



DOW

PROJECT BUTTERFLY

Tackling the challenge
of plastic waste



Project Butterfly™

What is Project Butterfly™?

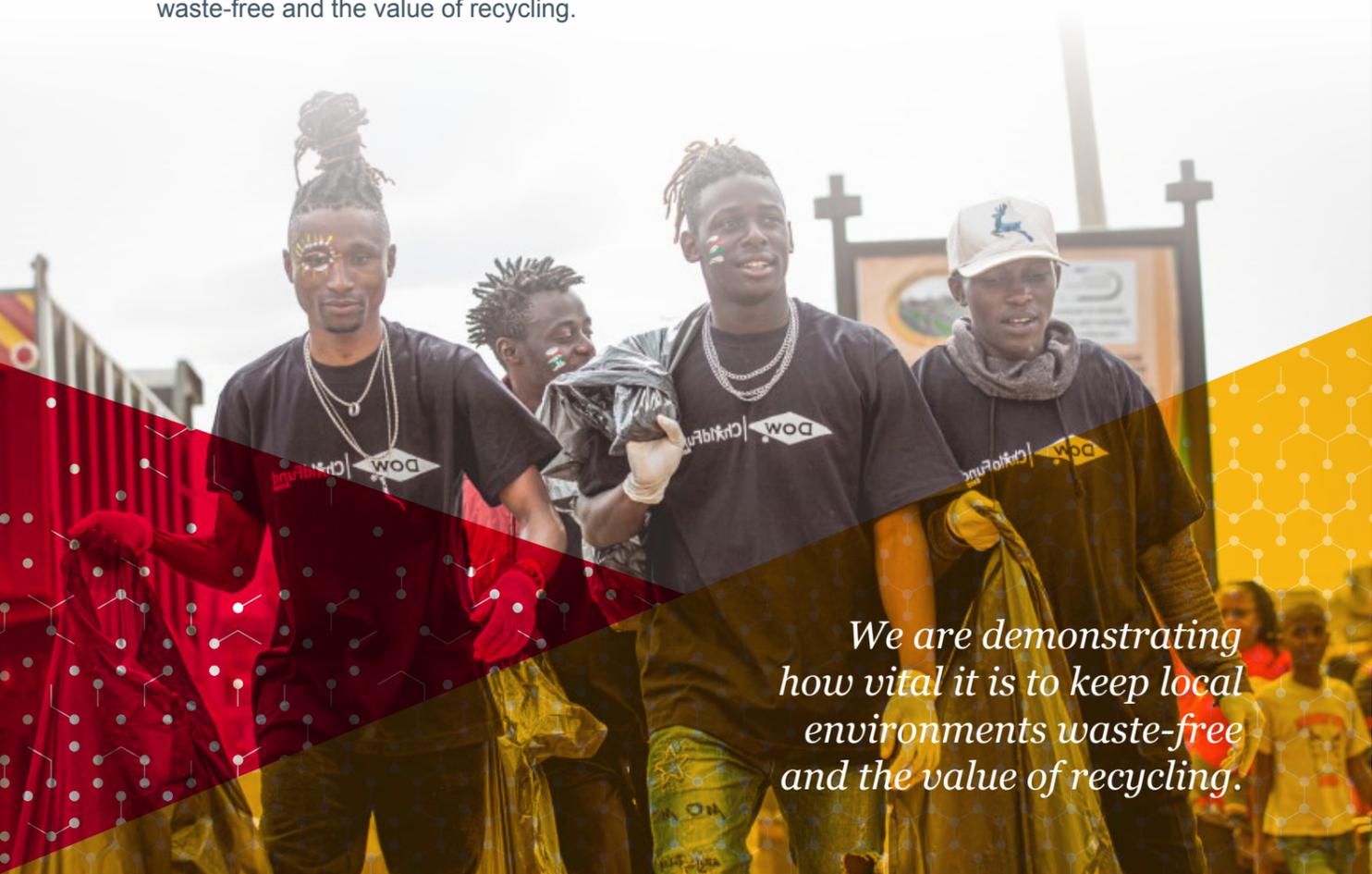
The Project Butterfly™ initiative, was launched in October 2017 in Tembisa, South Africa. It was inspired by the idea that transformation is always possible, and that with support and imagination we can tackle the challenge of plastic waste and transform it into something valuable.



Poor waste management is one of the most pressing and visible environmental issues we face globally, with daily stories of how plastics waste is affecting marine and other wildlife as well as contaminating and creating an unpleasant environment to live in. This is a global challenge but one that is felt particularly acutely in many countries in Africa.

We therefore wanted to launch a social impact project which is specific to Dow and specific to Africa, to show Dow Packaging's commitment to the region, as well as an understanding of some of the waste management and end-of-life packaging challenges currently being faced.

