

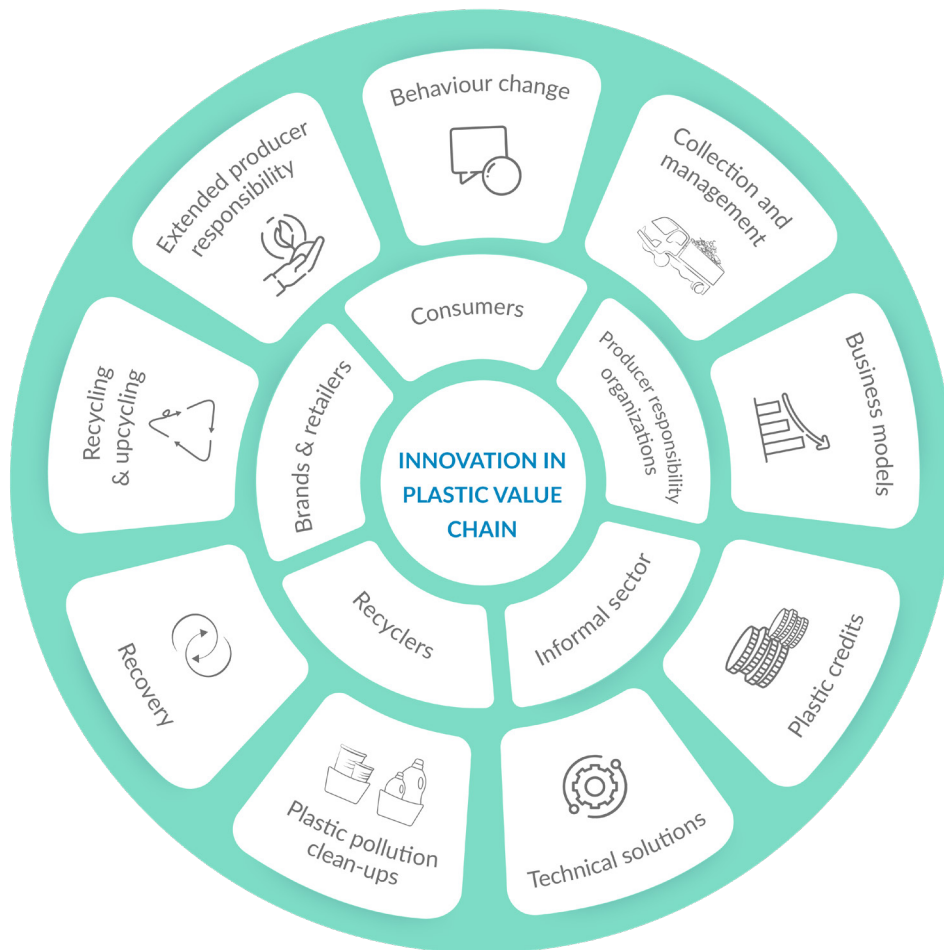
# Circular solutions for plastic pollution

An incentive model for behaviour  
change in managing plastic waste

# About the case study

This good practice case study is part of a series of knowledge products developed by the SEA circular project to showcase exemplary market-based solutions that bring about transformational changes in the way plastic is managed in the value chain. This series captures circular economy approaches, ranging from innovative business models to behaviour change initiatives, to address plastic pollution. These approaches form part of the SEA circular project's "circularity framework for the plastic value chain".

## Circularity framework – plastic value chain



# Background

Global plastic waste volume continues to increase. Plastic waste mainly originates from urban areas, accounting for up to 60 per cent<sup>1</sup> of marine debris. Plastic waste is expected to increase in line with the increasing population.

One of the countries challenged by marine plastic litter is Thailand – the sixth<sup>2</sup> biggest contributor of marine plastic litter worldwide. According to the Ministry of Natural Resources and Environment, out of the 2.83 million tons per year of uncollected and improperly disposed municipal solid waste found in the country's 23 coastal provinces, about 339,000 tons is plastic waste (12 per cent).<sup>3</sup> Approximately 51,000 tons of uncollected and improperly disposed plastic waste in Thailand gets washed into the sea each year. Along Thailand's 3,000 km coastline – rich in coastal and marine biodiversity – plastic pollution is impacting the beaches, coral zone, and mangrove ecosystems.

Similar to other countries in South-East Asia, Thailand is challenged by its low rate of recycling – only about 25 per cent<sup>4</sup> of its plastic waste is recycled. This is attributed to inefficiencies in the waste collection sector, ranging from lack of collection facilities to reliance on collection by the informal sector.

Trash Lucky intends to address these challenges by adopting an incentivization model among consumers and waste collectors to encourage better plastic waste collection and recycling. The aim is to positively influence behaviour change and mindsets among the public so they start recycling. Aided by smart recycling bin technology infrastructure, the company is scaling up the connection of independent waste collectors with post-consumer recyclables.

