

# DEVELOPMENT OF SUSTAINABLE REGION USING LOW CARBON SOCIETY CONCEPT – THE CASE OF ISKANDAR MALAYSIA

HO CHIN SIONG  
COP17 SIDE EVENT  
2 December 2011 .

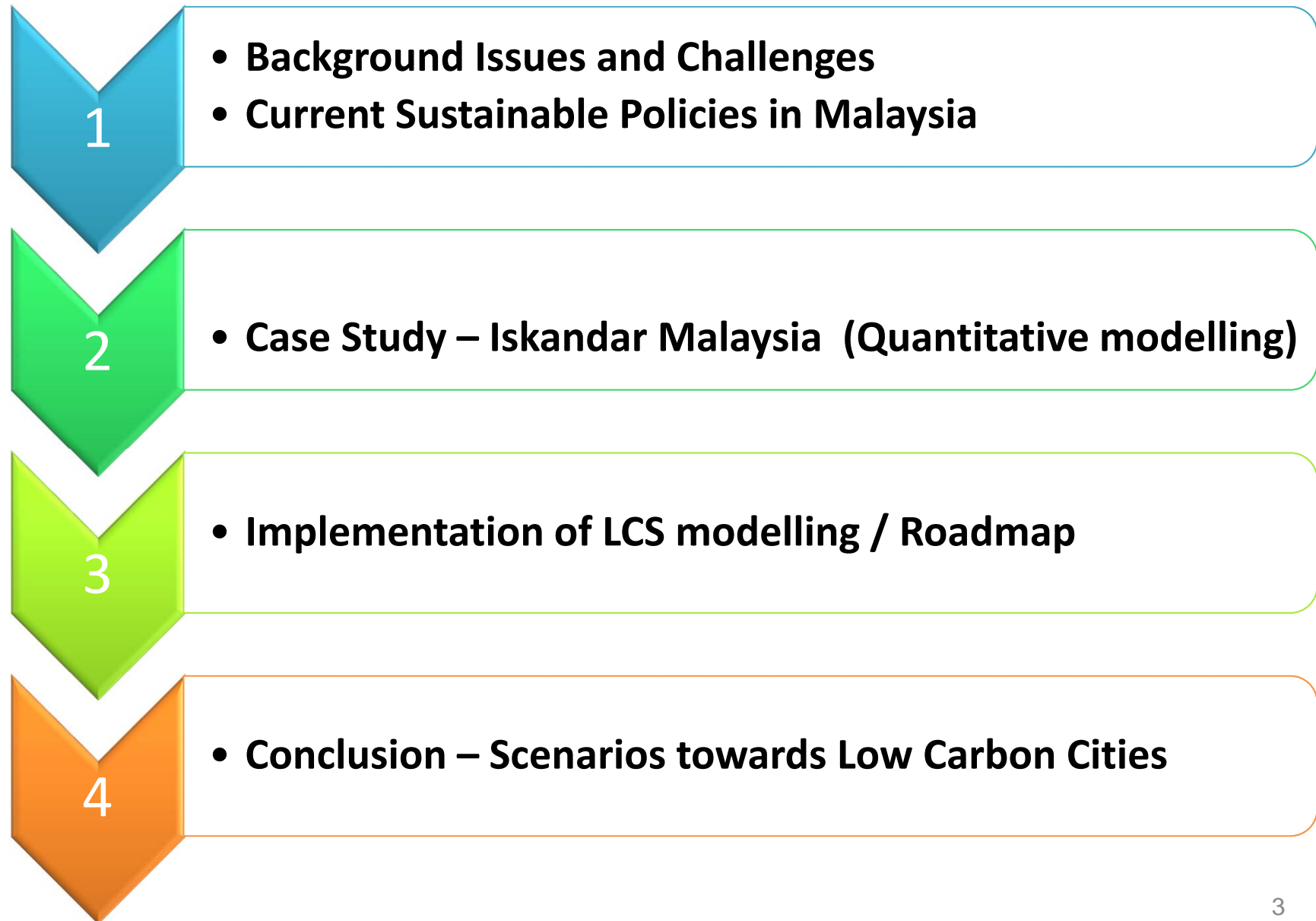


# 3 Establishing Low Carbon Society Scenario

## On Going Low Carbon Society Research Project at Asia



# Contents



# 1. Introduction

## Malaysia:

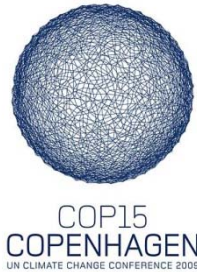


- Land Area: **329 750 km<sup>2</sup>**
- Population: **28.3 Million (2010)**
- Population Growth Rate : **1.3% (2006-2010)**
- GDP Growth Rate: **5.7% per annum (2006-2008) ( target 6% p.a 2011-2015)**
- Climate: Tropical (**Temp: 24.5°C – 33.7°C**)
- Ethnicity: Malay & Bumiputra (64%), Chinese(26%), Indian (8%), Others(1%))



# 1 Introduction

## The Need to Develop Low Carbon Cities



### Malaysia Commitment

Speech by YAB Datuk Seri Najib Tun Razak, Prime Minister  
“... Malaysia is proposed a voluntary reduction up to 40%  
in terms of emission intensity of GDP by the year 2020  
compared to 2005 levels.”  
17<sup>th</sup> December 2009



### Global Citizens + Responsibilities

For the Earth, for our future generation



**Green as New Consumer Culture, New Market, New Growth**



### Money Saving

Energy conservation and renewable energy



## 2. Malaysian Outlook

The CO<sub>2</sub> emission per capita and emission intensity of selected countries in 2007

