

PROGRESS REPORT 2022

# CATALYSING IMPACT

ALLIANCE  
TO END  
PLASTIC  
WASTE 



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# CATALYSING IMPACT

The challenge to end plastic waste leakage into the environment is huge but not insurmountable.

Since our inception, we have been working to create solutions that will make a positive impact and a meaningful difference for communities around the world in the long term. These solutions benefit from our growing understanding of the complexity of the challenge.

At this critical time, the Alliance plays a transformational role, but we are not the whole solution. We catalyse impact by developing a suite of solutions needed to meet the plastic waste challenge.



# CHAIR'S MESSAGE



**Jim Fitterling**

Chair of the Board, Alliance to End Plastic Waste  
Chair and Chief Executive Officer, Dow

The Alliance to End Plastic Waste has a clear mission to help end the leakage of plastics into the environment. In the past three years, it has focused on its mission to develop infrastructure and invest in systems to improve the collection and management of plastic waste; harnessing innovation, incubating ideas, and accelerating the scaling of new solutions and technologies.



Waste collected from Durban, South Africa is first consolidated at buy-back centres before being separated for sale.

I am delighted to lead a Board that oversees the continued evolution of this approach, building on past progress, and applying the knowledge and experience the team has gained from collaborating with member companies, governments, and civil society.

Today, the Alliance is recognized for its technical expertise in plastic waste management and recycling. Beyond governments and civil society, financial institutions now also value the Alliance's unique perspective that reflects its work with the entire plastic value chain.

The Board will continue to steward the Alliance's contribution to the complex challenges presented by plastic waste and ensure a balance between investment and meaningful action in communities where our impact is most readily felt.

With the support of our member companies, we continue to grow as a global laboratory for new ideas, progressing new technologies,

business models, and solutions for ending plastic waste entering the environment. Since 2019, we have allocated US\$225 million, through our Solution Accelerator Fund, to develop more than 50 projects in eight geographies, as we build a set of solutions applicable to solving unique local challenges.

These innovative and often complex solutions require strong collaboration among infrastructure providers, innovators, scientists, government, communities, and the private sector. As the number of solutions grow, so does the strategic importance of our partnership with the finance sector in catalysing capital to replicate and scale what is environmentally beneficial, socially responsible, and economically viable.

The Alliance has accomplished a lot... yet we also recognize there remains much to do. This Progress Report demonstrates the Alliance remains firmly focused on its mission while embracing its role as a catalyst for systems change.



# PRESIDENT & CEO'S MESSAGE

Welcome to the Alliance's 2022 Progress Report. This year, we set out an evolved approach to measuring and reporting our impact, reflecting our focus and growth as an organisation.

Over the past year, we have moved to re-design how we measure impact aligned with our mission. While the tonnage of removed and recycled plastic waste is an important metric, we know that the scale of that challenge is significant and that increments in this metric alone will not be enough to make the size of impact we collectively need to achieve in the long term.

Preventing plastic waste from entering the environment and advancing a circular economy for plastics remain at the core of our mission. Therefore, we continue to focus on developing economically, socially, and environmentally sustainable, replicable, and scalable solutions around the world.

This year's Progress Report includes multiple examples of how we are implementing solutions that address unique local challenges, ending leakage, and advancing greater circularity. Our approach is to adapt and replicate successful ones in different contexts and geographies to accelerate impact in collaboration with the value chain, governments, financial institutions, and all other partners.

We are convinced of this approach. In 2022, we achieved a significant increase in the volume of plastic

waste diverted and recycled. Our projects and programmes diverted and recycled over 70,000 tonnes. As impressive as this appears, it still only stands for a fraction of the progress that is needed globally.

Since our inception, our work has helped us better understand the complexities of the challenge. We are working to create solutions that will make a positive impact and a meaningful difference for communities around the world in the long term. We are drawing on our experience, listening to stakeholders, and applying the knowledge we have gained of what works and, equally important, what does not.

In the Global South, we are directly diverting plastic waste from the environment and landfills, co-creating integrated waste management solutions with local governments and financial institutions to improve community waste management, and advancing a circular economy.

In the Global North, much of our work focuses on pioneering the innovation needed to create a more circular economy. This has included investing in intelligent waste sorting, incentivising innovative solutions to recycle a broader range of plastics, and scaling reusable packaging systems.



**Jacob Duer**  
President and CEO,  
Alliance to End Plastic Waste

Going forward, we are growing our membership and engagement with partners. We are setting clearer and more realistic targets and implementing added measurement and reporting, including independent third-party assurance.

We are ensuring we are present and contributing information and data from our projects at national and multilateral forums to help build capacity for governments, businesses, and NGOs.

We are determined to play a transformational role at this critical time, bringing together our collective capabilities across the plastics value chain.

# MEMBER'S MESSAGE

SCGC has focused on its commitment of achieving carbon neutrality by 2050, aspiring towards becoming a "Chemicals Business for Sustainability". We have integrated ESG and circularity principles into business frameworks, expanded our portfolio of HVA products and solutions to meet global demand and customer needs, as well as adopted digital technologies and analytics to strengthen operational excellence across the value chain.

One concrete measure to this path: SCGC GREEN POLYMER™. The green polymer portfolio encompassing four environmental goals of "Reducing resource usage, Design for recyclability, Recycling, and Replacing by raw materials" provide innovative solutions that meet functional requirements while promoting environmental care. Already in 2022, sales overachieved at 137,125 tonnes. We aim to grow the sales of SCGC GREEN POLYMER™ portfolio to one million tonnes in 2030.

To establish a low-carbon supply chain, SCGC has employed mechanical recycling technologies to convert plastic waste into high-quality PCR. We have invested in Sirplaste, a leading polymer recycling company based in Portugal. We have expanded our investment in the upstream business, which entails the collecting and sorting of plastic waste, a crucial aspect of the recycled polymer manufacturing business that is directly related to the growth of green polymer products. Furthermore, our investment in Kras, a leading waste management company in the Netherlands, will result in a fully integrated recycling business chain that encompasses plastic waste collection, recycling, and processing, while reaching European brand customers.

Additionally, we have developed advanced recycling technology to

convert plastic waste that is difficult to recycle through conventional means into high-quality raw materials with characteristics equivalent to those of fossil-based raw materials.

Underpinning how SCGC is a frontrunner of circularity, we have advocated for a comprehensive close-loop system through coordinated action, working with suppliers, governments, communities, young people and other key partners —both nationally and globally. Our "Waste-free Community" project initiated in 2019 manages waste in Rayong. Currently with a total of 3,785 accounts, the project accumulates over 240 tonnes of recycled waste in the system and helps to reduce landfill waste, cutting down GHG emissions by more than 480 tonnes CO<sub>2</sub> equivalent. Focused on expanding circularity efforts, we have engaged students with the "Upcycling Plastic Milk Pouches" initiative. It aims to raise awareness and change the younger generation's behaviour and perceptions around using resources wisely by collecting school milk pouches for recycling into new durable plastic products such as chairs and plant pots. Currently, more than 1,700 schools in 50 provinces have joined the project. We are also partnering with the Department of Marine and Coastal Resources (DMCR) to install 24 SCG-DMCR Litter Traps at river mouths and canals in 13 provinces to prevent waste entering the ocean. The litter traps could intercept over 40 tonnes of garbage in total.

Looking ahead, SCGC has prepared to drive and establish a low-waste, low-carbon society where our operational excellence and innovative leadership are orchestrated efficiently. We also ambitiously strive for cross-sector partnerships to bring about valuable co-creation and sustainable development for generations to come.



**Mr. Tanawong Areeratchakul**  
Chief Executive Officer and  
President, SCGC





# OUR IMPACT

No single organisation can solve the world's plastic waste problem. The Alliance to End Plastic Waste, however, is an important catalyst for positive change through collaboration and development of Solution Models that are replicable at scale, for substantive increases in the collection and recycling of plastic waste to prevent it from entering the environment.

Today, we convene more than 70 companies from across the plastic value chain with local communities, civil society groups, intergovernmental organisations, financial institutions, and governments. This broad group helps us achieve the highest level of industry collaboration which is critical for significant impact. We believe that only by working directly with the producers and users of plastic will we be able to develop the solutions required to make a real and measurable impact on plastic waste in the longer term.

Since formation, the Alliance has had two inter-linked core objectives: raising and managing a meaningfully large pool of capital that can be deployed to have a catalytic impact on reducing levels of plastic waste leakage into the environment; and encouraging its member companies to fund and adopt their own additional measures that tackle plastic waste throughout the plastic supply chain. These objectives unite the Alliance's membership and financial objectives.

As the Alliance's approach to addressing the multi-faceted challenge of plastic waste evolves, so too does the diligence and refinement in the way we measure and report the impact that can be expected from our direct and catalysed investments. This has led us to adopt a set of metrics that provides a more complete view of our progress in achieving the Alliance's mission.

The way we measure impact must be robust. While the volume of plastic waste collected, recycled, and related data are important, we must ensure that the full breadth of the Alliance's activities and impact is captured. Building on lessons learnt, the metrics used in this report are more comprehensive than in previous years. We have been working with external partners to begin assuring the processes we use to collect and verify our impact and will continue to do so. As our work matures, our metrics will continue to evolve in their breadth, as will the degree of integrity provided by external assurance.

# SOLUTION ACCELERATOR FUND

CUMULATIVE IMPACT SINCE 2019



## 38,729 tonnes

of unmanaged plastic waste have been reduced since the Alliance's inception. Our impact is accelerating as early projects come to fruition, from 2,440 tonnes of unmanaged plastic waste reduced in 2021 to 35,789 tonnes in 2022.

## 39,113 tonnes

of plastic waste from which we have captured value, primarily through recycling.

## 156,845 tonnes/year

of new recycling capacity will be available upon completing currently funded projects.



## 657 organisations

the Alliance has actively engaged to help end plastic waste in the environment.

## 189,177 participants

engaged through education programmes.

## US\$297 million

of revenue collected.

## US\$225 million

has been allocated to projects and mission-related activities, with 57% disbursed by the end of 2022.



## 4,355,638 people

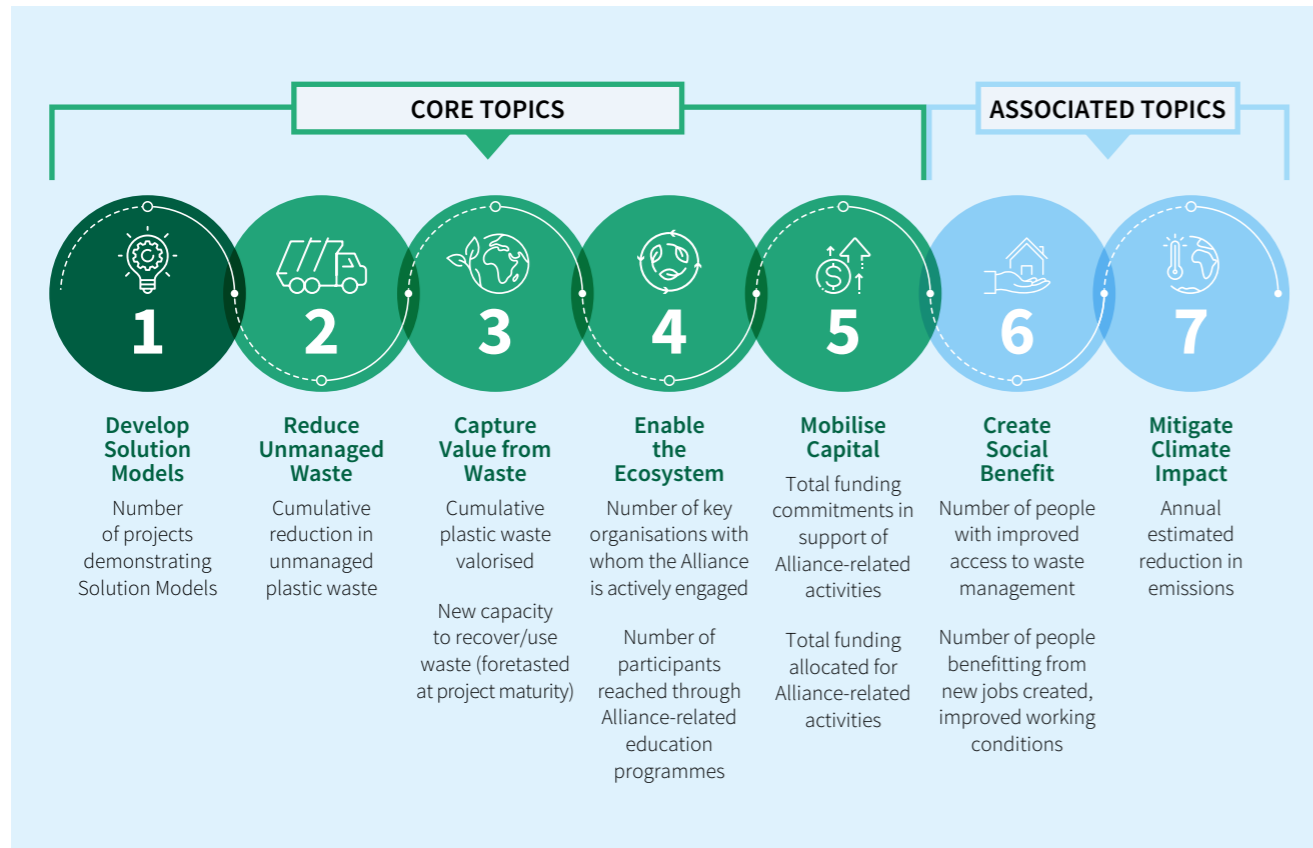
have access to new or improved waste management.

