



KICK-OFF
CONFERENCE OF THE
TWELFTH MALAYSIA PLAN

SESSION 2.3 :
ADDRESSING
CLIMATE CHANGE

UNLOCKING HOME-GROWN INNOVATIONS THROUGH SMART AND SUSTAINABLE CITIES WITH ENABLING POLICY TOOLS

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Cities drive **economic** growth and incubate innovators, while Cities are also major contributors to **climate change** and wastes.

Opportunities for Governments to drive Socio-Economic Growth through **Smart Sustainable Cities**

80%
Global GDP
Contributed by Cities

78%
World Energy
Consumed by Cities

60%
Global GHG
Produced by Cities

2%
Earth Surface
Accounted by Cities

(Source : UN Habitat & World Bank)



7 AFFORDABLE AND
CLEAN ENERGY



UNIDO Related Projects with Malaysia (1/2)

MALAYSIA ENERGY EFFICIENCY AND SOLAR THERMAL APPLICATION PROJECT (2016-2020)

Partners



Funder: Global Environment Facility (GEF)



Implementing Agency: United Nations Industrial Development Organization (UNIDO)



Stakeholders:

MESTECC (**Chair**), MITI, EPU, MNRE, SEDA, ST, MGTC, SME Corp, SERI (UKM), FMM



Executing Agency: SIRIM

Project Objective

To reduce Green House Gases (GHG) Emissions in Targeted Industrial Sub-Sectors Through Energy Efficiency (EE) and Application of Solar Thermal System.

Focus Sub-Sectors



Industry



Hospital





UNIDO Related Projects with Malaysia (2/2)



GLOBAL CLEANTECH INNOVATION PROGRAMME
(2015 – 2017) – SUPPLY DRIVEN



GLOBAL PLATFORM FOR SUSTAINABLE CITIES
(2017-2021) – MARKET DRIVEN





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PART 1 : CONTEXT ON INNOVATION

1. Navigating High Income
2. Innovation Capacity
3. Innovation to Market
4. Trade in Value Added

PART 2 : SMART SUSTAINABLE CITIES AS GROWTH DRIVER

1. Holistic & Integrated Approach
2. Industrial Development Strategy
3. Flagship Driven Implementation
4. Criticality of Digital & Waste Mgmt.

PART 3 : POLICY RECOMMENDATIONS

1. Strengthening Implementation
2. Innovation Hubs
3. National Flagships
4. Enabling Policy Tools





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**PART 1 :
CONTEXT
ON INNOVATION**

**PART 2 :
SMART SUSTAINABLE CITIES
AS GROWTH DRIVER**

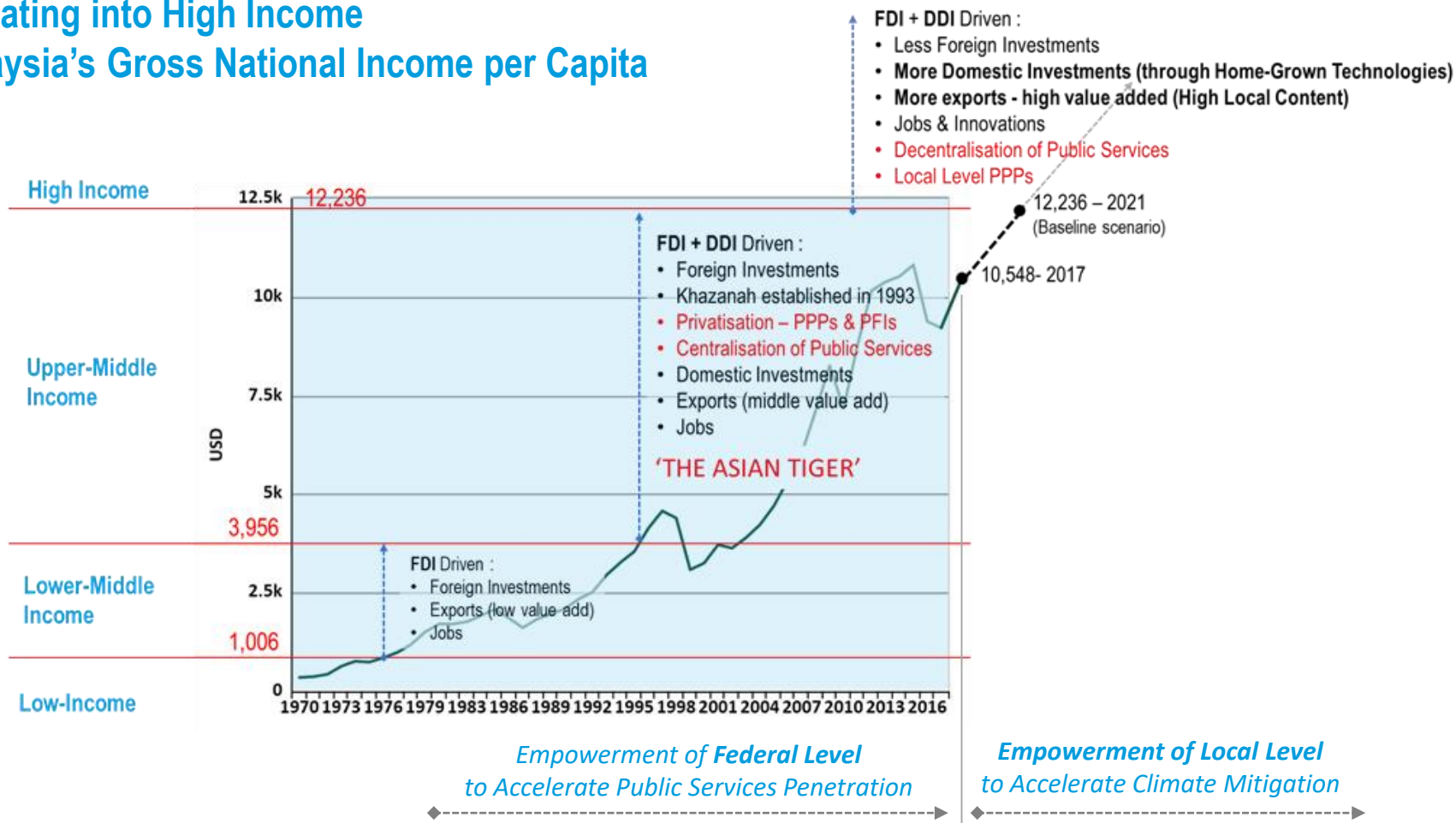
**PART 3 :
POLICY
RECOMMENDATIONS**

1. Navigating High Income
2. Innovation Capacity
3. Innovation to Market
4. Trade in Value Added





Navigating into High Income - Malaysia's Gross National Income per Capita



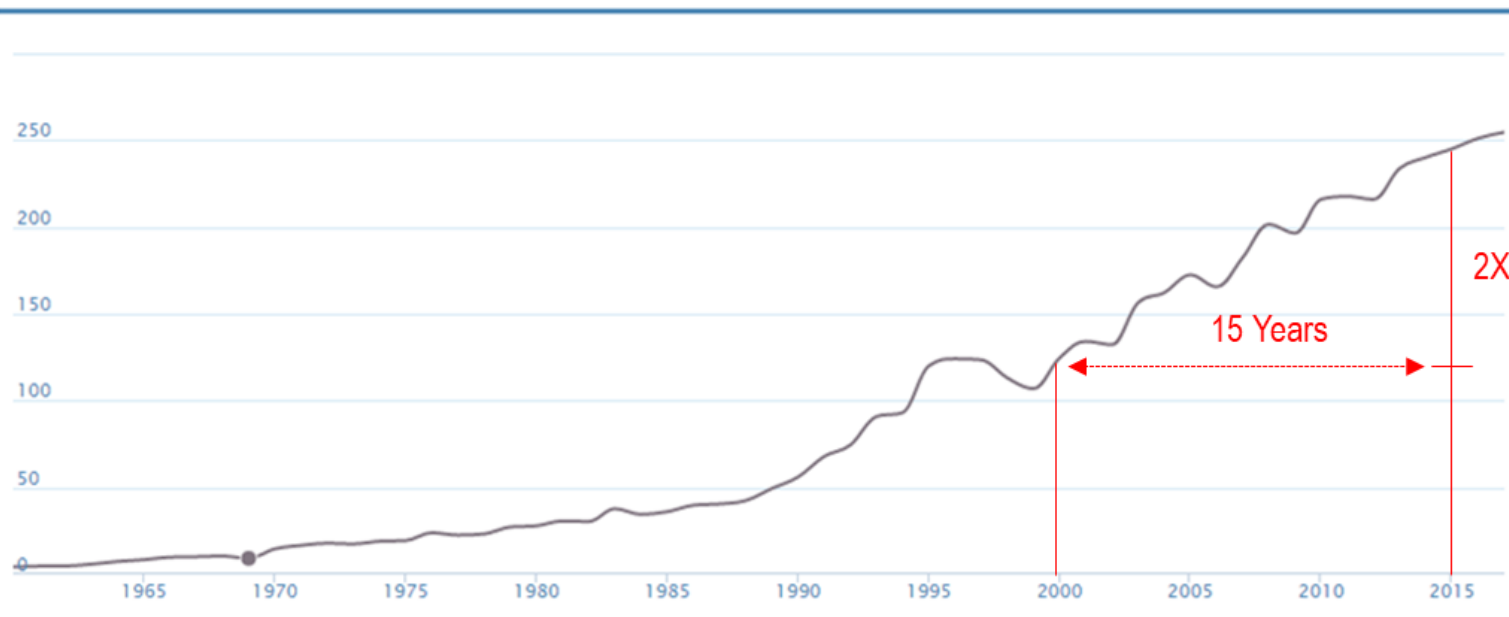
Malaysia's High Income Agenda = Maximising DDIs + Home-Grown Technologies