Countries	Emission per capita tones of CO <sub>2</sub> per capita	Emission Intensity tones of CO <sub>2</sub> per US\$1000 of GDP
<b>World</b>	<b>4.35</b>	<b>0.73</b>
United States	19.1	0.5
Singapore	9.8	0.3
Japan	9.7	0.2
United Kingdom	8.6	0.3
<b>Malaysia</b>	<b>6.7</b>	<b>1.3</b>
China	4.6	2.5
Thailand	3.5	1.3
Indonesia	1.7	1.6
India	1.2	1.7

The 10<sup>th</sup> Malaysian Plan (2011-2015) has outlined 2 major National Policies on **Environmental Protection and conservation** :

### **National Green Technology Policy**

- Emphasizes on Sustainable development, development of roadmaps to guide the application of green technologies & establishment of Green Tech Financing Scheme.

### **National Climate Change Policy**

- Coordinate and streamline policy & legislations, stashed inter-ministrial and cross sectoral committee to facilitate implement and also identify options and strategies to achieve a low carbon economy.



### 3. Background of Iskandar Malaysia

#### *Location of Iskandar Malaysia*





# Iskandar Malaysia at a Glance

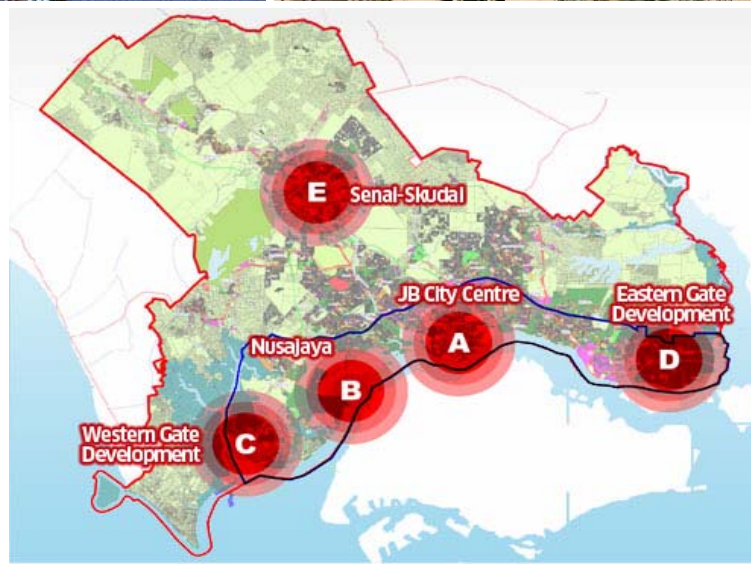
A



E



B



C



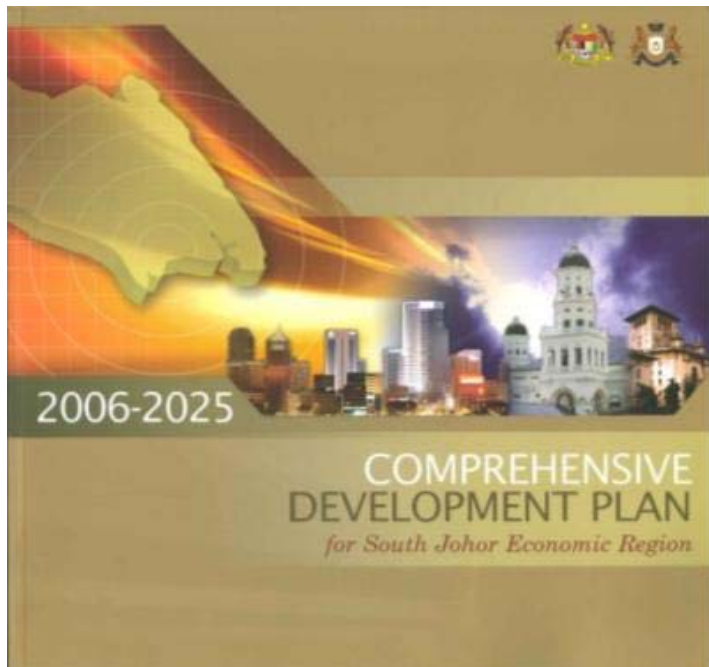
D





# Comprehensive Development Plan 2006-2025

Main document to guide Iskandar Malaysia's economic, social, environmental planning and management toward the establishment a “sustainable metropolis of international standing”.

