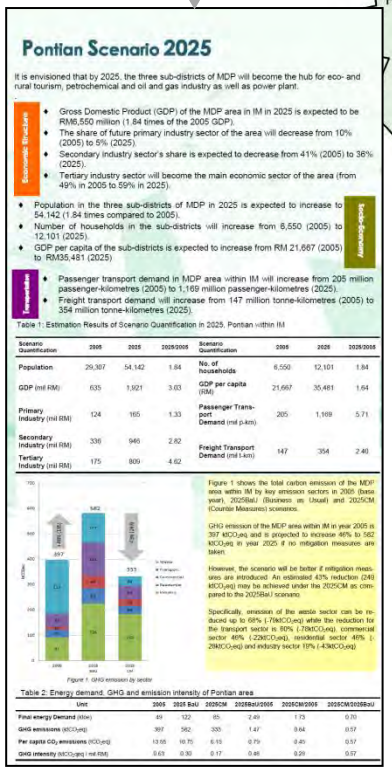


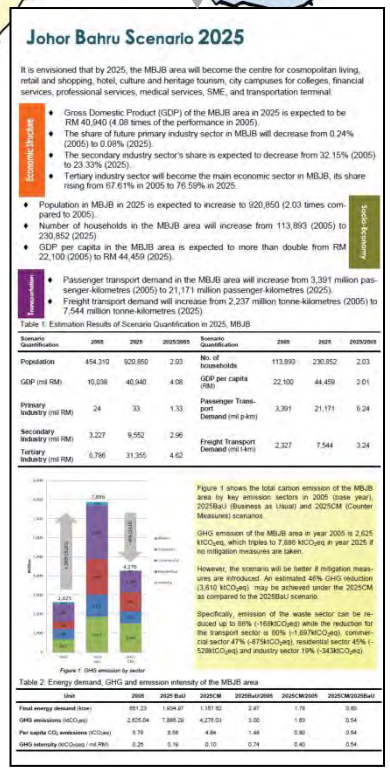


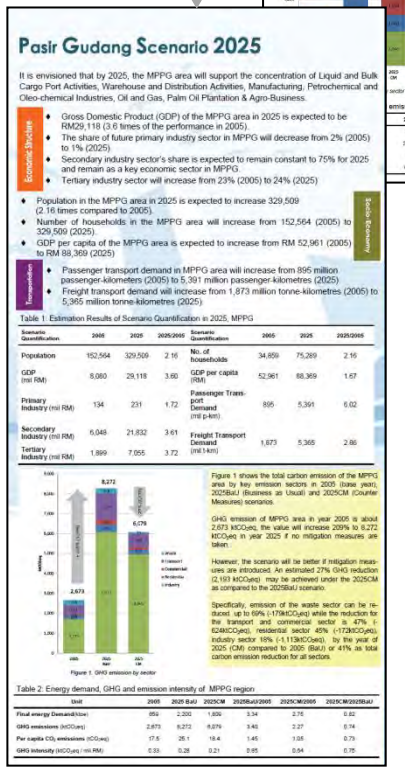


(Source: CDP 2006)



