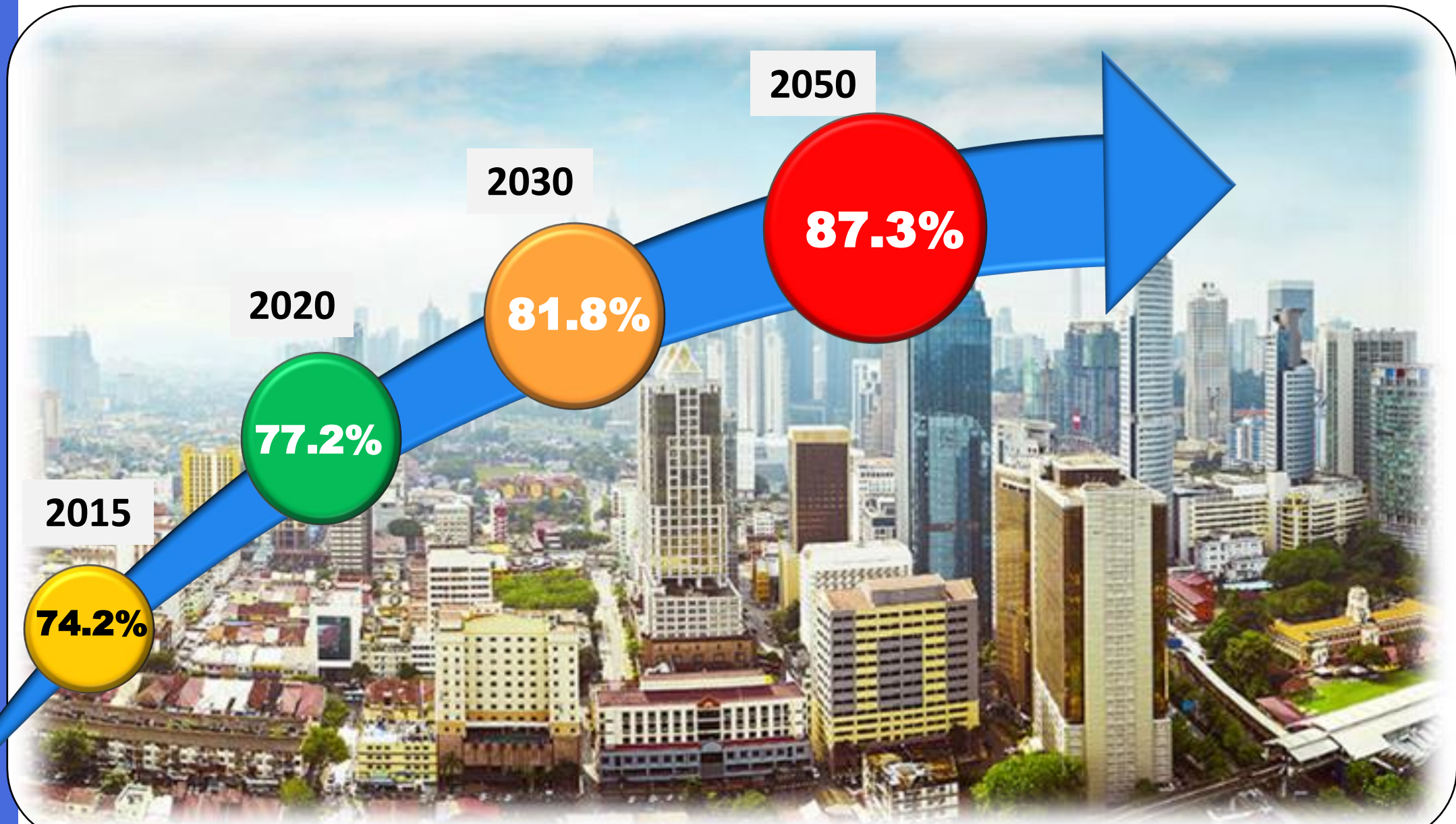
Smart Environment For Low Carbon Cities

Datuk Dr Mary Wong Lai Lin
Deputy Secretary General (Policy and Development)
Ministry of Housing and Local Government
13th July 2021

