

# UTM and NIES side event

COP20 on December 11, 2014 1645-1815 at Caral Room (130)

## Realization of Blueprint for LCS development in Malaysia

Science into Action (S2A)– Low carbon Society blueprint



Ho Chin Siong (UTM)

Faculty of Built environment/ UTM Low Carbon Asia Centre



Project for Development of Low Carbon Society Scenarios for Asian Regions

Email: [ho@utm.my](mailto:ho@utm.my) / [csho59@yahoo.com](mailto:csho59@yahoo.com)

# Content- Structure of Presentation

## Background

- **Urban problem and low carbon solution policy in Malaysia**

## Challenges And Solution

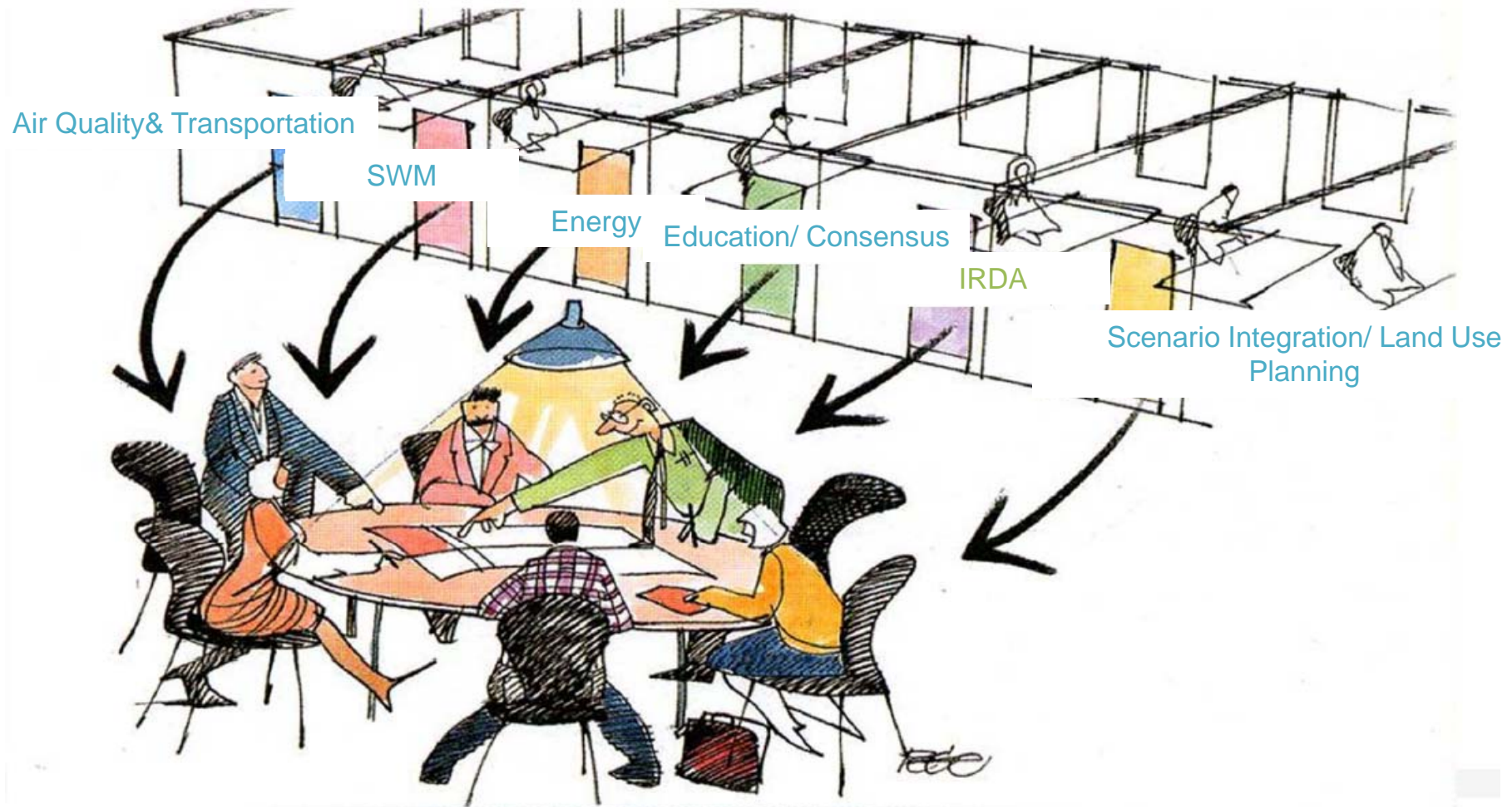
- **Low Carbon Society Blueprint for Iskandar Malaysia**
- **Solution- 12 actions into projects**

## LCS Malaysia

- **Local authorities as implementation agencies**
- **Conclusions – Achievement and way forward**

# Our Research Groups – MULTI DISCIPLINARY + POLICY MAKERS TEAM

## Development of Low Carbon Society Scenarios for Asian Regions





# SOLVING URBAN PROBLEMS with LOW CARBON SOLUTIONS – Physical planning

## Material and Energy



## Mobility and Green





# SOLVING URBAN PROBLEMS with LOW CARBON SOLUTIONS— Socio-economic planning

Social/ community planning

Urban Economy/ Engine of Growth



# Background

## Iskandar Malaysia: Key Challenges



Size: 2,216.3 km<sup>2</sup>

Population: 1.3 mil. (2005) | 3.0 mil. (2025)

GDP: 35.7 bil. RM (2005) | 141.4 bil. RM (2025)



Voluntary  
40%  
reduction of  
CO<sub>2</sub>  
emission  
intensity by  
2020

### Issues

- \_ Rapid **urbanization and industrialization**
- \_ Relatively **high carbon intensity** dependence on fossil fuel
- \_ High private **car ownership**
- \_ Low density development and **urban sprawl**
- \_ **Low energy efficiency (EE)** and RE appliances

### Strong Government Policy Directions

- \_ National Green Technology Policy
- \_ National Policy on Climate Change
- \_ National Renewable Energy Policy and Action Plan
- \_ National Policy on the Environment
- \_ 10<sup>th</sup> Malaysia Plan
- \_ Green Neighborhood Planning Guideline
- \_ Low Carbon Cities Framework and Assessment System