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

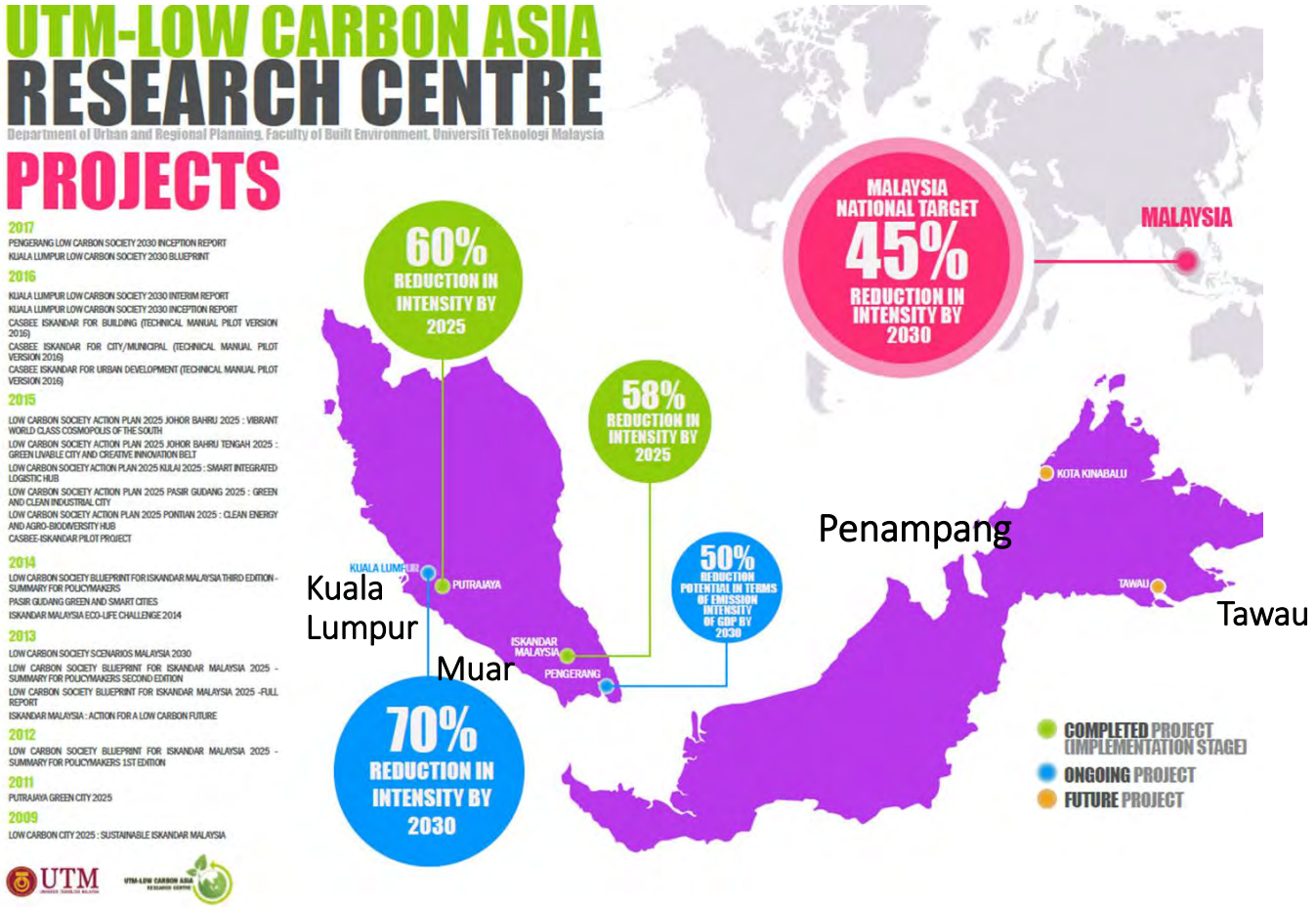
**Climate Action Plans for Four (4) Malaysia Pilot cities** commissioned by Global Covenant of Mayors International Urban Cooperation (GCoM-I*UC) Brussels Jan – Dec 2020*

