



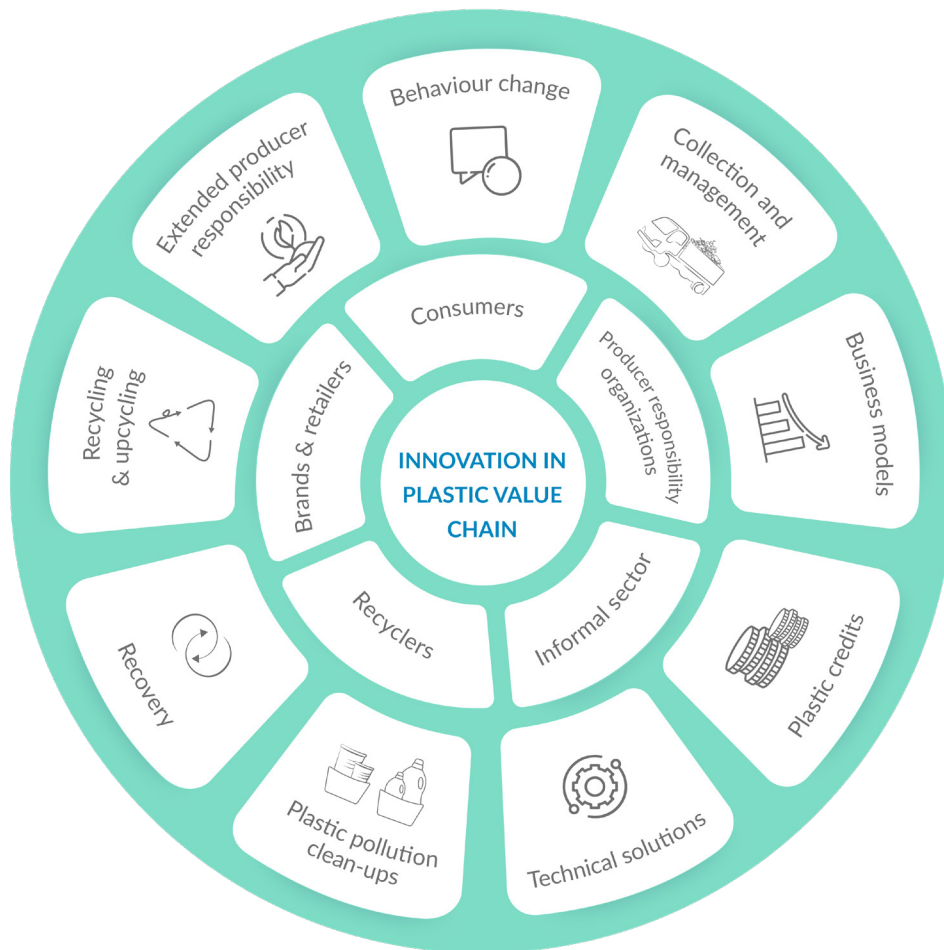
# Circular solutions for plastic pollution

Sustainable and ethical collection  
infrastructure for 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 and problem

Global plastic waste continues to increase, with the amount of plastic waste produced estimated to reach around 53 million tons per year by 2030<sup>1</sup>. As its nature allows it to be easily discarded, only about nine per cent of this plastic waste ends up being recycled globally<sup>2</sup>.

Studies indicate that every minute, the amount of plastic dumped into the ocean is equivalent to one garbage truck<sup>3</sup>. The mismanagement of plastic waste from land-based activities is observed to be the main contributor to marine debris around the world. Marine plastic pollution has negative effects not only on the marine ecosystem but also on human health and the climate.

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With regard to the plastic supply chain, interventions can be carried out at specific stages to manage plastic waste and reach a low-plastic circular economy. At present, the economy is linear: product consumption, use and waste. The circular economy is an essential alternative to this model that relies on increasing the amount of plastic that is recycled and reused, and thus requires collective action from businesses, public actors, development institutions and consumers.

Plastic Bank is a social enterprise that has successfully created a model that supports different actors in the plastic value chain to ultimately eliminate ocean plastic. Its business model is based on revealing the value in plastic waste by turning it into money. Collection community members gather plastic waste and exchange it at local collection branches for secure income and life-improving benefits, empowering them with a path out of poverty. The material collected is reprocessed for reuse in products and packaging, giving a new life to used plastic and substituting the need for virgin plastic. The sustainability of this business model from an economic, environmental and especially social angle is notable.