## 4,229 new jobs

created or informal waste workers in improved working conditions.



## OUR IMPACT



### Assessing Our Impact

We have defined five core and two associated topics to measure and demonstrate the Alliance's impact and progress. Each topic area is supported by specific metrics.

### Core Topics

Core topics are those areas directly related to the mission of the Alliance, addressing leakage to the environment and supporting the transition to circularity.

### Associated Topics

Associated topics are those areas that may not be central to the Alliance's focus but are important in fulfilling our mission.

### A Solutions-based Approach

Building a circular economy that keeps plastic waste out of the environment is a giant but not insurmountable task. We are proud of our rapidly rising impact, but our goal is not to solve the plastic waste challenge all on our own. We need our work to inspire action from both the private and public sectors. This is why our work is built on the concept of "solution models".

As the Alliance to End Plastic Waste, we fund projects that test promising new technologies, new business models, new funding ideas and so on, to solve the challenge. When a project works well – that is, it successfully demonstrates a solution model – we intend to share our success as widely as possible so that others can build on our work and replicate it.

To do this, we record all aspects of our projects beyond just the ideas we are testing, including the local socioeconomic and policy conditions, and the nature of the waste situation. We are also careful to record the lessons learnt from every project.

In the Alliance's set of impact metrics, we are rigorous in measuring every aspect of our projects. The data confirms the viability and effectiveness of a project. Ultimately, our success is driven by two ideas: first, the number of solution models that we can prove; and second, our ability to encourage other parties to replicate those solution models.

We have robust selection criteria to determine which solution models we want to test and prove. First, they must address a clear gap or obstacle preventing a circular economy. In a less-developed economy, that might be the lack of a municipal waste collection system. In an advanced economy, it might be the need for better sorting of municipal waste streams. Alternatively, the gap could be for a particular application – from developing reuse models for HDPE detergent bottles to proving a new recycling technology for multi-laminate flexible films; or

developing systems to collect and process the durable plastics used in construction.

In all cases, there are many nuances that shape the character of a solution model. For example, what works in Midwestern America is unlikely to be applicable in Kenya or Indonesia, so whenever we define a solution model, we look carefully at the context – a solution model for collecting PET in a low-income rural setting is different to one collecting PET in a high-income urban setting.

There are many circularity gaps for which solution models need to be developed and proven. We prioritise them based on factors such as the volume of plastic waste that a model could address if taken to scale, and the existence of good ideas for us to test. We apply many other filters: every idea must be environmentally beneficial, socially responsible, technologically possible, economically

viable, and have strong potential for replication. Sometimes, a solution model will address an end-to-end solution for a particular plastic application. In other cases, it may just be one part of an even bigger solution.

### The Way Forward

As the Alliance continues its work, we hope to build an ever-growing repository of solution models that address more and more aspects of the waste management challenge. There is no single silver bullet to this issue. It will require many different ideas, and our repository will be an important tool in proving and sharing the solutions that work.



Since our inception in 2019, we have cumulatively reduced 38,729 tonnes of unmanaged plastic waste.



## OUR IMPACT

## ASSURANCE STATEMENT

DNV BUSINESS ASSURANCE SERVICES UK LTD

### MEASURING IMPACT: GUIDING PRINCIPLES

We want to ensure everyone can understand and build on what we have learnt and commit to five guiding principles:



#### ACCURACY

To report information that is correct and sufficiently detailed to allow verification.



#### COMPARABILITY

To select, compile, and report information consistently, enabling an analysis of changes in the impact over time.



#### TRANSPARENCY

To disclose sufficient and appropriate information, allowing stakeholders to make decisions with reasonable confidence.



#### VERIFIABILITY

To gather, record, compile, and analyse information that can be examined to establish its quality.



#### ADDITIONALITY

To claim only impact that is the result of and/or accelerated by the Alliance, with a material benefit versus the initial baseline or "business-as-usual" scenario.



The Alliance to End Plastic Waste (Alliance) engaged DNV Business Assurance Services UK Ltd (DNV) to carry out an Independent Assurance Readiness Assessment of the Alliance's core and associated topics covering the reporting period 1 January 2022 to 31 December 2022, and cumulative impacts since the inception of the Alliance as described in its reporting criteria, Alliance Impact Metrics Handbook. DNV assessed the readiness of the Alliance's "core" and "associated" topics and associated Key Performance Indicators (KPIs) to undergo a limited level of assurance.

In undertaking the Assurance Readiness Assessment DNV carried out a number of activities, including:

- Conducting remote interviews with Alliance Directors, senior management and Project Managers to obtain an understanding of the key processes, systems, and controls in place to generate, aggregate, and report on core and associated topics and KPIs;
- Performing limited substantive testing on a selective basis over the core and associated topics and KPIs to check the extent to which data has been appropriately measured, recorded, collated, and reported;
- Issuing a confidential Assurance Readiness Assessment Report for Alliance Directors, summarising DNV's key observations and recommendations for the Alliance to consider and address ahead of seeking formal limited assurance for its 2023 Progress Report.

DNV found the Alliance's defined Impact Metrics methodology and governance provided a valid basis to work towards limited independent assurance of top-level metrics, as the Alliance continues to roll out its impact reporting approach through working with its partners on the ground.

This Independent Assessment does not provide an opinion on the Alliance's sustainability performance in 2022 nor on the quality of information disclosed in this Progress Report. DNV was not engaged by the Alliance on any other commitments in 2022 which could compromise the independence of its assessment of Alliance's reporting.



# IMPACT METRICS DEVELOPMENT

The goal of the Alliance is to mobilise capital and use it to test and prove new ideas that can be scaled and replicated to address two issues of global importance – the leakage of plastic waste into the environment and supporting the transition to a circular economy for plastics. Replication on a large scale requires that such solutions are environmentally beneficial, technically viable, socially responsible, and economically reproducible, ideally investable.

Measuring the progress as we move towards achieving our mission is challenging. Developing and demonstrating solutions requires the nurturing of individual projects, while considering how to create the enabling conditions for future replication. In addition, there is a significant gestation period from starting to work on a project to delivering meaningful impact – typically 3 to 5 years – and replication to demonstrate national scale impact can take even longer. To meaningfully reflect the Alliance's progress, we have started to introduce a balance of "input" metrics – that is, measuring current activities that will lead to results in the future – and "output" metrics, which measure the actual results when they are achieved.

In developing the impact reporting framework, our priorities were that it should:



Enable a transparent reporting of current and expected future impact that can be independently assured



Support communication to a range of different stakeholders



Build trust and adopt general reporting principles and standards, as much as possible.



Since our inception in 2019, we have cumulatively captured value from 39,113 tonnes of plastic waste.

Collaborating with partners EY, ERM, and DNV, our process began with a landscape study of academia, reporting frameworks, and metrics used by organisations with similar types of work, and we identified about 150 relevant metrics. Each metric was assessed against four criteria:

- Relevance to one or more of our mission topics
- Nature of the measure
- Ease of measurement
- Ability to include the metric in the scope of external assurance

The output from this process, which included consultation with industry experts and a review of a variety of reporting standards, is a reporting framework that comprises seven topics and 11 top-level metrics. These have been aggregated from more than 50 data elements which need to be collected to create a complete picture of our impact.

For each metric, detailed definitions have been developed and documented by the Alliance. These include a detailed explanations of the metrics; units of measure and time horizons; responsibility for data collection, record retention, and

verification; identification of scope inclusions/exclusions; calculation methodologies; and required standards of integrity.

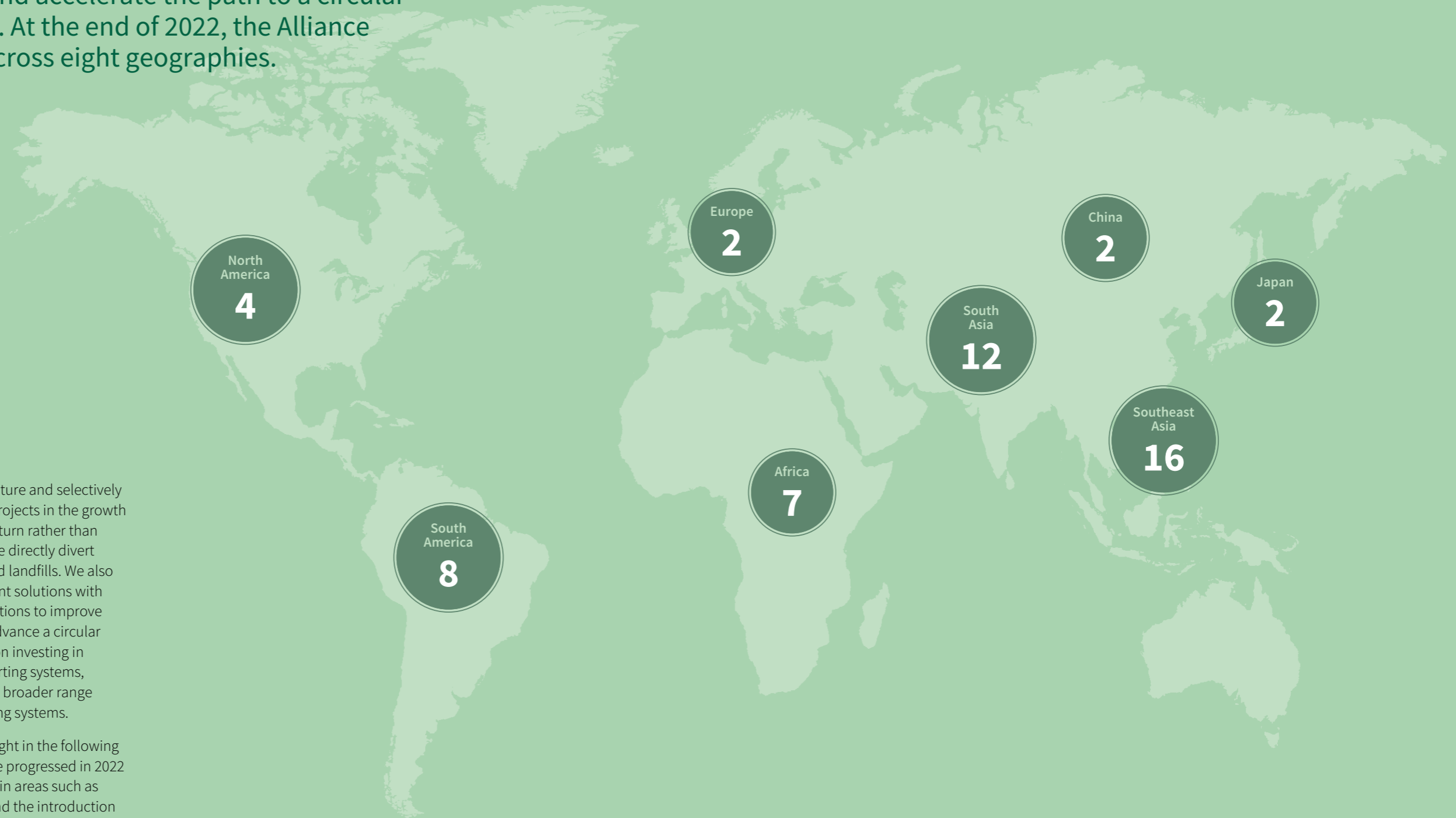
This is the start of a multi-year endeavour so that we can establish the integrity of data, which is required for ESG reporting. We also want to ensure the development of tools, proper training, and familiarisation of all stakeholders, and will be further fine-tuning the framework, data definition, and evidence as we learn more and evolve the metrics further.