Navigating High Income – Malaysia’s Carbon Emissions



Territorial (MtCO₂)



Source: <http://www.globalcarbonatlas.org/en/CO2-emissions>

*In the span of 15 years from Year 2000 to 2015, Malaysia has **doubled its emissions as a result of rapid economic growth**. Need to **DE-COUPLE** emmissions to economic growth.*



Navigating High Income – Malaysia’s Carbon Emissions

Rank	Country	MtCO ₂
13	Brazil	476
14	South Africa	456
15	Turkey	448
16	Australia	413
17	United Kingdom	385
18	France	356
19	Italy	356
20	Thailand	331
21	Poland	327
22	Kazakhstan	293
23	Spain	281
24	Taiwan	272
25	Malaysia	255
26	United Arab Emirates	232
27	Egypt	219
28	Ukraine	212
29	Argentina	204
30	Vietnam	199

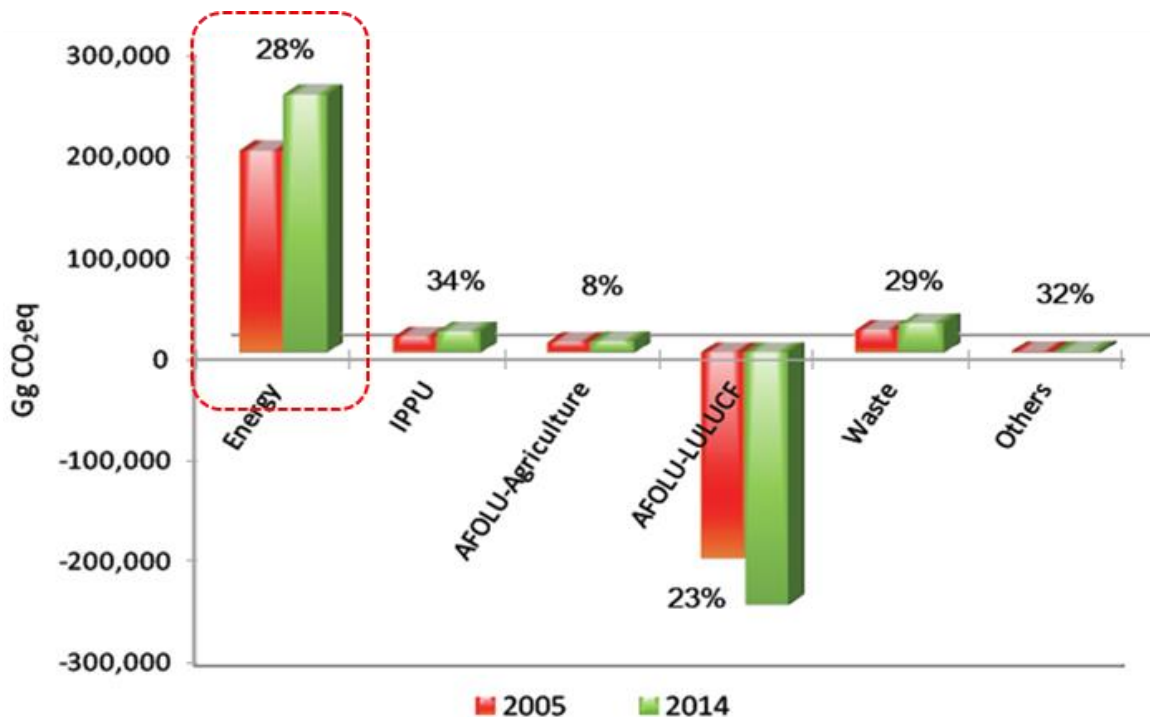


Source: <http://www.globalcarbonatlas.org/en/CO2-emissions>

Malaysia is now ranked as 25th of the top emitters in the world.



Comparison of Green house Gas Emissions by Sector between 2005 and 2014

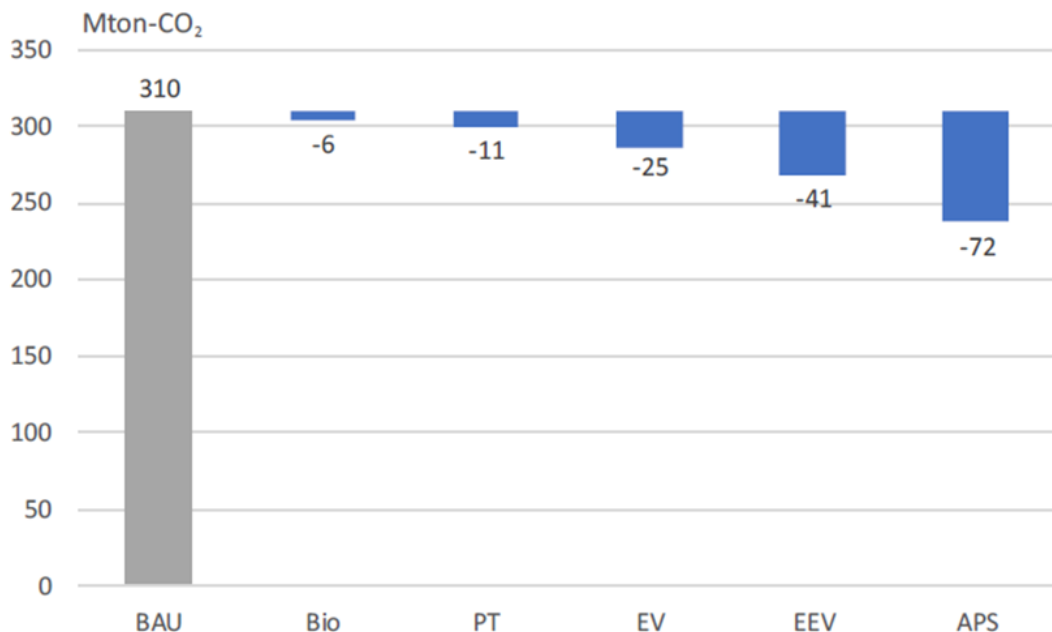


Source: UNFCCC Second Biannual Update Report, 2018

Note: Percentage indicates the % emission increase/decrease between 2005 and 2014.

Energy (incl Transport), IPPU (Industrial Process) and Waste sectors are major sectors contributing to the increase of the carbon emissions in Cities....Urgent need for Sustainable Cities to decouple economic activities with environmental impact through Green Growth.

Potential of Reducing CO² by Scenario for Malaysian Transport Sector (2040)



Legend :

