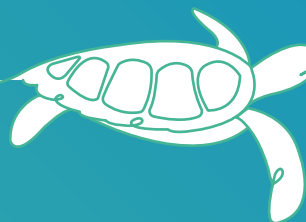


SEA circular

Solving Plastic Pollution at Source in South-East Asia

Resource Deck



Start 

Introduction and acknowledgements

This resource deck contains a range of knowledge products and solutions for addressing plastic pollution in South-East Asia that have been generated as part of the [SEA circular](#) project – Reducing Marine Litter by Addressing the Management of the Plastic Value Chain in South-East Asia. It contains 18 research and assessment reports; 23 inspiring case studies; 21 practical tools and manuals; 6 project country profiles; and 14 videos.

SEA circular is jointly implemented by the United Nations Environment Programme (UNEP) and the Secretariat of the Coordinating Body on the Seas of East Asia (COBSEA), with funding from the Government of Sweden. The beneficiary countries are Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam.

UNEP 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.

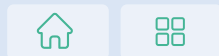
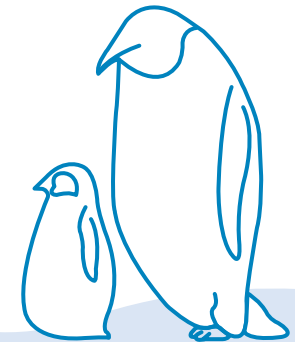
Contact:

Kamala Ernest

Project Coordinator,
United Nations Environment Programme (UNEP)

E-mail: sea-circular@un.org

Website: <https://www.sea-circular.org/>



Contents

1 Research and assessments

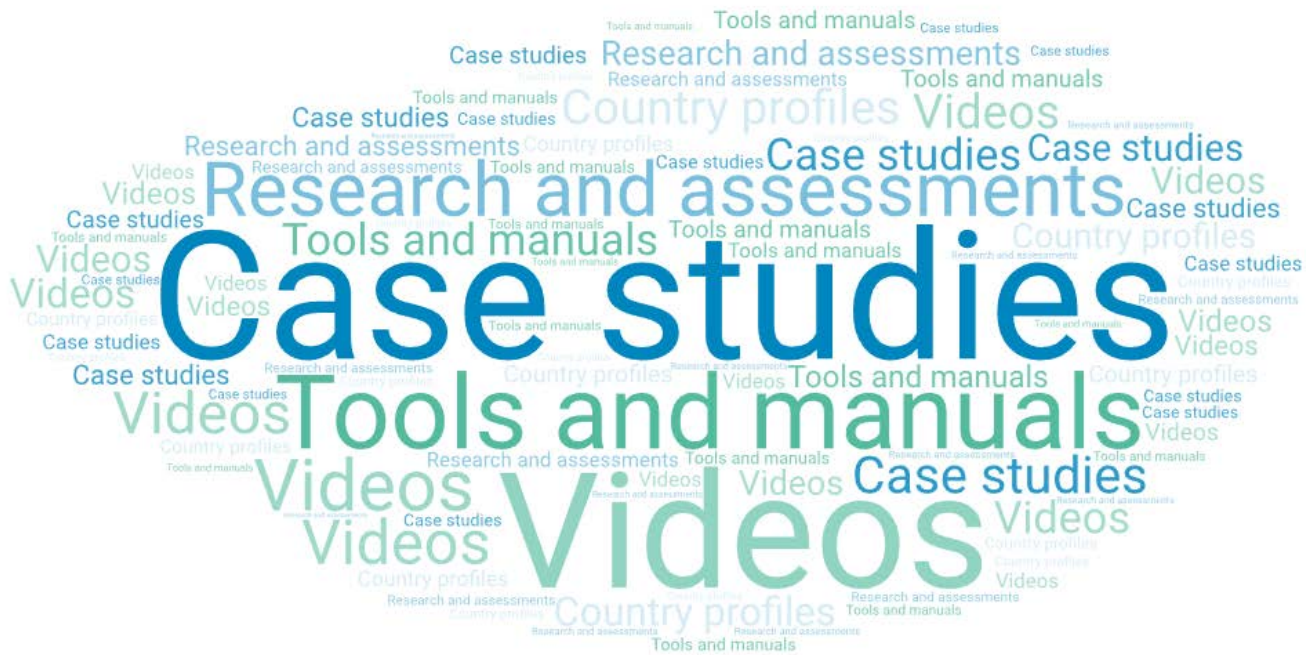
2 Case studies

3 Tools and manuals

4 Country profiles

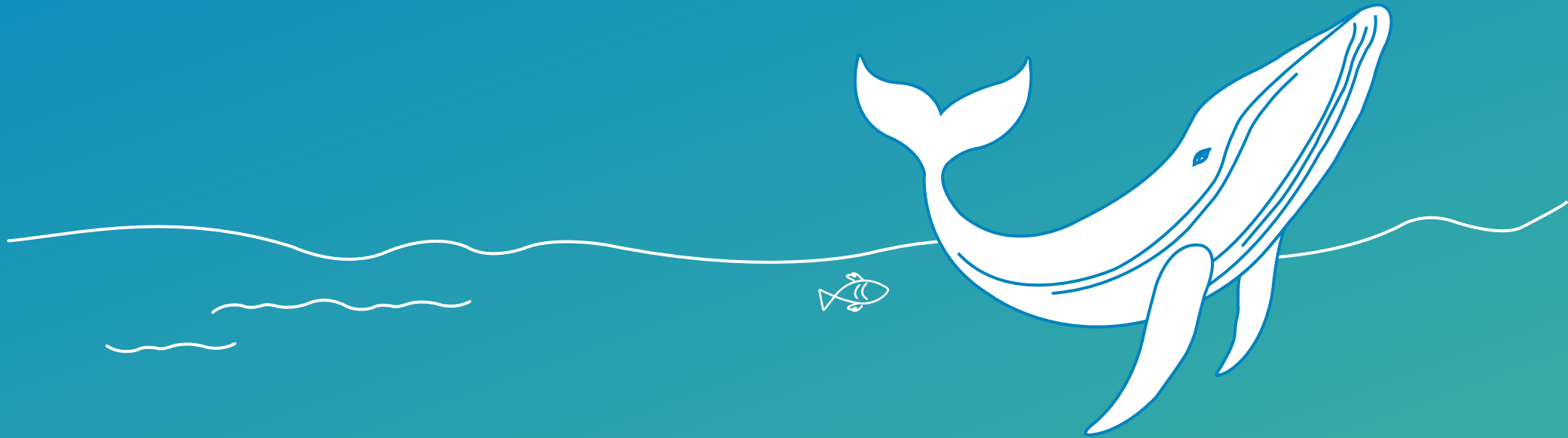
5 Videos





Please use the **arrow buttons** and **icon tabs** to scroll through the knowledge products.





Research and assessments



Marine Litter in Cambodia:

A Situation Analysis and Recommendations for Planning and Action

Working Paper

Marine Litter in Cambodia

Theme: Marine litter monitoring

The purpose of this Situation Analysis is to investigate and articulate the Cambodian context pertaining to marine litter...

[→ Go to publication](#)



Addressing Marine Litter in Cambodia:

National Source Inventory (NSI) Approach

Working Paper

Addressing Marine Litter in Cambodia

Theme: Marine litter monitoring

The National Source Inventory (NSI) report is intended to collect available data in Cambodia on plastic products, lifecycle...

[→ Go to publication](#)



Addressing Marine Litter in the Philippines:

A National Source Inventory (NSI) Approach

Working Paper

Addressing Marine Litter in the Philippines

Theme: Marine litter monitoring

This National Source Inventory (NSI) report identifies sources of available data and knowledge related to marine litter in the Philippines...