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1. Plastic Smart Cities, "Homepage". Available at <https://plasticsmartcities.org/> (accessed on 22 December 2022).

2. SEA circular, "Thailand". Available at <https://www.sea-circular.org/country/thailand/#:~:text=Thailand%20is%20the%20world's%20sixth,into%20the%20sea%20each%20year> (accessed on 22 December 2022).

3. Wijarn Simachaya, "National policies, initiatives and best practices for solid waste management in Thailand", PowerPoint presentation, 22 November 2017. Available at <https://www.dmcr.go.th/dmcr/fckupload/upload/147/file/ppt1/ms2-01.pdf>.

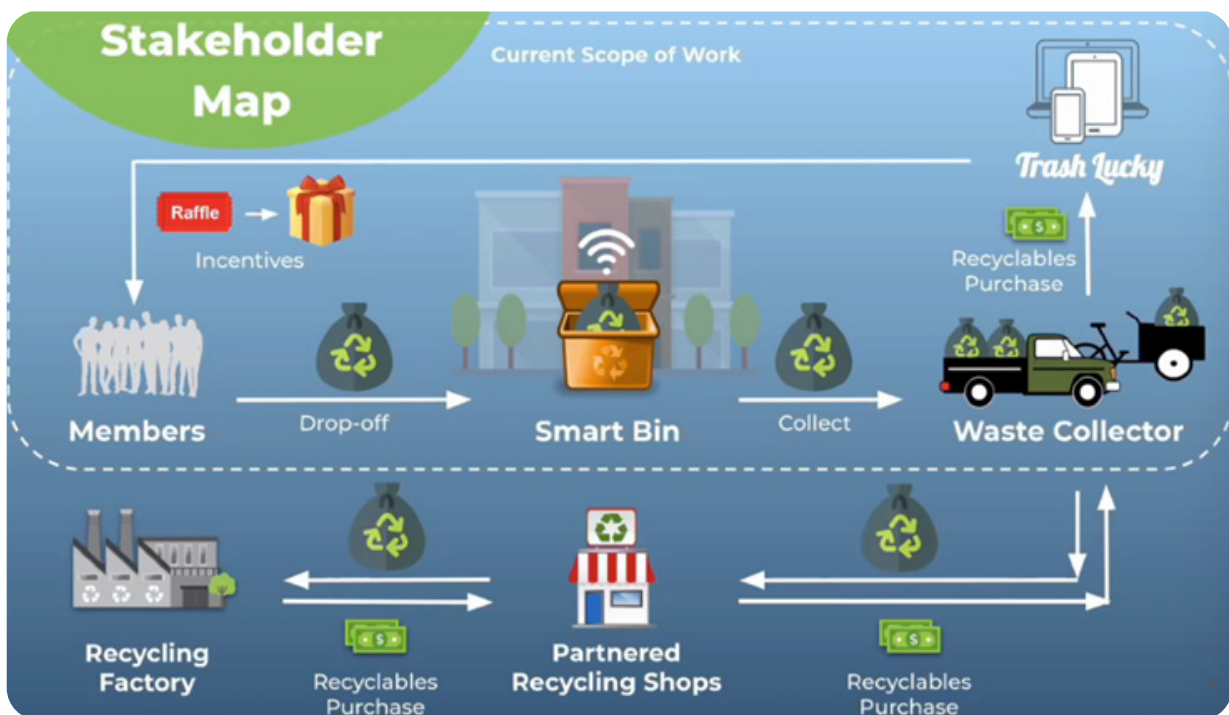
4. Apinya Wipatayotin, "Zero plastic waste closer", Bangkok Post, 27 August 2020. Available at <https://www.bangkokpost.com/thailand/general/1975191/zero-plastic-waste-closer>.



# Interventions

In Thailand, it is estimated that about 20 million people spend a collective 250 billion Thai baht (approximately USD 7 billion) annually on lottery tickets.<sup>5</sup> This highlights a fundamental characteristic among them – their belief and interest in the game of chance. Trash Lucky’s model builds on this interest, giving it a positive spin to address the perennial problem of managing plastic waste in the country. Individuals who deposit plastic recyclables in smart bins can exchange their recycled plastic for lucky draw tickets.

The smart bins accept all types of plastic and convert the materials to an equivalent amount of “points”. To gain access to the draw, a participant needs to earn five points which is equivalent to one lucky draw ticket. The number of lucky draw tickets awarded is equivalent to the amount of plastic waste recycled. Trash Lucky conducts a monthly draw in which the company gives away a variety of prizes from gold bar bullion to shopping vouchers. The company has also reached out to sponsors to fund or supply the prizes. In 2021, the Coca-Cola company sponsored a car for the lucky draw winner.



