

## CIRCULAR FOOD WASTE COMMUNITY HUBS: PREPARING THE PILOT MODELS FOR CIRCULAR NEIGHBOURHOODS

# "IURC:SEBERANG PERAI'S PRESENTING FOOD WASTE CHALLENGES, CRTITICAL BARRIERS AND CURRENT SOLUTIONS

**DATO' AZHAR BIN HAJI ARSHAD**  
Mayor Of Seberang Perai

**21 JUNE 2022(TUESDAY) 15:00**



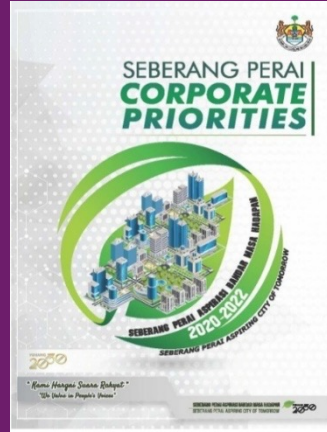
# LOCALIZING THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT GOALS

## VISION

Seberang Perai Resilient, Inclusive, Green, Competitive and Technology Driven Smart City

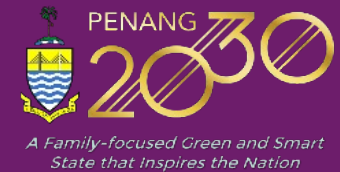
## MISSION

To provide urban service, development planning and infrastructure efficiently, effectively and responsive to the needs of the community in Seberang Perai



## Seberang Perai Commitment:

- Seberang Perai City Council is committed to uphold **Penang2030 "A Family Focused Green and Smart State That Inspires The Nations"**
- Seberang Perai City Council is committed to a **green and low emission** development.
- Seberang Perai City Council is committed to be **resilient city**.
- Seberang Perai City Council is committed to being **inclusive, equitable** and to be **people-centered** in developments.
- Seberang Perai City Council is committed to be **competitive** and a **smart city** in developments.



*Seberang Perai City Council Sets Its Target Of Becoming Carbon Neutral City By 2030, Which Is 10 Years From January 2020 And Becoming Zero Carbon City By 2050*

# SEBERANG PERAI CORPORATE KPIs



**Recycling increase to 70%**



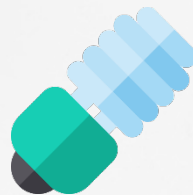
**Solid waste reduce by 50% per capita from 1.6 kg per capita to 0.8 kg per capita per day.**



**Reduction of Green House Gases (GHG) emissions from 8 tons of CO2e to 4 tons of CO2e.**



**15% renewable energy consumption (RE)**



**100% LED streetlights**



**Central Business District (CBD) with TOD concept for each district**



**Seberang Perai Circular Economy Roadmap implemented**



# Seberang Perai Circular Economy Roadmap

## Post Covid-19 Economic Focus

Seberang Perai City Council is emphasizing a circular economy and digital economy that improve the efficiency of urban and rural developments. In a circular economy, product, components and resources are designed to be maintained, reused, re-manufactured and recycle to minimize waste.

### CIRCULAR ECONOMY ROADMAP



Launching of Actions Plan

2021

2025

2020

2022

2030

Zero Waste City

Launching of CER

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

- E-Waste Collection Centre
- 5% Renewable Energy
- Campaign to Reduce Single-Use Plastic

- Recycling 80%
- Food Waste Diversion 90%
- Renewable energy 30%
- Elimination of Single-Use Plastics

- Waste to Energy
- Waste Water to Energy
- Zero Waste City
- 30% Construction and Demolition Waste

- Recycling Rate 75%
- Food Waste Diversion 50%
- 20% Renewable Energy
- EPR Policy Implementation
- 40% Landfill Reliance





# Seberang Perai Circular Economy Roadmap

## Post Covid-19 Economic Focus



**WASTE TO  
PROTEIN**

**WASTE TO  
COMPOST**

**WASTE TO  
ENERGY**

- The people of Seberang Perai produce 1600 tons of solid waste per day.
- A total of 700 tones of domestic solid waste is generated while the rest is industrial solid waste.
- To reduce the amount of domestic solid waste disposal in Seberang Perai, MBSP has plans to implement projects that include Waste To Energy, Waste To Protein & Waste To Compost.
- New products will be produced such as wood chips, animal feed, fertilizers and even new sources of electricity.
- Through this project, MBSP intends to treat 100% of domestic solid waste generated in Seberang Perai (zero waste).