[→ Go to publication](#)



UN environment programme

A qualitative study on risks and opportunities of plastic credit financing instruments being introduced into the informal waste management sector
Executive Summary Document
Working Paper

A Qualitative Study on Risks: Executive Summary

Theme: Plastic credits

This study aims to bridge existing research gaps and bring to light a better understanding of plastic credit schemes.

→ Go to publication



UN environment programme

A qualitative study on risks and opportunities of plastic credit financing instruments being introduced into the informal waste management sector
Working Paper

A Qualitative Study on Risks: Working Paper

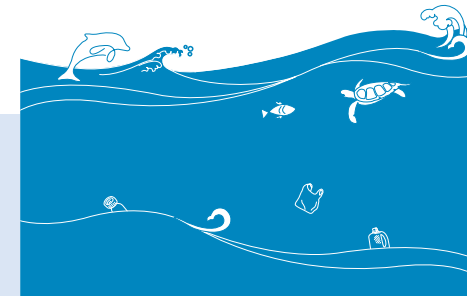
Theme: Plastic credits

This study aims to bridge existing research gaps and bring to light a better understanding of plastic credit schemes.

→ Go to publication



Plastic material flow and value chain analysis (Thailand)
CHULALONGKORN UNIVERSITY



UN environment programme | 50th anniversary | COBSEA | Sweden Sverige

Plastic Material Flow and Value Chain Analysis (Thailand)

Theme: Plastic waste leakage

This study provides the most recent data available on plastic waste management in Thailand, focusing on types of plastic packaging...

→ Go to publication



UN environment programme

Assessing the contribution of plastic credit schemes to reducing plastics pollution and improving recycling
EXECUTIVE SUMMARY
Working paper

Assessing the Contribution of Plastic Credit Schemes: Executive Summary

Theme: Plastic credits

This report seeks to provide a picture of the current plastic credits mechanism as well as recommendations for it to be...

→ Go to publication



UN environment programme

Assessing the contribution of plastic credit schemes to reducing plastics pollution and improving recycling
Working paper

Assessing the Contribution of Plastic Credit Schemes: Working Paper

Theme: Plastic credits

This report is aimed at compiling existing knowledge about plastic credits in order to support the path towards...

→ Go to publication



UN environment programme **COBSEA** **SEA circular** **UN HABITAT FOR A BETTER URBAN FUTURE**

FACTSHEET
Waste Wise Cities Tool in Chonburi, Thailand
WASTE WISE CITIES

In the rapidly urbanizing world, the crisis in waste management and plastic pollution is a reflection of current unsustainable lifestyles. The availability of fact-based data on municipal solid waste can guide evidence-based planning and lead to increasingly effective and efficient solid waste collection systems, enhanced local resource recovery and controlled waste disposal, thereby improving the quality of life for urban residents. UN-Habitat's Waste Wise Cities Tool (WACT) assesses the parameters for Sustainable Development Goal indicator 11.6.1, the proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated, by the city. It consists of seven steps and provides the necessary data to support evidence-based decision making by city managers. **Together we can achieve a sustainable future.** Have a look at the Waste Wise Cities website, learn about the WACT and how its application enabled impact on the ground in other cities.

City: Chonburi
Country: Thailand
Population: 1,948,338 (2021)
Year of WACT Survey: 2021

Key Waste Data

- Total municipal solid waste (MSW) generated by the city: 2418 t/d
- Total MSW collected: 2374 t/d (98%)
- Total MSW collected and managed in controlled facilities: 894 t/d (37%)
- Per capita MSW generation: 1.23 kg/cp/d
- Per capita household food waste generation: 0.29 kg/cp/d
- City Recovery Rate: 26%

Waste Wise Cities Tool in Chonburi, Thailand

Theme: Plastic waste assessment

In the rapidly urbanizing world, the crisis in waste management and plastic pollution is a reflection of current unsustainable lifestyles...

→ Go to publication

FACTSHEET
Waste Wise Cities Tool in Hoi An, Vietnam

In the rapidly urbanizing world, the crisis in waste management and plastic pollution is a reflection of current unsustainable lifestyles. The availability of fact-based data on municipal solid waste can guide evidence-based planning and lead to increasingly effective and efficient solid waste collection systems, enhanced local resource recovery and controlled waste disposal, thereby improving the quality of life for urban residents.

UN-Habitat's Waste Wise Cities Tool (WACT) assesses the parameters for Sustainable Development Goal indicator 11.6.1 - the proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by the city. It consists of seven steps and provides the necessary data to support evidence-based decision making by city managers.

Together we can achieve a sustainable future.
Have a look at the Waste Wise Cities website, learn about the WACT and how its application created impact on the ground in other cities.

City: Hoi An
Country: Vietnam
Population: 96,924 (2020)
Year of WACT Survey: 2021

Key Waste Data

- Total municipal solid waste (MSW) generated by the city: 62 t/d
- Total MSW collected: 61 t/d (99%)
- Total MSW collected and managed in controlled facilities: 60 t/d (98%)
- Per capita MSW generation: 0.64 kg/cap/d
- Per capita household food waste generation: 0.21 kg/cap/d
- City Recovery Rate: 35%

Waste Wise Cities Tool in Hoi An, Vietnam

Theme: Plastic waste assessment

The availability of fact-based data on municipal solid waste can guide evidence-based planning and lead to increasingly effective and efficient solid waste...

→ Go to publication

FACTSHEET
Waste Wise Cities Tool in Kep, Cambodia

Kep city has the great potential for eco-tourism while the inadequate solid waste management is part of the underlying vulnerability to environmental hazards such as flooding and the damage of the terrestrial and marine ecosystems.

Solid waste management is the priority issue to promote the sustainable urbanisation in the city. With technical support from UN-Habitat and the use of Waste Wise City Tool, the city would better understand the most current situation of municipal solid waste in the city and guide better strategic planning.

Ms. Tin Sokea
Governor of Kep Municipality

City: Kep
Country: Cambodia
Population: 21,204 (2021)
Year of WACT Survey: 2021

Key Waste Data

- Total municipal solid waste (MSW) generated by the city: 25 t/d
- Total MSW collected: 15 t/d (58%)
- Total MSW collected and managed in controlled facilities: 0 t/d (0%)
- Per capita MSW generation: 1.20 kg/cp/d
- Per capita household food waste generation: 0.27 kg/cap/d
- City Recovery Rate: 3%

Waste Wise Cities Tool in Kep, Cambodia

Theme: Plastic waste assessment

Kep city has the great potential for eco-tourism while the inadequate solid waste management is part of the underlying vulnerability to...

→ Go to publication

FACTSHEET
Waste Wise Cities Tool in Seremban, Malaysia

In the rapidly urbanizing world, the crisis in waste management and plastic pollution is a reflection of current unsustainable lifestyles. The availability of fact-based data on municipal solid waste can guide evidence-based planning and lead to increasingly effective and efficient solid waste collection systems, enhanced local resource recovery and controlled waste disposal, thereby improving the quality of life for urban residents.

UN-Habitat's Waste Wise Cities Tool (WACT) assesses the parameters for Sustainable Development Goal indicator 11.6.1 - the proportion of municipal solid waste collected and managed in controlled facilities out of total municipal solid waste generated by the city. It consists of seven steps and provides the necessary data to support evidence-based decision making by city managers.

Together we can achieve a sustainable future.
Have a look at the Waste Wise Cities website, learn about the WACT and how its application created impact on the ground in other cities.

