ASEAN Conference on Combating Plastic Pollution 2024

Action, Innovation, and Partnership to Phase Out Plastic Pollution

Prepared by

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Regional Knowledge Centre for Marine Plastic Debris

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This report was written by the Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD), ERIA (Economic Research Institute for ASEAN and East Asia).

Please cite as:

Suwarno, A.S., I. Suradja, R. Kawamura, M. Kojima, 2025. ASEAN Conference on Combating Plastic Pollution 2024: Action, Innovation, and Partnership to Phase Out Plastic Pollution. Jakarta: ERIA.

Acknowledgements

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Executive Summary

Background

As the global economy expands, so too does its demand for materials that improve quality of life—plastics being a prime example. More than 460 million metric tonnes (MMT) of plastics are produced each year, with an estimated 20 MMT of plastic litter polluting ecosystems and posing detrimental threats to biodiversity, public health, livelihoods and economies. This condition underscores the urgent need for transformative actions to reduce plastic pollution.

Multistakeholder partnerships are central to responding to this pressing agenda, as plastic pollution is a multi-layered issue demanding diverse expertise and resources. Recognising this, representatives and heads of states from 175 nations agreed to develop the world's first international legally binding instrument (ILBI) to combat plastic pollution. While the final instrument is still in progress, the negotiation process has been a testament to the power of collaboration, bringing together stakeholders across the plastic value chain and demonstrating that partnerships can truly make the dream work.

At the regional level, countries of the Association of Southeast Asian Nations (ASEAN) have proactively joined hands to tackle the issue of plastic pollution, including through the adoption of the Bangkok Declaration on Combatting Marine Debris in 2019 and more recently the ASEAN Declaration on Plastic Circularity in 2024. Aligned with this vision, the ASEAN Conference on Combating Plastic Pollution (ACCPP) 2024 was held in Vientiane, Lao PDR on 28–29 October 2024, as a continuation of ACCPP 2023. The second iteration of this regional conference focused on strengthening multistakeholder partnerships under the theme, '*Action, Innovation and Partnership to Phase Out Plastic Pollution*'.

This report captures the prominent insights and outcomes of ACCPP 2024, providing actionable recommendations to advance toward a plastic economy that minimises waste, maximises resource efficiency, and fosters regional collaboration.

SESSION 1

Regional Collaboration Against Plastic Pollution

The complex, multidisciplinary, and transboundary nature of plastic pollution makes it an issue that cannot be solved by one organisation, let alone an individual, alone. Regional collaborations for knowledge sharing, exchanging perspectives, and coordinating actions, including in the ASEAN region, are required to effectively address the problem.

SESSION 2

Intergovernmental Negotiating Committee on Plastic Pollution

Despite the shared concern on the negative impacts of plastic pollution, desire to have a global plastics treaty, and five intergovernmental negotiation sessions, countries are yet to reach an agreement on the contents of the treaty. While ASEAN Member States (AMS) have their own unique views and perspectives, they also share several overlapping priorities and concerns.

SESSION 3

Innovation and Solutions to Combat Plastic Pollution

Addressing plastic pollution requires innovations that extend product life, utilise alternative environmentally friendly materials, reduce leakage, or close the plastic loop. Promoting and supporting locally adapted, financially viable, and scalable innovations can help accelerate improvements across the plastics value chain. The session features pitching of regional innovators and regional platforms and initiatives supporting innovators in ASEAN.

SESSION 4

Pioneering the Paradigm Shift to Phase Out Plastic Pollution

Reducing or even eliminating the negative impacts of plastic pollution on the environment and human health are often cited as the main motivations for phasing out plastics. However, other broader consequences also need to be considered to minimise any potential negative repercussions and avoid disproportionate impacts to certain stakeholders.

SESSION 5

Extended Producer Responsibility: Turning Policy into Practical Action

The effective implementation of EPR, aimed at increasing resource recovery and minimising plastic leakage, relies upon both a steady supply of recyclable plastic waste and robust demand for recycled materials. Achieving this requires placing collaboration at the forefront of practical EPR actions, including information sharing, awareness raising, and fostering public–private partnerships.

SESSION 6

Promoting Circular Economy Towards a Better Work Conditions for Informal Waste Workers

The informal waste workers are the backbone of waste collection and recovery in ASEAN. Creating better work conditions for the informal waste workers should start

with improving their work safety and strengthening their bargaining power, which can lead to a just transition to a circular plastic economy.

SESSION 7

Behavioural Change to Reduce Single-Use Plastics in ASEAN

Plastics consumption has become an integral part of the daily lives and habits of people, making plastic pollution not only a material, but also a behavioural issue. The behavioural sciences have provided insights on how to design initiatives to nudge people's behaviour to reduce plastics consumption.

Conclusion

This report summarises the discussions in the ACCPP 2024, highlighting the key messages from the different sessions and extracting actionable recommendations that may guide stakeholders across the ASEAN region on how to continue efforts to tackle plastic pollution. Through continued actions, including continued regional dialogues such as the ACCPP, perhaps one day plastic pollution can be fully phased out.

Introduction

Background

As the global economy expands, so too does its demand for materials that improve quality of life—plastics being a prime example. More than 460 million metric tonnes (MMT) of plastics are produced each year, supporting a wide range of applications, from transportation and medicine to food and beverages (IUCN, 2024). Notably, plastic packaging makes up 44% of this production, yet only a small fraction is recycled worldwide (Plastics Europe, 2022). The remainder often leaks into the environment, with an estimated 20 MMT of plastic litter polluting ecosystems annually (IUCN, 2024). This pollution poses detrimental threats not only to biodiversity, but also public health, livelihoods and economies (Beaumont, et al., 2019). Alarmingly, these figures are projected to double by 2040 (Nordic Council of Ministers Secretariat, 2023), which underscore the urgent need for transformative actions to reduce plastic pollution.

Multistakeholder partnerships are central to responding to this pressing agenda, as plastic pollution is a multi-layered issue demanding diverse expertise and resources. A united front amongst governments, academics, the private sector, and civil society can accelerate the identification of key challenges and opportunities for combatting plastic pollution, deepen the exchange of knowledge and experience, and contribute to stronger recommendations for future actions. Recognising this, representatives and heads of states from 175 nations agreed at the UN Environment Assembly in March 2022 to develop the world's first international legally binding instrument (ILBI) to combat plastic pollution. To date, five Intergovernmental Negotiating Committee meetings have convened key stakeholders to discuss and shape the ILBI. While the final instrument is still in progress, the negotiation process has been a testament to the power of collaboration, bringing together stakeholders across the plastic value chain and demonstrating that partnerships can truly make the dream work.

At the regional level, countries of the Association of Southeast Asian Nations (ASEAN) have proactively joined hands to tackle the issue of plastic pollution. This collective effort began with the adoption of the Bangkok Declaration on Combatting Marine Debris in 2019, underscoring ASEAN's dedication to tackling marine debris and plastic waste. Building on this foundation, ASEAN member states have reaffirmed their commitment by endorsing the ASEAN Declaration on Plastic Circularity in October 2024. This landmark declaration emphasises a full life cycle approach to addressing plastic pollution, advocating for comprehensive interventions such as circular product design, reuse systems, and environmentally sound plastic waste management. More importantly, it also calls for collaborations across public and private sectors, as well as relevant stakeholders, to achieve a sustainable and circular plastic value chain.

Aligned with this vision, the ASEAN Conference on Combating Plastic Pollution (ACCPP) 2024 took place in Vientiane, Lao PDR on 28–29 October 2024, as a continuation of

ACCPP 2023. The second iteration of this regional conference focused on strengthening multistakeholder partnerships under the theme, *'Action, Innovation and Partnership to Phase Out Plastic Pollution'.* Jointly organised by the Lao Ministry of Natural Resources and Environment (MONRE), the Economic Research Institute for ASEAN and East Asia (ERIA), and the United Nations Development Programme (UNDP) Lao PDR, the conference served as a key initiative under Lao PDR's ASEAN Chairmanship for 2024.

This report captures the prominent insights and outcomes of ACCPP 2024, providing actionable recommendations to advance toward a plastic economy that minimises waste, maximises resource efficiency, and fosters regional collaboration.

Structure and Framework

The subsequent sections of this report cover seven sessions of the ACCPP 2024. Each section begins with a summary from the session, outlining key information, concepts, and figures shared by presenters. Furthermore, it is complemented with notable discussion points both amongst speakers and between speakers and participants which further enrich the knowledge exchange throughout the sessions. The key takeaways from these presentations and discussions are then synthesised into actionable recommendations and organised under their respective overarching themes, providing a conclusion to each section.

SESSION 1

Regional Collaboration Against Plastic Pollution

Key Message

The complex, multidisciplinary, and transboundary nature of plastic pollution makes it an issue that cannot be solved by one organisation, let alone an individual, alone. Regional collaborations for knowledge sharing, exchanging perspectives, and coordinating actions, including in the ASEAN region, are required to effectively address the problem.

Summary

Regional Collaborations for Addressing Plastic Pollution

One of the key objectives of the ACCPP is promoting regional collaborations for addressing plastic pollution in the ASEAN region. While each stakeholder is capable of taking their own actions to address the issue, regional collaborations are crucial for several reasons, as explained below.

- **Regional collaboration for knowledge sharing**

  Due to the complex processes surrounding plastics production, use, and waste management, addressing plastic pollution requires the combination of knowledge from multiple fields ranging from the material sciences to economics. This makes it almost impossible for a single organisation, let alone an individual, to possess all the relevant knowledge to take appropriate and informed action, making collaborations for knowledge sharing unavoidable. In the context of ASEAN, while AMS have different levels of knowledge and experiences on addressing plastic pollution, yet they face similar challenges in waste management. Regional collaboration provides these countries with the opportunity to exchange and learn from each other.

- **Regional collaboration for exchanging perspectives**

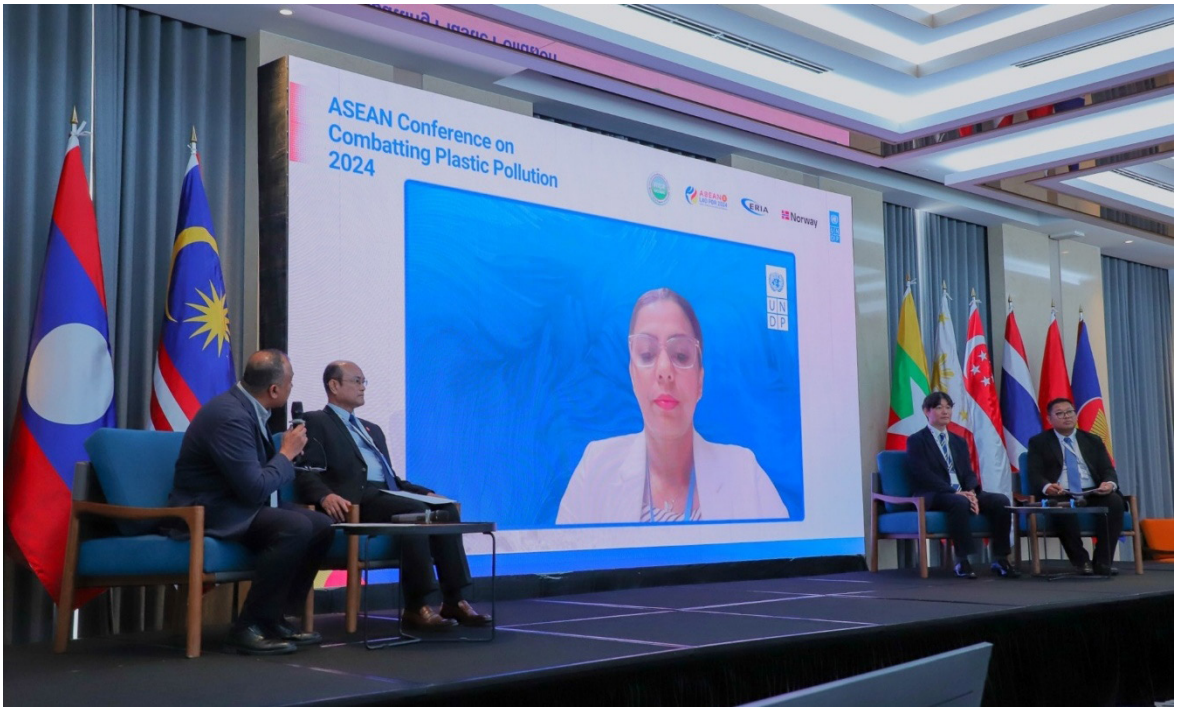
  The complexity of the plastic value chain, rise of international trade, and transboundary nature of plastic pollution creates interconnections between different stakeholders across multiple national jurisdictions and plastic life cycle stages. The different geographical areas and life cycle stages in which stakeholders are involved in as well as the different roles that they play give each their own unique priorities and views on plastics. Though they may be opposing, it is important that these different perspectives are heard and consulted in making decisions, designing policies, and planning strategies to address plastic pollution in the region to ensure better

transparency in the processes and that the outcomes do not disproportionately burden certain groups over others.

