

Malaysia National Stakeholder Consultation Report

5 to 6 November 2019, Dewan Utama, Ground Floor, Balai Cerap Telok Kemang, Klana Beach Resort, Port Dickson, Negeri Sembilan

Malaysia National Stakeholder Consultation on Marine Litter – Solving Plastic Pollution at Source Nationwide Project to Strengthen Multi-Stakeholder Partnerships by Applying a People Centric Approach in Managing the Plastic Value Chain in Malaysia



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Summary

Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC) is collaborating with UN Environment Programme (UN Environment), the Coordinating Body on the Seas of East Asia (COBSEA) in implementing a regional project entitled "Reducing marine litter by addressing the management of the plastic value chain in South East Asia" – SEAcircular Project which is supported by the Government of Sweden. The first Malaysia National Stakeholder Consultation in relation to the said project took place in Port Dickson, Negeri Sembilan from 5-6 November 2019 after a pre-consultation was held on 15 October 2019 at MESTECC. A diverse range of stakeholders, which included government agencies, private sector, scientists & academia, international organizations, associations, not for profits, think tanks, civil society organisations and non-governmental organisations attended (see *Annex 1 – Participants List*).

The first national consultation (see *Annex 2 – The Programme*) was formulated to provide a strategic platform to convene the abovementioned stakeholders and potential partners in Malaysia.

The purpose and objectives of the consultation were:

(1) To receive feedback on the project's objective and expected impact, strategies and approaches, and plans in Malaysia after the pre-consultation on 15 October 2019;

- (2) To introduce the project's implementation partners and stakeholders in Malaysia; and
- (3) To explore opportunities for collaboration among other initiatives and partners.

There were three parts to the national consultation:

- (1) Marine Litter in Malaysia: Solving Plastic Pollution at Source;
- (2) Communication, Education & Public Awareness (CEPA); and
- (3) Beach Audit and Beach Clean Up at Teluk Kemang, Port Dickson.

There was also an exhibition booth by ALS Malaysia, a Malaysian independent testing service provider who is an accredited testing body with MS ISO/IEC 17025 certification by the Department of Standards Malaysia under the Laboratory Accreditation Scheme (SAMM). They showcased how they have conducted research and analytical test development of plastics and microplastics in various environmental samples in Malaysia (see *Annex 3 – ALS Malaysia*).

Part 1: This was an interactive dialogue on proposals to advance sustainable management of plastic waste and promotion of circular economy in Malaysia, reporting the timeline and implementation of the Malaysia's Roadmap towards Zero Single Use Plastics 2018-2030, updates on plastic waste management in Malaysia and the management of solid waste in Malaysia through 5R concepts. This was followed by sharing of various documented case studies on monitoring and assessment methodologies using country examples in Malaysia (e.g. islands, Port Dickson, Straits of Malacca) and South East Asia. The list of SEAcircular project activities in Malaysia was also introduced in detail prior to deliberating how Malaysia can promote people-centred solutions and sustainable business models in solving plastic pollution at

source. In the afternoon, participants were engaged to deliberate and critique which 2 locations (1 island and 1 inland) should be proposed as pilot project locations to document as case studies in cooperation with local government to demonstrate good practice of 3R (reduce, reuse, recycle) interventions and implementations of circular economy solutions from 2020 onwards. The proposed locations and proposals were extracted from national questionnaires distributed from September to October and inputs submitted during the pre-consultation on 15 October. The final outcome was stakeholders recommended Penang Island and Petaling Jaya's Assessment Tax Rebate Scheme for Eco-Friendly Homeowners.

Part 2: The White Paper: An Advanced Plastics Recycling Industry for Malaysia which was launched in October by Malaysia Plastics Recyclers Association together with Malaysian Plastics Manufacturers Association and Monash University was presented with a proposed future of plastics waste management framework. A lively discussion took place after experts and a local partner shared how the plastics disclosure training will be executed and implemented in Malaysia. Thereafter, stakeholders debated on how to overcome challenges in launching the Marine Litter Open Online Course (MOOC) in Malaysia and also contributed inputs on creative ways to enhance multi-party collaboration in implementing communication and outreach strategy in implementing #CleanSeas activities and local campaigns. Ideas were also shared in developing and supporting sub-national awareness raising campaigns to support regional activities of SEAcircular project.

Part 3: 38 participants from public sector, private sector (CEOs and top management representatives), think tanks, not for profits, NGOs, civil society organisations and academia (see *Annex 4 – Beach Audit & Beach Clean Up Participants)* participated in a beach audit using Ocean Conservancy's ICC methodology during their beach clean up at Teluk Kemang beach. TrashHero KL Chapter's Team Leader with Maritime Institute of Malaysia (MIMA)'s Research Centre team led this community initiative. Please see *Annex 5 – Beach Audit Outcomes*

The national consultation demonstrated increased awareness for marine litter and plastic pollution issues across relevant stakeholder groups using **three delivery methods** (interactive discussions between experts and stakeholders on 5 November, an exhibition booth providing demos to better understand how ALS Malaysia uses research data to assist plastic recyclers, policy makers, regulators and academic researchers to have better targeted outcomes and an edu-action activity i.e. beach audit and beach cleanup on 6 November). The first national consultation demonstrated a willingness of stakeholders coming from 8 different states across Malaysia to deliberate on innovative solutions for circularity and prevention of plastic pollution at source vs. reliance on curative methods. The discussions provided valuable inputs and insights to the project team to further develop planned activities and how best to strengthen multi-stakeholder partnerships to achieve the project results in Malaysia.

Part 1: National Consultation Highlights (Marine Litter in Malaysia: Solving Plastic Pollution at Source)

The morning session of the national consultation was focused on how Malaysian stakeholders should collaborate to accomplish the below output of the project mentioned below:

Output 2: Strengthen the scientific basis for informed decision-making to address marine plastic litter, by building national and regional capacities, and generating and disseminating data and information products, coherent methodologies, indicator frameworks and reporting processes/systems, in line with global best practice. Building on intergovernmental COBSEA mechanisms, the project will assist government partners to assess, develop and implement strategies and plans to address plastic pollution holistically from 'source to sea' and collect findings of plastic hotspots in the environment to monitor progress of upstream efforts to reduce leakage.

Key Challenges & Issues:

- Transboundary transfer of marine debris is poorly understood and little is known about the current status of marine plastic pollution in Malaysia.
- There is a lack of standardized protocols for detection, sampling and extraction of plastics and this results in a poorly defined problem within the country.
- While the knowledge gap for the effects of microplastics on human health is narrowing, further work is needed to establish the effects of it on our health.
- There is no nationwide research to understand the impact of marine plastics in the environment and how to identify hotspots and sources of these plastics.
- Research funding into source-sink, persistence of marine debris and effects on marine ecosystems are also lacking, needs to be addressed to progress the abovementioned points further and to enable the dissemination to key policy makers and stakeholders in the country.

Key Takeaways:

 Sustainable management of plastic waste and the promotion of circular economy in Malaysia requires us to address the above gaps strategically and effectively by establishing a National Integrated Plastics Waste Management framework promoting circular economy of plastic waste, implementing Extended Producers Responsibility (EPR) policies and to strengthen the research & development of bioplastics. This will in turn introduce a comprehensive & firm marine litter policy & regulation framework. The below is the proposed framework for consideration:



- To also introduce a comprehensive regulatory and policy framework including the application of proposed "Indifferent Consumers Pay (ICP) Principle" where consumers who return targeted items after Reuse, Recycle or Recovery (3Rs) would be rewarded with some "credit points" and the collected "credit points" can be redeemed when purchasing targeted items (using a pre-determined list). If not, a levy (e.g. RM 0.10 sen/unit volume or weight) should be imposed. As a result, there will be a stimulus and emerging Waste-to-Resource (W2R) industries in the country.
- MESTECC has launched Malaysia's Roadmap towards Zero Single Use Plastics 2018-2030 and is committed to create a uniform approach to address single-use plastics in the country. The action plan has three phases to tackle the 5 key problems in Malaysia: severity of plastic pollution, low recycling rates of plastic waste, absence of environmentally friendly and cost effective alternatives and the absence of a uniform policy framework
- Since the National Solid Waste Management Department of the Ministry of Housing and Local Government had started enforcing separation of waste at source in 2015 for households, they have extended it to commercial, institutional, industrial and the construction sectors in 2018. The 2020 target is to reduce waste to landfill by 40% and have 30% national recycling rate.
- The Malaysian Government to date has established 7,665 programs at educational institutions, 583 at private industry entities, 2,682 community programs promoting recycling and reducing household waste. Among the programmes are (i) National Recycling Day that is held annually on 11th November, (ii) module for Solid Waste Management and 3R Practices for kindergartens and schools (iii) the Green Initiatives during sport events such as the 29th SEA Games and the 2017 ASEAN Para Games.
- Alam Flora is launching 5R Concepts via Fasiliti Inovasi Kitar Semula (FIKS)/Innovative Recycling Facilities in December 2019 and to pave the way, the design involves locations with knowledge hubs, 3R boutique centres and recycling hubs. Under their Solid Waste Integrated Facility Terminal (SWIFT) programme, each terminal will have a material recovery facility (MRF), facility to manage recycled items, plastic to fuel (PTF)

facility, solid recovery fuel (SRF) facility and green waste/organic waste facility.

