



PROGRESS REPORT 2020

*It all starts with*  
**COLLABORATION**



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# *All* TOGETHER

**Ending plastic waste in our environment is an ambitious vision but the size of the problem demands it. We believe this can be solved but we also recognise we cannot do it alone. Only together can we achieve an environment free of plastic waste. By working towards a circular economy, where all people thrive, we can end plastic waste in the environment and protect our planet.**

In this report, you can learn more about us and some of our partner projects that are preventing plastic waste leaking into the environment, capturing the value of plastic waste and supporting communities around the world.

We are making big strides in just one year. With businesses, organisations and communities coming together, we can help build plastic waste-free cities – and a better world.

## CHAIRPERSON'S MESSAGE



**PLASTIC WASTE IS A SERIOUS CHALLENGE THAT REQUIRES SWIFT ACTION AND STRONG LEADERSHIP, AND I AM CONVINCED THAT THE ONLY WAY TO GET THERE IS THROUGH COLLECTIVE ACTION, INNOVATION AND PARTNERSHIP.**

The Alliance to End Plastic Waste (the Alliance) is in a unique position. We can unlock circularity and economic value in post-consumer plastic by supporting a range of innovative measures along the value chain, involving individuals and the public and private sectors.

With COVID-19, we are even more committed, because the plastic challenge is not going to go away. In fact, the global pandemic has brought the interdependency of human and planetary health into sharper focus, and there is a greater realisation that we can and should do more, with even greater momentum.

I am proud to see that, in the short time it has existed, the Alliance has built a highly skilled organisation – taking the vast experience of member company engineers, safety professionals and materials scientists and deploying them to community projects across the globe.

We're also putting our money where our mouth is: targeting US\$1.5 billion to fund and incubate projects and pilot programmes that create value from plastic waste and prove the investment market to private investors, development banks and governments to deliver truly transformational change.

Looking ahead, we will upscale projects and get them 'investment-ready' so that our initial seed money can spur bigger capital investment. This is how long-lasting, systemic change can take hold – and this is where the private sector must play a leading role with initiatives like ours.

I would like to thank our members and partners for committing to be part of the solution. No other group has the collective resources, skills, capability or reach we do. The Alliance offers tremendous promise in sharing best practices and driving action.

I invite all across the plastic value chain – and governments, development agencies, civil societies and beyond – to join us in this important enterprise.

**David S. Taylor**

Chairman, President & CEO,  
The Procter & Gamble Company  
Chairperson, Alliance to End Plastic Waste

## WELCOME: CEO'S MESSAGE

### OUR VISION FOR A BETTER FUTURE

*At the end of 2019, I walked on a beach fringed with mountains of trash alongside a local community wanting to come together to make things right. I was struck by a strong sense of duty – the duty to solve a problem that one community could not possibly achieve on its own.*

This is a result of deep systemic issues. At one level, it is the consequence of private consumption outstripping public investments to the infrastructure needed in many communities that still do not have access to organised and integrated waste management systems. However, interventions across the whole waste hierarchy are required to achieve the goal of ending plastic waste in the environment. Whether it's a city in India or a national park in Mozambique, real solutions to solve solid waste challenges are needed more than ever before.

#### **A unique ethos**

In 18 months, the Alliance has made great strides: 14 projects across cities in Ghana, India, Indonesia, the Philippines, Thailand and Vietnam. Such is the progress of a globally coordinated effort from a unique ethos of collaboration and partnership.

We have a long road ahead of us but with deep technical knowledge from the full plastic value chain and strong partnerships with organisations like UN-Habitat, USAID, the Global Plastic Action Partnership and the German Development Agency GIZ, all relevant parties are at the table working to bring about even more resources to help achieve and maintain plastic waste-free cities.

#### **Bridging the gap**

The Alliance is bridging the gap between private-sector commitments and the actions on the ground where they matter most. Our ambition, over five years, is to divert and recycle millions of tons of plastic waste in more than 100 at-risk cities across the globe and contribute to improving the livelihoods for over 100 million people. We will get there by investing and developing, deploying and accelerating scalable solutions. The work we do demonstrates sustainable solutions and models that will unlock even more resources needed to help end plastic waste in the environment.

A journey of a thousand miles begins with a single step – and our journey is well under way.



#### **Jacob Duer**

President & CEO  
Alliance to End Plastic Waste



## MEMBER'S MESSAGE



### WHY WE JOINED THE ALLIANCE

*We all have a shared responsibility in fighting plastic waste. Plastics are valuable materials, but they do not belong in the environment. With BASF's material expertise and broad network, we are well positioned to support the Alliance in achieving its mission in ending plastic waste in the environment and enabling a circular plastic economy.*

#### **Why the Alliance's work is important**

Plastic waste in the environment is a global problem that no single entity can solve by itself. We therefore require partnerships along the entire plastic value chain to combine our various expertise, network and financial power to identify, implement and scale the most sustainable solutions to manage plastic waste efficiently and enable a circular economy.

#### **How we hope to contribute**

BASF as a founding member of the Alliance has been engaged from the very beginning. With our technological experience and material know-how, we are supporting a variety of the Alliance projects on the ground. In addition, we are developing a set of BASF-led projects to increase plastic recycling.

#### **One key achievement**

ChemCycling™ is a project by BASF with the aim of manufacturing high-quality products from chemically recycled plastic waste on an industrial scale. BASF was the first company to feed pyrolysis oil derived from plastic waste into a complex chemical production network and manufactured certified products out of this secondary feedstock by applying a mass balance approach. Some of our customers have already used these products in applications that were launched commercially in summer 2020.

#### **Future outlook**

As part of our commitment to the Alliance, BASF is working on a variety of projects to improve chemical and mechanical recycling and increasing transparency and traceability along the value chain. We will announce some of these projects shortly via the Alliance and BASF channels.

**Dr. Martin Brudermüller**  
Chief Executive Officer  
BASF SE

## OUR STRATEGY



WE ARE COMMITTED TO ACTING ON THE FUTURE, AND IT BEGINS WITH ENDING PLASTIC WASTE IN THE ENVIRONMENT. TO SECURE THAT FUTURE, WE ARE:

1. DEVELOPING AND ACCELERATING TECHNOLOGIES;
2. PARTNERING WITH THE EXTENDED GLOBAL COMMUNITY; AND
3. CATALYSING CAPITAL.