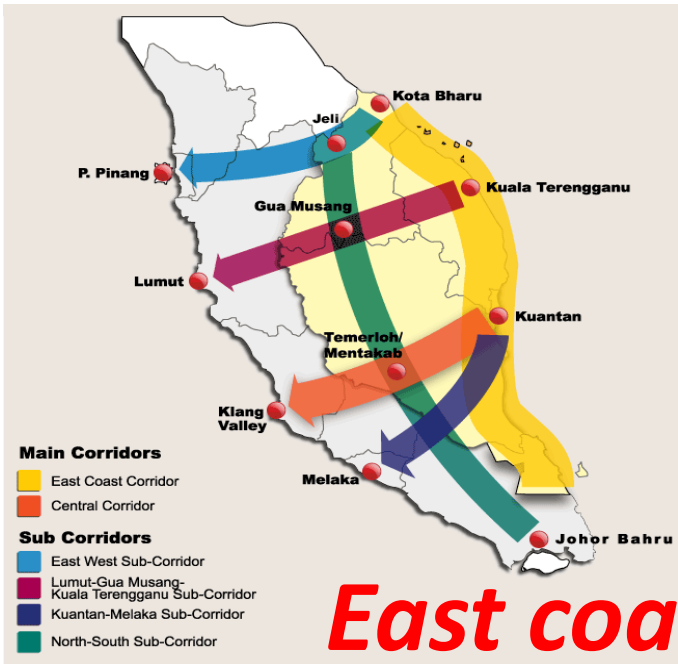
# BACKGROUND

# MALAYSIA: KEY ECONOMIC DEVELOPMENT CORRIDORS



*Iskandar Malaysia*

*North NCER*



*East coast ECER*

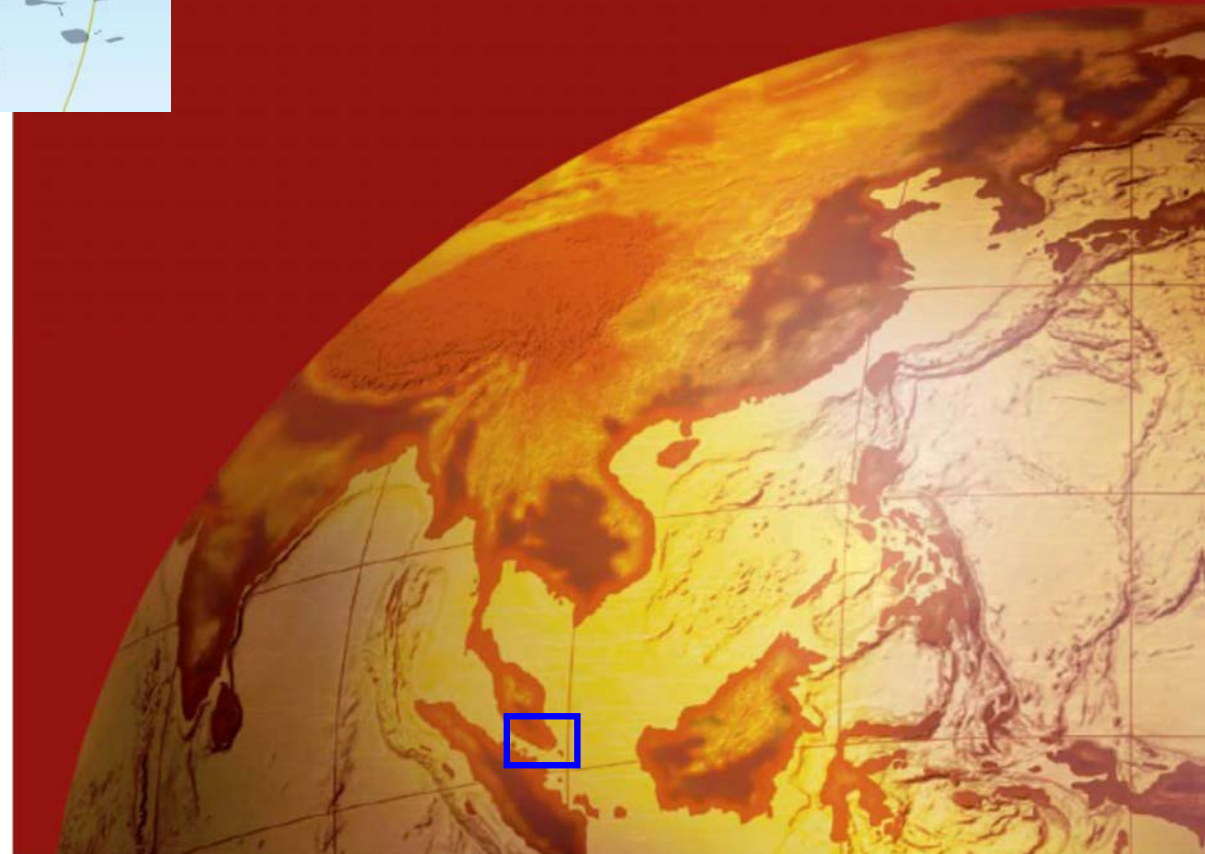


# Case study

## Iskandar Development Region

2,216 km<sup>2</sup>

Population 1,353,200





# 01 Low Carbon Society Scenarios for Iskandar Malaysia

## Project Background



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)