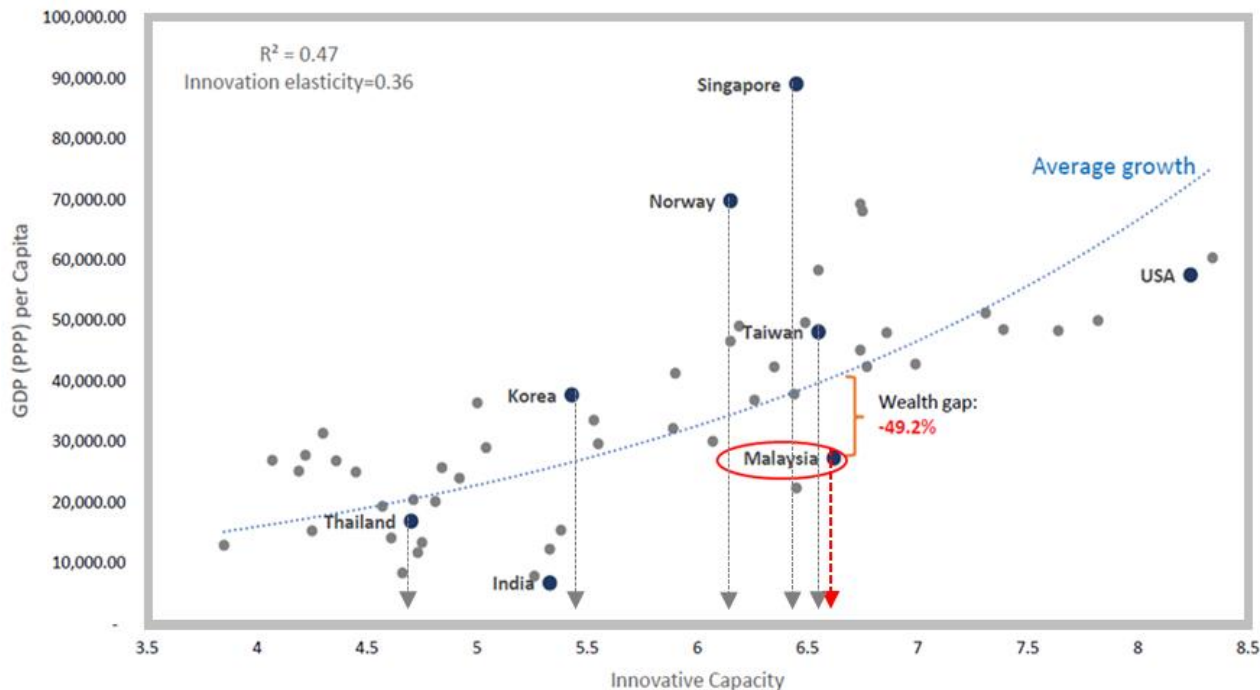
- BAU - Business As Usual
- Bio – More Biofuel Supply
- PT – Larger Model Shift to Public Transport
- EV – Deployment of Electric Vehicles
- EEV – Deployment of Energy Efficient Vehicles
- APS - Combination of all the scenarios

Source: *Economic Research Institute for ASEAN , 2017*

Energy (incl Transport), IPPU (Industrial Process) and Waste sectors are major sectors contributing to the increase of the carbon emissions in Cities....Urgent need for Innovative Solutions & Catch-up Strategies on Climate Mitigation



Malaysia's Innovation Capacity vs Wealth



Malaysia's Innovation Capacity Higher than Singapore, Taiwan & Korea

49.2%

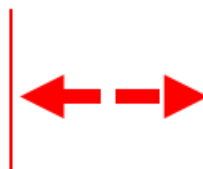
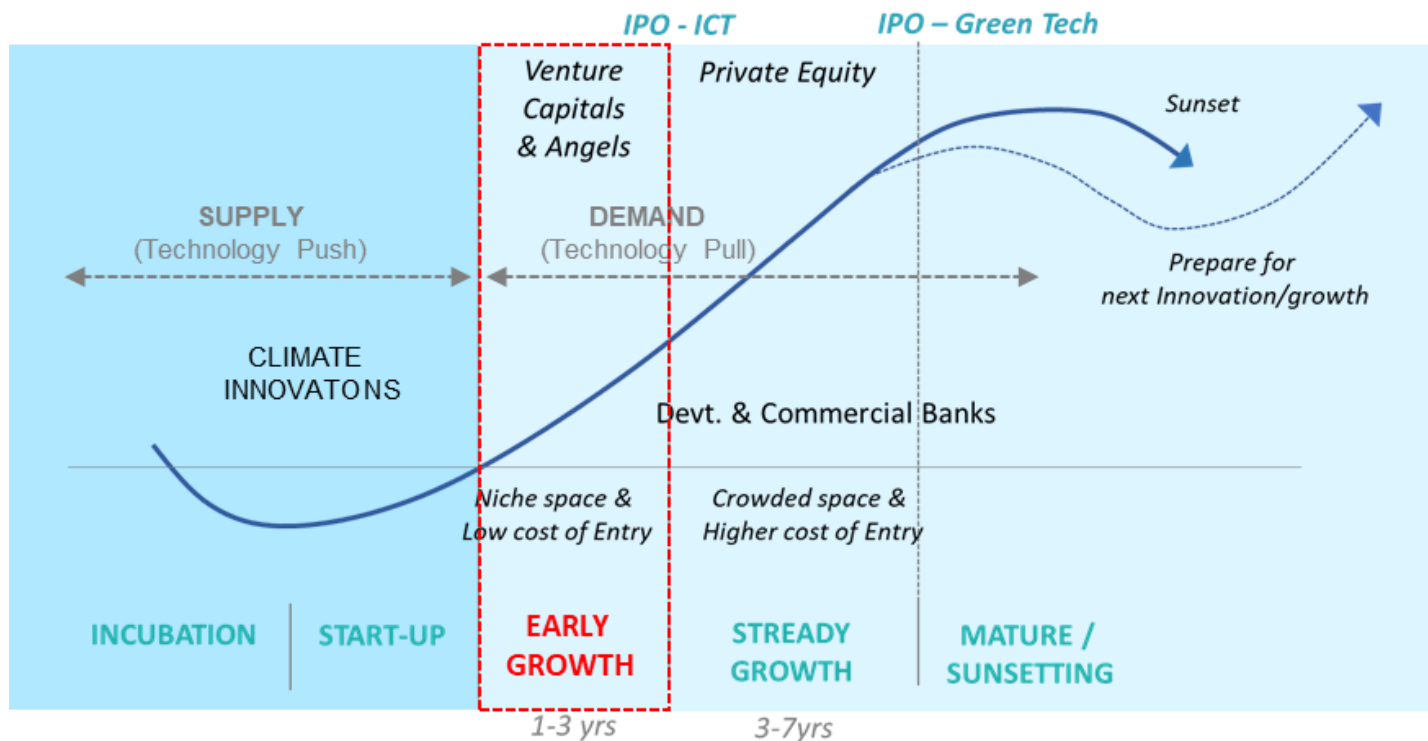
Malaysia's Wealth Gap Against Global Growth

Source: IMD World Competitiveness Online Database, 2016, MESTECC, 2019

Malaysia need to **UNLEASH** its Innovation Capacity for Wealth Creation through **Strengthening Implementation Capacity**



Innovation to Market 'S' Curve

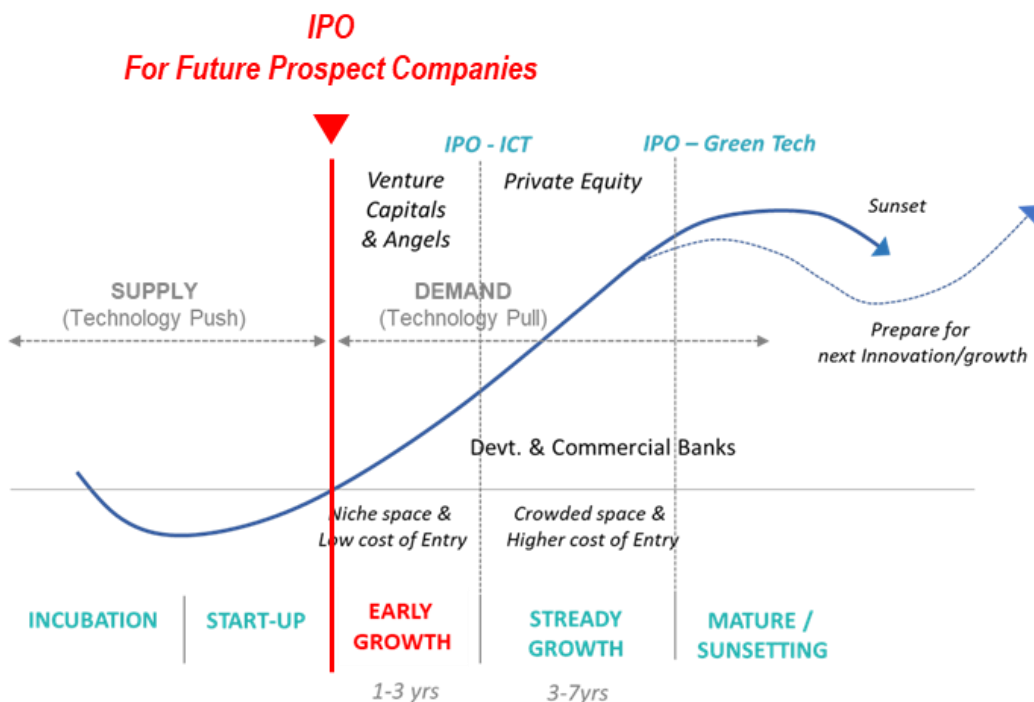


**Proposed Key Implementation
Focus Area for 12th Malaysia Plan**



Innovation to Market – Access to Capital Market

“The Small is now the NEW BIG”