- **Regional collaboration for coordinating actions**

  While different stakeholders have taken their own actions and countermeasures, due to the complexity and transboundary nature of plastic pollution, effectively addressing the problem requires coordinated efforts across different geographical areas and stages of the plastic life cycle. Furthermore, coordination amongst different stakeholders also help to avoid redundancies and the duplications of efforts, while also increasing overall impact.

Figure 1: Discussions during Session 1 on Regional Collaboration Against Plastic Pollution



Existing Regional Collaborations in the ASEAN Region

Over the years, the ASEAN region has demonstrated their commitment to urgently address plastic pollution, as shown through both individual and coordinated actions by stakeholders in the region. The following are several areas and examples of regional collaborations.

- **Joint agreements, commitments, and strategies amongst governments**

  The formulation of joint agreements, commitments, and strategies allow AMS to agree upon a same target and work together towards achieving it. This is especially

helpful for addressing transboundary issues including plastic pollution. These cooperations may come in the form of bilateral and multilateral initiatives between AMS, such as the bilateral agreement between Cambodia and Lao PDR who joined hands to combat plastic pollution along the Mekong River. At the regional level, AMS have also demonstrated their joint commitment to collectively address plastic pollution in the region by the adoption of four guiding documents specifically on the issue. Table 1 provides a summary of the four documents.

Table 1: Summary Guiding Documents on Addressing Plastic Pollution in ASEAN

Document	Adoption Year	Description
Bangkok Declaration on Combating Marine Debris in ASEAN Region	2019	A declaration to demonstrate the commitment of AMS in combating marine debris in the ASEAN region
ASEAN Framework of Action on Marine Debris	2019	A framework consisting of priority areas, actions, and suggested activities for collaborations amongst AMS and partners to combat marine debris in the ASEAN region
ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021–2025)	2021	A systematic guide and action plan for AMS to address marine debris in the ASEAN region to be implemented between 2021 to 2025
ASEAN Declaration on Plastic Circularity	2024	A declaration to demonstrate the continued commitment of AMS in combating plastic pollution with an emphasis on achieving plastic circularity

AMS = ASEAN Member States, ASEAN = Association of Southeast Asian Nations.
Source: Authors, compiled from ASEAN (2019a, 2019b, 2021, 2024).

As elaborated by the ASEAN Secretariat, these documents are prescriptive in nature, reflecting the association's unique approach to achieving a prosperous and resilient ASEAN community by thinking regionally, but acting nationally and locally. This means that AMS come together as a region to set common goals, but in working towards those targets, each country decides its own actions at the national and local levels considering their specific capacities and circumstances. This approach allows ASEAN to achieve inclusive engagement by respecting each country's unique circumstances while also supporting and working with each other to achieve the same goal.

- **Knowledge production and dissemination**

  Collaborations in knowledge production and dissemination contribute to increasing

the level of understanding on plastic pollution in the region. Knowledge production activities focus on collecting information such as through research or data collection. For example, the Promotion of Countermeasures Against Marine Plastic Litter in Southeast Asia and India (CounterMEASURE) Project was implemented by UNEP to develop a methodology for monitoring plastic leakage pathways in the Mekong and Ganges rivers through the use of technology and community involvement through citizen science.

Knowledge dissemination, on the other hand, focus on making information on plastic pollution more accessible. Existing examples include the digital platforms by the East Asian Seas Regional Node of the Global Partnership on Plastic Pollution and Marine Litter (GPML) and ERIA's Regional Knowledge Centre for Marine Plastic Debris. Both platforms host information in the form of articles, data, spreadsheets, reports, and other types of knowledge products that may be accessed and used by stakeholders also working on addressing plastic pollution in the ASEAN region. Knowledge dissemination can also be done through organising capacity building activities such as trainings and workshops that focus on enhancing specific skills or knowledge.

- **Multistakeholder dialogues and partnerships**

  Regional dialogues provide an opportunity for different stakeholders to come together to learn from each other, exchange information and perspectives, as well as discuss future strategies. In ASEAN, multiple regional dialogues have been organised, each with their own specific objectives. The ACCPP is one such example of a regional dialogue on plastic pollution that is open for all stakeholders. The meetings under formal ASEAN processes, such as the ASEAN Working Groups, ASEAN Senior Officials, and ASEAN Ministerial Meetings are examples of broader and more formal dialogues. These meetings are mainly organised for AMS focal points, though others may participate by invitation, and plastic pollution is discussed as one of many environment-related topics.

  Efforts also need to be taken to cultivate partnerships between and within stakeholder groups working on plastic pollution to avoid them working separately in silos, which may be less effective in addressing the problem. Examples of partnerships between stakeholders are public–private partnerships which may be useful for identifying financial resources to fund plastic pollution initiatives as well as partnerships to connect researchers and policymakers to promote evidence-based policy and decision making. Partnerships within stakeholder groups help to ensure that actors doing similar work can enhance existing efforts and avoid duplication and redundancy.

Recommendations

Continue Organising and Enhance Existing Regional Collaborations

1: *Continue organising regional dialogues*. Current regional dialogues need to be maintained to continue providing opportunities for discussions between stakeholders. Having periodic dialogues allow for the showcase of progress that has been made, follow ups on past collaborations and agreements, as well as discussions on upcoming topics related to plastic pollution.

2: *Increase opportunities to participate in public regional dialogues*. Regional dialogues that are open to the public become richer when more voices and more diverse perspectives are included. This could be done, amongst others, by further promoting the regional dialogues through different communication channels ahead of the event, minimising language and other communication barriers during discussions, and providing alternative means of participation for those that are not able to attend physically.

3: *Enhance regional collaborations*. Existing regional collaborations can be maintained and new collaborations can be developed to ensure synergies on multiple fronts. This includes collaborations on governance and policymaking, research and innovation, financing and investments, capacity building, as well as data collection and sharing.

Strengthen Leadership and Inclusivity

4: *Provide strong leadership in regional collaborations*. To have effective regional actions, discussions, and collaborations in addressing plastic pollution, strong leadership is needed. Beyond the formal ASEAN processes, AMS and other stakeholders can take the initiative to step up and take the lead in coordinating collaborations as appropriate.

5: *Consider flexibility for increased inclusivity*. Each AMS and stakeholder have their own specific priorities, needs, and circumstances. Instead of requiring everyone to adhere to highly ambitious, but not necessarily achievable, targets, the focus should be placed on creating inclusivity by respecting everyone's unique capabilities and views as well as supporting each other to reach a reasonable goal.

SESSION 2

Intergovernmental Negotiating Committee on Plastic Pollution

Key Message

Despite the shared concern on the negative impacts of plastic pollution, desire to have a global plastics treaty, and five intergovernmental negotiation sessions, countries are yet to reach an agreement on the contents of the treaty. While AMS have their own unique views and perspectives, they also share several overlapping priorities and concerns.

Summary

A Global Plastics Treaty

Due to growing concerns on the negative impacts of marine plastic pollution, on March 2022, at the Resumed Fifth Session of the United Nations Environment Assembly in Nairobi, Kenya, countries around the world adopted Resolution 5/14 which called for the development of an international legally binding instrument on plastic pollution (UNEA, 2022). The instrument, also referred to as the global plastics treaty, is to be developed by a newly established intergovernmental negotiating committee (INC) by the end of 2024 (UNEA, 2022). At the time that this report is written, the INC has gathered on five occasions and made some progress on the development of the treaty. Table 2 summarises the key highlights from the treaty development process.

Table 2: Key Events Throughout the Development of the Global Plastics Treaty

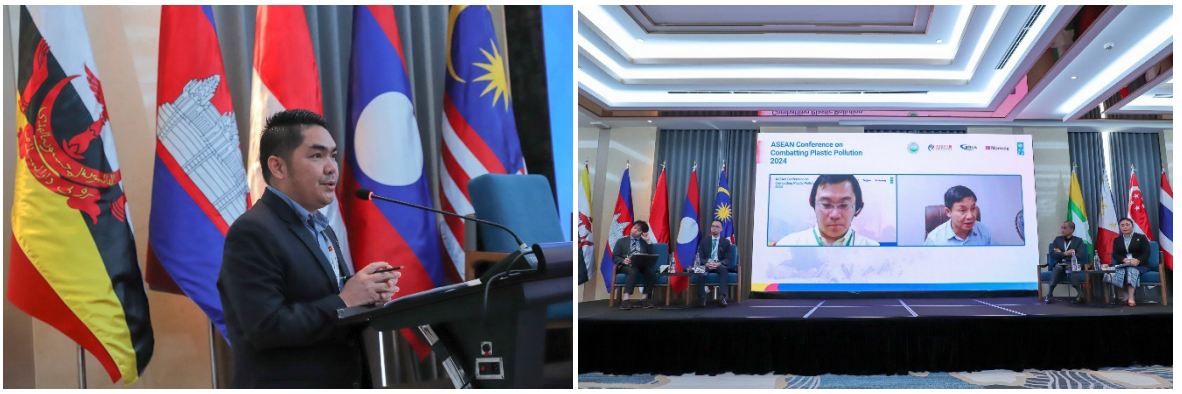
Place and Date	Event	Activity
Nairobi, Kenya 28 February–2 March 2022	Resumed Fifth Session of the United Nations Environment Assembly	Adoption of Resolution 5/14: End plastic pollution: towards an international legally binding instrument (UNEP/EA.5/Res.14).
Punta Del Este, Urugay 28 November–2 December 2022	First Session of the Intergovernmental Negotiation Committee on Plastic Pollution	Discussion on the scope, objectives, structure, and potential elements of the global plastics treaty.

Place and Date	Event	Activity
Paris, France 29 May–2 June 2023	Second Session of the Intergovernmental Negotiation Committee on Plastic Pollution	Discussion on potential options for elements to be included in the global plastics treaty.
Nairobi, Kenya 13–19 November 2023	Third Session of the Intergovernmental Negotiation Committee on Plastic Pollution	Discussion of the zero-draft of the global plastics treaty (UNEP/PP/INC.3/4) in contact groups.
Ottawa, Canada 23–29 April 2024	Fourth Session of the Intergovernmental Negotiation Committee on Plastic Pollution	Discussion and negotiation of revised draft text of the global plastics treaty (UNEP/PP/INC.4/3) in contact groups.
Busan, Republic of Korea 25 November – 1 December 2024	Fifth Session of the Intergovernmental Negotiation Committee on Plastic Pollution	Although a compiled draft text of the global plastics treaty (UNEP/PP/INC.5/4) was initially intended to be used as the starting point for the discussions, the INC Chair proposed the use of a more concise non-paper that was prepared ahead of the session. Several oil producing countries opposed using only the non-paper because unlike the compiled draft text, it did not incorporate their concerns in detail. In the end, the Committee agreed to use both documents in the discussion and negotiations in contact groups.

INC = Intergovernmental Negotiating Committee.
Source: Authors, compiled from Garcia (2024), UNEA (2022), and UNEP (2022, 2023a, 2023b, 2024).

Since the adoption of Resolution 5/14, some progress has been made. However, although the initial deadline has passed, there is no global plastics treaty *yet*. Instead, the INC-5 ended with a new non-paper. While the Committee was able to reach a certain level of agreement on some provisions, others on more contentious topics such as those on plastic production caps, targets for phasing out plastics, and financial support still contained many brackets and options for further discussion. While some may be disappointed by this outcome, others think that it may be better than adopting a weak treaty (Garcia, 2024). Though there is neither information on what will happen next nor a mandate for a sixth INC session, what is clear is that the Committee is determined to continue the negotiations for the global plastics treaty.