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1. United Nations Environment Programme. *From Pollution to Solution: A global assessment of marine litter and plastic pollution* (Nairobi, 2011).

2. Organisation for Economic Co-operation and Development. "Plastic pollution is growing relentlessly as waste management and recycling fall short, says OECD". 22 February 2022. Available at <https://www.oecd.org/environment/plastic-pollution-is-growing-relentlessly-as-waste-management-and-recycling-fall-short.htm>.

3. United Nations Environment Programme. "Why we need to fix the plastic pollution problem". 25 February 2022. Available at <https://www.unep.org/news-and-stories/story/why-we-need-fix-plastic-pollution-problem>.



# Intervention

Plastic Bank is a social enterprise headquartered in Vancouver, Canada, with operations in South-East Asia, Latin America and Africa. It promotes ethical plastic collection within 50 kilometres of coastlines and waterways, and its impact programmes<sup>4</sup> empower individuals and businesses to become ocean stewards by making contributions to offset their plastic footprint and support collection communities.



Plastic Positive



Plastic Net-Zero



Ocean Regenerative

Plastic Bank's main purpose is to stop plastic from entering the ocean. Its approach is to reduce the need for virgin plastic by collecting, recycling and reprocessing ocean-bound plastic waste into **Social Plastic**<sup>®</sup> feedstock that re-enters the global supply chain to create new products. This feedstock is used by global brands.

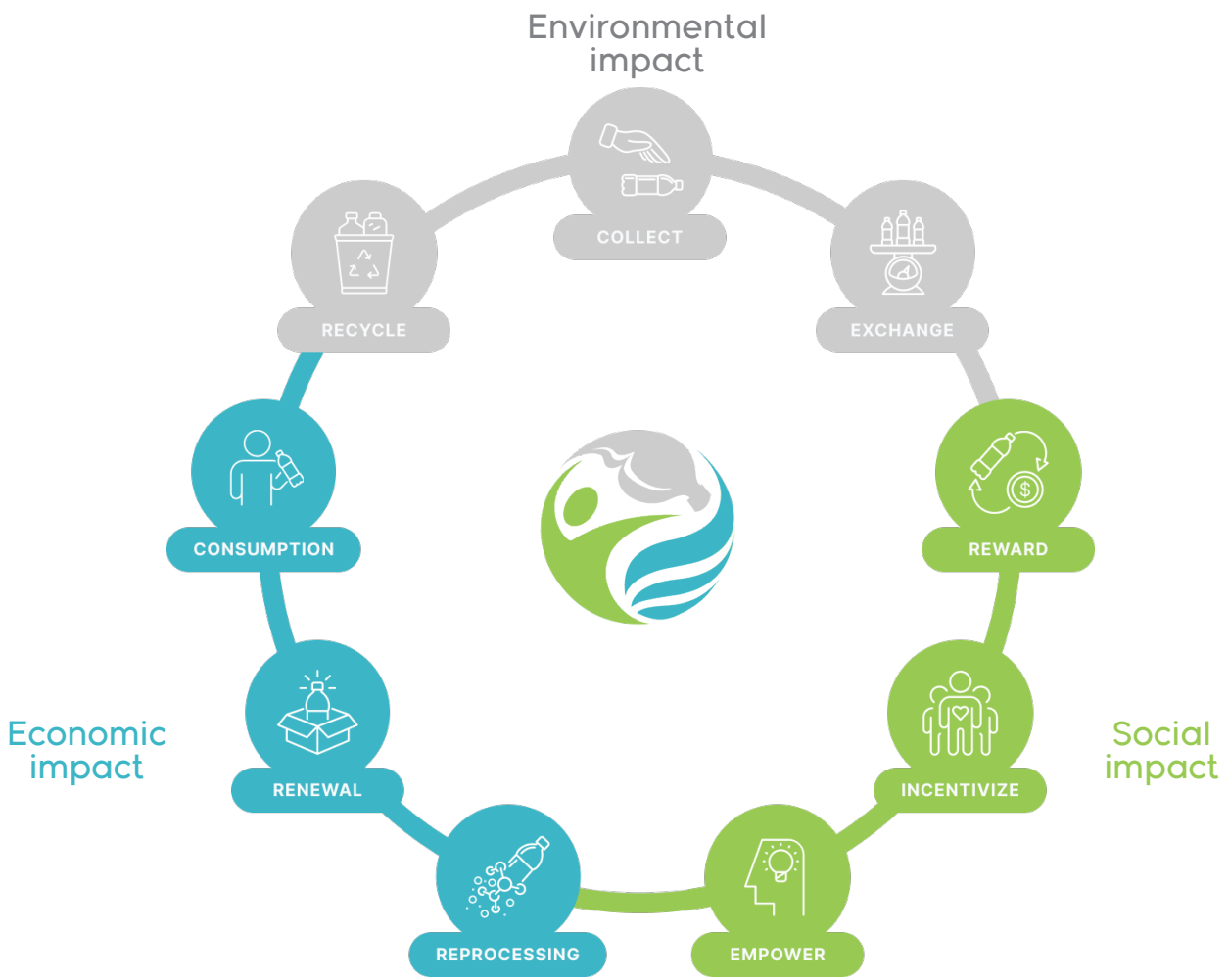
To further strengthen the traceability of this process, the organization has developed the **Plastic Bank**<sup>®</sup> app powered by **Alchemy**<sup>™</sup>, a proprietary blockchain-secured platform that enables traceable collection, secures income and verifies reporting. This is an important component, especially for companies that aim to fully identify the source of the materials in their supply chain. The ease of reporting and impact identification has been a critical component in the environmental, social and governance impact of the companies that use this repurposed plastic.

