UN trade & development

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Day 3: Plastic treaty negotiations and BRS Conventions processes and scaling up circularity in plastic

Training Materials

UN trade & development

UNCTAD

Topic:

Plastics, BRS & The INC Process

UNCTAD Division on International Trade and Commodities,
SMEP Programme

Trade in Plastics: Quick facts

436 million tons of plastics were produced in 2023 alone. 78% of that was traded.

Which is **$1.1 trillion in value**.

- **Less than 1%** is trade plastic scrap

Most plastics travel through trade, but their waste stays domestically (or in international waters)

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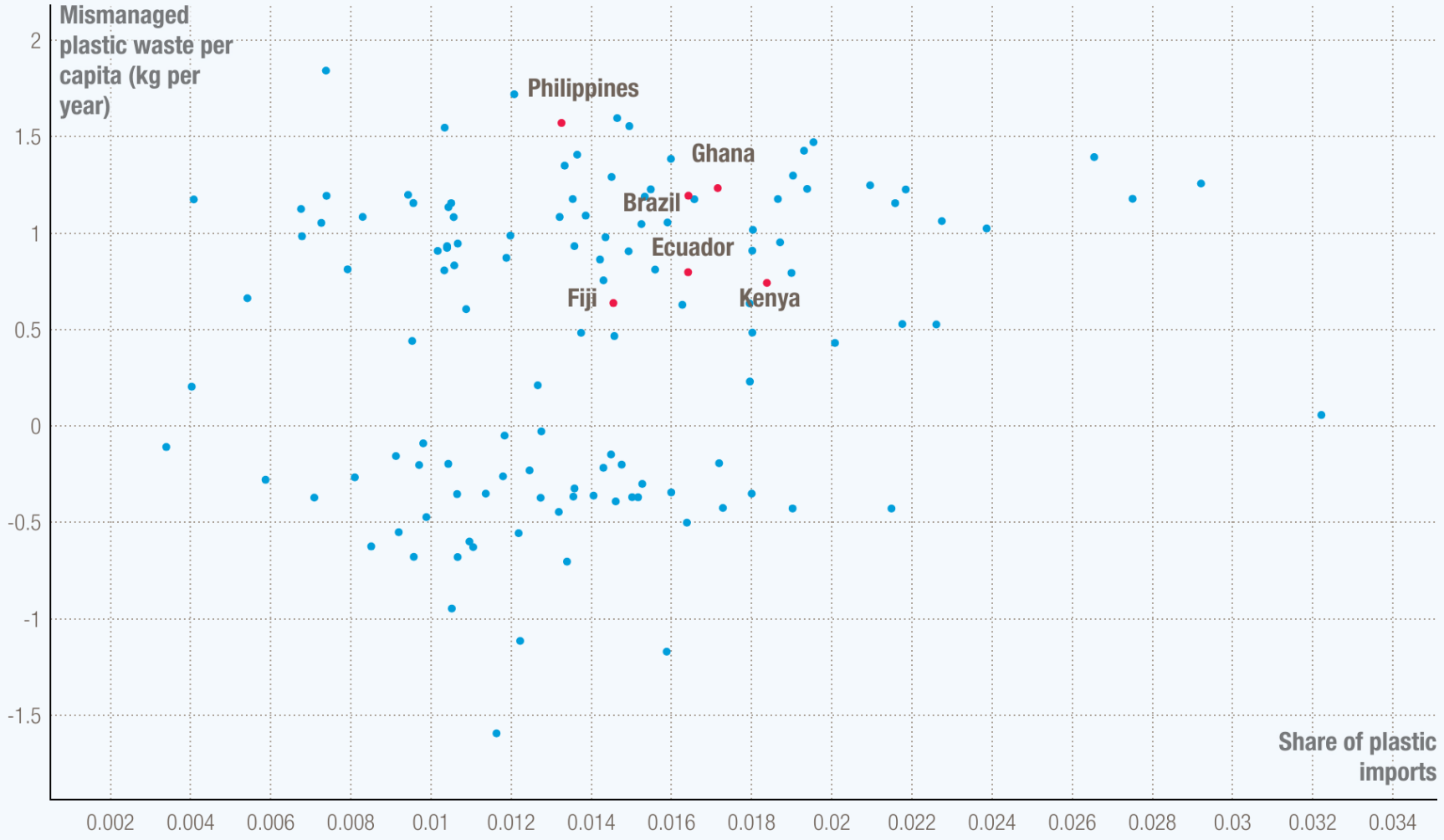
Plastic Imports vs. Plastic Mismanagement

