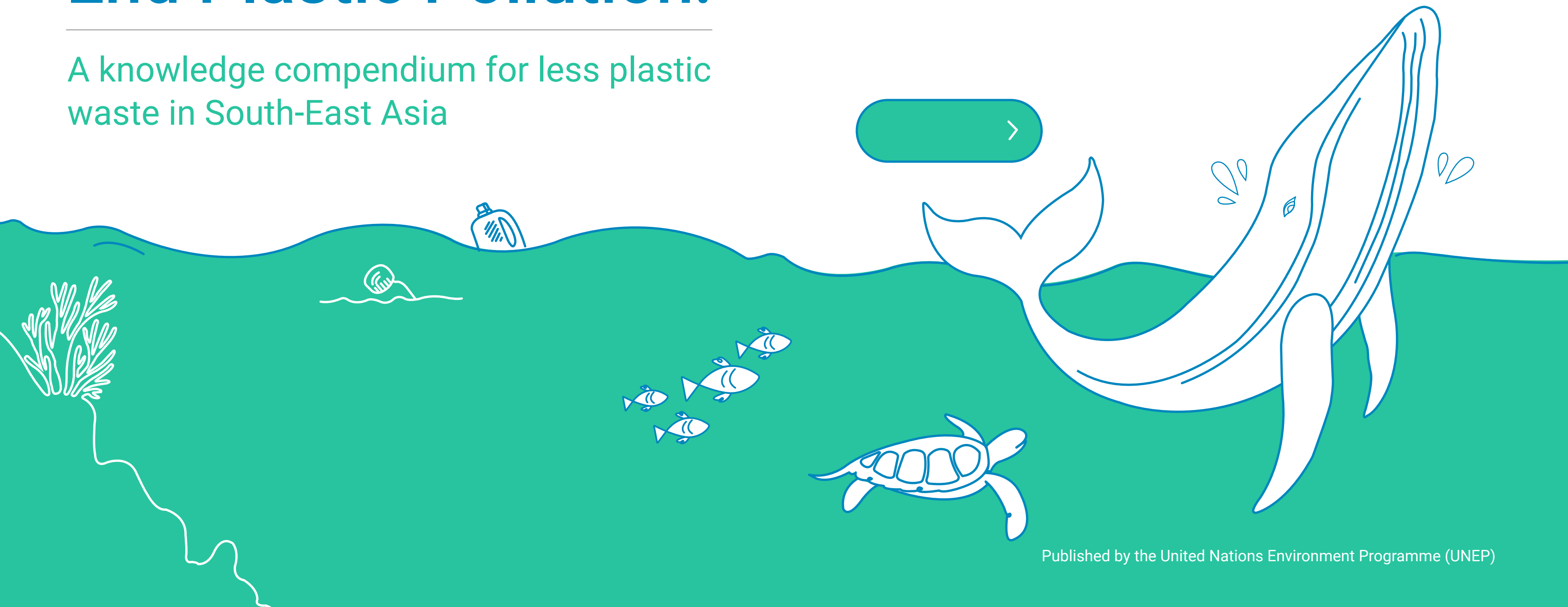


# End Plastic Pollution:

A knowledge compendium for less plastic waste in South-East Asia



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The SEA circular project of United Nations Environment Programme acknowledges and appreciates its partners for their continuous effort and collaboration in developing knowledge products, recommendations and best practices to end plastic pollution in South-East Asia.

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Sweden  
Sverige

# List of acronyms and abbreviations

<b>ASEAN</b>	Association of Southeast Asian Nations
<b>COBSEA</b>	Coordinating Body on the Seas of East Asia
<b>HRBA</b>	Human rights-based approach
<b>MBPJ</b>	Petaling Jaya City Council
<b>PHA</b>	Phuket Hotels Association
<b>UNEA</b>	United Nations Environment Assembly
<b>UNEP</b>	United Nations Environment Programme
<b>UN-Habitat</b>	United Nations Human Settlements Programme

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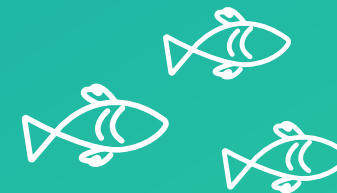
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## 1.1 THE PLASTIC POLLUTION CHALLENGE AND INTERVENTIONS NEEDED

Plastic is everywhere. Used as both input materials and by-products, it serves various functions that sustain industries and consumer goods around the world. From businesses to consumers, the global dependency on plastics has only continued to grow.

Despite the convenience and economic advantages that plastic offers, its mismanagement poses a grave threat to the environment which, if not quickly addressed, could lead to long-term, devastating impacts across ecosystems. Made from materials that cannot easily degrade, certain types of plastics can even resist corrosive substances. Plastic packaging in particular has a shorter life cycle. The non-biodegradable structure and largely single-use function of plastic have caused a sustained increase in waste generation over time.

As the production of plastic surges, and its use and disposal continue to be mismanaged, the amount of plastic waste flowing into the ocean increases. One

of the major contributors to land-based plastic waste that reaches the ocean, South-East Asia has experienced rapid growth in plastic production as well as in per-capita consumption of single-use plastic. Out of the estimated 75 million to 199 million tons of plastic waste that have found their way into the oceans, 31 million tons are collectively contributed by six out of the 10 members of the Association of Southeast Asian Nations (ASEAN) every year (World Bank 2021) and at least 9–14 million tons of plastic waste are entering the aquatic system annually (United Nations Environment Programme [UNEP] 2021).