# Iskandar Malaysia at a Glance

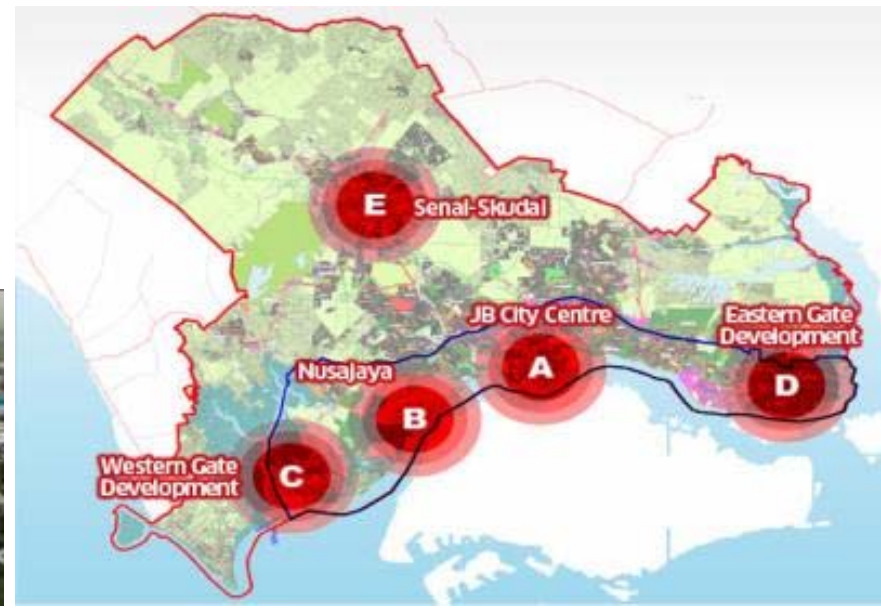
A



E



B



C



D

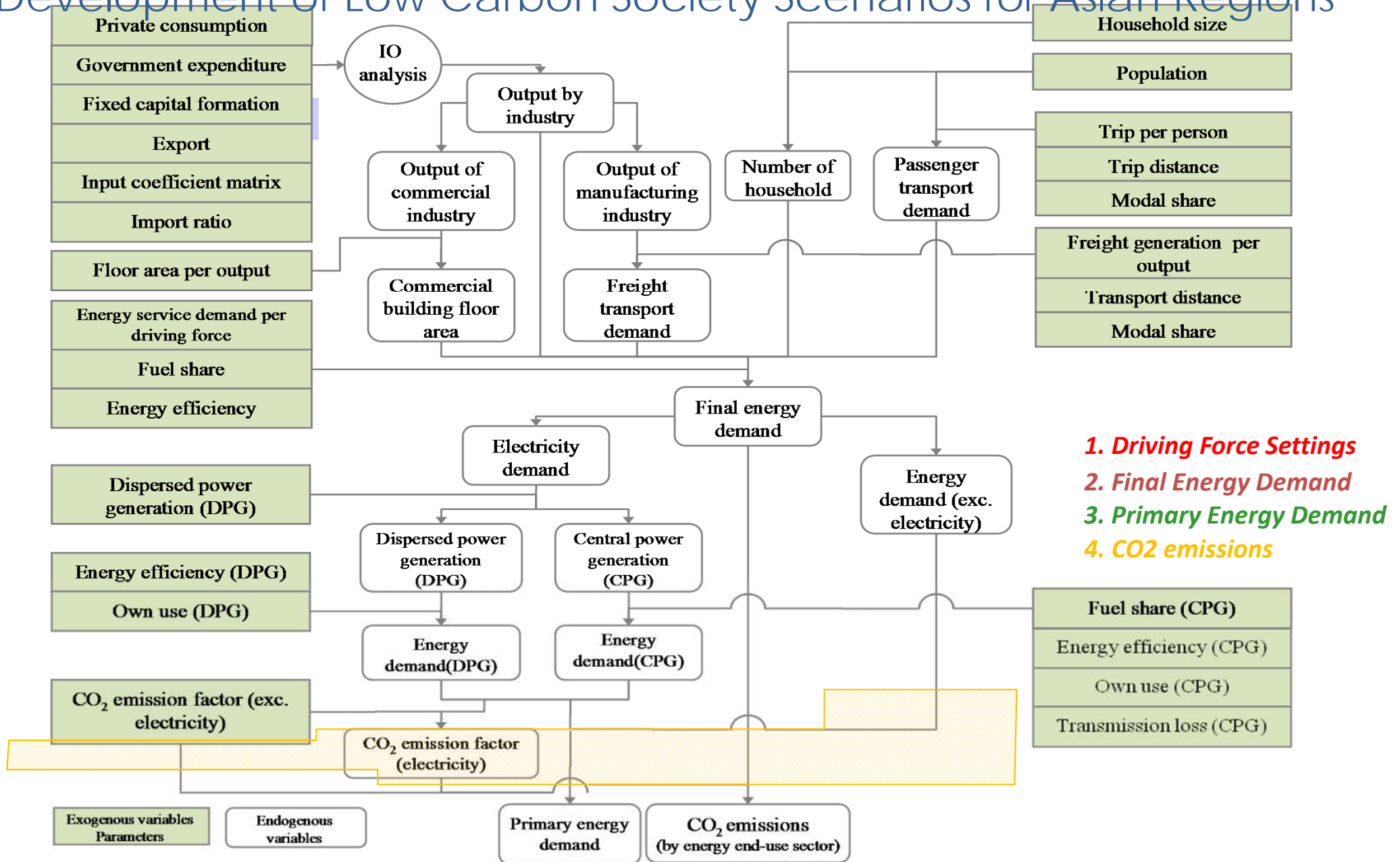




# IRDA's Strategic Environmental Policy



# CO<sub>2</sub> Emission Modeling – Development of Low Carbon Society Scenarios for Asian Regions





# Projected Greenhouse Gas Emission Reduction in Iskandar Malaysia

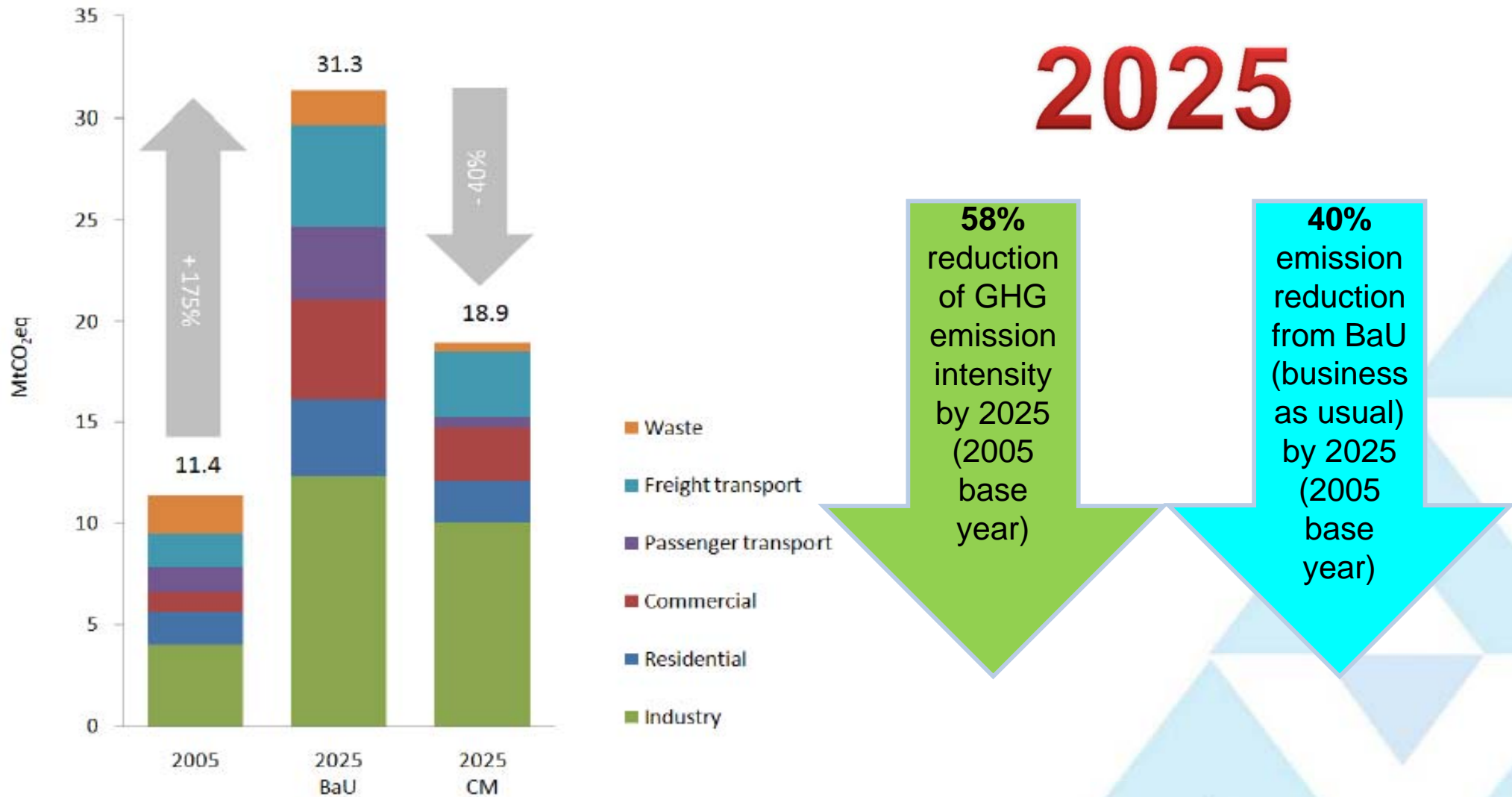


Figure 1: GHG emissions by sectors

# 04 Potential Mitigation Options for Iskandar Malaysia

## 12 Actions Towards Low Carbon Future

Mitigation Options	CO2 Reduction	%
<b>Green Economy</b>	<b>7,401</b>	<b>59%</b>
Action 1 Integrated Green Transportation	1,916	15%
Action 2 Green Industry	1,085	9%
Action 3 Low Carbon Urban Governance**	-	-
Action 4 Green Building and Construction	1,338	11%
Action 5 Green Energy System and Renewable Energy	3,061	24%
<b>Green Community</b>	<b>2,557</b>	<b>21%</b>
Action 6 Low Carbon Lifestyle	2,557	21%
Action 7 Community Engagement and Consensus Building**	-	-
<b>Green Environment</b>	<b>2,510</b>	<b>20%</b>
Action 8 Walkable, Safe and Livable City Design	264	2%
Action 9 Smart Urban Growth	1,214	10%
Action 10 Green and Blue Infrastructure and Rural Resources	620	5%
Action 11 Sustainable Waste Management	412	3%
Action 12 Clean Air Environment**	-	-
<b>Total</b>	<b>12,467**</b>	<b>100%</b>



# Proposed Numbers of SC by Actions

	Action Names	Sub-action	Measures	Programs	Total
1	Integrated Green Transportation	6	9	28	43
