



National Institute for Environmental Studies, Japan

ASIA PACIFIC INTEGRATED MODELLING (AIM)  
INTERNATIONAL WORKSHOP 3-4 SEPT 2020

# CITIES

AS PLATFORM FOR  
ACCELERATING LOW  
CARBON  
DEVELOPMENT IN  
**MALAYSIA**

**PROF. DR. HO CHIN SIONG**

UTM-LOW CARBON ASIA RESEARCH CENTRE

UTM-LOW CARBON ASIA  
RESEARCH CENTRE



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA



# CONTENT

## **1. Introduction**

- Malaysia Commitment towards LCS
- S2A- LCS Mainstreamed into Development Plan
- Methodology Local Plan and Climate Action initiatives

## **2 Case study Muar city**

- **Mainstreaming Climate Action into Muar Local Plan**
- **Policy framework**
- CO2 emission and reduction emission potential

## **3 Accelerating climate actions in Malaysian cities**

# MALAYSIA'S COMMITMENT TOWARDS LOW CARBON SOCIETY(LCS)



Malaysian Government has made a commitment to reduce **45%** reduction in emission intensity by 2030 as pledge in our NDC at **COP21**



**Green Technology  
Application for  
the Development  
of Low Carbon  
Cities (GTALCC)  
2020  
BY UNDP**



NC3 AND BUR2 (2018) been prepared to meet Malaysia's obligations as a Party to the United Nations Framework Convention on Climate Change (UNFCCC).

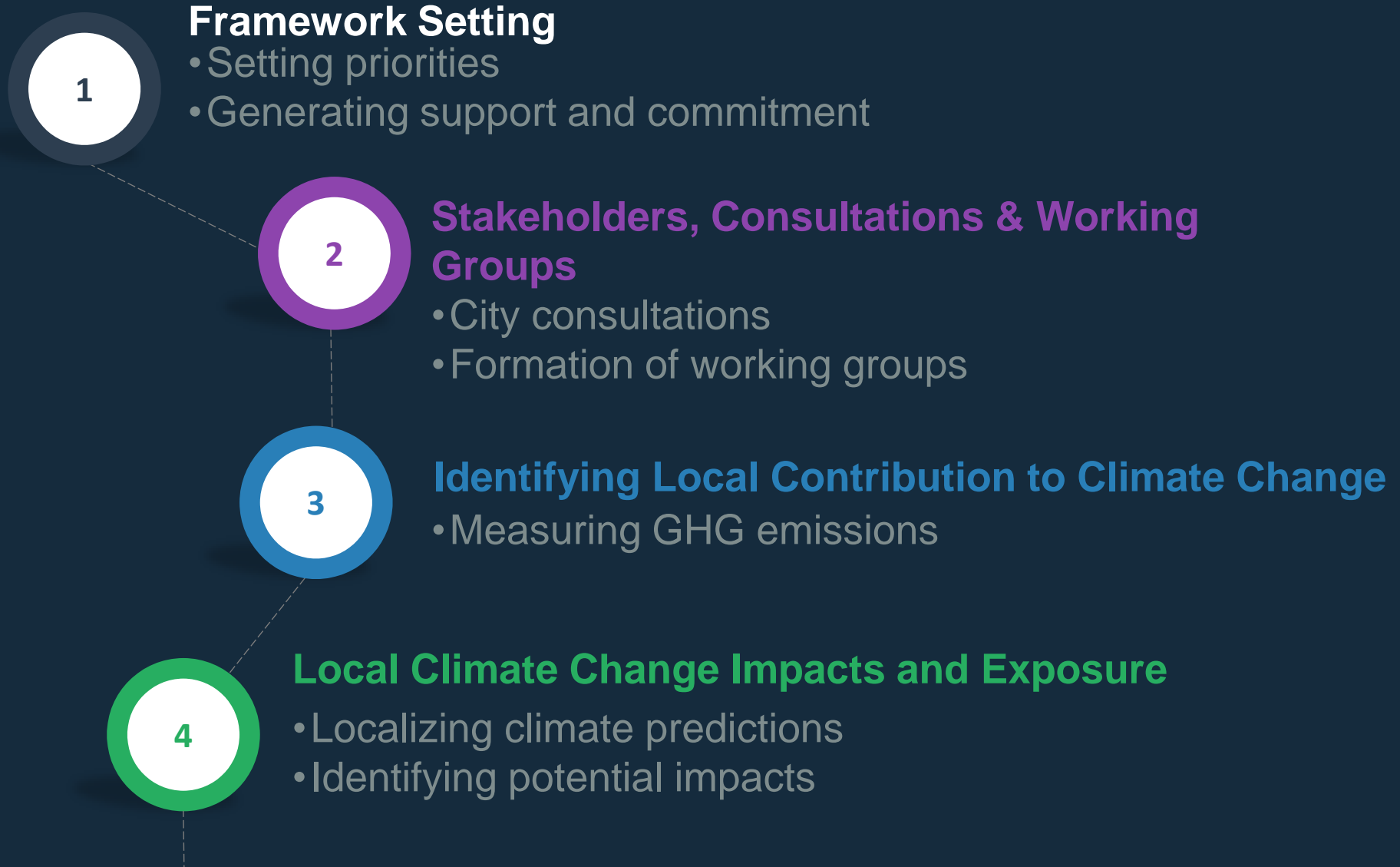
GTALCC facilitate the implementation of low carbon initiatives in at least five Malaysian cities and to showcase a clear and integrated approach to low carbon urban development.