# **“PADANG CHEMPEDAK GREEN EDUCATION CENTRE WITH UPSI AND URBANEST”**

- MBSP has collaborated to develop a green education centre by focusing on Digital Farming which uses IoT and Circular Economy technology, known as the Green Education Centre, Padang Chempedak.
- The chilies planting on 3 July 2021 involved 1100 “Kulai” chilies seedlings. The crop can be harvested after 30 days. To ensure the success of the Green Education Centre, it operates in a 'self sustaining' manner at an early stage, that is for the operating cost cycle, the proceeds will be commercialized and supplied to the wholesale market and retail sales. On 12 September 2021 MBSP has harvested 59kg of “Kulai” chilies.



## HIDROPHONICS – SALAD & KAILAN



**The Green Education Center next to the Padang Chempedak Depo SPU was established in collaboration between the MBSP, UPSI and URBANEST**



# FERTIGATION TECHNOLOGY

- Automatic Control
- 1000 polybags
- 2 tones in 3 months





# COMMUNITY GARDENING PROGRAMME

## **Total of 30 communities**

10 communities (North District)

13 communities (Central District)

7 communities (South District)



# SEBERANG PERAI INITIATIVES IN DEVELOPING URBAN FARMING

Organizes competitions and programmes to promote urban farming such as the Sustainable Community Award, Neighbourhood Farming Competition and Clean and Beautiful Backyard Competition.





# SEBERANG PERAI INITIATIVES IN DEVELOPING URBAN FARMING

Organizing Grow Community Market ( Autocity, Taman Bagan Lallang, Permatang Nibong and Taman Puteri Gunung) and Upcycle Carnival (Autocity and Design Village) which function as marketing medium or exchange for their crops.





# UPCYCLE PARK BANDAR PERDA- FIRST UPCYCLE PARK IN MALAYSIA

The first Upcycle Park in Malaysia, which only cost the city council a minimal amount that are less than RM5K on 1 acre site used to be a retention pond for flood mitigation. The park benefitted 30,000 peoples staying around the area mostly low and medium income group. The park was decorated with Upcycle structures creatively constructed by “Wira Orange” MBSP.





# UPCYCLE PRODUCTS BY THE COMMUNITY





# PERMATANG NIBONG VILLAGE (ZERO WASTE COMMUNITY)

- Zero waste community :
  - 1) Composting by villagers
  - 2) Recycling centre
  - 3) Black Soldier Fly
  - 4) Organic Farming



# SMK CONVENT, BUTTERWORTH (EXAMPLE OF GREEN SCHOOL)

- (Green School-example of green school award,

1) Segregation of Food Waste (compost)

2) 1 Student 1 Eco Brick

3) My Green Promise

4) Up-cycle Corner

5) My Green Wall

6) Environmental Quiz, etc



ARTS & CRAFTS WITH BOTTLE



VERTICAL GARDEN  
(MY GREEN WALL)



# **Way Forward**



An aerial architectural rendering of the Integrated Waste Management Centre (ISWMC). The facility includes a large white industrial building with a solar panel array on its roof, a central green pond, several storage tanks, and a building with a green roof labeled 'GREEN20'. The site is surrounded by lush greenery, palm trees, and a network of roads with vehicles. White birds are shown flying in the sky. The text 'The Construction and Operation of Integrated Waste Management Centre (ISWMC)' is overlaid in large red font.

# **The Construction and Operation of Integrated Waste Management Centre (ISWMC)**

**Lot 2036, Mukim 2, Central District of  
Seberang Perai.**



# Overall Picture of ISWMC (Ampang Jajar)





# Leachate Treatment Plant (LTP)





# MBSP's Office







**Thank You**