

## Summary

### LCS scenario in Putrajaya, Malaysia

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## Background of the development of Putrajaya

Putrajaya, the federal government administrative centre of Malaysia is a new city that has undergone development for the last 15 years. Being a planned city, its development is based on two underlying concepts, **the city in the garden** concept and **the intelligent city** concept. The adoption of these two concepts to guide the city's physical development was aimed at achieving a balanced and sustainable. This is clearly evident with the designation of almost 40% of its total city area of 4,931 hectares specifically for green and open spaces in the Putrajaya Master Plan. Putrajaya is also intended to be a self contained city with residential areas planned on neighbourhood planning concept. The road and transportation network are planned on a policy of modal split of 70:30 between public transport: private transport usage. Its planned population is set at 320,000 people with a day time population of half a million people.

## The development of Putrajaya as a green city

At the Copenhagen COP15, Malaysia made a conditional commitment of a reduction of carbon emission intensity of Malaysian GDP, of up to 40% by 2020 from a 2005 baseline and this is followed by the Prime Minister announcement in the 2010 Malaysian Budget speech, that the government will *"develop Putrajaya and Cyberjaya as pioneer township in Green Technology, as a showcase for the development of other townships"*

With that aim set by the government, Putrajaya Corporation (a statutory body incorporated to administer and manage the city, to perform the role of a local government as well as a local planning authority of Putrajaya) has risen up to the challenge by collaborating with University Technology of Malaysia, Kyoto University, Okayama University, The National Institute of Environmental Studies and Malaysia Green Technology Corporation to conduct a feasibility study, **Putrajaya Green City 2025 (PGC2025)** to assess the current position of Putrajaya towards achieving the green city status. Three main components & quantitative environmental targets in PGC2025, namely:

- **Low Carbon Putrajaya** with the aim to reduce GHG emission intensity by 60%;
- **Cooler Putrajaya** with aim to reduce peak temperature by 2 degree Celsius; as well as
- **3R Putrajaya** with the aim to reduce final disposal of solid waste and GHG emission per waste generation by 50%.

## Current progress of PGC2025

The study commenced in June 2010 and at present is the task force members are in the process of reviewing and finalizing the draft report. 12 (dozen) main actions and more than 50 sub actions have been identified at the initial stage.

### Summary of findings:

The base year and target year are set at 2007 and 2025 respectively with the anticipated population growth of 7 times from 49,452 in 2007 to 347,700 in 2025. The study identifies that the CO<sub>2</sub> emission for 2007 is at 661 ktCO<sub>2</sub> and these will increase by 6 times to 4205 ktCO<sub>2</sub> in 2025 at Business as Usual (BaU) Scenario.

With the introduction of Low-carbon measures identified below, in 2025, the CO<sub>2</sub> emission can be reduced to 1,737 ktCO<sub>2</sub>. The main measures identified to have significant contributions towards total reduction are the 'cutting edge sustainable buildings' measure, the 'low carbon transportation' measure and the integrated city planning and management' measure.

In terms of CO<sub>2</sub> emission intensity, it is anticipated that a reduction of 60% can be achieved from 8.64tCO<sub>2</sub> at the BaU scenario to 4.2tCO<sub>2</sub> with the introduction of low carbon measures.

Low Carbon Putrajaya	
1. Integrated City Planning & management	4. Low Carbon Lifestyle
2. Low Carbon Transportation	5. More & More Renewable energy
3. Cutting-Edge Sustainable Buildings	6. The Green Lung of Putrajaya
Cooler Putrajaya	
7. Increasing Outdoor Thermal comfort (Urban Structure & Building)	8. Increasing Outdoor Thermal comfort (Local & Soft Countermeasures)
3R Putrajaya	
9. Use Less Consume Less	11. Integrated Waste Treatment
10. Think Before You Throw	
General	
12. Green Incentives and Capacity Building	

### Community-ExSS

The Extended Snapshot Tool (ExSS) was modified into Community ExSS tool to cater for the peculiarities of a city like Putrajaya.

### Implications and expectations to the AIM team.

The assistance and support of AIM to Putrajaya is highly appreciated and commendable as to ensure that a new planned city like Putrajaya will continue to develop in a balanced and sustainable manner in line with the aspiration for Putrajaya to become the pioneer green city in Malaysia.

Expectation to AIM includes:

1. Support in terms of continuous assistance in the transfer of knowledge especially in technical skills and in depth understanding in the use of the models in decision making process. This can also be conducted by networking with other cities (of similar socio economic and environmental conditions) that is associated with AIM's projects.
2. A further study on carbon sink calculation needs to be incorporated into C-ExSS to take into consideration tropical species trees.(e.g the average annual carbon accumulation by tree (of tropical species)