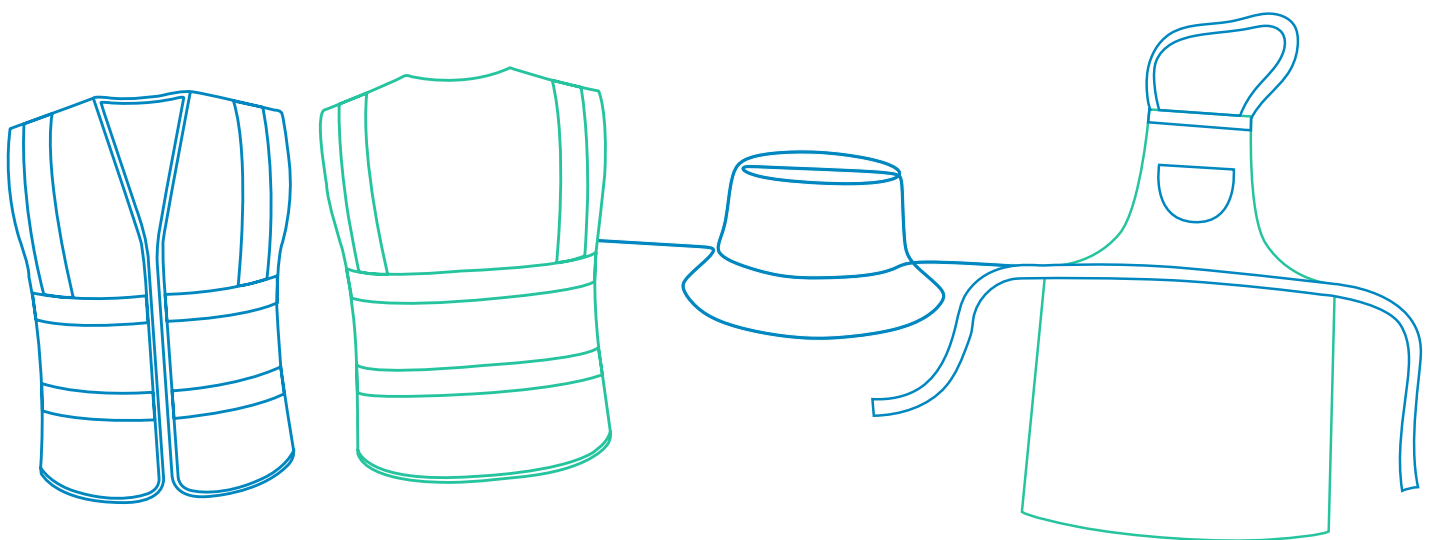
5. Thailand Business News, "Thais spend Bt250 billion annually on lottery and lotto", 28 April 2019. Available at <https://www.thailand-business-news.com/lifestyle/72198-thais-spend-bt250-billion-annually-on-lottery-and-lotto>.



The company also leverages informal waste collectors by partnering with them to collect and purchase the plastic waste materials inside the smart bins. The smart bins alert partner waste collectors when they have reached their full capacity, ready for the collectors to purchase their contents. This system improves the efficiency of waste collection by saving waste collectors money, increasing their profits and freeing up time for them to do other value-added activities as they no longer have to circulate communities or bin areas where there is no waste available to be collected. Given that most waste collectors do not consider this activity as a full-time job, this is particularly useful, as they can manage their time effectively.

In addition to these benefits, Trash Lucky has partnered with companies to support the waste collectors and the larger informal workforce. In 2021, Indorama, a global name in plastics business and recycling supported the manufacturing of coveralls for front-line workers during the COVID-19 pandemic by recycling PET bottles. Thai Union Group, a seafood manufacturer, has engaged with Trash Lucky to support its office recycling programme and converted its plastic waste into bucket hats, reflective jackets, and aprons that were donated to street sweepers in Bangkok.

One office recycling programme converted its plastic waste into **bucket hats, reflective jackets, and aprons that were donated to street sweepers in Bangkok.**



# Challenges

The project's aim to address plastic waste management through its incentive system and smart infrastructure has faced several challenges along the way.

For example, there is a high risk of unwanted materials such as food waste being deposited in the bins. This challenge was encountered towards the beginning of the project. To surmount this challenge, Trash Lucky improved its facilities to only enable the disposal of dry and recyclable waste. Currently, the smart bins are only available in private communities and areas monitored by partners where people know which materials can be disposed of in the bins.

It was also noted that there is limited uptake of the smart bin solution due to the lack of widespread access to smartphones among the target audience. Waste collectors have often been overlooked, especially smaller-scale waste collectors and older people. This limits the coverage of the project for now.

