

A LOCAL RECYCLING CONCEPT

Local recycling

Useful products
made nearby

An introduction with examples
from Kenya, Colombia and beyond



Existing Precious Plastic container workshop • Photograph: Precious Plastic

A workshop people can visit

Bring selected materials

Residents and businesses supply clean, known materials.

Make products locally

Trained staff repair, sort and turn suitable material into useful items.

Buy and see the result

A public shop and batch records show where the material went.



Product examples: Precious Plastic community

Plastic processing and metal recovery use separate equipment and routes.



GJENGE MAKERS • NAIROBI, KENYA

Nzambi Matee

Plastic and sand become paving blocks

Matee developed a process and machinery to turn discarded plastic into paving products.

A change people can walk on

At Mukuru Skills Training Centre, colourful pavers replaced dirt paths and playground surfaces.



CONCEPTOS PLÁSTICOS · COLOMBIA + CÔTE D'IVOIRE

Isabel Cristina Gámez & Óscar Andrés Méndez

Their modular plastic bricks helped UNICEF build classrooms in Côte d'Ivoire.

383

classrooms reported
by UNICEF USA in 2024

**Serving 19,150
children**



Gámez (left), Méndez (right)
Photograph: Conceptos Plásticos

Heidi Kujawa



Portrait: Nexus PMG
Bigger Than Us, 2021



ByBlock photograph: ByFusion

Difficult-to-recycle plastic becomes ByBlock

Kujawa founded ByFusion to turn recovered plastics into building products.

Tucson made it visible

Its 2022 pilot produced park benches and a community-centre enclosure.

City of Tucson report, January 2023

Dave Hakkens and the makers



Dave Hakkens · Photograph: Precious Plastic

Open plans let more people make

Hakkens began Precious Plastic in 2013. The community shares machinery designs and know-how for sheets, furniture and everyday objects.

184

organisations in the
survey

530

employees reported

2024 participant survey. Self-reported and unaudited.



Classroom in Côte d'Ivoire
© UNICEF / UNI552220 / Dejongh

LESSONS FOR OUR TOWN

What a town could gain

Useful things close to home

Local buyers help decide what the workshop makes.

Paid work and practical skills

Sales and service income can support trained staff.

Confidence in the result

Public records connect materials to products sold.

Less waste and avoidable transport

Energy and yield records help verify carbon and cost savings.

OUR PROPOSED FIRST STEP

A small workshop with a clear first job

£18,285

Starter equipment estimate
including solar

Clean, prepared plastic feed
Small moulded products for local sale
Electric processing with trained staff

Public records of materials, energy,
sales and paid hours guide expansion.

Planning estimate from our paper. Site, wages and permissions need separate funding.
Construction blocks and metal processing need their own equipment and validation.

The people and the evidence

Gjenge Makers

[UNEP: Nairobi paving project \(2020\)](#)

[Portrait: Georgina Smith / UNEP](#)

Conceptos Plásticos

[Company founders and history](#)

[UNICEF USA: Classrooms and communities \(2024\)](#)

ByFusion

[Nexus PMG: Heidi Kujawa interview \(2021\)](#)

[City of Tucson: Pilot installations \(2023\)](#)

Precious Plastic

[Open plans, products and maker community](#)

[2024 impact survey and its limitations](#)

The container workshop

[Precious Plastic: Existing container workspace](#)

[Dave Hakken: Community profile and portrait](#)

Other photographs

[ByBlock photograph: ByFusion](#)

[School photographs: UNICEF / Dejongh](#)