2	Green Industries	2	6	16	25
3	Low Carbon Urban Governance	4	4	14	21
4	Green Buildings and Construction	5	8	21	34
5	Green Energy System and Renewable Energy	5	7	21	32
6	Low Carbon Lifestyle	5	8	21	34
7	Community Engagement and Consensus Building	4	6	24	34
8	Walkable, Safe, Livable City	4	8	30	42
9	Smart Growth	3	5	17	25
10	Green and Blue Infrastructure	7	11	25	43
11	Sustainable Waste Management	4	9	46	59
12	Clean Air Environment	2	4	12	18
<b>Total</b>		<b>51</b>	<b>85</b>	<b>275</b>	<b>410</b>

# PROJECT LAUNCHING and CAPACITY BUILDING ( baseline study)

## 1<sup>st</sup> LCS Symposium cum Training Workshop

(4<sup>th</sup> July – 5<sup>th</sup> July 2011)



## 2<sup>nd</sup> LCS Symposium cum Training Workshop

(31<sup>st</sup> October -1<sup>st</sup> November 2011)





# FOCUS GROUP DISCUSSION WITH STAKEHOLDER (Local authorities, Business Community, NGOs – Rural and Urban)

## 1<sup>st</sup> LCS Focus Group Discussion

(21<sup>st</sup> June 2011)



## 2<sup>nd</sup> LCS Focus Group Discussion

(25<sup>th</sup> November 2011)





# Green Education System Focus Group Discussion

(1<sup>st</sup> December 2011)





# Typical Rural Village Technical Tour to Iskandar Malaysia

(2<sup>nd</sup> November 2011)

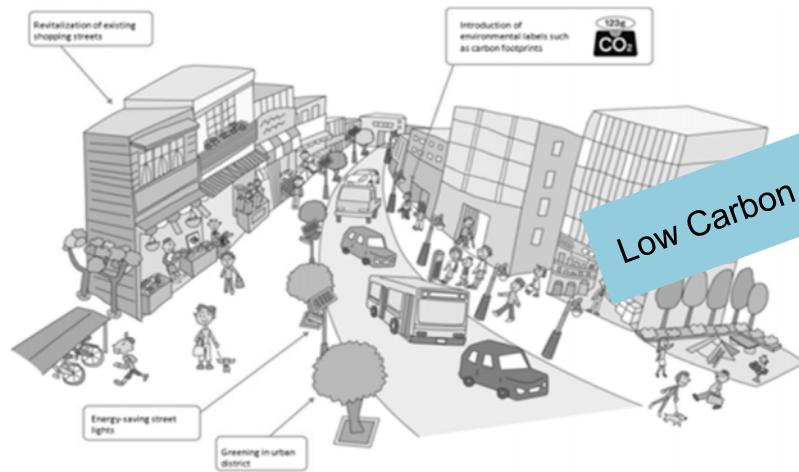




# Towards Low Carbon Iskandar Malaysia 2025

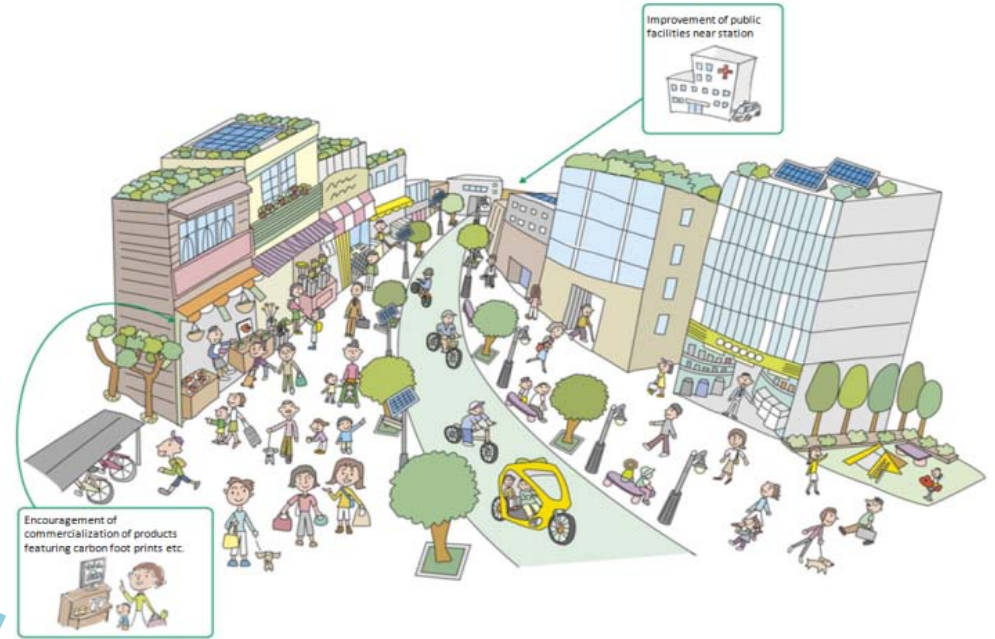
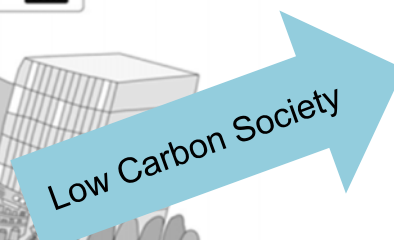
## Today and Tomorrow