Figure 2: Keynote Presentation by Mr Sidxay Makvilay (left) and Discussions on the Global Plastics Treaty Amongst AMS (right)



Shared Views amongst AMS

The INC sessions demonstrated that while all parties agree upon the urgency to tackle plastic pollution, reaching a consensus on the specific provisions or means to achieve the goal proves to be challenging. Provisions such as that on chemicals and polymers of concern, the trade of plastic-related products, including plastic waste, as well as caps on plastic production are amongst those facing different, and sometimes dissenting, views. Even amongst AMS, each country has its own priorities and concerns. However, despite the differences, there are several overlapping priorities and concerns amongst AMS some of which are elaborated below.

- **Waste management.** In the past few years, AMS have and continue to experience rapid economic and urban development, causing a significant increase in waste production. However, waste infrastructures and policies have failed to keep up, making waste management a big issue in AMS.
- **Balancing growth and sustainability.** While AMS agree that addressing plastic pollution is important, as developing nations, they share the same concern that overly strict regulations on plastics may hinder their economic growth. Thus, AMS hope that the new global plastic treaty can balance both sustainability and development.
- **Flexibility of obligations.** As developing nations, AMS may not have as much capacity and available resources to implement the global plastics treaty as other, more developed nations. Therefore, AMS generally hope that the finalised treaty will consider the national capabilities and circumstances of each country.
- **Financial and technical support.** Related to the previous point, AMS also hope that financial and technical support will be available, especially to developing nations and least developed nations, as it would help with the implementation of the global plastics treaty.

Recommendations

Support Informed Decision Making

1: *Enhance data and information on plastics.* The availability of data and information on plastics are important to ensure that the policies and decisions made reflect the actual situation on the ground. In AMS, the capacity to collect and analyse data on plastics across its value chain needs to be further strengthened to help fill existing data gaps in the region.

2: *Build the capacity of governments.* While many stakeholders can attend the INC sessions, only country representatives can actively negotiate for the global plastics treaty. Additional support should be given to these representatives of governments to build their capacity and ensure that they will be able to participate actively, negotiate strongly, and fully represent their countries in the INC processes.

3: *Consult stakeholders on the treaty negotiation process.* Although the negotiations for the global plastics treaty are mostly limited to government representatives, once it is adopted, the treaty will impact all stakeholders. Thus, it is important that delegates consult relevant stakeholders in their respective countries to better understand their views. This helps to increase transparency of the process and enables the delegates to make informed statements and decisions at the negotiations.

Raise Awareness on the Global Plastics Treaty

4: *Raise awareness on the global plastics treaty negotiations process.* To the public, the global plastics treaty negotiations can seem like a distant event that only concerns certain parties. However, considering the prevalence of plastics and pervasiveness of the negative impacts of plastic pollution, the resulting treaty will indeed have a big impact on everyday life. Therefore, it is important that efforts are taken to raise awareness on the treaty that is being negotiated and encourage the public to put more pressure for a treaty that can effectively address plastic pollution and improve the quality of lives.

Create an Enabling Environment for the Global Plastics Treaty

5: *Create an enabling environment to implementation of the global plastics treaty.* The negotiations for the global plastics treaty provide a glimpse into the different provisions that may be included. Effectively implementing the treaty and its provisions would require certain conditions, such as sufficient financial and technical resources and capabilities. While it may still take some time until the treaty is adopted and entered into force, AMS can start preparing this enabling environment to implement the treaty.

SESSION 3

Innovation and Solutions to Combat Plastic Pollution

Key Message

Addressing plastic pollution requires innovations that extend product life, utilise alternative environmentally friendly materials, reduce leakage, or close the plastic loop. Promoting and supporting locally adapted, financially viable, and scalable innovations can help accelerate improvements across the plastics value chain.

Summary

Promoting Innovation Development in ASEAN

The root of the plastic pollution challenge is the linear way in which plastic products are manufactured, consumed, and disposed of, which may eventually leak into the environment without proper management. Transitioning to a circular model where plastics are continuously recirculated back to new products requires innovations along the entire plastics value chain that drive change from the status quo. These are the innovations that extend the useful life of products, utilise alternative environmentally friendly materials, reduce or retrieve plastic leakage, or close the plastic loop.

In recognition of the central role that innovation plays in accelerating efforts for tackling plastic pollution, AMS have committed to promote innovative solutions to enhance plastics value chain and improve resource efficiency under that Bangkok Declaration on Combating Marine Debris in ASEAN Region. Years after the Declaration's adaptation in 2019, the region has seen increased numbers of state-of-the-art innovations being put forward by innovators across the region; addressing different stages of the plastic life cycle, from upstream to downstream, and focusing on different approaches, from technology-based to community-based.

As innovators bring their ideas to life, they need various resources to sustain and scale up their innovations. Not only do they need capital to finance their activities, but also guidance and technical assistance for developing their prototypes into commercialised business solutions. Support from development partners on these fronts can create leverages to help jumpstart business developments and unlock investments in the long run.

The Ending Plastic Pollution Innovation Challenge project, or EPPIC, is an example of a successful incubation scheme that have brought together innovators from six AMS – Cambodia, Indonesia, Lao PDR, the Philippines, Thailand, and Viet Nam – and accelerated their journey towards bringing impact to alleviating plastic pollution. Spearheaded by the United Nations Development Programme (UNDP) with support from the Norwegian

Ministry of Foreign Affairs and the Norwegian Agency for Development Cooperation (Norad), the Ending Plastic Pollution Innovation Challenge (EPPIC) is an ASEAN-wide competition aiming to beat plastic pollution in river and coastal cities of those AMS by selecting innovative solutions and helping them to grow and scale up. The EPPIC project has trained, supported, and incubated some of the most innovative solutions from the region, including alternative materials, upcycling technologies, mobile apps, education campaigns, re-use mechanisms, marketplaces, and more during the period of 2020 to 2023. Highlights from some of these innovations are described below.

1.

Source: Bun (2024).

Macro- and Microplastic Filter Using Solar-Powered Air Bubble Screening

Country	: Cambodia
Organisation	: WE Lab – Institute of Technology of Cambodia
Phase of intervention	: Downstream

Recognising that wastewater canals are the main pathways where plastic flows to the ocean, the WE Lab has developed a device that filters plastic in the river, preventing it from polluting the ocean. The device uses physical screening modules to remove macro-plastics and air bubble screening, powered by solar power, to capture microplastics. The hydrophobic interaction between air bubbles and microplastics causes the microplastics to rise to the surface and attach to the macro-plastics. This device has been found effective in reducing macro-plastics by 98% and microplastics by 10% and is currently undergoing further development with the aim of improving its microplastic capture rate.

2.

Source: Mubarak (2024).

Interfaith Waste Donation

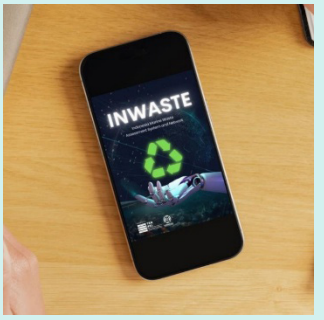
Country : Indonesia

Organisation : GRADASI

Phase of intervention : Downstream

In a country where 96% of its people believe in God and morality, GRADASI adopts a religious approach to inspire behavioural change to reduce plastic waste in the environment. They work with religious communities from different backgrounds, such as those in mosques, churches, temples, as well as local communities, to encourage waste segregation and collection. By August 2024, about 1.3 million of the programme participants have donated a total of 840 tonnes of waste with an economic value of IDR 4.2 billion, which is equivalent to US$261,000.

3.



Source: Anugra (2024).

INWASTE: Waste Data and Hotspots Reporting

Country : Indonesia

Organisation : Youth Forum for Waste Awareness (FORMULA)

Phase of intervention : Downstream

The lack of valid data and waste reporting systems, and scattered data make up some of the obstacles that could hinder actions to tackle plastic pollution. To address this challenge, FORMULA partnered with the National Coordination Team for Marine Debris Management to create a reporting system for marine debris entitled 'INWASTE' or the Indonesia Marine Waste Assessment System and Network. They developed an application for the system where people can report waste data or waste hotspots by entering its coordinates and uploading relevant photos. To date, the scheme has attracted 68 local champions across 38 provinces to promote more widespread and effective coordination in waste management efforts.

4.

Source: Boutdy (2024).

Nature-Based Eco-Friendly Products

Country : Lao PDR

Organisation : Nature Ware

Phase of intervention : Upstream

Nature Ware utilises bio-based materials to create eco-friendly products such as plates and aims to install their machines in villages to create jobs and improve the livelihoods of local communities in Lao PDR. The company have tested various materials such as bamboo leaves, bamboo sheaths, straws, and coconut fibres, but have settled on betel nuts as its primary material. Nature Ware has obtained the report and certification that their products sourced from betel nuts are safe and do not harm human health or the environment. In the long term, they aim to make their products prices affordable, expanding access to a larger number of consumers.

5.

Source: Phonekeo (2024).

A Circular Solution for Low-Grade Plastic Waste

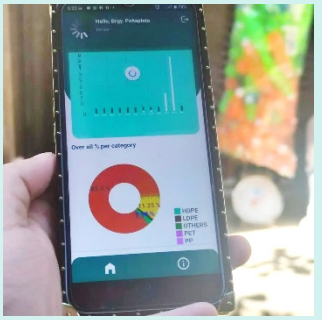
Country : Lao PDR

Organisation : PatiHoub Company

Phase of intervention : Downstream

Founded in 2021, PatiHoub tackles plastic pollution with a circular solution by collecting waste, recycling it, and transforming it into various products. The company's mission is to transform low-grade plastic waste, including plastic bags and straws, into durable, valuable, and recyclable products. They melt low-grade plastic waste into panels, which then can be utilised as a construction material for coasters, tables, bench, tiles, etc. Moreover, PatiHoub is actively reducing plastic pollution in Luang Prabang by promoting recycling practices, raising public awareness of the dangers of plastic pollution, and promoting a circular economy.

6.



Source: Vidal (2024).

A Data-Powered Waste Management Platform

Country : The Philippines

Organisation : Circulo+

Phase of intervention : Downstream

Circulo+ is a waste management ecosystem geared towards closing the loop on plastic pollution through community action and real-time data. It uses a data-powered platform to provide real-time tracking for waste collection, volume, sources and recycling waste, hence providing key insights for local governments and their partners. There are plastic waste collection points where contributors deliver their plastic waste and earn tokens that they can redeem for eco-friendly products from Circulo+'s partners. The collected plastic waste, which has amounted to 1 tonne in the past year, is then directed to a recycling company or its upcycling partner company. Circulo+ partners with local schools and businesses to drive change and its achievements include a reduction in plastic leakage where it has diverted 5,000 plastic waste across different communities.

7.

Source: Ocampo (2024).

Creating a Circular Microeconomy in Coastal and Island Communities

Country : The Philippines

Organisation : Pure Oceans

Phase of intervention : Downstream

Pure Oceans is a social innovation organisation that works with coastal and island communities in the Philippines to drive behavioural change and waste management solutions. Pure Oceans worked with the island community in Samal to develop a circular island microeconomy for their UNDP innovation challenge. The scheme upcycles collected marine plastic litter into valuable items, which is currently focused on customised tiles for the resorts on the island. Pure Oceans' project demonstrates that communities are willing to recover plastic waste if there are adequate incentives and a system that is designed for them.

8.

Source: Tamiyakul (2024).

Recycling Aluminium-Laminated Plastic Waste

Country : Thailand

Organisation : CIRAC

Phase of intervention : Downstream

CIRAC has developed machines which recover aluminium from aluminium-laminated plastics, such as those used for potato chips and instant coffee and sends it back to the aluminium industry. The remaining plastic waste, on the other hand, can be converted into fuel oil which can be used in many applications. In addition to contributing to the plastic pollution issue, they are also positively impacting the climate by using 15% less CO_2 than conventional aluminium production. CIRAC strives to address 15% of packaging landfill waste, and one CIRAC machine can recover approximately 60 tonnes of aluminium annually.

9.

Source: Luan (2024).

