Development of
Low Carbon Society Scenarios for Asian Regions

Low carbon Society Blueprint and Roadmap towards Low Carbon Iskandar Malaysia 2025

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01 Introduction

Development of Low Carbon Society Scenarios for Asian Regions

Research Team: Universiti Teknologi Malaysia (UTM), Kyoto University (KU), Okayama University (OU), National Institute for Environmental Studies (NIES)

Joint Coordinating Committee: Iskandar Regional Development Authority (IRDA), Federal Department of Town and Country Planning (JPBD), Malaysia Green Technology Corporation (MGTC)

Sponsorship: Japan International Cooperation Agency (JICA) , Japan Science and Technology (JST)

Period: 2011 - 2016

Research Output:

I. **Methodology** to create LCS scenarios which is appropriate for Malaysia is developed.

II**. LCS scenarios** are created and utilized **for policy development** in IM.

III. **Co-benefit of LCS policies** on air pollution and on recycling-based society is quantified in IM

IV. **Organizational arrangement of UTM** to conduct trainings on LCS scenarios for Malaysia and Asian countries is consolidated, and a network for LCS in Asia is established

02 Background

Iskandar Malaysia: Key Challenges

Size: 2,216.3 km²

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

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

Issues

_ Rapid urbanization and industrialization

_ Relatively high carbon intensity dependence on fossil fuel

_ High private car ownership

_ Low density development and urban sprawl

_ Low efficiency appliances

Government Policy Directions

_ National Green Technology Policy

_ National Policy on Climate Change

_ National Renewable Energy Policy and Action Plan

_ National Policy on the Environment

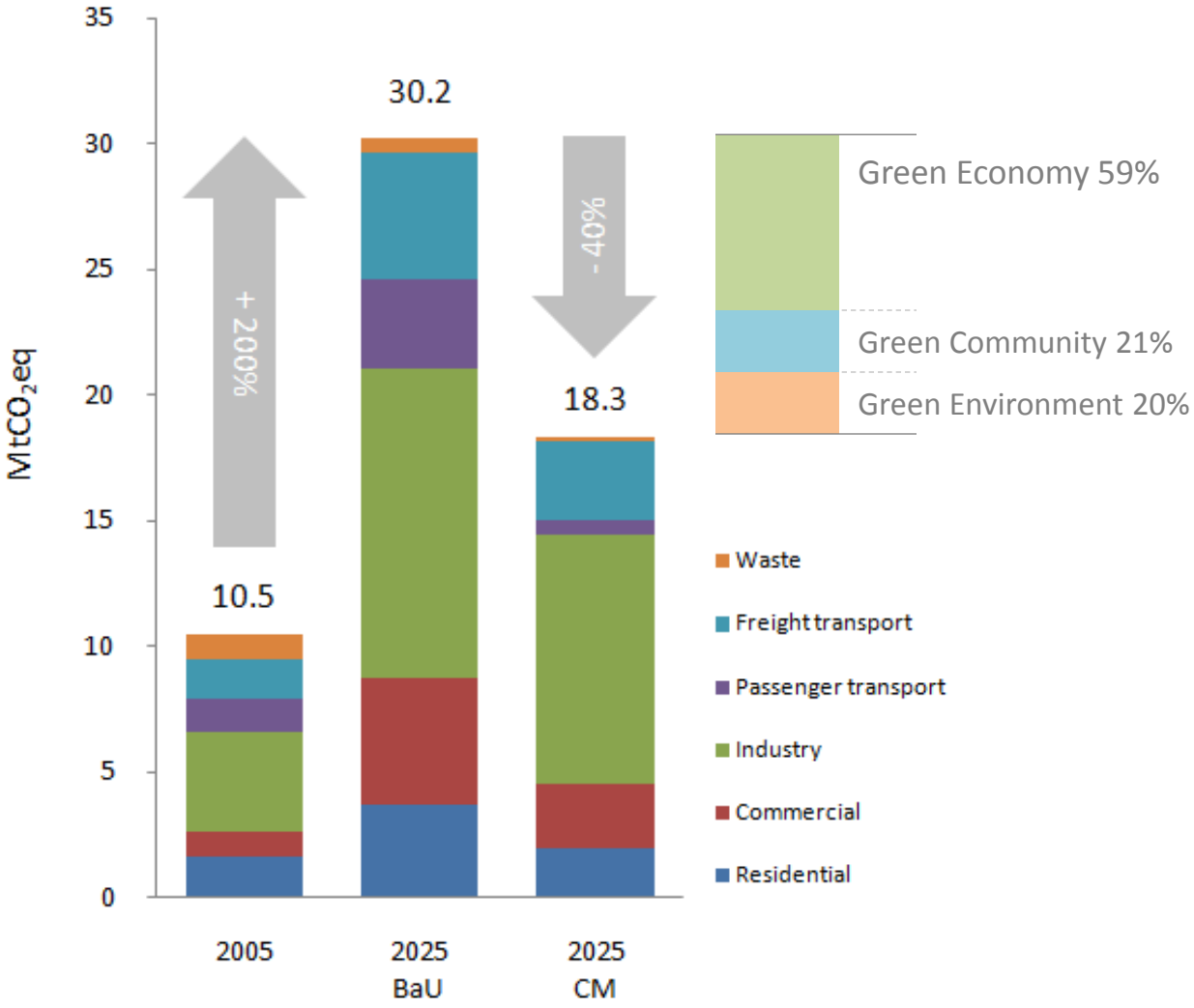
_ 10th Malaysia Plan

_ Green Neighborhood Planning Guideline

_Low Carbon Cities Framework and Assessment System

04 Potential Mitigation Options for Iskandar Malaysia

Green Economy, Green Community and Green Environment



04 Potential Mitigation Options for Iskandar Malaysia

12 Actions Towards Low Carbon Future

Mitigation Options	CO2 Reduction	%
Green Economy	**7,401**	**59%**
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%
Green Community	**2,557**	**21%**
Action 6 Low Carbon Lifestyle	2,557	21%
Action 7 Community Engagement and Consensus Building**	-	-
Green Environment	**2,510**	**20%**
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**	-	-
Total	12,467**	100%

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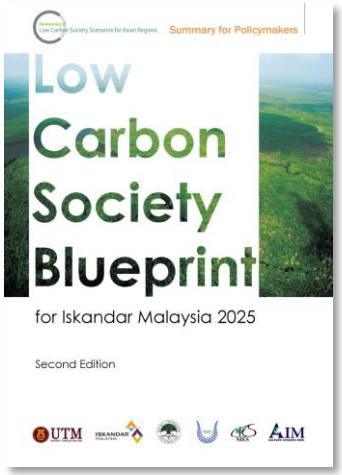
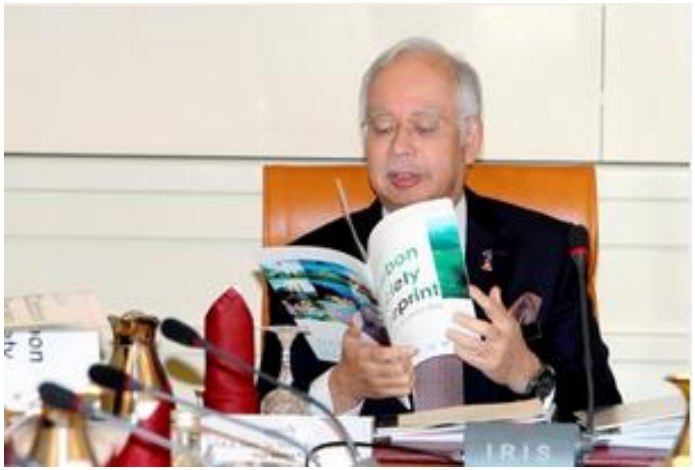
After the Low Carbon Society Blueprint – What's Next?