City: Seremban
Country: Malaysia
Population: 630,000 (2021)
Year of WACT Survey: 2021

Key Waste Data

- Total municipal solid waste (MSW) generated by the city: 556 t/d
- Total MSW collected: 535 t/d (96%)
- Total MSW collected and managed in controlled facilities: 535 t/d (96%)
- Per capita MSW generation: 0.88 kg/cp/d
- Per capita household food waste generation: 0.28 kg/cap/d
- City Recovery Rate: 11%

Waste Wise Cities Tool in Seremban, Malaysia

Theme: Plastic waste assessment

The availability of fact-based data on municipal solid waste can guide evidence-based planning and lead to increasingly effective and efficient solid waste...

→ Go to publication



FACTSHEET
Waste Wise Cities Tool
in Sihanoukville, Cambodia

WASTE WISE CITIES

Mr. Eam Sain
 Deputy Governor of Sihanoukville Municipality

Key Waste Data

Total municipal solid waste (MSW) generated by the city: 366 t/d	Total MSW collected: 328 t/d (90%)	Total MSW collected and managed in controlled facilities: 0 t/d (0%)
Per capita MSW generation: 1.75 kg/cap/d	Per capita household food waste generation: 0.32 kg/cap/d	City Recovery Rate: 4%

Waste Wise Cities Tool in Sihanoukville, Cambodia

Theme: Plastic waste assessment

Sihanoukville has grown rapidly along with the developments of Sea Ports, Special Economic Zone, Tourism, International Airport...

→ Go to publication

FACTSHEET
Waste Wise Cities Tool
in Tam Ky, Vietnam

WASTE WISE CITIES

Key Waste Data

Total municipal solid waste (MSW) generated by the city: 113 t/d	Total MSW collected: 107 t/d (94%)	Total MSW collected and managed in controlled facilities: 0 t/d (0%)
Per capita MSW generation: 0.92 kg/cap/d	Per capita household food waste generation: 0.12 kg/cap/d	City Recovery Rate: 1%

Waste Wise Cities Tool in Tam Ky, Vietnam

Theme: Plastic waste assessment

In the rapidly urbanizing world, the crisis in waste management and plastic pollution is a reflection of current unsustainable lifestyles...

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SEA circular
 LEAVING NO ONE BEHIND

Identifying plastic waste leakage hotspots and flows in South-East Asia

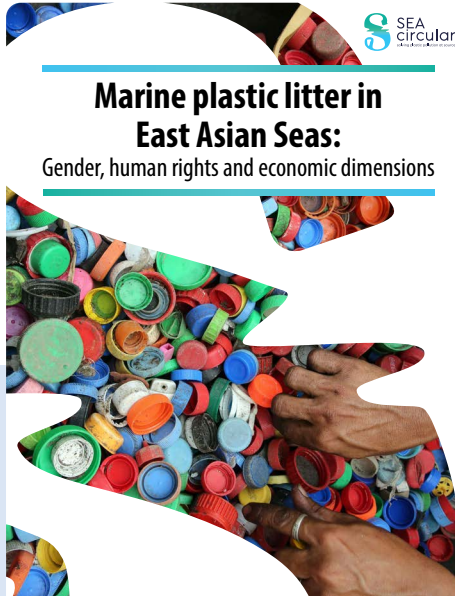
UN environment **5** **COBSEA** **Sweden Sverige** **UN HABITAT**
 FOR A BETTER URBAN FUTURE

Identifying Plastic Waste Leakage Hotspots and Flows in South-East Asia

Theme: Plastic waste assessment

WaCT guides cities and local governments through the steps to assess the environmental performance of a Municipal Solid Waste Management system...

→ Go to publication



SEA circular
Sustainable Economy and Action

Marine plastic litter in East Asian Seas: Gender, human rights and economic dimensions

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

Theme: Human rights and gender equality

This report identifies some of the existing information gaps by providing a synthesis of social and economic impacts and their gender and human rights dimensions...

→ Go to publication



NUS
National University of Singapore

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA

STATUS OF RESEARCH, LEGAL AND POLICY EFFORTS ON MARINE PLASTICS IN ASEAN+3

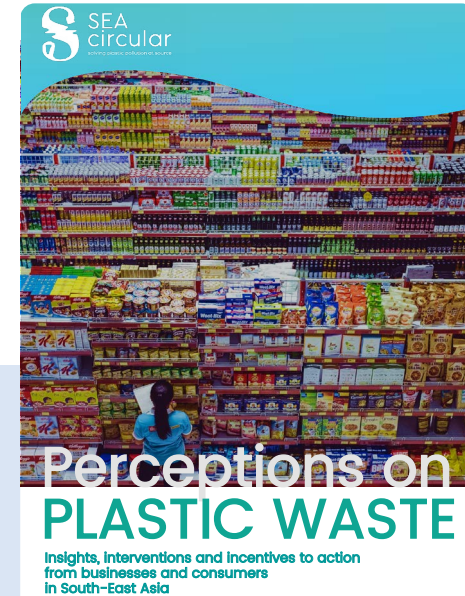
A Gap Analysis at the Interface of Science, Law and Policy

Status of Research, Legal and Policy Efforts on Marine Plastics in ASEAN +3

Theme: Plastic waste assessment

The scope of this study is pollution from marine plastic in Southeast Asia and East Asia, with a focus on the 13 member states of ASEAN+3...

→ Go to publication



SEA circular
Sustainable Economy and Action

Perceptions on PLASTIC WASTE

Insights, Interventions and Incentives to action from businesses and consumers in South-East Asia

Perceptions on Plastic Waste

Theme: Plastic waste assessment

This report outlines the findings from surveys targeting consumers and food and beverage businesses, conducted in Indonesia, Malaysia, Philippines, Thailand and Viet Nam.

→ Go to publication



Case studies



Circular solutions for plastic pollution

Technology-enabled reusable packaging



KoinPack: Technology-enabled Reusable Packaging

Theme: Plastic circularity

Of the 8 million tons of plastics that enter the oceans every year, 600,000 tons are estimated to come from Indonesia...

→ Go to publication



Circular solutions for plastic pollution

Community-based plastic credit solution - a holistic attempt to make coastlines plastic-free



TONTOTON: Community-based Plastic Credit Solution

Theme: Plastic circularity

Plastic waste contributes to 80 per cent of the litter found on Cambodia's beaches and is significantly impacting...

→ Go to publication



Circular solutions for plastic pollution

Turning plastic trash into treasure



Plaf: Turning Plastic Trash into Treasure

Theme: Plastic circularity

The Plaf collects and recycles plastic waste of all types and turns it into a range of construction materials...

→ Go to publication



Circular solutions for plastic pollution

Drinking water system with zero plastic packaging



PT PIPA: Drinking Water System with Zero Plastic Packaging

Theme: Plastic circularity

PT PIPA aims to tackle the dual challenge of plastic and water by addressing "business as usual" practices...

→ Go to publication



Circular solutions for plastic pollution

A micro-business-driven solution for zero-waste communities



WU: A Micro-business-driven Solution for Zero-waste Communities

Theme: Plastic circularity

A large share of the Philippines' fast-moving consumer goods (FMCGs) are accessed through sari-sari stores...

→ Go to publication



Circular solutions for plastic pollution

An incentive model for behaviour change in managing plastic waste



Trash Lucky: An Incentive Model for Behaviour Change in Managing Plastic Waste

Theme: Plastic circularity

Only about 25 per cent of its plastic waste is recycled in Thailand. This is attributed to inefficiencies in the waste collection sector...

→ Go to publication



Circular solutions for plastic pollution

Fostering collaboration for upcycling and circularity in the Philippines



Envirotech: Fostering Collaboration for Upcycling and Circularity in the Philippines

Theme: Plastic circularity

The Philippines is the third largest contributor of plastic pollution, with an estimated 0.75 million metric tons of its mismanaged...