Using Plastic Waste for Bags and Air Conditioning System

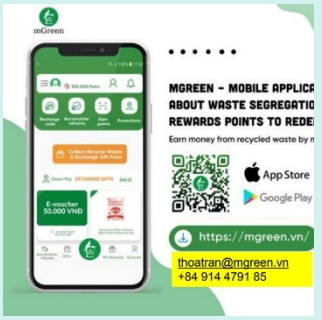
Country : Viet Nam

Organisation : Tay Bac University

Phase of intervention : Downstream

For the EPPIC, Tay Bac University conducted two projects on recycling plastic waste and creating an air conditioning system from plastic bottles. For the first project, the team used old plastic banners and posters to make shopping bags. For the second project, the team collected used bottles and created an air conditioning system, thus offering a cooling solution for households that lack access to electricity. Both projects are standard projects that the university uses to teach students about nature and PP, which they are eager to replicate in other schools.

10.



Source: Hoa (2024).

A Platform for Connecting Informal Waste Collectors with Shop Owners

Country : Viet Nam

Organisation : MGreen

Phase of intervention : Downstream

Viet Nam has about 3 million informal waste workers and MGreen was designed to connect them on a single platform and enhance their work productivity, incentivising them to engage in waste collection and segregation through a rewards system. Collectors pick up recyclable waste according to scheduled arrangements with the shop owner, eliminating the need to search for customers. Then, they can choose a payment method by cash or points, in which the user can spend the points at over 1,000 affiliated stores across Viet Nam. Since its establishment in 2018, MGreen has collected 5 tonnes of plastic waste, improved the livelihood of 200 informal waste collectors, and expanded from Ho Chi Minh City to other cities such as Hanoi.

Regional Innovations

In addition to the national and local innovations, the ASEAN region has greatly benefitted from regional partnerships that provide a platform for knowledge exchange and innovation sharing. Amongst the many existing regional initiatives, the ACCPP 2024 invited two prominent ones to share their efforts on facilitating the innovation development throughout the region.

- **Southeast Asia Regional Program for Combatting Marine Plastics (SEA-MaP) – Innovation and Investment Platform**

  One of the objectives of SEA-MaP, a 5-year project founded by the World Bank, is to promote innovation, partnership, and knowledge sharing. On innovation front, the project will develop a regional platform which acts as a coordination mechanism between investors, innovators in plastics and plastic waste management, and potential customers. The platform's features firstly consist of a digital financing marketplace, where innovators can find partners for collaboration and investors for financing opportunities. Secondly, it offers technical assistance to support solutions in meeting market opportunities and turning them into viable business solutions.

It will also include communications and outreach activities aimed at promoting ASEAN's activities, engaging with target audiences, building expertise, and fostering collaboration.

- **SEA Circular Project**

  SEA Circular is a 6-year project funded by the government of Sweden and implemented by the UNEP and the Coordinating Body on Seas of Southeast Asia (COBSEA) Secretariat. Throughout its operations since 2018, SEA Circular has been working in six AMS – Cambodia, Malaysia, Indonesia, the Philippines, Thailand, and Viet Nam – by organising capacity building programmes and pilot demonstrations for combatting plastic pollution. Additionally, SEA Circular has a networking platform called SEA of Solutions which facilitates the dissemination of lessons learned and best practices from a national level to a regional level. The platform functions to strengthen coordinated partnerships and collective actions as well as encourage dialogues and information exchange to advance plastic circularity.

Figure 3: Exhibition of the 10 EPPIC innovations in the ACCPP 2024

Recommendations

Through the incubation programme, EPPIC identified 15 lessons learned (UNDP Viet Nam, 2021) that can be further summarised into the following recommendations to support aspiring innovators:

Promote locally adapted, financially viable, and scalable innovations

1: *Design and adapt innovations to meet specific and local needs*. The development of an innovation should be preceded by the identification of the key roots of the challenge that it wants to address. The exercise of asking the question 'What solutions are needed and wanted here, now?' can inform the most suitable point(s) of intervention that fully respond to local needs.

2: *Ensure alignment with policy frameworks to build traction and foster uptake*. Innovations should be aimed at serving a larger objective, such as achieving Sustainable Development Goals and national targets under policy frameworks, to build traction and foster uptake of the innovations into a larger ecosystem.

3: *Explore interconnections and collaborative opportunities amongst different innovations*. Tackling a multifaceted issue like plastic pollution requires collective efforts that address multiple levers of change. Being open to and actively seeking for collaborations with other innovations offers the possibility of developing an end-to-end solution that brings a transformative impact to the plastic value chain.

4: *Promote inclusive innovation through partnerships with local communities*. In addition to bringing environmental impact, innovations for plastic pollution should also strive to deliver positive social impacts. Involving local communities in innovation fosters on-the-ground implementation while creating economic opportunities as it is scaled up.

5: *De-risk innovations to increase its investability.* Develop innovations with a business mindset to ensure that they are financially viable and investable with the potential to scale.

SESSION 4

Pioneering the Paradigm Shift to Phase Out Plastic Pollution

Key Message

Reducing or even eliminating the negative impacts of plastic pollution on the environment and human health are often cited as the main motivations for phasing out plastics. However, other broader consequences also need to be considered to minimise any potential negative repercussions and avoid disproportionate impacts to certain stakeholders.

Summary

Phasing Out Plastic Pollution

Through increased research in recent years, it has become evident that the negative impacts of plastic pollution outweigh the material's benefits, signalling the urgent need to address the issue. Mismanaged plastic waste may enter the natural environment, creating damage and causing harm to living creatures as well as to the economy and social wellbeing of humans. However, phasing out plastic pollution has proven to be complicated as plastics has become such an integral part of society. While there is no magic bullet to instantly solve the issue, the following outline several possible approaches along with examples of their implementation in the ASEAN region.

- **Reduce plastics consumption**

  One of the main drivers of plastic pollution is the overconsumption of plastics, particularly SUPs, which when not reused, repurposed, or recycled, results in the accumulation of plastic waste. Thus, addressing plastic pollution requires curbing plastics overconsumption which may be challenging as it involves changing the behaviours and habits of both individuals and businesses. Another option is to replace plastics with more sustainable alternatives which, if produced locally, could also benefit the local economy. For example, through their Waste to Value Project, the non-profit development organisation Swisscontact supports hotels, restaurants, and cafes to use innovative green products and services to reduce their environmental footprints (Swisscontact, n.d.).

- **Increase plastic circularity**

  If eliminating plastics use is not feasible, another approach is to increase plastic circularity. This is done by ensuring that the plastic waste generated are properly managed and recycled so that they may be used multiple times. For example, the Luang Prabang-based PatiHoub Company collects and upcycles low-value plastic waste into versatile plastic boards that may be used for making furniture and accessories or as construction materials (PatiHoub, n.d.). Achieving plastic circularity requires a sufficient level of infrastructure and capacity which at the beginning may be challenging for developing countries with limited available resources. To address this, countries may learn from each other and exchange knowledge of the different technologies and innovations available.

- **Raise awareness**

  Plastic pollution affects all stakeholders. Solving it will also require action from all stakeholders. Raising awareness on the negative impacts of plastic pollution and the different possible solutions may encourage stakeholders to take their own action and support efforts to address the issue. This is important, not only for individuals, but also for organisations such as businesses. One example of an organisation working to raise awareness on plastic pollution is Zero Waste Laos (ZWL) whose activities include working with youths at the grassroots level to raise awareness on sustainable waste management through social media campaigns (ZWL, n.d.).

- **Design and implement plastic policies**

  Designing and implementing plastic policies help to institutionalise sustainable plastics production and consumption practices, including the previous three approaches, making them the norm. Amongst other waste-related policies and regulations, many countries have also begun to adopt national strategies specific to addressing plastic pollution, often referred to as national action plans (NAPs) on plastic. In the ASEAN region, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, and Viet Nam have recently established or are in the process of implementing their NAPs.

Figure 4: Speakers in Session 4 on Pioneering the Paradigm Shift to Phase Out Plastic Pollution

Potential Consequences from Phasing Out Plastics

Improved environmental conditions and reduced negative impacts on human health are often mentioned as the main motivations for phasing out plastics. However, considering plastics are such an integral part of economies and daily activities, it is undeniable that phasing out plastics will also have other impacts, several of which are listed below.

- **Impact on price dynamics**

  Their lightweight, strong, and flexible nature, combined with their cheap costs, have made plastics the go-to packaging material for various products, including food and other essential products. While alternative materials exist, their production is still limited, making them more costly. Therefore, if alternative materials are to be used in place of plastics at their current price, there is a risk that it will drive up the prices of food and other essential products. This is especially troublesome for low-income countries and individuals.

- **Impact to the plastics industry**

  The plastics industry is one that involves many businesses, generates significant amounts of revenue, and employs millions of individuals. If plastics are to be completely phased out, it would have major consequences to these businesses or even cause some of them to close. At the macro level, this could cause significant losses to countries where the plastics industry plays a big role to the national

economy. At the micro level, it would affect the employees, at worst, causing them to lose their jobs.

- **Impact to innovation**

  At the same time, when plastics production and consumption are restricted, it encourages innovations. Ideally, the hope is for these innovations to present sustainable solutions to the plastic pollution problem. These could come in the form of the development of more sustainable alternative materials or innovative technologies and strategies to enhance plastics circularity.

While society has come to agree that plastic pollution needs to be urgently addressed, it is important that the solutions take a balanced approach that considers and anticipates all possible consequences to the different stakeholders involved. This ensures that the approaches and interventions do not only address the initial problem but are also designed in a way that minimises negative consequences and avoids disproportionate impacts to certain stakeholders.

Recommendations

Take a Holistic Approach to Addressing Plastic Pollution

1: *Consider the consequences of solutions to plastic pollution from a holistic perspective.* Different stakeholders should be invited in dialogues to create a more holistic and comprehensive picture of the plastic value chain and how the different stakeholders would be impacted by policies and initiatives to address plastic pollution.

Provide Measures to Support the Phasing Out of Plastics

2: *Balance plastics restrictions with support for innovations.* When plastics restrictions are put in place, resources, including financial and technological resources, should be made available to encourage and support innovative solutions such as the development of sustainable alternative materials or technologies to enhance plastics circularity.

3: *Provide upskilling and promote economic diversification*. In the process of phasing out plastics, upskilling and capacity building activities should be conducted to provide individuals working in the plastics industry, whose jobs may be impacted, with opportunities to branch out to other productive activities or industries.

Take Measures to Prevent Future Pollution

4: I*mprove waste management infrastructure and capacity.* While phasing out plastics may be one of the approaches to address plastic pollution, waste management infrastructure and capacity still needs to be strengthened to properly and effectively manage waste, including those generated from potential alternatives to plastics, so that the pollution problem does not repeat.

5: *Reconsider approach to resource utilisation.* Related to the above recommendation, while alternative materials may one day replace plastics, there also needs to be a shift in the overall approach to resource utilisation. Replacing the linear extract, use, and dispose approach to resource utilisation with a circular approach could help reduce waste generation and avoid future pollution.

SESSION 5

Extended Producer Responsibility: Turning Policy into Practical Actions

Key Message

The effective implementation of EPR, aimed at increasing resource recovery and minimising plastic leakage, relies upon both a steady supply of recyclable plastic waste and robust demand for recycled materials. Achieving this requires placing collaboration at the forefront of practical EPR actions, including information sharing, awareness raising, and fostering public–private partnerships.

Summary

Understanding Extended Producer Responsibility (EPR) Policies

Several strategies can be employed to implement a life cycle approach for plastics, one of which is through the adoption of an EPR policy. The cornerstone of this policy lies in holding producers accountable for managing their products throughout the entire life cycle, particularly at the post-consumer stage (OECD, 2024). However, in practice, the design of EPR policies vary, catering to the socioeconomic conditions of the country it is applied in, and can be grouped into different categories as outlined in Table 3.

Table 3: Types of EPR Schmes

Characteristic	Type of EPR	Description
Types of Responsibilities	Financial responsibility	Private sectors contribute to funding product recovery, collection, and/or treatment which are organised by the public sector.
	Operational responsibility	Private sectors fund and organise product collection and recovery, either individually or collectively, such as through producer responsibility organisations (PROs)
	Informational responsibility	Private sectors provide information to both consumers, through labelling that facilitates waste segregation, and the government, on the types and number of products they put to the market.
Types of Obligation	Voluntary	Private sectors are encouraged to participate in the EPR scheme, but there is a lack of strong rewards or penalties that drive compliance.
	Mandatory	Private sectors are obliged to participate in the EPR scheme, with clear rewards and penalties that drive compliance, as well as periodic targets they must meet.