*Our strategy is guided by the following:*

### THINKING GLOBALLY, ACTING LOCALLY

Ending plastic waste is a global issue with local municipal action and responsibility. Communities bordering water bodies in Asia and Africa are the most vulnerable, but our efforts will cover all corners of the world, in both emerging and developed economies.

### COLLABORATION IS KEY

Orchestrating coordinated actions from a diversity of partners is critical to our success across the world and on the ground.

### CHANGING BEHAVIOUR

Inspiring people to care about the management of the waste they generate by observing and understanding society.

### FROM WASTE TO WORTH

Recovering and extracting value from waste plastic is a critical outcome for a circular supply chain and to closing the loop.

### MOVING UP THE WASTE HIERARCHY

Progressing from short-term actions to long-lasting waste management solutions that help communities and society achieve circular economies.

OUR VISION

END PLASTIC WASTE IN THE ENVIRONMENT

---

OUR MISSION

DEVELOP, ACCELERATE  
AND DEPLOY  
SOLUTIONS

ENGAGE  
COMMUNITIES

CATALYSE  
INVESTMENTS

---

OUTCOMES

DEMONSTRATED AND  
SCALED PLASTIC  
WASTE-FREE CITIES IN  
PRIORITY REGIONS

ENABLED LOCAL  
OWNERSHIP  
OF WASTE  
MANAGEMENT

DEMONSTRATED  
INVESTABLE MODELS  
AND PARTNERSHIPS  
THAT UNLOCK EVEN  
MORE CAPITAL TO END  
PLASTIC WASTE

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OUR FOUR STRATEGIC PILLARS

INFRASTRUCTURE

WE SUPPORT  
COMMUNITIES, MAINLY  
IN ASIA AND AFRICA, BY  
INVESTING IN SYSTEMS  
TO COLLECT AND MANAGE  
PLASTIC WASTE AND  
RECYCLING.

INNOVATION

WE INCUBATE AND  
SUPPORT IDEAS  
THAT SCALE NEW  
TECHNOLOGIES AND  
SOLUTIONS TOWARDS  
A CIRCULAR ECONOMY.

EDUCATION AND  
ENGAGEMENT

WE BELIEVE LASTING  
CHANGE IS POSSIBLE IF  
EVERYONE KNOWS WHY  
AND PLAYS THEIR PART  
TO END PLASTIC WASTE  
IN THE ENVIRONMENT.

CLEAN UP

WE WORK WITH  
PARTNERS TO END  
PLASTIC WASTE AT ITS  
SOURCE AND PROVIDE  
COMMUNITIES WITH AN  
ENVIRONMENT FREE OF  
PLASTIC WASTE.

## SIX ACTION AREAS

*“A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.”*

ELLEN MACARTHUR FOUNDATION

THE PRINCIPLES OF A CIRCULAR ECONOMY AND THE KEY TENETS OF ENDING PLASTIC WASTE POINT US TO SIX ACTION AREAS THAT ADVANCE OUR CAUSE. A COMBINATION OF THE FOLLOWING ACTION AREAS CAN BE FOUND IN THE PORTFOLIO OF PROJECTS WE MANAGE:



### FRONT-END DESIGN

Improves products to boost recycling rates, supports materials innovation, and contributes to reduction and reuse.



### ACCESS TO COLLECTION

Provides basic infrastructure enabling convenient and necessary recovery and recycling.



### PARTICIPATION AND ENGAGEMENT

Raises awareness and inspires participation in proper recovery. Delivers best practice models for scalability and enduring clean-up.



### SORTING

Promotes the efficiency of informal and formal waste sectors. Delivers proof of concept in integrated recycling and supply chain optimisation.



### PROCESSING

Scales mechanical recycling solutions, and drives innovation and replicability of new methods, such as advanced recycling.



### END MARKETS

Builds and feeds market demand for recycled materials from all recycling methods.

← DRIVE SUSTAINABLE CIRCULAR INVESTABLE MODELS →



## IMPLEMENTATION

THE CHALLENGE IN MEETING THE 2030 SUSTAINABLE DEVELOPMENT GOALS IS INTENSIFYING. TODAY, AN ESTIMATED THREE BILLION PEOPLE IN THE WORLD LACK BASIC WASTE MANAGEMENT SERVICES AND THE GLOBAL POPULATION IS GROWING ALONG WITH THE DESIRE FOR IMPROVED STANDARDS OF LIVING. WE CAN SLOW DOWN THE LEAKAGE AND HELP PEOPLE THRIVE BY APPLYING A SYSTEMATIC APPROACH FOR ACCELERATED LEARNING, RAPID REPLICATION AND SCALING.

## THINKING GLOBALLY AND ACTING LOCALLY

Ending plastic waste is a global challenge but solutions need to be specific to geographic circumstances. This means supporting communities that lack basic waste collection, especially in high plastic leakage regions, to start on waste management systems. In other areas, we need to move up the waste hierarchy and prove the innovation and replicability of new methods, such as advanced recycling.

To take a truly global approach, our work is supported by Regional and National Task Groups operating in specific geographies. The current Task Groups are focused on Europe, North America, South America, India, China, Japan, Southeast Asia and the Middle East & Africa. Each Task Group guides the selection and execution of projects using critical context that aligns our strategy with national and local priorities.

## THEMATIC APPROACH

*These are five themes that will help us deliver a portfolio of impactful solutions:*

1

### ENGAGING WITH CITIES

To secure 'collection, capture and containment' in communities around the world that lack access to managed waste collection.

2

### CREATING VALUE FOR RECYCLATES

Enabling and feeding the demand for recycled material in end-market applications, such as packaging, building and construction products.

3

### ADVANCED RECOVERY AND RECYCLING

Pursuing opportunities to build small or large-scale advanced recycling facilities to extract value from plastic waste.

4

### DESIGN FOR CIRCULARITY

Innovating at the earliest stages of product design to facilitate reduction, reuse and recycling of plastics in support of sustainable models.

5

### SOCIETAL BEHAVIOUR

Establishing deep insights into behaviours to inspire citizen participation and promote engagement with the informal waste sector.