# S2A Approach & Community Engagement



# METHODOLOGY

## LOCAL PLAN and CLIMATE ACTION INITIATIVES



# METHODOLOGY

## LOCAL PLAN and CLIMATE ACTION INITIATIVES

5

### **Assessing Vulnerable Places. People & Sectors**

- Vulnerability assessments for communities and economic sectors

6

### **Participatory Strategic Planning for Climate Change**

- Mobilizing stakeholders
- Developing strategic plans for adaptation

7

### **Implementing Action Plans**

- Developing implementable activities at different scales

8

### **Monitoring plans and projects**

- An on-going process of monitoring and evaluation that takes changing needs into account

# LOW CARBON PLANNING OPTIONS- STAND ALONE OR MAINSTREAMING

Information



Stand alone  
(LCS blueprint or  
Local Plans)

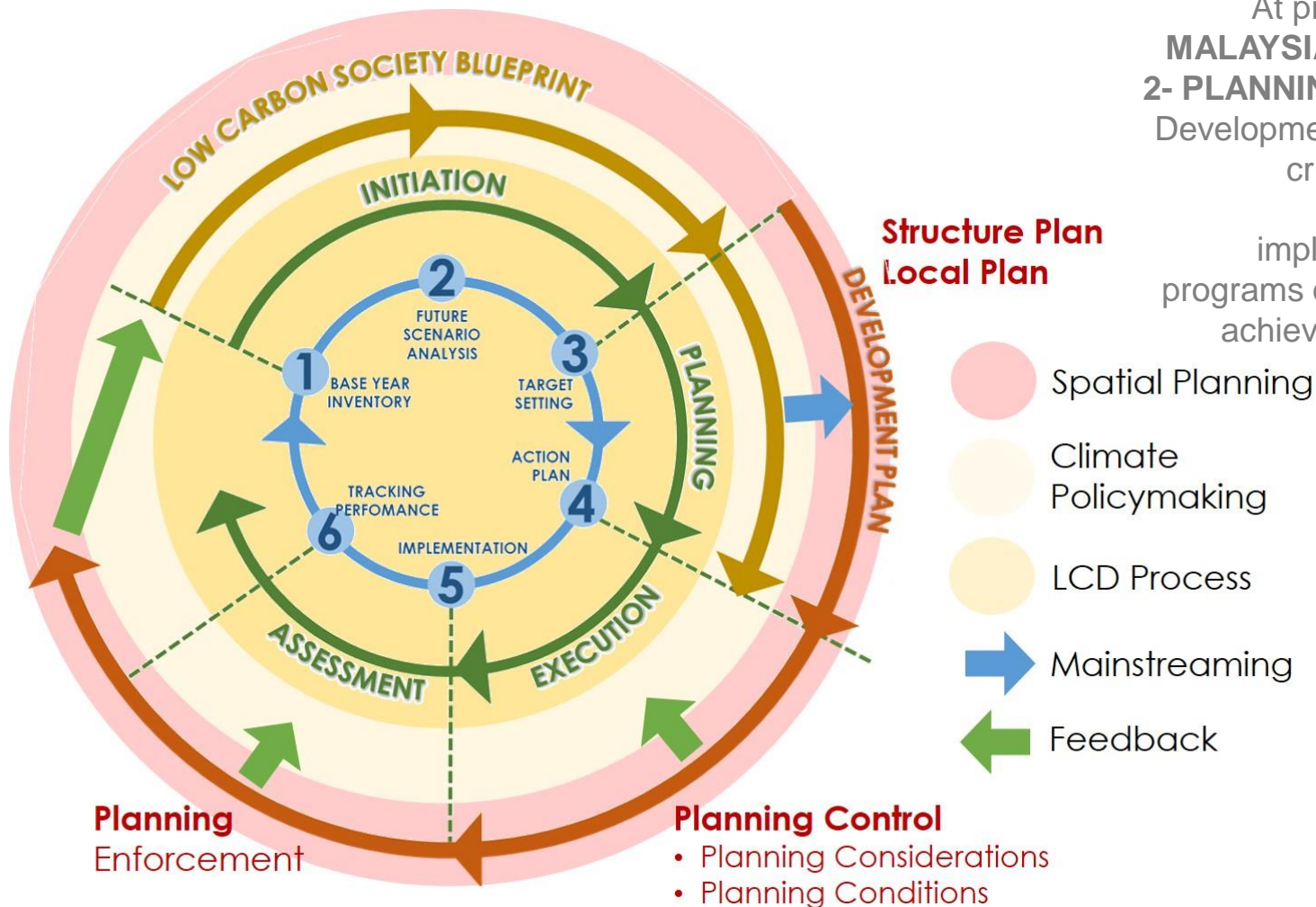
**STRATEGIC  
PLANNING**