Trash Lucky also found the logistics of recycling low-value plastic to be a big challenge. Waste collectors are reluctant to ship low-value plastic due to the lack of mechanisms in place to facilitate this activity. If global brands and large local enterprises were to adopt evolving market-based mechanisms, both mandatory and voluntary, this would significantly improve the progress made on this challenge in the near future.

The project's aim is to address plastic waste management through its incentive system and smart infrastructure.



# Impacts

Trash Lucky has been able to recycle the waste of 1,700 people – the equivalent of 150 tons of plastic waste. The company continues to extend its reach. Currently, there are 24 basic bins in place across Bangkok, hosted by Shell gas stations and Lotus's hypermarkets. These bins are also available in some private communities.

By applying a common behavioural principle to address the pressing issue of plastic pollution, the team has garnered significant support from the private sector and development agencies alike given the traction among communities in Thailand.

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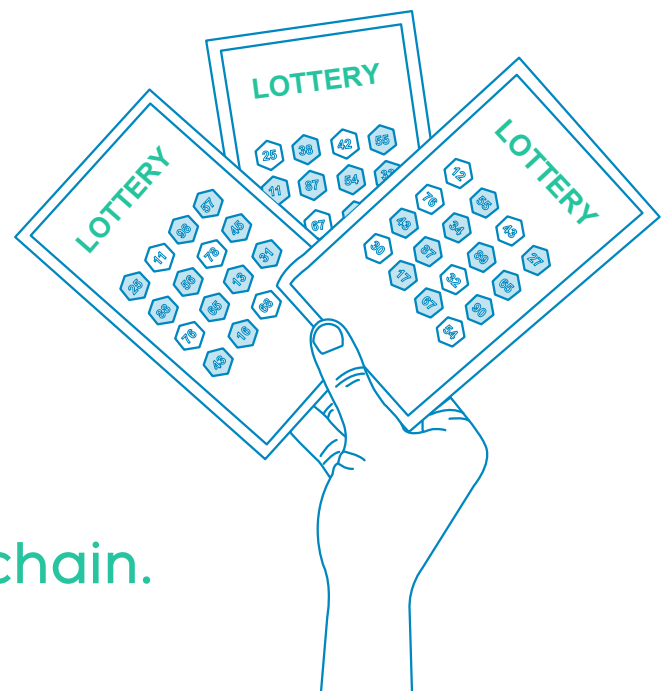
# Lessons learned

At the beginning of its implementation, Trash Lucky recognized the possibility of “overconsumption” in its model. They learned that the model could potentially encourage consumption practices that are not sustainable – this was addressed through the community awareness sessions on responsible consumption and better waste management.

There is also a lesson in incentivization. To increase the use of the facility, incentives are important to all actors in the supply chain. This includes waste collectors, who have been given more incentives to ship their recyclables to Trash Lucky. Certain areas such as schools and private residences are provided with bins to increase participation and provide convenience at the same time.

The importance of waste collectors is often overlooked. Older waste collectors, for example, are vital, not only for waste collection but more importantly for the influence they have on the adoption of waste management practices.

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# Moving forward

As Trash Lucky continues to increase its coverage and partners, the company is looking into integrating its project all the way to recycling facilities by working with local junk shops. This aims to increase the value of the recyclables prior to being sold to recycling factories.

Trash Lucky has started to work with independent waste collectors with trucks if they have access to a smartphone, which is a requirement to access the smart bins' features. Extended avenues are constantly being explored to partner with stakeholders such as private companies, development agencies and community organizations in order to raise awareness of the importance of recycling and create broader impact. With more funding, the company aims to work with independent waste collectors on tricycles to increase the coverage of buyers and access to the infrastructure. Given the interest in recycling generated among consumers through this unique incentivization model, a critical component for the promotion of plastic recycling has been harnessed. With further support from private-sector businesses, especially from those in the plastic industry, the model will greatly benefit from scaling up efforts, improving participation among value chain actors and facilitating the necessary interventions that can build the capacity of waste collectors.

## Trash Lucky

We thank Trash Lucky for sharing details of their exemplary innovations in the SEA circular project's series on the plastic value chain.



The SEA circular project Reducing marine litter by addressing the management of the plastic value chain in Southeast Asia 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. SEA circular aims to reduce and prevent plastic pollution and its impact by working with governments, businesses, civil society, academia and international partners. The initiative promotes market-based solutions and enabling policies to transform plastic value-chain management, strengthens the science base for informed decision making, creates outreach and raises awareness. The project leverages COBSEA's regional mechanism to tackle the transboundary challenge of marine litter in a harmonized manner.

 [www.sea-circular.org](http://www.sea-circular.org)