Source: Modified from Kojima (2024).

As of 2024, four countries in ASEAN have integrated EPR into their regulatory frameworks, while the others are either in the process of development or actively considering its implementation. Between these four countries—Indonesia, Singapore, the Philippines, and Viet Nam—EPR policies vary, including the types of producers imposed with the responsibility and ways to fulfil it. For instance, while all of them include brand owners as the obliged producers, only the Philippines and Viet Nam extend the responsibility to plastic manufacturers. The variation on the imposed obligations under these EPR policies is outlined in Table 4.

Table 4: Comparison of Imposed Obligation under EPR Policies across ASEAN

No	Country	Year of Law Passed	Obliged Producers		Obligation under EPR
			Plastic Manufacturers	Brand Owners	
1	Indonesia	2019	-	✓	**Prepare and implement a 3R-plan** to reduce waste and submit an annual implementation report.
2	Singapore	2019	-	✓	**Submit information** on the specified packaging used to pack regulated goods, accompanied by a 3R plan aimed to reduce packaging.
	Singapore	2023 (upcoming)	-	✓	**Apply a refundable deposit** of 10 cents on all pre-packaged beverages, which will be circulated from beverage producers, consumers, retailers, and back to the producers.
3	Philippines	2022	✓	✓	**Prepare and register an EPR program** to reduce non-eco-friendly products at the upstream phase and operate product waste recovery programs at the downstream phase.
4	Vietnam	2022	✓	✓	**Fulfill recycling responsibility** by either organizing recycling or making financial contribution to the Viet Nam Environmental Protection (VEP) fund.

Source: Kojima (2024).

In addition to the regulation itself, the success of EPR schemes in increasing resource recovery rates also hinges on the availability of complementary measures that help create an enabling environment for the plastic recycling value chain. To ensure that there is sufficient supply of recyclable plastic waste and stable demand for recycled plastic materials, the government can develop supporting guidelines and standards. First, a standard for design-for-recycling can increase the end-of-life values of plastic products, incentivising its proper post-consumer products collection and management. An example of this initiative is the provision of a standard to shift from coloured to colourless PET (Polyethylene Terephthalate) bottles. Second, eco-labelling standards which indicate environmental excellence, such as reducing materials used in packaging or utilising recycled materials, can promote their sales and enable consumers to make informed choices. Third is standards for recycled products which can help ensure that the quality of recycled products is both competitive with that of products made from virgin materials and compliant with safety standards such as for food and beverages packaging.

Figure 5: Keynote Presentation by Mr Michikazu Kojima (left) and the Panel Discussion on EPR (right)

Translating EPR Policies into Practical Actions

Once an EPR regulation is established, it is up to the practitioners, including the private sectors and recyclers, as well as the public and civil society organisations, to set the course to its full implementation. Below is an overview of initiatives aimed at supporting the successful implementation of EPR led by various organisations in the four ASEAN countries with existing EPR regulatory frameworks.

- **Singapore – Community Engagement by Zero Waste SG**

  The parameter of successful EPR schemes is often measured by the rate at which recyclable waste is collected and eventually recycled – which greatly depends on public participation in waste segregation. To enhance consumer perception and gradually change public habit towards waste segregation at source, Zero Waste SG organises an advocacy campaign called 'Sort It Out', which aims to encourage individuals and households to practice waste segregation for recyclables and general waste. This campaign was conducted in three parts. First, Zero Waste SG conducted desk research to gather good practices in waste segregation from overseas and justify the advocacy campaign. Second, they conducted small pilots that included the installation of mini recycling hubs with waste separation bins, collaboration with recyclers, and an analysis of the impact of proper waste segregation on the environment at the end of the pilot. Lastly, they conducted a survey, asking the public to share their thoughts on a deposit-refund scheme for store-bought beverages. Initial results suggest that the public perceives the scheme as potentially increasing their cost-of-living expenses, however, some participants do not feel burdened for participating in a socially responsible scheme.

- **Viet Nam – Strengthening Collection and Recycling by PRO Viet Nam**

  PRO Viet Nam is recognised by the country's Ministry of Natural Resources and Environment (MONRE) as an entity responsible for EPR implementation on behalf

of its members. PRO Viet Nam implements proper waste collection and recycling models and continuously builds its capacity to achieve the policy's long-term targets. Based on their experience, the organisation found the push model as the most effective, thus they work with recycling facilities to recycle the collected materials. Notably, PRO Viet Nam also collaborates with various recyclers, universities, and scientists for exploring new technologies and methods to recycle collected materials. Their experience helped identify issues associated with EPR implementation, which they relay to Viet Nam's MONRE, contributing to the enhancement of regulatory frameworks.

- **The Philippines – Plastic Credits by PCX Solutions**

  PCX is a non-profit organisation that strives to accelerate the transition to a circular economy. PCX has applied the Plastic Pollution Reduction Standard (PPRS) since 2020, providing the company with experience in EPR prior to the enactment of an EPR law in the Philippines. When the law came into force, PCX registered their EPR programme as a PRO, where it now has over 100 member companies or obliged enterprises. In 2023, PCX successfully diverted 163,000 metric tonnes of post-consumer plastic packaging waste. PCX works with member companies and enterprises to calculate their plastic footprint that would later be audited by a third party. They assist in their members' strategies to reduce their plastic footprint and achieve compliance targets, and PCX verifies each company's efforts and impact.

- **Indonesia – Recyclers, Indonesia Plastic Recycling Association (ADUPI)**

  As a recycling association, ADUPI is involved in processing the collected recyclable plastic waste from producers under Indonesia's EPR scheme. Despite having been effective for several years now, ADUPI is of the view that the regulation and even the concept of EPR still comes as new to many stakeholders, including those who are impacted by it, which consequently hinders its successful implementation. Recognising this, ADUPI is actively raising key stakeholders' awareness to bridge the existing knowledge gap. Moreover, they work to strengthen their baseline supply chain data, feeding into the government's policy making process in support of a viable EPR legislation and roadmap.

Enhancing the Effectiveness of EPR Policies

As producers commence and operationalise their EPR programmes, they may encounter challenges that only policy interventions can solve. Based on the experiences of the stakeholders elaborated above, the challenges are as follows:

- **Complicated registration process to the EPR system**

  Based on PRO Viet Nam's experience, governments typically face difficulties with producer registration due to the rapid changes in the industry and that it is often the first obstacle they encounter. This subsequently affects the effectiveness of EPR schemes. As such, they suggest that it is best to assign this line of work to industry experts such as PROs.

- **Lack of public participation in EPR policymaking**

  Zero Waste SG stressed that EPR regulations must provide a pathway for public participation. Consumers can provide their feedback on key issues, and public engagement could inspire new opportunities and viewpoints to approach the implementation of EPR schemes.

- **Lack of waste segregation practices**

  Insufficient waste segregation practices limit the amount of collectible and recyclable waste, thereby impeding the progress of the private sector in meeting recycling targets. While PRO Viet Nam has set up waste separation bins in some areas to address this, they believe that other stakeholders should work together by establishing waste segregation systems and providing more supporting infrastructure to make waste segregation more accessible for both consumers and the informal waste sector.

- **Unclear directions on informal waste sector involvement in EPR schemes**

  While the informal waste sector plays an important role in waste collection in almost all ASEAN countries, their recognition under legal frameworks varies. PCX Solutions shared that in the Philippines, the EPR law recommends partnering with the informal waste worker communities and provides guidance on their integration into the formal sector, ensuring that they are governed by national regulations related to occupational health workers' rights and environmental protection. While these initiatives are commendable, there is still room for improvement. The government can initiate the provision of additional guidelines and standards on existing safeguards and the establishment formal employment opportunities within the EPR system to better integrate informal workers. Additionally, the government can also offer incentives, such as tax deductions or improved credit rates, for waste processing through the informal waste sector.

- **Varying understanding of recovery and recycling**

  EPR policies usually cover management obligations for various types of materials, each with different methodologies for its recovery and recycling. To ensure transparency and accountability of each recycling method, PCX Solutions suggested the establishment of a national standard and guidelines for waste recovery and diversion certification such as plastic credits. Additionally, PRO Viet Nam also put forward the opportunity to recognise energy recovery as a legitimate recycling pathway, especially for multilayered plastic packaging that are hard to recycle into a new material.

- **Insufficient recycling capacity**

  Throughout the region, a significant gap remains between the existing national recycling capacity and the capacity needed to process all collected recyclable waste. PCX Solutions emphasised the need for infrastructure investments to address this

and meet recovery and recycling targets, calling for public–private partnerships and collaboration.

- **Recycling market uncertainties**

  ADUPI highlighted recycling market uncertainties which stem from price discrepancy between virgin and recycled materials, resulting in the lack of demand for the latter. Therefore, it is important that governments develop supporting policies that incentivise the use of recycled materials, such as by imposing a mandatory minimum recycled content policy to producers. On the other hand, the recycling industry also suffers from fluctuating supply of recyclable waste, for which the government can apply a standard on product design and labels to help increase waste collection capacity.

  These challenges shed light on the importance of strong collaboration amongst stakeholders throughout the process of developing to implementing EPR policies. Informed choices at each stage of the process ensures that EPR policies and programmes are ambitious and effective, yet at the same time feasible to achieve.

Recommendations

Enhance Waste Segregation and Collection

1: *Organise advocacy campaigns to raise public awareness and improve public perception on the importance of waste segregation*. The collection of high-quality plastic waste is key to effective recycling. Hence, the public, who will dispose of post-consumer plastic products for recycling, should be well informed on both the merits and methodologies of proper waste segregation.

2: *Establish and participate in waste segregation systems complemented with adequate infrastructure*. To achieve resource recovery and recycling targets under EPR, the government, supported by the private sector, should set up a waste segregation system along with its corresponding infrastructure to significantly increase the collection rate of recyclable plastic waste. At the same time, consumers should participate in the waste segregation system and ensure that their waste is properly collected.

Create a Just Transition for the Informal Waste Sector

3: *Involve the informal waste sector in EPR schemes under legal frameworks.* The informal waste sector should be acknowledged for their instrumental role in waste collection and recovery under legal frameworks. Furthermore, their integration into EPR systems should be facilitated with clear guidelines on their involvement and/or formal employment opportunities.

4: *Provide protection for the work of the informal waste sector*. The government should create guidelines and standards to ensure their work safety and, if possible, equip them with the tools needed to support their line of work.

Strengthen Recycling Capacity and Harmonise Its Accounting and Verification Standards

5: *Increase national recycling capacity*. In addition to waste collection systems, the government, the private sector, and recyclers should collaborate in building more recycling infrastructure to increase national recycling capacity. Additionally, in collaboration with the academia, the national recycling industry could also benefit from exploring technical advancements and keeping up with cutting edge recycling technologies.

6: *Create standards on accounting and verification of plastic recycling or recovery*. As definitions for plastic recycling or recovery may differ across stakeholders, the government should establish standardised definitions as well as methodologies for accounting and verification of such efforts. This may also include on whether energy recovery is recognised as a legitimate recycling pathway.

Increase the Demand for Recycled Plastic Materials

7: *Increase the demand for recycled plastic materials*. To maintain a robust recycling market, the government should adopt policies that increase the demand for recycled plastic materials. This can come in the forms of a mandatory minimum recycled content to boost domestic demands or export support.

SESSION 6

Promoting Circular Economy Towards Better Work Conditions for Informal Waste Workers

Key Message

The informal waste workers are the backbone of waste collection and recovery in ASEAN. Creating better work conditions for the informal waste workers should start with improving their work safety and strengthening their bargaining power, which can lead to a just transition to a circular plastic economy.

