CIRCULAR ECONOMY ROADMAP

PENANG 2030

SEBERANG PERAI
ASPIRASI BANDAR MASA HADAPAN

www.mbsp.gov.my

Executive Summary

Natural resources, and the materials derived from them, represent the physical basis for the economic system. The last 150 years of industrial evolution have been dominated by a one-way or linear model of production and consumption in which goods are manufactured from raw materials, sold, used, and then discarded as waste. This model has been exceptionally successful in providing affordable products to consumers and material prosperity to billions. Recent decades have witnessed an unprecedented growth in demand for these resources, there are signs that the coming decades will require productivity gains and quality improvements at a new order of magnitude. This has triggered interest in transitioning to a more resource efficient and circular economy. Recycling, reuse, and repair have existed for millennia. The sharing of under-utilised household possessions also has a long history, and the provision of access to products, rather than ownership of them, is not so different from traditional product leasing. What is new is the growing diversity and sophistication of these business models, as well as the range of sectors they are adopted in.

The market share held by these business models is small but there is considerable room for future scale up. In most sectors, the market penetration of circular business models remains limited and is usually no more than 5 to 10% in economic terms. Although some business models have experienced rapid recent growth, much of this has been from a very low base, and has been confined to a handful of economic niches. Some circular business models are more amenable to more widespread adoption than others. Waste recycling and product reuse and repair, for instance, have a long history and are relatively mature.

There are some other business models that have appeared more recently, and are scaling up rapidly. Technological innovations along with an increased consumer willingness to pay for green products seem to have been important drivers. For sharing models, and for certain variants of product service system models, for instance, the emergence of the internet, mobile phone technology, and the development of referral and reputational systems have allowed certain products to be shared more widely than ever before. In order to realise the environmental benefits, policy frameworks will need to evolve to create the conditions for wider uptake of circular business models. Ultimately, achieving a genuine transition to a more circular economy will be unlikely if circular business models continue to occupy small economic niches.

Thus, Seberang Perai is proud to have our own Circular Economy Roadmap (CER) for waste sector which aim to diversify economy sectors in the city and to provide opportunity for young entrepreneur to explore new ideas through innovative smart solutions. This roadmap is part of the Seberang Perai Climate Action Strategy that launched in January 2020 which target to mitigate climate impact in Seberang Perai. It is expected that Seberang Perai population will grow up to 1.3 million people by 2030, with current scenario that will bring to a staggering amount of 1.8 million tonnes of waste produced annually in the city by 2030. Hence, this CER will serve as policy framework for the next ten years to develop integrated solutions and improve the quality of life in Seberang Perai. This is how we prepare ourselves as the next decade won't be the same as the previous decades.

YBhg. Dato' Sr Hj Rozali Hj Mohamud
Mayor
Seberang Perai City

Seberang Perai Circular Economy Roadmap

Seberang Perai has the highest recycling rate in the country with 51.64% in 2019 out of 1.14 million tonnes of waste generated within the city. The rest of the waste was sent to landfill. It is expected that in 2030 about 1.8 million tonnes of waste will be produced in the city and two third of it need to be sent to landfill. Waste Sector contributed about 13% of current carbon emission of the city, the number are expected to increase in the next decade. This is a major issue that need to be handled delicately by the City Council of Seberang Perai. Earlier this year, we have launched Seberang Perai Climate Action Strategy, a document that underline our commitment in combating climate change with the rest of the world and limiting global warming at 1.5°C by 2030. One of the key sectors identified are Waste and The Circular Economy. Thus, there is a need for us to produce a roadmap and actions plan for Circular Economy in Seberang Perai.