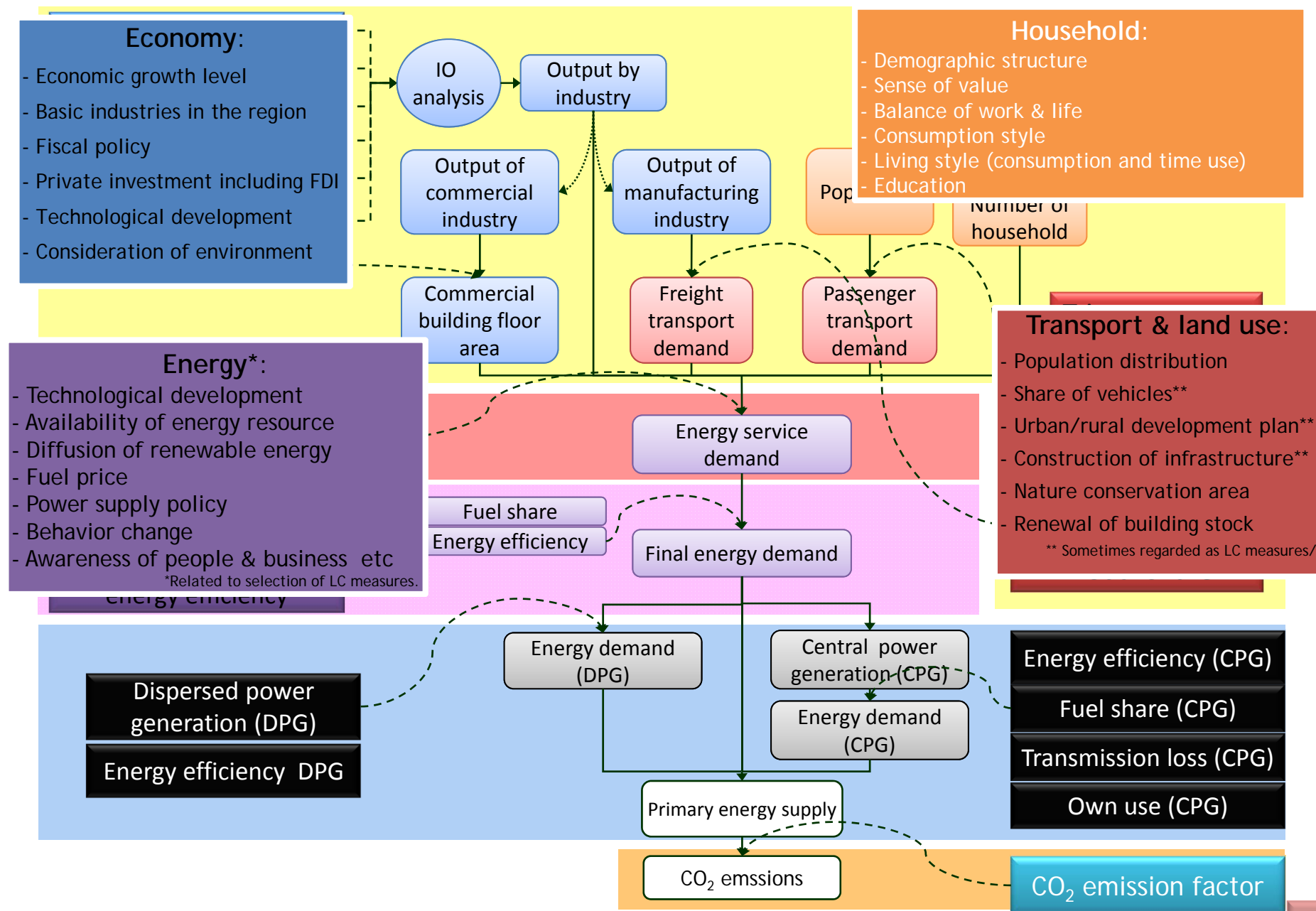


Downloadable at  
[www.iskandarmalaysia.com.my](http://www.iskandarmalaysia.com.my)

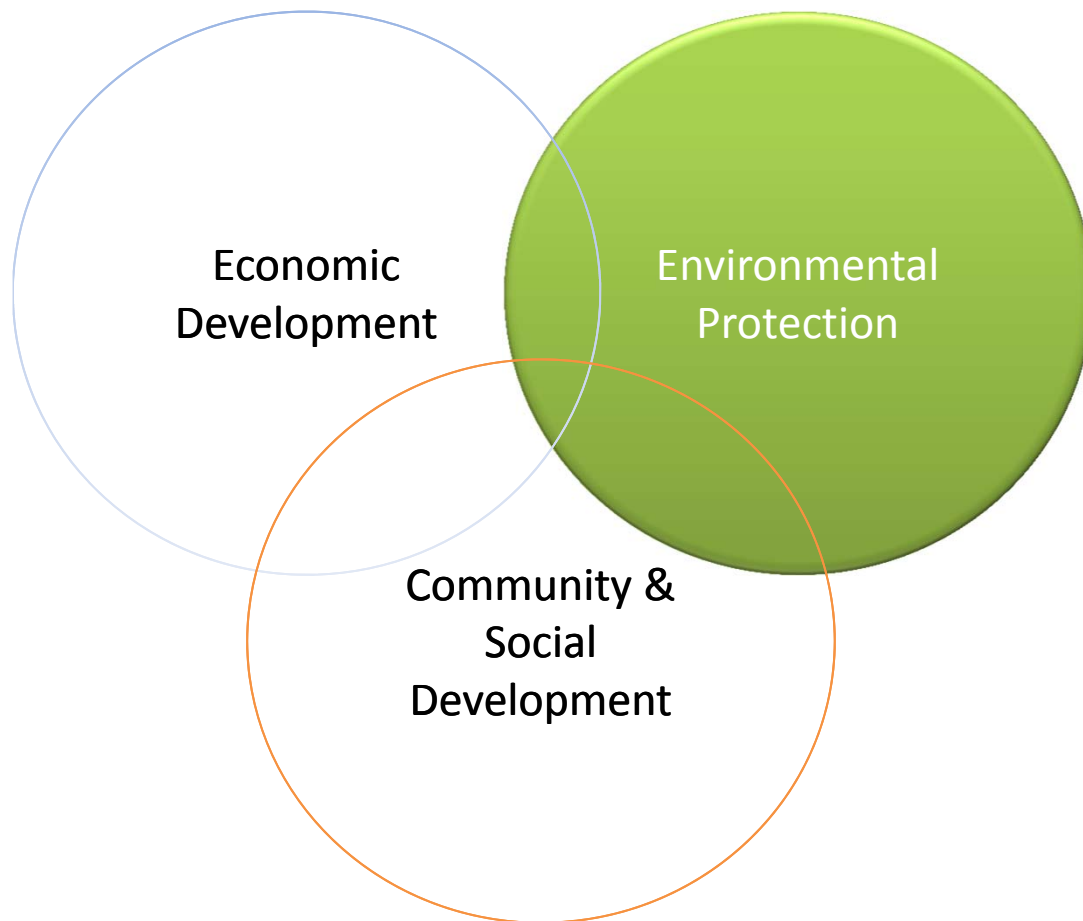
## DEVELOPMENT STRATEGIES:

- **Balanced Development**
- **Protect and Conserve Nature, Historic and Open Spaces**
- **TODs**
- **Promote Infill & Redevelopment**
- **Enhance Accessibility**
- **Promote Key Economic Areas as Focal Point For Growth**
- **Plan & Manage Regional Growth**
- **Plan for Innovative & Sustainable Infrastructure & Utilities**
- **Liveable, Walkable Green Cities - Quality and Sustainable Neighbourhoods**

# ExSS Model Structure



## Sustainable Development within Iskandar Malaysia: Integrating 3 main elements



**Livability and Sustainability** are the core essences of the framework and thrust of the Comprehensive Development Plan (CDP)

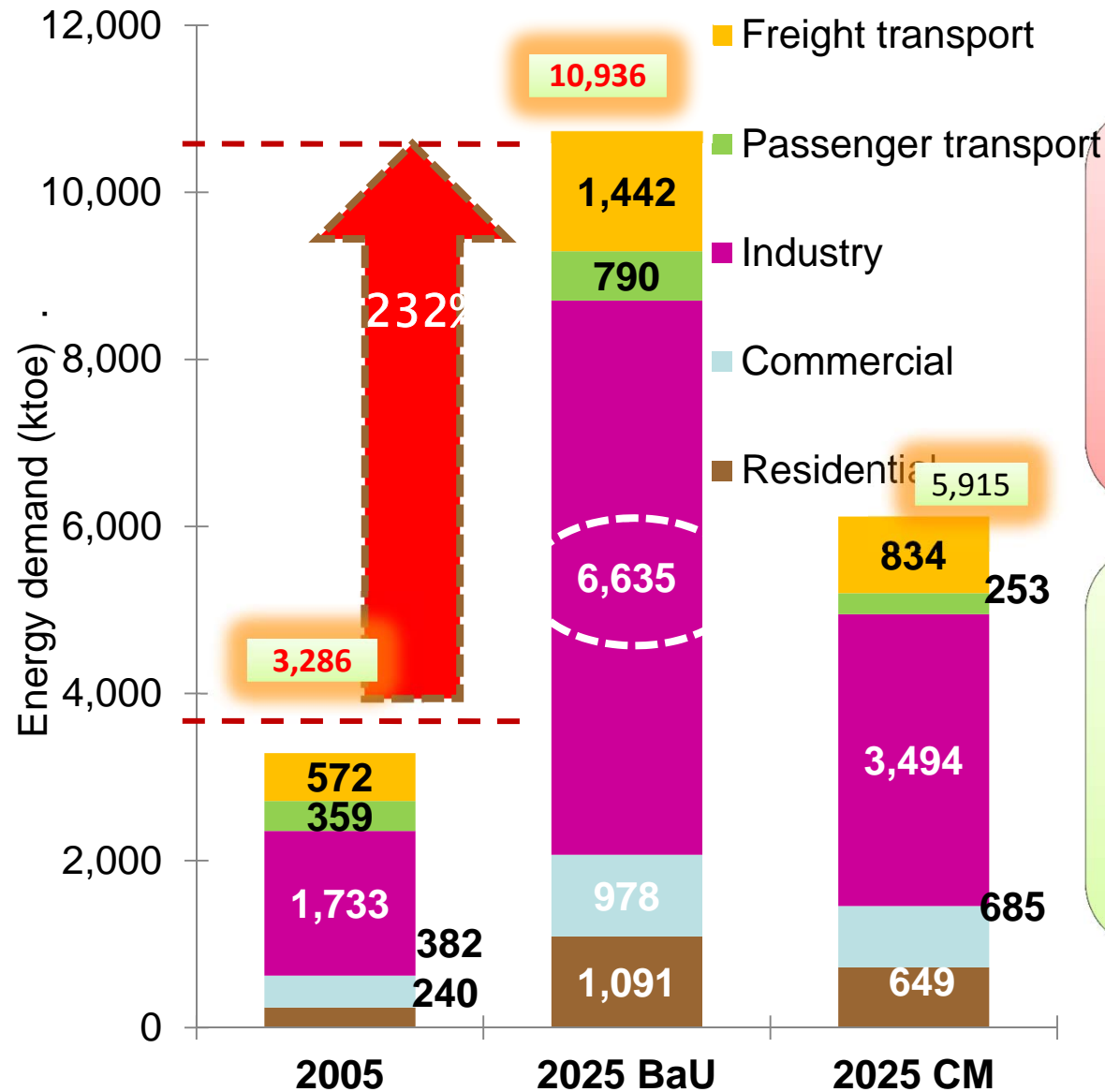
**The Tools**; (ExSS & Backcasting Model) play an important role in getting the numbers (Facts and Figures) to **support in the decision making process** when the Local Authorities and Iskandar Regional Development Authority design the Policies & Guidelines towards a Low Carbon Scenario.