- When designing a monitoring/assessment programme on marine litter that involves transboundary problems, it is important to set your goals, limits and know how to account for your biases. The three critical questions are: What is the relationship between debris in the marine environment and debris from nearby sites? Are there identifiable sources and pathways through which debris reaches and moves to the coast? and What investments in facilities, policies, outreach etc. will help reduce waste in the environment?
- The Clean Coast Index (CCI) is a methodology established by MIMA to systematically assess coastal cleanliness and develop a baseline for the country. There are still challenges however with gathering more complete data on marine litter as the CCI only focuses on the beach areas at the moment. There needs to be a comprehensive set of methodologies adopted for a complete assessment of marine litter in Malaysia.
- The Department of Fisheries have to date created 30 categories of waste for marine debris after assessing 42 marine park islands (area of 248,613 hectares) in Malaysia which has a total economic value of RM8.7billion.
- Therefore, strengthening the institutions and multi-stakeholder partnerships with a
 people centric approach across the plastic value chain in Malaysia is key in solving
 both the challenges of marine litter and plastic pollution list above. Public sector would
 need to closely collaborate with academia on research and publications as well as
 private sector whose investments and inputs are critical to shift from incremental
 changes to transformative changes across the country.

Next Steps and Recommendations:

- To conduct a baseline assessment to identify the most problematic single-use plastics.
- Assess the potential social, economic and environmental impacts and consider how to implement alternative technologies to tackle problems i.e. grow emerging Waste2Resource industries
- Identify and engage key stakeholder groups
- Raise public awareness about the harm caused by single-use plastics
- Provide Materials Recovery Facilities (MRFs) in strategic locations
- For integrated solid waste management to be in place, Malaysia would require policy directives, regulatory measures, fiscal measures and other enviro-economic policy instruments.
- Adoption of innovative circular economy models by businesses and the government to provide tax incentives to industries to further drive the uptake by the industry players. Ministries and government agencies working with not for profits, influencers and local actors should continue to undertake several awareness programmes as well.
- More sessions of Training the Trainers (ToT) is needed to train volunteers and other

stakeholders on management of coastal litter and a collaboration in terms of data sharing with International Coastal Cleanup (ICC) would be beneficial for Malaysia to measure and compute marine litter.

• More data is needed during seasonal variations to understand the source and transboundary problems to enhance the current methodologies and to encourage a citizen science approach as a tool to increase awareness on marine litter problems in Malaysia.



The afternoon session of the national consultation was focused on proposals and suggestions in relation to 2 pilot locations on implementation of 3R (reduce, reuse and recycle) demonstration interventions for reduction/elimination, re-use and recycle of plastic related to the below output of the project and mentioned below:

Output 1: Identify and develop market-based solutions towards 'less plastic wasted' to promote transformational changes in plastic management. Using a Circular Economy approach, this includes creating business incentives for plastic reduction and recycling that increase plastic re- use and recovery and reduce single-use plastic products

The criteria are to propose 1 island close to mainland and 1 inland where close cooperation with local government exists on 3R initiatives and the locations also have local circular economy solutions.

The example of Koh Samet, Rayong Province, Thailand and why it was chosen for the SEAcircular project- Thailand component was shared with the stakeholders. The location was picked because of its zero plastic waste island practicing eco-tourism and is approximately 200km South East of Bangkok.

Overview of Proposals and Key Takeaways:



Petaling Jaya (Inland, 40-50km to nearby islands)

- A team presentation (Department of Solid Waste Management and Public Cleansing, Petaling Jaya City Council, ASEAN Green Chamber of Commerce and ES ECO) was delivered on the Assessment Tax Rebate Scheme for Eco-Friendly House Owners in Petaling Jaya.
- Reason for proposal: House owners who practiced green living in one of the 5 areas such as protecting biodiversity, practicing segregation of waste, conserving water, adoption of green energy and mobility would benefit from an annual property tax rebate of up to 100% or maximum of RM500 on their property assessment tax. This is the first of its kind scheme offered by local authorities in Malaysia since 2011. Data on how much rebates have been approved has been recorded from 2011-2018 and recycling rates from a pilot project has also been documented from 2018 to 2019 (see Table 1 below). A PJ Eco-Recycling Plaza in SS8 also exists in this township and it has a high potential to scale its current 3R initiatives further.

• Location: It is approximately 35km from Port Klang and 40-50km to the nearby islands such as Carey Island, Pulau Ketam (Crab Island) and Indah Island.

RECYCLING RECORDED IN PETALING JAYA FOR 2018 – 2019 (tonnage)			
	ACTIVITY	2018	2019 (partial)
1	Recycling Pilot Project	92.886	118.538
2	3R Bins	20.16	19.6
3	Syarikat Community Recycle for Charity (CRC)	1,526.93	912.77
4	DJROA Community Recycling Centre	14.469	10.141
5	Recycling Competition - School Level	24.222	25.514
6	Recycling Competition - Kindergarten Level	3.046	2.875
	TOTAL	1,681.713 tonnes	1,089.438 tonnes

RECYCLING FOR 2018-2019

Updates: As there was a need to have better quality of RRI data (recovery and recycling inventories) across Petaling Jaya another recent pilot project started in April 2019 (for 6 months) engaging with residents in SS22 and SS22A neighbourhoods in collaboration with the Petaling Jaya City Council. The Mayor has awarded and certified this pilot project in its efforts to cultivate 3Rs communities and promoting circular economy via its IoT system and mobile application "MyReturns" among the residents in Petaling Jaya.

Perhentian Island and Port Klang (1 island and 1 Port close to island)

• Maritime Institute of Malaysia (MIMA) proposed two areas to focus on the pilot projects.



Perhentian Island

• Reasons for proposal: Perhentian Island was proposed because it is a marine park island and has many resorts and backpackers facilities. Hence, the solid waste management strategies should be a priority and it could also serve as a comparison

with other marine park islands in the country. There have been some marine litter awareness campaigns such as the International Year of Reef 2018 global awareness campaign where beach clean up efforts were carried out to highlight marine debris issue particularly on plastic waste as one of the biggest threats to marine ecosystems. There is also a Perhentian Islands Marine Conservation project that is on-going but there is currently a lack of further information on its progress.

• Location: Perhentian Islands is approximately 24km from Besut. Besut is a district in the state of Terengganu in the East Coast of Peninsular Malaysia. It is the northern gateway to Terengganu. There is a nearby fishing port in Kuala Besut and other small towns.

Port Klang



- Reasons for proposal: The Port Klang was proposed as comments were received from the shipping sector that more could be done at the ports in regards to plastic management and segregation. There will be close collaboration with the Ministry of Transport and port authorities as well in tackling importation of illegal plastics. The nearest island to Port Klang is Pulau Ketam (Crab Island), a mangrove covered island off the coasts of Port Klang around 20km. The National Solid Waste Management Department together with the Department of Environment is also working closely to manage and combat the smuggling of plastic waste. There are currently no campaigns on marine litter or plastics but there have been some activities in the past in adopting marine sanctuary area, collaborating with Malaysian Nature Society, beach cleaning, mangrove planting and environmental monitoring & waste management.
- Location: Port Klang is a town area and the main gateway by sea into Malaysia. It is also the largest port in the country. It is approximately 6km south west of the town of Klang and 38 km south west of Kuala Lumpur. The nearest islands are Indah Island, Carey Island and a few more as per the map above.

Tanjung Piai, Indah Island



- Reasons for proposal: Trash Hero's Malaysia Chapters have focused on quality clean ups and not quantity of clean ups nationwide. Tanjung Piai, a beach on Indah Island was showcased as an example which is approximately 30km from Port Klang. The problems identified in the area was (a) no facilities to remove waste (b) not serviced by any contractor (c) major cleanup was executed in 2019 and was able to remove most waste that was not possible in 2018 (d) the build up of waste are from local visitors and (d) there are waste that comes during the high tide seasons from the ocean which gets stuck in the mangrove area. Stakeholder engagements have been easier after determining the justification of the programme, targeting the type of waste, how to measure its success and plans to implement a Institute of Zero Waste Management.
- Location: It is approximately 25km to Port Klang and 33km to the town of Klang. The island has a split personality with northern side developed with industrial estates, commercial developments, a Free Zone and a container terminal. The south side has villages and a mangrove coast as an eco-tourism attraction. A new highway bridge was constructued on the south side over to Carey Island and towards Putrajaya/Kuala Lumpur, which has rapidly transformed the island today.



Mantanani Island (22km off the West Coast of Sabah)

 Reef Check Malaysia presented on Mantanani Island (tackling plastic pollution at source with villagers and how waste audit has been conducted) & Taman Persiaran Desa (plans to use Reverse Vending Machines to enhance 3R interventions to enhance the current pilot project).