→ Go to publication



Circular solutions for plastic pollution

Sustainable and ethical collection infrastructure for plastic waste



Plastic bank: Sustainable and Ethical Collection Infrastructure for Plastic Waste

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase...

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Circular solutions for plastic pollution

City-university collaboration for plastic-free cities



Iloilo City: City-university Collaboration for Plastic-free Cities

Theme: Plastic circularity

Mismanaged plastic waste continues to pose a challenge in developing countries such as the Philippines. The mismanagement...

→ Go to publication



Food delivery

Promoting sustainability throughout the food delivery value chain

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic is managed in the value supply chain. Circular Economy approaches, including business incentives for plastic reduction and recycling, are used, leading to increases in plastic re-use and recycling, and to the reduction of single-use plastic packaging.

Plastics are widely used as packaging due to their convenience and aesthetic appeal, and as a result of sanitary concerns. With social distancing and the restrictions imposed in response to the COVID-19 pandemic, online purchases with quick deliveries have skyrocketed and the food delivery service and e-commerce sectors have inadvertently become even bigger contributors of plastic waste in South-East Asia.



Food Delivery: Promoting Sustainability Throughout the Food Delivery Value Chain

Theme: Plastic circularity

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic...

→ Go to publication



Nature-based food packaging

Alternatives to plastic for packaging food

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic is managed in the value supply chain. Circular Economy approaches, including business incentives for plastic reduction and recycling, are used, leading to increases in plastic re-use and recycling, and to the reduction of single-use plastic packaging.



Nature-based Food Packaging: Alternative to Plastic Packaging

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase...

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Giving old clothes new life

Empowering inclusivity, and reusing plastic

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic is managed in the value supply chain. Circular Economy approaches, including business incentives for plastic reduction and recycling, are used, leading to increases in plastic re-use and recycling, and to the reduction of single-use plastic packaging.



Giving Old Clothes New Life: Empowering Inclusivity and Reusing Plastic

Theme: Plastic circularity

Circular Economy approaches, including business incentives for plastic reduction and recycling, are used, leading to increases in plastic re-use and recycling...

→ Go to publication



Threshman on peanuts



Education to empower

Citizen science and education to empower communities for safer and cleaner environments

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic is managed in the value supply chain. Circular Economy approaches, including business incentives for plastic reduction and recycling, are used, leading to increases in plastic re-use and recycling, and to the reduction of single-use plastic packaging.



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

Theme: Plastic circularity

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic...

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Circular solutions for plastic pollution

Sustainable funding mechanisms that empower communities and clean oceans

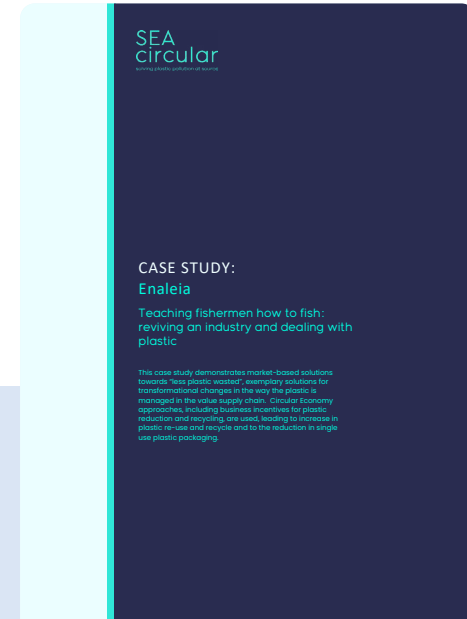


Sustainable Funding Mechanisms that Empower Communities and Clean the Oceans

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase exemplary market-based...

→ Go to publication



Teaching Fishermen How to Fish: Reviving an Industry and Dealing with Plastic

Theme: Plastic circularity

This case study demonstrates market-based solutions towards "less plastic wasted", exemplary solutions for transformational changes in the way plastic...

→ Go to publication

Recycling the Unrecyclable

Theme: Plastic circularity

This case study demonstrates market-based solutions towards “less plastic wasted”, exemplary solutions for transformational changes in the way the plastic...

→ Go to publication

Enabling Hotels to Sustainability Through Voluntary Collective Action

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase exemplary...

→ Go to publication

Local Strategies to Effective Plastic Waste Management Models

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase exemplary market-based...

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Circular solutions for plastic pollution

Influencing value chains to reduce plastic use

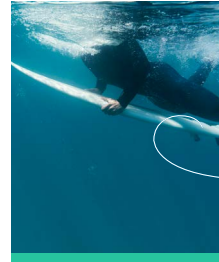


Influencing the Value Chains to Reduce Plastic Use

Theme: Plastic circularity

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase exemplary market-based...

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Circular solutions for plastic pollution

A plastic offset programme is encouraging companies to reduce their plastic footprint

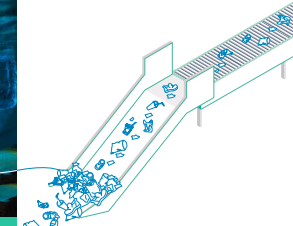


Experiences in Plastic Offsetting

Theme: Plastic circularity

This series captures circular economy approaches, ranging from innovative business models to behaviour change initiatives, to address plastic pollution...

→ Go to publication



Circular solutions for plastic pollution

An ecosystem business model for small communities and a renewed sense of value towards plastic



Ecosystem Business Model for Small Communities and a Renewed Sense of Value Inherent in Plastic

Theme: Plastic circularity

These approaches form part of the SEA circular project's "circularity framework for the plastic value chain..."

→ Go to publication

The cover features logos for UN environment programme, SDG 12, COBSEA, SEA circular, and the Government of Malaysia. It includes an illustration of a house and people recycling, with icons for Paper, Glass, Cardboard, Metal, Plastic, and Used Beverage Cartons. The title is '3R (Reduce, Reuse, Recycle) Initiatives: Solving Plastic Solution at Source in Petaling Jaya' and the theme is 'Plastic circularity'.

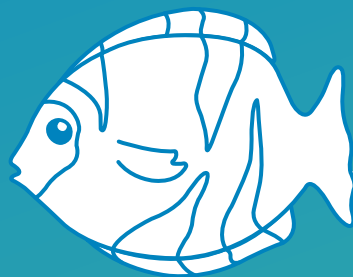
This case study focuses largely on recycling and the role that the government (Petaling Jaya City Council or MBPJ) as well as the private sector...

→ Go to publication

The cover features logos for UN environment programme, SDG 12, COBSEA, SEA circular, and the Government of Malaysia. It includes a photograph of a polluted beach. The title is 'Waste Segregation at Source: Solving Plastic Pollution in Penang' and the theme is 'Plastic circularity'.

This case study on Waste Segregation at Source: Solving Plastic Pollution aims to reduce the usage of single-use plastic, promote waste segregation...

→ Go to publication



Tools and manuals



End Plastic Pollution:
A knowledge compendium for less plastic waste in South-East Asia

UN environment programme

End Plastic Pollution: A Knowledge Compendium for Less Plastic Waste in South-East Asia

Theme: Plastic circularity

This knowledge compendium has been developed to serve as a useful reference compiling all the publications that SEA circular...

→ Go to publication

UN environment programme **COBSEA** **CSIRO** **SEA circular**

Marine Litter Monitoring Methods Handbook, Part I

COBSEA CSIRO Marine Litter Monitoring Methods Handbook Part I

Theme: Marine litter monitoring

The Marine Debris Monitoring Methods Handbook, Part 1 (this handbook) seeks to provide information to participants in...