The aim is to get behind local community projects and organisations, which are already making inroads into tackling poor waste management in their areas, through innovation, education and action. Working in partnership with government agencies, local recyclers, communities and NGOs we are demonstrating how vital it is to keep local environments waste-free and the value of recycling.



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What are we trying to achieve?

Demonstrate that plastic is too valuable to be lost to waste.

- By facilitating and encouraging innovation in post-consumer end-use applications.
- By highlighting the value of recycling plastics and showcasing products that can be made from waste plastics.
- By creating employment through waste collection.
- By providing better links across the value chain, bridging the gap between recycling buy-back centres, sorting facilitators, collectors and recyclers.



Drive awareness about the importance of keeping our environment waste free.

- By arranging regular clean-up activities around rivers and beaches where plastic waste is a serious problem.
- By working with schools and communities, equipping them with information on how to sort, recycle and keep their environment clean.
- By equipping local recyclers with key information about managing the waste problem.



The story so far

Celebrating some early success

Prior to Project Butterfly, Tembisa had no waste management infrastructure and litter had become a major problem. With support from Project Butterfly, a local NGO, Destination Green Recycling, is now a burgeoning recycling business processing over **35MT of plastic every week**.

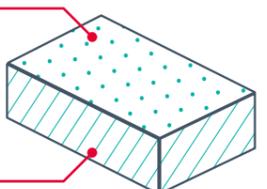


In 2018, Dow Plastics partnered with WILDTRUST, a leading South African environmental NGO, and the project saw the underwriting of a sustainable clean-up operation of the Durban Harbour. It has ensured the ongoing removal of the waste that accrues in the harbour, through the employment of a dedicated team of local community members as part of the WILDOCEANS' Blue Crew – a team of local female entrepreneurs, who collect waste accumulating along our coastline.

In June 2019, Dow was a key partner for Wildlands as they launched WISH-Waste, Innovation & Solutions Hub in Durban, Kwa Zulu Natal. The WISH launch uncovered an extraordinary machine that can make 'green bricks' without using water, cement or sand in its production – a world first.

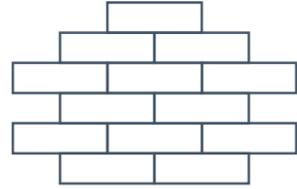
30% PLASTIC

70% GLASS



The building brick is made from **30% plastic and 70% glass**, weighs less than a normal building brick and is much stronger. The machine can produce **200 building blocks per day**, ultimately diverting 9.8kgs of glass and 4.2kgs of plastic per block from landfill daily. The long-term vision is to place brick plants wherever the plastic problem persists, especially in communities with a lack of, or poor, service delivery.

200 BUILDING BLOCKS PER DAY



Elsewhere in Africa, Dow is working with its partners to encourage positive behaviour around recycling through clean-up activities. The latest of which took place in the Kasarani district in Nairobi, Kenya in November 2019. Over two days, attendees joined over **800 volunteers** to participate in a 'community clean-up' in the Kasarani district, led by Dow and ChildFund Kenya. They also visited an innovative recycling facility, Mr. Green Africa, to see how it is pioneering plastic recovery and recycling in Nairobi and the Mukuru community; where Dow has provided receptacles for the collection of waste, to see how the support from Dow has positively impacted the local community.

So far, over **8000 children** from across South Africa, Kenya, Nigeria, Ethiopia and Algeria have participated in Project Butterfly projects, with over **200 becoming ambassadors** for the social enterprise, responsible for encouraging and participating in regular cleanups in their community.



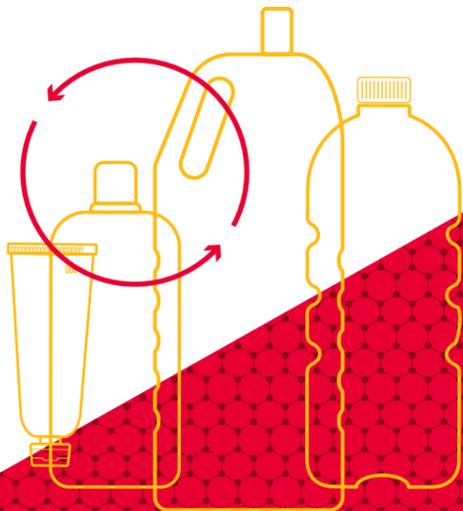
Where next?

Launching East Africa's First Circular Community

Following our early successes, we are now looking for ways to scale up our ambitions, revisiting the Kasarani community in Nairobi with our partners and developing a blueprint for the first “circular community” in East Africa.