- Reasons for proposal: Currently, they are working in the following rural areas on the island: Kampung Siring Bukit (22 households with 110 villagers) and Kampung Padang (154 households with 890 villagers). The island currently has 27 resorts with up to 1000 tourists per day and approximately 0.83 tonnes of waste is generated per day. As there has been no waste management in place, Reef Check Malaysia has implemented a trial project in Kampung Siring Bukit itself. A total of 4,037.35kg (plastic bottles account for 103.4kg) of waste collected over 7 months (food waste decomposes on the island, plastic bottles sent for recycling in Kota Kinabalu, other trash sent to Kota Belud City Council on the mainland to landfill, HDPE and PP are processed on the island with a shredder and extruder machine to produce products for sale e.g. key chains). They are proposing to replicate the same waste management system in Kampung Padang.
- Location: Mantanani Island is 42km off the west coast of Kota Belud and 87km off the west coast of Kota Kinabalu, the capital of Sabah.



Taman Persiaran Desa

- Reasons for proposal: Phase 1 of the pilot project involved 109 landed properties, 57 households in a gated and guarded community and 2 condos (115 and 272 units). There is support from Kuala Lumpur City Hall to educate the residents to segregate waste in separate bins provided. Surveys for Phase 1 has been completed in August/September 2019 and waiting to collaborate with Alam Flora and SWCorp for Phase 2 to monitor the separation of waste at source.
- Location: It is about 38km from Port Klang and 5km from Kuala Lumpur City Centre. It is a relatively large and matured neighbourhood located on the edge of Kuala Lumpur. It consists mainly of residential areas and has a mix of middle and upper middle income groups.

Pangkor Island



- Reasons for proposal: Pangkor Island's incineration plant is located at Teluk Cempedak and can combust 20 tonnes of municipal solid waste per day. The island's challenges were pollution from power plants, ships, domestic & industrial waste, tourism waste and lack of proper infrastructures to resolve the challenges. iCycle's initiatives grew community projects on coastal recovery programmes and ZeroWaste. It is also educated the islanders that the incinerator is not an alternative to landfill and more innovative solutions need to be implemented on the island. They worked with Seberang Perai City Council who collects house-to-house food waste for composting for their edible gardens. The 3R awareness and community engagement model has 4 requirements to it as part of their marine plastic offsetting programme:
 - i. Storm Proof Containers and segregation centre (e.g. iCycle)
 - ii. Licensed collector, who collects and recycles to avoid dumping in landfills or open burning
 - iii. 3R awareness and community engagement model is an iCycle community rewarding model using their Phinonic app that provides points in exchange for cash vouchers from corporate partners.
 - iv. The collection of data is conducted (individual as well as using IoT to track waste).
- Location: It is located off the west coast of Peninsular Malaysia and about 8.3km from Lumut, Perak which is a coastal town in the Manjung District in Perak. It is the main gateway to Pangkor Island before Marina Island Pangkor was constructed as the second gateway.

Klang River



- Reasons for proposal: Klang River pilot project is a Selangor State government project, which involves 4 local councils, championed by the Chief Minister. The coverage is 56 km with installation of 3 main log booms, 48 mini log booms, using machines (excavators, boats, barge and RORO – Roll-on and Roll-off bins) as part of the river clean up prevention and curative methods. The daily operations that runs 6 days a week collects a daily collection of 40-45 metric tonnes of waste. It was discovered that recycling is currently challenging as the waste collected has been too contaminated. However, the other success factors are
 - i. Interception at the drains and river networks have been successful
 - ii. Impact on diversion from the river to the ocean is direct
 - iii. Potential for replication in the country is high

However, further studies are still needed to investigate its economic viability and sustainability.

• Location: This river flows through Kuala Lumpur and Selangor in Malaysia and eventually flows into the Straits of Malacca. Its total length is 120km. It has 11 major tributaries and the river flows through the Klang Valley.



Langat River

- Reasons for proposal: This is the first state in Malaysia to institutionalize a river rehabilitation programme. Langat River is a river rehabilitation programme, tackling pollution at source in collaboration with local authorities, ministries, agencies and NGOs working closely together for River 3/ACE i.e. better river <u>amenities</u>, fostering river <u>communities</u>, and ensuring a robust river <u>economy</u> by promoting edu-action with the residents and communities. The project hopes to achieve clean water quality, less gross pollutants in the water (plastics, other rubbish/trash) using a low costs model with high engagement to produce high impacts in the surrounding neighbourhoods along the river. This project has been officially launched by the Minister of the Ministry of Local Housing and Government to promote sustainable development projects, clean ecosystems, green growth and happiness for the residents.
- Location: It is a river in the state of Selangor and it is 78km long. It drains westward to the Straits of Malacca. It has two major tributaries: Semenyih River and Labu river.



Penang Island

- Reasons for proposal: The island and mainland is separated by the Penang Straits. Two major rivers which carry waste from the inland to the sea are the highly polluted Pinang River on the island and the Class 3 Perai River in the mainland. Both rivers are flanked by residential and industrial areas, whereas the latter also cuts through large tracts of agriculture land. There is a lack of collection services and or waste management infrastructure in the rural villages located upstream. Waste is usually burned or discarded directly into the river or deposited along its banks. The estuary of Perai River is located close to the port in Butterworth. The state's ports are the third busiest in the country. Plastic and other floating debris are a ubiquitous sight in the straits and seen from aboard the state's iconic ferries. Seberang Perai City Council and Penang Island City Council are looking at ways they can alleviate costs while reducing their waste footprint.
- Penang was the first state in Malaysia to launch the No Free Plastic Bag campaign in 2009 and also has the highest recycling rate in the country i.e. 42.69% double the national recycling rate of 21%. Currently, the state government is spearheading an initiative called Clean Penang, which aims to further reduce waste channeling into rivers, especially single-use plastic waste. It has been recently announced that the state is considering increasing the purchase of plastic bag from 20 cents to Ringgit Malaysia 1 to discourage plastic use among users.

- In October 2019, Penang Green Council launched Training Sessions on Learning Circularity from Penang and Penang's Good Practices for Waste Management. 72 participants from ASEAN countries took part in the 3 day event which included a visit to Batu Maung Waste Transfer Station, Tzu Chi Recycling Centre in Taman Sri Nibong, Black Soldier Flies Farm in Juru, Taman Bagan Lalang Environment Resource Centre, Berapit Secondary School Recycling and Composting Project and Juru Auto-City.
- **Location:** It is located on the North West coast of Peninsular Malaysia by the Malacca Straits. Penang Island's capital city is George Town.

No	Proposed Pilot Project Locations	Number of Votes	Ranking for Island	Ranking for Inland
1	Petaling Jaya (SS8)	21		1
2A	Port Klang	13		3
2B	Pulau Perhentian	3	5	
3	TrashHero Malaysia (Beach CleanUp Projects in Malaysian Chapters	4	4	
4A	Mantatani Island	10	3	
4B	Taman Desa	8		5
5	Pangkor Island	13	2	
6	Drains and Rivers: Point of Diversion using Gross Pollutant Traps and Floating Looms	16		2
7	Sungai Langat	12		4
8	Penang Island (no specific location identified yet)	21	1	
	Total Voting Ballots Collected	43		

The outcome of selection of the 3R pilot locations are tabulated below:

Part 2 of the National Consultation (Communication, Education & Public Awareness (CEPA))

This second part of the national consultation was focused on how Malaysian stakeholders should collaborate to accomplish the below outputs of the project under Communication, Education & Public Awareness (CEPA) in Malaysia:

Output 3: Create widespread outreach on marine litter and plastic pollution to raise awareness of marine litter and of solutions for better plastic value chain management, to promote behavioural change among consumers and in the industry and create an enabling space for policy development. This will involve regional constituency engagement and knowledge exchange, targeted outreach campaigns and linking to global campaigns (e.g. #Clean Seas).

Output 4: Regional networking and coordination will establish the necessary mechanisms for technical advice and exchange, facilitating dialogue and networking and provide targeted capacity building and technical support. The project will support implementation of regional frameworks – such as the COBSEA Regional Action Plan on Marine Litter (RAP MALI) and the Association of Southeast Asian Nations (ASEAN) Framework of Action on Marine Debris—and improve coordination among actors, including finance institutions and international, regional and/or national organizations engaged in developing plastic pollution and waste management systems.

Key Takeaways from Advancing Plastics Recycling Industries and Plastic Disclosure Project:

- An Advanced Plastics Recycling Industry for Malaysia- White Paper was launched by the Malaysia Plastic Recyclers Association (MPRA) on 1 October 2019 with the Malaysian Plastic Manufacturers Association (MPMA) and Monash University, Malaysia to demonstrate how a vibrant plastics recycling industry will benefit the country's economy and what government's efforts are required in advancing Malaysia's sustainability agenda in particular promoting plastics recycling as a key component in the country's efforts to embrace circular economy.
- MPRA proposed a waste management system from cradle to grave to be undertaken with multi-stakeholders cooperation and adoption of Extended Producers Responsibility (EPR) schemes in order to better connect regulation with circular economy models. See the flow diagram below.