→ Go to publication

UN environment programme **COBSEA** **CSIRO** **SEA circular**

Marine Litter Monitoring Methods Handbook, Part II

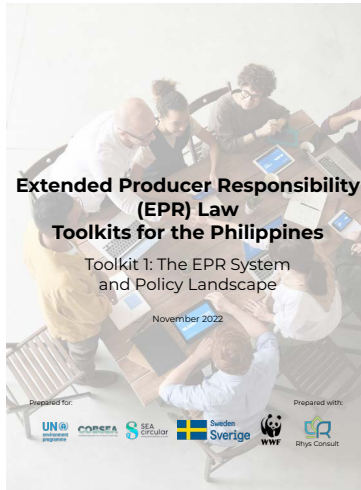
COBSEA CSIRO Marine Litter Monitoring Methods Handbook Part II

Theme: Marine litter monitoring

Languages: English, Khmer, Malay, Tagalog, Thai, Vietnamese

The Marine Litter Monitoring Methods Handbook provides information to participants in COBSEA participating countries...

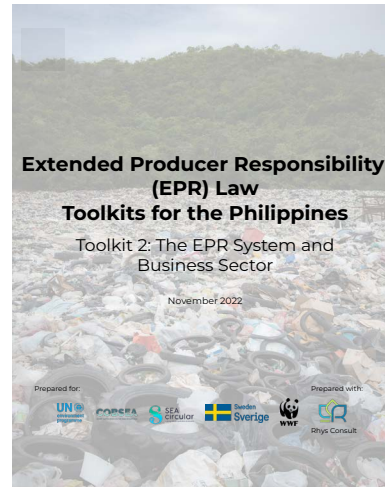
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**Toolkits for the Philippines
Toolkit 1: The EPR System and
Policy Landscape**
Theme: EPR

EPR Toolkit 1 aims to guide policymakers on the nitty-gritty of the EPR Law and how this can be integrated into national and local policies...

[→ Go to publication](#)



**Toolkits for the Philippines
Toolkit 2: The EPR System and
Business Sector**
Theme: EPR

EPR Toolkit 2 aims to guide the business sector on the EPR Law, how to transition into a circular economy, and how this can be integrated...

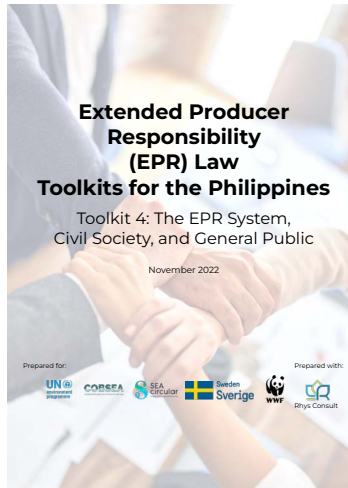
[→ Go to publication](#)



**Toolkits for the Philippines
Toolkit 3: The EPR System and
Waste Management Sector**
Theme: EPR

EPR Toolkit 3 aims to guide the waste management sector on how they can go about their operations with the implementation of the EPR Law...

[→ Go to publication](#)

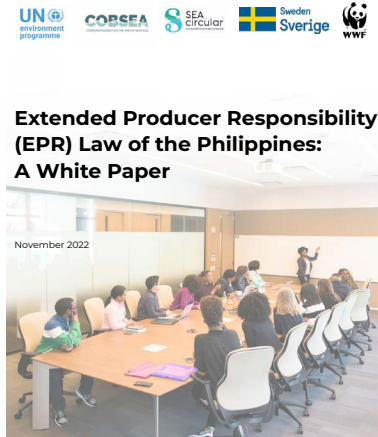


**Toolkits for the Philippines
Toolkit 4: The EPR System, Civil Society, and General Public**

Theme: EPR

EPR Toolkit 4 aims to inform the consumers and general public about the EPR Law and increase their participation in this new scheme...

[→ Go to publication](#)



Extended Producer Responsibility (EPR) Law of the Philippines: A White Paper

Theme: EPR

EPR is an environmental policy approach that encourages plastic waste reduction through (1) the elimination of unnecessary...

[→ Go to publication](#)



Plastics Toolbox: Business, Human Rights, and the Environment

Theme: Human rights and gender equality

Plastic pollution contributes to violations of many internationally recognized human rights including the rights to life....

[→ Go to publication](#)



PLASTICS, HUMAN RIGHTS, AND BUSINESS RESPONSIBILITIES

ISSUE BRIEF, AUGUST 2022



Plastics, Human Rights, and Business Responsibilities Issue Brief

Theme: Human rights and gender equality

A human rights-based approach informed by international human rights law to prevent and manage plastic pollution at each...

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Business, Human Rights and the Environment in South-East Asia: Overcoming the Plastics Challenge

POLICY TRAINING RESOURCE

30 SEPTEMBER 2022

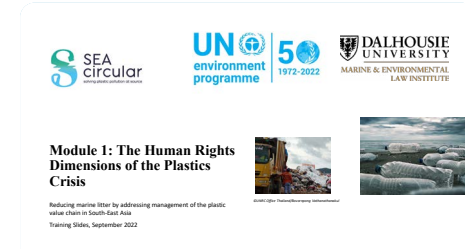


Business, Human Rights and the Environment in South-East Asia: Policy Training Resource

Theme: Human rights and gender equality

The trainings on Business, Human Rights and the Environment: Overcoming the Plastics Challenge are designed to build the...

➔ Go to publication



Module 1: The Human Rights Dimensions of the Plastics Crisis

Reducing marine litter by addressing management of the plastic value chain in South-East Asia
Training Slides, September 2022

Module 1: The Human Rights Dimensions of the Plastics Crisis

Theme: Human rights and gender equality

The primary learning objective of module 1 is to introduce learners to the human rights impacts of each stage of the linear...

➔ Go to publication

Module 2: Plastics, Human Rights & The Environment

Theme: Human rights and gender equality

The primary learning objective of module 2 is to introduce learners to the three key elements of the right to a clean, healthy and...

[→ Go to publication](#)

Module 3: Business & Human Rights (BHR) and Plastics

Theme: Human rights and gender equality

The primary learning objective of module 3 is to introduce learners to business and human rights frameworks, focusing on the...

[→ Go to publication](#)

Business, Human Rights, and the Environment: A Checklist for Responsible Business Plastic Action

Theme: Human rights and gender equality

This Checklist for Responsible Business Plastic Action illustrates practical steps that business enterprises can take to...

[→ Go to publication](#)



Business, Human Rights, and the Environment: Overcoming the Plastics Challenge:

A Checklist for Civil Society

Business, Human Rights, and the Environment: A Checklist for Civil Society

Theme: Human rights and gender equality

This Checklist illustrates practical steps that civil society members can take to advocate for a human rights-based approach to...

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Business, Human Rights, and the Environment: Overcoming the Plastics Challenge:

A Checklist for State Institutions and Government Officials

Business, Human Rights, and the Environment: A Checklist for State Institutions and Government Officials

Theme: Human rights and gender equality

This Checklist illustrates practical steps that state or government institutions and officials can take to implement a human...

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Training Package and Overview

Training Package and Overview: Business, Human Rights and the Environment

Theme: Human rights and gender equality

The trainings on Business, Human Rights and the Environment: Overcoming the Plastics Challenge are designed to build...

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Issue brief 01

A human rights-based approach to preventing plastic pollution



A Human Rights-based Approach to Preventing Plastic Pollution: An Issue Brief

Theme: Human rights and gender equality

The human rights implications of environmental damage are felt most acutely by disadvantaged segments of society, including rural communities...

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Issue brief 02

Gender equality and preventing plastic pollution



Gender Equality and Preventing Plastic Pollution: An Issue Brief

Theme: Human rights and gender equality

This SEA circular Issue Brief gives an overview of the links between gender, the environment and marine pollution and discusses measures to...

