

Iskandar Malaysia

Strong Sustainable Metropolis of International Standing



Session 3 is "Optimization Local (District) Energy System"

Future of smarter energy infrastructure in the city

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Presentation Outline

1

Introduction to Iskandar Malaysia

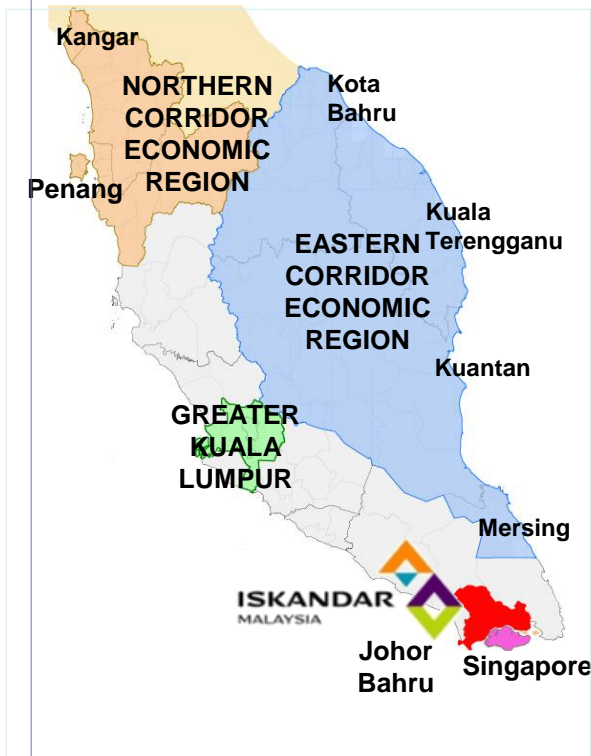
2

The plan to realize smarter energy infrastructure in Iskandar Malaysia

Statistics & Facts...

Iskandar Malaysia is Malaysia's economic growth corridor covering a total area of 2,217 sq km (12% of Johor State)

Iskandar Malaysia in the context of Regional Corridors



3 times smaller
than *Iskandar Malaysia*



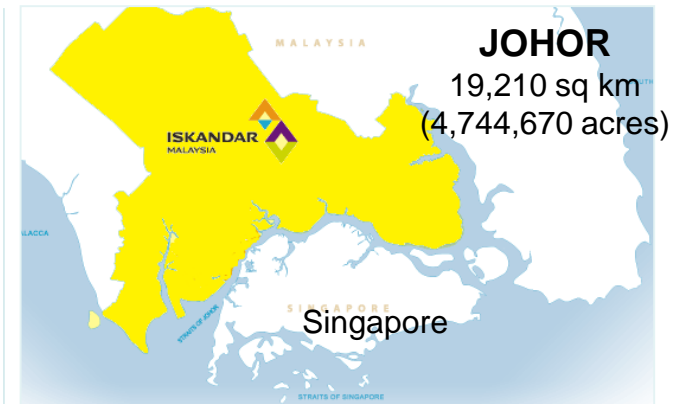
1.3 times bigger
than *Iskandar Malaysia*



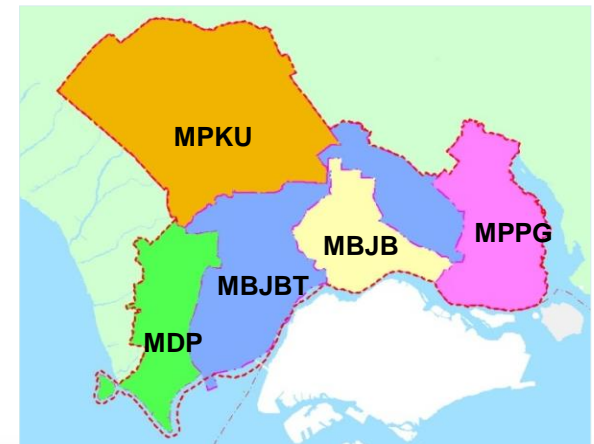
11 times bigger
than *Iskandar Malaysia*