The Future of Plastics Waste Management

ESTABLISH SUSTAIN BUILD Participation in circular Shape and influence the Raise plastic collection rates economy Main Objectives national recycling policy Raise recycling capacity Partnerships with Brand owners Lobby for better SAS Upgrade recycling capabilities enforcement Shape and influence Raise investment in recycling regularisation and standards of Recommend remodel of plastic infrastructure recycled plastic material (fit-forrecycling industry reuse) mendations for Regularisation Advanced Recycline Increase Implement Promote MvHiiau & SAS Enforcement MRFs EPR Technology Products Action Areas Recycling Investments from MPMA/ MPRA White Paper for Education Plastics Recycling private sector Circular Economy Master Plan & Training Policy & Standards Incentives MPMA/ MPRA White Paper for Waste Management Master Plan Continuous engagement and collaboration with the Government and stakeholders

Build an Advanced PLASTICS Recycling Industry to Counter PLASTICS Pollution

With better technology and increased capacity, Malaysia's advanced plastics recycling industry could grow its contribution by three to four times, to RM15 billion to RM20 billion annually

- The Plastics Disclosure Project (PDP) was presented thereafter and it also complements the proposed efforts illustrated in the White Paper above. It was announced to all stakeholders that the training that will take place in March 2020, encourages Malaysian companies and public institutions to measure and manage their plastic use, waste generation and material recovery. As a result, it will help promote transparency whereby investors and customers in Malaysia are able to request baseline metrics from companies. Further, municipalities and governments can also make well-informed decisions based on data in order to allocate resources to create long-term benefits over short-term goals. The target is to groom a Malaysian champion in each sector.
- Circular Economy Asia then gave international and local examples on how the PDP training can help Malaysian companies adopt better technology and increased capacity to help Malaysia advance its plastics recycling industry. A proposal was made on how reprocessed plastic planks could be the next Melaka River Walkway, an important asset to Melaka's tourism industry to reduce maintenance costs towards rotting, splinters, seasonal painting or termite infestation.
- CIMB Bank shared that they are supporting the PDP training by targeting their clients (Malaysian companies) in 12 sectors namely manufacturing, packaging, healthcare, property development, industrial & consumer waste, recycling, property management, consumer logistics, hospitality & tourism, retail (including online), food & beverage as well as education.



Key Challenges and Issues in Launching Marine Litter Open Online Course (MOOC) in Malaysia

- During the pre-national consultation with stakeholders on 15 October, stakeholders especially those from academia express concern that MOOC must be delivered in local languages otherwise it will not overcome language barriers with the different segments of society.
- Providing the MOOC free will not motivate Malaysians to register in the masses. There must be creative offerings of using "carrots" (incentives) and "sticks" (compliance) before embedding it at tertiary level or at professional levels.
- The weakness of online courses means less experiential learning offered to targeted groups in both urban and rural areas where edu-action activities have been proven to be more effective on the ground.
- Translating the marine debris education into the larger education framework has not been successful thus far.
- There has not been a high success rate of introducing acceptable plastic alternatives into schools as well.

Recommendations and Next Steps

- To start a knowledge transfer chain effect, the MOOC must be offered in the various local languages (English, Bahasa Malaysia, Mandarin and Tamil) in Malaysia to overcome language barriers.
- The MOOC must be made mandatory in the university's curriculum. Malaysia has currently 20 public universities, 496 private universities & colleges, 36 polytechnics and 10,208 schools.

- There are opportunities to infuse online courses like MOOC into University Malaya's (UM) curriculum, eco-campus and living labs programmes which are active in promoting SDG 12 (responsible consumption & production) with 17 projects and SDG 17 (partnerships for the goals) with 31 projects. There are no projects currently contributing to SDG 14 (life below water) and the MOOC could be one project that can be included. It was proposed that it can also be part of UM's Bachelor of Science in Environmental Management offering as well as an added certification under UM's Centre for Continuing Education (UMCCED) specifically to pioneer the concept of "Lifelong Education" and self-education. The MOOC can also be parked under UM's existing programme called Professional Certificate & Short Courses.
- Further, professionals from private sector and public institutions should be allowed to collect CPD points upon completion of the MOOC to enable them to comply with their annual CPD credits as part of their continued 'up skill' and 're skill' and to reward them for their continued efforts to ensure knowledge is kept up to date.
- It is important to regulate relevant ministries to adopt MOOC with their stakeholders. It was
 proposed that MESTECC report the progress of registered learners on a quarterly basis
 and act as an integrator & coordinator of all relevant ministries. MESTECC as the national
 coordinator acts as a champion to integrate marine litter in the overall education system.
- It is also key to set targets each year and organize a national launching of the MOOC with the help of social media for promotion and registration. There must be a strong support from the public and ministries together with international agencies.
- For Sarawak, the MOOC can be launched via the RCE Kuching platform i.e. Regional Centre of Expertise (RCE) on Education for Sustainable Development (ESD), as a Train the Trainers offering to the 40 Youth Ambassadors to groom them as Change Agents. Upon receipt of the MOOC certification, these Youth Ambassadors will knowledge transfer the MOOC content into edu-action activities with local content to facilitate increase of local adoption by other students at schools and universities.
- There are 4 RCEs in Malaysia and they are located in Penang with Universiti Sains Malaysia, Central Semenanjung with University Malaya, Iskandar with Universiti Teknology Malaysia and Kuching with UCSI University. These RCEs can be engaged to conduct Train the Trainers programme using MOOC as a foundation for Professors and Students who are keen to learn new skills and acquire other certifications. Thereafter, the knowledge acquired can be taught to the other students by localizing its content in all classrooms or lecture halls.
- A dedicated YouTube Channel (visual learning) should be established to assemble the local teachers and educators to disseminate the localized content of MOOC to primary and secondary schools as well.
- There must be an integration and support of sectors in the marine plastic education at a national level and this would involve the below working harmoniously to avoid triggering any mechanisms of failure within the circular of collaboration.



Key Takeaways on Multi-Party Collaboration in Implementing Communication and Outreach Strategy Nationwide when Developing and Supporting Sub-national Awareness Raising Campaigns through SEAcircular project

- One of the biggest problems Malaysia faces in implementing a successful waste management model is the language used in communicating the waste itself to the public at large in social media channels. It was proposed that changing the way we define WASTE (something of no value) to RESOURCES (value) will help spark a change from a liner economy (take-make-use-waste) to better resource management using a circular economy model (make-use-return).
- One of the successful community projects in tackling the issue of Single Use Plastics was the creation of Malaysia EcoBrickers Community. It helped inculcate a culture and encourage the change of mindsets that nothing is wasted and all are valuable resources. This community project gave value to the valueless Single Use Plastics and that brand owners can collaborate with the Malaysia EcoBrickers Community leaders to give support and work with other sub-national campaigns in the country.

Keynote and Closing of National Consultation





Dr. Nagulendran Kangayatkarasu, Deputy Secretary General delivered the following key messages:

- Green technology incentives and environmentally-friendly incentives were provided in the 2019's national budget to attract environmentally-friendly investments and reduce the usage of conventional plastics. It provided for pioneer status of 70% or investment allowance of 60% for 5 years to companies that produce environmentally-friendly plastics based on bioresin and biopolymers. There was also an investment tax allowance of 100% of qualifying capital expenditure incurred on green technology assets through the year of assessment 2020 against 70% of statutory income.
- An allocation of RM2 billion (USD\$500million) for Green Technology Financing Scheme (GTFS) is available at selected commercial banks and the interest cost is subsidized by 2% for the first 5 years.
- The government has already launched a research & development grant incentive of RM5million and is encouraging submission of Request for Proposals (RFPs) in three areas (i) development of bio-resins (ii) development of environmentally-friendly polymers (EFP) for biodegradable containers (iii) rapid test kit for biodegradable polymers. So far, there are only takers for (iii).
- A circular dated 19 March 2019 has been issued by the Prime Minister's office that there will be no single use plastics in all government agencies in Malaysia as part of the national launch of Zero Single-Use Plastics Campaign in the country.

The following are MESTECC's next steps:

- To develop a climate resilient integrated waste management in collaboration with local and regional stakeholders.
- Malaysia's circular economy roadmap for plastics is to be launched by 2020 as part of the 2018-2030 roadmap towards zero single-use plastics. It aims to provide a uniform direction for policy makers and stakeholders including state governments.
- In line with the National Cleanliness Policy, the Extended Producer Responsibility (EPR) strategy would be implemented on manufacturers that import recyclable goods.
- To encourage engagement from the public at large, a Malaysia Plastic Pact portal has been developed <u>https://tinyurl.com/malaysiaplasticpact</u> to foster engagement between public & private sectors with other stakeholders in the creation of better market based instruments.
- CEPA (Community Education & Public Awareness) Outreach Programme has been a key area to launch national and sub-national campaigns like the National Environment Day (recent one on 19 October 2019) and organized yearly by Department of Environment. It will also be used as a platform to organize more edu-action activities to provide capacity building and training towards encouraging behavourial changes amongst the Malaysian citizens.
- Development of legal & institutional frameworks and a new international treaty among the ASEAN countries to better regulate and enforce plastic pollution at source.
- The SEAcircular project promotes governance (participatory, transparent & inclusive) to

provide the necessary training and capacity building to strengthen sustainability efforts and multi-party institutionalization in Malaysia. This partnership would involve monitoring and reporting on deliverables, mid-term reviews, development of priority policies/interventions, branding and marketing initiatives as well as grooming Champions to lead the various activities and initiatives nationwide.