# TEST-BEDDING SOLUTIONS

The Alliance to End Plastic Waste is a global laboratory. We are helping to develop a series of solutions that match unique local challenges to help end plastic waste in the environment and accelerate the path to a circular economy for plastics. At the end of 2022, the Alliance funded 53 projects across eight geographies.



We typically fund initial capital expenditure and selectively provide working capital to help scale projects in the growth stage, with expectation of an impact return rather than a financial return. In some countries, we directly divert plastic waste from the environment and landfills. We also co-create integrated waste management solutions with local governments and financial institutions to improve community waste management and advance a circular economy. In others, our work focuses on investing in innovation such as intelligent waste sorting systems, incentivising new solutions to recycle a broader range of plastics, or scaling reusable packaging systems.

The projects we have selected to highlight in the following pages are examples of the work that we progressed in 2022 through the Solution Accelerator Fund in areas such as design, collection, sorting, recycling, and the introduction of more circular models, such as refill and reuse.



## AFRICA

# TACKLING DANDORA'S WASTE MOUNTAIN

<b>Location</b> NAIROBI, KENYA	<b>Project Partner</b> TAKA TAKA SOLUTIONS	
<b>Achieved</b> <b>500</b> Informal workers provided with improved working conditions	<b>&gt;1,000</b> Tonnes of plastic waste diverted	<b>140,000</b> People have access to new or improved waste management services

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

### Flexible Plastic Waste Recycling in Kenya

Near Nairobi's Dandora landfill, work has begun on a processing plant that will give new life to hard-to-recycle flexible plastics.

Following a successful six-month collaboration in 2022, Taka Taka and the Alliance are now embarking on a more ambitious undertaking: to put into place a sustainable recycling solution for flexible plastics, which until now, have been left to languish in the landfill.

Sprawling 300,000 square metres just outside the capital, Dandora is one of Africa's largest dumpsites. Despite having reached maximum capacity more than two decades ago, it continues to receive more than 2,000 tonnes of mixed waste each day, including the equivalent of 30 truckloads of flexible plastic waste.

These are ignored by waste pickers – made up of people from the lowest rungs of the socioeconomic ladder – who dig through heaps of household and commercial waste, in search of items that they can sell at a good price.

With the expanded capacity its new plant will bring, Taka Taka hopes to improve the safety and increase the income of Nairobi's poorest, while salvaging flexible plastic waste and returning it to the production cycle.

In 2022, the Alliance supported Taka Taka with the operation of buy-back and sorting centres, bringing together informal workers from the surrounding area to source flexible plastic waste. 140,000 people received access to new or improved waste management as a result, while 500 informal workers were trained to identify and sort plastic waste. Mindful of the difficult conditions that waste pickers at Dandora face, these workers were given protective clothing and boots, as well as regular health check-ups.

Fair prices for the recyclables, meanwhile, worked as an incentive to collect such materials while improving worker incomes.

Within six months, Taka Taka had met its target of recovering 1,000 tonnes of flexible waste from the landfill. The plastic waste was baled for transport to Taka Taka's facility to be washed, processed into pellets, and reintroduced into the local plastic production system as an alternative to virgin plastic feedstock.

The current five-year partnership between Taka Taka and the Alliance, under which a new facility is being constructed next to their existing site, builds on the collaboration's initial success. Outfitted with state-of-the-art processing equipment funded by the Alliance, the new plant will begin production in the fourth quarter of 2023 with the capacity to process up to 16,000 tonnes of flexible plastic waste annually. Given the larger scale of the project, more than 200 people will be employed to support the new plant.

The project expands on Taka Taka's existing operations in Nairobi. For more than a decade, the company, which takes its name from the Swahili word for "rubbish", has been collecting, sorting, and processing multiple waste streams in Nairobi. Its fleet of bright orange trucks are a familiar sight in one of the world's most polluted cities. Where mounting waste volumes pose a growing risk to both people and the environment, Taka Taka has been able to recycle or compost close to 95% of the waste it collects.

By turning its sights to processing and returning flexible plastic waste into the production system, it is now helping to bring the city a step closer to circularity.



1. Taka Taka Solution's sorting centre.  
2. 500 informal workers were trained to identify and sort plastic waste.



## AFRICA

# TOWARDS A MORE INCLUSIVE SYSTEM IN JOHANNESBURG

<b>Location</b> JOHANNESBURG, SOUTH AFRICA	<b>Project Partner</b> AFRICAN RECLAIMERS ORGANISATION
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<b>Achieved</b> <b>600</b> Tonnes of plastic waste diverted	<b>&gt;4,000</b> People have access to new or improved waste management services
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**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

### Closing the Gap with Reclaimers

For years, South Africa's informal waste pickers or "reclaimers" have made a critical contribution to waste management, removing tonnes of waste from the streets and keeping it out of landfills. They work long hours under difficult – and sometimes dangerous – conditions, and remain largely invisible, subsisting on the edges of society.

Since 2018, Johannesburg-based African Reclaimers Organisation (ARO) has been working to change this. The non-profit unites 6,000 reclaimers under a single umbrella, gives them a voice, and provides the operational facilities to sort and sell the recyclables collected to the local recycling market. Through this, it hopes to achieve fair compensation and respect that reclaimers deserve for the necessary work they do. Efforts by the organisation's partners

similarly look to gain recognition for reclaimers as a reliable and committed workforce, paving the way for them to work alongside the formal waste sector.

In October 2022, the Alliance put its weight behind these efforts, providing the tools that will ensure reclaimers are able to work not just efficiently, but safely. The move recognises the often untenable conditions reclaimers work under, in landfills and along busy roads, without access to basic necessities.

As part of a nine-month collaboration with the Alliance, reclaimers have been collecting plastic waste in Mayflower in Mpumalanga Province and parts of Johannesburg city, compacting them for easy transport, and loading them onto vehicles. As a result, some 4,000 people have since gained access to new or improved waste management services.

Where plastic waste was once brought to a makeshift base of operations under a highway overpass, it is now transported to a new sorting centre, which provides a safer workplace, as well as a space where larger quantities of waste can be sorted and aggregated for sale. Plastic waste is compacted on-site with mobile balers making it easier and more economical to transport.

Beyond ensuring better – and safer – livelihoods, the centre's sorting capability also proves that the informal sector is a reliable workforce



1

and effective partner for waste management. This is reinforced through training and continuous improvement programmes that are provided at the site.

As of February 2023, the project had diverted close to 600 tonnes of plastic waste from entering the environment or ending in landfills. This is on top of tonnage diverted by ARO in collaboration with other organisations.

This creates a model that can be scaled city-wide and potentially country-wide, starting first with recognising reclaimers as a vital part of South Africa's waste management ecosystem.



2

1. Formed in 2018, ARO seeks to unite reclaimers under a single umbrella.
2. ARO's new sorting centre funded by the Alliance ensures reclaimers are able to work efficiently and safely.



## AFRICA

# INKWAZI ISU: CLEANING UP "SOUTH AFRICA'S PLAYGROUND"

<b>Location</b> DURBAN, SOUTH AFRICA	<b>Project Partner</b> SOUTH AFRICAN HEALTHCARE FOUNDATION
<b>Achieved</b> <b>&gt;150</b> Jobs created	<b>&gt;4,000</b> Tonnes of plastic waste diverted
<b>&gt;3,500</b> Tonnes of plastic waste valorised	<b>&gt;33,000</b> People have access to new or improved waste management services

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

### Inkwazi Isu

In the South African city of Durban, a unique collaboration between government, industry, and civil society is on track to making a serious dent into the city's plastic pollution problem.

In a country where waste management is hindered by limited and unequally distributed resources, the partnership led by the South African Healthcare Foundation (SAHF) brings the public and private sectors together in a coordinated effort to divert plastic waste from the Amazimtoti and Ezimbokodweni river catchment areas.

As a first step, 10 newly upgraded Material Recovery Facilities (MRFs) around the city will soon be completed and begin sorting plastic waste collected from communities around the two catchments. This builds on the successful efforts of Alliance member company Sasol, which paid

to upgrade two MRFs that have since been handed over to the municipality.

While seemingly endless stretches of golden sand give the laid-back coastal city a reputation as "South Africa's playground", twice in the past three years, flash floods have deposited tonnes of plastic waste along its coastline. It was this recurring disaster that galvanised collaboration and the launch of Inkwazi Isu in June 2022.

Rather than cleaning up after the fact, the four-year programme – named after the Fish Eagle that returns to cleaned catchment areas – will fund upgrades of sorting infrastructure, education for the community, and the establishment of an innovation hub for entrepreneurs to develop new solutions.

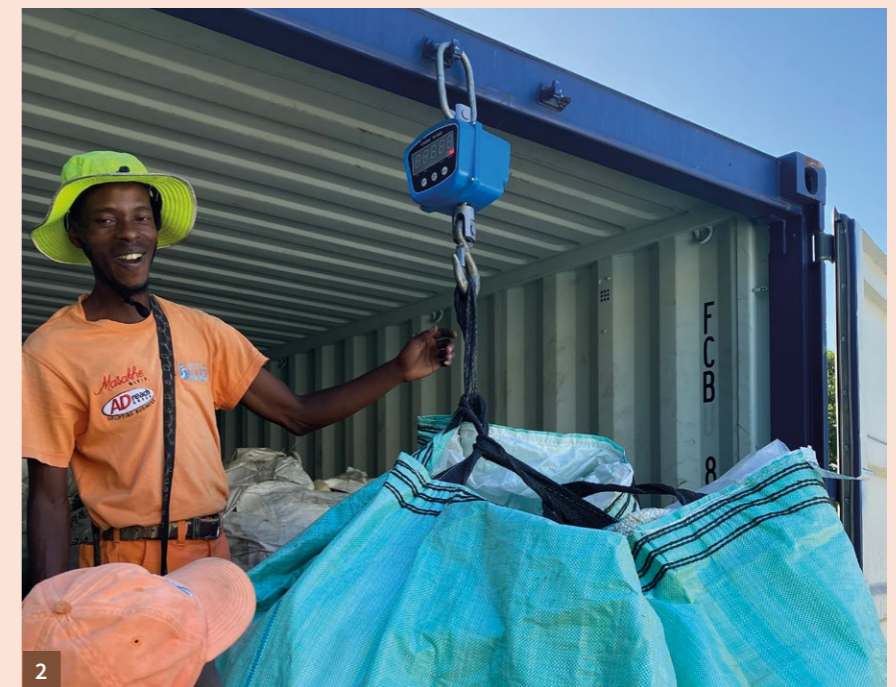
By the end of 2023, the Alliance hopes to see the completion of five MRF upgrades with its funding, increasing the city's capacity to sort – and eventually recycle – another 12,000 tonnes of used plastic per year. Another five will be enhanced successively throughout the coming year. The upgraded MRFs will be fed by waste collected from landfills, dumpsites, households, and schools, done through the efforts of municipal waste workers or bought from informal pickers.

Over a thousand community volunteers also take part in regular clean-up campaigns along rivers and beaches, recovering tonnes of waste and restoring environments. The effort is supported by Inkwazi Isu's waste ambassadors, who help raise awareness around separating waste and preventing plastic waste leakage.

This builds on the ambassadors' work in their communities. Educational programmes about how to identify and sort plastic waste have been conducted in 50 schools, encouraging students to collect their plastic waste from home. Today, these collection programmes contribute some 100 tonnes of plastic waste for recycling every month. Despite significant collection by the informal sector, only 14% of plastic is effectively recycled, primarily due to ageing or non-existent infrastructure. As such, having a coordinated and cohesive approach is key.

By December 2025, Inkwazi Isu expects to collect and sort 20,000 tonnes of plastic waste, and to have a positive social impact on its pickers and sorters. It looks to be on track to achieve these goals. More than 4,000 tonnes of plastic waste were collected and sorted between July and December 2022, higher than the 2,500 tonnes initially projected. Of this, 3,500 tonnes were valorised. In the year since its launch, the project has also helped 33,000 people and created 150 jobs. The goal is for each MRF to be self-sustaining, with sorted plastics and other recyclables sold to local recyclers.