The impact of plastic pollution on the planet, its marine ecosystems, human well-being and the effective enjoyment of human rights is spreading from every stage of the plastic life cycle, more often to the most disadvantaged members of society, who continue to bear a disproportionate burden of environmental harm. Recent studies also reveal that the cost of plastic pollution can reach

an annual economic loss of USD 6–19 billion in countries that are dependent on fisheries and the tourism industry (Viool et al. 2019). The mismanagement of plastic impacts the economy worldwide, causing an estimated loss of USD 80–120 billion every year (World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company 2016). In South-East Asia alone, this loss reaches approximately USD 1.3 billion annually. These facts confirm that the plastic pollution problem is not just an environmental one.

Looking at the plastic supply chain, interventions can be made at specific stages to manage plastic wastes and reach a low-plastic circular economy. In our present linear economy, materials are used to make products and then discarded as waste. In 2015, an estimated 60–99 million tons of mismanaged waste was produced around the globe and is predicted to steadily increase to 155–265 million tons per year by 2050 under a business-as-usual scenario (Leberon and Andrady 2019). To increase the amount

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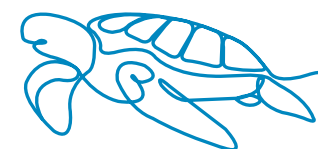
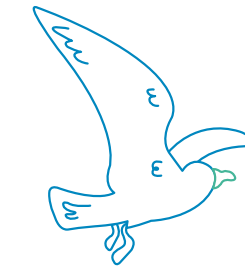
of plastic that is recycled and reused, we urgently need a circular economy formed and maintained by the collective action of businesses, public actors, development institutions and consumers.

While several legislations are in place and more under way to promote circularity within the value chain, the transboundary nature of plastic pollution must be taken into account and an enabling environment must be fostered for all stakeholders to contribute to the change required. This entails ending plastic pollution systemically, by preventing plastic from becoming waste upstream and shifting to circular waste management downstream, promoting the regional harmonization of policies and standards around marine litter management, adopting a human rights-based approach (HRBA) and fostering science-based decision-making.

Despite the numerous challenges that have emerged from the COVID-19 pandemic, the global movement to end plastic pollution has gained momentum. In March 2022, during the fifth session of the United Nations Environment Assembly

(UNEA), 175 nations voted unanimously for a legally binding instrument by 2024 to end plastic pollution. The UNEA (5.2) session calls for interventions that emphasize a full life cycle approach, the adoption of HRBA across the value chain and learnings from the informal and cooperative settings.

A long-term, inclusive solution to the devastating and irreversible impact of plastic pollution on ecosystems, the climate and livelihoods requires strengthening international coordination, cooperation and governance, which have been clearly outlined in the fifth session of the UNEA. The call for acceleration solutions (a result of SEA of Solutions 2021) necessitates structural transformations, collective action, mobilizing impact investments and engaging youth and communities, among others. At a regional level, a bridge to consolidate national priorities within ASEAN can support convening key stakeholders, building synergies, sharing techniques and skills, demonstrating solutions and accelerating efforts.



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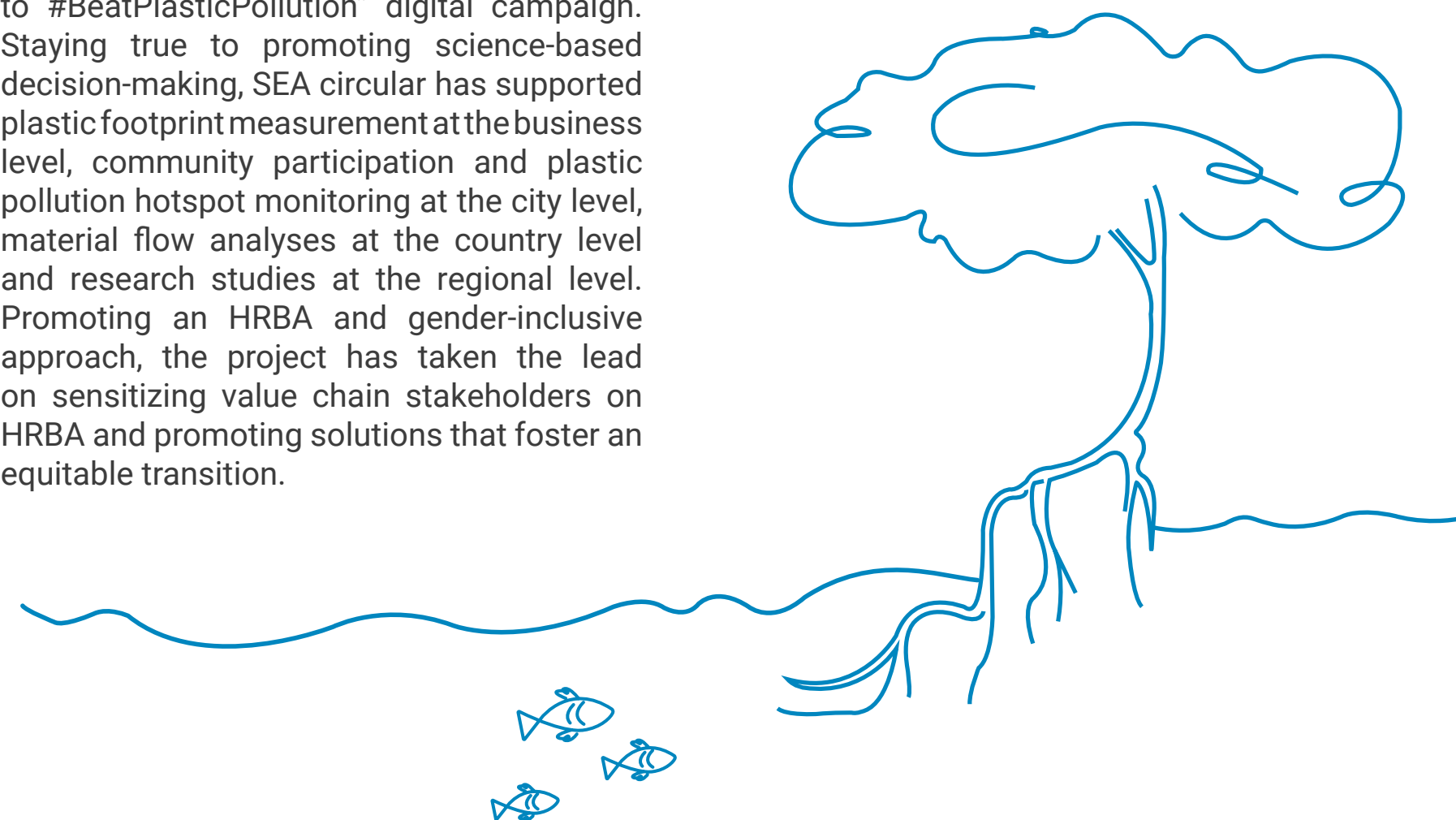
## 1.2 ABOUT SEA circular