Part 3: National Consultation Highlights (Beach Audit and Beach Clean Up)

- This activity was included as part of the national consultation to give an opportunity to all stakeholders (first timers and non-first timers) to work together to learn how a beach audit is conducted using a recognized global methodology and how a beach clean up is organized in a systematic manner.
- MIMA and TrashHero led this initiative using the Ocean Conservancy's ICC methodology. Attendees
- After the clean-up activity at Teluk Kemang, a follow-up discussion took place between MIMA and MESTECC after its recent engagement with Trash Hero in Tioman Island (16-17 September) with suggestions to move forward on the following areas in collaboration with SEAcircular project:
 - Acknowledging the Clean Coast Index (CCI) focuses on coastal areas only at the moment and there is room for improvement to generate clearer data presentation/ summary report presentation.
 - Further focus should be placed on more comprehensive data compilation including the coastal sea/ marine areas for a better representation of 'marine litter' estimates.
 - To have collaboration with other organisations focusing on the coastal areas for more comprehensive data gathering/ presentation i.e., Trash Hero, etc.
 - To have a national online app. (similar to ICC's CleanSwell app) for national-level application, which could adopt the CCI methodology for data recording.
 - To have educational materials/ SOP on CCI.
 - To have further discussion to move forward some of the above agendas at the national level.

Additional information

More information on the event, presentations and photos can be found online at: https://www.sea-circular.org/events/malaysia-national-stakeholder-consultation/

Contact us!

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Annex 1: List of Participants

No	Name and Title	Organization	
Governr	Government and Government Linked Companies		
1.	Dr. Nagulendran Kangayatkarasu, Deputy Secretary General, Environment & Climate Change Sector	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
2.	Ms. Norsham Binti Abdul Latip, Senior Undersecretary, Pollution Control Division	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
3.	Mr. Eddy Mazuaansyah bin Mod Ali Murad, Undersecretary, Pollution Control Division	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
4.	Mr. Jayaprakash Murulitharan, Principal Assistant Secretary, Pollution Control Division	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
5.	Mr. Mohd Husaini Saidi, Senior Assistant Secretary, Pollution Control Division	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
6.	Mr. Husni Alham B Md Salimun, Principal Assistant Secretary, LESTARI Ocean Management Unit	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
7.	Ms. Norlailina Binti Mamat, Principal Assistant Secretary, Eco-Innovation Division	Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
8.	Mr. Khairul Nizam B Samsuri, Environment Control Officer	Department of Environment, Ministry of Energy, Science, Technology, Environment & Climate Change (MESTECC), Malaysia	
9.	Ms. Rozaina binti Omar, Director, Policy & Strategy Division	National Solid Waste Management Department, Ministry of Local Housing & Government, Malaysia	
10.	Mr. Sharfeyney binti Sazali, Senior Assistant Director, Policy & Economy Unit	National Solid Waste Management Department, Ministry of Local Housing & Government, Malaysia	
11.	Ms. Nor Ain Fazlina Binti Saari, Assistant Director, Policy & Economy Unit	National Solid Waste Management Department, Ministry of Local Housing & Government, Malaysia	
12.	Ms. Siti Norraifana binti Hamidon, Principal Assistant Secretary	National Solid Waste Management Department, Ministry of Local Housing & Government, Malaysia	
13.	Ms. Zalikha binti Moslim, Principal Assistant Secretary	Ministry of Transport, Malaysia	
14.	Ms. Sajidah Ibrahim, Assistant Secretary (International Convention) 1, Maritime Division	Ministry of Transport, Malaysia	
15.	Mr. Mohd Fairoz Rosli, Director, Safety, Security and Environment Department	Marine Department, Ministry of Transport, Malaysia	
16.	Ms. Hafizah binti Meor Osman, Marine Officer	Marine Department, Ministry of Transport, Malaysia	
17.	Ms. Cheryl Rita Kaur, Head, Centre for Coastal Marine Environment	Maritime Institute of Malaysia (MIMA)	
18.	Mr. Nur Ashikin Zakaria, Researcher, Centre for Coastal Marine Environment	Maritime Institute of Malaysia (MIMA)	
19.	Ms. Thanbeer Kaur Sekhon a/p Daljit Singh, SMK Sri Hartamas	Ministry of Education, Wilayah Persekutuan, Malaysia	
20.	Ms. Izarenah Repin, Fisheries Officer	Department of Fisheries, Ministry of Agriculture and Agrobased Industry, Malaysia	
21.	Ms. Najihah Binti Mohamad, Research Officer	Department of Fisheries, Ministry of Agriculture and Agrobased Industry, Malaysia	
22.	Mr. Mohd Shahrizan bin Omar, Assistant Director	Ministry of Economic Affairs, Malaysia	

23	Ms. Hanis Huzaira binti Abdul Hanon, Principal Assistant Secretary	Ministry of Water, Land & Natural Resources, Malaysia
24	Mr. Quek Yew Aun, Administrative & Diplomatic Officer	Ministry of Water, Land & Natural Resources, Malaysia
25	Ms. Mastura Zulkifley, Principal Assistant Secretary	Ministry of Tourisms, Arts & Culture, Malaysia
26	Mr. Mohamad Iskandar Nordin, Senior Assistant Secretary	Ministry of Tourisms, Arts & Culture, Malaysia
27	. Mr. Anthony Tinggi, Manager of Tunku Abdul Rahman Park	Sabah Parks
28	Mr. Nazar Abdul Rauf, Head of DRB- HICOM Environmental Services (DHES)	Alam Flora
29	Mr. Rafiqi Abdul Rahman, Special Officer to CEO	Alam Flora
30	Ms. Suriati bt Mohammad Mokhtar, Head, Group Communications & Branding	Alam Flora
31	Mr. Azman bin Shawal, Manager	Alam Flora
32	. Ms. Ismi Azura Istear Khan, Manager	Alam Flora
33	. Ms. Juhanizah Jaafar, Manager	Alam Flora
34	. Ms. Sofrina Binti Yusop, Senior Engineer	Indah Water Konsortium, Negeri Sembilan
35	. Ms. Nur Farhana binti Mohamad Basri, Engineer	Indah Water Konsortium, Selangor
36	 Ms. Nur Wahidah binti Zakaria, Assistant Director, Department of Solid Waste Management and Public Cleansing 	Petaling Jaya City Council
37	. Mr. Pekka Penttila, Trade & Economic Section Delegation – Trade Attaché	EU Delegation to Malaysia

Private Sector		
38.	Mr. S. Sri. Umeswara, CEO	ES ECO – Circular Economy Experts
39.	Dr. Ching Seong Tan, CEO	iCycle, Terra Phoenix Group of Companies
40.	Mr. Loh Eng Aun, Group COO	iCycle, Terra Phoenix Group of Companies
41.	Ms. Angela Yaw Wane Teng, Director of Sales	iCycle, Terra Phoenix Group of Companies
42.	Mr. Ismail Abdullah, President & CEO	International Green Training Centre
43.	Mr. Chong Wee Chong, CEO	Perfect Compounding Sdn Bhd
44.	Mr. Vincent Ng, Managing Director	Perfect Compounding Sdn Bhd
45.	Mr. Ismail Abduallah, President & CEO	International Green Training Centre
46.	Ms. Fatin Farah Nabilah, Project Document Control Officer	International Green Training Centre
47.	Mr. Anthony Wong, Founder & CEO	Frangipani Resorts/AsiaOverland
48.	Mr. Leng Hock Tan, Founder & CEO	LHT Recycle Group and Zero Waste Asia, Penang
49.	Ms. Laura Allen, COO	GA Circular
50.	Mr. Amirul Adli, Project Manager	GA Circular
51.	Ms. Saraswathy, Managing Director	Smart Green Consultancy
52.	Tengku Marina Tunku Annuar Badlishah, Regional Head Asia & Oceania Corporate Regulatory & Scientific Affairs	Nestlé
53.	Ms. Immy Ooi Lay Imm, Corporate Communications Manager	Nestlé
54.	Ms. Luanne Sieh, Head, Group	CIMB Bank