If the Inkwazi Isu project can find success in Durban – the third most populous city in South Africa – there is an opportunity to roll it out in other coastal areas to stop plastic waste from entering the environment, divert it from landfills, stimulate the development of downstream processing activities, grow jobs, and improve the environment across the country.



1. More than 4,000 tonnes of plastic waste were collected and sorted between July and December 2022, higher than the 2,500 tonnes initially projected.
2. Collection programmes contribute some 100 tonnes of plastic waste for recycling every month.



SOUTH AMERICA

# RETHINKING RECYCLING, WITH AND FOR THE CITY

<b>Location</b> OLAVARRÍA, ARGENTINA	<b>Project Partner</b> DELTERRA
<b>Achieved</b> <b>120,000</b>	<b>50%</b>
People have access to new or improved waste management services	Of waste separated in participating neighbourhoods

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

**GIRO Argentina**

In five neighbourhoods in the Argentinian city of Olavarría, bags of unsorted waste have become a much less common sight. Instead, almost half the residents and businesses separate their waste before putting it out on designated collection days.

With the success of its pilot, and support from the Alliance and member Amcor, Delterra is now rolling out its GIRO Argentina model to 120,000 residents in Olavarría, at a rate of 10,000 to 15,000 households every two months. Olavarría is now on its way to becoming a city with one of the highest recycling rates in Latin America.

Located a five-hour drive from the capital Buenos Aires, Olavarría is a mid-sized city with a small-town feel – a place where neighbours greet one another and stop for the occasional chat. For the same reason it can be conservative, and resistant to change.

The challenge for Delterra was to discover what it would take to influence residents, who are accustomed to daily collection of mixed waste, to instead source segregate and store the separated waste streams at home.

This would support a new three-stream collection system which includes kerbside collection of compostable and recyclable items once a week, and mixed waste twice every week.

Lessons from this project will help to address a fundamental recycling challenge – while as much as 80% of post-consumer waste can be recycled or composted, it still is out of reach of the recycling industry unless separated at source. Efforts to engage the community began in 2019. Then, only 1% of residents were taking part in an existing programme that included drop-off locations in public areas.

The GIRO Argentina team conducted door-to-door and online surveys to understand the needs and motivations of residents. Then they designed, further refined, and evaluated their insights in five pilots, honing components of community education, collection, sorting, and social inclusion with each iteration. Each behaviour change pilot built upon the lessons learnt from earlier ones, creating a blueprint for setting up new collection services.

Residents' strong values around shared commitments between citizens and government, pride in being a modern city, and openness to recycling became the backbone of the programme that moved the needle.

Familiar and easy-to-use information touchpoints helped to boost confidence and reinforce commitment. This included a WhatsApp-based chatbot which provided quick answers to questions from the community.

The GIRO model starts in each home, where waste is sorted and left at the kerb on the assigned pickup days. The municipality collects and transports the waste to the right location, with

recyclables brought to the GIRO sorting centre. There, recyclables are further separated into categories such as cardboard, glass, and more than 10 categories of plastic. The separated recyclables are sold to the recycling industry while compostable, organic waste is transported to a composting facility to be processed. Mixed waste collected goes to the existing landfill.

By running various pilots, GIRO Argentina managed to push waste separation rates in participating neighbourhoods from 1% to almost 50% in a few months, demonstrating how effective co-created local solutions can be in changing behaviours.

In preparation for its city-wide roll out, a new commercial scale sorting centre and composting plant were built to replace the smaller, proof-of-concept pilot plants. Both started up recently, in May 2023. Rallying the city around recycling has not only introduced circularity to the city; it has turned what was once waste into a resource and created formal jobs for a historically underserved population of waste pickers working at the local landfill.

Delterra also estimates that changing the city's recycling behaviour will ultimately cost far less than employing waste-sorting technology: US\$50 to US\$150 for every additional tonne of recyclables delivered per year, compared with US\$200 to US\$700 for an automated sorting system. It also expects project costs to be recovered within a couple of years through recyclable sales, avoided landfill costs, and earnings from plastic and carbon credits.

GIRO, which builds on a 2019 proof-of-concept in the Barrio Mugica district in Buenos Aires, will be handed over to the municipality once the sorting centre and composting facility are fully operational and collection services are rolled out to the rest of the city.



1. Waste worker bales and stores collected waste from households in well organised stacks in GIRO's plant for a more seamless waste work stream.
2. The GIRO Argentina team conducts door-to-door engagement in the local community to increase participation and waste separation rates.



## SOUTH AMERICA

# SETTING BRAZILIAN CITIES UP FOR A SUSTAINABLE FUTURE

<b>Location</b> MULTIPLE LOCATIONS, BRAZIL	<b>Project Partner</b> INSTITUTO RECICLEIROS
<b>Achieved</b> <b>14</b> Sorting centres in operation	<b>&gt;84,000</b> People have access to new or improved waste management services

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

### Cidades

Since 2019, Recicleiros, in partnership with the Alliance, has started 14 sorting centres in small to medium-sized cities in Brazil, bringing recycling to these communities for the first time.

What started as a pilot in the Brazilian state of Ceará has evolved into a tried-and-tested waste management model that Recicleiros aims to scale to 60 cities across Brazil by 2027, create 3,000 new jobs and recycle at least 30,000 tonnes of plastic waste across the country annually.

To date, more than 84,000 people have received access to new or improved waste management services.

It all begins with a sign-up – cities keen to set up sustainable waste management services apply for the Recicleiros' Cidades programme, entering a qualification process. The qualification process is rigorous, taking into consideration not just the infrastructure, resources, and capabilities of each city, but also its

commitment to carry the project through in fostering the behaviour change needed at the household level. Once cities are qualified, Recicleiros facilitates the knowledge and investments necessary to set up and manage a localised sorting centre, including partnering with formalised cooperatives to ensure long-term sustainability.

The sorting centres function as critical connectors between the various players along the plastics value chain, laying the pathway for an inclusive, high-impact, and economically viable system. They provide direct employment and income opportunities for waste workers, or *catadores*, which better their lives. They also help bridge the gap between supply and demand for recovered materials, filling a gap in the market for recyclates sought after by local and international brand owners.

Work is underway to franchise the model in another six Brazilian cities to complete the project's first phase. Meanwhile, the search has started for the next batch of 20 cities to kick off the second phase.

The impact of Cidades will be wide-reaching, going well beyond just cleaner cities. Over the coming years, Recicleiros aims to continue to bring together municipal governments, waste collectors, businesses, and citizens to increase recycling rates and reduce household waste going to landfills, making more recyclables available for sale to recyclers.

In Brazil, the demand for post-consumer recyclables is expected to grow significantly in line with regulatory changes. Two new decrees passed by the federal government in Brazil in February 2023 will further advance Recicleiros' objectives and the outcomes for the workers employed in its facilities. The first regulates several reverse logistics credits at the federal level, giving focus to increasing investments in new infrastructure, while prioritising cooperatives and waste pickers. The second reinstates the "Pró-Catador" programme, an interdisciplinary committee aimed at socioeconomic inclusion of waste pickers, which was previously stopped in 2020.

The new regulations build on the impact that Cidades is having, both environmentally and socially – safeguarding the environment while uplifting some of the most vulnerable members of Brazilian society. In bringing waste pickers back to the forefront of the discussion, initiatives for socioeconomic advancement becomes more possible on a local level and beyond.



1. Sorting centres run by Recicleiros act as critical connectors between various players value chain.
2. A sorting centre set up by Recicleiros.
3. Cidades aims to recycle over 30,000 tonnes of plastic waste across 60 cities in Brazil.



## NORTH AMERICA

# CATALYSING INVESTMENTS FOR PLASTICS CIRCULARITY

<b>Location</b> ROGERS, MINNESOTA, US	<b>Project Partner</b> MYPLAS RECYCLING (MN) INC
<b>Achieved</b> <b>US\$14.9 M</b> Catalytic investment	

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**




### Minnesota Recycling Plant

In the suburban city of Rogers, Minnesota, a journey to circularity is about to begin.

Currently, just 5% of flexible packaging and films used in the US each year are recycled. The rest – which includes everything from single-use shopping bags to e-commerce mailers and shrink wrap – typically ends up in landfills and incinerators, or is littered in the environment. Coupled with low recycling rates and heavy reliance on virgin plastics, concern around the country's waste management practices has grown in recent years.

South African recycling company, Myplas, hopes to change this system

by processing and recycling plastic film collected from commercial and agricultural use in applications where its original quality is required. Specifically, it hopes to turn plastic waste into recycled pellets that will be used in food-grade film and products like shrink wrap, grocery bags, and other flexible packaging.

The Alliance provided an initial concessional loan with financial terms that enabled Myplas to attract additional growth funding of US\$14.9 million from other investors. The funds will go, in part, towards a new 15,700 square metre mechanical recycling plant, before reintroducing it into the economy. It is expected to open with two production lines in Summer 2023.



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1. The Alliance enabled Myplas to attract additional growth funding.
2. The facility is expected to open with two production lines in Summer 2023.



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SOUTHEAST ASIA

# ADVANCING INTEGRATED WASTE MANAGEMENT AT SCALE IN INDONESIA

**Location**  
INDONESIA

**Project Partner**  
BERSIH INDONESIA TEAM,  
LED BY THE ALLIANCE TO END  
PLASTIC WASTE, SUPPORTED BY  
SYSTEMIQ AND MOTT MCDONALD

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**Achieved**

**>3,100** **31**

Tonnes of plastic waste diverted      "Hotspots" cleaned up

**UNITED NATIONS  
SUSTAINABLE DEVELOPMENT  
GOALS**

**Bersih Indonesia:  
Eliminasi Sampah Plastik**

Bersih Indonesia: Eliminasi Sampah Plastik initiative is one of the most ambitious waste management projects in Indonesia. The aspiration is to bring together the municipal and national governments, expertise and funds from the private sector, and the participation of local communities in a coordinated push to transform the waste management landscape.

The goal is to pioneer a self-sustaining and commercially viable system that could take the country significantly closer to its goal of achieving near-zero leakage by 2040.

Over the past 18 months, the Alliance has been working on the programme and detailed engineering design for the project. In addition to setting up infrastructure – including building Material Recovery Facilities, transfer stations, and vehicle fleets – Bersih Indonesia will introduce a regency-wide, affordable paid waste collection service to Indonesian households.

The system will collect all municipal solid waste, which typically has 15% to 20% plastic waste by weight. There has been strong interest in the huge volume of recyclables that will be recovered from the system. Multinational companies and local businesses have been engaged as potential purchasers of the commercialised material, ensuring supply at a scale that will support local end-markets for recyclates. This tackles one of the biggest issues facing the circular economy for plastics in Indonesia and paves the way for a self-sustaining business model.

A key element the programme is the establishment of a public utility – locally known as a Badan Layanan Umum Daerah (BLUD) – operating under the Regency's Environment Department, a first in Indonesia's waste management sector. Enabled by the Alliance's funding, the BLUD will assume full responsibility for the operations and maintenance of the waste management system.

Through the Bersih Indonesia programme, the Alliance aims to present a de-risked opportunity for the government and potential funding partners to finance the replication of the proven model in other regencies in Indonesia; eventually bringing waste management to a total of 6.5 million people and diverting some 140,000 tonnes of plastic waste from the environment annually when the programme is fully operational.

Integral to the success of the model will be local government ownership, community buy-in, and participation. With a large part of its success

dependent on households segregating their waste into two bins for organic and inorganic waste respectively, a significant part of the preparation phase is focused on driving behavioural change within communities.

To pilot some of these behaviour change campaigns, we started some clean-up activities in 31 "hotspots" in 2022 in the Malang Regency, diverting 13,500 tonnes of unmanaged waste from informal dumpsites, of which 3,100 tonnes comprised of plastic waste. We involved communities and local leaders so that they would be able to see what a future without waste in their communities looks like.