The SEA circular project is implemented by the UNEP Regional Office for Asia and the Pacific and the Coordinating Body on the Seas of East Asia (COBSEA), with funding support from the Government of Sweden. It aims to reduce plastic pollution and its impact by working with governments, businesses, civil society, academia and international partners.

Through its implementation, SEA circular prioritizes market-based solutions and enabling policies that drive circularity in the plastic value chain through institutional partnerships to strengthen science-based decision-making; regional capacity-building and networking; national government coordination; and regional mechanisms to tackle the transboundary challenges of marine litter.

The overall aim of the SEA circular project as represented in its framework is to ensure that less plastic is wasted and that significant reductions are made in the input to and impact on the marine environment and its dependent people in South-East Asia.

The SEA circular project has actively supported the identification and promotion of a series of market-based solutions through private-sector engagement and its annual flagship conference called SEA of Solutions. Deploying broad yet focused awareness campaigns, the project has touched and influenced over 20 million youth and engaged over 1 million of them through its “100 Days to #BeatPlasticPollution” digital campaign. Staying true to promoting science-based decision-making, SEA circular has supported plastic footprint measurement at the business level, community participation and plastic pollution hotspot monitoring at the city level, material flow analyses at the country level and research studies at the regional level. Promoting an HRBA and gender-inclusive approach, the project has taken the lead on sensitizing value chain stakeholders on HRBA and promoting solutions that foster an equitable transition.





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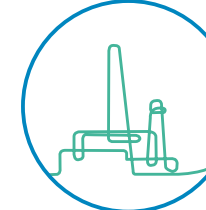
## 1.3 ABOUT THE KNOWLEDGE COMPENDIUM

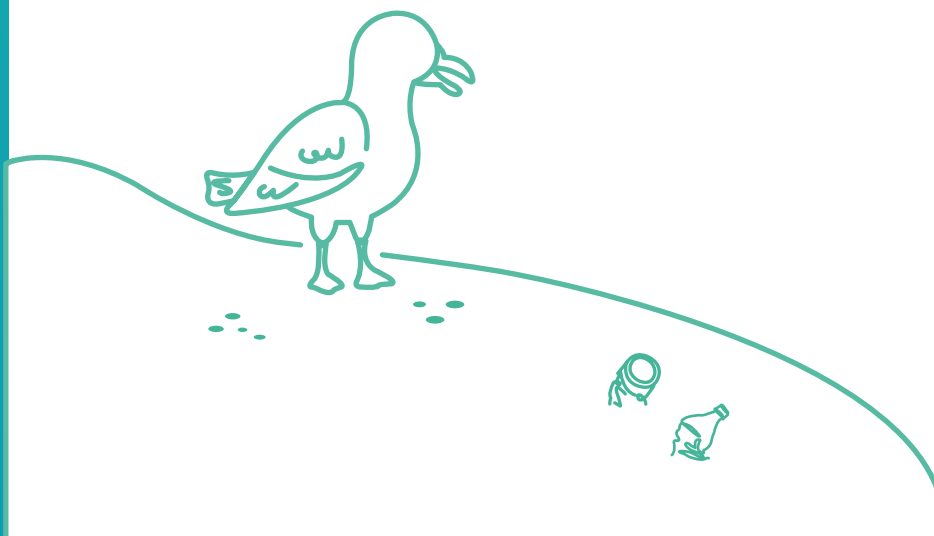
This knowledge compendium has been developed to serve as a useful reference compiling all the publications that SEA circular and its partners have released as at December 2021. The compendium supports the project's objective of bringing the learnings and experiences of SEA circular together into a solutions report that highlights case studies, pilot reports and relevant learnings to share progress, advocate for and bolster actors that are initiating, replicating or scaling up circularity initiatives in the plastic value chain.

These publications have been linked to the 10 acceleration solutions identified during the SEA of Solutions 2021 conference and agreed by the ASEAN Member States, resulting from collective and constructive dialogue among key stakeholders in the sector.

-  **20** publications
- Linked to **10** ACCELERATION SOLUTIONS
- Covers interventions in  **6** ASEAN countries

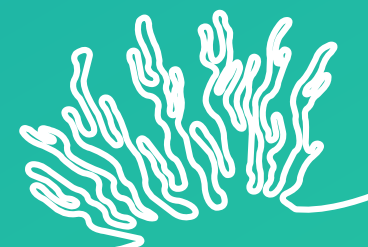
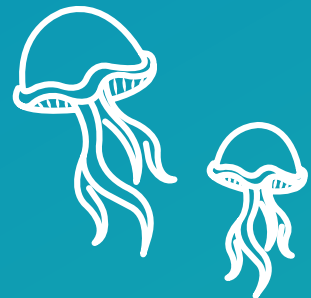
### Addresses audience across the plastic value chain

-  Practitioners
-  Business owners
-  Policymakers
-  Industry associations
-  Civil society



02

10 ACCELERATION SOLUTIONS TO  
END PLASTIC POLLUTION  
– A KEY ADVOCACY



## 2. 10 acceleration solutions to end plastic pollution – A key advocacy

## 2. 10 acceleration solutions to end plastic pollution – A key advocacy

The 10 acceleration solutions were identified during the SEA of Solutions as part of a collective and constructive dialogue among key stakeholders in the sector. This subsection discusses these 10 cross-cutting acceleration solutions and their relevance to enabling a circular economy and ending plastic pollution. In addition, it captures some of the key interventions and outcomes that SEA circular continues to support and feature.