# Socio Economic Scenario of IM

	2005	2025	2025/ 2005
<b>Population</b>	1,353,200	3,005,815	2.2
<b>No. of households</b>	317,762	751,454	2.4
<b>GDP (mil RM)</b>	37,641	176,224	4.7
<b>GDP per capita (RM/capita)</b>	27,817	58,628	2.1
<b>Gross output (mil RM)</b>	121,431	474,129	3.9
Primary industry (mil RM)	1,860	5,375	2.9
Secondary industry (mil RM)	83,502	263,444	3.2
Tertiary industry (mil RM)	36,069	205,309	5.7
<b>Floor space for commercial (mil m<sup>2</sup>)</b>	6.8	19.3	2.8
Offices	1.3	1.7	2.9
Shops	5.7	16.3	2.9
Hospitals & Schools	0.6	1.2	2.1
<b>Passenger transport demand (mil p-km)</b>	3,816	8,677	2.3
<b>Freight transport demand (mil t-km)</b>	1,652	5,303	3.1



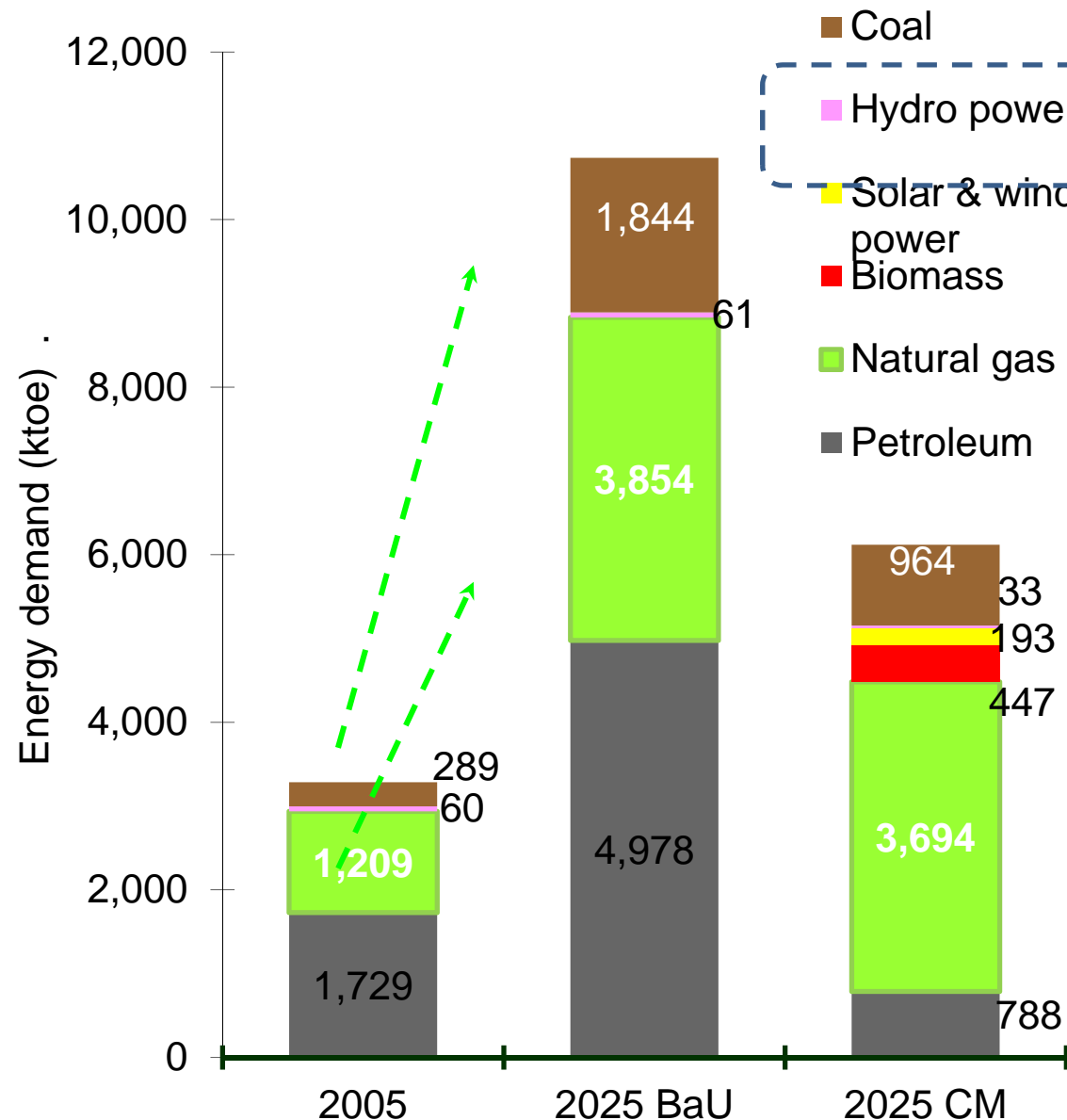
# Energy Demand By Sector



**Energy demand in IM** is projected to increase from **3,286 ktoe** (toe: tonne oil equivalent) in 2005 to **10,936 ktoe** in 2025 for the BaU case (*BaU: business as usual*)

Industry is expected to be 6,635 ktoe and will maintain the largest share of 61%.

