Enhancing Circularities in the Malaysia Economy

'Towards Sustainability'

Presented by:

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President, Malaysia Biomass Industries Confederation (MBIC)
1. Background of Malaysia Biomass Industries Confederation (MBIC)
2. Potential (Biomass) Circular Economy Focal Areas in Malaysia
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4. Circular Economy: Government Initiatives in Malaysia
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Malaysia Biomass Industries Confederation (MBIC) as a legacy of the first EU’s Switch Asia funded project in Malaysia “EU-Malaysia Biomass Sustainable Production Initiative (Biomass –SP)”
MBIC Linkages with Malaysian Government

1. Joint Ministers’ Dialogue Session with YB Teresa Kok (Minister of Primary Industries) and YB Yeo Bee Yin (Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC))

2. Environmental Preservation and Innovation Centre Sdn Bhd (EPIC), Centre of Excellence for Waste Management established by Khazanah Nasional Bhd and CENVIRO. MBIC contributes as the Member of the Board of Director in EPIC.
Potential (Biomass) Circular Economy
Focal Areas in Malaysia

**Target Sectors:**
- Bio-Fertilizer (Food & Bio-Waste)
- Bio-Resin / BioPlastics
- Bio-Polymer
- Bio-Composite
- Activated Carbon/Reactivated Carbon
- Animal Feed/ Animal Protein
- Bio-Engineering Products
- Bio-Agricultural Products
- Bio-Industrial Application
- Solid Biofuel
- Bio-CNG Cylinder Tank
- Bio-Char
- Bio-Vinegar
- Waste Cooking Oil/ Biodiesel
- Bio- Food Packaging Products
- Pulp & Paper
Food Waste (55% disposed at landfills are food waste, Ramadan alone in 2018 generated 615,000 metric ton food waste – Source: SW Corp/KPKT)
  → Up-scaled to Bio-Fertilizer, Animal Feed
POME (2nd largest sources of methane emission in 2014, 28%)
  → Circular Economy Up-scaling Model to Bio-CNG Cylinder Tank for transportation sector (UNDP/MESTECC/SEDA)
  (Source: Malaysia Second Biennial Update Report to the UNFCCC)
Plastics → Bio-Plastics & Bio-Resin
  (Promoted by MESTECC)
Polystyrene → Bio-Food Packaging Products
  (Promoted by MESTECC)
EFB → Palm Pellets (RSPO Certification), Bio-fertilizer etc
  (Feedback from MBIC Stakeholders)
EFB & Rice Straw → Bio-engineering based Geo-mat
  (Benchmarking of Biomass Value Chain in Malaysia)
Promising innovations and strategies → Bio-refinery, three-dimensional (3D) printing with bioplastics, multipurpose crops, valorizing residues and food waste, and bio-waste treatment.
Oil Palm Biomass Feedstock

Oil Palm Fronds

Oil Palm Trunks

Empty Fruit Bunches

Circular Economy Opportunities

Bioethanol

Biochemicals

Biofuels

Pellets

Wood Plastic Composite

Plywood

Furniture from Oil Palm Lumber

Particle Board / Moulded Particle Board

MDF

Pulp & paper

Finished Paper Product

Compost

Fibre

Animal Feed from Oil Palm Fronds

Current focus: Biorefinery, Biofuels, Biochemicals, Biopellets
The Biomass Value Chain in Malaysia

Bioenergy
- Biofuels
- Biomass power plant
- Biogas
- Pellets, briquettes

Bio Agriculture
- Biofertiliser
- Animal feed
- Composting
- Aqua-feed

Eco-products
- Pulp and paper
- Biocomposite
- Biopackaging
- Activated Carbon
- Bio-engineering

Biochemical
- Biosugar
- Lactic acid
- Polylactic acid
- Food additives
- Zeolite & catalyst