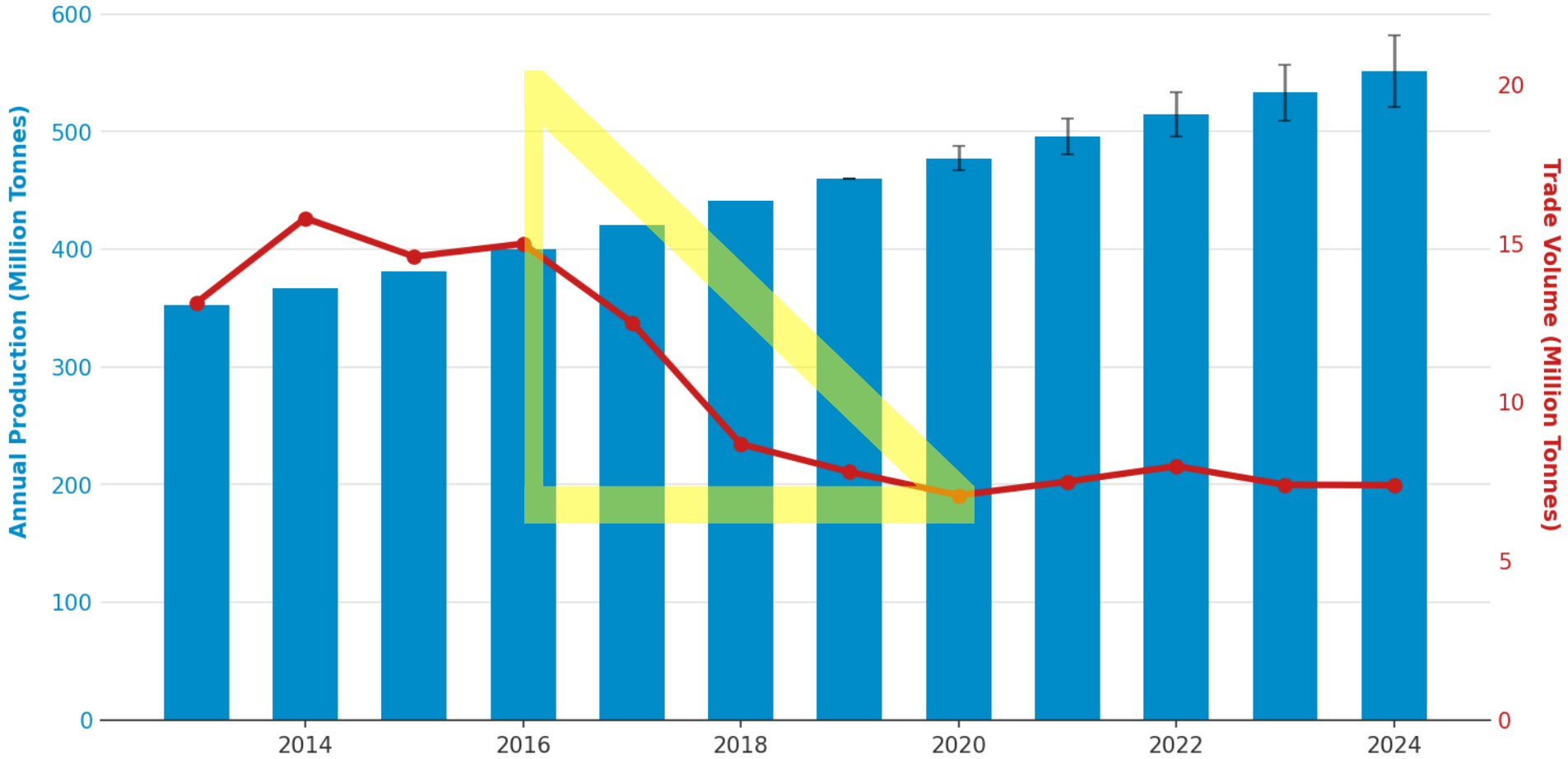
Logarithmic scale view of 2023 data



Source: UNCTAD. 2025 based on UN comtrade, Worldbank, Our world in Data
Note: Axes use logarithmic scales for visualization purposes. "Mismanaged waste" refers to waste that is not recycled or properly disposed of, posing a high risk of environmental leakage.

Global Plastic Production vs. Waste Trade

Annual plastic production and plastic waste (HS3915) exports volume, 2013-2024, Mt



Source: UNCTAD. 2025 based on Our World in Data, UN Comtrade

Note: Trade volumes for countries with missing weight data (e.g., USA) were estimated using reported values and global avg. unit prices. Estimates for the production (2020–2025) assume a continuation of historical trends (ARIMA model). The shadow shows the 95% confidence interval.

Basel Convention: Plastic Waste Amendments*

BASEL CONVENTION

Originally created to control transboundary movement of hazardous wastes

Amendment to Annexes II, VIII & IX, adopted at COP-14 in **May 2019**, to regulate non-hazardous plastic waste under the Convention.

Entered into force on **1 January 2021** for Parties that did not opt out.

Key provisions:

Extends **Prior Informed Consent (PIC)** to most plastic wastes, requiring exporter/importer government approval before cross-border shipments.

Enhances transparency, traceability, and information-sharing on plastic waste movements.

Promotes environmentally sound management (ESM) and supports capacity-building, notably in developing countries.

*The Stockholm Convention also deals with a subset of plastic-related sectors, especifically persistant organic pollutants which can be used as additives to plastics.

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Basel Convention: Plastic Waste Amendments (2)

BASEL CONVENTION

Party Obligations

Parties must secure PIC for exporting/importing regulated plastic waste shipments.

Monitor and report on plastic waste trade flows.

Implement domestic regulations to enforce Annex modifications.

Provide technical & financial support for ESM via the Basel Plastic Waste Partnership. [brsmeas.org]

Why it matters

Reinforces the Basel Convention as a global, binding framework specific to plastic waste.

Deters illegal dumping and promotes responsible recycling.

Stimulates innovation in sustainable plastic alternatives and recycling technologies.

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Nicaragua
Mali
Malta

Intergovernmental Negotiating Committee (INC) – Negotiations towards an International Legally Binding Instrument (ILBI) against plastic pollution.

The United Nations Environment Assembly approved to convene an Intergovernmental Negotiating Committee (INC), commencing its work during the second half of 2022, with the ambition of completing a plastics pollution treaty by the end of 2024.

Negotiations towards an international Legally Binding Instrument (ILBI) on plastic pollution, including in the marine environment, have officially gotten underway.