	Sustainability	
55.	Mr. Ang Tuan Huang, Director, Group Corporate Banking	CIMB Bank
56.	Ms. Frauline Josephine Hor Suk Yee, Assistant Vice President, Group Sustainability	CIMB Bank
57.	Ms. Adilah Rashidah binti Ashari, TCB Associate	CIMB Bank
58.	Ms. Finaswani Mohamed Zin, Head of Public Affairs, Communications and Sustainability	Coca-Cola Bottlers Malaysia
59.	Ms. Sharon Tan, Director of Public Affairs, Communications & Sustainability	The Coca-Cola Company, Malaysia & Singapore
60.	Ms. Suraiza Abdullah, Head, Communications & External Relations	Unilever
61.	Dr. Salmaan Hussain bin Inayat Hussain, Head, Product Stewardship and Toxicology, Group HSSE	PETRONAS
62.	Mr. Mohamad Hafiz bin Mohamad Zahid, Executive, Special Projects - NPE	PETRONAS
63.	Mr. Sivapalan Kathiravale, Head of Department	Environmental Preservation and Innovation Centre Sdn Bhd (EPIC)
64.	Ms. Maznah Jamaludin, Executive Director	Waste Management Systems Sdn Bhd
65.	Mr. The Boon How, Deputy General Manager/Sourcing Manager	Heng Hiap Industries Sdn Bhd
66.	Ms. Kristine Ng, General Manager, Group Corporate Communication & Sustainability	IOI Properties Group
67.	Mr. Kelvin Diong, Sustainability Manager	IOI Properties Group
68.	Ms. Kang Yee Li, Senior Executive- Sustainability	IOI Properties Group
69.	Ms. Darshini Mugunam, Sustainability Executive	IOI Properties Group
70.	Dr. Lee Bai Qin, R & D Team Leader	ALS Technichem (M) Sdn Bhd
71.	Mr. Abdul Qaiyum Musa, Senior Project Chemist	ALS Technichem (M) Sdn Bhd
72.	Mr. Muhammad Noorhaziq bin Razali, Junior Chemist	ALS Technichem (M) Sdn Bhd
73.	Ms. Janette Pang, Corporate Communications Manager	SWM Environment
74.	Ms. Nurul Liza, Corporate Communications Assistant Manager	SWM Environment
75.	Mr. Felix Philip, Associate	SYSTEMIC Ltd.

Scientists and Academia		
76.	Prof. Phang Siew Moi, Deputy Vice- Chancellor, Research & Postgraduate	University Malaya
77.	Prof. Dr. Sumiani Yusoff, Director, Institute of Ocean & Earth Sciences, Research & Innovation	University Malaya
78.	Prof. Lim Phaik Eern, Deputy Director	University Malaya
79.	Prof. Fauziah binti Shahul Hamid, Professor Madya, Institute of Biological Sciences, Faculty of Science	University Malaya
80.	Dr. Alan Ng Chee Guan, Post- Doctoral Research Fellow, Institute of Ocean & Earth Sciences, Research & Innovation	University Malaya
81.	Dr. Loh Kar Hoe, Research Fellow	University Malaya
82.	Ms. Jayanthi Barasarathi, Research Officer, Institute of Biological Sciences, Faculty of Science	University Malaya
83.	Prof. Dato' Ir Dr. A. Bakar Jaafar, Director, UTM Ocean Thermal Energy Centre (OTEC) Institute of Future Energy	Universiti Teknologi Malaysia
84.	Dr. Britta Denise Hardesty, Principal Research Scientist	Commonwealth Scientific and Industrial Research Organisation (CSIRO) – Oceans and Atmosphere, Tasmania
85.	Prof. Dr. Kannan Narayanan, Professor, Faculty of Environmental Sciences	Universiti Putra Malaysia
86.	Prof. Dr. Zulfigar Yasin, Centre for Marine & Coastal Studies	Universiti Sains Malaysia, Penang
87.	Assoc. Prof. Yeong Siew Wei, Chairperson, RCE Kuching	UCSI University, Sarawak
88.	Prof. Dr. Eric Chan, Associate Professor	UCSI University, Wilayah Persekutuan
89.	Dr. Mohd Fuad Miskon, Head of INOCEM	Institute of Oceanography & Maritime Studies (INOCEM), International Islamic University of Malaysia (IIUM) Pahang
90.	Dr. Muhammad Zahir Ramli, INOCEM	Institute of Oceanography & Maritime Studies (INOCEM), International Islamic University of Malaysia (IIUM) Pahang
91.	Dr. Wong Siu Kwin, Lecturer	Xiamen University in Malaysia

Others: International Organisation, Association, NGOs, Not for profit, Think-tanks and CSOs		
92.	Ms. Adrienna Zsakay, CEO	Circular Economy Asia
93.	Mr. Carlos Steenland, CEO	SeaMonkey Project – The Precious Plastics Project
94.	Ms. Pei Vi, Executive	SeaMonkey Project – The Precious Plastics Project
95.	Ms. Ang Ai Ai, Founder/CEO	impactLution/TrashHeroKL
96.	Mr. Faisal Abdur Rani, Founder & Operations Director/Volunteer	impactLution/TrashHeroKL
97.	Dato' Mizan Yahya, Co-Chairman of Special Project Committee	Waste Management Association of Malaysia (WMAM)
98.	Ms. Christina Kow, Executive	Waste Management Association of Malaysia (WMAM)
99.	Dato' Johnson Yoon, Secretary General	Malaysia Plastics Recyclers Association (MPRA)
100.	Mr. Daniel Loo, Secretariat Administrator	Malaysia Plastics Recyclers Association (MPRA)
101.	Ms. CY Wee, Chairman, Sustainability Sub- Committee	Malaysia Plastics Manufacturers Association
102.	Ms. Chrystal Cheah, Executive, Environment	Malaysia Plastics Manufacturers Association
103.	Mr. Mansor Abdul Ghani, Deputy President	Friends of Rivers, Malaysia

104.	Mr. Doug Woodring, Managing Director	Ocean Recovery Alliance, Hong Kong
105.	Mr. Julian Hyde, General Manager	Reef Check Malaysia
106.	Ms. Theresa Ng, Programme Development Manager	Reef Check Malaysia
107.	Mr. Khoo Hock Aun, Founder & Convenor	ASEAN Green Chamber of Commerce
108.	Mr. Anthony Tan, Sustainability Innovation & Network Development Manager	ASEAN Green Chamber of Commerce
109.	Mr. Murali Ram, Director	Think City Sdn Bhd
110.	Mr. Ben Price, Plant Based Athlete	The Green Guerilla Malaysia
111.	Ms. Melissa Tan, Zero Waste Advocate	The Green Guerilla Malaysia
112.	Ms. Davina Goh, Plant Based Lifestyle Advocate	The Green Guerilla Malaysia
113.	Mr. Ryan Chua, Researcher	Institute of Strategic and International Studies (ISIS)
114.	Ms. Yasmin Rasyid, President/Founder	EcoKnights
115.	Ms. Nurul Nabila Shohimi, Community Development & Education Officer	EcoKnights
116.	Ms. Carolyn Joan Lau, Founder	Sampah Menyampah
117.	Ms. Eda Izanie binti Ahmad Kamil, Environmental Education Division Manager	Malaysia Nature Society
118.	Ms. Jazyn Lee, Corporate Engagement Manager, Sustainable Markets Programme	WWF Malaysia
119.	Ms. Shantini Guna Rajan, Marine Policy Officer	WWF Malaysia
120.	Mr. Kennedy Michael, Secretary & Head of Environmental Bureau	Taman Melawati Residents Association, Gombak, Selangor
121.	Ms. Nur Sakeenah Omar, Public Engagement Campaigner	Greenpeace Malaysia

UN Ager	UN Agencies		
122.	Ms. Natalie Harms, Associate Programme	COBSEA Secretariat & SEAcircular project team	
	Officer		
123.	Ms. Jacqueline Chang, National	UN Environment Programme at MESTECC	
	Consultation, SEAcircular project- Solving		
	Plastic Pollution at Source		

Annex 2: Programme

Time	5 November: Inputs from Pre-National Consultation for Deliberations	
9:00	Store luggage and belongings with Porters and Concierge at Klana Beach Resort Hotel. Check in is only at 3p.m. Registration at Dewan Utama, Ground Floor.	
9:30 – 9:45	Keynote by Dr. Nagulendran Kangayatkarasu, Deputy Secretary General, MESTECC	
9:45 — 11:45	Moderator: Mr. Jayaprakash a/I Murulitharan, Principal Assistant Secretary, MESTECC	
	Overview of Marine Litter in Malaysia	
	Experts:	
	1. Prof. Dr. Sumiani Yusof, Director, Institute of Ocean and Earth Sciences & Chairperson of Eco-Campus, University Malaya on <i>Sustainable Management on Plastic Waste and Promotion of Circular Economy</i> (10 mins)	
	 Prof. Dato' Ir. Dr A. Bakar Jaafar, Director, UTM Ocean Thermal Energy Centre (OTEC), Institute of Future Energy, Universiti Teknologi Malaysia on Overview on Marine Litter Research & Initiatives (10 mins) 	
	3. Puan Norlailina Binti Mamat, Principal Assistant Secretary, Eco-Innovation Division, MESTECC on <i>Malaysia's Roadmap Towards Zero Single Use Plastics 2018-2030</i> (10 mins)	
	4. Puan Nor Ain Fazlina Binti Saari, Assistant Director, Policy and Economy Unit, National Solid Waste Management Department (JPSPN) Updates on Plastic Waste Management (10 mins)	
	5. Mr. Nazar Abdul Rauf, Head of DRB Hicom Environmental Services (DHES), a subsidiary of Alam Flora on <i>Management of Solid Waste in Malaysia through 5R concepts</i> (10 mins)	
	Interactive Discussion with Malaysian Stakeholders (10 minutes)	
	Marine Litter Hotspots: Monitoring and Assessment Methodologies Using Practical Examples	
	Scientists and Experts:	
	1. Dr. Britta Denise Hardesty, Principal Research Scientist, Commonwealth Scientific and Industrial Research Organisation's (CSIRO) Oceans and Atmosphere on <i>Designing a</i> <i>Monitoring/Assessment Programme</i> (10 mins)	
	2. Ms. Cheryl Rita Kaur, Head, Centre for Coastal and Marine Environment, Maritime Institute of Malaysia (MIMA) <i>Methodologies & Index Assessment Applied in Malaysia</i> (10 mins)	
	3. Prof. Dr. Kannan Narayanan, Faculty of Environmental Sciences, UPM on <i>Port Dickson's Marine Debris Case Study</i> (10 mins)	
	4. Puan Izarenah Binti Md Repin, Fisheries Officer, Department of Fisheries on Methodologies & Assessments Applied for Islands in Malaysia (10 mins)	
	5. Prof. Dr. Zulfigar Yasin, Centre for Marine and Coastal Studies, Universiti Sains Malaysia on <i>Marine Litter in the Straits of Malacca - Some Case Studies</i> (10 mins)	
	Interactive Discussion with Malaysian Stakeholders (10 minutes)	
11:45 – 12:00	"Reducing Marine Litter by Addressing the Management of the Plastic Value Chain in South East Asia – SEA circular" Project	
	Introduction to COBSEA and SEA circular Project at the Regional Level by Ms. Natalie Harms, Representative of COBSEA and the SEA circular project team	