An underwater photograph of a vibrant coral reef. Sunlight rays stream down from the surface, illuminating the scene. The reef is composed of various types of coral, including large, branching structures and smaller, more delicate forms. Numerous small, colorful fish, including many orange ones, are swimming around the coral. The water is a deep, clear blue.

# END PLASTIC WASTE



## WE HAVE A CLEAR VISION: END PLASTIC WASTE IN THE ENVIRONMENT.

Our commitment to this vision inspires support from across the value chain. This includes consumer brands, retailers, manufacturers, packaging, waste management, recycling firms and chemical companies. This community believes that ending plastic waste in the environment and contributing to a circular economy is intertwined with many of the UN Sustainable Development Goals.

The target of our members across the plastic value chain is to invest US\$1.5 billion over five years towards the vision. They also provide a rich base of technical leaders, engineers, scientists and practitioners to advance our programmes.

The funding we receive is divided into two parts. The first is composed of programmes that are directly sourced and managed by the Alliance, called the Solutions Accelerator Fund. The second is made up of Member Directed Commitments to fund projects that directly contribute to achieving the Alliance's mission.

In the next segment of this report, we are proud to share with you a showcase of these programmes and the progress we have been making.



**PROJECT:** Project Stop Jembrana  
**LOCATION:** Jembrana, Indonesia

## RADICAL CHANGES FROM HOUSEHOLD TO COMMUNITY

Jembrana is a regency in Northwest Bali with an area of approximately 800 km<sup>2</sup> and a population of over 150,000 people. It has no formal waste management system. The waste is dumped and burnt each night and informal waste collectors pick through it to find plastic waste to sell.

Jembrana is Project STOP's (Stop Ocean Plastics) third programme in Indonesia. It is a milestone for the people of Jembrana: it is the regency's first-ever solid waste management service with a full recycling system that will create new and permanent jobs, and ensure profits stay within the community.

By 2022, the Alliance and Project STOP seek to clean up the waste that already exists and create a sustainable waste management system that will aim to collect 20,000 tons of waste per year. 14% of this collection is expected to be plastic waste, and ultimately, 50% of this plastic waste or annual 1,500 tons per year are projected to be recycled.

Project Stop Jembrana is implementing radical changes by encouraging waste segregation at the household level so that formal waste collectors can easily identify recyclable waste that can be processed at a specially-designed facility. The whole process is designed to be economically self-sufficient and fully operated by Jembrana's government and community.

### **Local needs – local responsibility**

Support from the local municipal government is critical to the project's success. Foremost, the local government has provided a building for the waste collection facility, which the Alliance is supporting in terms of the design and suitability of equipment, installation and operations.

As with all projects the Alliance invests in, we do not own the resulting waste or collection business. All revenues belong to the local community and cover salaries for collectors and sorters as well as the system's operating costs.

Project Stop Jembrana marks a major milestone for Jembrana – building much-needed local infrastructure by working closely with a community to make sure it is relevant to their needs. In turn, the project is formalising employment for waste collectors and providing economically suitable collection, sorting and processing systems for the people of Jembrana.

*It all starts with*  
**STOP**



## THE POWER OF COLLABORATION

The project's success is possible because of the engagement and participation of communities – from operating the system to recycling at home, making sure that the right waste, in the right condition, goes into the right bin. From homes to the programme's work in schools, success also means helping to change a generation's approach to waste and recycling.

### Cleaning up coastlines

The Jembrana programme was set for a test with 100 households in June 2020 before full deployment in 2021. Although COVID-19 has posed an unexpected challenge, this programme continues: the path already paved will provide effective waste management services to thousands and will keep plastic waste from leaking into Jembrana's coastlines. The aim is zero leakage of waste into the environment and growing local employment.

This is a good example of a public-private partnership that will deliver a replicable solution across Indonesia and beyond.



*"Jembrana offers us the perfect entry point for ending environmental leakage of plastic in Northwest Bali. Local, regional and national government agencies are now committed partners, the community is ready for change, and there is notable need – the majority of people have never had waste services and it will prevent thousands of tons of plastic waste from entering the environment each year. Over the next three years, together with the Alliance and Indonesian leaders, we will make Jembrana cleaner, healthier and even more beautiful."*

### I Made Yudi

Project STOP Programme Manager,  
Jembrana



## CHANGING THE FUTURE OF PLASTIC WASTE MANAGEMENT – AND THE PLANET

Big challenges call for new and innovative ideas. Plug and Play, as a leading innovation platform, is bringing together the best start-ups and the world's largest corporations to work on tackling plastic waste.

In 2019, the End Plastic Waste Innovation Platform was developed with Plug and Play to foster start-ups that can impact the plastic value chain. This accelerator programme is running across three hubs – Silicon Valley (California), Paris and Singapore – and supports ideas that transform plastic waste management.

The programme has seen more than 1,000 start-ups from Silicon Valley and Paris apply to take part, bringing with them a vast array of ideas ranging from new approaches to collecting and sorting plastic waste using optical recognition and robotics, to new chemical recycling technologies, to fresh ideas on how to use post-recycled plastics.

### A residence-based programme

All three location-based programmes follow a similar model: each runs for 12 weeks for 10 selected start-ups and each start-up works with its own panel of seven experts drawn from Alliance member companies who offer coaching and mentorship. The end goal is for these start-ups to secure their funding through company investments and venture capital.

The first to launch was the Silicon Valley programme where 20 start-ups were initially drawn from a list of 50, with a final list of 10 chosen after an in-person pitch. What followed was a 12-week residence-based programme with peer-to-peer networking opportunities and a graduation 'expo' day in May 2020. With the disruption of COVID-19, the Silicon Valley programme was extended by 90 days.

### Looking ahead

In January 2020, we also opened the application window for the European hub of this accelerator programme, based in Paris. Due to COVID-19, all pitches have been conducted virtually. It will be extended to accommodate a residence-based programme if that becomes possible later in 2020.

The Singapore hub launched in August 2020 and for now will also be a virtual-only programme. The Alliance hopes that these projects will all successfully develop over the next five years, potentially supported by investments from our member companies.

In 2021, new selection rounds will start in all three hubs and we are also planning for new hubs in Asia, Africa and Latin America.