Rapid Urbanisation in Malaysia



Urgent need to tackle urban challenges and pain points

Pollution & environmental degradation

Traffic congestion

Inefficient deployment of urban services

Increased threat of crime

Deterioration of natural resources

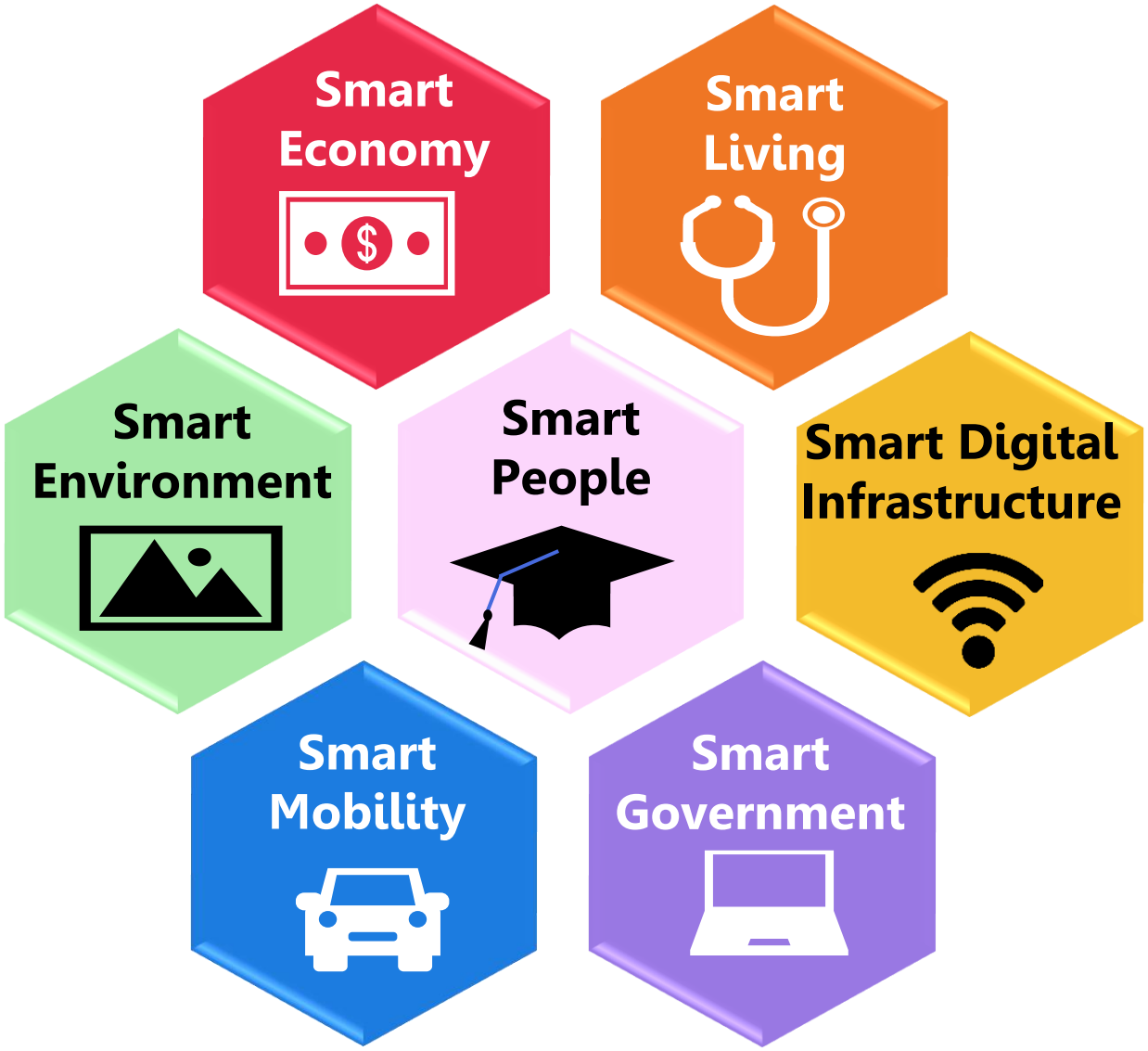
Cities are also responsible for producing 70% of the global green house gas emission (UN)

The Malaysia Smart City Framework was launched on 23rd September 2019

Using ICT and technological advances to address urban issues to :

- improve quality of life
- promote economic growth
- develop sustainable and safe environment
- encourage efficient urban management practices