**4 cities are Muar, Hangtuah 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




**Malaysia- Population 30million (2016) 32 million (2020)**

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

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


70%
Reduction in GHG Emissions Intensity of GDP by 2030

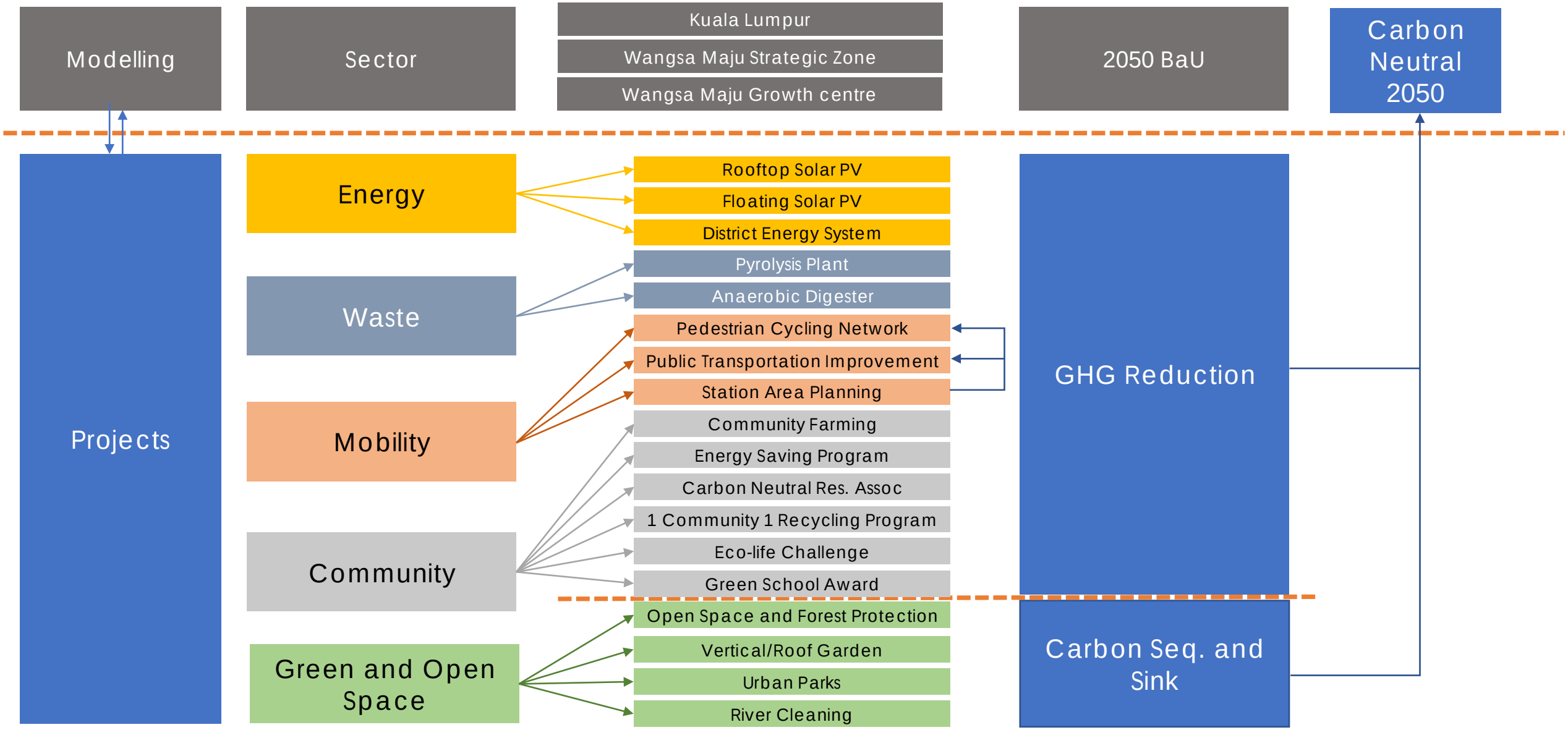

## Kuala Lumpur

**national capital of Malaysia**

Carbon Nuetral
by 2050

# 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



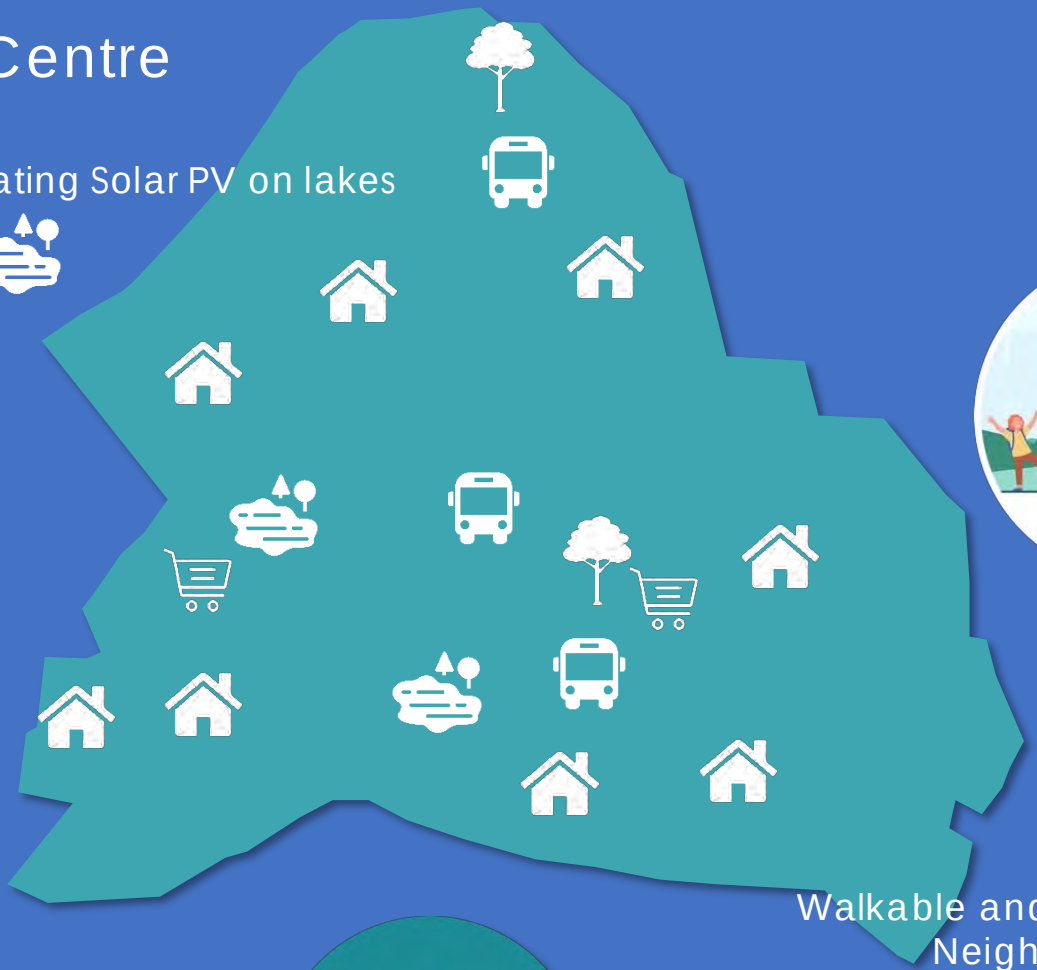
# Low Carbon Programmes
## in Wangsa Maju Growth Centre