INC-1: Punta del Este, Uruguay – 28 November to 2 December 2022
INC-2: Paris, France – 29 May to 2 June 2023
INC-3: Nairobi, Kenya – 13 to 19 November 2023
INC-4: Ottawa, Canada – 23 to 29 April 2024
INC-5: Seoul, Republic of Korea – 25 November to 1 December 2024
INC-5.2: Geneva, Switzerland - 5 to 14 August 2025
INC-5.3 (admin): Geneva, Switzerland, 7 February 2026

INC happening in parallel to work of Dialogue on Plastics at the World Trade Organization in Geneva.

INC: Scope and upstream controls

Treaty Scope and Ambition

The treaty's scope debates regulating plastics from production to disposal or focusing mainly on waste management.

Global vs National Measures

Negotiations contrast mandatory global controls with voluntary, nationally tailored actions on plastic production.

Upstream Controls

Upstream controls focus on reducing production and promoting sustainable design to prevent plastic pollution at the source.

Geopolitical and Economic Interests

Diverging interests reflect impact on petrochemical industries and global trade in treaty negotiations

INC: Product design and chemicals of concern

Regulation of Plastic Products

Global lists and phase-out criteria are proposed for problematic plastic products like single-use items to reduce pollution.

Product Design and Standards

Design requirements focus on reusability, recyclability, material composition, recycling content to promote a circular economy in plastics.

Chemicals of Concern

Treaty addresses hazardous chemical additives with proposals for disclosure, bans, and traceability to protect health and environment.

Global Standards and Disputes

Disagreements exist over binding regulations versus flexible national approaches for implementation timelines and trade impacts

INC: Downstream measures and waste management

Plastic Waste Management

Focus on improving collection, recycling, and disposal to prevent plastic leakage into land and marine ecosystems.

Extended Producer Responsibility

Producers are required to manage product end-of-life, encouraging sustainable design and reducing municipal waste burdens.

Circular Economy Approaches

Reuse and refill systems, as well as non-plastic substitutes and alternatives are promoted to minimize waste generation and support sustainability goals.

Capacity Building and Cooperation

Developing countries need support in technology transfer, scaling, financing, and infrastructure for effective waste management.

INC: Means of Implementation and Governance

Financial Mechanisms

Dedicated funds and innovative financial tools support treaty implementation and align investments with environmental goals.

Capacity Building and Technology Transfer

Supporting developing countries with skills and technology is crucial for sustainable treaty compliance and environmental progress.

Governance and Compliance

Establishing oversight bodies and compliance frameworks ensures accountability and effective treaty enforcement worldwide.

Transparency and Monitoring

Transparent data reporting and monitoring systems track treaty progress and enable informed decision-making.

INC: Trade implication of an eventual ILBI (INC Treaty)

Trade and Market Access Challenges

Plastics treaty provisions may create compliance challenges affecting market access and material trade flows globally.

Risk of Production Leakage

Manufacturers might relocate production to non-party countries, risking treaty objectives by exporting back to compliant markets.

Customs and Enforcement Measures

Effective customs classification and traceability tools are essential to enforce treaty compliance at borders.

Harmonization and Trade Facilitation

Harmonizing standards promotes sustainable design and innovation, opening new market opportunities worldwide.

CONTROL AND MITIGATION MEASURES ACROSS EACH STAGE OF THE PLASTICS VALUE CHAIN

Control measures applicable to plastics are being discussed as one of the main **tools for a legally binding instrument on plastic pollution**, including in the marine environment. This table summarizes several options, **covering both trade / border measures and internal market measures**, which can be adopted by countries. Control measures can help steer economies away from harmful, problematic, single-use plastics and at the same time help to promote more sustainable material substitutes and alternatives.

			RAW MATERIALS	UPSTREAM	MIDSTREAM	DOWNSTREAM	RECOVERY
			 Hydrocarbons	 Polymer pellets	 Products and parts	 Plastic waste or residues	 From land or water bodies
TRADE / BORDER MEASURES	TARIFFS	• Preferential or higher tariffs on certain goods.	×	×	×	×	
	IMPORT BAN (QR)	• Import ban on imports of single-use plastics causing persistant pollution.			×	×	
	IMPORT QUOTAS (QR)	• Limitations on imports of single-use plastics.	×	×	×	×	
	IMPORT LICENSES (ILP)	• Import licenses for recyclable plastic waste; • Import licenses for plastic bag components to avoid circumventing.		×	×	×	
	EXPORT BAN	• Export ban of polymers, products or scrap material to destinations with limited capacity to process end-of-life materials.		×	×	×	
	EXPORT QUOTAS	• Limits on specific polymer or scrap material exports.		×		×	
	EXPORT LICENSES	• Adherence to Basel plastic waste ammendments / PIC prodecure.				×	
	EXPORT TAXES	• Explicit tax or via state marketing boards.				×	
	TRADE DEFENSE TOOLS	• AD/CVD applied to plastics; • Peace clause so not to apply AD/CVD on material substitutes.	×	×	×	×	

The distinction between plastic substitutes and plastic alternatives

Plastics substitutes are natural materials that have similar properties to plastics, while plastic alternatives include bioplastics or biodegradable plastics.