Source: EU-Switch Asia funded Biomass-SP’s Findings
Circular Economy: Government Initiatives in Malaysia

i. Mid-Term Review (MTR) of 11th Malaysia Plan:
   Championed by Ministry of Economy Affairs (MEA)
   • Green Growth: Promoting Sustainable Consumption & Production (SCP)
   • EU-Malaysia cooperation on Sustainable Consumption & Production (SCP)

ii. Roadmap Towards Zero Single-Use Plastics 2018-2030:
    Championed by Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC)
    • Widespread uptake of bio bag nationwide instead of using plastic bags
    • Circular Economy Roadmap (CER) for plastics by the year 2020.
iii. **Sustainable Development Financing Fund**

- RM 1 billion (Euro € 217.4 Million) financing scheme announced in Budget 2019 and championed by Bank Pembangunan Malaysia Bhd (DFI in Malaysia) based on business models related to Sustainable Development Goals (SDGs).
iv. Petaling Jaya City Council (MBPJ) championing City Level Circular Economy Initiatives: Food Waste Circularities Model

- Technologies *(Anaerobic Digestion, Aerobic Enzyme, Black Soldier Flies)*
## Financing Enablers

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<tr>
<th>Grant</th>
<th>Soft Loan</th>
<th>Investment Incentives</th>
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<td>- Malaysian Investment Development Authority (MIDA)</td>
<td>- Development Financial Institutions (DFI)</td>
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<td>- Malaysia Technology Development Corporation (MTDC)</td>
<td>- Malaysian Industrial Development Finance Bhd (MIDF)</td>
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The Way Forward: Embracing Fourth Industrial Revolution Technologies (4IR)

• National Policy on Industry 4.0 was launched by MITI in 31 October 2018 (manufacturing sector).
• National Policy Framework for 4IR (Non-manufacturing sectors) championed by Ministry of Economic Affairs.

Source: World Economic Forum / 11th Malaysia Plan
MESTECC R&D Fund

- RM 3 million for Malaysia SMEs
- Proposed projects must be at least at Proof of Concept (POC) level; it must be well designed, scientifically valid, and competitive with current technologies and research works.
- The project output shall be new products, processes or systems by which value can be created for customers, businesses and society with good potentials for commercialization
- Circular Economy could be an appealing theme!
Domestic Investment Strategic Fund (DISF)

Objectives of Fund:

• To accelerate the shift of Malaysian-owned companies in targeted industries to high value-added, high technology, knowledge-intensive and innovation-based industries.

• To enable domestic investors to develop new sources of competitive advantage and to become active participants in the global ecosystems of industries.

• The fund is not a business start-up fund but it is applicable to local companies which have new or additional investments.
EU- Malaysia Collaboration

Licensing or Purchase of New Technologies
- Opportunity for EU-Malaysia technology cooperation

Industry 4.0
- Matching Grant of RM 245 million under the DISF to upscale grant for manufacturing facilities.
Priority Sectors - Manufacturing

- Machinery and Equipment
- Other industries, on a case by case basis

Priority Sectors - Services

- Design and Development
- Research and Development
- Testing / Calibration
- Quality and Standard Certification
- Architectural / Engineering Services
- Technical and/or Skills Training
- Logistics Service Providers (3PL)
- ICT Solutions Providers related to Automation and Industry 4.0
- Integrated Green Technology Project
Conclusion To Enhance Circularities of Circular Economy

• Government enabling eco-system: Incentives / Disincentive ; Development of Waste Eco Park
• Access to financing opportunities: Government Grant, Bank Loan, Private Sector Finance (Equities Investment)
• Green Procurement practiced by Government and private sector → creation of green supply chain
• Synergetic collaboration from multi-stakeholders: Government (Enabler & Facilitator), Banks (Finance), Universities (R&D&C), Industry (Championing entrepreneurship & innovation), Chambers of Commerce/ Trade Association (Trade & Investment promotion/ technology cooperation)
How MBIC Can Help

• Advisory on feedstock availability
• Advisory on market study, investment incentives, green financing and inputs on government policies etc.
• Technology partnership to convert biomass into energy or high value-added products
• R&D partnership to commercialize biomass into high value-added products
• Connectivity with members, biomass SMEs & plantation owners, related governmental stakeholders
THANK YOU!

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