Low Carbon Cities
and
The Deployment of Smart Grids

Sanjayan Velautham
CEO
Sustainable Energy Development Authority (SEDA) Malaysia

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Johor Bahru

SEDA Malaysia

- ✓ **Agency under Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)**
- ✓ **Established on 1 September 2011 under SEDA Act 2011**

Function:

- ❖ To promote, stimulate, facilitate and develop Sustainable Energy
- ❖ To advise the Minister & Government Entities on all matters relating to sustainable energy.
- ❖ To implement, manage, monitor & review the Feed-in Tariff system.
- ❖ To promote & implement national policy objectives for RE.
- ❖ Act as focal point on matters relating to Sustainable Energy & climate change

WHY CITIES?

Urbanization shaping ASEAN societies, cultures, economies, businesses and environments. ASEAN comprises some of the largest and some of the fastest growing cities of the world.

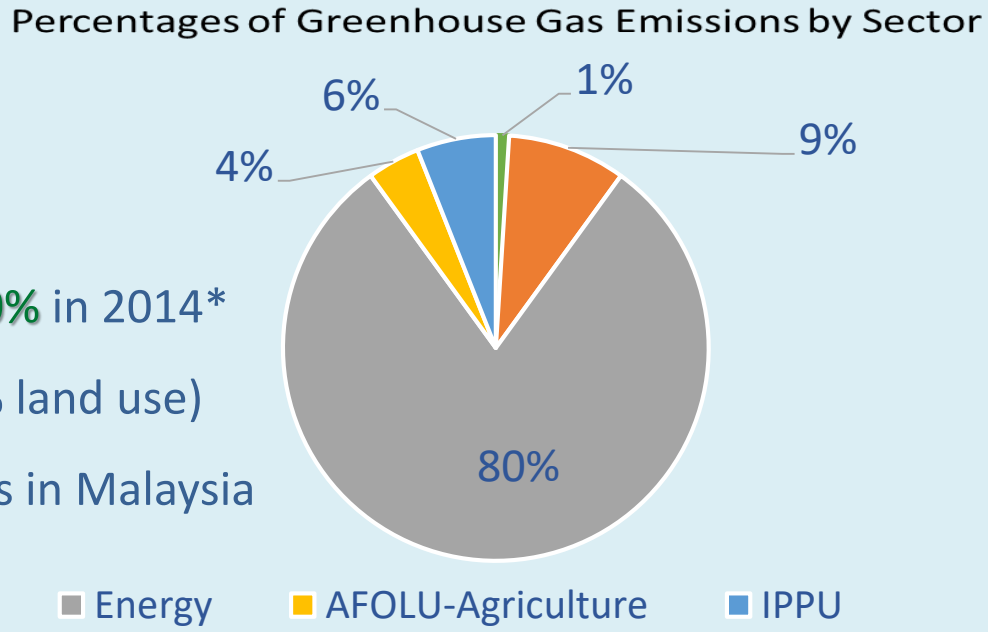
- cities consume 78% of the world's energy; and
- produce more than 60% of greenhouse gas (GHG) emissions.

Energy Policy

Malaysia's energy policy is guided by three principle objectives:

- Supply Objective
- Utilisation Objective
- Environmental Objective

- ✓ It has grown from **68%** in 2000 to **80%** in 2014*
- ✓ 55% of it from urban activities (~5% land use)
- ✓ Energy Sector – most GHG emissions in Malaysia