Plastic substitutes	VS	Plastic alternatives
Mineral, plant, marine or animal	ORIGIN	Bioplastics or Biodegradable plastics
Recyclable, reusable, biodegradable, compostable, or erodable	PROPERTIES	Recyclable, biodegradable, or compostable (end of life)
Should have lower environmental impact along their life cycle	IMPACT	Should have lower GHG lifecycle emissions when compared to plastics
Should not be harzardous for human, animal or plant life	SAFETY	Should not be harzardous for human, animal or plant life
Non-plastics		**Better plastics (?)**

Source: UNCTAD Vivas Eugui & Pacini (2022). UNCTAD, based on presentation on plastic substitutes HS codes, Life-cycle analysis and tariffs considerations. WTO Dialogue on Plastics.

Blurry borders: (e.g. PHA, PHB)
Focus should be on life-cycle / end-of-life performance

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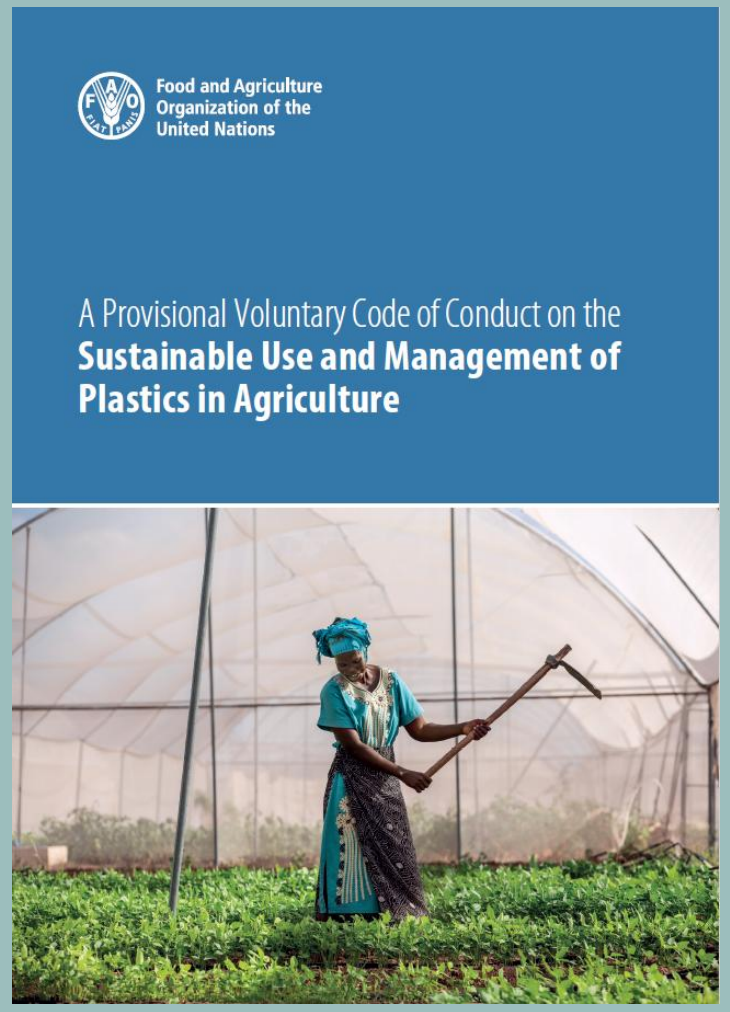
Topic:

Plastics in Agrifood Systems

Helena Lindeman,
Environmental Lawer and Policy Expert, FAO

The use of plastics in agriculture: the scale of the problem

- 13.4 million tonnes of agricultural plastics used yearly in agriculture
- 40% are plastic films (e.g. mulch, greenhouse covers)
- Degradation of larger agri-plastic items is only one of the sources (sewage sludge, rain, runoff)
- Plastic concentrations in soil up to 0.3%
- Microplastic levels may exceed safe thresholds



Scan the QR code to access the publication

FAO published the first global assessment of plastics used in agriculture

FAO conducted consultations with Members and stakeholders

Provisional VCoC is available to countries who wish to implement it

2022

2024

2021

2023

2025

COAG28 asked FAO to develop a Voluntary Code of Conduct (VCoC)

COAG 29 reviewed the VCoC

Engagement on INC negotiations in Observer capacity

Better production
Better nutrition
Better environment
Better life

FAO’s commitment for an ambitious treaty

Urgent global action to reduce plastic production and consumption to sustainable levels

Mandatory measures to eliminate harmful plastic products and chemicals

Redesign plastics to maximize reuse, recyclability, safe alternatives

Need for fair access to financial and technical support for vulnerable countries

Better production
Better nutrition
Better environment
Better life

Workshop on Plastics and One Health in Agrifood Systems

18 – 19 November, FAO HQ, Rome

Thank you!

Helena Lindemann
FAO Environment team
Agri-plastics@fao.org
https://www.fao.org/climate-change/thematic-areas/plastics-in-agriculture/en