Each of the publications in the compendium shows how it is linked to one or more of these acceleration solutions, highlighting the symbiotic approach of SEA circular and its advocacy.

### 10 ACCELERATION SOLUTIONS





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# 01

## Enhancing collective responsibility

To overcome our plastic crisis, actors across private and public sectors need to increase their ambitions and move away from the linear and disposable culture and towards circularity. Countries have set out clear road maps for commitments in their action plans to guide management measures developed to tackle plastic issues. To drive this change, we need actions across the region from communities, governments and the informal economy (SEA circular 2021).

Aligned with this solution, SEA circular actively contributed to the proliferation of COBSEA's Regional Action Plan on Marine Litter (RAP MALI) to guide national efforts towards developing effective policies and measures to prevent and reduce marine litter. SEA circular also supported the development of [Malaysia's National Marine Litter Policy and Action Plan \(2021–2030\)](#) and engaged businesses in plastic footprint disclosure and plastic neutrality through round tables and commitment frameworks.



# 02

## Mobilizing impact investments

Mobilizing investment is key to addressing the huge financial gap for the solutions required to help solve the plastic crisis amid the COVID-19 recovery and beyond. Public-private partnerships and blended finance can help boost and de-risk investment in circular innovation. Moreover, the engagement of the private sector and multilateral institutions need to go beyond direct funding and encompass a broader range of interventions to mobilize investments, particularly in small-to-medium enterprises (SEA circular 2021).

SEA circular facilitated the leveraging of additional funds and commitments from public and private partners to address plastic waste and marine litter management by actively engaging different stakeholders during its annual series of events called [SEA of Solutions](#), and through other broad efforts with State actors and development institutions.



## 2. 10 acceleration solutions to end plastic pollution – A key advocacy



03

LEVERAGE ON PARTNERSHIPS

### Leveraging on partnerships

Partnerships, transboundary cooperation, best practice examples and knowledge exchange are all supporting and enabling collective actions to test, innovate and demonstrate effective solutions. Producer responsibility organizations play a part in connecting actors along the value chain and filling gaps in waste management infrastructure. Novel solutions led by partnerships are overcoming barriers to enable technical, operational, financial and business model solutions. Partnerships and collaborations can lead to the scaling up and acceleration of solutions (SEA circular 2021).

Through regional partnerships and regular networking, SEA circular intensified knowledge-sharing and executed joint activities with the ASEAN Secretariat and ASEAN Working Groups leveraging synergies towards marine litter planning. They also co-organized a series of [SEA of Solutions](#) events with committed national governments, paving the way for organizations and experts to establish new partnerships.



04

ACT FOR NATURE

### Acting for nature

Nature-based solutions play a key role in addressing climate change and building resilient societies and communities. Investments for nature-based solutions should also integrate plastic waste reduction and community-based solutions, which eventually will be the key to meeting global biodiversity, climate, food security and COVID-19 recovery challenges. There is also an increasing need to review financial practices to bring security to the plastic credit market and simultaneously de-risk circular economy investments to make them more viable and accessible so that local projects of any size and scope can be successful (SEA circular 2021).

SEA circular acknowledges scalable good practices coming out of a region to contribute to nature-based solutions, such as the [alternative food packaging products](#) from Gracz and the [campaigns promoting sustainability throughout the food delivery value chain](#) from Gojek, as featured in its various platforms, including SEA of Solutions.





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# 05

## Engaging communities and youth change-makers

To fight plastic pollution, an inclusive partnership between youths, members of society, informal sectors and vulnerable members of the community is necessary. Young people especially should have a greater voice in decision-making on environmental management and pollution control, as their future will be the most vulnerable to polluted ecosystems. To engage young women and men in environmental issues, policymakers and businesses could use creative ways to tackle climate apathy and incite empathy for the impact of plastic waste. One necessary step in this direction would be to generate greater visibility for the Youth Heroes in the Asia-Pacific region (SEA circular 2021).

During their [100 Days to #BeatPlasticPollution Campaign](#), [SEA circular](#) featured stories of over 30 South-East Asian sustainability advocates, reached over 20 million people over 100 days and engaged more than 1 million people in 45 countries. The project has actively supported a citizen-science approach in national monitoring programmes and has acknowledged the significance of adopting an HRBA for a circular plastic value chain.



# 06

## Circularity

Sustainable alternatives to single-use plastic should be more visible, accessible and affordable, and policymakers must be mindful that genuinely circular solutions do not replace one disposable material with another. A range of industries are beginning to repurpose plastic destined for landfill, which is a positive step towards functional circularity (SEA circular 2021).

Building on regional hotspot modelling and field surveys, SEA circular has facilitated in-depth on-site assessments of plastic waste and marine litter accumulation hotspots in several South-East Asian countries. In addition, the project promoted circular models of plastic waste management at the city level by capturing the case study of [Petaling Jaya's tax rebate scheme](#).



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## 07 Enabling policy

Government policies can both incentivize behavioural change and penalize harmful environmental actions to drive down plastic consumption. Extended Producer Responsibility schemes, although still in preliminary stages in South-East Asia, are considered a crucial and necessary part of the solution to packaging waste and pollution. As long as these schemes remain voluntary, enforcement will be difficult, making regulation all the more critical. During the [SEA of Solutions 2021](#) sessions, it was echoed that recycling is not sufficient to solve plastic pollution and that stakeholders and actors must focus on eliminating single-use packaging (SEA circular 2021).