### INNOVATIVE IDEAS THROUGH PARTNERSHIP



*"The energy and excitement I have for our partnership with the Alliance to End Plastic Waste is second to none. We have had a strong start here in Silicon Valley and Paris and soon to be in Singapore with the Alliance Members. This initiative will unite us so we can work together with more urgency. We want to accelerate these innovative ideas from great entrepreneurs and implement and invest in them."*

**Saeed Amidi**

Founder and CEO of Plug and Play

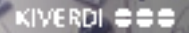
*Let's all*

**I N N O V A T E**

**AMP Robotics**  
Creating systems that sort recyclable material at lower costs



**Kiverdi**  
Converting under-used carbon into high-value industrial products using biotechnology



**Arqlite SPC**  
Developing high-efficiency materials made 100% from plastic waste



**Litterati**  
Empowering people to 'crowdsource-clean' the planet

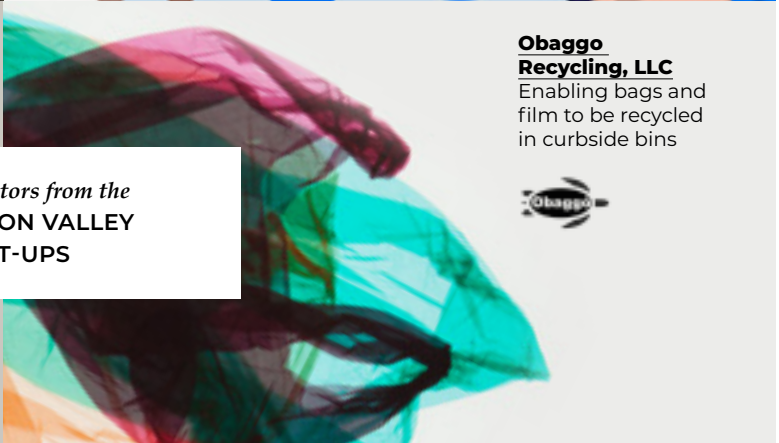


**ByFusion**  
Reshaping the future of plastic by recycling the unrecyclable



*First innovators from the  
2020 SILICON VALLEY  
START-UPS*

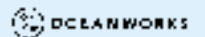
**Obaggo Recycling, LLC**  
Enabling bags and film to be recycled in curbside bins



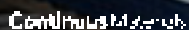
**CleanRobotics**  
Combining robotics and AI in smart bins to differentiate recyclables from non-recyclable material



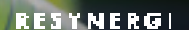
**Oceanworks®**  
Connecting recycled plastics with trusted suppliers from around the world



**Continuous Materials**  
Closing the loop with high-performance roof cover boards made from paper and plastic waste diverted from landfills



**Resynergi**  
Recycling plastics into environmentally friendly fuels with a modular, low emission system



A man wearing a red cap and an orange safety vest with the text 'PEJUANG LESTARI BUNCARKU' on the back is working with plastic waste. He is standing next to a large green woven basket filled with plastic waste. In the background, there is a green wall with a yellow sign that has some text and a phone number '081 246 888 500 ROBY'.

**PROJECT:** Advanced Recycling Feasibility Studies  
**LOCATION:** Bandung and Mojokerto, Indonesia

## CREATING VALUE FROM HARD-TO-RECYCLE PLASTIC WASTE

*Advanced recycling projects are being assessed as a way to address mixed and hard-to-recycle plastic waste. These include various technologies and how they can integrate with mechanical recycling in an integrated waste management system. The goal is to minimise the volume of plastic waste disposed of to landfill or to be incinerated, and maximise the value recovered from recycled materials.*



We are now studying the feasibility of two projects in Indonesia to assess if the market conditions support these large-scale infrastructure investments that convert plastic waste into a petrochemical feedstock, which is ultimately processed into fuel or high-quality plastic materials.

**Demonstrating value and economics**

The first of these projects is located in Bandung, the capital of West Java, and the second is in Mojokerto, East Java.

If proven viable, these studies will result in the implementation of integrated municipal waste recovery for all waste. Engagement from local municipalities and governments for local ownership is crucial right from the beginning to ensure the success and long-term benefits of these large-scale infrastructure projects.

**Learning is key**

In the absence of effective waste management infrastructure, plastic waste will end up in the environment, creating unacceptable levels of pollution. In the case of the Bandung study, which was already 60% complete before the outbreak of COVID-19, what we learn will give us guidance on the fit of advanced recycling solutions for different city archetypes.

*Advanced*  
**RECYCLING**  
*technologies*





## FOR THE PEOPLE, THE OCEAN AND THE LAND

Zero Plastic Waste Cities is the combined vision of the Alliance and the Grameen Creative Lab, the creative laboratory for social business solutions co-founded by Nobel Peace Laureate Professor Muhammed Yunus.

As defined by Professor Yunus, who pioneered the concepts of microcredit and microfinance, a social business model is designed to address a social problem through a financially self-sustaining business concept that is driven by its impact on society.

Zero Plastic Waste Cities aims to recycle 28,000 tons of plastic during the first five years of operations in two locations by improving and supplementing municipal waste management, repurposing collected waste and preventing it from flowing into the ocean. It will develop sustainable social businesses that improve the livelihoods of many while preventing plastic waste from escaping into the environment. The two cities initially involved in this project are Puducherry on the southeast coast of India and Tan An in the Mekong Delta region of Vietnam.

The project supports the formal engagement of waste pickers, who collect and sort recyclable waste. Once collected, the plastic can be recycled and converted into a reusable form in the material value chain. Two options are being developed for the local markets: pelletising<sup>2</sup> plastic waste, which in turn can be used in finished goods like garden pots or building products; and using compression moulding to convert the waste into plastic boards that will eventually be used for furniture material, such as shelves, countertops or panels.

### How it started

As an initial step, the Grameen Creative Lab conducted feasibility studies in these two cities, analysing the current value chain and waste management system to identify strengths and weaknesses. This includes determining the different stakeholders involved, such as waste pickers, and their needs.

Having the support of the local community is pivotal to the projects. This meant working closely with the government and other non-governmental organisations (NGOs) in the area and showing the tangible benefits that projects such as Zero Plastic Waste Cities can provide. It is important to engage the most impacted communities, as these efforts depend on their input.

"The strength of these projects shows the power of entrepreneurship," says Christina Jäger, a board director of the Grameen Creative Lab. Coming from an extensive background in social business and entrepreneurship, Christina is the Director of the Puducherry and Tan An projects.