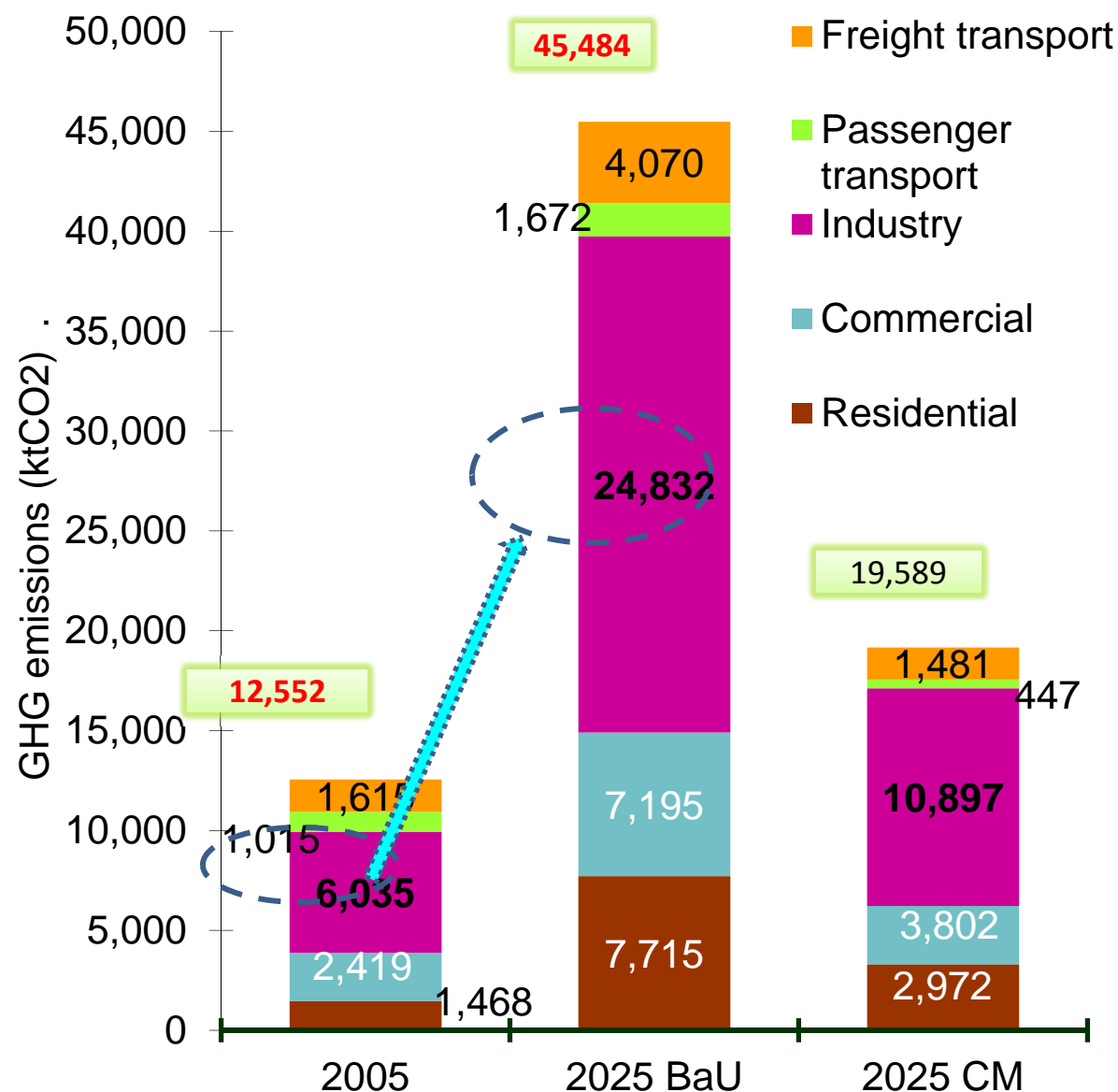
# Energy Demand by Energy Sources



**Increase** in demand for **natural gas (3.2 times)** the consumption in 2005.

Energy sources such as **biomass, solar** and **wind power** will be newly introduced for primary energy in 2025 **CM case**.