4. See <https://plasticbank.com/individuals/>.



Along the plastic value chain, one notable action made possible thanks to Plastic Bank's technology is the formalization of two critical actors in plastic waste management – waste collectors and waste collection groups (e.g. junk shops). By joining Plastic Bank, these waste collectors become registered collection community members, and the informal junk shops transform into registered collection branches. Collection community members can easily exchange plastic waste at these collection branches for an amount that is above market rate, as well as additional bonuses. These bonuses are converted into digital tokens, which can be used to access life-improving benefits such as health, work and life insurance, digital connectivity, and social and fintech services. Access to these benefits and a secure income help support the well-being of local collection communities.

## Building a circular economy for recycled plastic



Source: Adapted from plasticbank (no date).

By collecting, recycling, and reprocessing ocean-bound plastic waste – and supporting collector communities along the way – we can reduce our need for virgin plastic while creating lasting environmental, social and economic impact.<sup>5</sup>

5. plasticbank. "About". No date. Available at <https://plasticbank.com/about/> (accessed on 23 January 2023).



# Challenges

Plastic Bank's model has seen a lot of opportunities, considerations and lessons learned along the way. One of these considerations is the incentivization of digital adoption in vulnerable coastal areas. Collection members are required to use the **Plastic Bank**® app powered by **Alchemy**™ to record and track transactions. Since Plastic Bank operates in communities that have limited access to smartphone technology, they had to figure out a solution to this challenge.

Plastic Bank has enabled its collection branches to register new collection members without access to a smartphone. In addition, these branches, together with other redemption locations, are able to offer benefits to members through end-of-month redemption disbursement services provided by Plastic Bank. The goal is to help collection members access their first smartphone, and subsidized smartphone programmes are already in place to make this goal a reality.

Another critical consideration is ensuring a child-free supply chain in its operations. Child labour is rampant in the waste sector, and Plastic Bank has included a related policy in its code of conduct. Registration to become a collection community member includes an age verification process and in-country staff offer operational support, auditing and empowerment services for this sector. Local entrepreneurs and community members are required to be fully compliant with this policy. To further support children's educational development, Plastic Bank has social initiatives including a tablet programme to provide access to virtual learning throughout the pandemic and beyond.

Another common challenge in the waste sector is the siloed efforts of different actors towards ending plastic pollution. Plastic Bank works and builds relationships with local recycling processors and establishes local country management teams that have been a key part of its model, developing different approaches based on location. Creating a "verified" network has collectively supported the local industry in working and improving together by formalizing the informal recycling sector and creating employment opportunities for local communities.

Another critical consideration is ensuring a  
**supply chain  
without child labour**



# Impact

To date, Plastic Bank has stopped over 63.9 million kilograms of plastic from becoming marine litter globally – the equivalent of more than 3.1 billion plastic bottles.