30 times bigger
than *Iskandar Malaysia*



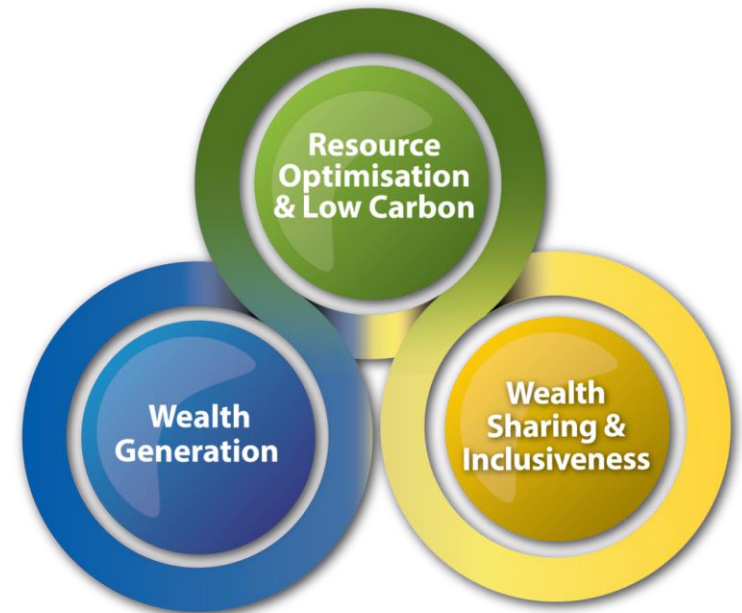
Iskandar Malaysia covers **FIVE** local planning authorities.



Iskandar Malaysia Holistic Eco-system

- **A resilient ecosystem**, anchored by wealth generators to create regional wealth to be shared equitably among communities.
- **Wealth generation and wealth sharing** by balancing the optimal use of ecological assets to enhance the Quality of Life in Iskandar Malaysia and turning it into a leading global region.
- **Spatial management and good governance** would enable the realization of its vision and goals by 2025.

A Strong Sustainable Metropolis of International Standing



ISKANDAR MALAYSIA ECO-SYSTEM



Developed framework as tools to accelerate IM vision

SMART CITY

HOW we focus, think and implement

Attract economy
through smart
investment

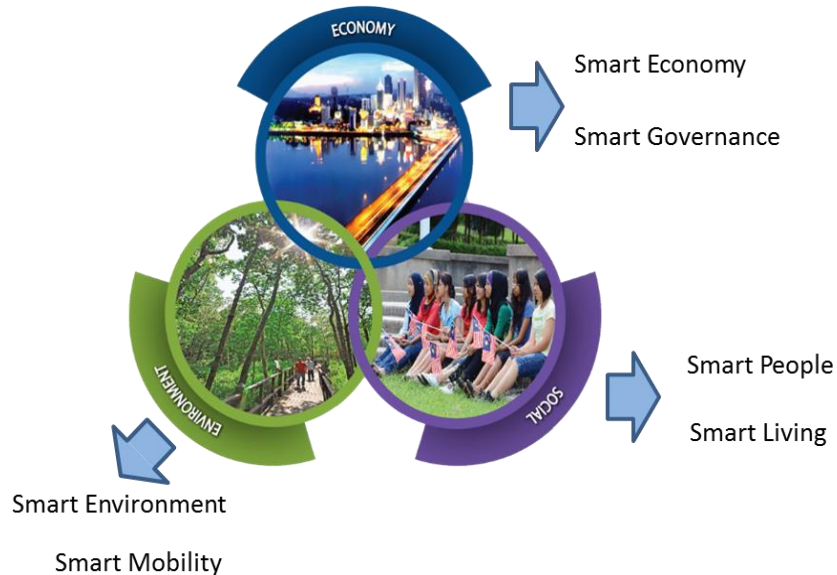
Smart governance
that focus on
'rakyat' needs

Manage
environment
through smart
collaboration

Provide smart
mobility and
connectivity

Produce smart
people and mindset

Provide smart living
quality



LOW CARBON SOCIETY (LCS)

- Sets a **target for 50% carbon intensity reduction in 2025** as compared to the 2005 level