SEA circular's core objective is to promote science-based decision-making to drive circularity in the plastic value chain. The project works closely with the World Wide Fund in the Philippines and the Indonesia Business Council for Sustainable Development in Indonesia to support the national agencies in facilitating an enabling environment for rolling out a market-centric Extended Producer Responsibility scheme.

Its work with COBSEA will help develop key instruments that encourage countries to consider the transboundary nature of plastic pollution while developing national action plans. The hotspot assessments of waste leakage that were conducted during the project in partnership with the United Nations Human Settlements Programme (UN-Habitat) have significantly helped address data gaps for effective interventions in the region.



## 08 Education, sharing and communicating

Policy is important but education is key. To catalyse behavioural change, language used to communicate to consumers must resonate with the local context. Greater efforts should also be made to communicate messages about the risks of plastic waste and the potential solutions at the local level to ensure greater success (SEA circular 2021).

Apart from running an impactful social media campaign addressing youth and change-makers, SEA circular has actively gathered and acknowledged key stories such as the community-level communication interventions implemented in Indonesia and the Philippines by local companies to bring about step change in circular thinking.





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## 09 Embracing innovation

Greater collaboration is needed between the public and private sector to scale up innovative plastic packaging solutions so that they are affordable and can be responsibly repurposed in developing countries that are still in the nascent stages of recycling plastic. Private-sector incubators are key to supporting start-ups that are developing circular solutions, but do not have the expertise to scale them (SEA circular 2021).

SEA circular's innovative collaboration with UN-Habitat to measure plastic pollution using the Waste Wise Cities Tool demonstrates the utility of technology to help scale such efforts in the future. The zero waste solution that was recognized and featured during the dialogues in the Philippines reflects innovation across the value chain from the design stage to the end-of-life stage.



## 10 Cities are solution leaders

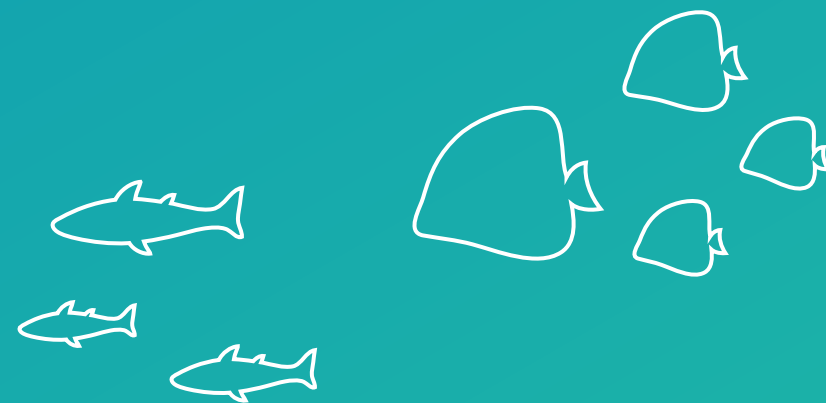
Asian cities are buckling under the pressure of managing waste amid rapid urbanization and population growth. Cities are also where solutions to plastic waste are created and scaled and succeed or fail, as their ports serve as hubs for the global trade in waste. Progress happens when all levels of the community are engaged, from children in schools to informal waste-pickers who are instrumental in the sorting of waste (SEA circular 2021).

SEA circular facilitated a series of pilot demonstrations to increase collection, sorting and recycling at the city level, including in Petalung Jaya and Penang, which showed successful models of tax rebate, the role of the private sector, community-based approaches and public-private partnerships, as well as the vital role of the informal sector in waste management and addressing plastic waste. Its application of the Waste Wise Cities Tool to assess sources, flows and pathways of plastic pollution from land-based activities in municipalities evidences the commitment and impact that cities can make in bringing circularity to life.



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## COMPENDIUM



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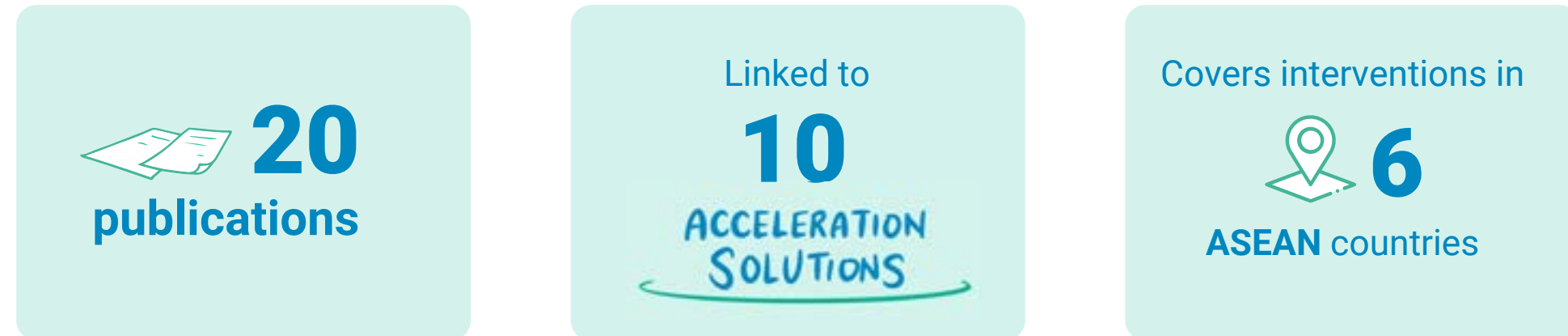
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The 20 publications developed by the SEA circular project and its partners (as of December 2021) have been compiled here and linked to the 10 acceleration solutions to end plastic pollution.