Sustainability ↑



Today Iskandar Malaysia  
High Carbon Society, Lower Sustainability

Present  
2010



Tomorrow Iskandar Malaysia  
Low Carbon Society, Higher Sustainability, Green Growth/ Economy

Future  
2025

Year →

# Launching of the LCSBPIM ( policy plan) - COP18 Doha, 2012



# Launching of the LCSBPIM Roadmap & LCS Booklet “Actions for a Low Carbon Future” - COP19 Warsaw 2013



## COP2014

Launching of the LCS  
blueprint updates and 5  
local authorities LCS  
blueprints ( baseline)  
Ecolife challenge Phase 2



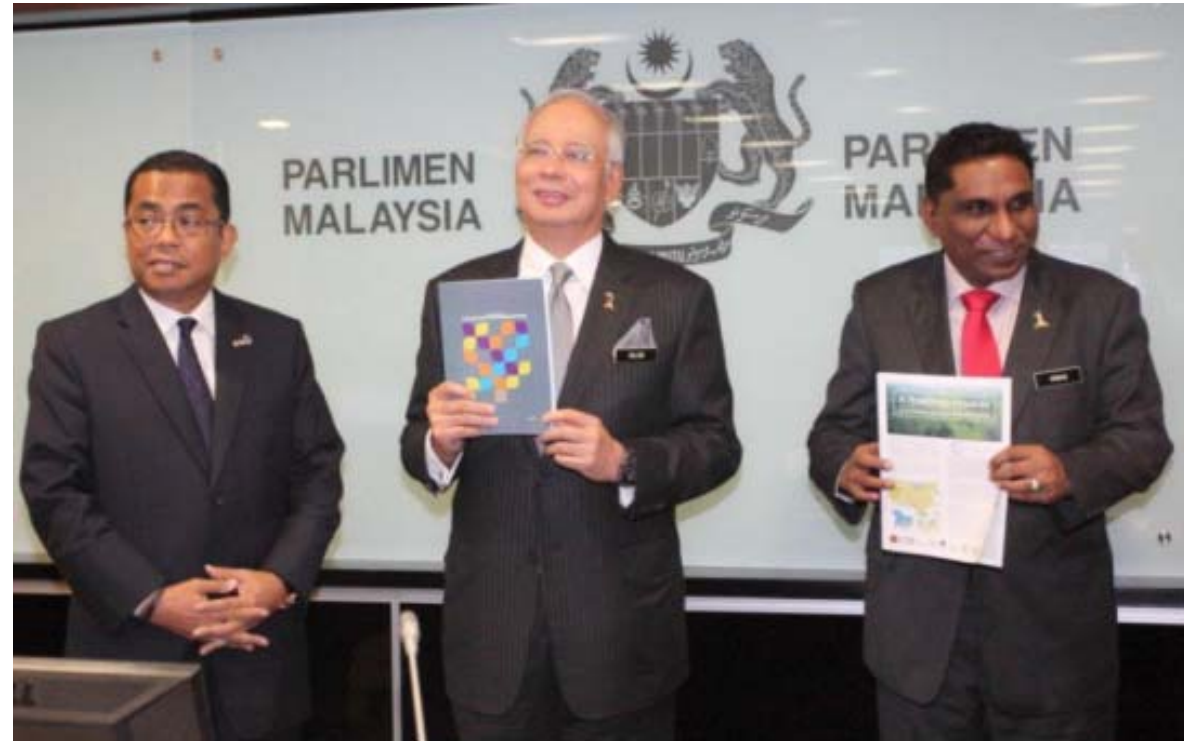
Putrajaya LCS projects  
( walkable/bikeable city and  
inventory work)



## Endorsed by Malaysia Prime Minister - YAB Dato' Sri Mohd Najib bin Tun Abdul Razak

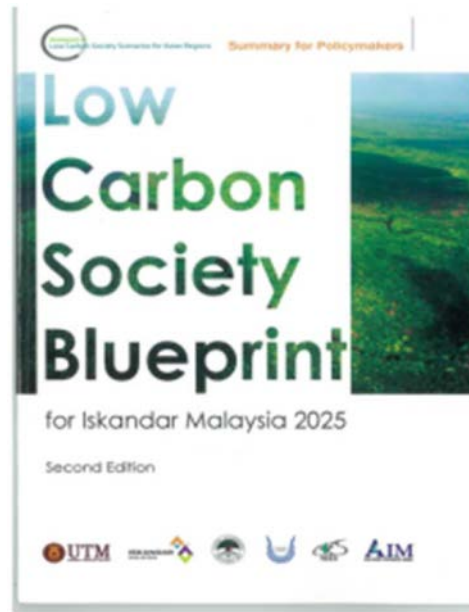


11<sup>th</sup> December 2012  
The PM endorses the launching of  
LCSBPIM at COP 18 during MoA



6<sup>th</sup> November 2013  
The PM launched Actions for a  
Low Carbon Future during MoA

# Low Carbon Society Blueprint for Iskandar Malaysia 2025



- The LCSBPIM– a quick reference for all policy-makers in both public and private sectors as well as IRDA;
- 12 Actions grouped in 3 parts namely: (Green Economy), (Green Community), and Green Environment);281 programmes;
- Each Chapter contains an analysis, list of programmes and the potential GHG emissions reduction;
- IRDA launched its Low Carbon Society Blueprint for Iskandar Malaysia 2025 on 30 November 2012 at the United Nations Climate Change Conference in Doha, Qatar. The ultimate goal is to reduce Iskandar Malaysia’s carbon intensity emissions by 50 per cent by 2025.
- The Blueprint was subsequently endorsed by the Prime Minister of Malaysia in December 2012