Developing Local Action  
Plans together with  
Climate actions  
initiatives(Mainstreaming)



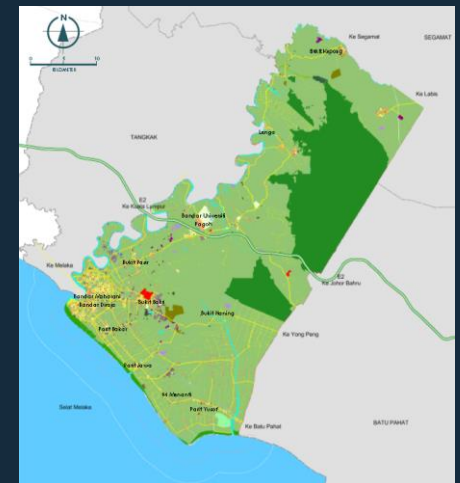
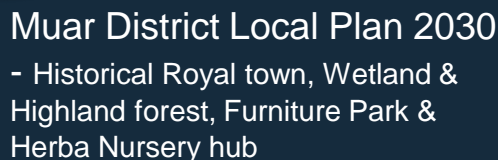
# MAINSTREAMING CLIMATE ACTION PLANS



At present, **MOST OF THE MALAYSIAN CITIES** is at **Stage 2- PLANNING**; of the Low Carbon Development Cycle. This stage is crucial to ensure smooth progression towards implementation of the LCS programs outlined and hence the achievement of the reduction target

the first statutory development plan to incorporate low carbon city measures into local spatial planning based on scientifically estimated baseline emissions

‘Leading District for economic development  
of the Northern Johor Region – based on  
Heritage, Smart Technology and Low Carbon  
Sustainable Society’



- Total 191 development projects ( 91 low carbon initiatives)