3 A new Unicorn will be built in less than 3 years from launch

COMPANIES	YEAR FOUNDED	YEAR ACHIEVING UNICORN (OR US\$500MIL+ VALUATION*)	YEARS TAKEN
Jobstreet.com	1995	2014*	19
iProperty Group	2007	2015*	8
SEA	2009	2015	6
Tokopedia	2009	2014	5
Go-Jek	2010	2016	6
Lazada	2011	2014	3
Traveloka	2012	2017	5
Grab	2012	2015	3
Company X	2018/2019	2021	<3

4.7 years
on average for the Unicorns above to attain US\$1 bil+ valuation

SOURCE: CRUNCHBASE. PRESS RELEASE. COMPANY WEBSITE

Source: theEdgeMarkets.com, 2018

Empowering Scaling-up of Home-Grown Platform Technologies through Global Listing

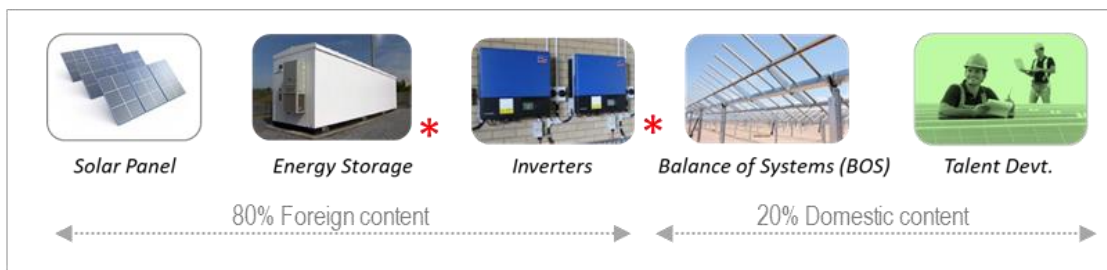


Trade in Value Added (TIVA) – Scenario in Emerging Industries

(Addresses domestic & foreign value added by each country in the production of goods and services)

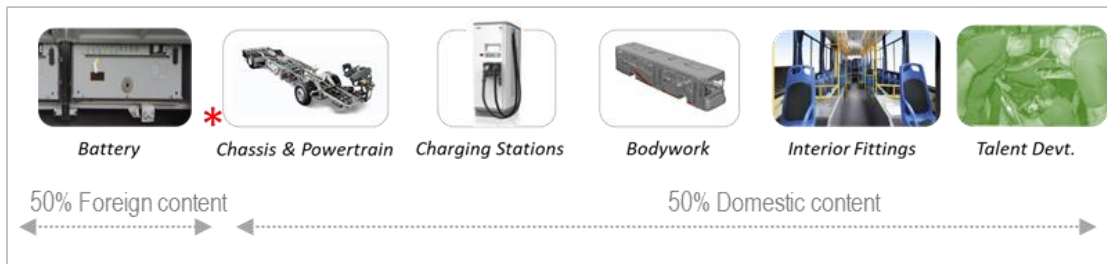
* Key Area Malaysia Need to Invest in Technology Security

Renewable Energy : Solar Farm



15%
Local Content

Green Mobility : Electric Bus

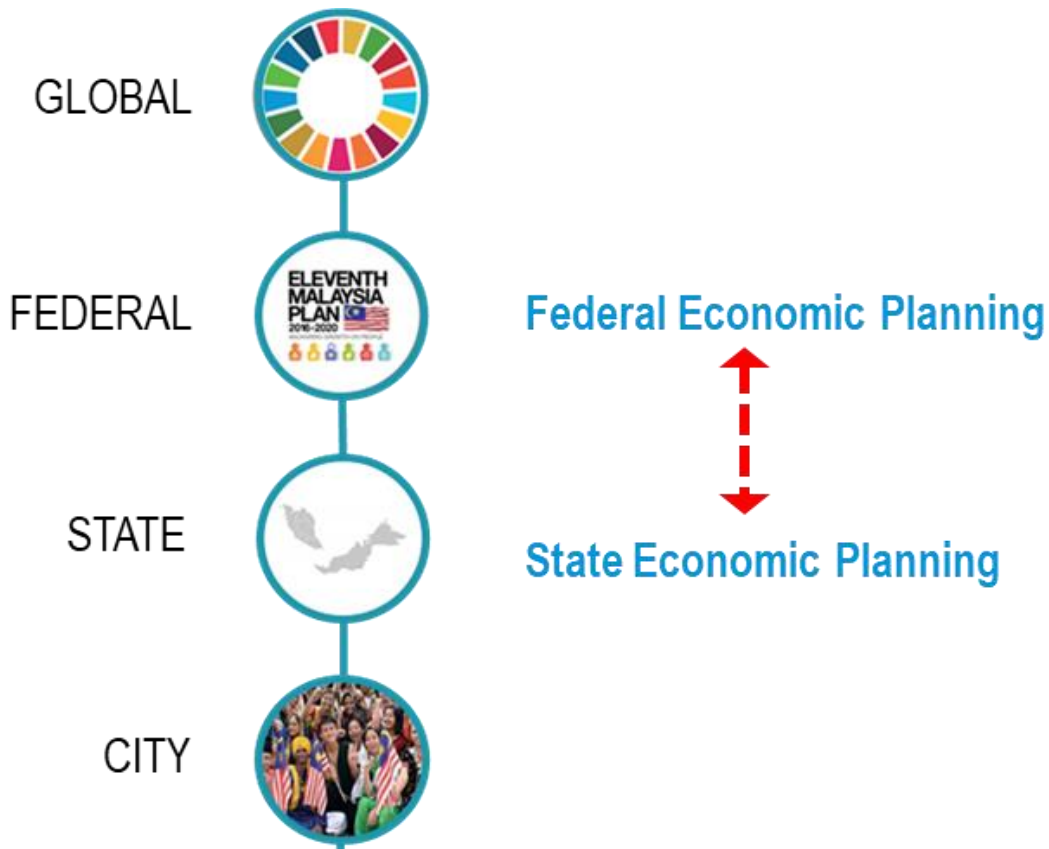


50%
Local Content

Malaysia need to firstly have Technology Security for Energy Security



Federal – Local Gaps



*Need to Streamline Economic & Sustainable **Planning Capacity** to State Levels*



Urban Public Services Delivery and Levels of Government in Malaysia

Achieving a System of Competitive Cities in Malaysia Main Report

November 2015



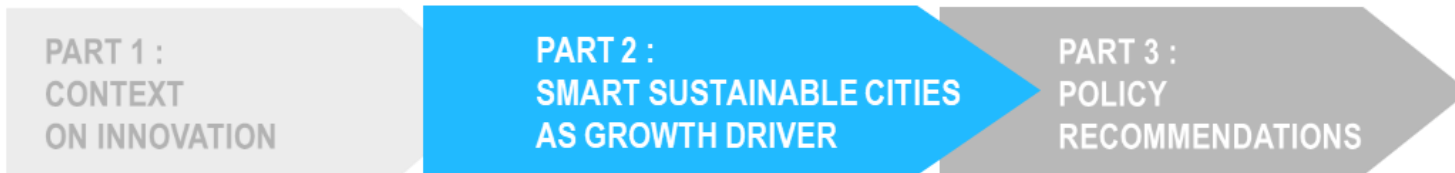
*Local development and urban service delivery are **highly centralized through federal agencies** – particularly in peninsular Malaysia*

FEDERAL	STATE	LOCAL / CITY
Federal land	Zoning and land use	Public/private parking
Highways	State land	Traffic management
Land public transport (i.e. bus, rail, taxis)	State roads	Cycling network
Airports	Water supply	Pedestrian network
Drainage and irrigation	Public housing (state)	Local drainage
Sewerage	Religious facilities	Public markets and hawkers
Solid waste	State tourism	Open spaces & public parks
Electricity		Community centers
Telecommunications network		Advertisements
Gas supply		Building maintenance
Police		Local plans and building controls
Fire services		Local licensing
Hospitals and medical care		
Education (i.e. schools and institutes of higher learning)		
Art & cultural centers		
Tourism (e.g. regulating hotels)		
Social welfare (i.e. regulating nurseries & kindergartens)		
Public housing (federal)		
Heritage buildings		
Special economic zones		
Heritage zones		
River reserve		
Forest reserve		
Restricted zones		