# GHG Emission By Sector

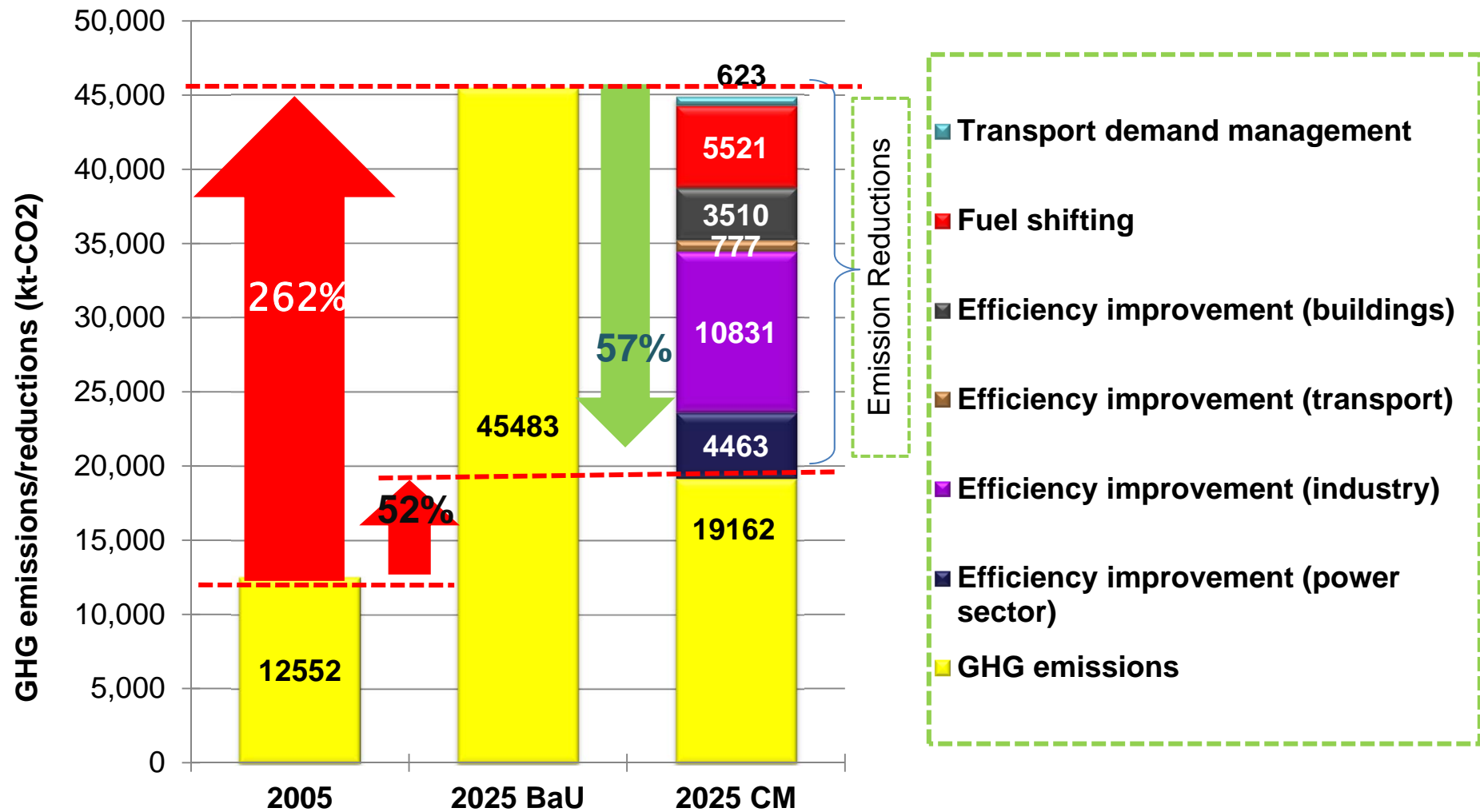


**GHG Emissions in IM** are projected to increase from 12,552 ktCO<sub>2</sub> (2005) to 45,484 ktCO<sub>2</sub> (2025 BaU)

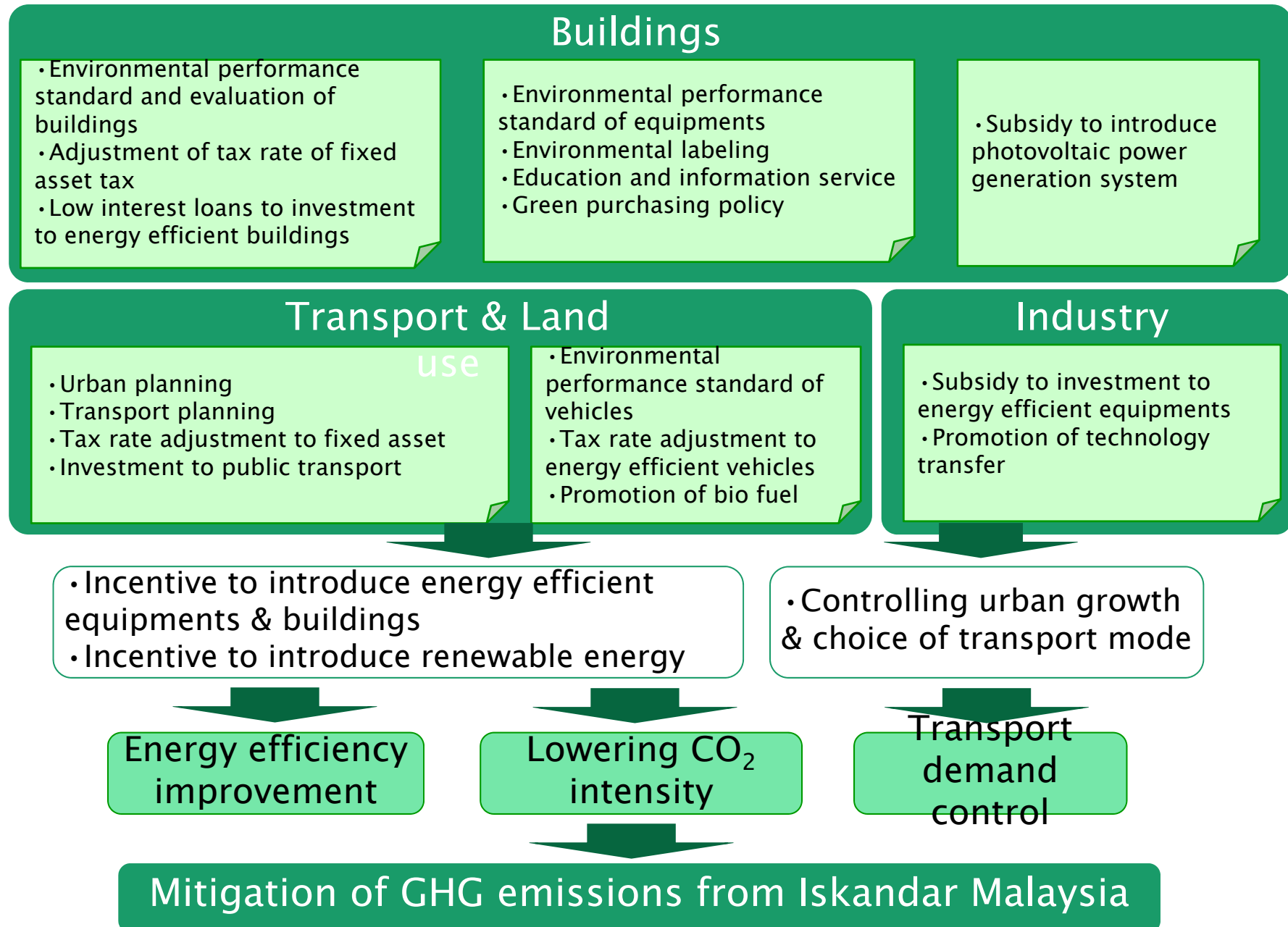
**Industry Sector** will increase 4.1 times in total as compared to 2004 in GHG emission . (54% of total GHG emission in 2025 BaU)

**GHG emissions per capital** : 9.3 tonnes of CO<sub>2</sub> /capita (2005) to 15.1 tonnes /capita (2025 BaU ), with CM will be reduced to 6.5 tonnes of CO<sub>2</sub>/capita.