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Regional Guidance on Harmonized National Marine Litter Monitoring Programmes

Monitoring Efforts and Recommendations for National Marine Litter Monitoring Programmes

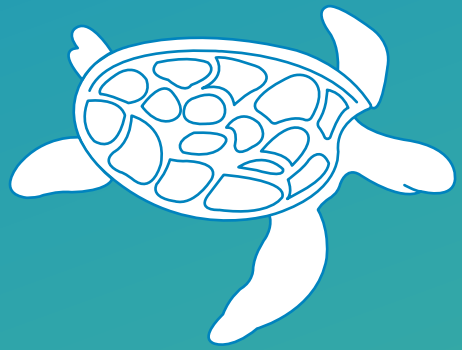


Regional Guidance on Harmonized National Marine Litter Monitoring Programmes

Theme: Marine litter monitoring

This document was developed as part of the SEA circular project – Reducing marine litter by addressing the management of the plastic value chain in...

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Country profiles

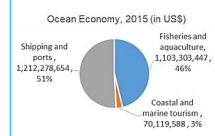




Socio-economic profile
Cambodia's landscape spans low-lying plains, the Mekong Delta, and Gulf of Thailand coastline. The country with a total surface area of 181,038 sq. km, shares borders with Thailand, Viet Nam and Lao PDR. It reached a population of 16.2 million in 2018. The country's population grew by 14% between 2008 – 2018. 24.2% of the total population lives in urban areas. Despite an average annual Gross Domestic Product (GDP) growth rate of over 8% between 2009 and 2019 and about 7% since 2011, Cambodia remains one of the poorest countries in Asia. GDP (Purchasing power parity) in 2017 reached US\$ 64.21 billion, with per capita GDP at US\$4,000 (2017 est.). The services sector contributed the most to the GDP (at 41.9%), followed by industry (at 32.8%), and agriculture (at 25.3%).

The coastal region features beach, forest and strand vegetation, mangroves, including a heliconia dominated swamp forest, estuarine ecosystems, seagrass, coral reef. Cambodia's ocean economy (Gross Value Added or GVA, 2018, in constant prices) was US\$2.4 billion or 16% of GDP.
Threats to Cambodia coastal ecosystem are much the same as those encountered in neighboring countries, including destructive fishing practices, declining water quality, domestic and industrial waste disposal, and habitat destruction. Cambodia praline beach and oceans are littered with plastic wastes affecting Cambodia's coastal wildlife and communities.

Coastal and marine ecosystem and economy
The 440 km coastline of Cambodia covers two of its Provinces (Koh Kong Province and Preah Vihear Municipality bordering Thailand) in the West, Kampong Speuk / Kep Municipality bordering Viet Nam to the east) and constitutes about 7% of its total population. The offshore marine area contains 84 islands, which have a rich marine environment, with coral reefs surrounding almost all of its islands.

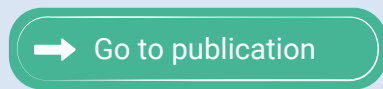


Fisheries and aquaculture
Total fisheries and aquaculture production in 2016 was 75,000 tonnes. The sector provides livelihood and employment to over 2.4 million people. 98% of people in Cambodia depend on fisheries for their livelihoods.
Coastal and marine tourism
In 2016, Preah Sihanouk Province alone welcomed nearly 2.6 million tourists, which generated US\$ 96 million in revenue.
Ports and shipping
Sihanoukville Autonomous Port earned a total revenue of US\$ 70 million in 2016.

SEA circular country profile: Cambodia

Theme: Plastic circularity, marine litter monitoring

This SEA circular country profile for Cambodia covers the socio-economic profile of Cambodia, and the coastal and marine...



Socio-economic profile

Indonesia is one of the largest economies in South-East Asia. The country is an archipelago between the Indian Ocean and the Pacific Ocean, with 17,508 islands. The total surface area of the country is 1,904,862.20 sq. km. It has a population of 200.05 million (in 2018), with an average population growth of 1.3% between 2010-2018. Approximately 56.6% of the population lives in urban areas. As per 2017 estimates, the country's Gross Domestic Product (GDP) was US\$ 1,071 billion (2017 est.) with an annual growth of about 5% at constant 2010 prices. The sectoral contribution to the GDP in 2017 was 41% of services sector, 41% industry, and 13.7% agriculture. The Indonesian economy grew by 5.7% in 2018, and the GDP per capita in 2018 reached to \$3,932.

Coastal and marine ecosystem and economy
The coastline of Indonesia covers a total area of 95,181 km, and about 64% of the total population is the coastal population. Indonesia's coastline represents some of the world's most crucial marine ecosystems. It is home to 71% of coral species, vast mangrove forests and sea grass meadows.



Fisheries and aquaculture
Contributed US\$14.7 billion to GDP in 2015
Coastal and marine tourism
US\$19.2 billion
Ports and shipping
Contributed US\$2.2 billion
Oil and gas
State revenues US\$11.9 billion

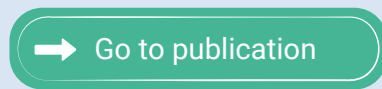
As the world's largest archipelagic nation, Indonesia depends greatly on coastal and marine industries, which account for 23% of the country's GDP and employ more than 35% of its workforce. These coastlines support fisheries and tourism industries as well as livelihoods for thousands of coastal people.
Indonesia's coastal and marine ecosystem faces various environmental issues such as marine and coastal pollution, climate change, overfishing, habitat destruction, and overexploitation of resources. Approximately 82% of Indonesia's reef area is at risk.

Marine plastic pollution is also one of the major threats to Indonesia's coastal and marine environment. Impacts of marine plastic pollution includes the negative socio-economic consequences on marine communities – as fishermen can lose their livelihood and tourism operators lose their customers. Conservative estimates show that the hidden economic costs of plastic bags to Indonesian amount to over US\$2.92 billion each year.

SEA circular country profile: Indonesia

Theme: Plastic circularity, marine litter monitoring

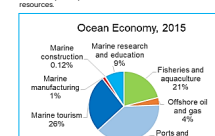
This SEA circular country briefing for Indonesia covers the socio-economic profile of Indonesia, and the coastal and marine...



Socio-economic profile

Malaysia is an industrialized, upper-middle income country in South-East Asia. Malaysia's population is approximately 32.6 million people (2018) with 76.2% of the population living in urban areas. The average annual urban population growth rate (2.7%) is much higher than average annual rural population growth rate (1.2%). The total surface area is 330,290 sq. km. The Gross Domestic Product (GDP) in 2018 was US\$283.82 billion. Malaysia's economy grew 4.7% at 2018 constant prices, as compared to 5.7% in 2017. The services and manufacturing sectors served as the main contributors to the economy (78.1%).

Coastal and marine ecosystem and economy
Malaysia is located in the Indo-Pacific region with its coastlines bordering the Andaman Sea, the Straits of Malacca and Singapore, the Gulf of Thailand, the South China Sea, the Sulu Sea and Sulawesi Sea. The length of the coastline in Malaysia is 8,840 km (2018), and there is a coastal population of 22.3 million. Malaysia is one of the 12 most biologically diverse countries in the world. The country's coast and seas are endowed with a wealth of marine biodiversity, ecosystems, habitats and other natural resources.