	Action Names	Themes
1	Integrated Green Transportation	GREEN ECONOMY
2	Green Industry	
3	Low Carbon Urban Governance	
4	Green Buildings & Construction	
5	Green Energy System & Renewable Energy	
6	Low Carbon Lifestyle	GREEN COMMUNITY
7	Community Engagement & Consensus Building	
8	Walkable, Safe, Livable City Design	GREEN ENVIRONMENT
9	Smart Growth	
10	Green and Blue Infrastructure & Rural Resources	
11	Sustainable Waste Management	
12	Clean Air Environment	

# Iskandar Malaysia: Actions For A Low Carbon Future



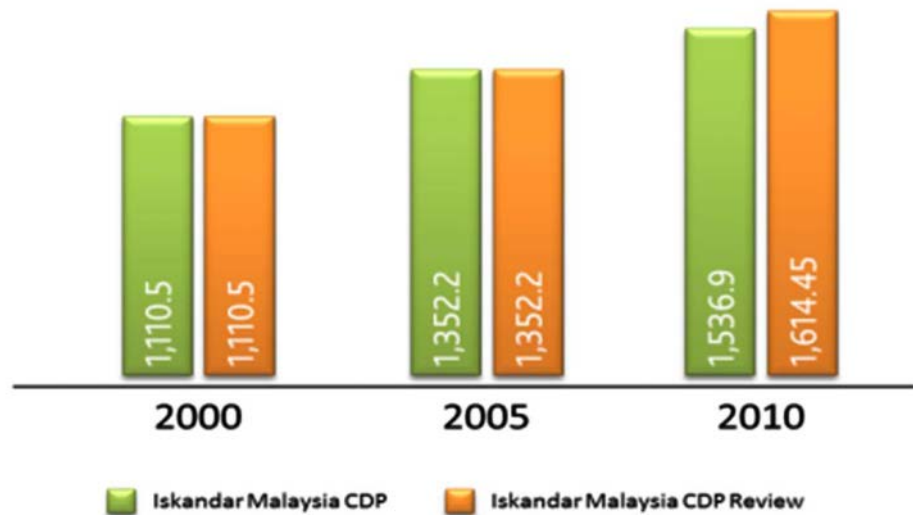
- The Booklet 'Actions for a Low Carbon Future' – list of 10 programmes which IRDA has started implementing or have been completed.
- On 6th November 2013, the Iskandar Malaysia: Actions for A Low Carbon Future is the implementation booklet which outlines the 10 programmes, was launched by Malaysia Prime Minister Dato' Sri Mohd Najib Tun Abdul Razak.
- On 15th and 18th November 2013, was the subsequent global launching at COP 19, Warsaw, Poland.

	Programmes	PIC
1	<b>Integrated Green Transportation – Mobility Management System</b>	<b>Kamisah Mohd Ghazali</b>
2	<b>Green Economy Guidelines</b>	<b>Ivy Wong Ling Ling</b>
3	<b>Eco-Life Challenge Project for Schools</b>	<b>Isma Ezwan Safri</b>
4	<b>Portal on Green Technology</b>	<b>Choo Hui Hong</b>
5	<b>Trees for Urban Parks/Forests</b>	<b>Boyd Dionysius Joeman</b>
6	<b>Responsible Tourism and Biodiversity Conservation</b>	<b>Boyd Dionysius Joeman</b>
7	<b>Bukit Batu Eco-Community</b>	<b>Hamdi Mohd Yusof</b>
8	<b>GAIA – Green Accord Initiative Award</b>	<b>Ivy Wong Ling Ling</b>
9	<b>Low Carbon Village FELDA Taib Andak</b>	<b>Dr Ibrahim Ngah (UTM)</b>
10	<b>Special Feature: Smart City – Nafas Baru Pasir Gudang: CLEAN AND HEALTHY CITY</b>	<b>Sakurah Jamaluddin , Sharifah Shahidah Syed Ahmad, Muhammad Fadly Muhammad Nor, Choo Hui Hong</b>



# Quick update :Eco life Challenge Programmes

Iskandar Malaysia Population Growth 2000-2010 ('000)



**198** primary schools,  
Phase 1 - **23** schools

**2014**, additional **80** schools  
involved in ELC programme.



The Iskandar Malaysia Eco-Life Challenge Project focuses on energy household accounting. School children track the energy consumption, waste generation and management, travelling choices, frugal consumption and utilizing renewable energy resources (sunlight). The aim is to raise children's awareness level on low carbon aspects.

# 03 Low Carbon Society Proposal Plans for 5 Municipalities

## Integrating Iskandar Malaysia and 5 Local Municipalities

Top - down

Low Carbon Society Blueprint for Iskandar Malaysia 2025

Bottom - up

Low Carbon Society Action Plan for Johor Bahru 2025

Low Carbon Society Action Plan for Johor Bahru Tengah 2025

Low Carbon Society Action Plan for Pasir Gudang 2025

Low Carbon Society Action Plan for Kulai Jaya 2025

Low Carbon Society Action Plan for Pontian 2025

Iskandar Malaysia

Direction, Guide and Policy



- Detail Local Action
- Priority and Preference
- Correct Data through Survey
- Chose Implementable measures on the ground
- Pioneering Activities through Pilot Projects

FIVE (5) Local Municipalities





# 03 Low Carbon Society Proposal Plans for 5 Municipalities

## Local Action Plan: Cover and Theme (Example)



**JOHOR BAHRU CITY COUNCIL MBJB**

**Local Action Plan** The plan is developed by the Johor Bahru City Council to address the needs of the Johor Bahru region and to provide a vision for the future of the region. The plan is based on the Johor Bahru City Council's vision and mission statement. The plan is based on the Johor Bahru City Council's vision and mission statement. The plan is based on the Johor Bahru City Council's vision and mission statement.

UTM, JICA, SATREPS

**JOHOR BAHRU TENGAH MUNICIPAL COUNCIL MPJBT**

**Local Action Plan** The plan is developed by the Johor Bahru Tengah Municipal Council to address the needs of the Johor Bahru Tengah region and to provide a vision for the future of the region. The plan is based on the Johor Bahru Tengah Municipal Council's vision and mission statement. The plan is based on the Johor Bahru Tengah Municipal Council's vision and mission statement. The plan is based on the Johor Bahru Tengah Municipal Council's vision and mission statement.

UTM, JICA, SATREPS

**PASIR GUDANG MUNICIPAL COUNCIL MPPG**

**Local Action Plan** The plan is developed by the Pasir Gudang Municipal Council to address the needs of the Pasir Gudang region and to provide a vision for the future of the region. The plan is based on the Pasir Gudang Municipal Council's vision and mission statement. The plan is based on the Pasir Gudang Municipal Council's vision and mission statement. The plan is based on the Pasir Gudang Municipal Council's vision and mission statement.