Summary

A Closer Look at Informal Waste Workers

In most developing countries, informal waste workers (IWWs) play an essential role in the waste value chain, where they collect and sort recyclable waste and in turn drive the nation's recycling rates. With about 20 million IWWs worldwide, their contribution is estimated to reach 60% of global waste collection and 90% of global recyclables collection, highlighting their integral part in resource circulation. For instance, in Vientiane, Lao PDR, nearly 800 IWWs collect approximately 366,000 tonnes of solid waste each year (Swisscontact Lao PDR, 2024). This number increases significantly in Viet Nam, with an estimated 400,000 to 800,000 IWWs responsible for collecting over 6 million tonnes of waste annually (FES Viet Nam, 2024; Nguyen, 2024).

To collect enough waste to earn a livelihood, these IWWs often have to work in unsafe conditions that risk their health and safety. In places where there is a lack of waste segregation, IWWs sift and rummage through mixed waste in search of tradeable waste with bare hands, putting them at risk of injuries from sharp objects. This situation also exposes them to hazardous materials that may cause respiratory infections and allergies, and even severe diseases such as cancer or reproductive disorders in the long term. Furthermore, IWWs who work at landfills are required to always stay alert as unstable piles can collapse at any time.

These harsh conditions, however, are not the only challenges that IWWs have to face in their line of work. They receive low and unstable income from a lack of just and transparent price settings, which disproportionately reflect their contributions to waste leakage prevention efforts. Prices for recyclables fluctuate with market demands and vary based on previous internal negotiations amongst aggregators, sellers, and end-buyers. This situation is further worsened by IWWs' limited financial knowledge and entrepreneurial skills, limiting their bargaining power to arrive at an agreeable price.

Due to the informal and freelance nature of IWWs' work, they have limited access to social safety nets, legal protections, and health insurance, unlike their formal counterparts. Even if the government introduces a voluntary insurance scheme, many may hesitate to register as they continue to struggle to make ends meet. Another pressing concern is the children of IWWs, who are often deprived of educational opportunities when circumstances force them to accompany their caregivers or assist with waste picking during the day.

Initiatives to Improve IWWs' Work Conditions

Improving the work conditions of IWWs by addressing the challenges above should become a priority as emerging countries gear up towards the transition to a circular economy. The ACCPP 2024 invited speakers from across the globe, particularly the ASEAN region, to share about their initiatives in facilitating a just transition for IWWs.

- **Global – Global Plastic Action Partnership, World Economic Forum**

  Through the NPAP platform, the WEF strives to include the perspectives of IWWs, recognising the importance of considering how the transition to a circular economy for plastics could affect these communities. They have helped to establish cooperatives of waste pickers through Ghana NPAP, which has helped make their voices heard and provide more bargaining power in market settings. Furthermore, the WEF is trying to bring more widespread awareness about the role and challenges of IWWs, which require cooperation amongst public and private sectors to create communication campaigns and behavioural change. To ease their work and promote safety, it is crucial to educate the public about proper waste segregation, emphasising the significance of encouraging this practice at home.

- **Lao PDR – Swisscontact Lao PDR**

  Part of Swisscontact's work in environmental projects includes working with IWWs to equip them with business knowledge and better skills as well as an enhanced understanding of waste management practices. Their 'Waste to Value project' operates in two districts, including Vientiane, in which they focus on green products and services, waste management, and awareness raising and networking with private and public stakeholders. Swisscontact provided supporting tools for IWWs through training and capacity building, and improved cooperation between IWWs and recycling companies, waste generators, and buyers.

- **Cambodia – Ministry of Environment of Cambodia**

  Since the 1990s, the Cambodian government has strived to improve the livelihoods of informal workers. In 2023, the government enforced a new strategy that prioritises inclusive development. Several policies on social economic development cover the formal and informal sectors, thereby ensuring that IWWs have access to healthcare and social protection programmes. Additionally, in Cambodia, all children can attend primary school to high school for free and the government prioritises children of IWWs. Children of vulnerable groups are provided with essential school supplies

and equipment to encourage them to remain in school by alleviating some financial burdens from the parents.

- **Viet Nam – UNDP Viet Nam**

  UNDP Viet Nam actively works with government authorities and the private sector to pilot initiatives to address problems faced by IWWs. The UNDP also provides capacity-building programmes and trainings and works to increase healthcare benefits and improve the career opportunities of these workers.

Figure 6: Discussions during Session 6 on Informal Waste Workers

Recommendations

Improving the Work Safety of Informal Waste Workers

1: *Create safety guidelines and provide them with adequate personal protective equipment.* Enhancing IWWs' work safety can start with creating national guidelines to protect their health and safety. When possible, providing IWWs with adequate personal protective equipment will significantly reduce their risk of injuries and contamination.

2: *Raise public awareness on the role of the IWWs and the importance of waste segregation.* As more people are aware of and acknowledge the crucial role of IWWs in waste management, they would be encouraged to partake in waste segregation efforts that both eases and reduces the risks affiliated with the IWWs work.

3: *Offer opportunities for their integration into the formal waste sector*. The government should explore approaches to formally integrate IWWs under waste management system, which will put them in a better position to demand rights. One of the ways to do this can be by setting up an official registration system.

4: *Provide inclusive social services for informal waste workers*. Facilitate IWWs with the access to inclusive social services, preferably with low or no cost, such as on healthcare, education, and other public services.

Strengthening Informal Waste Workers' Bargaining Power

5: *Provide a better access to storage facilities*. The prices for recyclables fluctuate daily, and IWWs need to gather a certain volume of recyclables to be able to sell at a reasonable price. With access to storage facilities, they have the option to stock up their collected recyclables and sell them either when they have collected a sufficient amount of waste or when prices go up.

6: *Establish a streamlined and standardised price information system*. A standardised and transparent price information system can minimise the potential of IWWs receiving unjust prices and being undervalued for their work.

7: *Provide capacity building programs aimed at enhancing their financial literacy and entrepreneurial skills.* With adequate financial literacy and entrepreneurial skills, IWWs will have stronger bargaining power in the market of recyclables.

8: *Facilitate the formation of groups or alliances*. A unified voice from IWWs increase the chances of their voice being heard in formal settings such as advocation or policymaking. Additionally, an alliance of IWWs also has a stronger bargaining power for price negotiations.

SESSION 7

Behavioural Change to Reduce Single-Use Plastics in ASEAN

Key Message

Plastics consumption has become an integral part of the daily lives and habits of people, making plastic pollution not only a material, but also a behavioural issue. The behavioural sciences have provided insights on how to design initiatives to nudge people's behaviour to reduce plastics consumption.

Summary

Plastic Pollution as a Behavioural Issue

Plastics, particularly SUPs, are so deeply ingrained in the daily lives and habits of people that despite the widely known negative impacts of plastic pollution, it is still difficult to curb plastic consumption. This implies that plastic pollution is not only a material but also a behavioural issue that may be approached through behavioural approaches on top of other existing strategies. These behavioural approaches, developed based on knowledge from the behavioural sciences, would aim to influence humans and nudge them to reduce SUP consumption in exchange for behaviours that promote a sustainable and circular use of plastics. One of the many ways to influence human behaviour is through the Levers of Behaviour Change Framework, developed by RARE, a world-leading organisation in conducting behavioural change projects for the environment (RARE, n.d.).

The Levers of Behavioural Change Framework

The Levers of Behavioural Change Framework by RARE consists of six strategies or levers that may be used in combination to nudge or influence human behaviour. The six levers are categorised into two groups based on their background. The first group, known as the traditional levers, comprise of information, rules and regulations, as well as material incentives. These levers are based on the Rational Choice Theory which stipulates that human beings are rational beings that make the most optimal decisions. However, studies have shown that humans do not always make rational decisions. Instead, humans often make decisions based on intuition and instincts. The second group of levers, known as the new intervention levers, which comprise of choice architecture, emotional appeals, and social influences, capitalises on this fact. Table 5 provides a description of the six behavioural change levers and their examples.

Table 5: Description of the Six Behavioural Change Levers and Examples of How Their Usage Reduces Plastic Consumption

Lever		Description	Example
Traditional Levers	Information	Providing relevant information such as the benefits or harms of certain behaviours	Creating a poster showing the statistics and negative impacts of plastic pollution
	Rules and Regulations	Enforcing change by integrating the desired or undesired behaviours to a regulatory, or legal, framework	Implementing a ban on plastic bags
	Material Incentives	Providing incentives to promote the desired behaviour or fees to discourage the undesired behaviour	Asking shoppers to pay a fee to get plastic shopping bags in supermarkets
New Intervention Levers	Choice Architecture	Changing the environment and infrastructure to change what is seen as the default and naturally divert from the undesirable behaviour	Not automatically providing plastic straws in restaurants
	Emotional Appeals	Framing the desired behaviour to positive emotions (e.g. fun, fulfilling) or appealing to topics that people care about or that relates to their core identity	Promoting bringing tumblers and water bottles as a cool trend instead of using single-use plastic cups and bottles
	Social Influences	Appealing to people's sense of belonging in a community, hierarchical structures, and how people compare themselves to each other	Making a public commitment to adopting a new behaviour will make it harder to abandon the behaviour later

Source: Authors, adopted from RARE (n.d.) and ACCPP 2024.

Behavioural Change Initiatives in the ASEAN Region

Several organisations have developed and implemented behavioural change initiatives to nudge sustainable plastic consumption in ASEAN. Below is an overview of some of these existing initiatives.

- **Breaking the Plastic Habit in ASEAN**

  A review of existing behavioural change study cases has revealed that most focus on countries in Europe and North America. Based on this finding, ERIA and an international think tank, the Institute for Global Environmental Strategies (IGES),

sought to explore how insights from the behavioural sciences may be utilised to nudge behaviours to reduce SUP consumption in ASEAN countries. From September 2022 to December 2023, four pilot projects were implemented in universities and a high school with local partners in Indonesia, Thailand, the Philippines, and Viet Nam. The results from the pilot projects were developed into study cases and a practical toolkit. From October 2024 to October 2025, additional projects will be implemented in the four countries as well as in Cambodia and Lao PDR. In addition to developing more study cases, the second round of projects also aims to develop a new framework to measure the effectiveness of behavioural change interventions.

- **Interfaith of Waste Charity Movement (GRADASI)**

  Indonesia is amongst the largest ocean plastic emitters in the world. At the same time, Indonesia has the world's fourth-largest population at approximately 270 million inhabitants, many of which are religious. The acknowledgement of these unique facts led to the development of the Interfaith of Waste Charity Movement (*Gerakan Sedekah Sampah Indonesia* also known as GRADASI) which takes a religious approach to addressing waste challenges in the country. The movement, which was led by the National Coordinating Team for Marine Debris Management under the Government of Indonesia, works together with religious leaders to encourage people to donate clean waste to their places of worship. The movement does not only reduce the amount of mismanaged waste which may enter the environment but also generates money from the sale of the collected waste. The movement has been proven to be able to increase waste collection rate by twofold and between 2021 and 2024, GRADASI has been able to collect 840 tonnes of waste, generating IDR4.2 billion (approximately US$300,000).

- **Plastic Free Laos Label (PFLL)**

  Under business-as-usual practices, the hospitality sector is a large contributor of plastic waste. The PFLL initiative aims to address this by working together with businesses working in the hospitality sector, such as hotels and restaurants, in Lao PDR. The initiative, which was initially developed through the RELATED Project under the German development agency *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) *GmbH*, is currently managed and implemented by the Vientiane-based environmental consultancy Econox Laos, in coordination with the Small and Medium Enterprise Service Centre under the Lao National Chamber of Commerce and Industry and in collaboration with the Lao Hotel and Restaurant Association. Through the initiative, businesses can receive guidance on how to reduce SUPs in their operations, get certified as a plastic free business, and join a network of sustainable hospitality businesses under the label. By 2024, 13 businesses in Luang Prabang, Vang Vieng, and the Vientiane Capital are registered under the label.

- **Reduce, Reuse, Recycle to Protect Marine Environment and Coral Reefs (3RproMar) Project**

  The 3RproMar Project was developed by GIZ to support AMS in reducing plastic

leakage to the environment and protecting the region's marine ecosystem through projects in Cambodia, Indonesia, the Philippines, and Viet Nam, amongst others, through behavioural change approaches. In one of the projects, GIZ collaborated with Making Oceans Plastic Free (MOPF) to conduct a stocktaking analysis of existing behavioural change campaigns in the four countries and develop a behavioural methodology toolbox. Furthermore, GIZ also worked at the local level to pilot the development and implementation of Community Behaviour and Plastic Action Strategies (COMPACTS) in selected cities in the four countries. The COMPACTS, which is developed using community-based and human-centred design approaches, is a comprehensive document that includes suggested action plans as well as social and behavioural change communication strategies to support municipal governments in addressing plastic waste.