# MUAR DISTRICT LOCAL PLAN 2030

The first local plan integrated with LCS



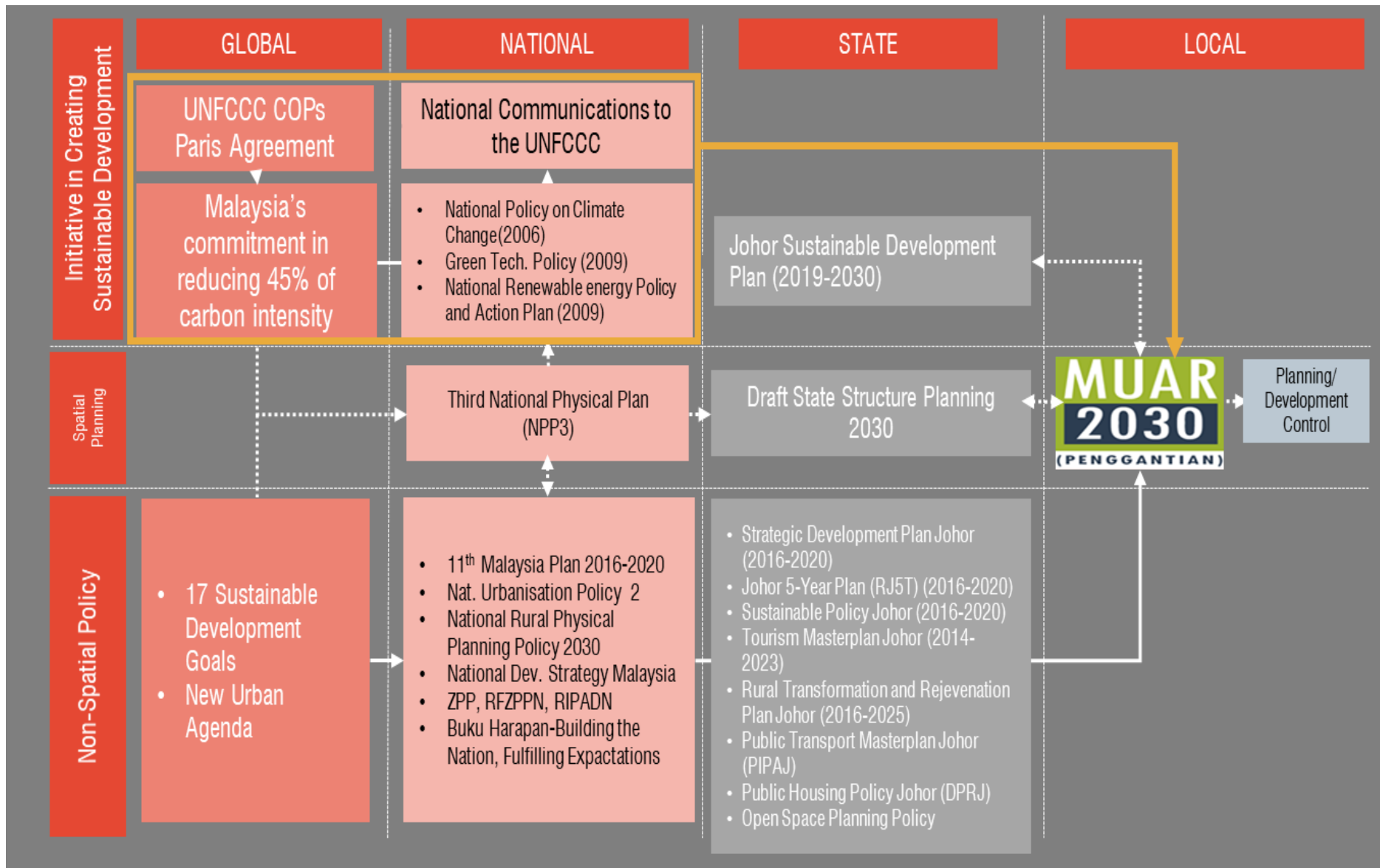
SPECIAL, SUSTAINABLE

LIVEABLE, LEADING

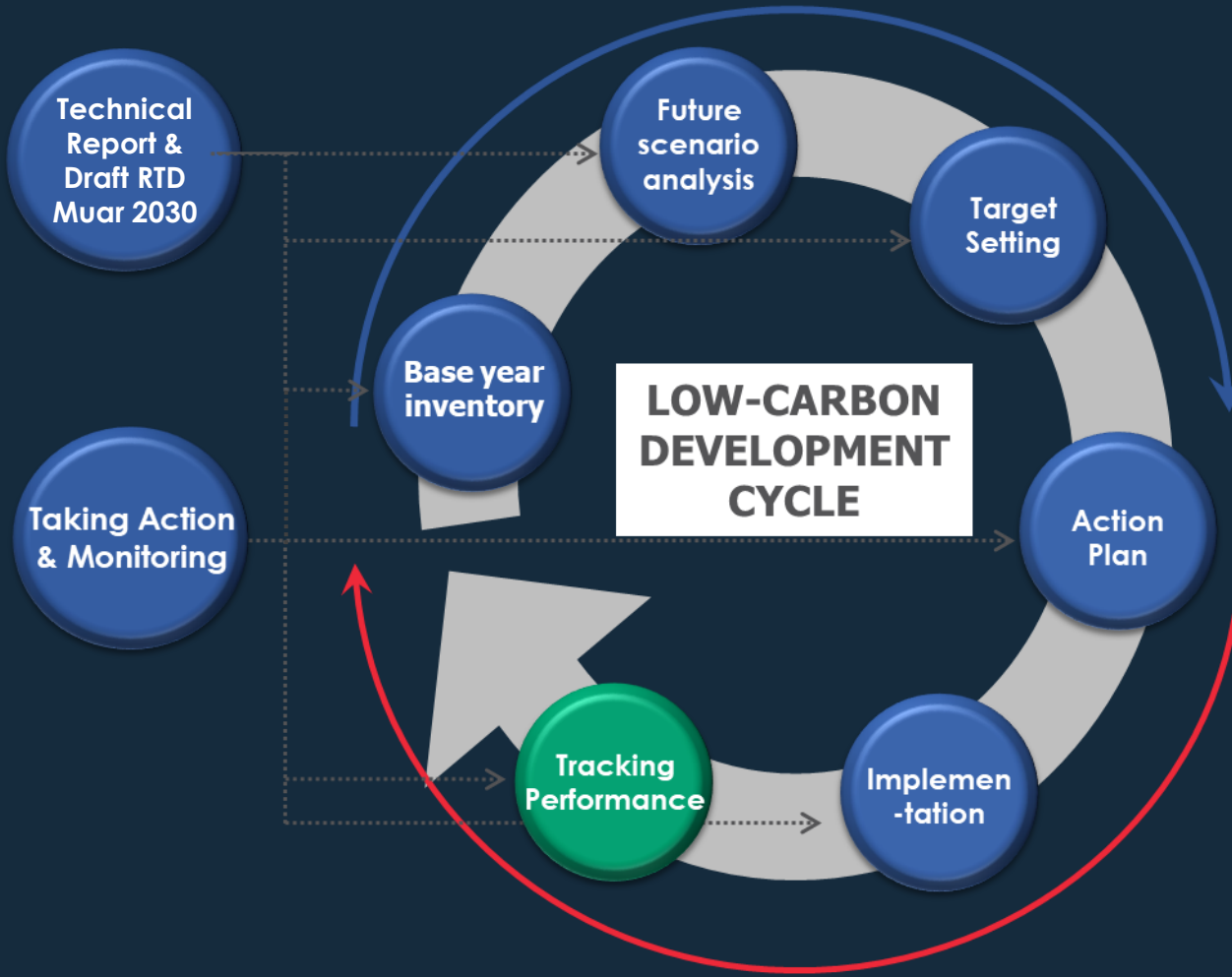
MUAR 2 to LCS

COMPETITIVE, CONNECTED