These publications include good practices promoting plastic circularity, **issue briefs**, **non-technical handbooks**, **toolkits** and **project reports**.



For easy reference and access, you will find the list of publications in the next page.

Click on any of the titles to learn more before viewing the full publication online.

You can also find out more about the acceleration solutions by clicking on any of them linked to each publication.





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#### 1. Marine Plastic Litter in East Asian Seas: Gender, Human Rights and Economic Dimensions

Publication type: [Non-technical handbook](#)

Year: [2019](#)

Partners involved: [No external partners](#)

States and businesses are the main duty-bearers in addressing the problems posed by marine plastic litter, from its production to its eventual leakage into the environment and ocean. They are obligated to ensure that they comply with international human rights standards at all levels of government while integrating the principles of accountability, access to remedies, participation and non-discrimination. Responsible private-sector actors must also follow protocols set out by governments and ideally do their part beyond what is legally required to reduce the adverse effects of marine plastic litter.

This report fills and identifies some of the existing information gaps by providing a synthesis of social and economic impacts within the frameworks of gender and human rights. The information emerging from this report adds credence to the science-based evidence necessary for inclusive action on marine plastic litter.

Learn more about the findings and instruments that could empower governments and businesses to address the adverse effects of mismanaged plastic.

#### Acceleration solutions



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#### 2. The Role of Packaging Regulations and Standards in Driving the Circular Economy



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## 2. The Role of Packaging Regulations and Standards in Driving the Circular Economy

Publication type: [Non-technical handbook](#)

Year: [2019](#)

Partners involved: [GA Circular](#)

The evolution of packaging policies stems from global challenges that countries face. We face a dual challenge: population growth has led to a concomitant increase in per-capita consumption and waste generation, while existing municipal waste management infrastructure has failed to keep up with the change. Most of the plastic packaging waste ends up in landfill or, worse, leaks into the environment – particularly the marine environment. To confront this crisis, packaging policies must address the intersecting challenges of increasing plastic waste and the limitations of existing municipal waste management infrastructures.

This report aims to review the packaging policy interventions to address this challenge with a particular focus on ASEAN.

### Acceleration solutions



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## 3. Circular Solutions for Plastic Pollution: Influencing Value Chains to Reduce Plastic Use



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### 3. Circular Solutions for Plastic Pollution: Influencing Value Chains to Reduce Plastic Use

Publication type: [Other \(Good practice\)](#)

Year: [2020](#)

Partners involved: [No external partners](#)

This case study features the solutions developed by Six Senses, a luxury resort company that is wholly committed to sustainable hospitality. Built on the basis of reducing plastic “items” from its entire operations, Six Senses’ 18 hotels successfully eliminated or avoided the use of 5.15 million pieces of plastic in 2019. Extending the challenge to its supply chain and pushing the boundaries of innovation for alternative materials, Six Senses has completely avoided plastic bags and expanded polystyrene foam boxes.

Learn more about Six Senses’ model, its challenges, and its way of moving forward to create more impact and become plastic-free while enhancing the experience of their guests.

#### Acceleration solutions



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### 4. Circular Solutions for Plastic Pollution: An Ecosystem Business Model for Small Communities and a Renewed Sense of Value towards Plastic



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#### 4. Circular Solutions for Plastic Pollution: An Ecosystem Business Model for Small Communities and a Renewed Sense of Value towards Plastic

Publication type: [Other \(Good practice\)](#)

Year: [2020](#)

Partners involved: [No external partners](#)

“The right to produce is a business issue. It is lending businesses’ credibility by offsetting, which can be controversial. I explain it as being a company’s last resort: do everything you can first, then become neutral.” – Louise Hardman, Founder and CEO of Plastic Collective

This case study features Plastic Collective and its strategy for market transformation that involves coordinating both the supply and demand sides for recycled plastic. Plastic neutrality sits at the core of their business model.

Learn more about the business model that tackles both supply and demand, challenges faced in implementing, impacts to scale and the way forward.

#### Acceleration solutions



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#### 5. Status of Research, Legal and Policy Efforts on Marine Plastics in ASEAN +3: A Gap Analysis at the Interface of Science, Law and Policy



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#### 5. Status of Research, Legal and Policy Efforts on Marine Plastics in ASEAN +3: A Gap Analysis at the Interface of Science, Law and Policy

Publication type: [Toolkit](#)

Year: [2020](#)

Partners involved: [Centre for International Law, National](#)

This report is the result of a comprehensive study of over 370 scientific publications on pollution from marine plastics in ASEAN+3 that were published between 2001 and 2019. Packaged as a two-part product, the report covers a summary of the research review and a gap analysis between scientific research and the information needs for policymaking purposes.

Learn more about the landscape of reports and research materials available on the topic of marine pollution.

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#### 6. Perceptions on Plastic Waste: Insights, Interventions and Incentives to Action from Businesses and Consumers in South-East Asia



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## 6. Perceptions on Plastic Waste: Insights, Interventions and Incentives to Action from Businesses and Consumers in South-East Asia

Publication type: [Project report](#)

Year: [2020](#)

Partners involved: [Food Industry Asia](#); [AlphaBeta Advisors](#)

This report outlines the findings from surveys targeting consumers and food and beverage businesses in Indonesia, Malaysia, the Philippines, Thailand and Viet Nam with the aim of understanding how they perceive plastic waste issues and how they are currently tackling them, as well as perspectives on how to best tackle plastic waste. The study revealed interesting insights across stakeholder groups and will be followed up with another study in 2022 to understand the change in perception during this period.