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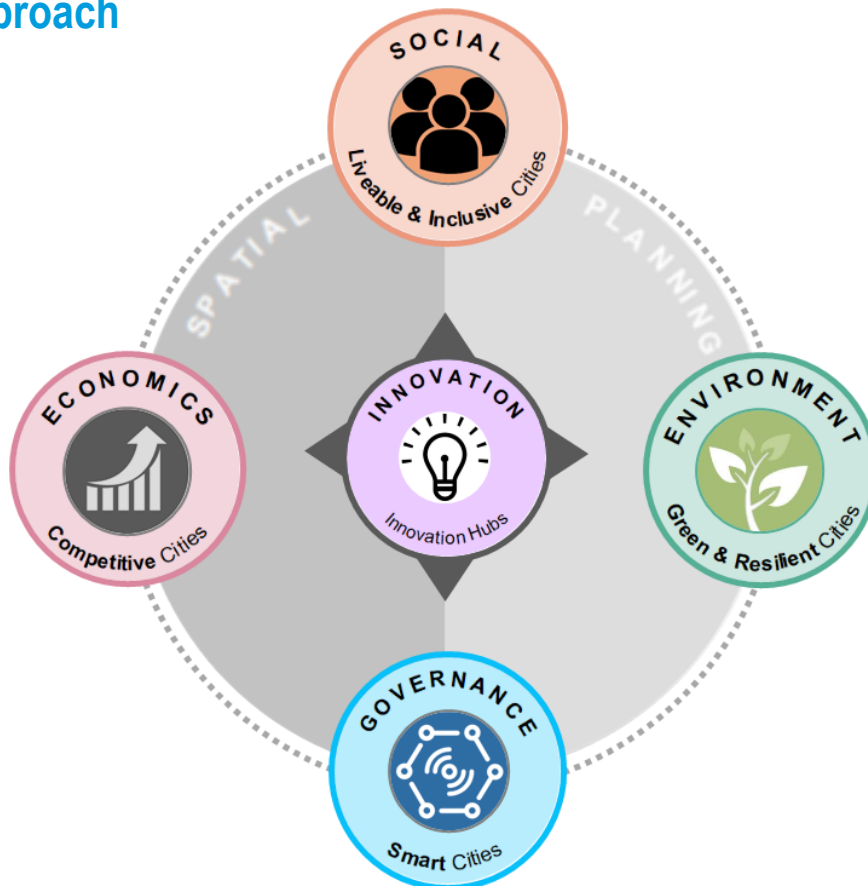


1. Holistic & Integrated Approach
2. Industrial Development Strategy
3. Flagship Driven Implementation
4. Criticality of Digital & Waste Management





Holistic & Integrated Approach



*There need to be conscious and **seamless** adoption of the Sustainable Development Model as **National Tool** to Integrate, Synergise and Align Multi-stakeholders at **All Levels** in the **Implementation** of SDGs in Malaysia.*

Industrial Development Strategy for Malaysia

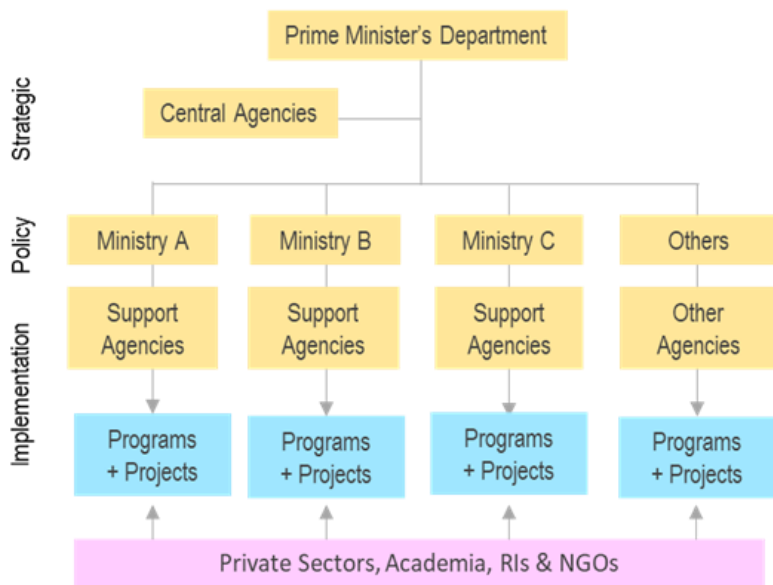
Today's Strategic Business
Is **Beyond Product & Services**,
Mastery will go to those who
Pioneers Platform Leadership



Platform Strategy is key for Malaysia's High Income Aspirations through **Economic Flagships** to provide **Scale & Impact**

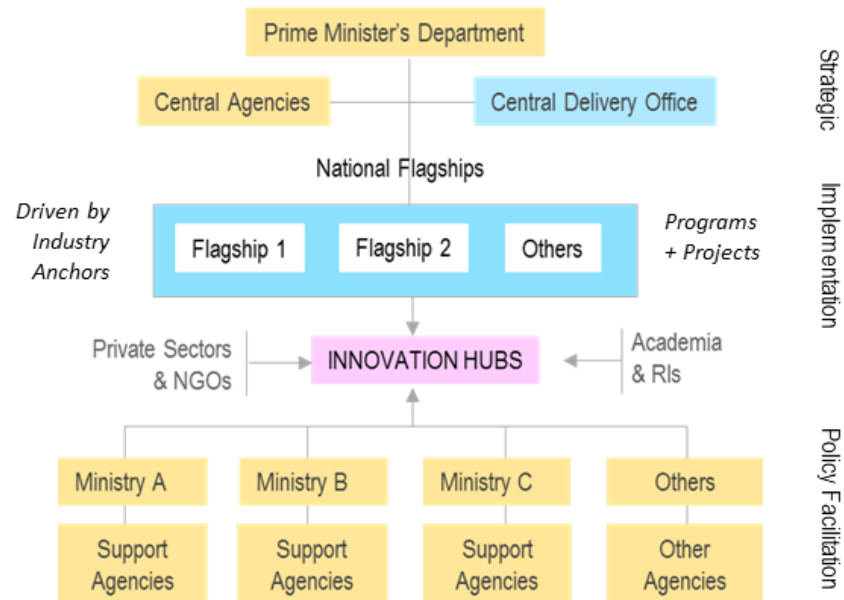
Implementation Governance through Flagships

Current Implementation Structure of Malaysia Plans



Government Driven

Proposed Implementation Structure for 12th Malaysia Plan



Private Sector Driven

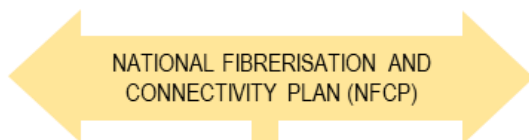


Criticality of Digital Industry

Current Approach on Digital Economy

ECOSYSTEM :

Upstream
(Government driven)



'Casting the net wide' approach to maximise connectivity penetration to Citizens & Industries (Stretching limited resources)

Midstream
(Gap)

Government Driven Connectivity

Downstream
(Company driven)



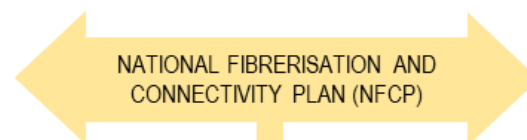
Organic Outcomes



Proposed Approach on Digital Economy for 12th Malaysia Plan

ECOSYSTEM :

Upstream
(Government driven)



Focused connectivity to Data Centres (Optimising limited resources)

Midstream
(Data Centre Driven - Heart of Digital Economy)



Competitive Private Sector Driven Connectivity

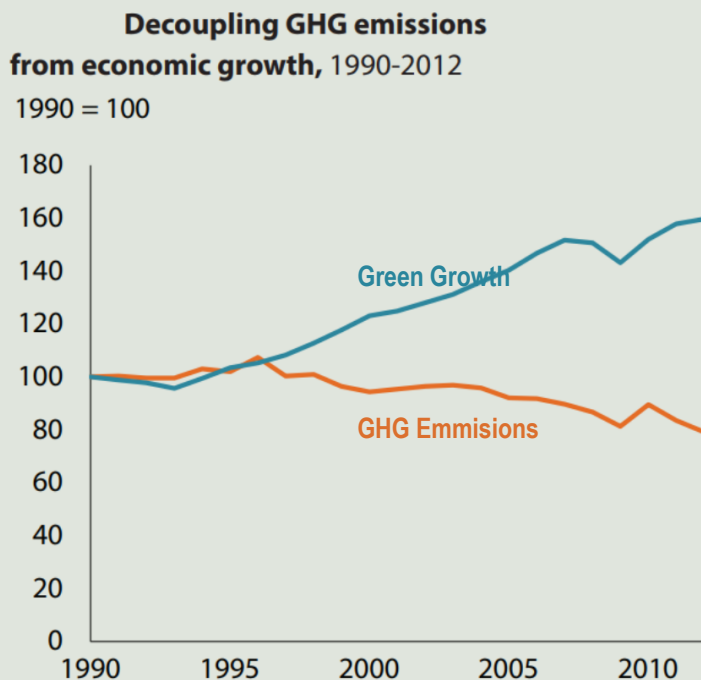
Downstream
(Industry driven)



Accelerated Outcomes



Criticality of Waste Management – Lessons from Sweden



— GHG emissions — GDP (constant prices)

Note: Excluding emissions/removals from land use, land-use change and forestry.
Source: OECD (2013), OECD Economic Outlook No. 93 (database); SEPA (2014), National Inventory Report 2014.