# POLICY FRAMEWORK



# MUAR 2030 LCS CYCLE- Progress



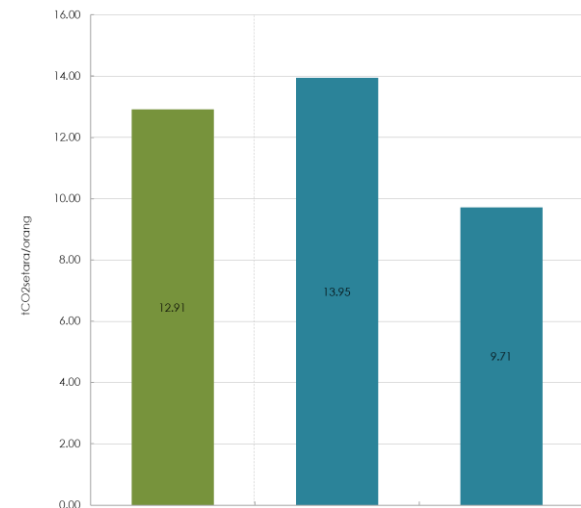
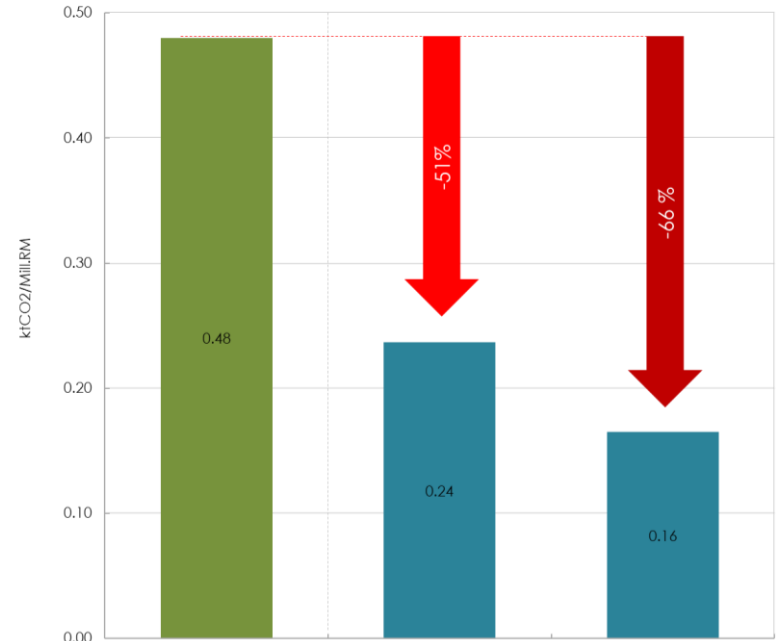
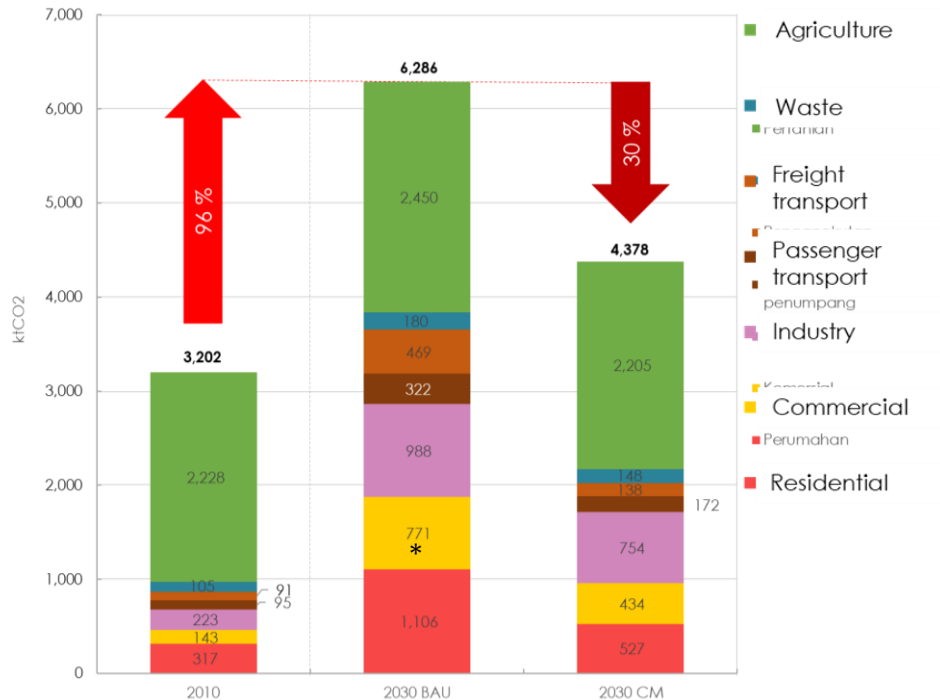
## 2019-2020

- LCS baseline study
- LCS scenario development
- GHG modelling
- LCS policy design
- LCS initiatives / programs

## 2020-2030

- Detailed LCS guidelines
- Implementation of LCS programs
- Performance tracking
- GHG monitoring
- Review and refinement