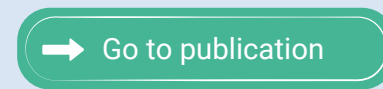
Fisheries and aquaculture
Marine fisheries: US\$21 billion
Aquaculture production: US\$825 million
Coastal and marine tourism
Gross value Added (GVA): US\$595.3 million
Employment: 13,112
Ports and shipping
GVA: US\$226.7

According to a Tarran (out Malaysia (Marine Park of Malaysia) report, Malaysia has a recorded 612 reef building coral species – which is 77% of the total recorded species in the world. In Malaysia, value of marine ecosystems ranges between RM\$9.6 million to RM6.6 billion a year. There are 42 Marine Parks in Malaysia covering an area of 2,681.13 sqkm. These Marine Parks were set up with the principal goal to protect, conserve and manage in perpetuity representative marine ecosystems of significance, particularly coral reefs and their associated fauna and flora. Together they provide for the economic and social needs of the population, serve as coastal protection systems, and generate revenue through tourism. The fisheries industry in Malaysia contributes 1.5% of the national GDP with a value of RM42.7 billion a year. Marine Parks in Malaysia receive an average of 630,000 visitors a year, and generate around RM253 million of spending by tourists annually. The annual value of carbon sequestration provided by coral reefs and mangroves in Marine Parks is estimated between RM85 thousand and RM4.8 million. The contribution of the ocean economy to the country's GDP was valued at 23% in 2015 – through fisheries and aquaculture, ocean energy, ports and shipping, oil and minerals exploitation, and sustainable tourism activities.

SEA circular country profile: Malaysia

Theme: Plastic circularity, marine litter monitoring

This SEA circular country profile for Malaysia covers the socio-economic profile of Malaysia, and the coastal and marine...





1. Status of plastic pollution and waste leakage

Leakage assessment

Thailand is the world's sixth biggest contributor of marine plastic litter. Due to the current waste disposal practices, there is an abundant leakage of plastic waste in water, waste water and drainage system in the country.

About 51,000 tons per year (19%) of the uncollected and improperly disposed plastic waste gets washed into the sea. An evidence of this leakage is found in beach clean-up efforts described in Table 1.

Data from the Ministry of Natural Resources and Environment (MONRE) indicates that out of 2.83 million tons per year of uncollected and improperly disposed municipal solid waste (MSW) from 23 coastal provinces, plastic waste is about 330,000 tons per year (12%).

Reports indicate that the composition of coastal litter in Thailand is 16% plastic bags, 10% plastic cups, 8% rope, 7% straws, 5% paper, 3% cigarette butts, 3% glass bottles, 4% plastic plates / spoons / knives, 4% food waste, and 35% other garbage.

Table 1: Voluntary beach clean-up efforts and items found in Thailand

Country/location	People	Kilograms	Kilometers of coast	Total items collected						
Thailand	3,641	12,504	104.2	57,811						
Cigarette Butts (No.)	Plastic Beverage Bottles (No.)	Plastic Bottle Wrappers (No.)	Food Wrappers (Candy etc) (No.)	Plastic Grocery Bags (No.)	Plastic Lids (No.)	Plastic Straws (No.)	Sticks (No.)	Glass Beverage Bottles (No.)	Other Plastic Bags (No.)	Foam Take-Away Containers (No.)
359	7,198	1,703	2,840	1,566	427	6,083	6,024	704	593	

Coastal and marine ecosystems and impact from plastic pollution

The marine environment along the 3218 km coastline of Thailand is very rich in coastal and marine biodiversity. Plastic pollution (macro and micro) is creating a major impact on the beaches, coral zone and mangrove ecosystem in Thailand. For example a patch of plastic trash almost 10 kilometers long was seen floating off the coast of the Gulf of Thailand in Chumphon province in February 2017. There is no clear pattern of marine distribution of plastics.

However, mass of marine debris are usually found piled on the beaches during monsoon, when the debris were flushed into the rivers and finally washed ashore. A study on microplastic indicated microplastic contamination of three most abundant sessile and intertidal invertebrates (rock oyster, saccolittid gastropod, striped barnacle, botulus amphiprite, periwinkle, littorina sp.). In three beaches of the eastern coast of Thailand, the results showed a significant accumulation of microplastics in the invertebrates at rates of 0.2-0.6 counts/g indicating higher pollution levels along the coastline.

SEA circular country profile: Thailand

Theme: Plastic circularity, marine litter monitoring

This SEA circular country profile for Thailand covers the socio-economic profile of Thailand, and the coastal and marine...

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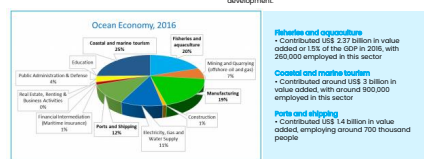
Socio-economic profile

The Philippines is the fourth largest economy in the ASEAN after Indonesia, Malaysia and Thailand. The country is spread across a total surface area of 300,000 sq. km, with a population of 107 million (2018). 47.4% of the total population reside within urban areas.

The country's Gross Domestic Product (GDP) in 2018 was US\$20 billion, with an average annual growth rate of 6.2%. The GDP per capita in 2018 was US\$1,046. In 2017, the sectoral contribution to national GDP was: services (59.8%), industry (30.6%), and agriculture (9.6%).

Coastal and marine ecosystem and economy

The Philippines is an archipelago between the Philippine Sea and the South China Sea. The coastline spans 36,289 km, composed of 7,107 islands, where 92% of total population dwells. In 2018, Philippines coastal economy contributed to 7% of national GDP. The Philippines' marine and coastal ecosystem is facing multiple threats including over fishing, habitat destruction, over-development, pollution, oil spill and more. The Philippines is experiencing clogged waterways, and marine plastic waste in the islands and seas. The closure and rehabilitation of Boracay Island for six months in 2018-2019 is one of the latest example of marine and coastal pollution due to tourism and high-density coastal development.



Fisheries and aquaculture

Contributed US\$ 2.37 billion in value added or 13% of the GDP in 2016, with 260,000 employed in this sector

Coastal and marine tourism

Contributed around US\$ 3 billion in value added, with around 900,000 employed in this sector

Ports and shipping

Contributed US\$ 1.4 billion in value added, employing around 700 thousand people

Plastics and plastics packaging: Production and usage

In 2008, the manufacturing value added by the rubber and plastic products industry in the Philippines amounted to around 36.38 billion Philippine pesos, with approximately 0.4 percent share of the GDP.

The Philippines plastics market is expected to witness a compound annual growth rate (CAGR) of around 5% during the forecast period of 2019-2024.

Plastic production in 2013 was 1,900 metric tons (MT), out of which Polyvinyl Chloride (PVC) was 540 MT, Polyethylene (PE) was 520 MT, Polypropylene (PP) was 480 MT and Polystyrene (PS) was 260 MT.

SEA circular country profile: The Philippines

Theme: Plastic circularity, marine litter monitoring

This SEA circular country briefing for the Philippines covers the socio-economic profile of the Philippines, and the coastal and...

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Socio-economic profile

Viet Nam is the easternmost country on the Indochina Peninsula in South-East Asia, bordering the Gulf of Thailand, Gulf of Tonkin, and South China Sea, as well as China, Laos, PDR, and Cambodia.

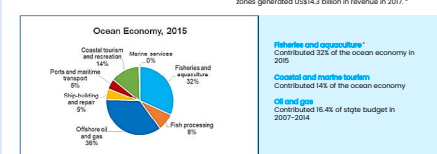
The country has a surface area of 331,210 sq. km. The 2018 population reached 94.7 million, which was an increase of 1.04% from 2017. Thirty-five point seven percent of the population lives in urban areas in 2018.