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## 7. A Human Rights-Based Approach to Preventing Plastic Pollution – SEA Circular Issue Brief 01



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## 7. A Human Rights-Based Approach to Preventing Plastic Pollution – SEA Circular Issue Brief 01

Publication type: [Other \(Issue brief\)](#)

Year: [2020](#)

Partners involved: [No external partners](#)

Protecting our environment and ecosystems is vital to human well-being and the enjoyment of human rights, including the rights to life, health, an adequate standard of living, access to adequate food and to safe drinking water. A major environmental threat of growing concern in the East Asian Seas region is marine litter. Plastic pollution is detrimental to marine life, human health and coastal ecosystems – many of which fuel local tourism and fisheries – and further exposes shoreline settlements to storms and rising sea levels. The human rights consequences of environmental damage are felt most acutely by disadvantaged segments of society.

This brief gives an overview of the links between human rights, the environment and marine pollution and discusses an HRBA for more equitable and effective marine litter interventions.

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## 8. Gender Equality and Preventing Plastic Pollution – SEA Circular Issue Brief 02





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## 8. Gender Equality and Preventing Plastic Pollution – SEA Circular Issue Brief 02

Publication type: [Other \(Issue brief\)](#)

Year: [2020](#)

Partners involved: [No external partners](#)

By degrading marine and coastal ecosystems, threatening human well-being and human rights, plastic pollution is one of the biggest threats to our planet today. Its impacts are significant and disproportionately affect socially disadvantaged groups, such as women in rural communities and the urban poor, who may be uniquely exposed to environmental threats while facing limited access to social protection and the resources to build resilience.

At the same time, women are important agents of change, whose potential to influence environmental protection remains untapped.

This issue brief gives an overview of the links between gender, the environment and marine pollution and discusses measures to empower women and strengthen equality for more inclusive and effective interventions on marine litter.

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## 9. Circular Solutions for Plastic Pollution: Innovative Local Strategies for Effective Plastic Waste Management Models



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#### 9. Circular Solutions for Plastic Pollution: Innovative Local Strategies for Effective Plastic Waste Management Models

Publication type: [Other \(Good practice\)](#)

Year: [2020](#)

Partners involved: [No external partners](#)

The lack of robust waste management infrastructure, coupled with rapid urbanization and the steady increase in consumption patterns, significantly contribute to the plastic pollution challenge in developing countries. This situation is particularly intensive in peri-urban communities. For one such community in Thailand, that challenge was addressed through a combination of practical interventions, community involvement, sustainable systems and relevant partnerships. This case study demonstrates exemplary approaches to managing plastic within the community, which led to an increase in recycling and a reduction in single-use plastic packaging while improving people’s health and well-being.

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#### 10. Food Delivery: Promoting Sustainability throughout the Food Delivery Value Chain



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## 10. Food Delivery: Promoting Sustainability throughout the Food Delivery Value Chain

Publication type: <a href="#">Other (Good practice)</a>	Year: <a href="#">2021</a>	Partners involved: <a href="#">No external partners</a>
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This case study describes interventions adopted by the ride-hailing giant, Gojek, to integrate the eradication of the surge of single-use plastic waste into its business model – including its drivers, merchants and customers – as plastic demand had increased exponentially during the COVID-19 pandemic. Gojek raised awareness on impacts and benefits, access to sustainable alternatives and acceleration (leveraging innovation) solutions to support its value chain’s transition towards sustainability. Learn more about the challenges, learnings and the impact of Gojek’s future plans to expand the programme from their local community to the rest of the coast.

#### Acceleration solutions



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## 11. Nature-based Food Packaging: Alternatives to Plastic for Packaging Food ▼

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#### 11. Nature-based Food Packaging: Alternatives to Plastic for Packaging Food

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

This case study showcases an alternative to single-use plastic packaging by using bagasse, a nature-based solution developed by Biodegradable Packaging for Environment for its brand, Gracz. The company encountered several challenges including the cost of input material and safety concerns from consumers. On the other hand, the product resulted in employment opportunities and a decrease in plastic waste. To scale up its operations, the company is exploring other raw materials such as coconut fibre, corn and rice husk and water hyacinth.

Learn more about this alternative packaging solution and its social and environmental impacts.

#### Acceleration solutions



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#### 12. Giving Old Clothes New Life: Empowering Inclusivity, and Reusing Plastic



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## 12. Giving Old Clothes New Life: Empowering Inclusivity, and Reusing Plastic

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

This case study showcases a social enterprise in the Philippines, Phinix Textile Recycling (Phinix), which collects hand-me-down, donated or discarded clothing and provides it to shoemakers or weavers to create new products. Unfazed by its current challenges such as limited storage, collection volume, rapid growth and its associated financial crunch, Phinix has already saved over 4,000 kg of textiles from reaching landfills and has helped five shoemakers with livelihood support to mass-produce synthetic fibres from petroleum-derived chemicals.

Learn more about its success so far and a more innovative approach that is under way.

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## 13. Education to Empower: Citizen Science and Education to Empower Communities for Safer and Cleaner Environments



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#### 13. Education to Empower: Citizen Science and Education to Empower Communities for Safer and Cleaner Environments

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

A seemingly simple act can turn into a movement, as showcased by Ten Little Pieces. Providing the younger generation with awareness, and more importantly education, that they can easily consume can go a long way. The Sunshine Coast of Australia had been a point of action for the programme, where different stakeholders began to join, and records showed a decrease in the incidence of cigarette butts by 15–18 per cent. Moving forward, the programme aims to influence local legislation to create more impact in the community.

Learn more about the challenges, impact to scale and future plans of the programme.

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#### 14. Circular Solutions for Plastic Pollution: Measurable Funding Mechanisms that Empower Communities and Clean Oceans



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#### 14. Circular Solutions for Plastic Pollution: Measurable Funding Mechanisms that Empower Communities and Clean Oceans

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

Plastic offsetting is a means of reducing your plastic footprint. Corporations with a high plastic footprint have considered integrating this into their business models. The value of plastic waste is commonly based on the type of plastic and how it is prepared for next use, which means that different intermediaries work between collection and next use. Seven Clean Seas is working on the waste collection and management in Bintan Island, where they established infrastructures such as a materials recovery facility and worked with different stakeholders. One of the main challenges in maintaining plastic recycling infrastructures and management systems is sustainable funding.