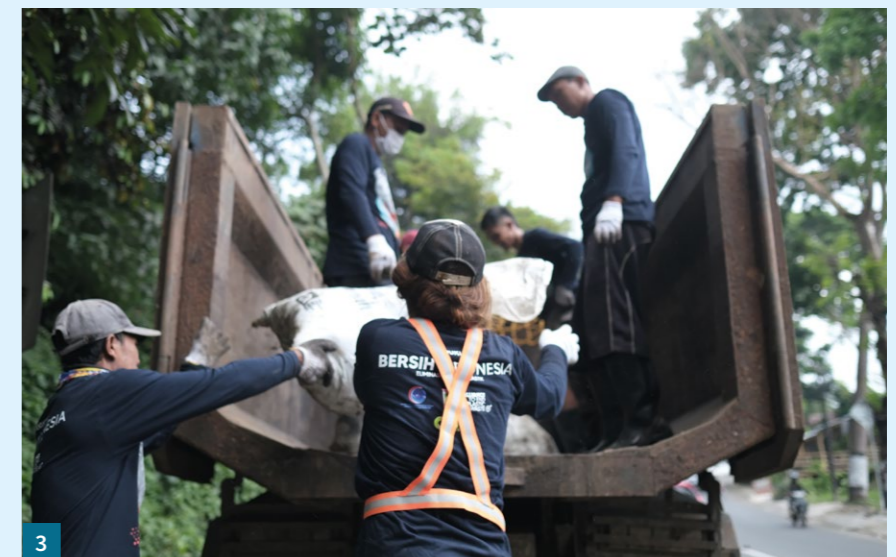
We continue to be enthusiastic about the programme – as ASEAN's largest economy, Indonesia is a key player in the race to reduce plastic waste in the region and globally. We anticipate being able to secure collaboration across the public, private, and people sectors could bring about the change in thinking needed in plastic waste management, not just in Indonesia, but beyond. If successful, Bersih Indonesia could provide a blueprint for financially sustainable waste management projects in other underserved communities.



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1. Alliance visit to the Talangagung landfill with Bapak Sanusi, Bupati of the Malang Regency.
2. Clean-ups were organised in various hotspots in Malang such as the Kendalpayak village in the Pakisaji district.
3. In these clean-ups organised in conjunction with GPT Circular, waste diverted out of the environment was sorted and sold to off-takers.





## CHINA

# DISPENSING CIRCULARITY THROUGH LOVERE'S SMART BINS

Location CHENGDU AND XI'AN, CHINA	Project Partner AIFENLEI HONGKONG LIMITED
Achieved <b>1,400</b> Smart bins installed	<b>3,400</b> Tonnes of plastic waste diverted

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**




### Partnership with LOVERE

Instead of serving drinks and snacks, special machines in Chinese cities are taking in plastic waste and dispensing circularity. These smart bins, which can also be found on sidewalks in the communities in both Chengdu and Xi'an, accept recyclable waste, and reward those who use them with credits on the nation's popular WeChat app.

Building on LOVERE's model to place smart bins across several districts in the dynamic city of Shanghai, the goal is to more than double recycling rates in Chengdu and Xi'an from 15% to 35%.

Since November 2021, enviro-tech company LOVERE has installed almost 1,400 of these smart bins across both cities with support from the Alliance. Like most reverse vending machines, these smart bins are easy to use and are available 24/7. While the initial plan in 2021 was to install 3,000 smart bins in strategic points, mostly in the residential districts, China's Zero Covid policy in 2022 put the project on pause.

Installations resumed in February 2023, and the ramp up to achieve the target continues.

Supported by artificial intelligence, the smart bins differentiate recyclable materials from non-recyclable ones. Cameras installed within each bin work as the eye that feeds information back to object recognition software – consumers who deposit paper, metal, textiles, and plastics will be rewarded, but not those who leave behind non-recyclables. An internal sensor sends a signal when it's time to activate the in-built compactor, and once the bins are 80% full, LOVERE's collectors are mobilised to retrieve the contents. Big green bags holding collected waste are then brought to transfer stations across the cities, or directly to one of LOVERE's material recovery facilities.

There, recyclables are separated into as many as 72 individual streams, before they are sold to recycling companies. Operations at Chengdu's newly constructed sorting centre started late last year, while the setup for a similar facility in Xi'an is underway.

So far, 3,400 tonnes of plastic waste have been collected and sent to sorting centres from smart bins funded by the Alliance.

Recyclables from communities form just one part of what is collected. Commercial sources like office buildings, shopping malls, and other businesses collaborating with LOVERE are part of their collection ecosystem too.

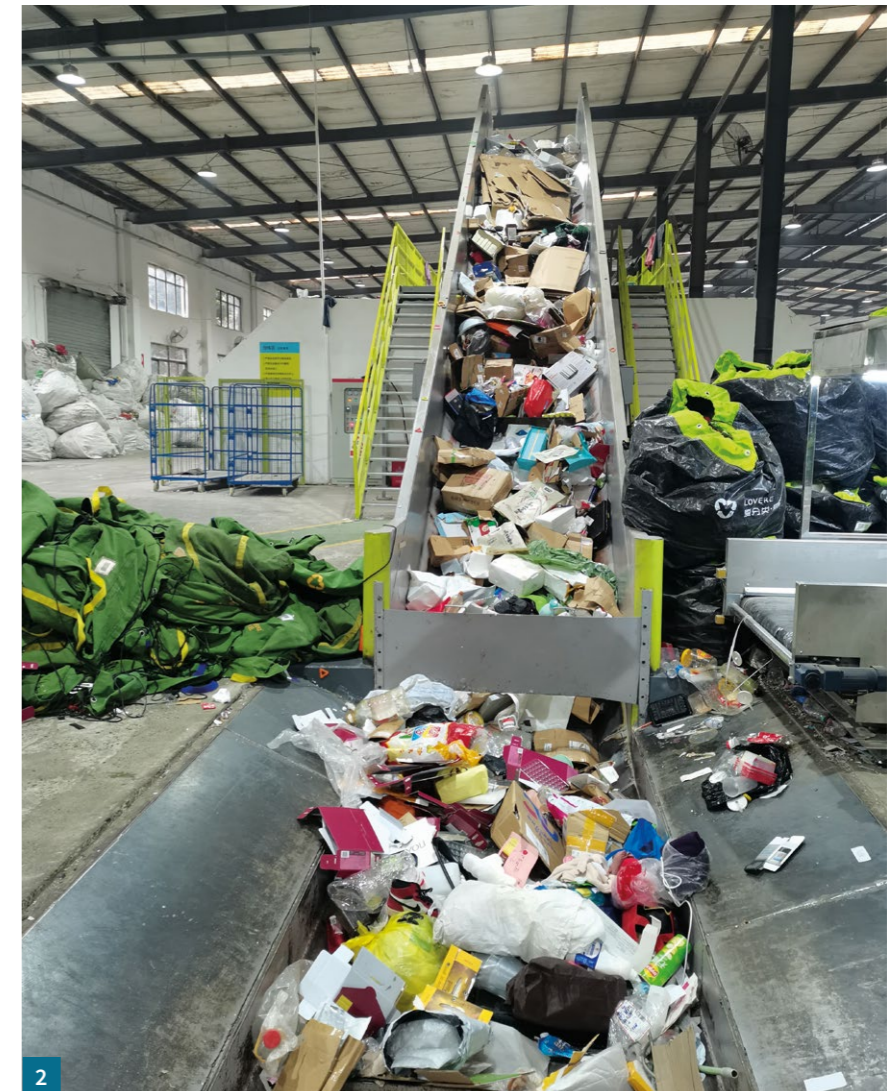
The project falls under China's "Internet Plus" initiative, which aims to build out digitally driven ecosystems for various industries. Its "Internet Plus Recycling" strategy uses technology to create new collection models that integrate recovery, collection, sorting, and distribution of recyclables.

LOVERE's solution model works towards the same goal. Chengdu and Xi'an were chosen as expansion locations because of the high number of tourists and residents, leveraging economies of scale from uptake across a large population. At the same time, the local community is also being engaged through community education programmes that promote sustainable practices.

More smart bins are being installed across both cities alongside a growing network of customers for the various recyclable material streams that continues to grow within China and in neighbouring countries. LOVERE is also exploring tie-ups to turn the recyclables collected into high-value products, helping to not just build a circular economy, but to make recycled products "the new fashion".



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1. LOVERE's easy-to-use bins are supported by artificial intelligence.
2. At LOVERE's material recovery facilities, recyclables are sorted into up to 72 streams.



## SOUTH ASIA

# CHANGEMAKERS: FROM CLASSROOMS TO COMMUNITIES

<b>Location</b> KOLKATA AND SUNDARBANS, WEST BENGAL, INDIA	<b>Project Partner</b> SOCEO gGmbH	
<b>Achieved</b>		
<b>69</b> Schools onboarded	<b>&gt;45,000</b> Students engaged	<b>&gt;300,000</b> People engaged by students

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**




### Changemakers Youth-Led Action Against Plastic Waste

In the metropolitan areas of Kolkata and the Sundarbans region of West Bengal, a new generation of eco-warriors is taking the future into its hands – starting with responsible plastic waste management.

More than 45,000 students between 11 and 18 years old took part in a two-year pilot programme organised by SOCEO, which taught them about the scale of plastic waste pollution in their region, and the role they could play in addressing it. They then took the message back to some 300,000 people – including their peers, families, and communities – rallying them around the plastic waste management issues threatening their region and the Sundarbans delta ecosystem.

The success of this pilot programme has encouraged SOCEO to replicate Changemakers in other areas in the country. And while the Alliance's involvement in this phase of the Changemakers project has drawn to a close, we are further working with SOCEO to adapt this education programme for regional and global audiences.

In India, plastic consumption has increased exponentially due to population growth, rapid urbanisation, and increased demand. As a result, about 3.5 million tonnes of plastic waste is generated annually, according to India's Central Pollution Control Board.

The Changemakers pilot, which involved 69 high schools, began with identifying schools and partners for the project and conducting a baseline study to discover how aware students were of the challenges and effects of plastic waste. The Alliance and SOCEO then jointly developed a peer-to-peer learning programme. Besides learning about the uses of plastic and plastic waste management, these young eco-influencers reflected on their own behaviour and developed the skills and knowledge necessary to become agents of change.

They had the opportunity to organise clean-up drives, hold awareness rallies, conduct dialogues, workshops and, most importantly, spread the message in both urban and rural communities.

The curriculum was later compiled into "Teaching Learning Activity Material".

The simplicity of Changemakers' design belies its impact. In a country where waste management strategies are still nascent while plastic waste volumes continue to grow, and people's behaviour is often deeply entrenched, the impact of this initiative via the younger generation could be far-reaching.

Over the course of the pilot, 35 schools collected more than 3 tonnes of plastic waste. More importantly, a survey conducted at the end of the project showed that because of the curriculum, 95% of the participating students were more likely to stop littering in the streets.

The Sundarbans region is also home to important natural habitats, including one of the world's largest mangrove forests. Running through it are the Ganges, Brahmaputra, and Meghna, which are among the world's most polluted rivers. Plastic waste that finds its way into the water gets entangled in the mangrove roots, threatening the riverine and forest ecosystems. Wildlife that thrives there is harmed, and livelihoods, especially fishing, is affected.



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1. As part of the curriculum, students held awareness rallies, spreading the message to their communities.
2. To learn about responsible waste collection and management, students were encouraged to collect plastic waste for recycling.
3. More than 3 tonnes of plastic waste were collected across 35 schools.



## SOUTHEAST ASIA

# ENABLING THE PLASTIC WASTE VALUE CHAIN IN KLONGTOEI

**Location**  
BANGKOK, THAILAND

**Project Partner**  
FEDERATION OF THAI INDUSTRIES,  
PPP PLASTICS, THAILAND  
BUSINESS COUNCIL FOR  
SUSTAINABLE DEVELOPMENT

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**Achieved**

**>200** Tonnes of plastic waste diverted up until May 2023

**2,000** People participating

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

### Eco Digiclean Klongtoei

In central Bangkok's Klongtoei district, the future of recycling rests in the hands of its residents.

The recently piloted smartphone and web-based app, Recycle Market, uses technology to connect players in the district's recycling ecosystem – from residents, organisations, and logistics providers to collectors and recyclers – to create a transparent marketplace for the buying and selling of post-consumer plastics. For example, recyclers can retrace the journey post-consumer resins have taken, allowing them to be assured of the origin and quality of the materials they receive.

Some 2,000 residents currently participate in the Eco Digiclean Klongtoei pilot, bringing their separated plastic waste to eight collection points in the district.

Workers log the deposited waste, and the app issues them credits that can be redeemed as cash.