Note: Waste collected by or for municipalities, including household, bulky and commercial waste, and similar waste handled at the same facilities. Includes hazardous waste from households.
Source: Avfall Sverige (2013), Swedish Waste Management; OECD (2014), OECD Environment Statistics (database).

Criticality of Waste Management

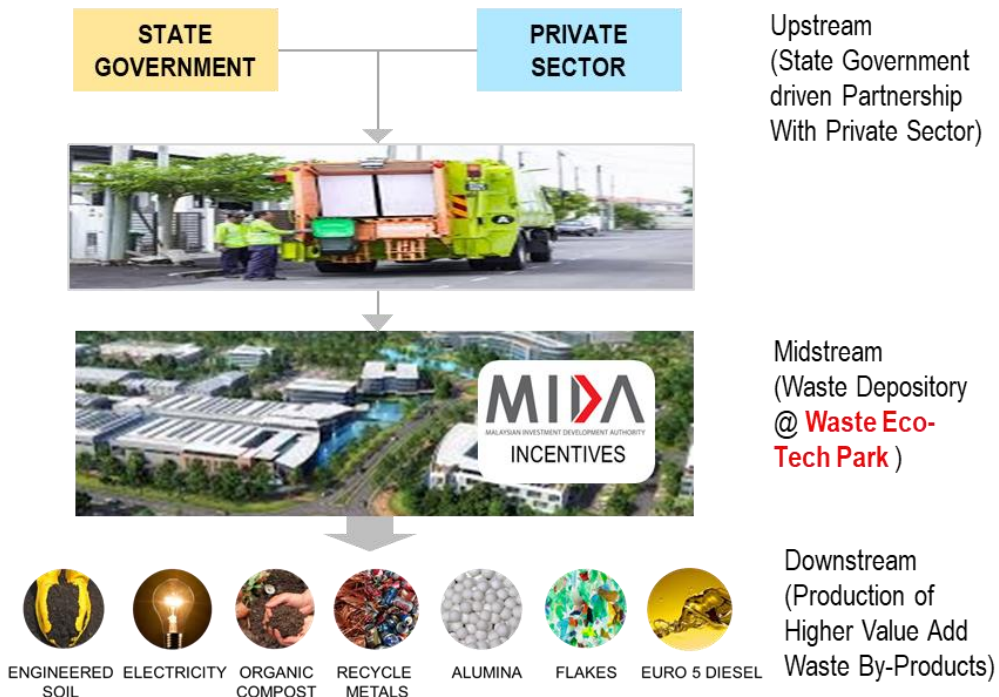
Current Centralised Approach in Malaysia

ECOSYSTEM:



Proposed Decentralised Approach for 12th Malaysia Plan

ECOSYSTEM :





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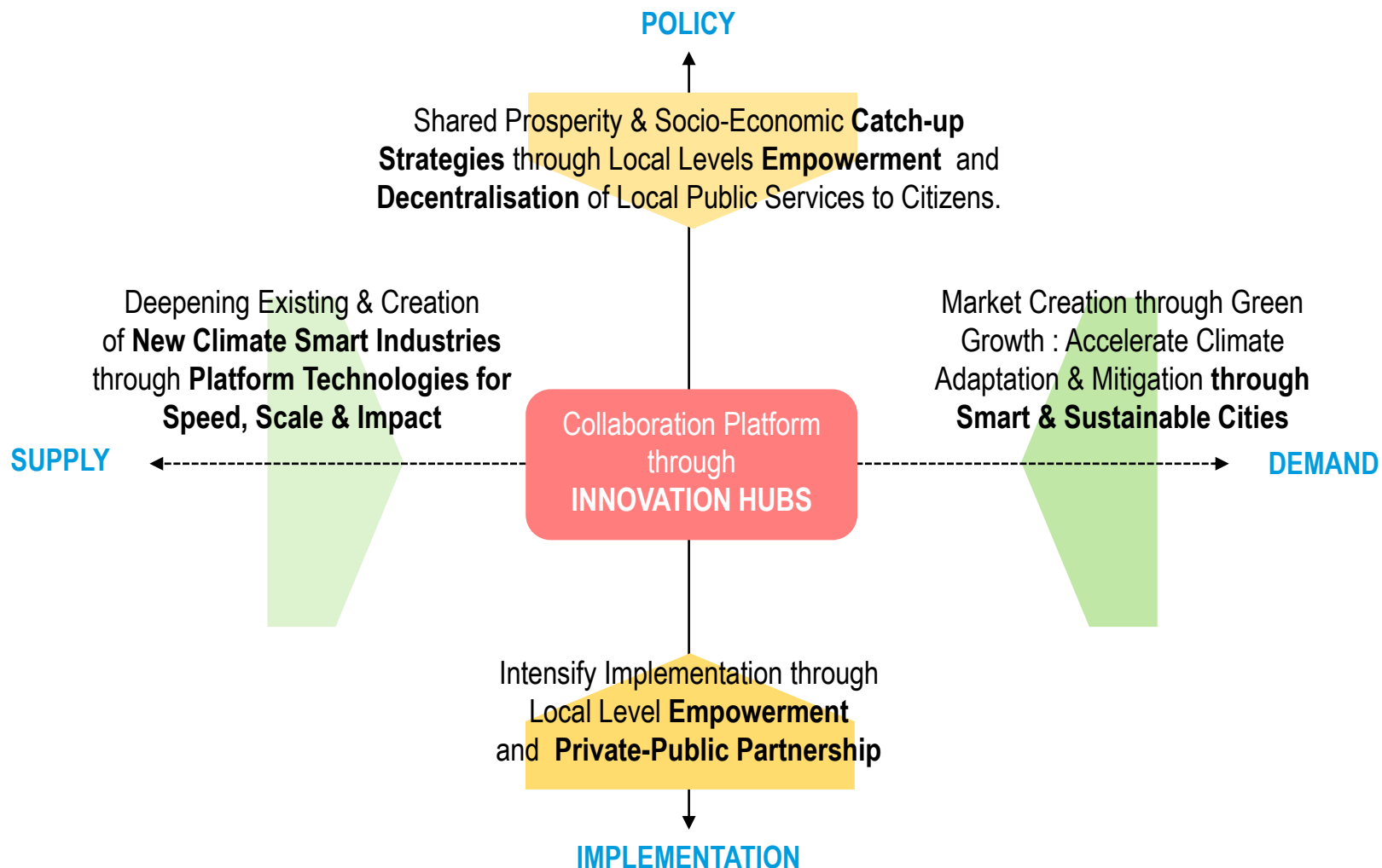


1. Strengthening Implementation
2. Innovation Hubs
3. National Flagships
4. Enabling Policy Tools





Strengthening Implementation for Sustainable Growth – The 360° Approach



Citizen Engagement Platform in Malaysian Cities

Current Approach in Malaysian Cities



UTC

URBAN
TRANSFORMATION
CENTRE

- Outreaching Government **Services** to Citizens
- Government Driven + **Operational**
- Opportunity to provide beyond Govt. Services



Proposed Approach for 12th Malaysia Plan



URBAN
INNOVATION
HUB

- Outreaching & **Empowerment** to Citizens
- Citizen & Private Sector Driven + **Developmental**
- Opportunity to drive **growth** in Cities