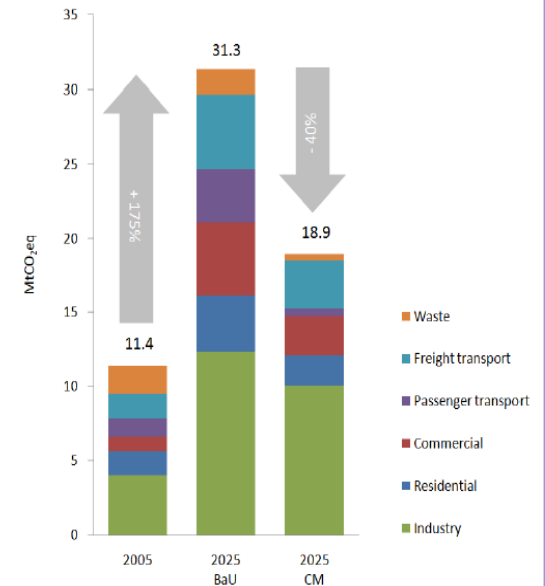
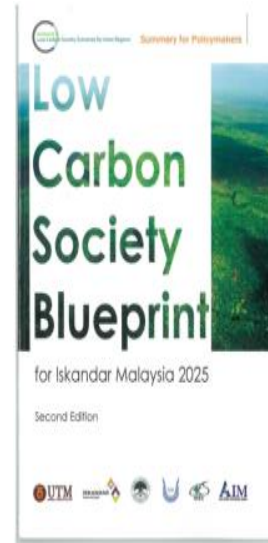


Figure 1: GHG emissions by sectors

**Projected Greenhouse Gas
Emission Reduction in IM**

Iskandar Malaysia and Sustainable Energy For All (SE4ALL)



UNITED NATIONS DECADE OF
SUSTAINABLE ENERGY FOR ALL
2014-2024

Iskandar Malaysia as one of the world's 10 cities/regions to take part in SE4ALL programs as announced in Climate Summit 2014 in New York, United States



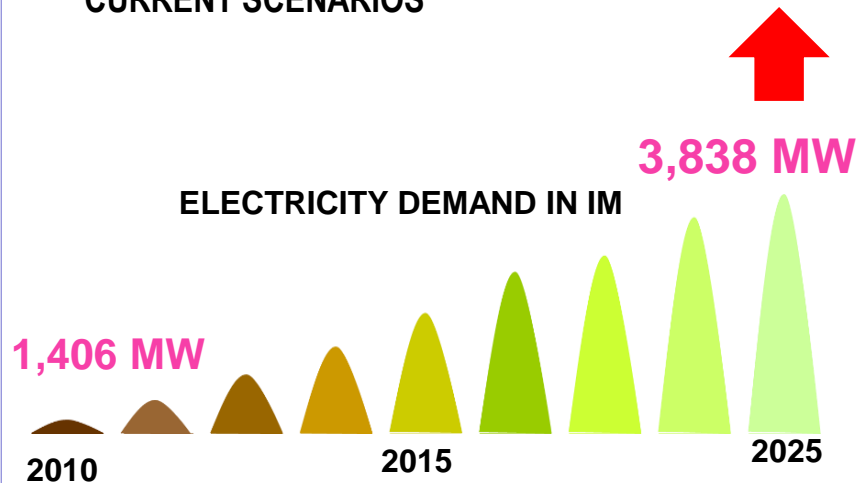
“ Participating governments are expected to make commitment to double the rate of energy efficiency by 2030 in targeted sectors within their jurisdiction. ”

Status to date:

- 1- Formation on Steering Committee at State and Federal level
- 2- Consolidation of initiatives based on Iskandar Malaysia existing blueprints
- 3- Issuance of RFP on key strategic identified projects

Case for Action and Targets

CURRENT SCENARIOS



**3.4 million tonnes
savings in CO₂
emissions by 2025**

TARGET

**12% from 2025 requirement supplied
by Renewable Energy (459 MW)**



**Through EE initiatives, 24% of
projected requirement can be reduced
(912 MW)**



Energy vision for Iskandar Malaysia

VISION

To
provide its residents
and industries with
**energy choices
that are
affordable,
reliable,
diverse,
safe and
environmentally
acceptable.**



5 THRUSTS

Strengthen the
institutional framework

Provide conducive
environment for RE, EE
and Green Technology
Development

Intensify Human Capital
Development in RE, EE
and Green Technology

Intensify RE, EE and
Green Technology
Research
and Innovations

Promotion and public
awareness

1: Strengthen the institutional framework

Challenges

- Strengthening of policy and regulatory
- Lack of specific energy policy and strategy
- No mandatory regulations on EE in the building sector
- Lack of stakeholder participation due to cheap energy