Seberang Perai Circular Economy Roadmap is aim to serve as a Policy Framework for the next ten years that will aid the city managers to plan mechanisms, actions and programs so to meet the targets underpin in this said roadmap. Currently, the economy sectors in Seberang Perai are in the form of a linear economy. A linear economy operates on a 'take-make-dispose' model, making unbounded use of resources to produce products that will be discarded after use. A circular economy, in contrast, centre around the reuse of products and raw materials, and the prevention of waste and harmful emissions to soils, water and air, wherever possible ('closing the loop'). A circular economy is an economic system of closed loops in which raw materials, components and products lose their value as little as possible, renewable energy sources are used and systems thinking is at the core. In a circular economy, material cycles are closed following the example of an ecosystem. There is no such thing as waste, because every residual stream can be used to make a new product. Toxic substances are eliminated and residual flows are separated into a biological and a technical cycle. Producers take back their products after use and repair them for a new useful life. In this system, it is not only important that materials are recycled properly, but also that products, components and raw materials remain of high quality in these cycles. Every player in the economy is connected to other players. Together, this forms a network in which the actions of one player influence other players. To take this into account, the short and long term consequences must be taken into account in choices, as well as the impact of the entire value chain.

Seberang Perai Circular Economy Roadmap for waste sector has identified eight (8) Key Result Areas:

- Landfill Reliance
- Food Waste
- Recycling and Upcycling Industry
- Single-use plastics
- Construction and Demolition Waste
- Electronics and Hazardous Waste
- Renewable Energy
- Water and Waste Water Management

In order to have an inclusive implementation of the plan, these three enablers are chose:

- Inclusive Partnerships (7Ps)
- New Industrial Framework
- Seberang Perai Smart Consumption Model (8Rs)

This Roadmap is a clear indication that we need to have a holistic approach in order for us to face the new challenges in the next decade.

PARTNERSHIPS (7Ps)

- Education and Training on Circular Economy
- Implementation of Projects

NEW INDUSTRY

- Guidelines to encourage private set-up
- Special Permit/License

SEBERANG PERAI SMART CONSUMPTION MODEL (8Rs)

Roadmap

- Recycling 80%
- Food Waste Diversion 90%
- Elimination of Single-Use Plastics
- Renewable energy 30%
- Waste to Energy
- Waste Water to Energy
- Zero Waste City

2030

2025

- Recycling Rate 75%
- Food Waste Diversion 50%
- EPR Policy Implementation
- 40% Landfill Reliance

2022

- 70% Recycling Rate
- Construction and Demolition Waste Processing Plant
- EPR Policy Formulated
- E-Waste Collection Centre

2021 Launching of Actions Plan

Launching of CER **2020**

- REDUCE LANDFILL RELIANCE TO 40% BY 2025
- LANDFILL CLOSURE BY 2030

- ACHIEVE 75% RECYCLING RATE BY 2025
- FURTHER IMPROVE RECYCLING RATE AT 80% BY 2030

- SETTING UP FOOD WASTE PROCESSING PLANT BY 2025 WITH 50% DIVERSION CAPACITY
- FOOD WASTE DIVERSION INCREASE TO 90% BY 2030

- FORMULATE EXTENDED PRODUCER RESPONSIBILITY (EPR) POLICY BY 2022
- IMPLEMENT EPR POLICY BY 2025
- SINGLE-USE PLASTICS ELIMINATION BY 2030

Construction And Demolition Waste

- C&D WASTE TREATMENT AND RECYCLING FACILITIES SET UP BY 2022

- 30% OF C&D WASTE ARE RECYCLE AND REUSE IN THE NEW DEVELOPMENT BY 2030

Electronics And Hazardous Waste

- E-WASTE COLLECTION CENTRE BY 2022
- ENHANCE PRIVATE RECOVERY FACILITIES BY 2025

- 30% OF RENEWABLE ENERGY TO BE UTILIZED IN SEBERANG PERAI BY 2030
- WASTE TO ENERGY PLANT TO BE SET AT TRANSFER STATION AND PULAU BURUNG SANITARY LANDFILL BY 2030

- RAINWATER HARVESTING SYSTEM AS RESERVOIR AND ENERGY SOURCE
- WASTE WATER INCLUSION IN CIRCULAR ECONOMY

Jabatan Perkhidmatan Perbandaran
Majlis Bandaraya Seberang Perai
Menara Bandaraya
Jalan Perda Utama, Bandar Perda,
14000 Bukit Mertajam, Pulau Pinang

04 - 549 7555

04 - 538 9700

www.mbsp.gov.my

Majlis Bandaraya Seberang Perai

www.mbsp.gov.my