- **Reducing Single-Use Diapers**

  Improperly disposed single-use diapers are amongst the types of plastic waste that end up in the environment. Since 2022, RARE has supported the Indonesian social enterprise Common Seas on a project to develop and promote the adoption of reusable diapers to reduce the number of single-use diapers ending up in rivers. The project, which mainly worked with low-income mothers and people with disabilities, was piloted in East Java, Indonesia where the heavily polluted Brantas River receives up to 1.5 million single-use diapers per day. After a 1-week intervention, more than 575 single-use diapers were avoided and many participating mothers indicated that they would like to continue using reusable diapers. Since the pilot, the project has been scaled up and the reusable diapers are now available for purchase across Indonesia.

Understanding Contexts

Designing initiatives to influence human behaviour can be challenging as the same interventions can result in completely different outcomes depending on the contexts in which they are implemented. For instance, incentives that may be appealing to certain communities may not be to others due to different priorities and values. Thus, understanding the context or setting of an intervention is crucial to ensure that it is appropriate to the target audience and effective in encouraging the desired behaviour. In designing initiatives for the ASEAN region, it is important to understand the ASEAN context. For instance, communities in the ASEAN region tend to be collectivist, giving higher priority to the group instead of its individual members. Therefore, it might be more effective to design interventions that are community-oriented or emphasise the values shared in the community. Though it is also important to understand specific contexts to ensure that the interventions are even more suitable to the target community.

While behavioural change initiatives often target the behaviour of individuals, it is also important to have initiatives that target organisations such as businesses. On that note, it is important to understand specific contexts and approaches relevant to businesses that are different than those to communities or other stakeholders. For instance,

competition and gaining recognition are big drivers for businesses to change the way they operate. Another thing to note is that a business is essentially an organisation, meaning that it is comprised of multiple individuals at different levels and roles. While the executive members are often the ones making the decisions, including the decision to shift to more sustainable practices, the staff are often the ones that are more impacted and have to implement the changes. Thus, in designing the initiatives, specific interventions can be included to engage with the staff.

Monitoring and Evaluation

Once the behavioural change initiatives are designed and implemented, it is important to also monitor and evaluate their progress. The most obvious method would be to measure the observable changes such as counting the number of SUPs reduced, individuals engaged in the initiative, and amount of waste collected. However, it is also beneficial to try to understand the underlying drivers of the change in behaviour such as changes in individuals' beliefs. Understanding these drivers would help explain why individuals are or are not willing to adopt the desired behaviours which, in turn, would be useful for designing future initiatives. Table 6 provides some examples of indicators that are used to monitor the progress and achievements of the behavioural change interventions in the initiatives mentioned above.

Table 6: Behavioural Change Interventions in the ASEAN Region and Some of the Indicators used to Measure Their Progress and Achievements

Name	Implementer	Intervention	Example Indicators
Breaking the Plastic Habit in ASEAN	ERIA and IGES	Conduct campaigns, provide sustainable food or drink containers, and avoid providing SUPs in universities and a high school	• Number of SUPs reduced • Number of individuals who bring their own reusable food or drink containers
Interfaith of Waste Charity Movement	TKN-PSL	Work with religious leaders to encourage the donation of waste to places of worship to reduce the amount of mismanaged plastic waste	• Amount of waste collected • Number of participating places of worship
Plastic Free Laos Label	Econox Laos	Support, certify, and build a network of businesses working in the hospitality industry in Lao PDR to be plastic free	• Number of businesses who joined the network • Feedback from the businesses within the network

Name	Implementer	Intervention	Example Indicators
Reduce, Reuse, Recycle to Protect Marine Environment and Coral Reefs Project	GIZ	Develop and support the implementation of Community Behaviour and Plastic Action Strategies in several cities in Southeast Asia	• Amount of plastic waste leakage reduced • Amount of uncollected plastic waste reduced
Reducing Single-Use Diapers	RARE and Common Seas	Develop and encourage the use of reusable diapers to avoid mismanaged single-use diapers waste from littering rivers	• Number of single-use diapers not used • Number of mothers who intend to continue using reusable diapers

ASEAN = Association of Southeast Asian Nations, ERIA = Economic Research Institute for ASEAN and EAST Asia, GIZ = *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH*, IGES = Institute for Global Environmental Strategies, TKN-PSL = *Tim Koordinasi Nasional Penanganan Sampah Laut* (National Coordinating Team for Marine Debris Management).

Source: Authors, compiled from presentations at the ACCPP 2024.

Long-Term Sustainability

The hope is that the once the desired behaviour is achieved, it can be sustained beyond the duration of the behavioural change initiative. There are several recommended strategies to achieve this, the first one being integrating the desired behaviours into legislations. This ensures that the community has to continue the desired behaviour. Another strategy is to work with local champions the initiative, if possible, even from the design stage of the behavioural change initiative. Local champions can be defined as figures that are respected or influential in the community such as local youth or religious leaders. Working together and convincing the local champion to adopt the desired behavioural change can encourage more people to do the same. Furthermore, due to the fact that they are from the area, the local champion can help to sustain the desired behaviour even beyond the end of the intervention.

Figure 7: Keynote presentation by Ms Alice Yamabe (left) and panel discussion during Session 7 (right)

Recommendations

Design Informed Behavioural Change Initiatives

1: *Understand the context.* Human behaviour is complex. The same intervention can produce different results when implemented in different contexts. Therefore, when designing a behavioural change initiative, it is important to understand the socioeconomic, environmental, and cultural contexts of the target community to ensure that the initiative is appropriate and effective in encouraging the desired behaviour.

2: *Combine different behavioural levers.* Behavioural change interventions work best when they address ingrained habits, norms, and situational factors in combination with information and rewards to motivate the change. Using a combination of the different behavioural levers could help create a stronger nudge towards the desired behaviour.

Integrate the Behavioural Change Initiatives into the Community

3: *Partner with local stakeholders.* Local stakeholders should be involved throughout the initiatives, including from the planning stage, as they should be considered partners, not just subjects, in the behavioural change initiatives. Furthermore, working together with local stakeholder also help with understanding the context, identifying what is important and feasible for the communities, as well as creating a sense of ownership within the communities.

4: *Involve local champions.* Local champions such as religious leaders, government officials, or youths in a community can help build a stronger relationship with the community. Furthermore, they can also help to further encourage other members of the community to adopt the desired behaviour, even past the period of the behavioural change initiative.

5: *Integrate the desired behaviour into local norms.* Integrating the desired behaviour into local rules, regulations, or legislation can be one of the levers of the behavioural change intervention. Additionally, they help to sustain the desired behaviour beyond the period of the behavioural change initiative, hopefully creating a longer-lasting impact in the communities.

Monitor the Implementation of the Initiatives

6: *Utilise multiple indicators to measure the impacts of the initiatives*. Indicators to measure impact should not be limited to the amount of plastic waste reduced, but to also include those that reflect the underlying drivers of the behavioural changes. This helps to create a deeper and more comprehensive understanding of the extent of the behaviour change, which can help inform future initiatives.

7: *Pay attention to the unexpected behaviours.* People are complex and do not always make rational decisions. Instances when people do not make decisions as expected should be taken note of and the insights could be incorporated in redesigning existing or designing new behavioural change interventions.

Conclusion

This report summarises the discussions at ACCPP 2024, highlighting key messages from various sessions and presenting actionable recommendations to guide stakeholders across ASEAN in their efforts to tackle plastic pollution. The topics covered range from large-scale cross-border initiatives, such as regional collaborations and the development of a global plastics treaty, to individual and community-level actions, including encouraging behavioural change and improving working conditions for IWWs.

If you are reading this, the responsibility now lies with you. While recommendations provide valuable guidance, they remain merely words until they are transformed into action. Real change – and the complete elimination of plastic pollution – can only be achieved through concrete steps, and this is where your role becomes crucial.

It is also important to recognise that plastic pollution cannot be solved overnight; it requires sustained and persistent efforts. Although much remains to be done, past and ongoing initiatives demonstrate ASEAN's commitment to addressing this challenge. Continued action, including regional dialogues such as ACCPP, will be essential in achieving a future free from plastic pollution.

On that note, the authors would like to acknowledge the critical role played by Lao PDR as Chair of ASEAN in 2024 in upholding the tradition of ACCPP. The hope is for the conference to become an annual event, with the next edition in 2025 under Malaysia's ASEAN Chairmanship – continuing the tradition initiated by Indonesia and reinforced by Lao PDR, and sustaining regional efforts toward an ASEAN free from plastic pollution.

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Annex

Recommendations

●: Upstream, ●: Midstream, ●: Downstream, ●: All stages

Session	Recommendations	Stage
1 **Regional Collaboration Against Plastic Pollution**	**Continue Organising and Enhance Existing Regional Collaborations**	
	1: Continue organising regional dialogues.	●
	2: Increase opportunities to participate in public regional dialogues.	●
	3: Enhance regional collaborations.	●
	Strengthen Leadership and Inclusivity	
	4: Provide strong leadership in regional collaborations.	●
	5: Consider flexibility for increased inclusivity.	●
2 **Intergovernmental Negotiating Committee on Plastic Pollution**	**Support Informed Decision Making**	
	1: Enhance data and information on plastics.	●
	2: Build the capacity of governments.	●
	3: Consult stakeholders on the treaty negotiation process.	●
	Raise Awareness on the Global Plastics Treaty	
	4: Raise awareness on the global plastics treaty negotiations process.	●
	Create an Enabling Environment for the Global Plastics Treaty	
	5: Create an enabling environment to implementation of the global plastics treaty.	●

Session	Recommendations	Stage
3 **Innovation and Solutions to Combat Plastic Pollution**	**Promote locally adapted, financially viable, and scalable innovations** 1: Design and adapt innovations to meet specific and local needs. 2: Ensure alignment with policy frameworks to build traction and foster uptake. 3: Explore interconnections and collaborative opportunities amongst different innovations. 4: Promote inclusive innovation through partnerships with local communities. 5: De-risk innovations to increase its investability.	 ● ● ● ● ●
4 **Pioneering the Paradigm Shift to Phase Out Plastic Pollution**	**Take a Holistic Approach to Addressing Plastic Pollution** 1: Consider the consequences of solutions to plastic pollution from a holistic perspective. **Provide Measures to Support the Phasing Out of Plastics** 2: Balance plastics restrictions with support for innovations. 3: Provide upskilling and promote economic diversification. **Take Measures to Prevent Future Pollution** 4: Improve waste management infrastructure and capacity. 5: Reconsider approach to resource utilisation.	 ● ● ● ● ●

Session	Recommendations	Stage
5 **Extended Producer Responsibility: Turning Policy into Practical Actions**	**Enhance Waste Segregation and Collection** 1: Organise advocacy campaigns to raise public awareness and improve public perception on the importance of waste segregation. 2: Establish and participate in waste segregation systems complemented with adequate infrastructure. **Create a Just Transition for the Informal Waste Sector** 3: Involve the informal waste sector in EPR schemes under legal frameworks. 4: Provide protection for the work of the informal waste sector. **Strengthen Recycling Capacity and Harmonise Its Accounting and Verification Standards** 5: Increase national recycling capacity. 6: Create standards on accounting and verification of plastic recycling or recovery. **Increase the Demand for Recycled Plastic Materials** 7: Increase the demand for recycled plastic materials.	 ● ● ● ● ● ● ●●
6 **Promoting Circular Economy Towards Better Work Conditions for Informal Waste Workers**	**Improving the Work Safety of Informal Waste Workers** 1: Create safety guidelines and provide them with adequate personal protective equipment. 2: Raise public awareness on the role of the IWWs and the importance of waste segregation. 3: Offer opportunities for their integration into the formal waste sector. 4: Provide inclusive social services for informal waste workers. **Strengthening Informal Waste Workers' Bargaining Power** 5: Provide a better access to storage facilities. 6: Establish a streamlined and standardised price information system. 7: Provide capacity building programs aimed at enhancing their financial literacy and entrepreneurial skills. 8: Facilitate the formation of groups or alliances.	 ● ● ● ● ● ● ● ●