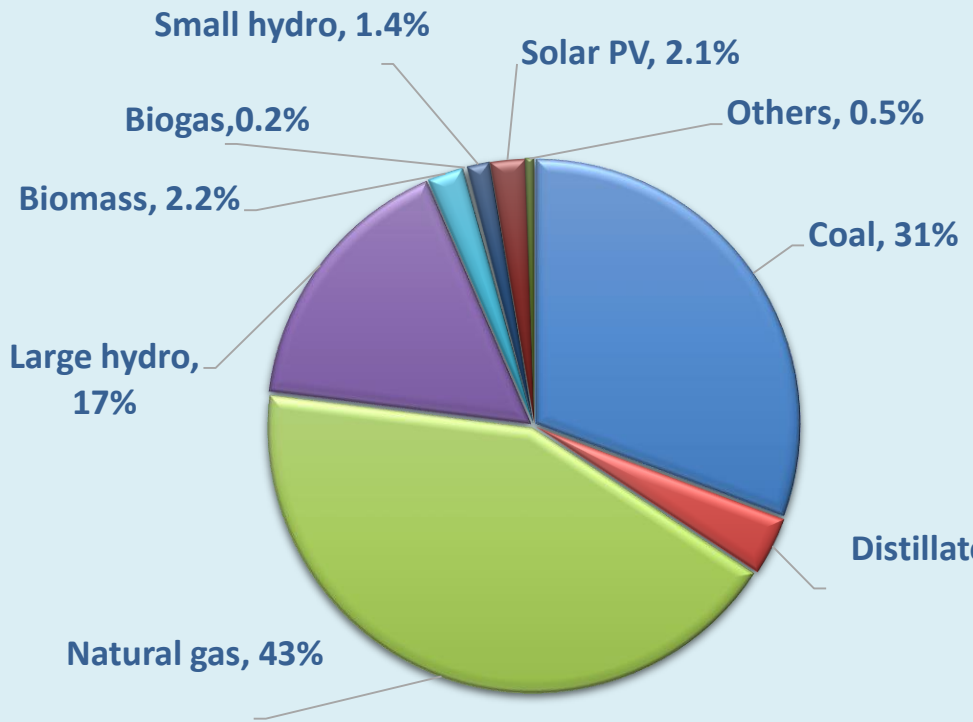


*Source: INC; NC2; BUR; NC3/BUR2

RE Development in Malaysia

8th Malaysia Plan (2001 - 2005)	• RE introduced as the **5th Fuel** • Implied 5% RE in energy mix
9th Malaysia Plan (2006 - 2010)	• Small Renewable Energy Programme **(SREP)** • Government approved the **National RE Policy & Action Plan (NREPAP)** (Oct. 2010)
10th Malaysia Plan (2011 - 2015)	• Enactment of **RE Act 2011** & SEDA Act 2011 • 2011:Implementation of **Feed-in Tariff (FiT)**
11th Malaysia Plan (2016 - 2020)	• Target RE capacity of 2,080 MW • 2016: Implementation of **Large-Scale Solar (LSS)** programme • 2016:Implementation of **Net Energy Metering (NEM)** scheme

National Installed Capacity Mix (Dec 2018)