Viet Nam has transformed its economy from one of the poorest in the world, with per capita income around US\$100, to lower middle income status with per capita income of around US\$2,170 by the end of 2017. The economic growth rate in Viet Nam in 2018 reached 7.31% compared to 6.81% in 2017. The Gross Domestic Product (GDP) at current prices reached 5,442.1 trillion VND in 2018. GDP per capita was estimated at 58.5 million VND in 2018, equivalent to US\$2,590. In 2018, the agriculture, forestry and fishing sector accounted for 14.8% of GDP, the industry and construction sector made up 34.23%, the service sector comprised 41.2%, and the taxes less subsidies on production represented 8.7%.

Coastal and marine ecosystem and economy

Viet Nam has more than 3,000 islands. Excluding these islands, the country has a coastline of 3,444 km, extending through the territories of 24 provinces and cities, which include 27 urban and rural districts, 21 towns and six cities (Ho Long Vinh, Huu Quy, Minh Hoa, Trang, Hung Hoa). Ho Long Rey is the world natural heritage site and Cat Ba is a world biosphere reserve. Approximately 21% of the total population lives in the north and central coastal areas. The coastal population of Viet Nam has increased by over 25% in the last 25 years due to internal migration and population growth. In addition, people are increasingly using coastal areas for leisure and recreation, with a significant growth of the coastal tourism industry. More than 70% of leisure and tourist destinations in Viet Nam are located in coastal areas, attracting annually 80% of total tourist numbers.

Viet Nam owns plentiful and diverse marine resources providing the development of sea-based economy in multiple sectors, such as the oil and gas, tourism, fisheries, and sea transport. All contribute significantly towards the livelihoods for the coastal population, but also contribute 30.1% to the national GDP in 2017. The 17 coastal economic zones generated US\$14.2 billion in revenue in 2017.



Fisheries and aquaculture

Contributed 32% of the ocean economy in 2015

Coastal and marine tourism

Contributed 14% of the ocean economy in 2015

Oil and gas

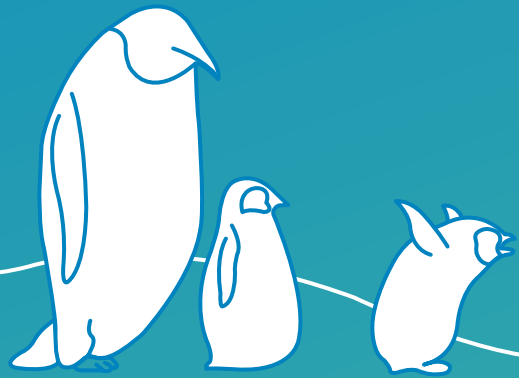
Contributed 16.4% of state budget in 2007-2014

SEA circular country profile: Viet Nam

Theme: Plastic circularity, marine litter monitoring


This SEA circular country briefing for Viet Nam covers the socio-economic profile of Viet Nam, and the coastal and marine...

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Videos






Fight plastic pollution in the country

A Call to #BeatPlasticPollution in Viet Nam

Theme: A call to action

The #BeatPlasticPollution campaign video for Viet Nam.

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Leveraging science-based solutions

A Call to #BeatPlasticPollution in Thailand

Theme: A call to action

The #BeatPlasticPollution campaign video for Thailand.

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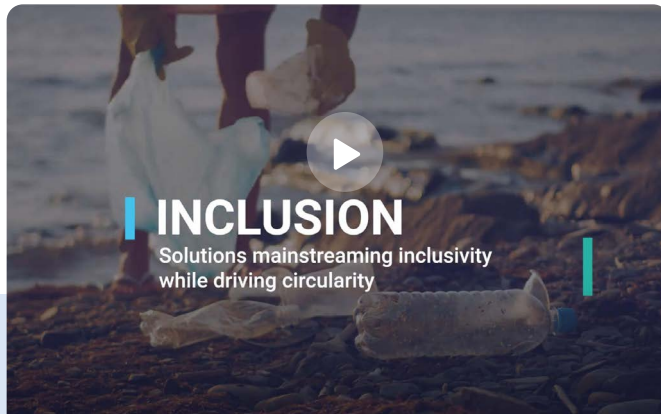


A Call to #BeatPlasticPollution in Malaysia

Theme: A call to action

The #BeatPlasticPollution campaign video for Malaysia.

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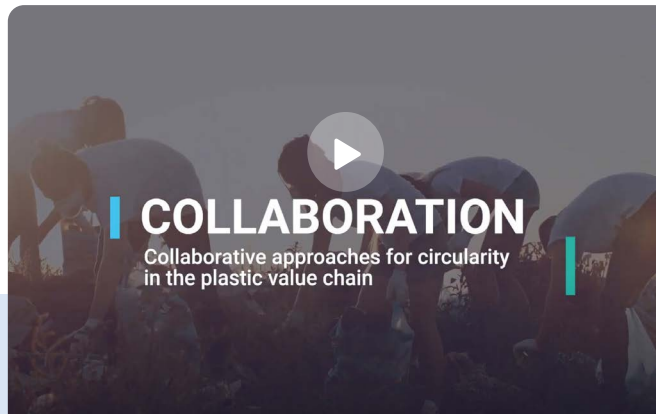


SEA of Solutions 2022 – Spotlight Inclusion

Theme: Plastic circularity

Inclusion across the plastic value chain entails the empowerment of marginalized groups and communities.

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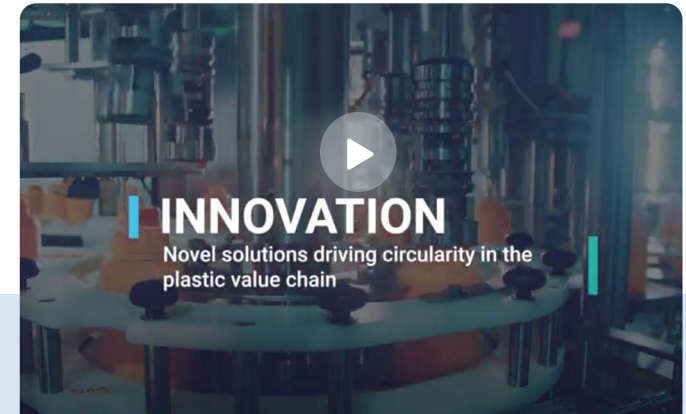


SEA of Solutions 2022 – Spotlight Collaboration

Theme: Plastic circularity

Meaningful partnerships are critical to ensure an efficient and effective transition to circular economies.

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SEA of Solutions 2022 – Spotlight Innovation

Theme: Plastic circularity

Focus on zero plastic bottles, transforming marine litter and nature-based food packaging.

→ Go to video

COMMIT

Join 100 days to #BeatPlasticPollution

Theme: Eliminate single-use plastic

Change your everyday habit today, and keep that habit for life.

→ Go to video



PLASTIK

Theme: Eliminate single-use plastic

Our future is in our hands. Say no to single-use plastic.

→ Go to video



Plastic pollution is a by-product of fundamental flaws in an essentially

A spotlight on solutions

Theme: Plastic circularity

Hear from exemplary solutions at the fore of transforming linear systems into circular economies.

→ Go to video



1

2

3

4

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Plastic pollution solutions

Theme: Plastic circularity

Plastic waste travels thousands of kilometres to end up incinerated, dumped and leaked into rivers and seas.

→ Go to video



Plastic pollution solutions

Theme: Eliminate single-use plastic

What if less money was spent on inadequate management of plastic pollution, and more on solutions?

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SEA of Solutions 2019

Theme: Plastic circularity

There's a SEA of solutions to #BeatPlasticPollution in South-East Asia.

→ Go to video



SEA of Solutions 2021

Theme: Plastic circularity

Reducing plastic waste as we build back better.

→ Go to video



Rights and responsibilities

Theme: Social awareness and inclusion

Promoting action along the value chain to leave no one behind.

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