Measures

1. Establish :
 - steering committee
 - Energy Unit for IM
 - standards for mandatory and voluntary compliance
2. Review legal mechanisms

The strategy

1. Formation of Steering Committee
2. Formation of of Green Action and Climate Change Council (MTHPI)
- 3 Plan for Inter-agencies and disciplines lab to chart integrated road map for EE



FEDERAL LEVEL:
IRDA's
Members of
Authority
(MoA) chaired
by Malaysia
Prime Minister

STATE LEVEL:
IRDA's Action
and
Implementatio
n Committee
(AIC) chaired
by Johor Chief
Minister

2: Provide conducive environment for Energy Efficiency Programs and Green Technology Development

Challenges

- Restricted and limited incentives and financial support
- Uncompetitive product cost
- Skills and knowledge workers are few in the market.

Measures

- 1 Explore monetary and fiscal measures
- 2 Strengthen understanding of local players, and industries
3. Promote foreign direct investments
4. Improve human resource capacity related

The strategy

- 1 Provide incentive ie: FIT in Tariff by KETHHA
- 2 Green technology team in IRDA to facilitate
- 3 Green Economy Guideline provide guidance on how to in IM



3: Intensify Human Capital Development in Renewable and Energy Efficiency related Projects

Challenges

- Few research and educational institutions
- Limited technical capacity of professionals; resulting from the small market and opportunities



Measures

- 1 Provide financial grants or assistance
- 2 Enhance:
 - network centres of excellence or research institutes
 - smart partnerships gov, industries, research institution



The strategy

- 1 Collaborate with others SEDA, BCEEPP, conducting various capacity programs
 - Energy Audit
 - EE guidelines
 - Green Bldg
- 2 Collaborate with local authority ie MPJBT on Green Bldg. and MPPG on Green Industry
- 3 Energy Manager Training Center – certified managers

4: Intensify RE and EE Technology Research and Innovations

Challenges

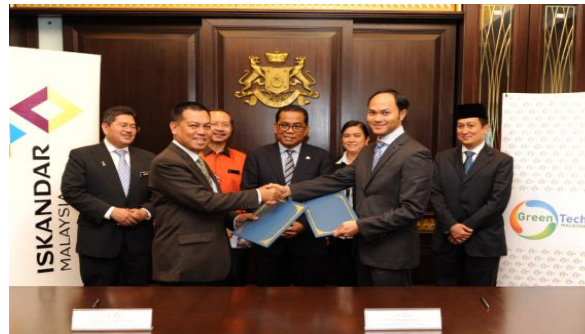
- Limited funding to encourage R&D – Local grant
- Lack platform for networking of related R&D

Measures

- 1 Smart partnerships between gov, industries and research institute
- 2 Encourage strong link between local research institutions and regional and international centres of excellence

Current Initiatives

- 1 Centre of Excellence (COE) for RE& EE in IM
- 2 Collaborate with local and International universities
- 3 Match Public Private sector:
 - Ronser and UTM
 - NEDO and local industry on Gas District Cooling
 - Cybertopia: a Living Lab for demonstraion purposes