UTM, JICA, SATREPS

**KULAI MUNICIPAL COUNCIL MPKu**

**Local Action Plan** The plan is developed by the Kulai Municipal Council to address the needs of the Kulai region and to provide a vision for the future of the region. The plan is based on the Kulai Municipal Council's vision and mission statement. The plan is based on the Kulai Municipal Council's vision and mission statement. The plan is based on the Kulai Municipal Council's vision and mission statement.

UTM, JICA, SATREPS

**PONTIAN DISTRICT COUNCIL MDP**

**Local Action Plan** The plan is developed by the Pontian District Council to address the needs of the Pontian region and to provide a vision for the future of the region. The plan is based on the Pontian District Council's vision and mission statement. The plan is based on the Pontian District Council's vision and mission statement. The plan is based on the Pontian District Council's vision and mission statement.

UTM, JICA, SATREPS

**Johor Bahru**

**Johor Bahru Tengah**

**Pasir Gudang**

**Kulai Jaya**

**Pontian**

**'The Vibrant Heart of Southern Region'**

**'Livable Community City'**

**'Green Manufacturing Hub'**

**'Smart Logistic Hub'**

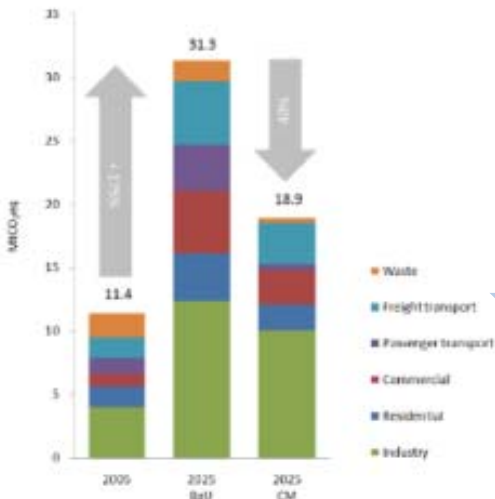
**'Agrobiodiversity Hub'**



# In Progress-Developing a Low Carbon Society Roadmap for Iskandar Malaysia

**Step 1** Low Carbon Society Blueprint for Iskandar Malaysia  
- Clear GHG target for year 2025

**Step 2** Low Carbon Society Implementation Roadmap 2015-2025 using Backcasting Tool



**58%** reduction of GHG emission intensity by 2025

**2025**

**40%** emission reduction from BaU by 2025



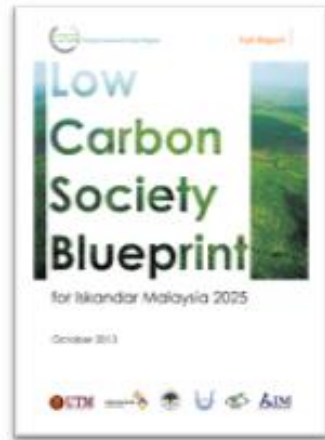
Figure 1: GHG emissions by sectors

# Low Carbon Society for Iskandar Malaysia Publications



Low Carbon Society Blueprint for Iskandar Malaysia 2025- Summary for Policymakers

<http://irdep.irda.com.my/cms/download/documentSharing/18230>



Low Carbon Society Blueprint for Iskandar Malaysia 2025- Full Report

<http://irdep.irda.com.my/cms/download/documentSharing/26570>



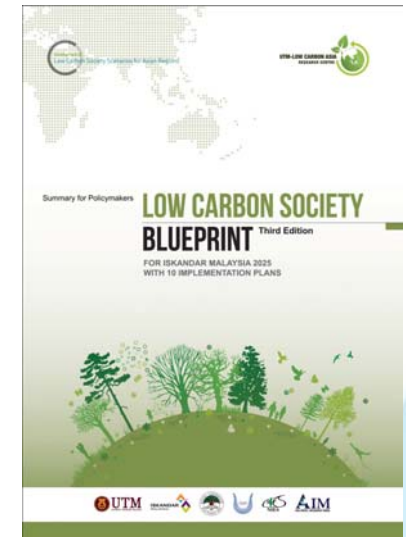
A Roadmap towards Low Carbon Iskandar Malaysia 2025

<http://irdep.irda.com.my/cms/download/documentSharing/26563>



Iskandar Malaysia: Action for a Low Carbon Future

<http://irdep.irda.com.my/cms/download/documentSharing/26571>



Low Carbon Society Blueprint and 10 implementation Plan

<http://irdep.irda.com.my/cms/download/documentSharing/26564>

# A Roadmap towards Low Carbon Iskandar Malaysia 2025



Low Carbon Society Blueprint for Iskandar Malaysia 2025

IRDA's Implementation Plan 2013-2015



A Roadmap towards Low Carbon Iskandar Malaysia 2025



This Roadmap has been formulated to serve as a complementary document to the LCSBPIM. It provides a pathway to guide the implementation of actions outlined in the LCSBPIM by priority, timeline and related implementation agencies.





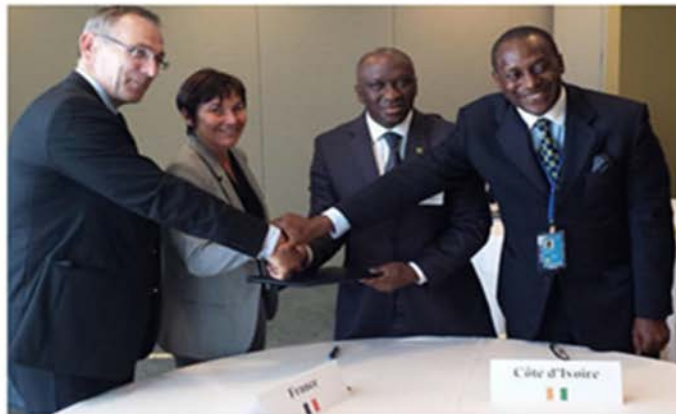
## UPDATES



SUSTAINABLE  
ENERGY FOR ALL



**Iskandar Malaysia** is selected as one of the 10 candidates in the world for **SE4ALL**. Iskandar Malaysia is also the only one in the South East Asia to be selected for SE4ALL, the rest of the candidates including city in China, Europe and America.