Learn more about this innovative business model that connects different stakeholders into tackling marine plastic pollution.

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#### 15. Case Study: Enaleia – Teaching Fishermen how to Fish: Reviving an Industry and dealing with Plastic



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#### 15. Case Study: Enaleia – Teaching Fishermen how to Fish: Reviving an Industry and dealing with Plastic

Publication type: <a href="#">Other (Good practice)</a>	Year: <a href="#">2021</a>	Partners involved: <a href="#">No external partners</a>
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The fishing industry is one of sectors directly impacted by marine plastic pollution. The marine ecosystem is at a considerable risk along with the other actors and services associated with it, particularly fishers and their communities. In areas where plastic outnumbers fish, a company called Enaleia, based in Greece, supplemented their business model with fishing for plastic. This generated more income opportunities for fishers.

Learn more about how this project will benefit from funding and support from companies and create more impact for farmers and coastal communities.

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#### 16. Case Study: TerraCycle – Recycling the "Unrecyclable"



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#### 16. Case Study: TerraCycle – Recycling the “Unrecyclable”

Publication type: <a href="#">Other (Good practice)</a>	Year: <a href="#">2021</a>	Partners involved: <a href="#">No external partners</a>
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Collection, solution and business model development comprise the key steps in the company TerraCycle’s process of recycling, whereby plastic wastes are transformed into an economic incentive for all stakeholders. TerraCycle works with corporations to identify a suitable model for recycling their products. In South-East Asia, the company aims to increase its impact by targeting other waste streams in the riverine and aquatic systems. Moving forward, they aim to involve the informal sector to ensure an inclusive and profitable model.

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#### 17. Circular Solutions for Plastic Pollution: Enabling Hotels to Become more Sustainable through Voluntary Collective Action



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#### 17. Circular Solutions for Plastic Pollution: Enabling Hotels to Become more Sustainable through Voluntary Collective Action

Publication type: [Other \(Good practice\)](#)      Year: [2021](#)      Partners involved: [No external partners](#)

The tourism industry is one of Thailand’s biggest contributors to plastic waste. To address this, Phuket Hotels Association (PHA) had strategically rallied its members to commit to actions to eliminate this threat by providing access to resources to build a better hotel system that decreases plastic waste. One particular hotel was able to stop the use of almost 660,000 single-use plastic water bottles, amounting to THB 500,000 net savings annually.

Learn how PHA encouraged participation from its members in a pre-competitive space, the challenges they had to overcome, the impacts and the way forward for this programme, especially involving other stakeholders.

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#### 18. Circular Solutions for Plastic Pollution: A Plastic Offset Programme is Encouraging Companies to Reduce their Plastic Footprint



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#### 18. Circular Solutions for Plastic Pollution: A Plastic Offset Programme is Encouraging Companies to Reduce their Plastic Footprint

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

This case study features Starboard, a world-leading paddleboard company. The company started to look into its plastic footprint and adapted its discoveries to its business model by incorporating a plastic tax that is allocated to its Plastic Offset Program. Starboard has replaced over 21.2 per cent of virgin plastic with recycled plastic and has reduced its overall plastic consumption by 6.5 per cent by using more biomaterials (recycled plastic, bioresins or natural materials, including end grain balsa wood and pine technology), while increasing its plastic collected by almost 2 per cent in a year.

Learn more about Starboard’s business model, its impact on the communities and the way forward towards plastic neutrality.

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#### 19. 3R (Reduce, Reuse, Recycle) Initiatives: Solving Plastic Pollution at Source – Petaling Jaya’s Assessment Tax Rebate Scheme, Malaysia Case Study



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#### 19. 3R (Reduce, Reuse, Recycle) Initiatives: Solving Plastic Pollution at Source – Petaling Jaya’s Assessment Tax Rebate Scheme, Malaysia Case Study

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

This case study focuses largely on recycling and the role that the Petaling Jaya City Council (MBPJ), as well as the private sector (including Nestlé Malaysia and its partners), play in formalizing recycling collection and increasing the recycling rate in urban areas. Some of the obvious barriers identified include the need to achieve long-term behavioural change but also to change the existing recycling system.

This document covers two specific initiatives to address these problems: (1) the Assessment Tax Rebate Scheme for Eco-Friendly House Owners, which provides households with the awareness and financial incentive to practice all three R’s; and (2) the collaboration between MBPJ, Nestlé Malaysia and its partners, introducing a dedicated door-to-door collection and recycling programme in gated and guarded areas structured as a voluntary Extended Producer Responsibility scheme.

Learn more about the experience, learnings and impact of the initiative from this compilation.

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#### 20. Waste Segregation at Source: Solving Plastic Pollution in Penang – Malaysia Case Study



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## 20. Waste Segregation at Source: Solving Plastic Pollution in Penang – Malaysia Case Study

Publication type: [Other \(Good practice\)](#)

Year: [2021](#)

Partners involved: [No external partners](#)

Penang is the second smallest state in Malaysia and is home to 2 million people. With close to 2,220 tons of plastic waste sent to landfills everyday (as at 2019), the city deployed a community model pilot project that included the Planting Green Community and Sustainable Neighbourhood Development Programme schemes. Targeting a circular economy by promoting the four R's – that is, "Reduce, Recover, Recycle and Repurpose" – the city achieved commendable results. Learn more about the initiative, its impacts, challenges and lessons learned in this case study that supports Malaysia's "Roadmap Towards Zero Single-use Plastics 2018–2030".

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