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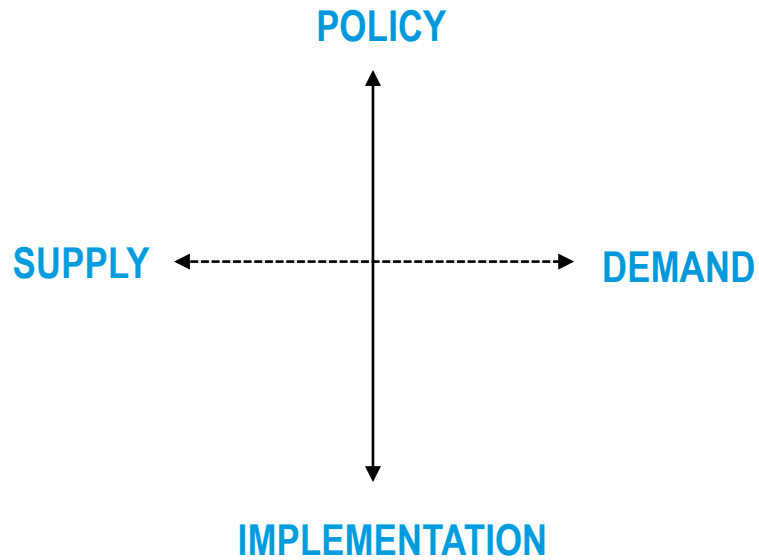
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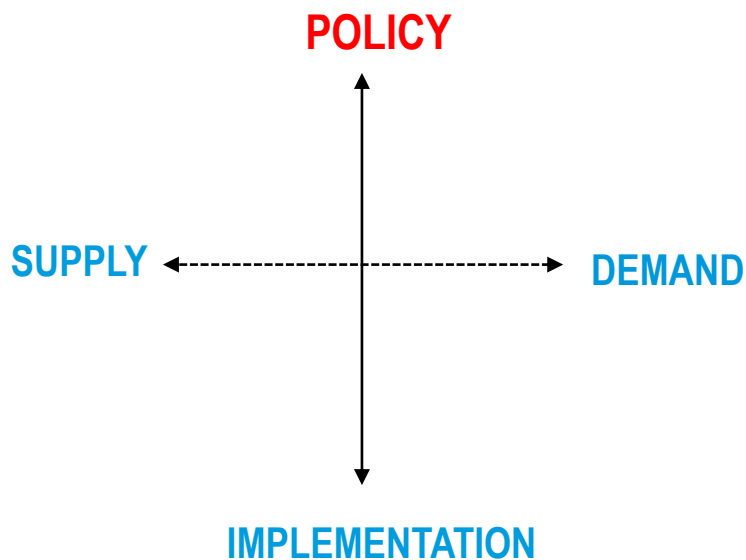


Enabling Policy Tools





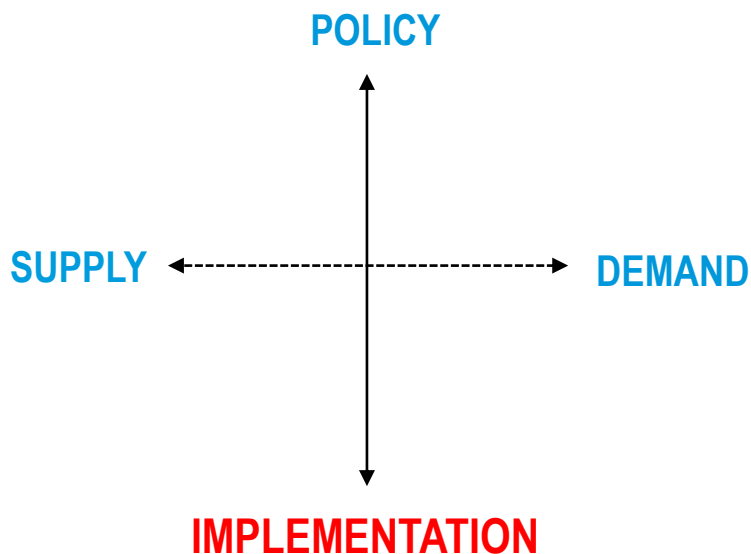
Enabling Policy Tools



1. Need Reform of the Public Services Governance through **Review of Public Services Acts** through decentralization and empowerment of cities to intensify Climate mitigation.
2. Criticality to introduce **Science and Technology Act** to sustain and drive technology development as **Catalyst for High Income Economy**.



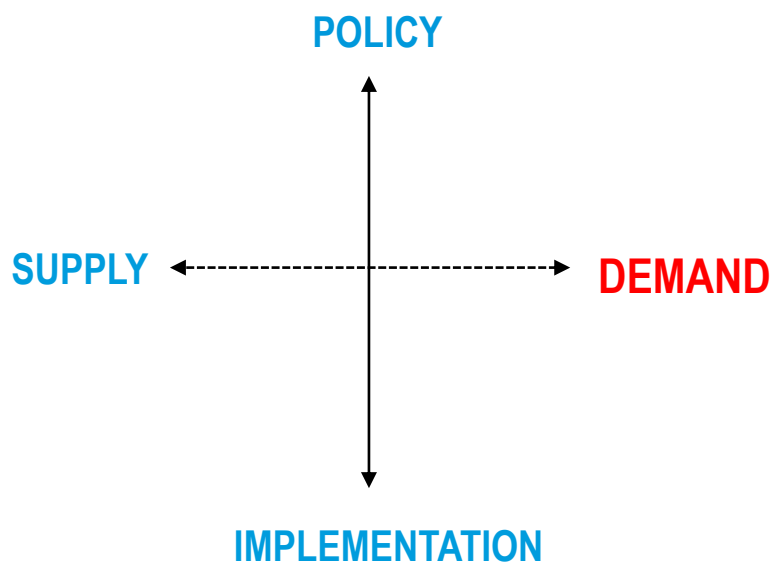
Enabling Policy Tools



1. Introduction of **City Economic Development Corporations as Developmental Partner** for targeted cities in the 12th Malaysia Plan
2. Creation on **Innovation Hubs** as platform to intensify collaboration and inclusiveness amongst key stakeholders.
3. Promoting **Local Level Innovation** through **Operationalisation of Open Data Policies** in Malaysian Cities.
4. Carry out **Baseline GHG Emission Inventories** at Local Level.
5. Establish demand driven **Regulatory Sandbox** at Local level.
6. Baseline and **Shadow Credit Rating** for State Governments to **attract** Private Sector **Investments**.



Enabling Policy Tools



1. **Efficient Use of Energy** by households :

Comparison and publicize households' energy consumption (electricity and gasoline bills)

2. **Encourage Eco-Mobility** and emission reduction

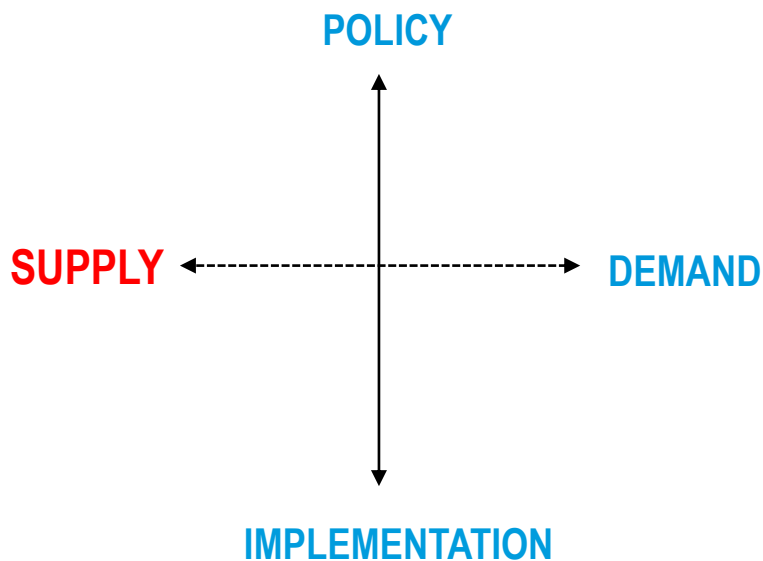
- a) Car free zone/day
- b) Incentive schemes for share riders and/or users of public transport
- c) Integrated systems and information of public transport (ie. Seoul)

3. **Sustainable Waste Management** (incl. waste reduction and preventive)

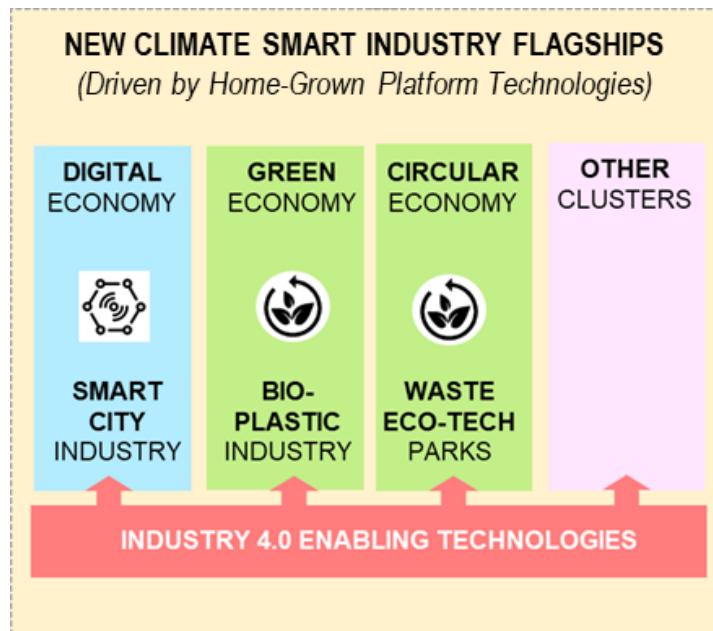
- a) Decentralization of waste management to cities
- b) Green social norms
- c) Waste segregation at source
- d) Waste management fee by weight and type of wastes (i.e. Seoul)
- e) Incentivize production of bio-based plastic