<http://www.iisd.ca/energy/se4all/se/> ----- gives the details of the event





CE IRDA in photo session together with recipients including Mayor Mori of Toyama, and Ambassador Horie of Japan



CE IRDA sitting in dialogue session together with recipients including Mayor Mori of Toyama



CE in photo session together with recipients including Mayor Mori of Toyama, and Ambassador Horie of Japan





# High-Level Luncheon on the SE4ALL Global Energy Efficiency Accelerator Platform



**Press release 23 Sept 2014 by the UN SE4ALL:**

## **Governments and Corporations Launch New Initiatives to Produce More Efficient Vehicles, Lights, Appliances, Buildings and District Energy Systems:**

New Commitments Aim to Double Efficiency of New Vehicles by 2030, Save More than 1 Gigaton of Carbon Emissions Annually by 2025 and Save Tens of Billions of Dollars Each Year through Efficient Appliances

- “In addition, a number of national and city governments are pledging to tackle energy efficiency at a broader level by participating in the Global Energy Efficiency Accelerator Platform. These include Chile and Nicaragua, Almaty and Astana (Kazakhstan), Cetinje (Montenegro), Jinan City (China), Leon (Mexico), Lima (Peru), Manila (Philippines), Rio de Janeiro (Brazil), Timphe City (Bhutan), Ulan Bator (Mongolia), Warsaw (Poland), [and the Iskandar Region of Malaysia](#), with ten municipalities. These governments are being joined by international organizations and financial institutions that will help them prepare road maps and investment and action plans. They include: the World Bank (ESMAP), IDB, UNDP, EBRD, ADB and Energy+ of Norway.
- “Energy efficiency has enormous potential to increase global productivity and prosperity while cutting waste and limiting emissions. Partnerships such as the UNEP-GEF enlighten initiative and the Global Fuel Economy Initiative show that achieving this is well within our grasp,” said Achim Steiner, Executive Director of the United Nations Environment Programme (UNEP), who co-chairs the energy efficiency work of the Sustainable Energy for All Advisory Board. “We must move quickly, decisively and in concert to enact and expand these bold measures.”



# UPDATE 2

## RCE Iskandar based at UTM Low Carbon Asia

**The Ubuntu Committee of Peers for the RCEs (hereafter referred to as the “Committee”)** held its ninth meeting on 3-4 November 2014 in Okayama, Japan and reviewed 15 applications from all over the world for official acknowledgement. On behalf of the Global RCE Service Centre, I am pleased to formally **notify you that the Committee recommended UNU to acknowledge RCE Iskandar**

**The Global RCE Service Centre**

*Education for Sustainable Development (ESD) Programme*

**UNU Institute for the Advanced Study of Sustainability (UNU-IAS)**



R  
C  
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REGIONAL CENTRE OF EXPERTISE  
ON EDUCATION FOR  
SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY

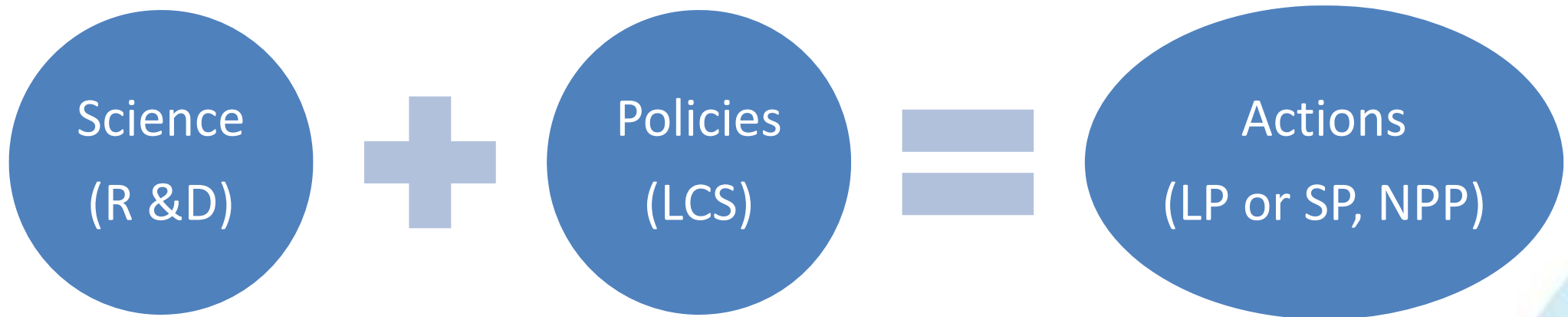


**UNITED NATIONS  
UNIVERSITY**

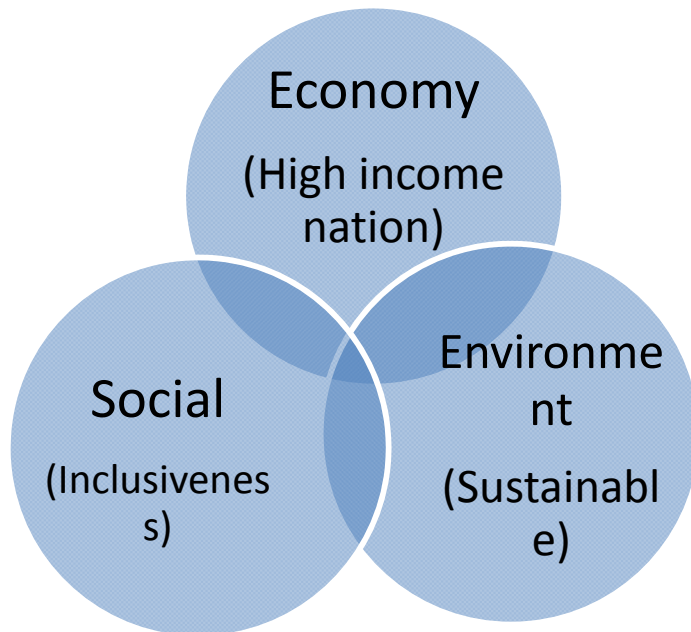
**UTM-LOW CARBON ASIA  
RESEARCH CENTRE**



# Realising Low carbon city sustainable development approach – Malaysian Model



Key element Sustainable development = PRO GROWTH, PRO JOB , PRO POOR and PRO ENVIRONMENT





## Conclusion- Way forward

**a) GOOD PRACTICE and ACTIONS (INTEGRATED and MULTI DISPLINARY)  
SCIENCE-KNOWLEDGE-POLICY- IMPLEMENTATION (completing PDCA cycle)**

**b) METHODOLOGY (S2A – Modeling/ Baseline study +FGD + INVENTORY)  
Good baseline quantitative study, consensus building and low carbon blueprint plan will help to develop an integrated climate resilient , Low carbon framework for a city by providing objective decision.**

**c) MEDIA and BUY- IN (MEDIA)  
Stakeholder participation**

**c) NETWORK (LOCAL AND INTERNTIONAL)  
The researchers/scientists have to work with local implementation agencies and international collaboration for capacity building opportunities.**



*Thank you for your attention!*  
ho@utm.my

Thank You Terima Kasih 谢谢 धन्यवाद ありがとう