Floating Solar PV on lakes

Solar PV Installation on house/malls rooftop

Green Spaces

Anaerobic Digester and Pyrolysis Plant

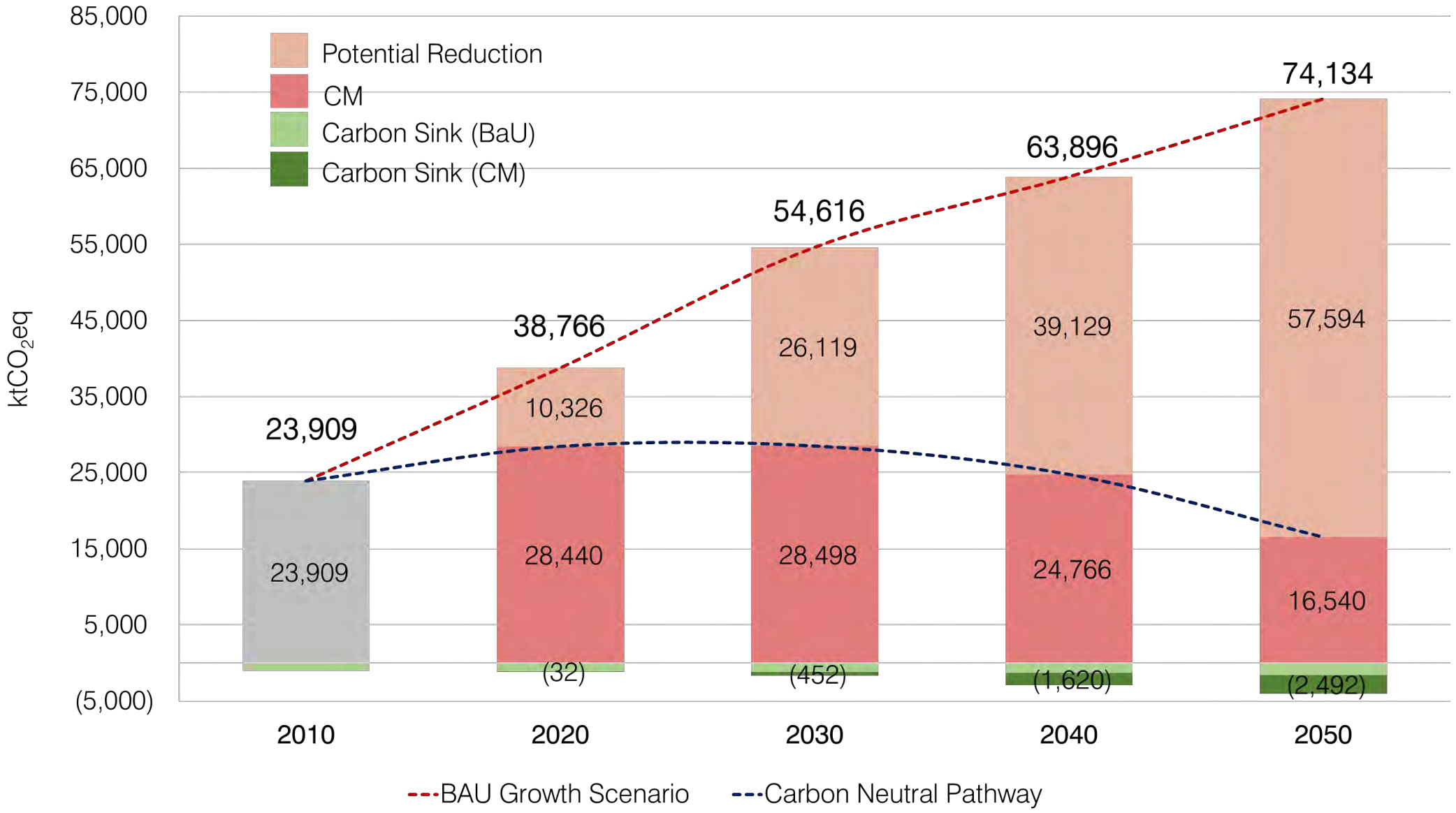


EV Buses near LRT stations


LCS Education

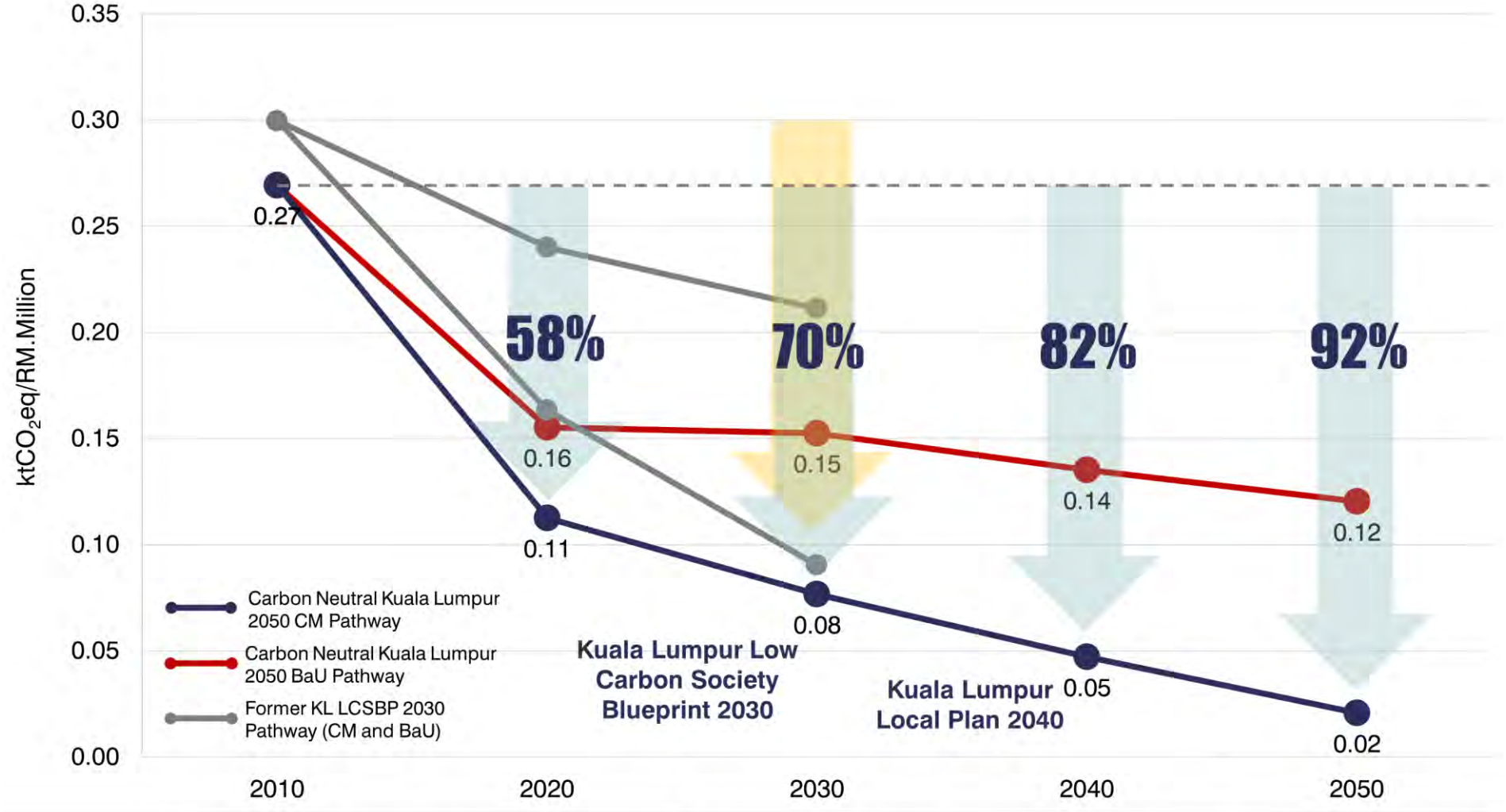
Walkable and cyclable Neighbourhood