14:45 – 15:00	Tea Break & Networking
	Interactive Discussion with Malaysian Stakeholders (10 minutes)
	8. Mr. Carlos Steenland, CEO, SeaMonkey Project (Penang Pilot Project) (10 mins)
	 Mr. Ir. Mansor bin Abdul Ghani, Vice President, Friends of Rivers, Malaysia (Sungai Langat Project) (10 mins)
	 Dato' Mizan Yahya, Co-Chairman of Special Project Committee, Waste Management Association of Malaysia (Point of diversion – less plastic leakage from drains, rivers into ocean by installation of Gross Pollutant traps (GPTs) and floating looms Pilot Project) (10 mins)
	circulation –Pangkor Island) (10 mins)
	Taman Desa Projects) (10 mins)
	4. Mr. Julian Hyde, General Manager, Reef Check, Malaysia (Mantanani Island and
	 Mr. Faisal Abdur Rani, Project Lead, TrashHero Malaysia (Beach Cleanup Projects in Trach Leas Malaysia, Chapters) (10 mins)
	2. Ms. Cheryl Rita Kaur, Head, Centre for Coastal and Marine Environment, MIMA (Port Klang & Perhentian Island Pilot Projects) (10 mins)
	 Ms. Nur Wahidah binti Zakaria, Assistant Director, Petaling Jaya City Council, Mr. Anthony Tan, Sustainability Innovation & Network Development Manager, ASEAN Green Chamber of Commerce and Dr. S. Sri Umeswera, CEO, ES ECO (Petaling Jaya City Council and Homeowners Low Carbon and Green Initiative assessment rebate scheme – Next Steps: how we can enhance the 3R further from 2020 onwards) (12 mins)
	Moderator: Ms. Natalle Harms, Representative of COBSEA and the SEA circular project team
	100IS : As requested, Log-rame for experts and a Circular City Canvas was attached that can be applied for both island and inland projects after pre-consultation on 15 October.
	Successful Example in Thailand: Koh Samet, Rayong Province, Thailand was chosen for SEA circular Project, a zero plastic waste island practicing eco-tourism and is 200KM South East of Bangkok, which meets both objective and criteria.
	<u>Criteria</u> : 1 island close to mainland and 1 inland where you already have close cooperation with the local government on 3R initiatives and ready to propose the circular economy solutions locally.
	<u>Objective</u> : Experts will share how they conducted inclusive stakeholder consultations, field visits, and interviews to gather information on challenges, activities, success factors and lessons learned in pilot locations. Experts will also disclose how they have documented cases of plastic re-use, recycle, reduction and elimination of single-use plastics and hard-to-recycle plastic packaging in pilot locations.
13:15 – 14:45	Identify and Justify Two Pilot Projects Locations to Document as Case Studies in Cooperation with Local Government to demonstrate good practice of 3R (reduce, reuse, recycle) interventions and implementation of Circular Economy Solutions from 2020 onwards
12:00 – 13:15	Appreciation Lunch and Networking at Kelana Coffee House
	- The ambit of the project illustrated in detail and to alert what is not covered under the project (e.g. providing/building waste management infrastructure for the country) to ensure Malaysian Stakeholders are aligned with SEA circular Project Team
	Overview of SEA circular Project by Ms. Jacqueline Chang, National Consultant, Project SEA circular – Solving Plastic Pollution at Source, UN Environment Programme at MESTECC

15:00 -	Communication, Education & Public Awareness (CEPA)				
15:15	An Advanced Plastics Recycling Industry For Malaysia – The White Paper presented by Dato' Johnson Yoon, Secretary General, Malaysia Plastics Recyclers Association (MPRA) on behalf of Malaysian Plastics Manufacturers Association (MPMA) and MPRA.				
15:15 — 16:00	Execution and Implementation of Plastic Disclosure Training from 23-24 Mark to Groom a Malaysian Champion in Each Sector				
	<u>Objective</u> : Malaysian companies to benefit from knowledge transfer on how to apply calculator tools and frameworks including information on plastic value chain/footprint analysis to publish their Corporate Sustainability Report prior to featuring them on the Plastics Disclosure Project online platform for global visibility.				
	Moderator: Ms. Natalie Harms, Representative of COBSEA and the SEA circular project team				
	UN Trainer:				
	1. Mr. Doug Woodring, Founder and Managing Director of Ocean Recovery Alliance				
	Circular Economy Practitioner:				
	2. Ms. Adrienna Zsakay, CEO, Circular Economy Asia (Overview of Circular Economy focusing on Upstream Plastic Value Chain of SEA Circular Project)				
	Local Partner:				
	 Ms. Luanne Sieh, Head of Group Sustainability, CIMB (How Companies are Being Recruited and Approached – Next Steps in Implementation) 				
	Interactive Discussion with Malaysian Stakeholders (15 minutes)				
16:00 – 16:45	Step-by-Step Approach to Launch Marine Litter Online Course in Malaysia, Overcoming Challenges and Solutions for Nationwide Buy-In at All Levels				
	<u>Objective</u> : How to effectively make it mandatory for government, private sector, academia, civil society and community based organisations to benefit from a free Massive Open Online Course on Marine Litter and to inspire them at all levels to execute and start a knowledge transfer chain effect.				
	Moderator: Ms. Jacqueline Chang, National Consultant, Project SEA Circular – Solving plastic pollution at source, UN Environment Programme at MESTECC				
	 Education/Professional Development Experts (10 mins each): 1. Mr. Ismail Abdullah, President & CEO, International Green Training Centre Sdn Bhd 2. Prof. Dr. Sumiani Yusof, Director, Institute of Ocean and Earth Sciences & Chairperson of Eco-Campus, University Malaya 3. Associate Professor Dr. Yeong Siew Wei, Chairperson of RCE Kuching, UCSI University, Kuala Lumpur 				
	4. Prof. Dr. Zulfigar Yasin, Marine Biology, School of Biological Sciences, Universiti Sains Malaysia				
	Interactive Discussion with Malaysian Stakeholders (5 minutes)				
16:45 – 17:15	Multi-Party Collaboration in Implementing the Communication and Outreach Strategy Nationwide				
	<u>Objective</u> : To assess progress made and potential needs/challenges to implement #CleanSeas activities, engaging government agencies and other stakeholders in Malaysia with the rakyat to implement and develop new #CleanSeas pledges. Developing and supporting sub-national awareness raising campaigns to regional activities through SEA circular.				
	Moderator: Ms. Natalie Harms, Representative of COBSEA & SEA circular project team will share what other COBSEA countries are implementing in this area				
	Community Leader/Champion:				
	1. Mr. Faisal Abdur Rani, Project Lead, TrashHero Malaysia (Star Golden Hearts Award Winner 2019) will share on 'How corporates can collaborate as ambassadors and				

	change agents by sharing his work experience with other private sector collaborators in the past'.					
	Interactive Discussion with Malaysian Stakeholders (5 minutes)					
17:15 – 17:30	Briefing on Beach Audit and Security Briefing by Mr. Faisal Abdur Rani, Project Lead, TrashHero Malaysia					
17:30 – 17:45	Closing Remarks by Mr. Eddy Mazuaansyah bin Mod Ali Murad, Undersecretary, Pollution Control Division, MESTECC					
17:45 – 18:45	Free & Easy					
19:00 – 21:00	Appreciation Dinner for Malaysian Stakeholders at Kelana Coffee House					

BEACH AUDIT

Time	6 November: Beach Audit and Beach Cleanup at Teluk Kemang, Port Dickson
7:00-7:30	Breakfast at Kelana Coffee House
07:30 am sharp	Meet at Front Entrance of Lobby with Team Leaders Mr. Faisal Abdur Rani, Team Leader, TrashHeroKL will divide participants in groups.
08:00 – 11:00	Training attendees on conducting a transact, beach audit and data recording.
11:00 – 12:00	Return to hotel and freshen-up. Check out by 12 noon to avoid unnecessary charges.
12:00	Appreciation Lunch & Networking at Kelana Coffee House
14:00	End of Programme

Annex 3: Exhibition Booth on Plastics and Microplastics Research

ALS Research on Plastics and Microplastics

ALS Technichem (M) Sdn Bhd (ALS Malaysia) is part of ALS Global group of companies, the global leader in laboratory analytical testing with more than 400 laboratories worldwide in 65 countries. We are a MS ISO/IEC 17025 accredited testing laboratory by the Department of Standards Malaysia under the Laboratory Accreditation Scheme (SAMM). More than 150 staff use the latest technology to service the Food, Environmental, Biotechnology, Pharmaceutical, Electronic and Tribology sectors. ALS Malaysia has been operating as an independent testing service provider since 1993.