As at 2018

Total: 34,392 MW

RE (excl. large hydro) : 6%; 2,057MW

RE (incl. large hydro):** 22.5%

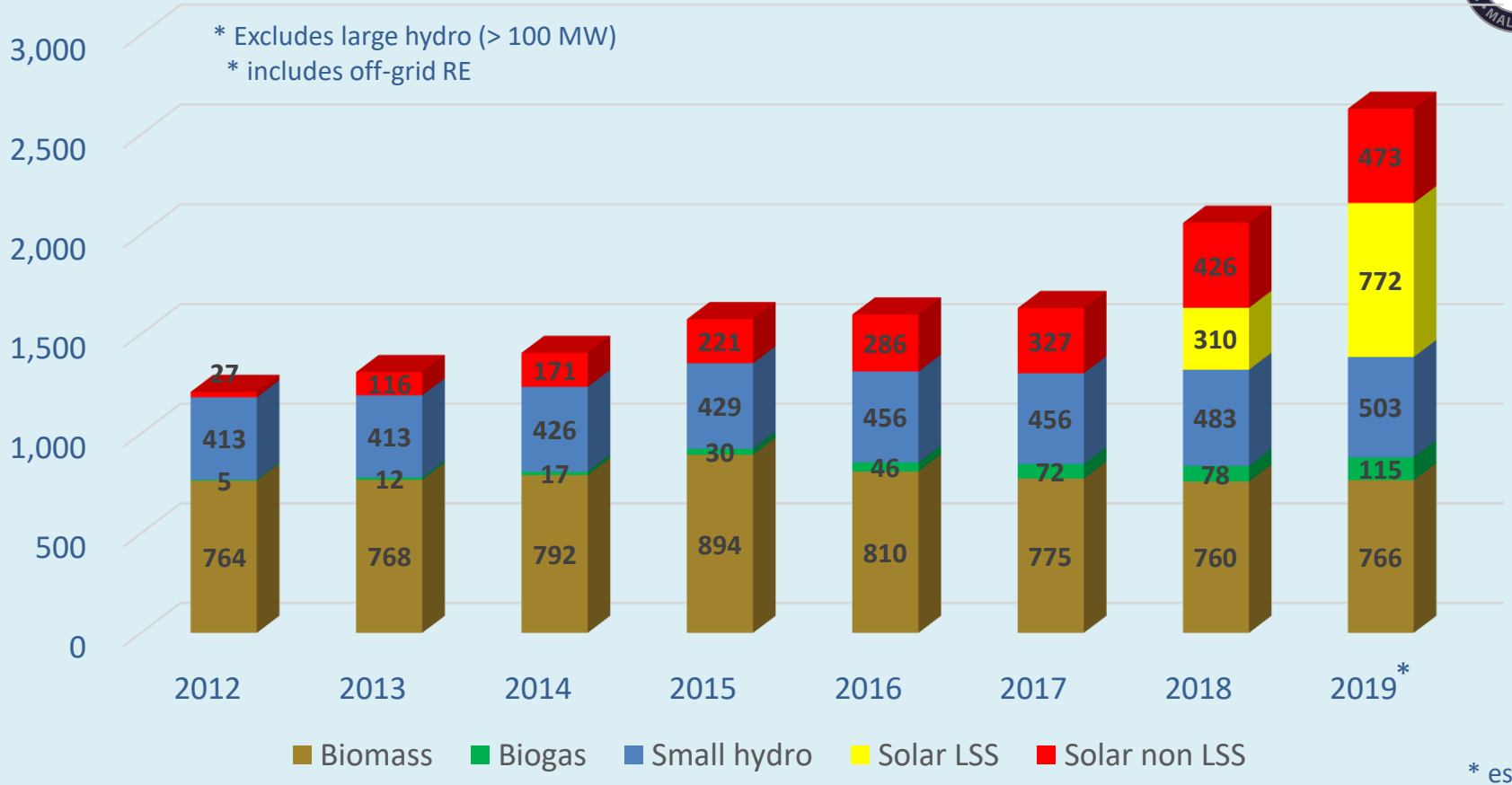
* Includes off-grid

**Large hydro > 100 MW

20% RE in the Installed Capacity Mix by 2025

Source: SEDA, ST, MoU Sarawak

Cumulative RE Capacity in Malaysia



* estimates

About GTALCC Project by UNDP-MESTECC / SEDA Malaysia

01 DESCRIPTION

GTALCC is a five (5) year project to **facilitate** the implementation of low carbon initiatives and to showcase a clear and integrated approach to **low carbon development** in Malaysia.

Component 1 Policy support for the promotion of integrated low carbon urban development.

Component 2 Awareness and Institutional Capacity Development.

Component 3 Low Carbon Technology Investments in Cities

02 RATIONALE

To support the Low Carbon Cities program by **removing barriers** to **integrated low carbon urban planning and development.**

03 ROLES & RESPONSIBILITIES

International Partner	**UNDP & GEF**
Government of Malaysia	**MEA**
Executing Agency	**MESTECC**
Lead Consultant	**SEDA Malaysia**

04 FOCUS AREA

Aligned with SDGs:

05 PROJECT LOGO

GTALCC

06 PARTICIPATING CITIES / REGION

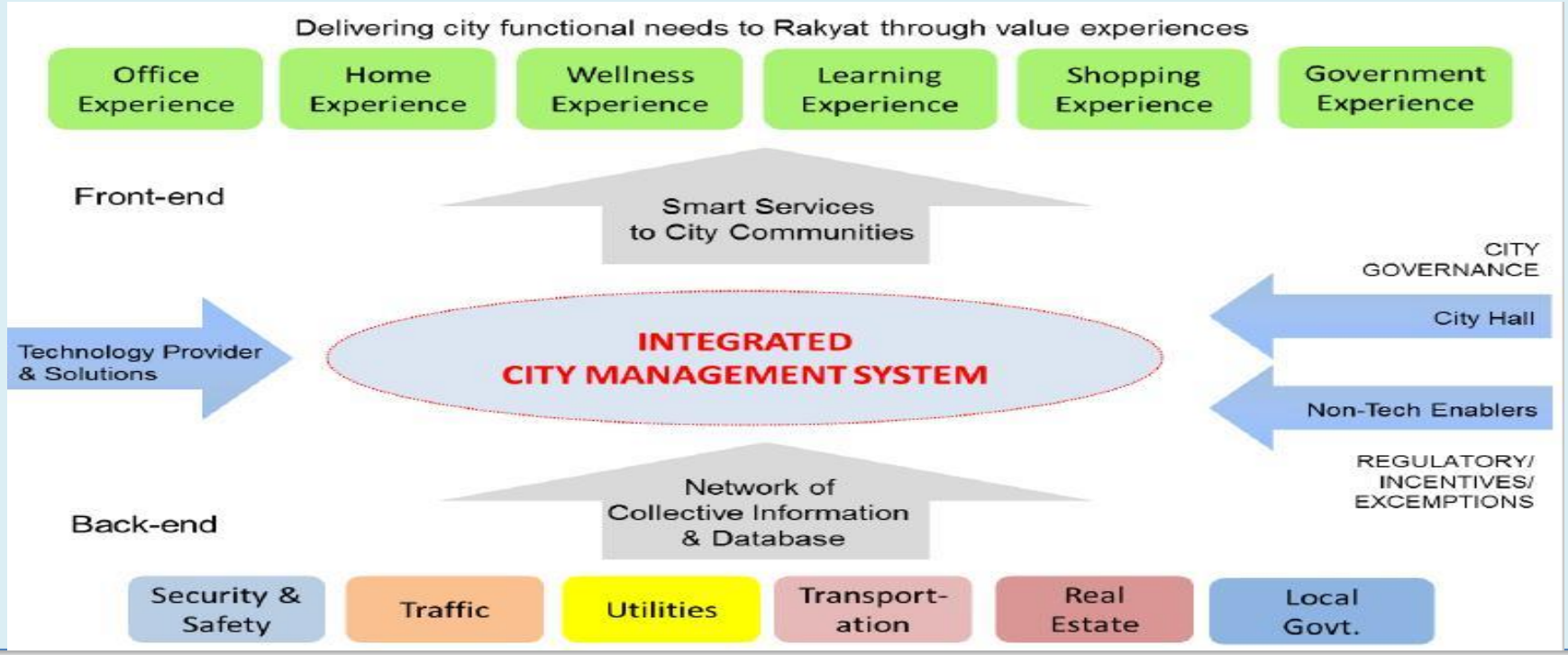
1. **Putrajaya** *(Perbadanan Putrajaya)*
2. **Cyberjaya** *(MP Sepang)*
3. **Petaling Jaya** *(MB Petaling Jaya)*
4. **Melaka** *(Melaka Greentech Corporation & MPHTJ)*
5. **Iskandar Malaysia** *(IRDA, MBIP, MBJB, MPPG, MDP & MPKu)*