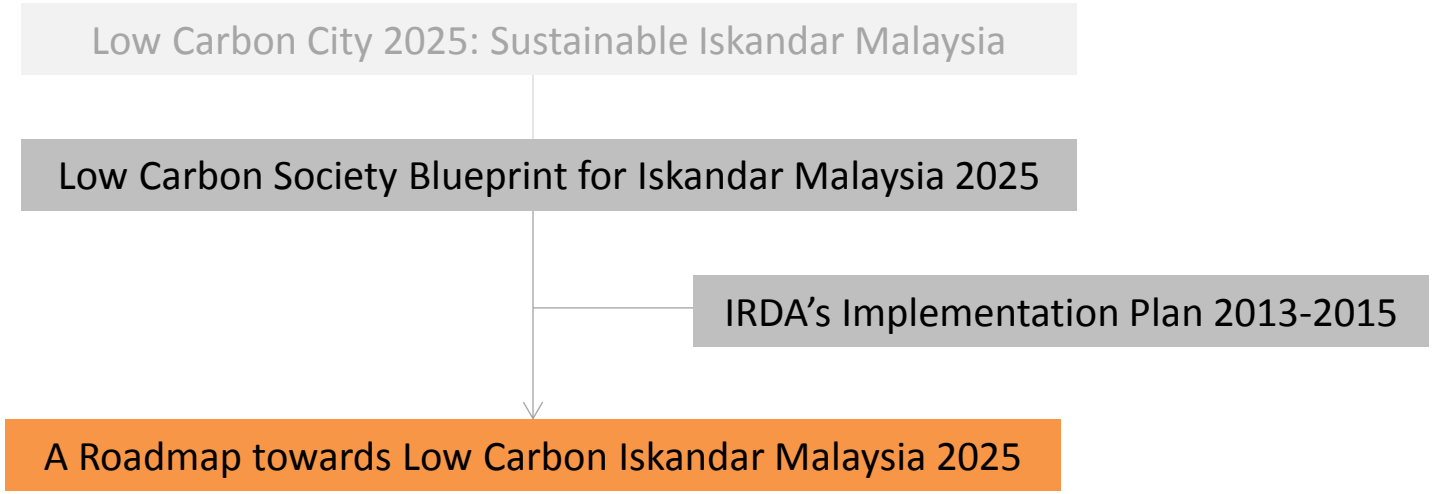
The *Low Carbon Society Blueprint for Iskandar Malaysia 2025*, officially launched by the Prime Minister of Malaysia and adopted by the Iskandar Regional Development Authority (IRDA) in 2012, sets a target for 50% carbon intensity reduction in 2025 as compared to the 2005 level and recommends a total of 283 strategic policies towards minimizing carbon emissions in Iskandar Malaysia (IM).

Taking the blueprint into the implementation phase poses several questions:

Which policies should come first?
How long should the implementation period be?
When should these policies be implemented?
Who are the potential implementation agencies involved with these policies?

01 Introduction

A Roadmap towards Low Carbon Iskandar Malaysia 2025



This roadmap has been formulated to serve as a **complementary document** to the blueprint. It provides **a pathway to guide the implementation of policy** actions proposed in the blueprint by **outlining implementation programmes** according to the **given priority, timeline and related implementation agencies, including the 10 implementation plans that IRDA has identified for 2013-2015 period.**