The plastic waste is then put up for sale on the app. Buyers – typically independent collectors, junk shops, and recyclers – make their bids for the bales on offer. Once a bid has been accepted, the waste is delivered, and the route is tracked in real-time.

Eco Digiclean Klongtoei was started by the Federation of Thai Industries, PPP Plastics, and Thailand Business Council for Sustainable Development in 2021. It is supported by the Alliance. The app and drop-off points were piloted in September 2022 and cover residential districts, department stores, hospitals, and offices. The purpose of the project is to learn what it will take to motivate different groups of people to sort, recycle and trade in plastic waste. Through data collected on the app, behavioural patterns can be identified – providing a starting point to optimise local approaches to recycling.

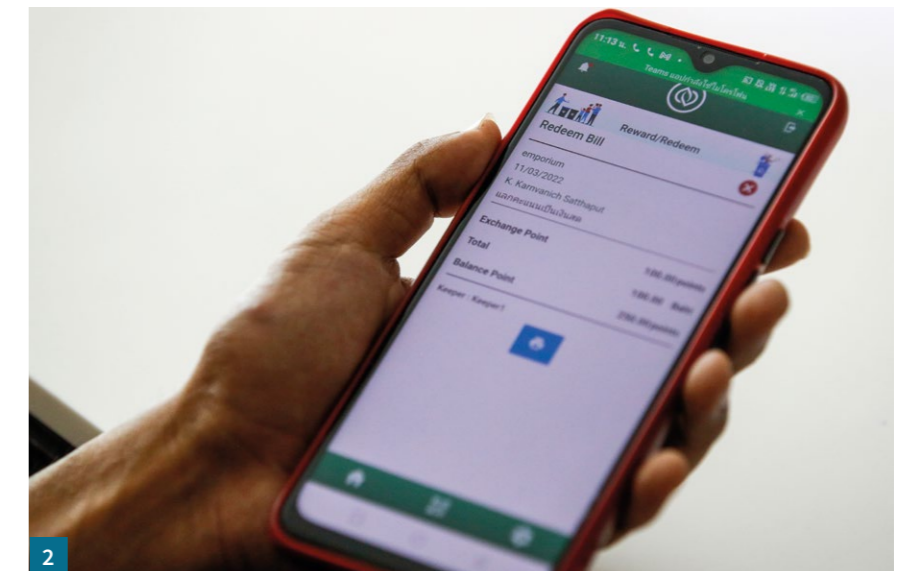
As of May 2023, more than 200 tonnes of plastic waste have been collected.

With a population of over 100,000, Klongtoei is an ideal place to gather insights into the drivers behind diverse recycling behaviours, as well as the effectiveness of various collection mechanisms. Because of its proximity to the Chao Phraya River, major port facilities, and a major market, the district generates a lot of plastic waste with the potential to leak into the environment.



While Thailand already has waste management systems in place, most consumers do not know how to sort their waste and most of it ends up in landfills. To help accelerate behaviour change, collectors educate consumers about how to properly sort their waste, allowing for more of it to be channelled towards recycling.

Given Thailand's goal to achieve 100% recycling of targeted plastic waste by 2027, the Eco Digiclean Klongtoei model may be one way of helping the country achieve its ambitions. Bangkok's governor has already recognised the value of the pilot, endorsed rolling out the model in the city's Pathum Wan, Phraya Thai, and Nongkham districts.



1. Community collection point.
2. The Recycle Market app of Eco Digiclean Klongtoei issues credits that can be redeemed into cash, increasing consumer understanding of the value of different types of sorted waste.



## SOUTHEAST ASIA

# DRIVING INNOVATION, INVESTMENT, AND INCLUSIVITY FOR PLASTIC WASTE

Location SOUTHEAST ASIA	Project Partner THE CIRCULATE INITIATIVE
Achieved <b>57</b> Start-ups directly supported through incubators	

**UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**




### The Incubation Network

Through The Incubation Network's programmes, small local businesses and entrepreneurs in the plastics value chain are receiving the support they need to get their ideas off the ground. Driven by The Circulate Initiative and SecondMuse, and co-funded by the Alliance, incubator initiatives are advancing promising ideas by providing entrepreneurs with capital, know-how, and connections.

These incubator programmes include country-specific ones like the Java Low-Value Plastics Accelerator and the Thailand Plastics Circularity Accelerator. Others have targeted region-wide programmes, like the Plastic Waste to Value Southeast Asia Challenge, which was extended to innovative upcycling and recycling ventures in Indonesia, the Philippines, Thailand, and Vietnam.

More than 350 start-ups have been supported through The Incubation Network, with more than US\$2million in funding. Of these, the Alliance has supported 57 start-ups directly to develop an integrated, robust ecosystem around our projects.

Take the Alliance's Eco Digiclean Klongtoei (see *Enabling the Plastic Waste Value Chain in Klongtoei*) project for instance. While linking consumers, waste collectors, and recyclers on a singular app opens opportunities to collect and process more plastic waste, the amount that can be recycled is limited, in part by the ability of local recyclers to process low value plastic waste.

Enter the Thailand Plastics Circularity Accelerator, where support was given to Thai-based businesses with a keen focus on these grades of recyclable plastic waste.

Today, four local start-ups have scaled their solutions, creating a larger appetite to collect and sell what was previously considered to be of low value.

In Indonesia, the same challenge to create value from plastic waste is being approached differently. There, Indonesian start-up, Plastik, built a sorting facility and hired people from local communities to extract low-value, hard-to-recycle plastic waste, turning it into pavement blocks for the city's parks.

Plustik participated in the Java Low-Value Plastics Accelerator. Its aim: to identify and scale potential off-takers for low-value plastic waste that will be collected through the Alliance's programme, Bersih Indonesia: Eliminasi Sampah Plastik (see *Advancing Integrated Waste Management at Scale in Indonesia*).

Today, Plastik has reduced the amount of mixed plastic waste that finds its way into the landfill by about 1,800 tonnes a year.

With funding and support from the Alliance, The Incubation Network has brought the region a little closer to achieving just and equitable plastics circularity.

1. PLASTICPeople, a participant in the Plastic Waste to Value Southeast Asia Challenge, creates safe, creative consumer products out of various types of plastic waste.
2. TerraCycle Global Foundation, a participant in the Plastic Waste to Value Southeast Asia Challenge, partners with local communities to design solutions that prevent, collect and recycle plastic waste in rivers.





JAPAN

# TAPPING JAPAN'S INNOVATIVE STREAK TO SOLVE FOR CIRCULARITY

Location TOKYO, JAPAN	Project Partner KAMAN AND RECOTECH
Achieved <b>9</b> Participating cities, towns, and stadiums	<b>88</b> Participating restaurants and food trucks
<b>&gt;3,100</b> Instances of lunchbox usage	

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

**Megloo Reuse Japan**

It is lunchtime in Tokyo's trendy Shibuya district, and rush hour for its popular restaurants. But after the delicious contents of bento boxes make their way to bellies, the next stop is not the bin. Instead, these reusables are lightly rinsed and placed into distinctive green and white Megloo boxes, ready to be collected, washed, and used for another meal.

This reuse model, started in the city of Kamakura, just south of Tokyo, to tackle single-use plastic waste, has now been piloted in Shibuya and Yokohama, and at various events, with funding and support of the Alliance.

It begins with making a call to request for takeaway meals served in Megloo containers. Food is prepared and packed into reusable plastic containers made of lightweight polypropylene, ready for payment and collection – all while keeping customers informed on LINE, a widely-used instant

messaging app in Japan. The app keeps track of the number of containers borrowed from respective restaurants providing important usage and container location data. Consumers who have eaten their fill return their Megloo containers at restaurants or deposit points, where the containers are collected, cleaned, and lined up for the next shift.

This process is repeated 100 times for each container. Between November 2022 to May 2023, Megloo's containers have been used more than 3,100 times.

Now, Megloo's creator, Kaman, hopes to extend this to high-traffic food service and event venues, offices, and food delivery services. Some 88 restaurants and food trucks across 9 cities, towns, and stadiums have adopted the reuse model. As the local appetite for reusable meal boxes continues to grow, Kaman plans to avoid the use of an estimated 50 tonnes of virgin plastics by 2025, with a corresponding reduction in CO<sub>2</sub> emissions.

Japan's obsession with over-packaging everything from sandwiches to single apples means that it ranks among the largest producers of plastic waste in the world, even if strict rules on separation and disposal keep waste off the streets.

Fortunately, Japan's culture of innovation is helping it solve this problem. Megloo was one of two initiatives that became part of the Alliance's portfolio of solutions through our incubation programme with Plug and Play, the End Plastic Waste Innovation Platform. Megloo was one of 11 winners that made it through the Japan edition of the programme in 2022.

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

**POOL Recycling System Japan**

The other winner selected from the Japan edition of the End Plastic Waste Innovation Platform in 2022 was start-up RECOTECH. The company is turning plastic waste destined for incineration into pools of valuable resources through its POOL Recycling System. The system collects flexible plastic waste and turns it into recycled resins, which can be used for a variety of plastic applications. The system keeps plastic waste completely traceable through an app, making it visible and centrally manageable from the time it is discarded until it is recycled into POOL resins.

Since its November 2022 launch, RECOTECH has connected with retailers in the Tokyo metropolitan area to collect flexible plastic waste from their stores, and targets collection from more branches across the country – including Kanto, Kansai, Nagoya, Fukuoka, and Sapporo, among others. RECOTECH hopes to collect and recycle up to 14,000 tonnes of flexible plastic waste per year by 2026.

Kaman and RECOTECH are the Alliance's first two project partners in Japan, where we continue to look for novel solutions that can be developed and scaled.



1. Chie Bannai, Circularity Designer of RECOTECH, pitches the POOL Recycling System to industry experts and investors.
2. Shingo Yoshizumi, CEO of KAMAN, pitches the Megloo Reuse Japan project, one of the 11 winners of the Japan edition of the End Plastic Waste Innovation Platform.



# IMPACT FINANCE

The goal of the Alliance is to mobilise capital and use it to test and prove new ideas that will create a circular economy for plastic. Some of this capital we directly raise ourselves and then deploy into projects. But we also aim to mobilise capital from other parties.



Justin Wood delivering his address at the ALL\_Summit Leadership Conference in New York.

Broadly speaking, we raise and mobilise three types of capital:

### Solution Accelerator Fund

This is money raised by the Alliance from the annual dues that our member companies pay to us. This capital is used to fund our projects, usually in the form of grants or concessional-rate loans. Up until the end of 2022, we had allocated a cumulative US\$225 million for this.

### Member Directed Commitments

This is money that our member companies pledge to invest into their own sustainability projects connected to plastic upon joining the Alliance.

These pledges are part of the commitment of being a member of the Alliance and are known as “Member Directed Commitments” (MDC). Members may sometimes choose to deploy their MDC capital into Alliance projects rather than their own, or into activities closely connected to Alliance projects.

### Catalysed Capital

This is money that the Alliance has mobilised from parties other than member companies. The funds could be from the capital markets, from governments, from development finance institutions, from sovereign wealth funds, or from family offices.

Our goal is to encourage these other parties either to co-fund our projects, or to fund other ideas connected to our work. One notable example of catalysed capital is the Lombard Odier Investment Managers Plastic Circularity Fund. Reporting on the catalysed capital will be included in our 2023 Progress Report.

Because the Alliance is a charity, the types of funding we provide and our “return expectations” are often quite different to those of other finance providers. For example, the Alliance usually makes grants or concessional-rate loans – with expectation of an impact return rather than a financial

one. Private equity, by contrast, looks to make an attractive internal rate of return. This means that the Alliance’s capital can be blended with the capital of others in powerful and creative combinations.

In many ways, the capital directly under the control of the Alliance can work as a catalyst, unlocking capital from third parties that might otherwise be reluctant to invest. This is because the Alliance’s capital helps to de-risk projects so that commercial capital can then continue the process of scaling and replicating them. We typically fund initial capital expenditure and selectively provide working capital to projects to help scale projects in the growth stage. This early-stage funding has an inherently higher risk as innovative approaches or technologies are assessed, but it enables de-risking both from a capital structure and technical perspective.