ALS Malaysia has been conducting research in the analytical test development of plastics and microplastics in environmental samples for the last 2 years. The targeted outcome of this research work will be of interest to plastic recyclers, policy makers, regulators and academic researchers. Notable research projects undertaken and planned by ALS Malaysia in relation to plastics and microplastics include:

- Utilization of Pyrolysis-GCMS to characterize plastics and microplastics material
- Development of a Rapid Field Method to sort plastics material
- Development of a Rapid Field Method to differentiate different types of Biodegradable plastics
- Utilization of Next Gene Sequencing as metagenomics technique to study the microbial community in microplastics and plastics degradation



REMSCAN

» Rapid Plastics Identification



- » Rapid results within 10 seconds
- » Mobile Testing on site









Contact us: ALS Technichem (M) Sdn Bhd Wisma ALS, 21, Jalan Astaka U8/84, Section U8, Bukit Jelutong, 40150, Shah Alam, Selangor, Malaysia T : +603 7845 825 T : marketing.my@alsglobal.com

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No	Name and Title	Organization		
Govern	ment and Government Linked Companies			
1.	Mr. Eddy Mazuaansyah bin Mod Ali Murad, Undersecretary, Pollution Control Division	Ministry of Energy, Science, Technology, Environment & Climat Change (MESTECC), Malaysia		
2.	Ms. Cheryl Rita Kaur, Head, Centre for Coastal Marine Environment	Maritime Institute of Malaysia (MIMA)		
3.	Mr. Nur Ashikin Zakaria, Researcher, Centre for Coastal Marine Environment	Maritime Institute of Malaysia (MIMA)		
4.	Ms. Izarenah Repin, Fisheries Officer	Department of Fisheries, Ministry of Agriculture and Agrobased Industry, Malaysia		
5.	Ms. Sajidah Ibrahim, Assistant Secretary (International Convention) 1, Maritime Division	Ministry of Transport, Malaysia		
6.	Ms. Sofrina Binti Yusop, Senior Engineer	Indah Water Konsortium, Negeri Sembilan		
7.	Ms. Nur Farhana binti Mohamad Basri, Engineer	Indah Water Konsortium, Selangor		

Annex 4: Beach Audit & Beach Clean Up Participants

Private Sector				
8.	Dr. Ching Seong Tan, CEO	iCycle, Terra Phoenix Group of Companies		
9.	Mr. Loh Eng Aun, Group COO	iCycle, Terra Phoenix Group of Companies		
10.	Mr. Leng Hock Tan, Founder & CEO	LHT Recycle Group and Zero Waste Asia, Penang		
11.	Ms. Maznah Jamaludin, Executive Director	Waste Management Systems Sdn Bhd		
12.	Ms. Luanne Sieh, Head, Group Sustainability	CIMB Bank		
13.	Ms. Adilah Rashidah binti Ashari, TCB Associate	CIMB Bank		
14.	Mr. Kaham Bathmanadan, Intern	CIMB Bank		
15.	Mr. The Boon How, Deputy General Manager/Sourcing Manager	Heng Hiap Industries Sdn Bhd		
16.	Mr. Abdul Qaiyum Musa, Senior Project Chemist	ALS Technichem (M) Sdn Bhd		
17.	Mr. Muhammad Noorhaziq bin Razali, Junior Chemist	ALS Technichem (M) Sdn Bhd		
18.	Ms. Janette Pang, Corporate Communications Manager	SWM Environment		

Scientis	Scientist & Academia				
19.	Prof. Fauziah binti Shahul Hamid, Professor Madya, Institute of Biological Sciences, Faculty of Science	University Malaya			
20.	Ms. Jayanthi Barasarathi, Research Officer, Institute of Biological Sciences, Faculty of Science	University Malaya			
21.	Prof. Dr. Kannan Narayanan, Professor, Faculty of Environmental Sciences	Universiti Putra Malaysia			
22.	Assoc. Prof. Yeong Siew Wei, Chairperson, RCE Kuching	UCSI University, Sarawak			
23.	Prof. Dr. Eric Chan, Associate Professor	UCSI University, Wilayah Persekutuan			

24.	Dr. Mohd Fuad Miskon, Head of INOCEM	Institute of Oceanography & Maritime Studies (INOCEM), International Islamic University of Malaysia (IIUM) Pahang
25.	Dr. Muhammad Zahir Ramli, INOCEM	Institute of Oceanography & Maritime Studies (INOCEM), International Islamic University of Malaysia (IIUM) Pahang

Others:	Others: International Organisation, Association, NGOs, Not for profit, Think-tanks and CSOs				
26.	Mr. Carlos Steenland, CEO	SeaMonkey Project – The Precious Plastics Project			
27.	Mr. Faisal Abdur Rani, Founder & Operations Director/Volunteer	impactLution/TrashHeroKL			
28.	Dato' Mizan Yahya, Co-Chairman of Special Project Committee	Waste Management Association of Malaysia (WMAM)			
29.	Mr. Mansor Abdul Ghani, Deputy President	Friends of Rivers, Malaysia			
30.	Mr. Khoo Hock Aun, Founder & Convenor	ASEAN Green Chamber of Commerce			
31.	Mr. Murali Ram, Director	Think City Sdn Bhd			
32.	Ms. Melissa Tan, Zero Waste Advocate	The Green Guerilla Malaysia			
33.	Ms. Davina Goh, Plant Based Lifestyle Advocate	The Green Guerilla Malaysia			
34.	Mr. Ryan Chua, Researcher	Institute of Strategic and International Studies (ISIS)			
35.	Ms. Nurul Nabila Shohimi, Community Development & Education Officer	EcoKnights			

UN Agencies				
36.	Ms. Natalie Harms, Associate Programme Officer	COBSEA Secretariat & SEAcircular project team		
37.	Ms. Jacqueline Chang, National Consultation, SEAcircular project- Solving Plastic Pollution at Source	UN Environment Programme at MESTECC		



Annex 5: Outcomes from Beach Audit

DATA ANALYSIS CCI

Pantai Teluk Kemang, Port Dickson 6 November 2019

Litter composition made of polystyrene was mostly found in the area. Secondly, the most litter composition recorded were plastic straws/ cutlery, and the third most litter composition found was plastic bottles (**Figure 1**). Composition of plastic litter encompassed a large amount of litter recorded at this beach area (**Figures 2 & 3**). It is envisaged that these type of litter were mainly recorded in the area as the beach is used mainly for recreational purposes



Figure 1. Overall composition of litter



Figure 2: Composition of litters



Figure 3: Composition of Plastic litters at Port Dickson

Clean Coast Index (CCI) Data Analysis

Data segregation for plastic litter type (according to transect number and litter type) has been done to obtain real value of CCI that used plastic as the indicator for beach cleanliness.

- i. Total plastic litter found for each transect listed down below.
- ii. CCI plastic parts = [Plastic pieces / (width * length)]

No	Transect	Plastic pieces	Width (m) Length (m)		CCI plastic parts
1	1	36	10	2	1.8
2	2	70	10	2	3.5
3	3	67	10	2	3.35
4	4	70	10	2	3.5
5	5	10	10	2	0.5
6	6	58	10	2	2.9
7	7	55	10	2	2.75
8	8	16	10	2	0.8
9	9	113	10	2	5.65
10	10	70	10	2	3.5
11	11	150	10	2	7.5
12	12	112	10	2	5.6
13	13	69	10	2	3.45
14	14	43	10	2	2.15
15	15	97	10	2	4.85
	Total	1,036			51.8

iii. Overall result CCI = [CCI plastic parts / number of transect] = 3.5

iv. Numeric index according to Clean Coast Index:

Coast index	Very clean	Clean	Moderate	Dirty	Extremely dirty
Numeric index	0–2	2–5	5–10	10-20	20+

The total beach length for this beach cleanup activity was 150 meter. Data from 15 transects lines were assessed to obtain the CCI value. Based form the data analysis, the status of Teluk Kemang Beach in Port Dickson is <u>Clean</u> based on CCI assessment. More efforts could be taken to improve further cleanliness of the beach area.