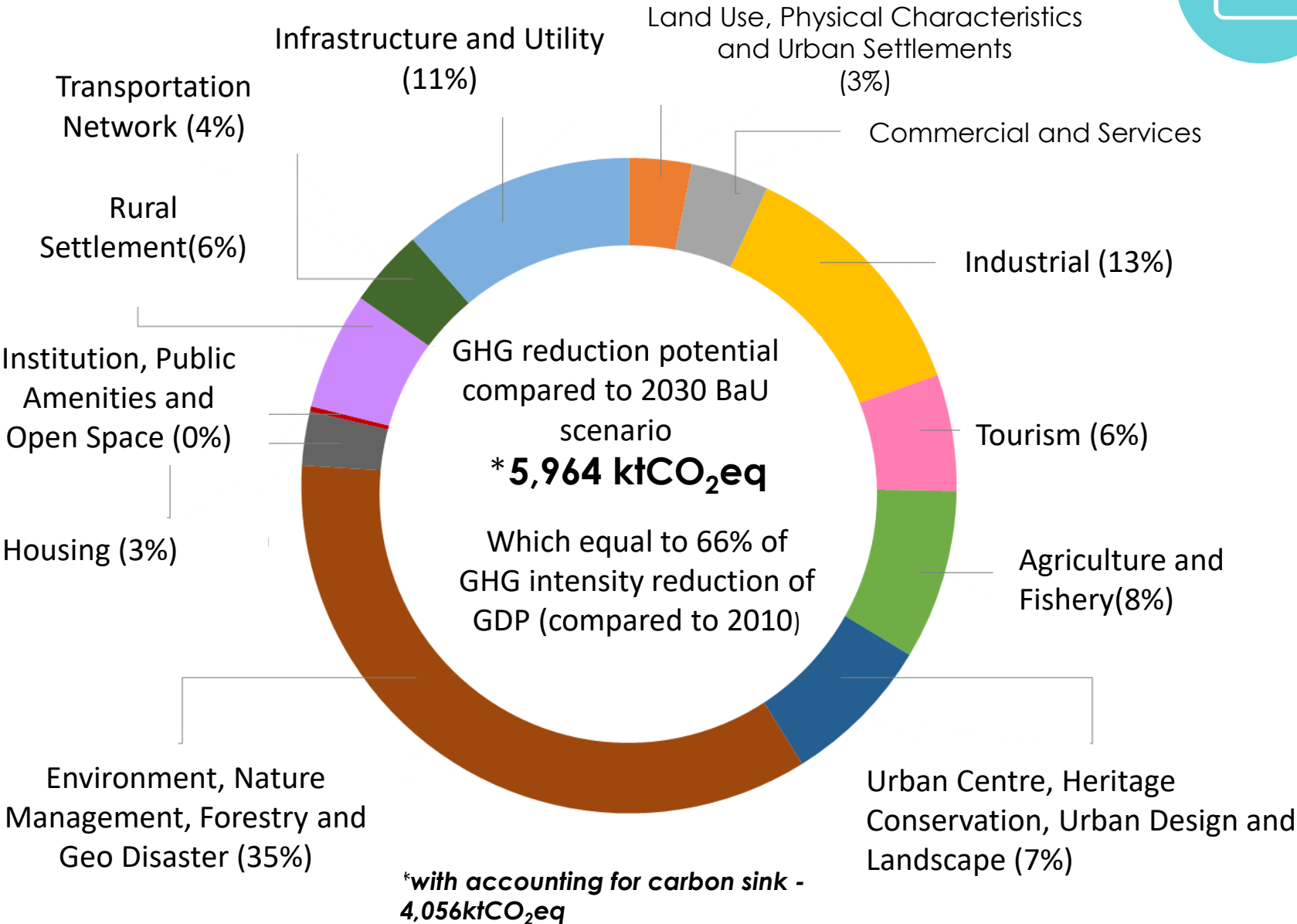
# GHG EMISSION BY END USE SECTOR



- **Agriculture** followed by industry and commercial is main emission sector.
- EXSS model shows potential reduction of **66% emission** intensity by 2030
- - GHG emission per capita will increase from **12.91 tCO2eq** per person in 2010 can potentially decrease to **9.71 tCO2eq** per person in 2030 CM

# GHG MITIGATION POTENTIAL BY SECTOR

PLANNING



GHG MITIGATION REDUCTION POTENTIAL BY SECTOR by 2030

Pillar	Sector *		Sectoral Reduction (ktCO2eq)	Sectoral Reduction (%)
Competitive Green Economy (33.64%)	1.	Population and Socioeconomic	-	-
	2.	Land Use, Physical Characteristics and Urban Settlements	183.98	3.08
	3.	Commercial and Services	229.09	3.84
	4.	Industrial	751.22	12.60
	5.	Tourism	342.26	5.74
	6.	Agriculture and Fishery	499.70	8.38
Sustainable Heritage Royal City and Natural Resources Prosperity (42.35%)	7.	Urban Centre, Heritage Conservation, Urban Design and Landscape	447.15	7.50
	8.	Environment, Nature Management, Forestry and Geo Disaster	2,078.35	34.85
Compact Development and Liveable City(8.72%)	9.	Housing	158.19	2.65
	10.	Institution, Public Amenities and Open Space	15.58	0.26
	11.	Rural Settlement	346.24	5.81
Green Infrastructure, Utility and Mobility (15.30%)	12.	Transportation Network	228.03	3.82
	13.	Infrastructure and Utility	684.29	11.47
Green Governance	14.	Management and Implementation	-	-
		Note *- Classification of 14 sectors are based on sector used Local Plan Total	5,964.08	100

# THE IMPLEMENTATION- ACTION PLAN/ ROADMAP

## Responsible Muar Municipal Council (MPM) Dept. :

MPM department with primary responsibility for initiating, coordinating, liaising with relevant external agencies, monitoring, and/or approving implementation of programs