Beyond traditional financing, there is a need for innovative financing

structures to enable the rapid scaling of innovative technologies. This has led to the launch of an impact private equity fund focused on accelerating the transition to plastics circularity in partnership with ESG focused investor, Lombard Odier Investment Managers. The Plastic Circularity Fund was announced in May 2022 with a target to raise US\$500 million from external financial institutions and institutional investors to drive catalytic capital to the niche investment area of plastic circularity. The Alliance is a cornerstone investor in the Fund, with a commitment of US\$10 million.

This Fund’s objectives are to invest in a portfolio of private companies or entities that provide a solution, or promote solutions, to reduce and avoid environmental pollution from plastic waste and that decrease greenhouse gas emissions in the plastic value chain. The Alliance is serving as a technical advisor to the Fund during its five-year investment phase.

### Valuing Member Commitments

The Alliance has developed a framework to determine what existing or planned member company investments qualify as an MDC. This approach requires members to align their own initiatives to the goals of the Alliance.

The Alliance assesses proposals from member companies against a set of criteria. Proposals must satisfy conditions, including

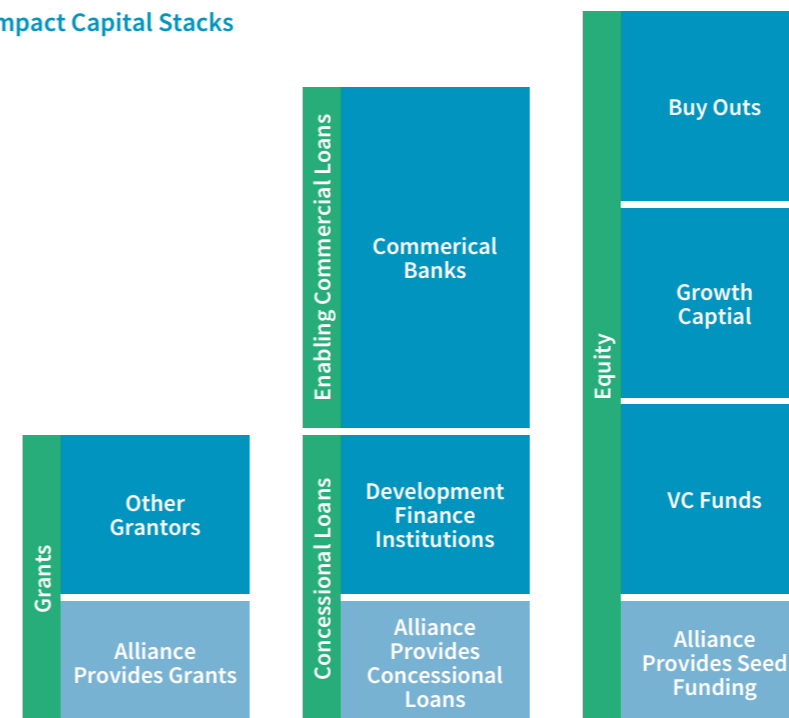
**Additionality** – where this is a new programme or initiative that contributes to the Alliance’s objectives.

**Materiality** – where the initiative will reduce or contribute to the avoidance of unmanaged waste and demonstrate a clear benefit to people and communities beyond a company’s stakeholder group.

Many of these member commitments are complex and can take several years to fully implement. Where this occurs, members are asked to formally declare their expenditure on these projects. This sum is then rolled up with the confirmed expenditure on other qualifying member projects and included in the total MDC amount the Alliance reports.

As of May 2023, member projects with a total value of US\$1,025 million have been qualified, with US\$532 million already spent.

### Impact Capital Stacks





# ENABLING INNOVATION



Plastic waste pollution continues to rise on the global policy agenda, yet solutions are either absent or underdeveloped in many countries. After accounting for research, infrastructure, and management costs, transitioning to a circular economy for plastic waste by 2040 amounts to a whopping US\$1.2 trillion, according to a report by the Global Plastic Action Partnership under the World Economic Forum.

The Alliance to End Plastic Waste supports innovation that will stop plastic waste from entering the environment. We aim to maximise the impact of our work, and this not only includes mobilising capital and using it to test and prove innovative ideas that will create a circular economy for plastic; it also means that we actively cultivate greenfield innovation.

### End Plastic Waste Innovation Platform

We run the End Plastic Waste Innovation Platform in collaboration with the Plug and Play Tech Center, a global innovation platform that connects early-stage investors, start-ups, and corporations. Some 3,000 start-ups working to develop solutions to address the challenge of plastic pollution have emerged from

the platform in San Francisco, Paris, Singapore, Shanghai, São Paulo, Tokyo, and Johannesburg. Connecting start-ups from the End Plastic Waste Innovation Platform with Plug and Play's network of investors and corporate partners has enabled several of these start-ups to grow.

Start-ups like Oceanworks are working alongside established companies within the plastics industry to enable traceability and transparency using blockchain. Others, such as Kaman and RECOTECH, have grown into Alliance-funded projects (see *Test-bedding Solutions*), given their potential to pioneer reuse models and enhance local recycling systems, respectively.

By the end of 2022, more than 160 start-ups and over 220 pilots have developed from the Alliance-funded End Plastic Waste Innovation Platform. Based on the progress made by participating start-ups, we estimate that our initial seed investment of US\$5 million has catalysed more than US\$170 million in investments over the past three years.

### The Alliance Prize: Circular Solutions For Flexibles

Unfortunately, capital investment alone is not enough to drive the innovation needed to end plastic waste. The scale of the issue requires a range of innovative financing and incentive-based structures.

In April 2022, we launched the search for a novel solution to deal with flexible plastic waste. The Alliance Prize was also a platform to connect entrepreneurs, capital, and technical experts. The competition attracted more than 600 registrations



1. Start-ups that come through the End Plastic Waste Innovation Platform have been able to catalyse impact across global hubs.
2. Selection Day for the Japan edition of the End Plastic Waste Innovation Platform.
3. Kaman's Alliance-funded project, Megloo Reuse Japan, pilots a reuse model for takeaway containers.



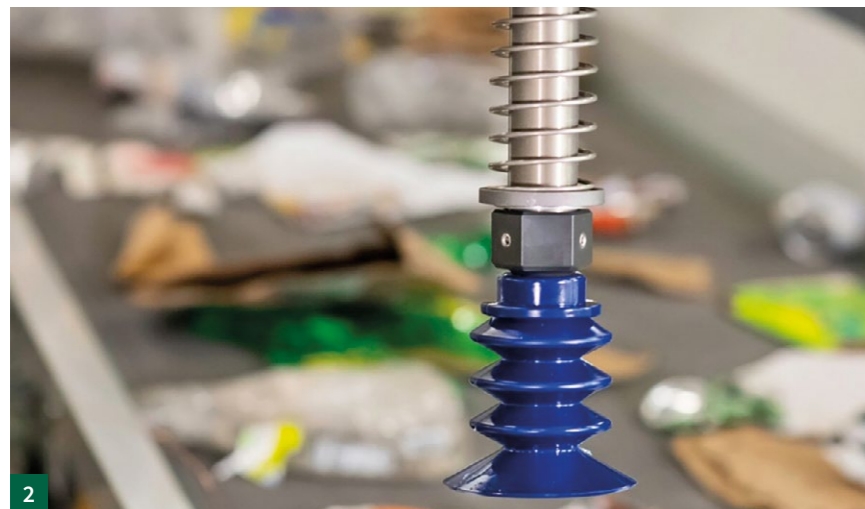
## ENABLING INNOVATION



from across the globe and resulted in 60 complete submissions at the end of the year. They were then assessed for their impact, scalability, feasibility, and innovation.

The US\$3 million prize, which will be used for project funding, went to Nextek's COtooCLEAN, a proprietary cleaning process that, instead of water, uses low-pressure super-critical CO<sub>2</sub> to decontaminate polyolefin films. With this, post-consumer plastic films can be easily decontaminated and recycled into food-grade quality resin.

Fostering innovation boosts local capabilities to process plastic waste and taps into the vast creativity and expertise across the value chain, enabling players to learn from and apply solutions to their archetypal challenges. We are proud to be able to play our part in driving this.



1. Presentation by a start-up from the Silicon Valley edition of our End Plastic Waste Innovation Platform.
2. AMP Robotics creates robotic systems that sort recyclable material.
3. Recycleye uses artificial intelligence, image recognition, and recycling robotics in automated turnkey solutions in the waste management industry.
4. Start-ups from the Tokyo edition of our End Plastic Waste Innovation Platform.







# FOSTERING COLLABORATION

Since our start, collaboration has been at the core of our approach to improving the collection and management of plastic waste globally.

Ending plastic waste from entering the environment is an ambitious goal. Creating solutions to help address this complex challenge requires system-wide collaboration and collective action by governments, businesses, civil society, financial institutions, and academia at the global, national, and local levels.

### Contributing to a Global Perspective

The Alliance engages with all stakeholders, including national and local governments. We participate as an observer in multilateral forums, including those convened by the United Nations, to understand

national and local needs and requirements. We are recognised for our technical expertise in plastic waste management and recycling, and share our specific expertise and scientific knowledge broadly. We also articulate the on-the-ground realities of existing policy decisions.

As an accredited business and industry representative to the United Nations Environment Programme and the United Nations Framework Convention on Climate Change, we engage in relevant intergovernmental meetings in accordance with the core principles that negotiation and decision-making are the exclusive prerogatives of UN Member States.

The Alliance has gained useful insights from multi-stakeholder forums, side-events, major groups, and multi-stakeholder dialogues. This has included ones with representatives of NGOs, the scientific and technology communities, and national and local authorities. These groups variously have facilitated the exchange of information about key actions needed to end plastic pollution, the crucial opportunities and challenges that a future internationally legally binding instrument can address, as well as inspiring further collective action and impact.



### Supporting Inclusive Approaches

In March 2022, the Alliance participated as an observer in the United Nations Environment Assembly in Nairobi, where negotiations on an internationally legally binding instrument to end plastic pollution were mandated. In Stockholm, we helped convene governments, civil society groups, financial institutions, and industry to share ideas towards financing plastics circularity and build a common understanding of the most pressing issues faced by countries.

In each instance, the Alliance seeks to contribute to inclusive approaches that take into consideration local and national needs and capacities, and promotes cooperation among local communities, national governments, the informal sector, municipalities, civil society, and the private sector.

1. Alliance visit to the Talangagung landfill with Bapak Sanusi, Bupati of the Malang Regency.
2. New decrees passed by the federal government in Brazil will further advance Recicleiros' objectives and outcomes for the workers employed by its facilities.

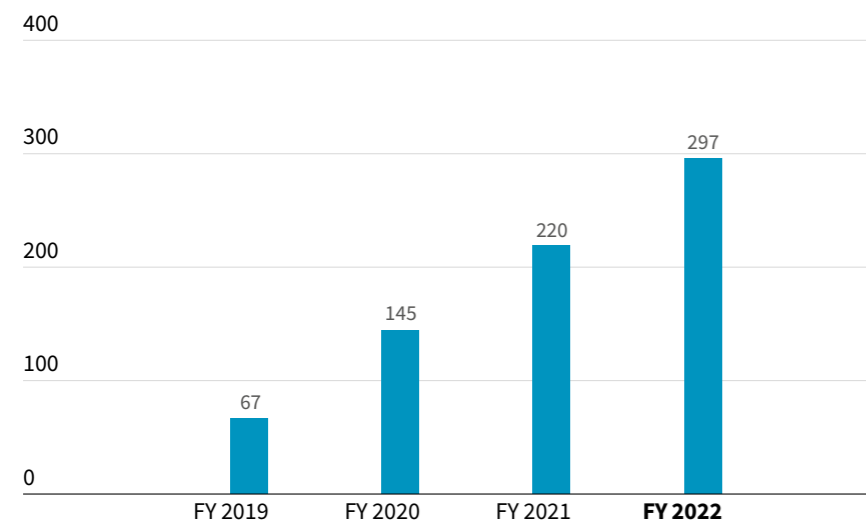


# FINANCIAL OVERVIEW

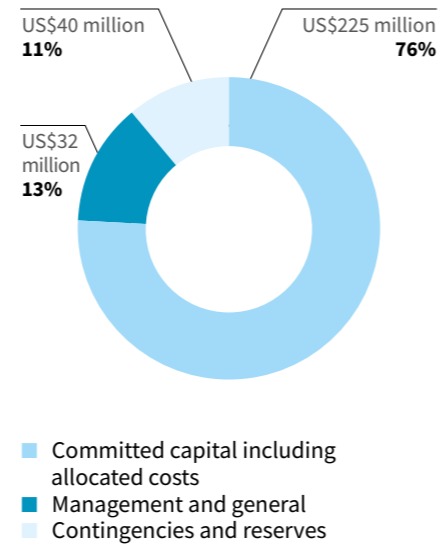
For the year ended December 31, 2022

In 2022, we generated US\$77 million in revenue. This brings our cumulative, total revenue since our start in 2019 to US\$297 million. Of this, 76% (US\$225 million) has been allocated to projects and other mission-related activities.

