

The role of research community in facilitating the implementation of the low-carbon Society Blueprint in Malaysia

The Malaysian government recognises that climate change and the adverse consequences arising from it are real, and has taken positive policy actions to address climate change. Researchers are working together with regional policy-makers to prepare a baseline study and formulate 12 Action Plan to promote a low-carbon society for the fast growing regional economic corridor to reduce GHG emissions, while pursuing the national goal of economic growth towards a high income nation status.

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Introduction

The research project on the Development of Low Carbon Society (LCS) for the Asian Region using the case of Iskandar Malaysia aims to showcase how the research community in developing countries like Malaysia is able to contribute to reduce CO₂ emission intensity in a fast-developing metropolitan economic corridor.

The research project began with a pilot study in Iskandar Malaysia and showcases the LCS best practices for the Asian Regions, thus benefiting not only the case study area and Malaysia, but also the Asian Regions. It will be a hands-on project where researchers and government officials of Asian countries work together in implementing research outputs within the cities or regions involved, leading

to the eventual establishment of an Asian Low Carbon Society network.

The long term objective of this research project is to develop suitable policies and guidelines for the nation in environmental conservation and energy consumption needs. The Project is expected to develop research methodology and design, LCS scenarios are created and utilized for policy development in the case study area Iskandar Malaysia. Ultimately, it hopes to set up an organizational arrangement for capacity building and a network for LCS in Asia.

Major characteristics of the region

Iskandar Malaysia covers an area of 221,634 hectares (2,216.3 km²), about 3 times the size of Singapore and twice the size of Seoul Metropolitan Area. Iskandar Malaysia is the largest single development project ever to be undertaken within the Southeast Asia region. Strategically located at the southernmost tip of Mainland Asia to tap on a vast market of about 1 billion people within a 6-hour flight radius, Iskandar

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Malaysia is set to become an integrated global node that synergizes with the growth of the global City-state of Singapore and Indonesia. The population in Iskandar Malaysia is projected to double from 1.5 million in 2005 to over 3 million by 2025, supported by a stable 7-8% annual GDP growth that is primarily driven by services and manufacturing.

Malaysian policies and transformation to low carbon societies

In an effort to curb the nation's contribution to climate change, at the 2009 United Nations Climate Change Conference (COP15), Prime Minister Datuk Seri Najib Abdul Razak committed to "conditional voluntary reduction of carbon emission intensity per GDP of up to 40% by the year 2020 compared to the 2005 levels".

In line with the National Government Policy as spelt out in the Ninth and Tenth Malaysian Plan (2010-2015) to combat climate change, it is important to introduce a sustainable development approach to reduce the negative environmental impacts of a rapid development. As such, one of the approaches is to promote a sustainable low carbon society policy. Low Carbon Society (LCS) can be defined as a society that consumes sustainable and relatively low carbon energy as compared with our present day practices to minimize adverse climate change effects. Conscious efforts need to be taken in both energy consumption and supply sectors. Society will adopt a lifestyle that makes more use of alternative renewable energy, depends less on fossil fuels and practices the 3R's (Reduce, Reuse and Recycle) in their everyday life.

Iskandar Malaysia as economic corridor is undergoing a rapid industrialization process and has huge investments in manufacturing and infrastructure development and hence has high demand for energy consumption. Although it has been blessed with relatively large tracts of agricultural and natural tropical wetland (designated as Ramsar site), the green areas may be converted into other urban uses to generate job opportunities for the growing population.

Low Carbon Blueprint and collaborative aspects of local and future research partnership

This blueprint is one of major research outputs of our SATREPS (Science and Technology Research Partnership for Sustainable Development) project on the Development of Low Carbon Society for the Asian Regions, sponsored by Japan International Cooperation Agency (JICA) and Japan Science and Technology Agency (JST). The main universities involved in this collaboration work are Universiti Teknologi Malaysia (UTM), Kyoto University, National Institute for Environmental Studies (NIES), and Okayama University. The research team uses a scientific methodology based on data collection, scenarios development, CO₂ emission modelling with AIM (Asia Pacific Integrated Model) and consensus building among stakeholders to develop the LCS blueprint.

Conclusions – The role of researchers in the preparation of LCS Blueprints to facilitate urbanization

In line with the Malaysian Government's effort and pledge in COP15 to achieve a 40% voluntary reduction of CO₂ emission intensity by 2020, the implementation of the blueprint will facilitate the low carbon development of metropolitan areas. The case study region, Iskandar, is one of the fastest growing regions in Malaysia; this demonstrates how a low carbon society can be achieved by decoupling CO₂ emissions and economic growth.

The lessons learned from the research work can be summarised as follows:

- a) A development approach needs to be people-centered and buy in from policy makers. It is easier and more effective to plan an LCS blueprint for a regional corridor instead of a single city. The study area will have critical mass to develop green policies for energy and other infrastructure development to facilitate green environment, green economy and green community.
- b) The adoption of a more scientific methodology

by the researchers to provide a good baseline quantitative study on carbon emission on current and future development scenarios is important. A scientific baseline study followed by consensus building among policy makers, the public, and business stakeholders will ensure better and objective decision making by the local planning authorities. In other words, researchers should look beyond the sole policy perspective, that is

starting from science-knowledge-policy to finally achieve the implementation stage.

- c) Researchers/scientists have to work with local implementation agencies and make an international collaboration effort for capacity building opportunities to disseminate the knowledge and skill of developing LCS policies and monitoring them.

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