CYBERTOPIA: A LIVING LAB FOR SMART INFRASTRUCTURE & GREEN ENERGY

- Development Strategy and principles



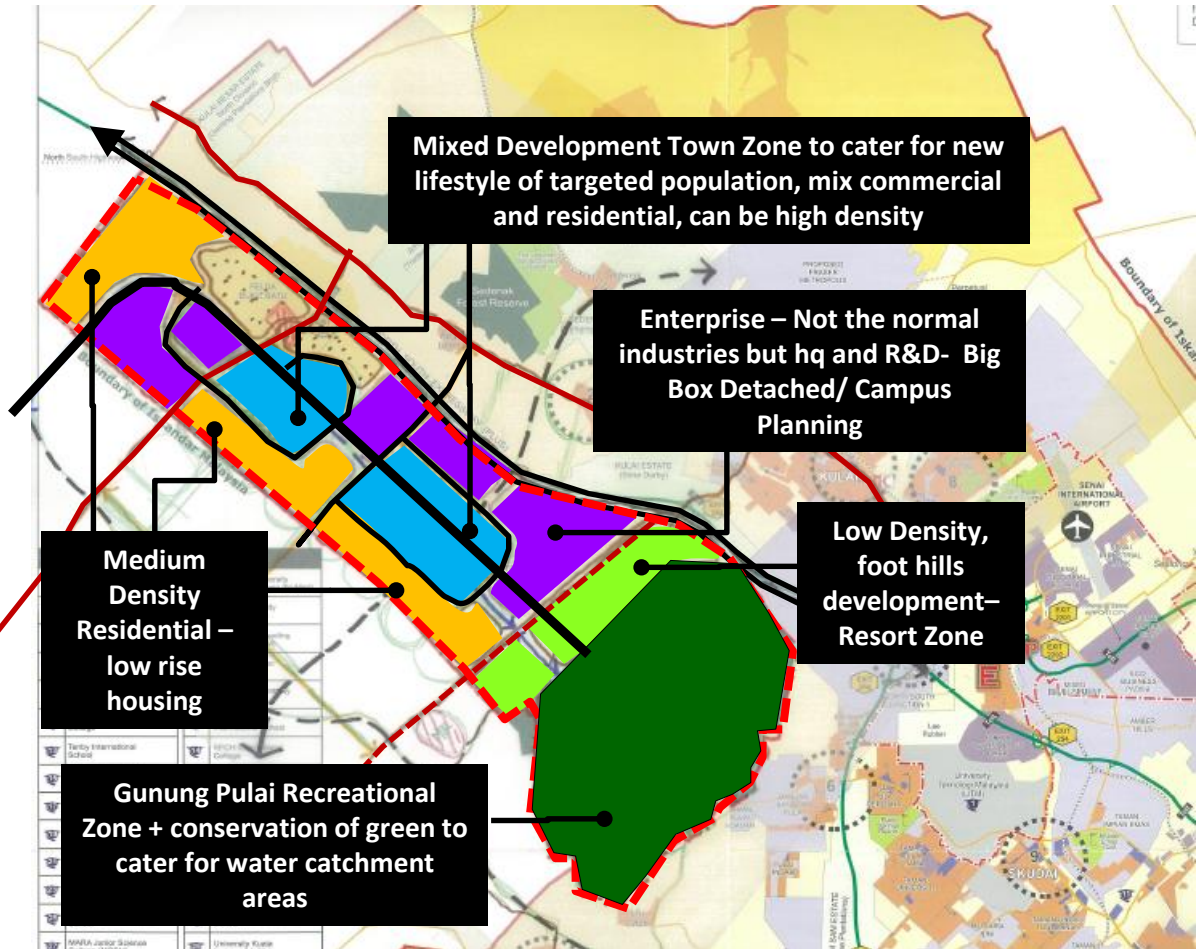
Product: Enterprise – Detached/ Campus Planning



Green Infrastructure



Green Energy



5: Promotion and public awareness

Challenges

- Lack of
 - awareness on the importance and opportunities of EE
 - accessible info
 - effective promotion and involvement of media, NGO and individual

Measures

- 1 Comprehensive roll-out programmes to increase public awareness
- 2 Inculcate EE appreciation culture among students through development of effective syllabus & co curriculum

Current Initiatives

- 1 IM participation in national exhibition (IGEM) together with LCS
- 2 Government by Example; DCS in Kota Iskandar
- 3 My Hijau program by Federal



District Cooling System in Kota Iskandar, Nusajaya

Facts

- Owner: Johor State Government
- Developer: Cahaya Jauhar Sdn Bhd
- DCS Operator : Jana DCS Sdn Bhd
- Cover 21,480 square feet (1,996 m²) of office space in a five storey structure.

Challenges

- High Capital Expenditure for start up
- The current DCS in Nusajaya is not fully utilized due to development phases in the area.
- New technology – the local developers are used to the old system



Kota Iskandar: Administration Centre for Johor State



District Cooling System:

In summary, Iskandar Malaysia requires the following to accelerate Energy Efficiency programs:

1

Advise on RE and EE best practices

2

Interested private sector to showcase RE and EE products in Iskandar Malaysia

3

Resources to implement capacity building, awareness programs as well as research and development



THANK YOU

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