Enabling Policy Tools

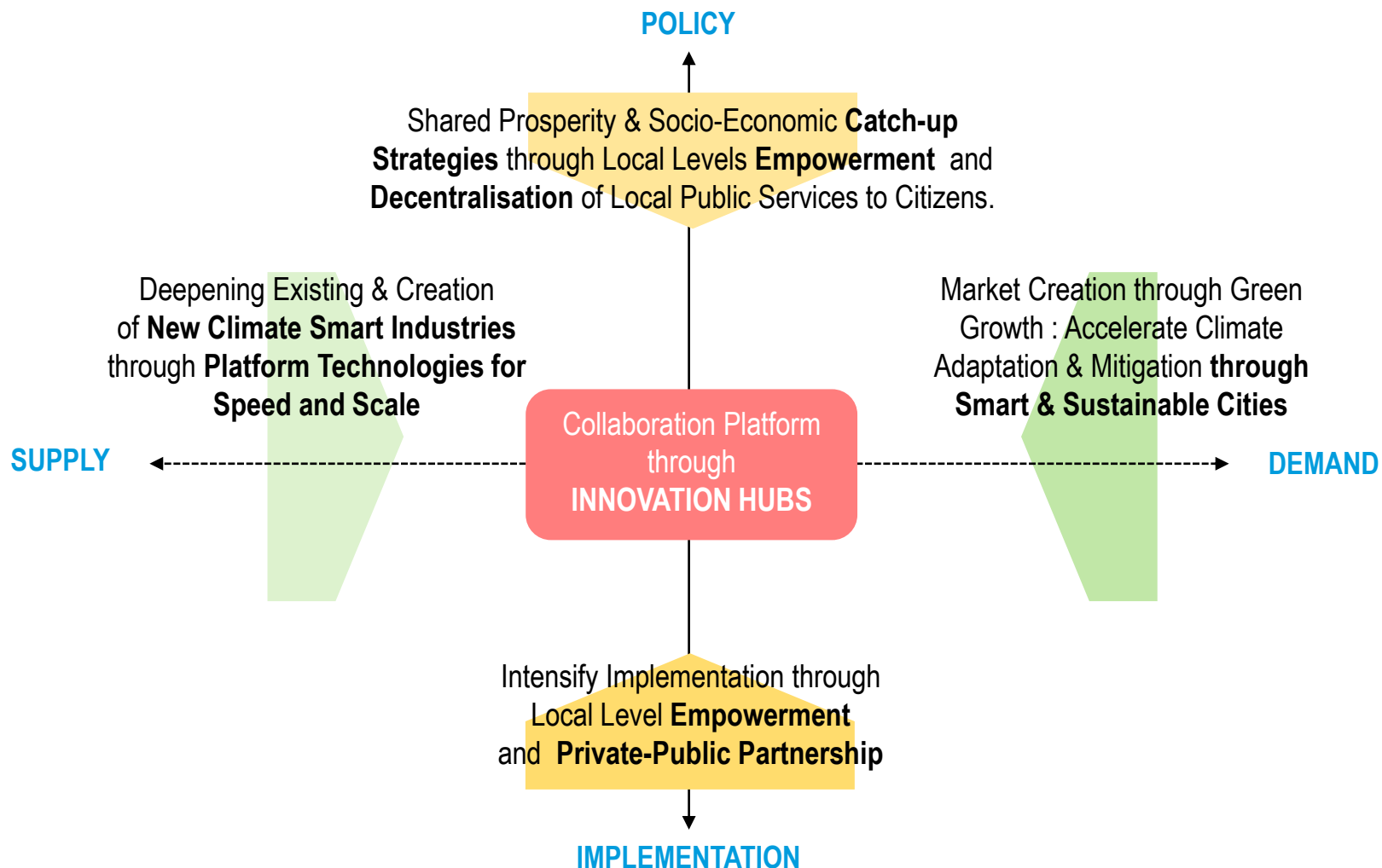


1. Introduction of New Climate Smart Industry Flagships to **DRIVE CAPACITY** to provide **Speed, Scale and Impact** in accelerating Urbanisation and Climate Adaptation and Mitigations in Cities :



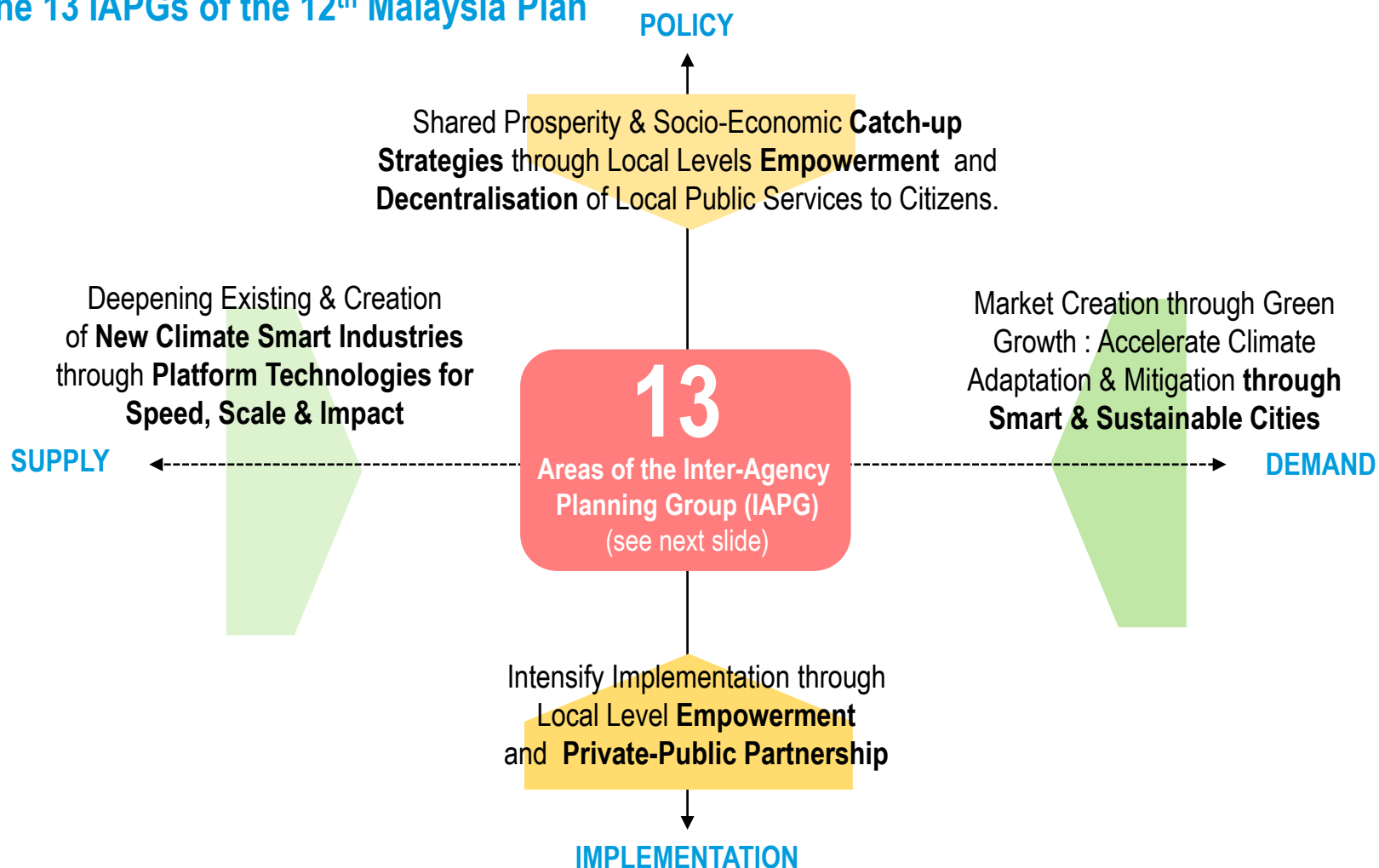


Key Take-Away 1 of 2 – Need for 360° Approach to 12th Malaysia Plan Implementation





Key Take-Away 2 of 2 – Need for 360° Guided Approach for the Development and Alignment of all the 13 IAPGs of the 12th Malaysia Plan





No.	IAPG
1.	Agriculture
2.	Manufacturing, Science and Technology, Innovation and SMEs
3.	Services Sector
4.	Transport and Logistics
5.	Digital Economy
6.	Environment and Natural Resource & Disaster
7.	Sustainable Energy
8.	Regional Balance
9.	Human Capital Development
10.	Wellbeing
11.	Inclusivity
12.	Public Sector Reforms
13.	Macroeconomic Framework and Policy

(Source : <http://rmke12.mea.gov.my/>, 2019)



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THANK YOU

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