Scan the QR code to access our webpage

Better production
Better nutrition
Better environment
Better life

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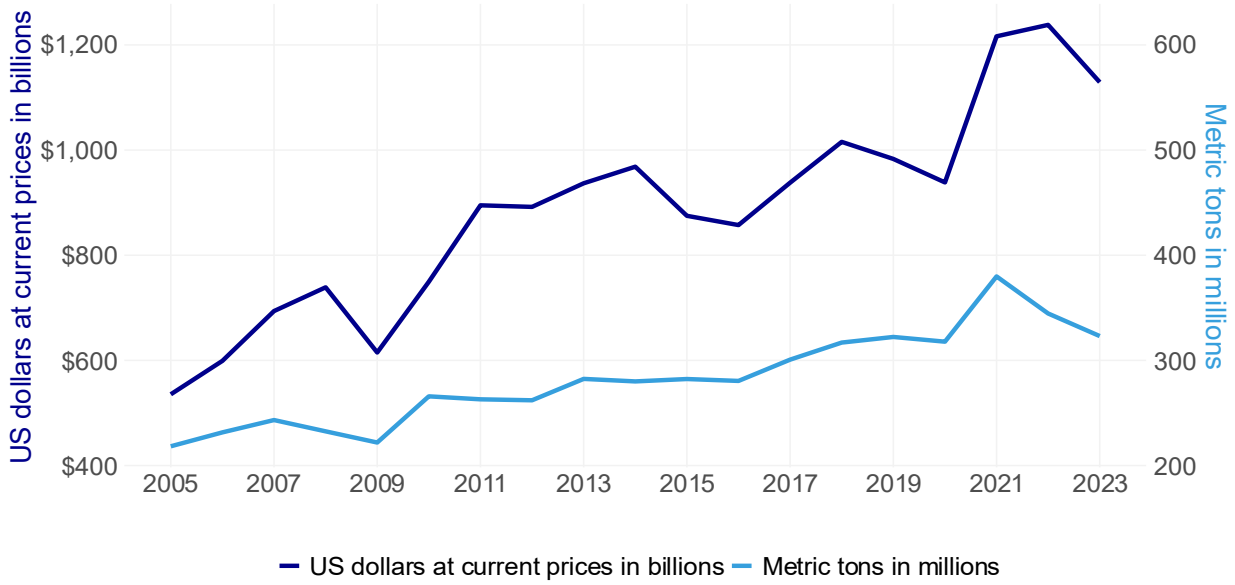
Topic:

Trade & Markets for Non-Plastic Substitutes

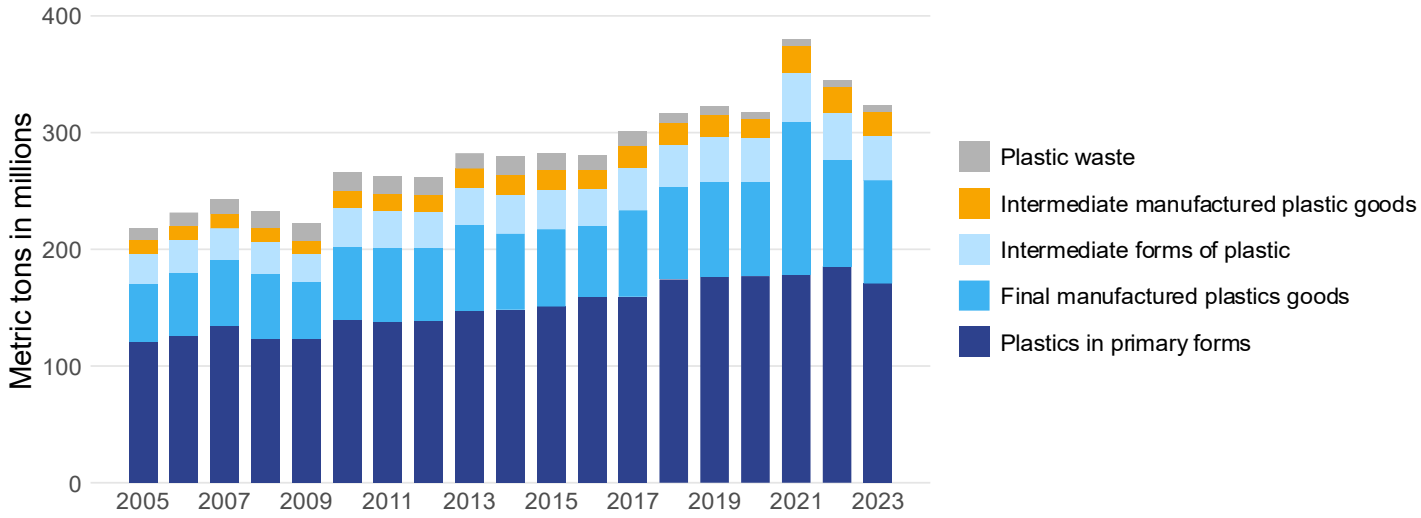
UNCTAD
Division on Statistics

Plastics trade represents around 5% of global merchandise trade

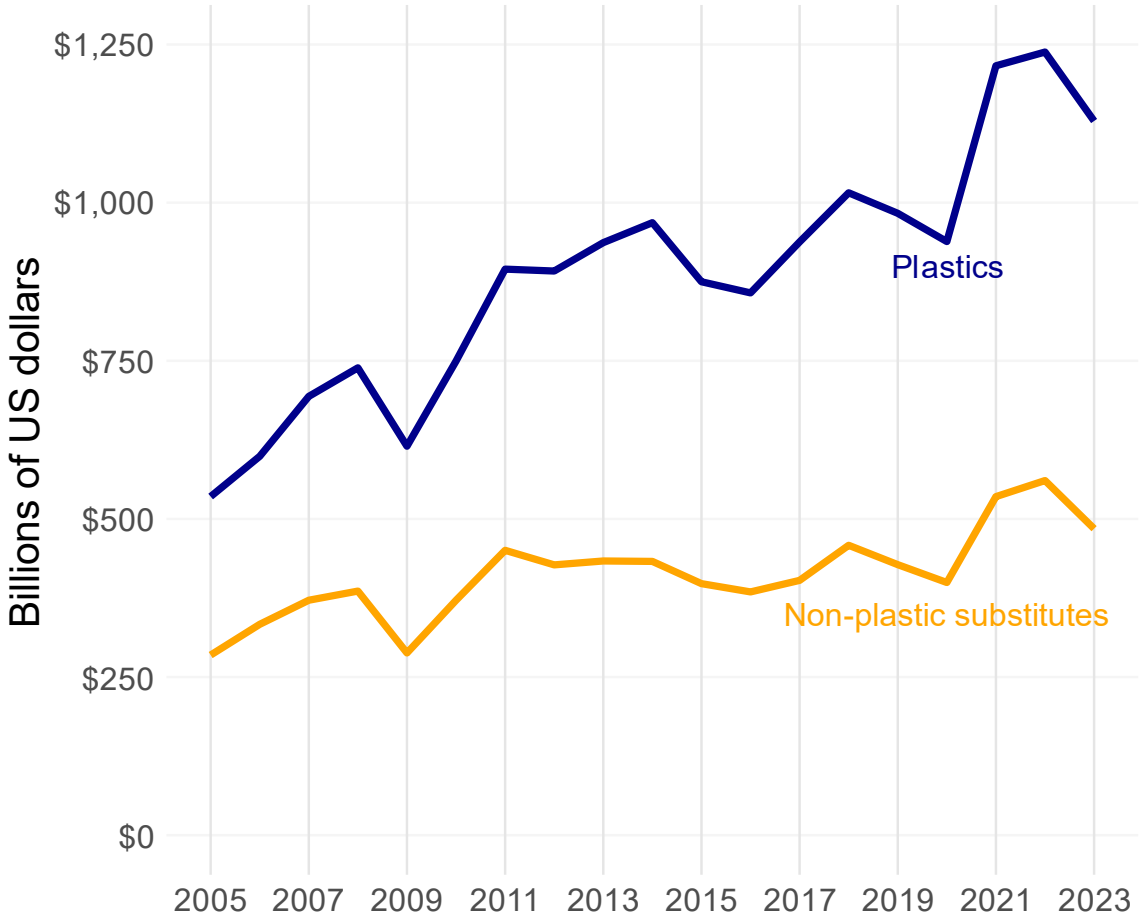


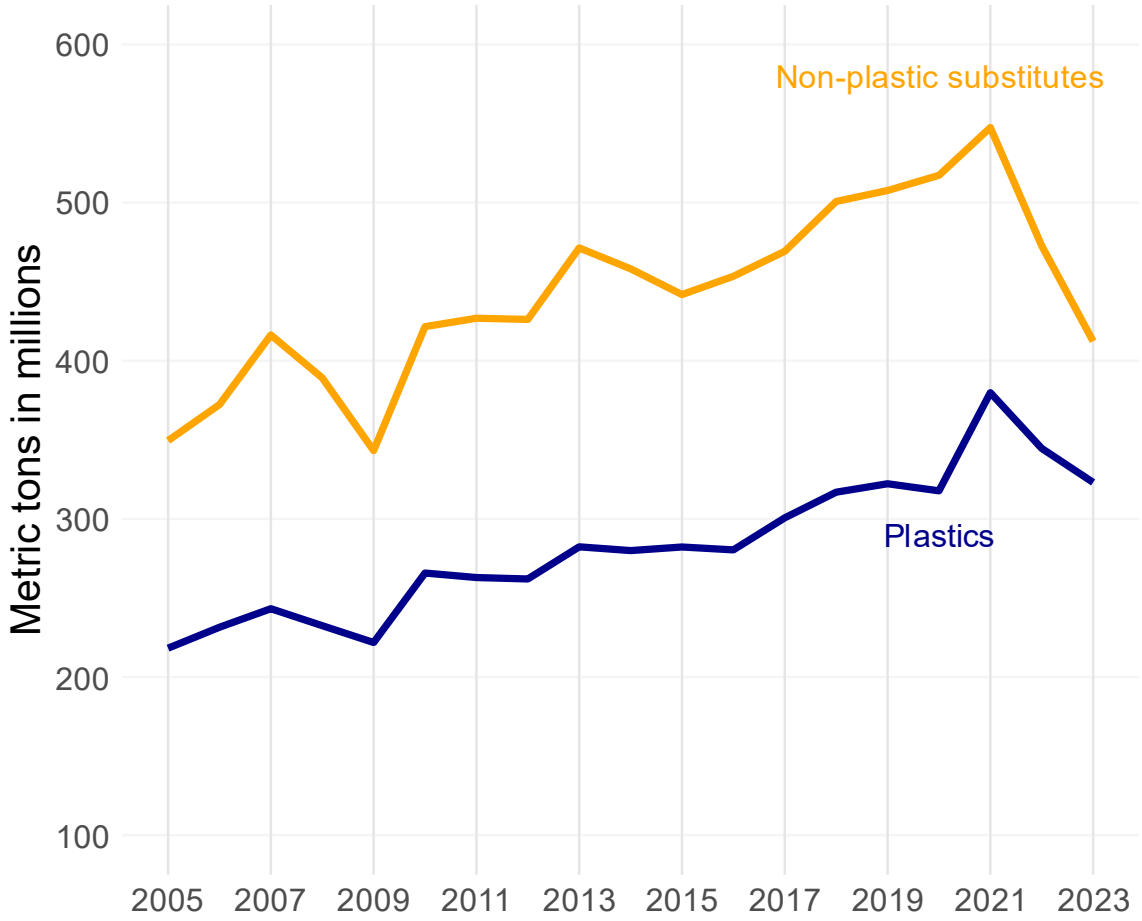
Global exports of plastics, or goods made from plastic, have more than **doubled in value since 2005**, reaching nearly **US$1.2 trillion in 2023**

Half of global exports of plastics in volume consist of **primary forms**, but **manufactured plastics** is booming