07 BUDGET

Source	USD
GEF (Cash)	4,354,794
Federal & Local Govt (in-kind)	55,258,266
UNDP (in-kind)	354,000
UNDP Cost Sharing (UNDP)	50,000
Leveraged Co-finance (in-kind)	164,136,278

Smart Cities / Grid of the Future

- A city that fully utilising ICT and technologies in the operation and integrated city management that be able to improve quality of life and environment.
- Taking appropriate actions towards sustainable living (social, environment & economic).



Key Low Carbon Initiatives under GTALCC

Bus Rapid Transit (BRT)

Low Carbon Fuel Buses for Cities (B100)

Low Carbon Mobility (Cycling Network & E-Bicycle)

EV Charging Stations (Strata Property)

Key Low Carbon Initiatives under GTALCC

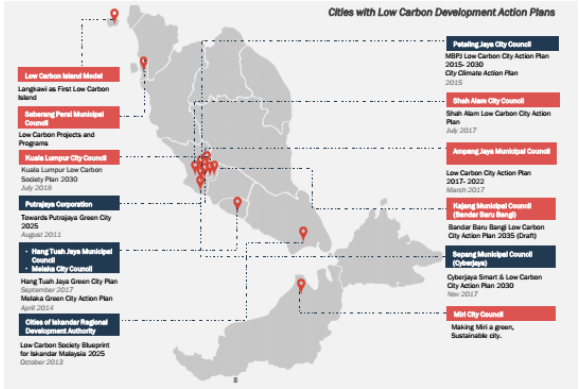
Photovoltaic for Urban Spaces (Solar)

Waste to Energy (Biogas)

Photovoltaic Roof Top for Cities (Solar)

National Low Carbon Cities Master Plan

Federal, State & Local Government



Conclusion





DIGITAL GOVERNANCE AND SMART CITIES

As more Malaysians live in urban areas, cities are starting to face pain points such as

- congestion,
- pollution ,and
- inefficient deployment of Urban services.

Smart Cities is a next generation approach to urban management and smart infrastructures

THANK YOU

Sustainable Energy Development Authority (SEDA) Malaysia
Galeria PjH, Aras 9, Jalan P4W, Persiaran Perdana
Presint 4, 62100 Putrajaya, Malaysia.

T • +603 8870 5800
F • +603 8870 5900
E • **enquiry@seda.gov.my**
www.seda.gov.my

Sabah Branch:
Likas Square Commercial Centre,
Unit 32, Level 1, Lorong Likas Square,
Jalan Istiadat Likas, 88400 Kota Kinabalu, Sabah.

T • +6088 252 101/251 462
F • +6088 257 337
GPS Coordinate:
5°59'32.8"N 116°06'31.0"ET

@SEDAMalaysia
SustainableEnergyDevelopmentAuthoritySEDAMalaysia