### A five-year timeline

Having identified the main stakeholders, the Grameen Creative Lab took steps towards piloting the project: developing the social business design and respective business plan as well as hiring local project managers. They are also working with NGOs in both areas, including the Auroville community in Puducherry. There are also other organisations supporting households to segregate waste streams and to raise awareness. While COVID-19 has temporarily slowed down activities on-the-ground, the project is moving forward with the pilot implementations.

Once these social businesses are established, they aim to break-even after three years of operations. The impact of the Zero Plastic Waste Cities projects will be measured by its success in removing plastic waste and improving livelihoods. The approach of creating a sustainable business model rooted in addressing social issues resonates across many other cities in line with the expectations of both the Alliance and the Grameen Creative Lab.

## MULTIPLYING OUR IMPACT AROUND THE WORLD



*"We firmly believe that social business is part of the solution. It provides a way to organise waste management efficiently and to recognise the hard-working people in the informal sector that often remain poor and marginalised. Thanks to the support of the Alliance, we have the opportunity to build blueprints that can be replicated all around the world multiplying its impact. We also hope that our partnership will inspire member companies to take action in their organisations."*

**Christina Jäger**  
Director, Yunus Environment  
Hub & Managing Partner,  
The Grameen Creative Lab

<sup>2</sup> Pelletising is the process of converting plastic into pellets.

**PROJECT:** Aviral – Reducing Plastic Waste in the Ganga  
**LOCATION:** Haridwar and Rishikesh – Uttarakhand, India

## FROM SMALL TO SCALE – THE JOURNEY TO CREATING IMPACT ON THE GANGA

*‘Aviral’ means ‘continuous’ in Hindi. It frames what the Ganga (or the Ganges River) means for millions in India. It is a symbol of life – yet the pollution of its water is at dangerous levels, particularly in populated areas. Working with the Alliance, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is launching Aviral – Reducing Plastic Waste in the Ganga in the cities of Haridwar and Rishikesh in Uttarakhand, both along the Ganges River.*

*Giving*

**S U P P O R T**

*to all*



GIZ is a German development agency and service provider that supports the German government with sustainable development activities carried out around the globe. The work that GIZ is engaged in assists people and societies to shape their own future and improve living conditions.

The challenges that Aviral will address are unique in many aspects. The cities have a combined population of 300,000 people and attract 50,000 tourists a day. These numbers swell to tens of millions during major Hindu festivals, increasing the pollution of the environment. Another challenge is the state's hilly terrain and 65% forest cover, which pose land and logistical issues for municipal solid waste management infrastructure.

#### **2020: A critical year**

One such festival is Kumbh Mela. Marked by a ritual dip in the waters for atonement, this festival takes place every 12 years in Haridwar. The next Kumbh Mela will take place in 2021. With visitor numbers as high as 30 million in 2009, both cities need to prepare effective and efficient waste management systems now in order to reduce pollution next year.

Aviral has already started to analyse plastic waste streams and will strengthen collection and sorting processes. It will also develop an innovative approach for recovery and recycling. One of its goals is to engage communities for awareness and change through communications campaigns for its citizens.

#### **Bringing local ownership**

Aviral has been designed in close coordination with regional and local authorities, following groundwork with multiple stakeholders including government agencies, the private sector and civil society. In each district, the team demonstrated the sustainability of the project to local authorities and how solutions can be replicated across other districts.

From the start, Aviral has been engaging entrepreneurs and start-ups to offer ideas on how the cities' waste management systems could be improved. The project will also contribute to achieving the objectives and goals of the existing flagship programmes for the Clean Ganga (Namami Gange) and the Clean India Mission (Swachh Bharat Mission).

#### **The bigger picture**

Aviral is testing approaches for sustainable and replicable plastic waste solutions, beginning with multiple smaller facilities that are ready to scale for expansion: from increasing multi re-use facilities in each city to standardised waste collection, managed landfills and other viable solutions.



**PROJECT:** ASASE Foundation's CASH IT!  
**LOCATION:** Accra, Ghana

## RECYCLING AND WOMEN EMPOWERMENT IN ACCRA

The ASASE Foundation is the brainchild of three women: Hilda Addah and Patricia Agyare from Ghana, and Dana Mosora from Romania. The name ASASE comes from *Asase Yaa*, which means Mother Earth in Akan mythology. It represents the resilience and nurturing nature of the earth. It is a call to revere and preserve it.

The Foundation empowers women by enabling them to start their own businesses: collecting and recycling plastic waste as a source of much-needed income. It is well-known that empowering women in developing countries benefits the wider community, both economically and socially. From the outset, the Foundation has had a positive impact.

The model is simple and effective. Plastic waste is collected on the streets of underprivileged communities in Accra and sold to CASH IT! reprocessing plants by entrepreneurs. The plastic is then regrinded and sold to other companies for reuse in other products, such as household or building materials.

### Looking towards a brighter future

ASASE's vision is clear: by 2022, all plastic packaging in Accra will be separately collected for recycling, enabling small but sustainable businesses owned and run by women entrepreneurs. The Alliance supports ASASE to dramatically increase the quantity of waste it collects: from pounds to tons and it has already set itself an ambitious target of recycling 2,000 tons of plastic each year.

ASASE's first project is CASH IT!, which was launched in 2019 with the opening of a recycling plant in Accra's Kpone Katamanso District. Since then, the Alliance has supported the Foundation with technical expertise and advice, both in terms of educating the team and consulting on improving the efficiency of processes and systems.

*Calling all*

# ENTREPRENEURS



### **Empowerment making a difference for all**

Today, CASH IT! works like a community of highly engaged individuals across different sectors, including collection networks and recycling companies and businesses that manufacture plastic roadblocks and building materials. From businesses to broader society, the ASASE team is also directly working with schools to educate children on ways to effectively recycle.

Once profitable, the plant will be spun off as a stand-alone social enterprise, and the women who own it will donate a percentage of their profits to the local community – money that is ploughed back into community projects.

The Alliance started providing its direct support in February 2020. Although activities were put on hold by the onset of COVID-19, the plastic waste challenge is not going away and everyone came back to work when restrictions began to lift.

This aims to be a sustainable model that can be replicated and adapted – across cities in Ghana, Africa and countries worldwide.