7 Smart City Components



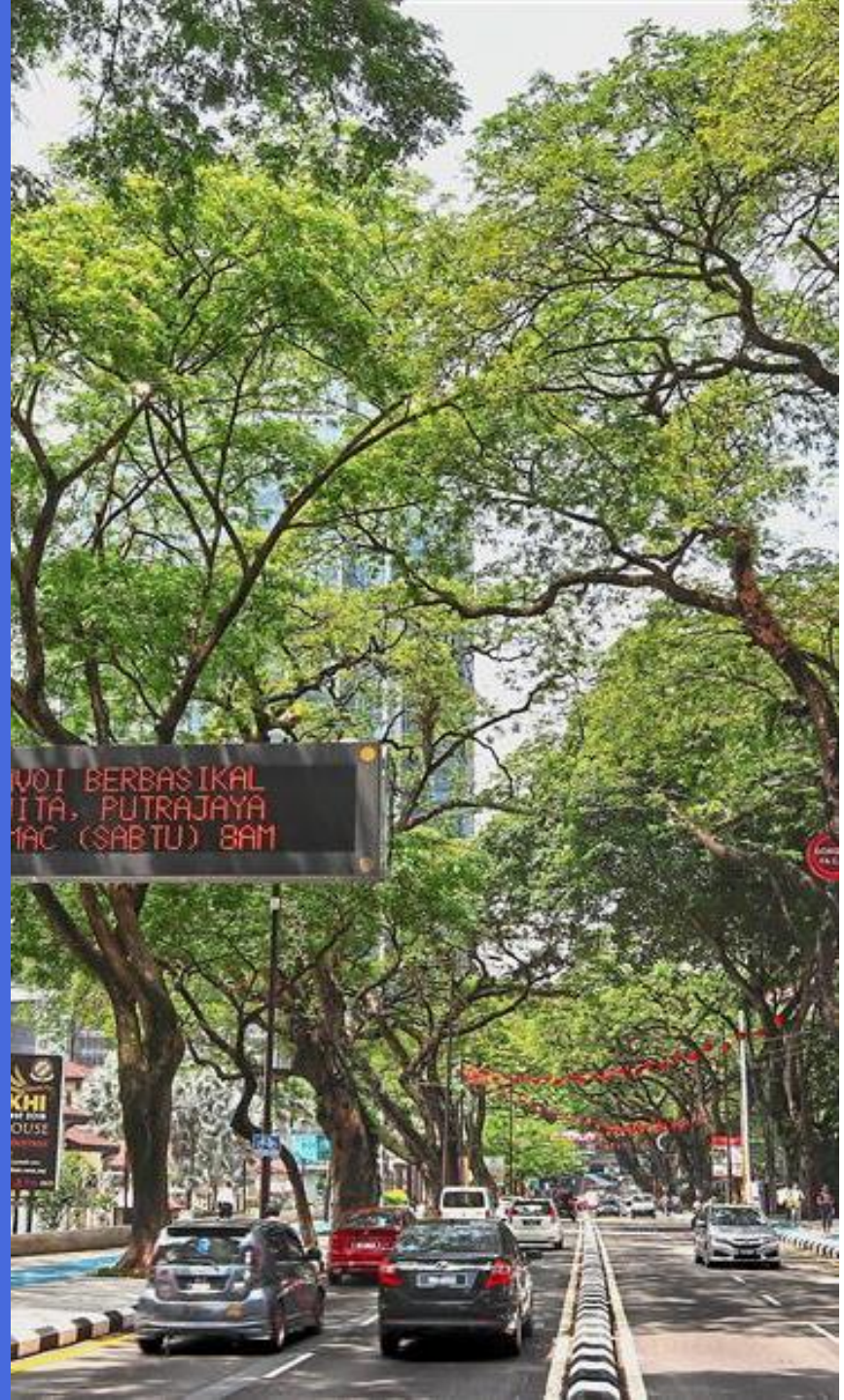
Challenges

1. Loss of green spaces
2. Improper solid waste management
3. Air pollution
4. Water pollution
5. Flash floods
6. Landslides
7. High rate of non-revenue water
8. High usage of non-renewable energy
9. High carbon footprint

Strategies

1. Preserve green areas and enhance management of trees and public parks
2. Strengthen the integrated and sustainable solid waste management
3. Improve air quality and its monitoring system
4. Improve water quality and its monitoring system
5. Enhance the disaster risk management by adopting advanced technology application
6. Enhance the non-revenue water management
7. Increase energy efficiency and promote renewable energy sources
8. Encourage the development of low carbon city concept to be adopted at local level

Preserve green space



- Use of RFID as smart application in tree inventory programmes
- Tracking of stages of plant growth, losses, disease and damage
- To plan planting digitally and determine the preferred tree choice

- ➢ to stop shrinking of tree cover
- ➢ to decrease the urban heat island effect
- ➢ to absorb carbon emission and energy cost
- ➢ provide natural stress relief, encourage social and physical activities & soothe mental illness

- ❑ Penang Green Connectors Project
- ❑ Iskandar Malaysia Green Economy Guidelines
- ❑ Cyberjaya Low Carbon Strategy
- ❑ Urban Community Farming Policy and Guidelines by KPKT
- ❖ Sustainable Singapore Bluprint
- ❖ Italy Tree City
- ❖ Seoul Action Plan

Sustainable solid waste management

- Waste separation and reduction at source through digitalization
- Smart waste management using IoT
- Smart bins, digital tracking and C4i monitoring
- Implementing waste to energy
- Waste recycling by communities through reward programmes (ZeComm)