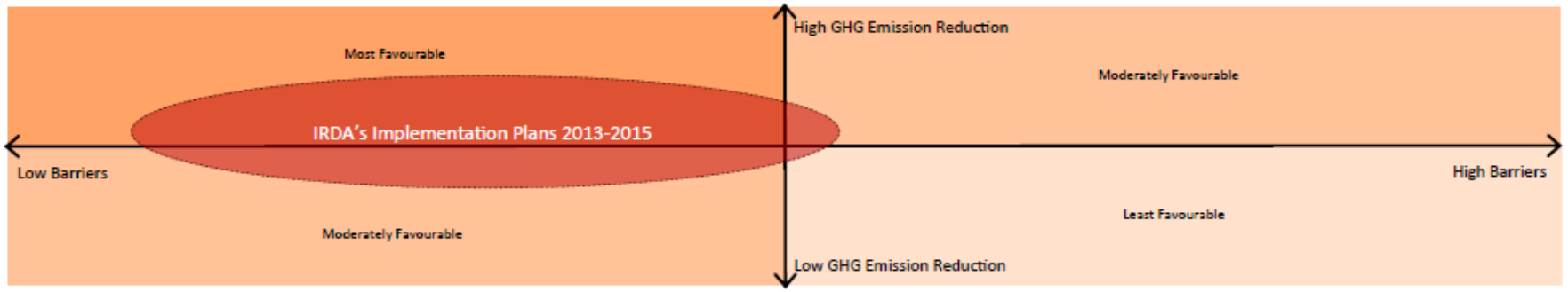
01 Introduction

LCS Blueprint , IRDA's Implementation Plan and LCS Roadmap

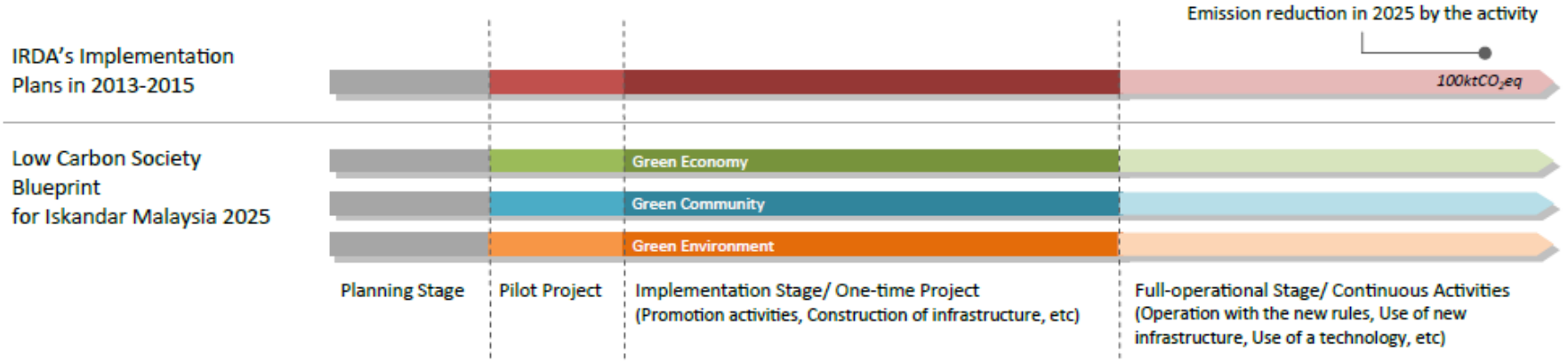
12 Actions in the *Low Carbon Society Blueprint for Iskandar Malaysia 2025* / IRDA's Implementation Plan 2013-2015		Specific Action-based Projects							Special Projects		
		GI-1 Green Economy Guidelines for IM	GI-2 Portal on Green Technology for Iskandar Malaysia	GB-1 GAIA (Green Accord Initiative Award)	GT-1 Mobility Management System	LL-1 Eco-Life Challenge Schools Project	RR-1 Trees for Urban Parks/ Forests	RR-7 Responsible Tourism and Biodiversity Conservation	Bukit Batu Eco-Community	Low Carbon Village Felda Taib Andak	*Nafas Baru* Pasir Gudang - Clean and Healthy City
Green Economy	Action 1 Integrated Green Transportation (GT)				●				○		○
	Action 2 Green Industry (GI)	●	●								
	Action 3 Low Carbon Urban Governance (LG)										
	Action 4 Green Building and Construction (GB)			●							
	Action 5 Green Energy System and Renewable Energy (GE)			●					○		
Green Community	Action 6 Low Carbon Lifestyle (LL)					●			○	○	○
	Action 7 Community Engagement and Consensus Building (CC)										
Green Environment	Action 8 Walkable, Safe and Livable City Design (WC)										
	Action 9 Smart Urban Growth (SG)										
	Action 10 Green and Blue Infrastructure and Rural Resources (RR)						●	●		○	
	Action 11 Sustainable Waste Management (WM)								○		○
	Action 12 Clean Air Environment (CA)								○	○	○