### **LIFTING LIVES THROUGH RECYCLING**



*“It takes more than passion and dedication for the ASASE Foundation to move the needle in plastic waste management for Ghana. It takes a partnership like the one we have now with The Alliance to End Plastic Waste to make our social enterprise concept the core catalyst for change behaviour in coastal communities and to divert plastic from litter into useful products. The energy and expertise brought by the Alliance, and the funding of further collaborations like the one with the Swiss Technical Institute of Technology to develop local end market applications, is making all the difference!”*

**Hilda Addah**  
Co-Founder and Deputy Manager,  
ASASE Foundation



**PROJECT:** *Renew Oceans*  
**LOCATION:** *Varanasi, India*



## HELPING REVIVE ONE OF THE WORLD'S MOST POLLUTED RIVERS

The Ganges is vital for India's people, culture, livelihoods, and wildlife, and is the source of drinking water for over 400 million people. It is also one of the most polluted rivers on earth.

Renew Oceans has worked on cleaning up the Ganges in the iconic pilgrimage site of Varanasi. The city is also home to four universities with a large student population. A benefit of Renew Oceans' work is the engagement of the area's student population to develop waste management concepts that cover three areas: plastic waste collection, plastic waste conversion and community education.

Plastic waste collection occurred on a Ganga tributary via the deployment of ReFence, a waste trap created in partnership with the University of California. ReFence is designed to divert waste from the river to a shelter for sorting. Renew Oceans also provided a batch pyrolysis technology for the development of a local pilot unit to recycle collected plastic waste into fuel.

Operations started in early 2020, but with the disruption of the COVID-19 pandemic, proving the efficiency of the system will require more time.

*Shifting*

# ATTITUDES

*and behaviours*



**PROJECT:** Innovations to End Plastic Waste  
**LOCATION:** South and Southeast Asia



## GERMINATING NEW IDEAS

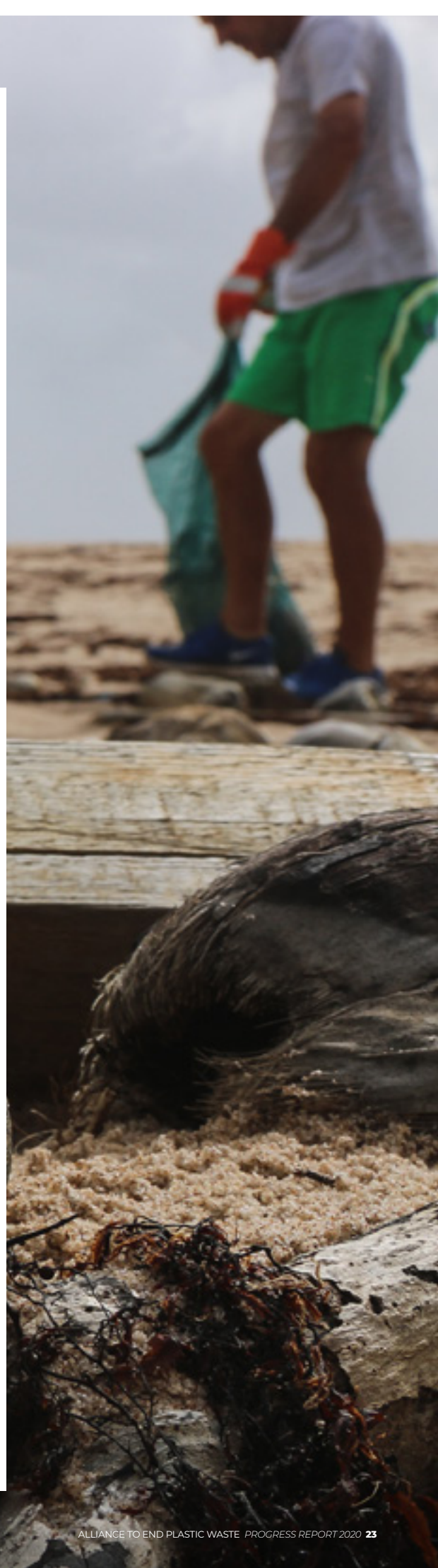
Innovations to end plastic waste can come from anywhere in the world if we respond early with resources to support ideas and allow them to germinate. In 2019, we started supporting The Incubation Network (TIN), an initiative by The Circulate Initiative and innovation agency SecondMuse. Since then, TIN has brought together hundreds of entrepreneurs, investors, entrepreneur support organisations, civil society and governments to help innovators in South and Southeast Asia develop their ideas.

A year later, TIN has already launched four programmes. The first is the **Ocean Plastic Prevention Accelerator (OPPA)**, a collaborative network for innovative solutions for the local waste management system and recycling sector in Surabaya, Indonesia. OPPA is now running the Surabaya Waste Community Accelerator featuring eight local innovators to support and scale new approaches in advancing plastic waste management and recycling infrastructure.

OPPA also launched the Surabaya Access Pad, a three-month programme explicitly designed to help global ventures that are creating innovative ocean plastic pollution prevention products or services in Surabaya.

In November 2019, TIN also launched the Plastics Data Challenge. The challenge is designed to address the lack of information and data on sources, types and amounts of plastic waste by sourcing and piloting solutions that create and leverage data on plastic leakage in South and Southeast Asia. It has received over 90 applications from academic institutions, start-ups, companies and data scientists from 39 countries. With mentorship from companies around the world as well as advisory from the Alliance, 10 teams are now in their final six-week programme to finalise their pilots while building strategic partnerships.

Another TIN initiative is a week-long virtual programme in July 2020 called the **Circular Innovation Jam** that is run simultaneously across five countries: India, Indonesia, Thailand, the Philippines and Vietnam. The Jam has received over 1,100 applications and participants focus on creating locally-designed solutions to advance circular economies for plastics and waste management systems. Twenty-five finalists will receive guidance on improving their ideas, and the final three receiving financial and technical support to launch pilot programmes in the region.



## OUR MEMBER DIRECTED COMMITMENTS

WE WANT SOLUTIONS THAT ATTRACT ADDITIONAL INVESTMENTS FROM INDUSTRY, PRIVATE EQUITY, DEVELOPMENT BANKS, CIVIL SOCIETY AND GOVERNMENTS. THIS IS THE FUNDING NEEDED TO REPLICATE AND SCALE SUCCESSFUL PROJECTS AND PROGRAMMES AROUND THE WORLD.