➢ Transform waste recycling by technology
➢ Optimise waste collection route
➢ Monitor waste generation on daily basis
➢ Convert waste to various forms of energy
➢ Integrate power generated to national grid
➢ Reduce waste to landfill
➢ Promote circular economy

❑ Cyberjaya Smart Low Carbon City Action Plan
❑ Shah Alam Low Carbon City Framework

❖ Germany
❖ Belgium
❖ Netherlands

Improving air quality

- Install air quality monitoring systems based on IoT technology and electrochemical sensors
- Real time data and location sharing via smart application
- Use of electric vehicles and provision of EV charging stations
- Increase share of public transport or micro mobility
- Have car free day on the street

➢ Less use of private vehicles and less CO2 emission
➢ improved air quality through smart monitoring
➢ Better analysis of pollutants, pollen and toxins on the street
➢ Less congestion on the road
➢ Improve health and active lifestyle

❑ Melaka Green Bus Network Implementation Plan
❑ Cyberjaya Pedestrian Friendly City Plan
❑ Kuala Lumpur Low Carbon Society Blueprint

❖ China
❖ India

Energy efficiency and renewable energy

- Use building energy automation system for energy consumption tracking
- Promote use of solar panel and rainwater harvesting
- Use of smart meters and energy saving lightings
- Implement smart grid system

➢ Enhanced energy efficiency and reliability
➢ Enhanced renewable energy capacity
➢ Saving electricity consumption and maintenance costs in the long run
➢ Real time centralized control and monitoring

❑ Petaling Jaya Low Carbon City Climate Action Plan
❑ Melaka Smart Grid Awareness and Demonstration Project

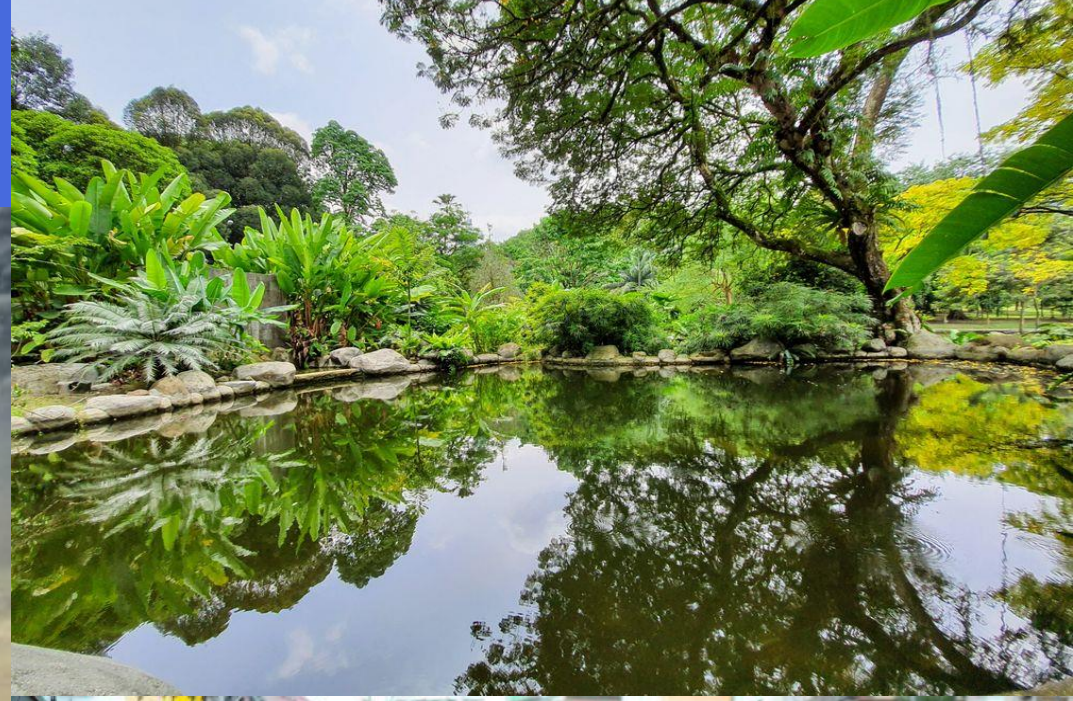
❖ Canada
❖ USA

Low Carbon City Concept and Development

- To promote and enhance low carbon city at every level
- To reduce CO2 emission in all human activities in cities
- To ensure development is based on low carbon concept
- To assist in mitigating climate change and protecting the environment

➢ For a cleaner and healthier city for all Malaysians

❑ Responsibility is not only for the Local Authorities but all of us for our future generations



KPKT

Thank you