01 Introduction

Rationales & Guide to Reading Timeline Diagram

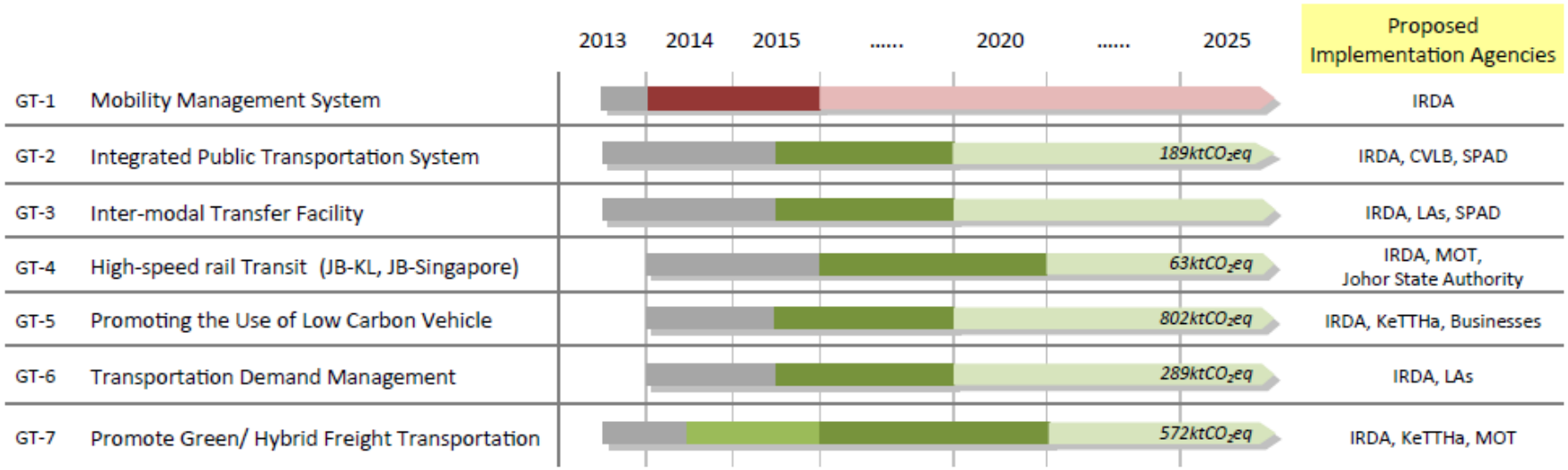


A good roadmap is characterized by well justified phasing of projects. Priority projects would be those that have relatively low barriers but high GHG reduction impacts (see diagram). Implementation barriers include cost, human capital, institution and legislation framework, societies readiness (stakeholder acceptance) and technology availability.



02 A Roadmap towards Low Carbon Iskandar Malaysia

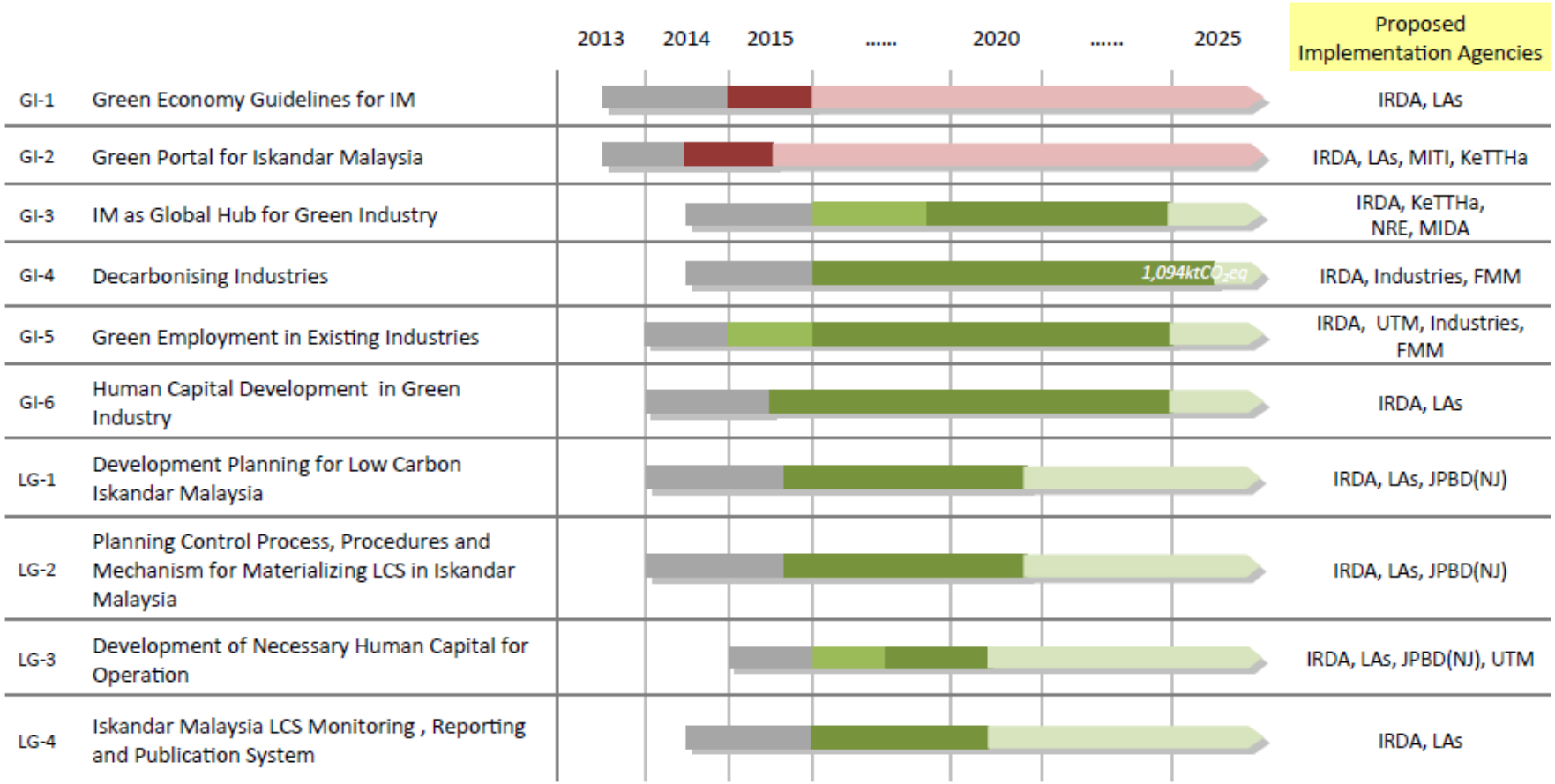
Green Transportation (GT)