# Potential Mitigation in IM



# Low Carbon Cities Policy Package





# IRDA Blueprints that promote LCS

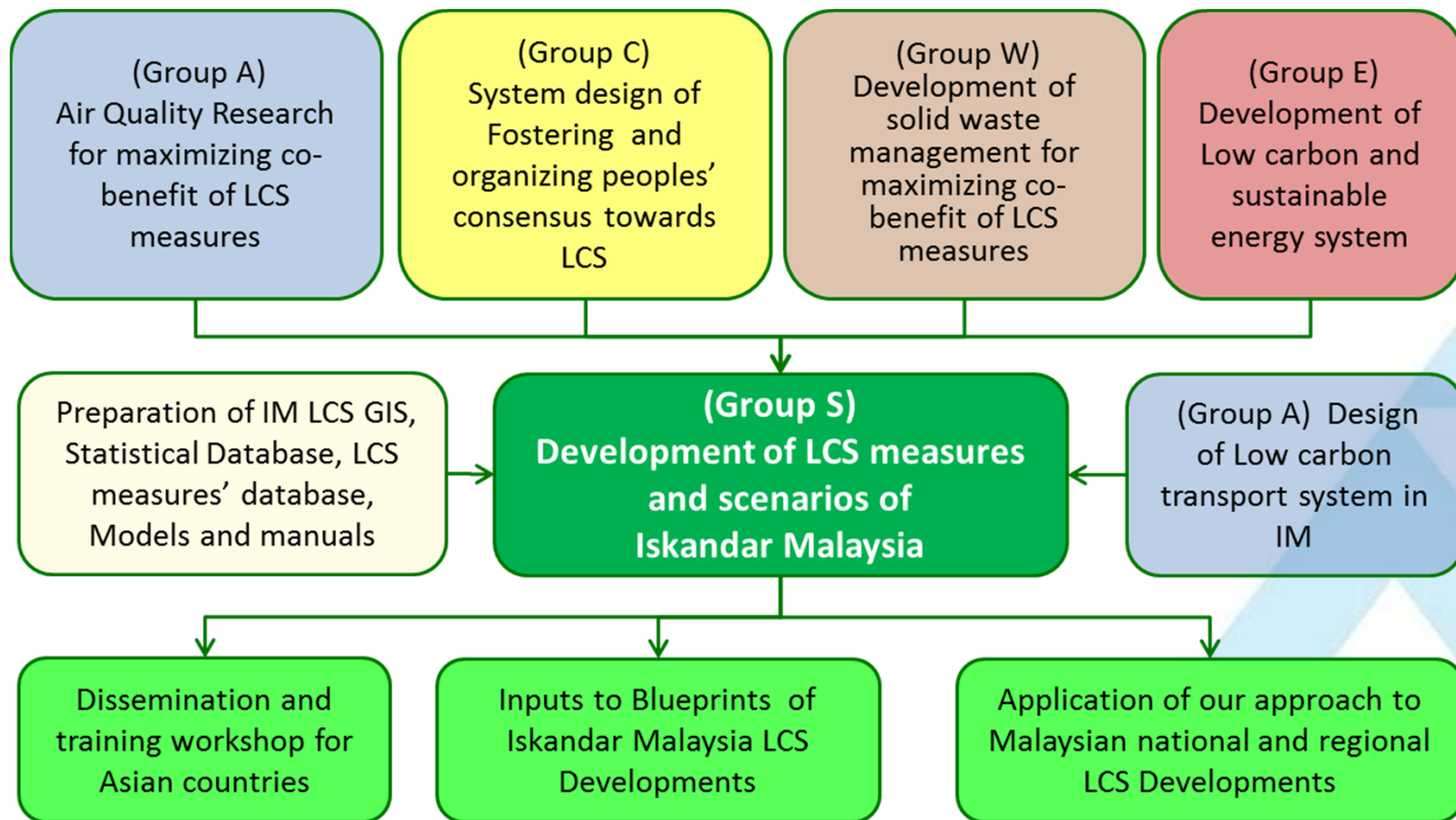


# Literature Review / Preliminary Findings

## The Environmental Theme



# LCS Research groups



# Conclusion

The current annual GHG emission in Iskandar Malaysia is about **12.6 million t-CO<sub>2</sub>**. In the BaU scenario, by 2025, it will **increase to 45.5 million t-CO<sub>2</sub> or 3.6 times higher than that of 2005**.

However **by adopting the mitigation options available**, by 2025 the **emissions** can be **decreased to about 60%** and suppressed to a 19.6 million t-CO<sub>2</sub>.

This project illustrates importance of **collaboration of R&D / scientific study and implementer** (IRDA) to develop Low Carbon Society for a fast growing region in Asia in general and Malaysia in particular.

# THANK YOU FOR YOUR ATTENTION!

HO CHIN SIONG

ACKNOWLEDGMENT FOR THE SUPPORT UNDER  
SATREPS PROJECT SPONSORED BY JICA AND JST