### Driving catalytic impact

When our efforts inspire others to take action, they multiply the impact that we create – we call this catalytic impact and our members are among the first to demonstrate catalysing investments. These Member Directed Commitments cover initiatives spanning from infrastructure to local community outreach programmes.

Each project demonstrates the commitment of our members to our vision. In 2020, 22 members have already progressed an additional 55 projects (as part of our Member Directed Commitment), collectively funding approximately US\$400 million of new investments to end plastic waste in the environment. Here are some of these projects:

### Global companies act on plastic waste management locally

Many communities, especially cities in Asia, Africa and Latin America, do not have systems to collect and manage plastic waste and recycling. Today, many of our member companies are prioritising their investments at local city and municipal levels – managing waste where it matters most.

An example is SUEZ, a world leader in smart and sustainable resource management and also a founding member of the Alliance. In June 2019, SUEZ announced the construction of a plastic recycling plant in Bang Phli, Thailand, its first outside of Europe that turns plastic waste into circular polymers. Many will recognise Bang Phli for Thailand's floating market on the Chao Praya River, not far from Bangkok, and an area with high plastic waste leakage.

At the core of the plant's success will be collection and SUEZ has been actively engaged with the city's waste management companies and stakeholders to ensure good access to plastic waste. This plant will convert 30,000 tons per year of locally collected polyethylene film waste into high-quality recycled materials. SUEZ's commitment is accelerating Thailand's ambitious 2030 target to achieve 100% plastic recycling.

Over in Nigeria, efforts to reduce plastic pollution and help save the environment have received a boost with the signing of a grant between leading energy company TOTAL and the United Nations Institute for Training and Research (UNITAR). The grant is managed by UNITAR with an implementation committee to create a full-cycle recycling plant in Port Harcourt, the capital and largest city of Rivers State in Nigeria. This two-year project will create employment at every step of the value chain and **unbundle opportunities for small and medium scale enterprises.**



*“The plastic waste crisis is a long-term problem that requires a holistic approach. We must optimise every part of the value chain to move from a linear economy to a circular economy. As a leader in plastics recycling, the commissioning of SUEZ Thailand plastic recycling plant signifies our commitment to make that change across Asia.”*

**Antoine Grange**  
CEO of Recycling and Recovery  
SUEZ Asia





F E E L

T H I N K



A C T

## OUR MEMBER DIRECTED COMMITMENTS

### Creating an infinite loop

Every year an estimated US\$120 billion worth of plastic is lost to the economy after a short first use with only an estimated 14% of plastic packaging collected for recycling. The majority ends up in incineration, landfills or in the environment, including open dumps.

For plastics to be fully recycled infinitely, some of our members are already playing active roles in finding lasting solutions to this challenge. They have committed to advancing technologies such as pyrolysis to demonstrate the viability of advanced recycling as a means to put valuable plastic waste back into the economy. These members include major energy and chemical companies like **SABIC** with TRUCIRCLE™ and **Versalis S.p.A's** Hoop™. And there is the Plastics Circular Economy investment of **Shell** in pyrolysis technology and infrastructure; and **Sumitomo Chemical Company's** pilot plant in Japan.

### Changing the way people feel, think and act

Education and awareness unlock knowledge to support fast, decisive and global action. This is what 300 women aspire to do as they embark on 30 voyages across four oceanic gyres! **TOMRA**, a world-leading plastics recycling specialist and sustainability company, has been paving the way as sponsor and scientific advisor to **eXXpedition Round the World 2019–2021** – the all-female sailing voyage focused on researching microplastic pollution.

The voyages traverse the Arctic and four of the globe's trash gyres (where marine plastic gathers in a system of circular ocean currents). The mission, founded in 2014, is shifting the way people feel, think and act by building a network of multidisciplinary women who can contribute to world-class scientific studies, explore solutions and use their skills to tackle the ocean plastics problem from all angles.

Awareness and action are arguably the most important contributions to real change. International petrochemical company **Braskem** brought together some 600 volunteers in its WeCare Week of 18 actions, seven clean-ups and 11 education initiatives. In seven days, the programme touched thousands across communities in cities in Mexico, the US, Brazil and Europe. This global week of volunteering for Braskem connected staff, waste-sorting communities, students and social entrepreneurs to the culture of reduce, reuse and recycling.

In Asia, **Covestro**, an international leader in polymer materials, launched *Brighter Minds for a Brighter Future*, a book focused on marine litter and ocean protection to promote environmental protection among children. The education programme with local versions cutting across Japan, Thailand and Greater China has reached nearly 30,000 children. In late 2019, Covestro went a step further by launching its storytelling app in Chinese and English.

## OUR MEMBER DIRECTED COMMITMENTS



### **From knowledge and science come solutions**

While the trends are clear, the source of truth backed by data is not always easily available. In 2020, integrated chemicals and energy company **Sasol** released a baseline assessment report after it commissioned a study to understand the challenges around waste pollution at the KwaZulu-Natal South Coast, specifically in the Amanzimtoti and Umbogintwini rivers in South Africa.

These rivers flow directly into the Indian Ocean, just south of Durban, South Africa. Both rivers are critical to the local economy and tourism industry, and also host several informal settlements next to them. With this baseline river study, the KwaZulu-Natal Marine Waste Network South Coast team has started convening solution workshops to develop implementation programmes that help end plastic waste pollution in the rivers.

### **From waste to worth**

Collaboration is at the heart of learning and testing technological complexities for closed-loop recycling systems. From collection and sorting to a raw materials market created from the recycling process, our members have committed to programmes that discover and scale the innovation needed to ensure plastic waste is made valuable again.

**Covestro**, in a three-party cooperation, is now working with China's bottled water and beverage company Nongfu Spring to collect and recycle one million 19-litre polycarbonate barrels that are no longer in use every year. These barrels are later chopped, washed and re-pelletised by plastics recycling company Ausell. Covestro transforms the plastic granules into recycled plastics for high-end applications in industries such as electronics, home appliances and automotive.