Kasarani is a typical low-middle class community in Nairobi – made up of small businesses and middle-income families and couples. It is thriving and growing exponentially. However, with this growth comes increased waste and pressure on infrastructure. As well as organic waste, the growing proportion of middle-income households has led to an increase in flexible plastics and packaging waste associated with fast moving consumer goods.

To compound matters, a temporary dumpsite in Kasarani has been shut down, resulting in waste being left at the side of the streets. Not only has this exacerbated the waste situation but local community members, including youth groups collecting household waste and waste pickers, mainly women from the local area, who sort valuable waste have become more vulnerable. So, what can we do to help?



The Concept

The solution we are proposing

We need to start by getting the basics right.

Households and communities need facilities like bins and bin liners to separate their waste at source and reduce litter – and they need showing how and why it's important. The youth groups who currently collect waste need proper equipment to allow them to collect safely. And waste pickers, typically women from the local communities, need training and basic infrastructure to be able to sort and separate out high-value items.

Our aim is to see total recycling rates reaching over 90%.

Once sorted, we need to **work with local partners** and the waste collectors who will organise daily or weekly collections and process the sorted waste for recycling and composting – for example, the organic waste can be turned into organic fertilizer. We intend to

launch a central community hub, known as Taka ni Pesa (waste has value) which will operate as the central sorting, buying and collecting of waste. Thanks to the innovations we're seeing in recycling technologies, we can also help facilitate turning low-value plastics into fuel, roads or bricks. Our aim is to see **total recycling rates reaching over 90%**.

The community also needs to play its part.

Households currently pay youth groups a monthly fee to collect waste, but it's set comparatively low in comparison to household income. Raising the fee would ensure a **more effective and fairer service**.

By encouraging reuse and recycling, we hope that the informal waste dumps that pollute much of the urban landscapes in Africa, can become a thing of the past. And by ensuring plastic waste has a value, we can **help create stable and long-term jobs for the community**, particularly for young adults.



Our Project Butterfly partners

Plastics SA

Plastics SA represents all sectors of the South African Plastics Industry, including polymer producers and importers, converters, machine suppliers, fabricators and recyclers. Plastics SA has a 21-year track record of coastal and inland clean-up and recycling activities.

Plastics SA



Destination Green Recycling Pty (Ltd)

A youth-lead recycling organisation. It has set up a buy back centre in Tembisa to service the informal waste sector and seeks to improve living conditions in the township. The company aims to reduce land pollution and establish a sustainable system that will promote recycling and minimise the non-biodegradable waste that is being sent to landfills.

Aqua Amazing

Aqua Amazing is an organization that provides waste management education to schools through shark dissection, which clearly shows how inland litter ultimately impacts on the sea and marine life.



The Marine Coastal Conservation Society of Nigeria



is dedicated to conservation of the sea, shore and wildlife for Nigeria's coastal line. We partnered with them for 2018 Nigeria beach cleanup.

CIFA for children - CIFA Onlus:



International Centre for Families and Childhood, an Italian NGO, founded in Turin in 1980, is our partner in Ethiopia. They aim to create new socio-economic opportunities for vulnerable categories of the population. The organisation provides support to PET collection centres, facilitating relationships between local authorities and collectors' associations and providing necessary machines and equipment. They raise awareness around the importance of recycling and educate the public through interactive workshops, delivering theatre shows, public events and flash mobs.

ChildFund

Based in Ethiopia and Kenya, ChildFund is an international non-governmental organization (NGO) working in over 30 countries to help deprived, excluded, and vulnerable (DEV) children. ChildFund is committed to child-centered change that leads to healthy and secure infants, educated and confident children, and skilled and involved youth. Together with Dow, ChildFund launched the Economic Empowerment of Women through Recycling of Plastic Bottles in Addis Ababa.

ChildFund

WILDTRUST

Established in 2004 through the merger of two regional Trusts, with a vision of a "Sustainable Future for All". It pursues the realization of this vision through two core programmes, its WILDLANDS and WILDOCEANS programmes.



WILDOCEANS

WILDOCEANS consolidates marine and coastal conservation work, enabling the expansion of support for the ocean environment and the sustainable development of coastal communities and the blue economy. WILDLANDS' activities have grown into an incredible portfolio of terrestrial conservation and sustainable community development projects which empower, educate and sustain various communities around South Africa.

Local community groups

- Community of Tembisa, Johannesburg, South Africa
- Community of Cato Manor, Durban South Africa
- Hawassa community in Ethiopia
- Mukuru's Fuata Nyayo community in Nairobi, Kenya
- Algeria community
- Oniru beach, Lagos



Discover more



DOW
Don't let it go to waste



PROJECT BUTTERFLY
Advancing a circular economy in Africa



NATIONAL GEOGRAPHIC
Tackling waste through collaboration



Project Butterfly™