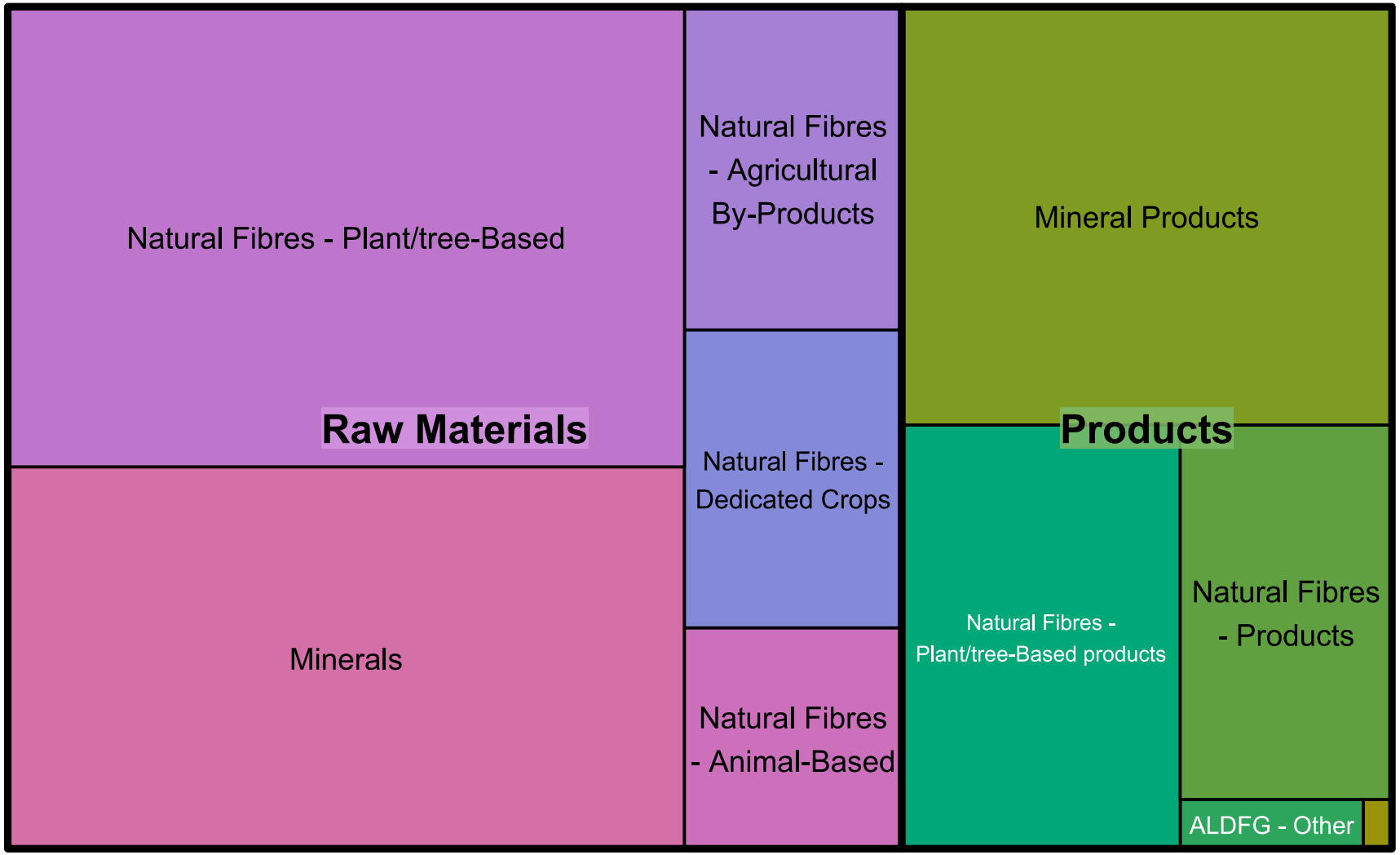


Plastics and non-plastic substitutes declined slightly after years of growth

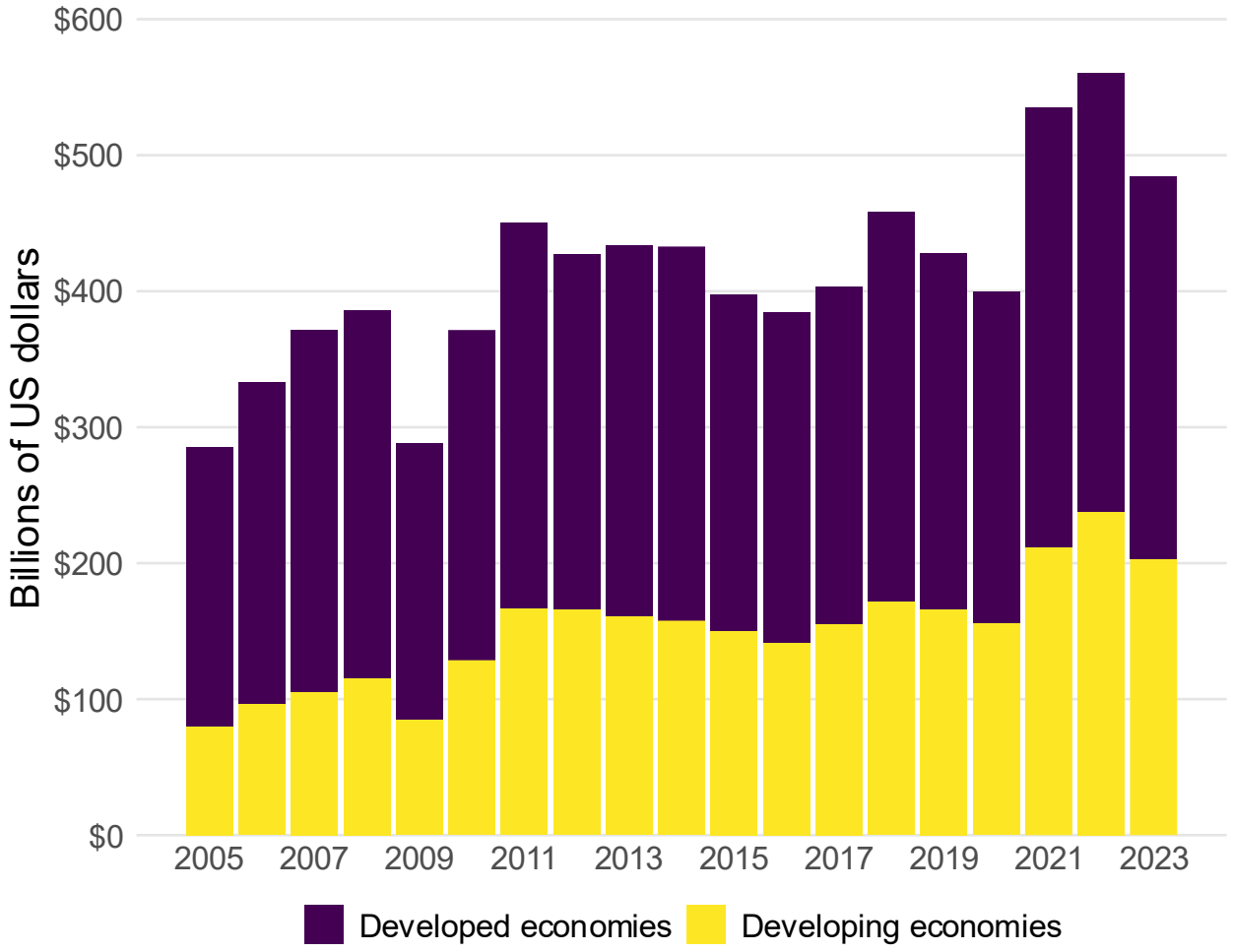