The collaboration of a cross-value chain group comprising members like **Milliken, LyondellBasell and Berry Global**, has also enabled a 60-day study in the US of a secondary sorting system called the Pacific Northwest Secondary Sorting Demonstration Project. The innovation is to introduce a secondary pass at materials recovery so we can increase the recovery of valuable materials like paper and various categories of plastics.

### **Unlocking more capital to end plastic waste**

Today, there is a financing gap for plastic waste collection in Asia across countries like China, Indonesia, the Philippines, Thailand and Vietnam. When one of the Alliance strategic partners, Circulate Capital, launched its Ocean Fund, member companies **PepsiCo, The Procter & Gamble Company, CP Chemical and Dow** pooled investments to address Asia's plastic waste challenge. With 60% of ocean plastic originating from this region, Asia is the biggest source of plastic leakage into global oceans and the Ocean Fund will invest in projects that move us closer to solving the ocean plastic crisis.



*From waste to*

# W O R T H



## WE FORGE AHEAD

*In 2020, we continue to build our momentum of bringing companies together with non-profit organisations, development agencies, governments and other stakeholders to drive investments in much-needed infrastructure for sustainable cities, following our five investment themes. We are engaging with cities to deliver a portfolio of impactful solutions that will rapidly catalyse action in support of an end to plastic waste in the environment. This will enable cities, specifically those with high waste leakage in the environment, to implement the municipal solid waste management infrastructure to collect and properly manage their plastic waste, the first step on the journey to the efficient utilisation of used plastic.*

We have begun requesting proposals for improvements in solid waste management infrastructure, in partnership with organisations that directly work with cities. The pipeline of projects is strong – here are some that we plan on implementing in the second half of the year.



### **Plastic waste-free cities**

Concerns about plastic waste pollution are rising and they are often defined by geographical vulnerabilities and socio-economic hierarchies. To accelerate our pace, we are partnering with non-profit organisations and developmental agencies on initiatives like **USAID's Clean Cities Blue Ocean Programme** and **UN-Habitat's Waste Wise Cities**. These partnerships are important to opening the doors to city projects particularly in India, Indonesia, the Philippines, Sri Lanka, Vietnam, East Africa and more.

Our first project will be an Alliance-led waste management project in Indonesia that demonstrates our approach to scalable and replicable solutions. On the back of what we have learned from Project Stop Jembrana, we are kicking off a feasibility study across 20-30 Indonesian cities in semi-urban and rural areas in collaboration with project partner SYSTEMIQ. The goal is to create local waste collection and sorting systems in this Indonesian city cluster that will divert plastic waste from the environment as material for mechanical or advanced recycling.

### **A movement for a better world in the Philippines**

Planks of Promise will be our first project in the Philippines with local social enterprise The Plastic Flamingo. The project tackles marine plastic pollution by collecting and recycling plastic. But it is also creating an environmental and social movement in Manila. The project involves collecting hard-to-recycle used plastic waste, including a fair amount of flexible packaging, then sorts and processes it for conversion into strong, 100% recycled and recyclable plastic planks.

In 2018, Asia accounted for about one-third of the natural disasters worldwide over the last decade and the shocks affected 1.6 billion people. Planks of Promise is addressing a social need with recycled plastic planks for transitional shelters to relocate the populations in need.

### **Combating plastic waste in conservation areas**

In June 2020, we announced a collaboration with **African Parks** – a non-profit conservation organisation responsible for the rehabilitation and management of 17 national parks and protected areas in 11 countries covering 13.3 million hectares. In these areas, plastic waste is threatening its nine distinct ecological biomes.

Our work with African Parks will support a number of sustainable solutions such as education and improving waste management systems to reduce plastic leakage, and engagement activities such as beach clean ups. The journey has just begun and we are looking forward to more supporters on this meaningful journey.

*We forge*

**AHEAD**

## WE HAVE A BOLD VISION TO END PLASTIC WASTE IN THE ENVIRONMENT

We are at the beginning of a new future. Any action we take today must ensure a thriving life is universally accessible to everyone. To secure this future, we must find sensible solutions and build them fast.

The Alliance is created to address this challenge. We work closely with organisations and governments involved in making, selling, using and recycling plastic. We collaborate with companies who design systems, products and services that think of new ways to better manage plastic waste in order to build viable solutions for circular economies. And we work with partners on the ground to create robust solid waste management systems for healthy communities and clean oceans.

To ensure that we have the right resources to realise our vision, we are backed by some of the world's largest and most committed organisations. Our members' unwavering commitment has kept the Alliance on course. And our family is growing. Agencies like GIZ, USAID, UN-Habitat, and the Global Plastics Action Partnership have joined as strategic partners. Consultants like the Boston Consulting Group and Bain & Company have become supporters in our mission.

We have grown from seven projects at the start of 2020 to over 14 programmes and initiatives across South and Southeast Asia and Africa. We expect that this number will not only double over the next 12 months, but that we will have projects spanning the world covering cities across all continents.

## AMBITION 2025

### BY 2025 AND BEYOND, WE EXPECT TO DELIVER INVESTABLE MODELS AND PARTNERSHIPS THAT:

- are designed to demonstrate successful plastic waste management in multiple cities and divert millions of tons of plastic waste through Alliance projects in more than 100 at-risk cities;
- can support livelihoods for over 100 million people by enabling local ownership of waste management; and
- aim to unlock at least five times our investment and much more to accelerate actions and solutions to end plastic waste and build sustainable cities.

In addition to our own projects, the associated projects being developed and led by our member companies have brought us closer to our goals. These have met benchmarks that the Alliance has set for member projects to be counted as direct contributions to our mission.

#### Join us

Our strength is the unique opportunity to learn from on-the-ground project results with the best partners in the ecosystem.

We continue to build our collective effort and we urge others to act. We say to any organisation, visionary or innovator who is passionate, who believes in the power of collaboration and who shares our vision – join us! **We are acting on the future and it begins with ending plastic waste.**

To find out how to access additional information, visit us at [endplasticwaste.org](https://endplasticwaste.org)

# *A bold* VISION



## OUR MEMBERS



## SUPPORTERS



## STRATEGIC ALLIES



## FOUNDING STRATEGIC PARTNER





**ALLIANCE TO  
END PLASTIC WASTE**

*Do your part and join the fight to end plastic waste in the environment at [endplasticwaste.org](https://endplasticwaste.org)*

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