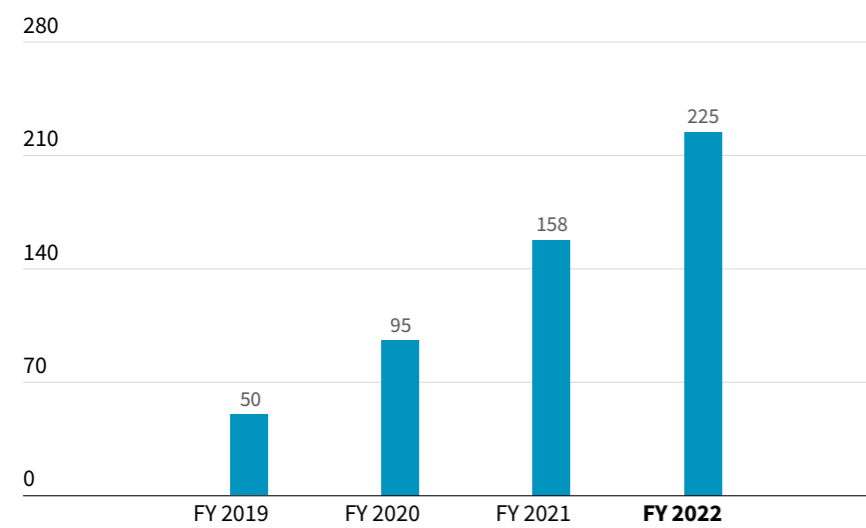
**Total Revenue, Solution Accelerator Fund** (cumulative, in US\$M)



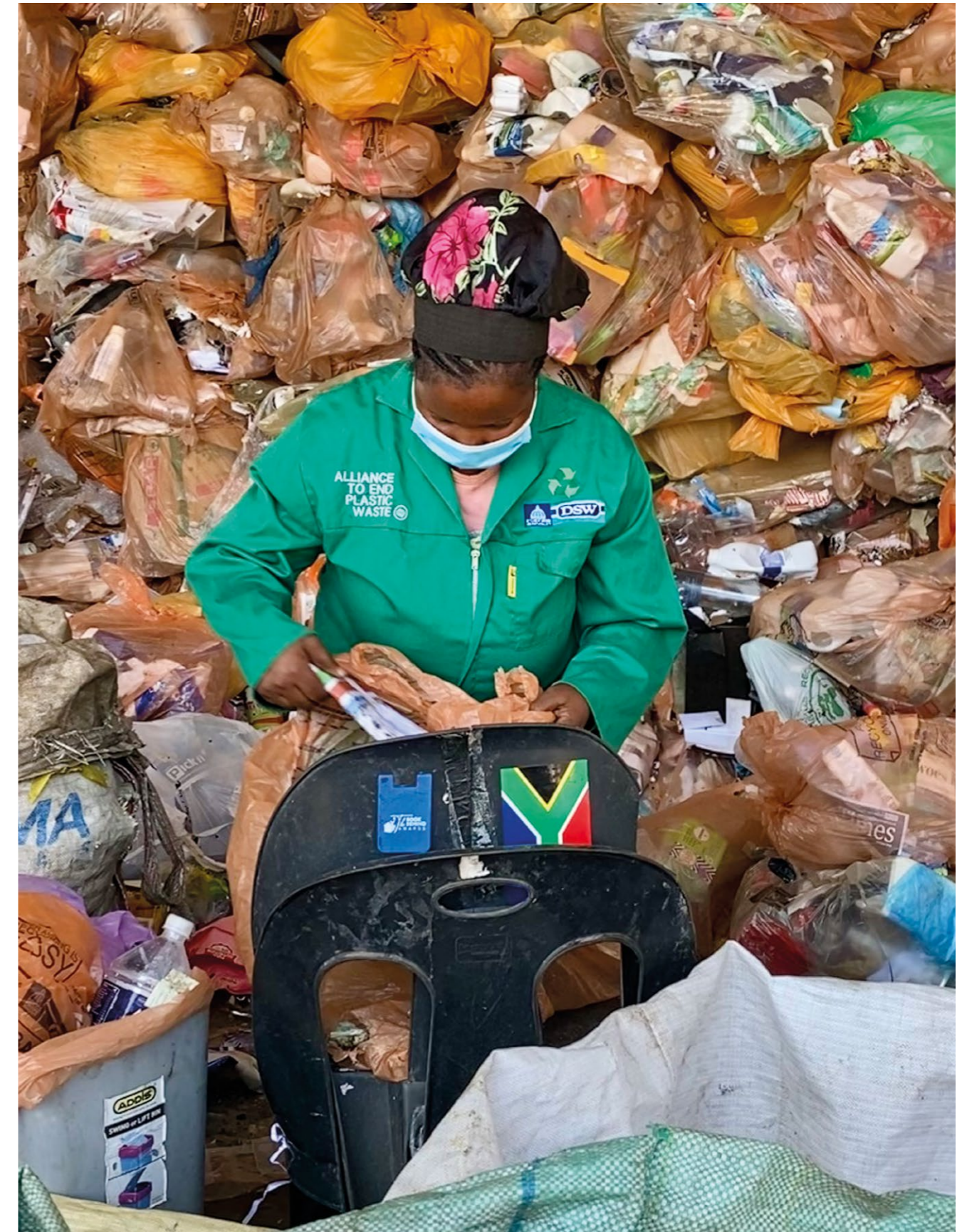
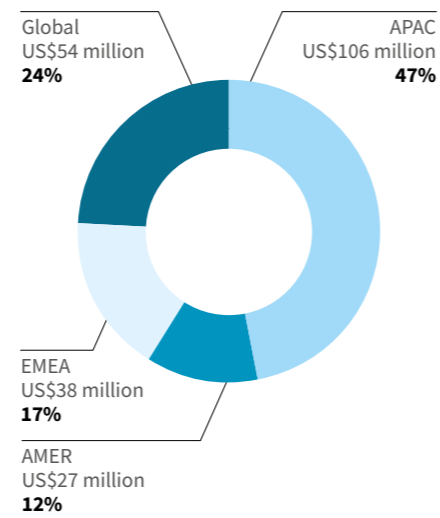
**Cumulative Capital Allocation**



**Total Allocated Capital, Mission Related** (cumulative, in US\$M)



**Regional Allocation of Capital, Mission Related** (cumulative since inception in 2019)





# OUR GOVERNANCE

For the year ended December 31, 2022

## Our Leadership Team

Our leadership team sets in place and implements the strategic approach to fulfil our mission to end plastic waste in the environment.



**Jacob Duer**  
President and CEO



**Sophia Porcelli**  
CFO and Vice President of Operations



**Nicholas Kolesch**  
Vice President of Projects



**Allison Lim**  
Vice President of Corporate and Public Affairs



**Justin Wood**  
Vice President of Strategic Partnerships



**Steve Sikra**  
Vice President and Head of the Americas  
*(Retired on 31 December 2022)*

## Our Governance

The Alliance is committed to best practice in governance, accountability, and transparency. Our Officers, Executive Committee, and Board of Directors provide insights into our strategic approach as well as enable different layers of checks and balances.

## Our Officers

Our Officers guide our strategic direction.



**Jim Fitterling**  
Chair, Alliance to End Plastic Waste; Chair and Chief Executive Officer, Dow



**Ramon Laguarta**  
Vice-chair, Alliance to End Plastic Waste; Chairman and Chief Executive Officer, PepsiCo  
*(Until 31 December 2022)*



**Tom Salmon**  
Treasurer, Alliance to End Plastic Waste; Chairman and CEO, Berry Global Group

## Executive Committee

Our Executive Committee provides recommendations to the Board of Directors for the approval of the Alliance's budget, programme objectives, material policies, and rules. Responsibilities include the approval of new Members, Strategic Allies, Supporters, and Advisors and advice on projects to the leadership team.

## Board of Directors

Our Board of Directors comprises all Members and is responsible for the general supervision of the Alliance, including the supervision of the executive management. The Board reviews and votes on proposals from the Executive Committee.



## OUR GOVERNANCE

### OUR STANDING COMMITTEES

#### Membership Committee

The Membership Committee supports efforts to recruit, engage, and retain members. It supports staff at the Alliance in developing recruitment strategies to grow the membership, and encourages members of the Alliance Board to work as ambassadors to promote the Alliance to new organisations. It also provides guidance on proposals for refining the requirements and benefits of membership, and monitors the quality of the membership experience. The Chair of the membership committee provides regular updates on membership and recruitment matters to the Executive Committee and the Board of Directors.

#### Audit Committee

The Audit Committee reports to the Executive Committee and oversees the organisation's financial governance, risk management, and internal control practices. It reviews each of these items and, with endorsement from the Executive Committee, provides the Board of Directors with advice regarding the adequacy and effectiveness of policies in these areas. The Committee provides an open avenue for communication between independent auditors, Alliance management, internal auditors, and the Executive Committee.

#### Compensation Committee

The Compensation Committee is appointed by the Executive Committee and reports to the Officers, to carry out board responsibilities to evaluate and approve compensation packages for Alliance senior leadership. The Committee reviews and makes recommendations for Officers' approval on all compensation and benefits related decisions, in the spirit of Alliance's values and best practices on diversity, equity, and inclusion.

### Our Advisory Council

In 2021, the Advisory Council – comprising leaders from the public sector, civil society, academia, and international organisations – was established. The Council provides expert advice to the President and CEO on strategy, priorities, and work. On 31 December 2022, the members comprised:



**Yvonne Aki-Sawyerr, OBE**

Mayor of Freetown, Sierra Leone



**Axel Borchmann**

Deputy Head of Division, Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, Germany



**Juan Miguel Cuna**

Undersecretary for Field Operations and Environment, Department of Environment and Natural Resources, Philippines



**Carlos Silva Filho**

President of International Solid Waste Association (ISWA), Brazil



**Professor Linda Godfrey**

North-West University and Manager for Waste Research, Development and Innovation Roadmap; Principal Scientist, Council for Scientific and Industrial Research (CSIR), South Africa



**Keefe Harrison**

Founder and Chief Executive Officer, The Recycling Partnership, USA



**Shigemoto Kajihara**

President, Japan Waste Research Foundation (JWRF)



**Dr Leah Karrer**

Senior Environment Officer, Global Environment Facility (GEF)



**Professor Daoji Li**

Director of Plastic Marine Debris Research Centre, East China Normal University

# OUR NETWORK

To advance our mission, we convene a global network of more than 90 companies, civil society groups, and organisations committed to deliver results where the plastic waste challenges are acute.

Our membership provides us the strong industry collaboration to make a meaningful impact. We believe that only by working directly with the full plastic value chain will we be able to make a real and measurable impact on plastic waste in the longer term.

## EXECUTIVE COMMITTEE MEMBERS



## BOARD OF DIRECTORS



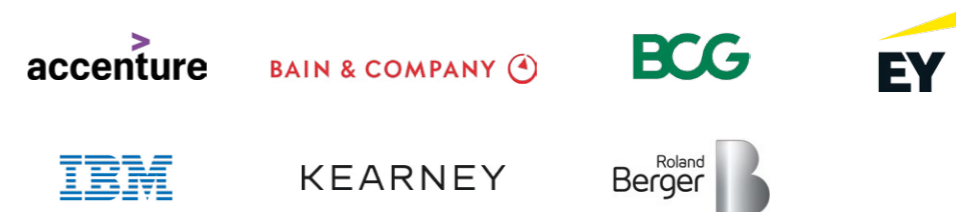
## OUR STRATEGIC ALLIES

Our strategic allies are leaders in their fields, helping us inform, identify, and execute our projects at scale.



## OUR SUPPORTERS

Our supporters are passionate about our work. They bring expertise, insight, and fresh perspectives that enable us to maximise our global impact.



You can be part of the solution.  
To find out more, visit [endplasticwaste.org](https://endplasticwaste.org)

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