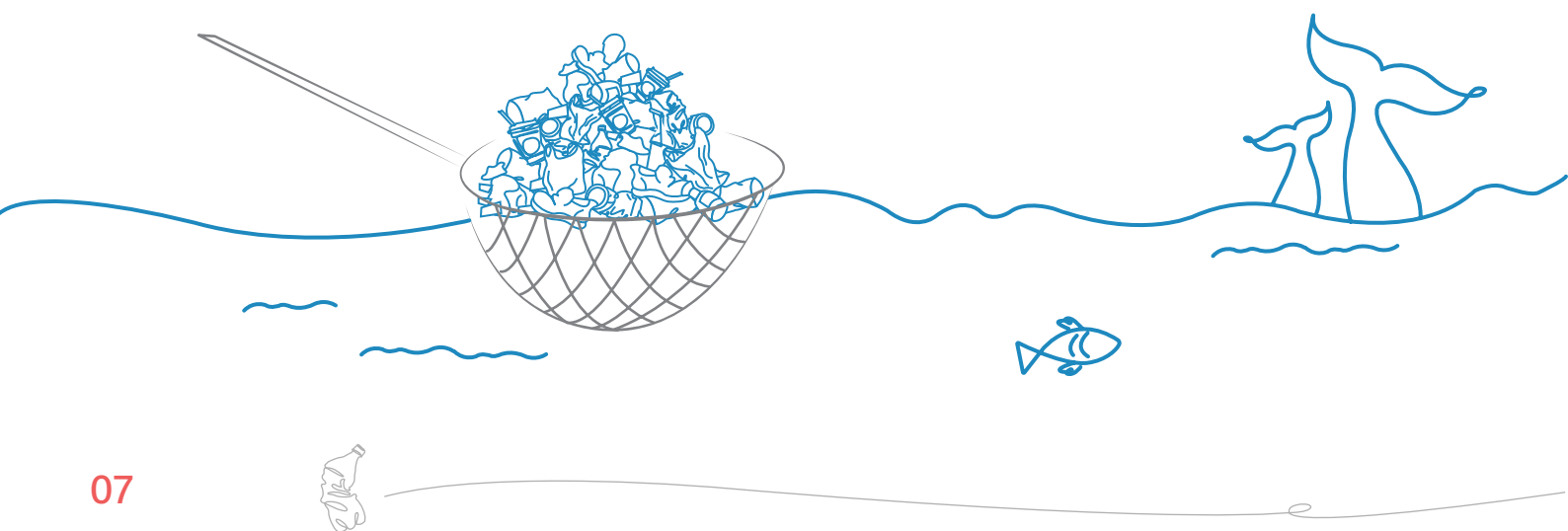
The social enterprise has been actively expanding its reach to South-East Asia, Latin America and Africa. With its partnership framework, it has activities in over 600 collection branches that support over 23,000 collection community members. The average monthly income of these members is also observed to have increased by 33 per cent.

With the support of its 200+ partners, Plastic Bank has also funded social programmes in various local communities. Some of the programmes it has supported to date are:

- School programmes: Supporting the education of collection community members' children through bursaries and the distribution of tablets for remote learning.
- Health insurance: Providing collection community members with basic health insurance to support their and their families' well-being.
- Nutrition: Distributing vouchers and meal kits to supplement collection community members' regular groceries and help to feed their families.
- Data and smartphones: Helping collection community members gain access to financial inclusion through digital wallets and e-learning opportunities.
- Training: Holding regular collection community member training sessions on basic business tools, financial literacy, sustainability and the importance of recycling.

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# Lessons learned

Plastic Bank consistently empowers collection communities by facilitating ethical recycling through technology. The plastic value chain has various actors with different activities, goals and objectives. These actors are often in the same community, but an observed disconnect in the process creates a linear economy that has caused an increase in plastic waste around the world. One of the critical actions pursued by Plastic Bank is the establishment and maintenance of partnerships with local community actors with the aim of building a circular economy for plastic.

By identifying partners (from collection members to branches), Plastic Bank is able to support local businesses (e.g. waste collection points) by connecting them to its network. It is also able to support the inclusion of waste collectors by creating a viable model for them to register and earn money from plastic waste. Plastic Bank further supports social welfare and the alleviation of poverty in the communities it works in by bridging this gap.





# Moving forward

To scale up and increase its impact, Plastic Bank will continue to encourage the adoption of digital technology in its communities. The digitization of its operations can attract more individuals and companies to support its programmes. This traceability component is a critical feature in scaling up Plastic Bank's purpose to intercept plastic before it reaches the ocean.

Plastic Bank's model also aims to continuously identify areas of high plastic pollution and limited recycling infrastructure. There are more coastal communities around the globe that would be able to benefit from this initiative, not only socially but also economically and environmentally. The inclusion of members in the circular economy supply chain is an important intervention for the waste sector that will continue to attract support from individuals and institutions that are seeking to begin their quest for ocean stewardship.



We thank Plastic Bank 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)