Session	Recommendations	Stage
7 **Behavioural Change to Reduce Single-Use Plastics in ASEAN**	**Design Informed Behavioural Change Initiatives**	
	1: Understand the context.	●
	2: Combine different behavioural levers.	●
	Integrate the Behavioural Change Initiatives into the Community	
	3: Partner with local stakeholders.	●
	4: Involve local champions.	●
	5: Integrate the desired behaviour into local norms.	●
	Monitor the Implementation of the Initiatives	
	6: Utilise multiple indicators to measure the impacts of the initiatives.	●
	7: Pay attention to the unexpected behaviours.	●

PROGRAMME AGENDA

Time	Agenda	Contact Information
	Monday, 28 October 2024	
	Partnership and Innovation	
08:30 – 09:00	**Registration and welcoming by the MC**	
09:00 – 09:35	**High-Level Opening Plenary Session** *Opening Remarks:* • **H.E. Mr. Phouvong Luangxaysana,** Vice-Minister, MoNRE Lao PDR *Welcome Remarks:* • **Prof. Tetsuya Watanabe,** President, ERIA • **Mme. Martine There,** Resident Representative, UNDP Lao PDR	
09:35 – 09:40	**Photo session**	
09:40 – 09:50	**Introduction of the Global Plastic Action Partnership** *Speaker:* • **Ms. Liviana Zorzi**, Specialist, World Economic Forum	Liviana.Zorzi@weforum.org

Time	Agenda	Contact Information
09:50 – 10:40	**Session 1: Regional Collaboration Against Plastic Pollution** *Panel Discussion:* 1. **Dr. Vong Sok**, Assistant Director of Sustainable Development Directorate, Head of Environment Division, ASEAN Secretariat 2. **Mr. Reo Kawamura,** Director for Environmental Policy and RKC-MPD, ERIA 3. **Mr. Bounpakone Phongphichit,** Director of International Cooperation Division, Department of Planning and Finance, MoNRE Lao PDR 4. **Ms. Ruchi Mohanty**, Regional Private Sector Partnership Specialist, UNDP Bangkok Regional Hub 5. **Dr. Mushtaq Ahmed Memon,** Regional Coordinator for Resource Efficiency, UNEP Asia Pacific Regional Office *Moderator:* • **Dr. Premakumara Jagath Dickella Gamaralalage,** Director, IGES Centre Collaborating with UNEP on Environmental Technologies	 environment@asean.org reo.kawamura@eria.org bounpakone2020@gmail.org ruchi.mohanty@undp.org memon@un.org premakumara@iges.or.jp
10:40 – 10:55	**Coffee break**	

Time	Agenda	Contact Information
10:55 – 12:15	**Session 2: Intergovernmental Negotiating Committee on Plastic Pollution** *Keynote Presentation:* • **Dr. Sidxay Makvilay,** Department of Environment MoNRE *Panel Discussion:* 1. **Mr. Yem Chandara,** Technical Advisor, Cabinet of the Minister, Ministry of Environment, Cambodia 2. **Mr. Yusuf Rizki Pratama Wiryawan**, Directorate of Solid Waste Reduction, Directorate General of Solid Waste, Hazardous Waste and Hazardous Susbstance Management, Ministry of Environment and Forestry, Republic of Indonesia 3. **Ms. Palina Khotphouthone**, Deputy Director of Environmental Policy Division, Department of Environment, MONRE Lao PDR 4. **Mr. Taweechai Jiaranaikhajorn**, Director of Waste Minimization Sub-division, Pollution Control Department, Thailand 5. **Mr. Le Ngoc Tuan**, Director General, International Cooperation Department, Viet Nam MoNRE *Moderator:* • **Mr. Fusanori Iwasaki**, Research Fellow, ERIA	 sidmakvilay@gmail.com chandara.yem@gmail.com rizki.wiryawan@gmail.com ms.panakpt@gmail.com taweechai.j@pcd.go.th lengoctuan@gmail.com fusanori.iwasaki@eria.org
12:15 – 13:30	**Lunch**	

Time	Agenda	Contact Information
13:30 – 15:30	**Session 3: Innovation and Solutions to Combat Plastic Pollution** *Opening Remarks:* • **Ms. Kari Synnøve Johansen,** Senior Adviser, Section for Oceans, Department for Climate, Nature and Private Sector, Norad *Launch of the Exhibition Space and Delegation Walk-through* *Presentation and Demonstration of 12 Innovations and Solutions from ASEAN:* Cambodia: 1. **Dr. Saret Bun**, Assistant Professor and Team Leader, WE Lab, Institute of Technology of Cambodia Indonesia: 2. **Mr. Fachreza Astnam Mubarak**, Communication and Partnership Officer, GRADASI 3. **Mr. Bhisma Gusti Anugra,** Programme Officer, FORMULA *Lao PDR:* 4. **Ms. Siamphai Boutdy,** Chief Marketing Officer, Nature Ware, Nika Investor Technology and Innovation Lao Co., Ltd. 5. **Mr. Serth Phonekeo,** Operation Coordinator, PatiHoub Company *Philippines:* 6. **Mr. Benjoe Vidal**, Founder, TrashChash PH / Circulo+ 7. **Ms. Pia Ocampo,** Founder and Chief Executive Officer, Pure Oceans	kari.synnove.johansen@norad.no saret_bun@yahoo.com fachreza@gmail.com bhismagusti22@gmail.com siamphaiboutdy@gmail.com info@patihoub.com benjoe22@gmail.com pia.ocampo@pureoceans.co

Time	Agenda	Contact Information
	Thailand: 8. **Mr. Sikarin Tamiyakul**, Co-founder, CIRAC	 sikarint@outlook.com
	Viet Nam: 9. **Ms. Truong Thi Luan**, Director, Innovation Center, Tay Bac University 10. **Ms. Tran Thi Hoa**, Chief Executive Officer, MGREEN, JSC	 luantt@utb.edu.vn thoatran@mgreen.vn
	Introduction of Initiatives for Innovation: 1. **Mr. Marco Corsi**, Coordinator of the SEA-MaP Innovation and Investment Platform 2. **Ms. Kamala Ernest**, SEA Circular Project Coordinator, UNEP Asia and the Pacific Office	 marcoco@unops.org kamala.ernest@un.org
15:30 – 15:45	**Coffee break**	
15:45 – 17:00	**Session 4: Pioneering the Paradigm Shift to Phase Out of Plastic Pollution** *Panel Discussion:* 1. **Mr. Pham Van Hieu**, Team Lead, Viet Nam Environmental and Marine Science Institute 2. **Mr. Michael Fink**, Country Director, Swisscontact Lao PDR 3. **Ms. Souksaveuy Keotiamchanh**, Founder, Zero Waste Laos 4. **Ms. Viengvilay Phimmasone**, Director and Co-founder, Patihoub Company *Moderator:* • **Mr. Nac Mi,** Project Technical Coordinator, UNDP Cambodia	 hieupvenv@gmail.com dyan.barutzki@swisscontact.org souksaveuy@zerowastelaos.org info@patihoub.com nac.mi@undp.org
17:30 – 19:00	**Cocktail reception and networking**	

Time	Agenda	Contact Information
	Tuesday, 29 October 2024	
	Actions and Solutions	
08:30 – 09:40	**Session 5: Extended Producer Responsibility: Turning Policy into Practical Action** *Keynote Presentation:* • *Mr. Michikazu Kojima,* Senior Research Fellow on Environmental Issues, ERIA *Panel Discussion:* 1. **Dr. Casper Durandt,** Director, Board of Directors, PRO Viet Nam 2. **Ms. Huileng Tan,** Executive Director, Zero Waste SG 3. **Ms. Athalie Reyes,** Extended Producer Responsibility and Consulting Manager, PCX Solutions 4. **Mr. Hadiyan Fariz Azhar**, General Executive, ADUPI 5. **Mr. Michikazu Kojima**, Senior Research Fellow on Environmental Issues, ERIA *Moderator:* • **Mr. Reo Kawamura**, Director for Environmental Policy and RKC-MPD, ERIA	 michikazu.kojima@eria.org cdurandt@coca-cola.com huileng@zerowastesg.com athalie.reyes@pcxsolutions.org fariz@kibumi.id michikazu.kojima@eria.org reo.kawamura@eria.org

Time	Agenda	Contact Information
09:40 – 10:50	**Session 6: Promoting Circular Economy toward a Better Work Condition for Informal Waste Workers** *Keynote Presentation:* • **Ms. Dyan Barutzki,** Project Manager, Sustainable Consumption and Production, Swisscontact Lao PDR *Panel Discussion:* 1. **Ms. Liviana Zorzi,** Specialist, World Economic Forum 2. **Ms. Manith Philavanh,** Informal Waste Worker from Lao PDR 3. **Mr. Taing Meng Eang,** Director, Department of Green Economy, General Directorate of Policy and Strategy, Ministry of Environment of Cambodia 4. **Ms. Nguyen Hai Yen,** Plastic Innovation Officer / Engagement Lead of NPAP, UNDP Viet Nam *Moderator:* • ***Mr. Michael Fink,*** *Country Director, Swisscontact Lao PDR*	 dyan.barutzki@swisscontact.org Liviana.Zorzi@weforum.org dyan.barutzki@swisscontact.org mengeangtaing@gmail.com nguyen.hai.yen@undp.org dyan.barutzki@swisscontact.org
10:50 – 11:05	**Coffee break**	

Time	Agenda	Contact Information
11:05 – 12:15	**Session 7: Behavioural Change to Reduce Single-Use Plastics in ASEAN** *Keynote Presentation:* • **Ms. Alice Yamabe,** Policy Researcher, Sustainable Consumption and Production, IGES *Panel Discussion:* 1. **Ms. Riska Amelia Hasan,** Monitoring and Evaluation Specialist, GIZ 3RproMar Project 2. **Ms. Shiyang Li,** Director, BE.Center, RARE 3. **Ms. Valy Phommachak,** Ecology Specialist and Chief Executive Officer, Econox Laos 4. **Mr. Ahmah Bahri Rambe,** National Programme Coordinator, Indonesia National Coordination Team for Marine Debris Handling *Moderator:* • **Mr. Bishal Bhari,** Programme Officer, AIT RRC.AP	yamabe@iges.or.jp riska.hasan@giz.de sli@rare.org valy.phommachak@econoxlaos.com sekretariat@tknpsl.id bishal.bhari@rrcap.ait.ac.th

Time	Agenda	Contact Information
12:15 – 12:25	**Key Message and Summary** *Speaker:* • **Mr. Reo Kawamura,** Director for Environmental Policy and RKC-MPD, ERIA	reo.kawamura@eria.org
12:15 – 12:30	**Closing Remarks** *Speaker:* • **Mr. Thevarack Phonekeo,** Deputy Director General of the Department of Environment, MoNRE Lao PDR	thevarack@gmail.com
12:30 – 13:30	**Lunch**	
13:30 – 17:00	**Visit to the Lao Textile Museum and Natural Dyeing Atelier**	

3RproMar = Reduce, Reuse, Recycle to Protect the Marine Environment and Coral Reefs, ADUPI = Indonesia Plastic Recycling Association (Asosiasi Daur Ulang Plastik Indonesia), AIT RRC.AP = Regional Resource Centre for Asia and the Pacific at the Asian Institute of Technology, ASEAN = Association of Southeast Asian Nations, BE.Center = Center for Behavior and the Environment, ERIA = Economic Research Institute for ASEAN and East Asia, FORMULA = Youth Forum for Waste Awareness, GIZ = Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, GRADASI = Interfaith of Waste Charity Movement (Gerakan Sedekah Sampah Indonesia), IGES = Institute for Global Environmental Strategies, Lao PDR = Lao People's Democratic Republic, MoNRE = Ministry of Natural Resources and Environment, NPAP = National Plastic Action Partnership, PCX = Plastic Credit Exchange, PRO = Packaging Recycling Organisation, RKC-MPD = Regional Knowledge Centre for Marine Plastic Debris, SEA-MaP = Southeast Asia Regional Program on Combating Marine Plastics, SEA = Seas of East Asia, UNDP = United Nations Development Programme, UNEP = United Nations Environment Programme.

Source: ACCPP 2024.