Action 1 “Green Transportation” (GT) and Mobility Management System (GT-1), IRDA’s Implementation Plan are covered.

02 A Roadmap towards Low Carbon Iskandar Malaysia

Green Industry and Low Carbon Urban Governance (GI, GL)



Action 2 “Green Industry” (GI) and Action 3 “Low Carbon Urban Governance” (LG), IRDA’s Implementation Plans; Green Economy Guidelines for IM (GI-1) and Green Portal for Iskandar Malaysia (GI-2) are covered.

05 Conclusion

The Way Forward

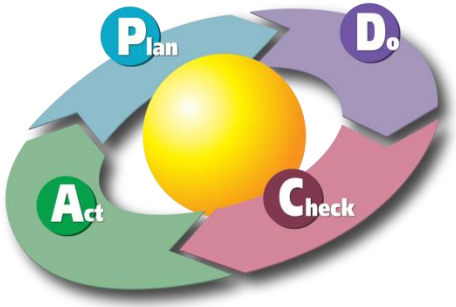
Quantification from LCS modeling assist **better understanding** on impact of proposed actions, sub actions and programs.

Good **baseline study, consensus building and low carbon blueprint plan** will help to develop an **integrated climate resilient , Low carbon framework** for a city or region.

Green cities or Local carbon cities need to have a **LOW CARBON SOCIETIES mindset**/ behavior and **Joint effort** between different professions (Planners, architect, engineer and related environmental profession)

Important to have a Asian (eg IGES & AIM workshop) **and International platform** for **research collaboration** between researchers in LCS as well as **capacity building opportunities.**

Explore PDCA cycle for LCS implementation



03 The Way Forward

Future Plan

As the present roadmap is a preliminary work, most of them are in need for further studies to complete full report of LCS Roadmap. (E.g. specific programmes, timeline, GHG emission reduction by program, implementation agencies, stakeholders, etc.)

Detail works by every research group for the full report LCS roadmap:

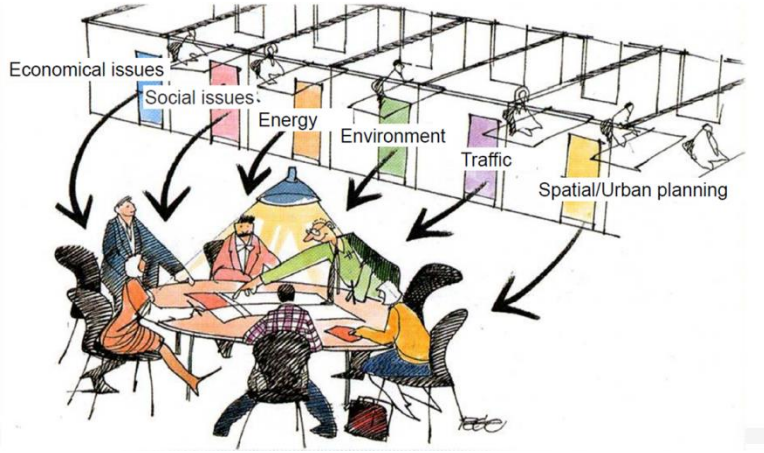
i. Scenario integration and Land Use Planning
_ Green Industry (GI), Low Carbon Urban Governance (LG), Green Building (GB), Green Urban Design (WC, SG)

ii. Consensus Building and Education
_Green Community (LL, CC)

iii. Energy System
_Green Energy System (GE)

iv. Solid Waste Management
_Sustainable Waste Management (WM)

v. Air Quality and Transportation
_Green Transportation (GT), Clean Air Environment (CA)



Thank you for your attention!

Thank You Terima Kasih 谢谢 धन्यवाद ありがとう