# 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

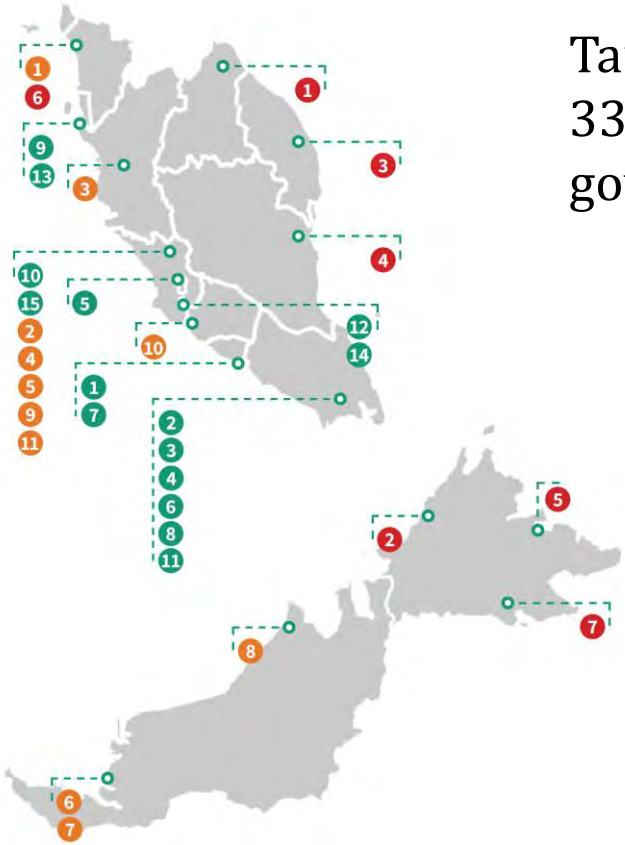
To date, a total 19 cities and regions of Malaysia have initiated GHG emissions mitigation plan

**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

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