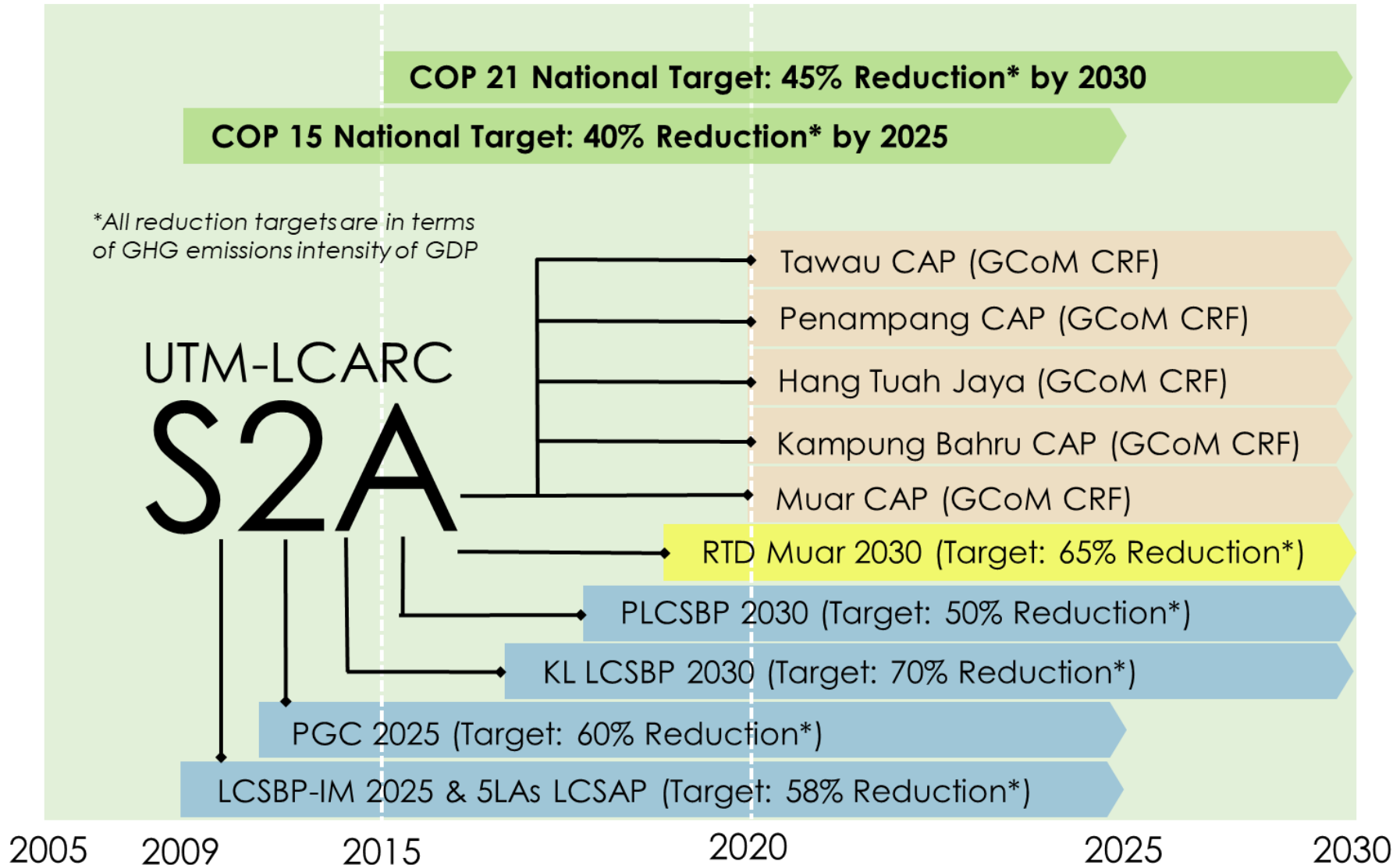
## Partners:

Technology providers, funding agencies or entities, and relevant government agencies with approving authority for, and/or statutory duty of regulating, facilitating and overseeing implementation of programs

## Implementers:

Agencies, entities and/or parties that implement, or are needed to implement, programs due to their statutory duty, ownership rights, institutional responsibility, and/or effective serving of communal interests

# ACCELERATING CLIMATE ACTIONS IN MALAYSIAN CITIES (towards 2030 and beyond)





THANK  
YOU

THANK YOU