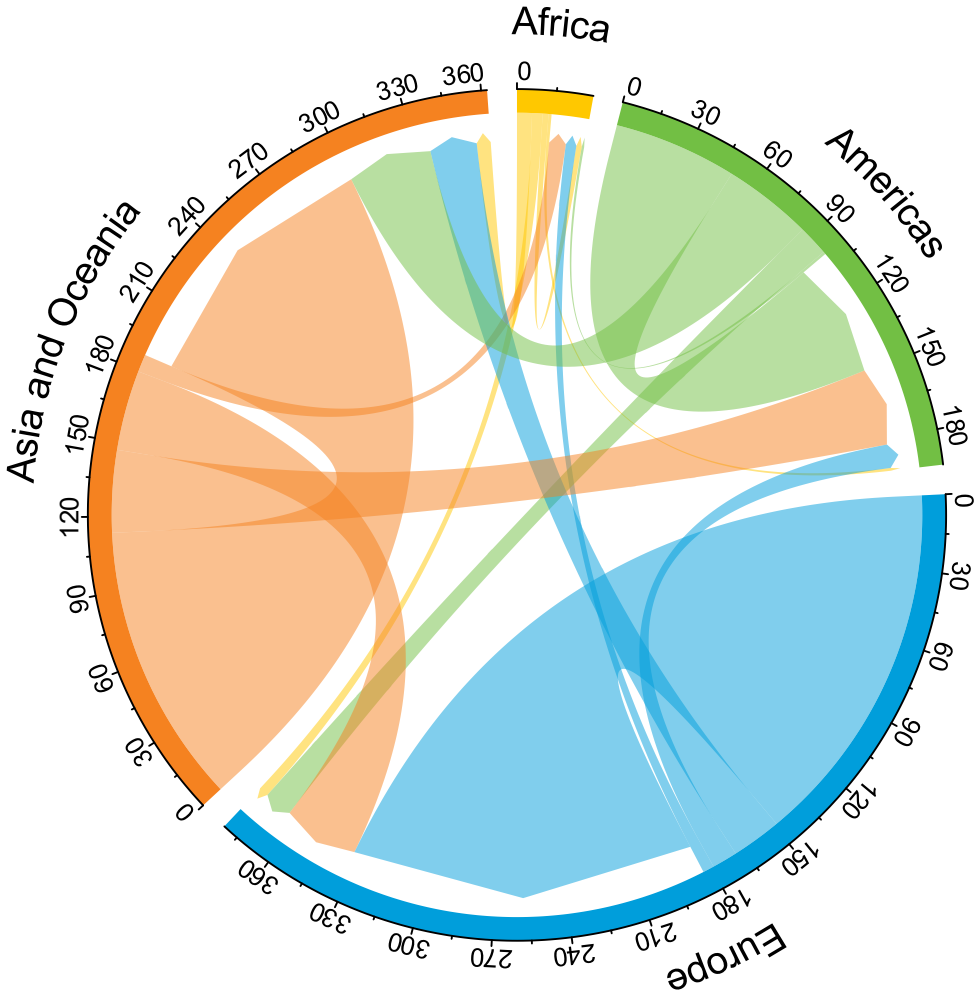


Only one third of the $485 billion in non-plastic substitutes exported in 2023 were products with added value



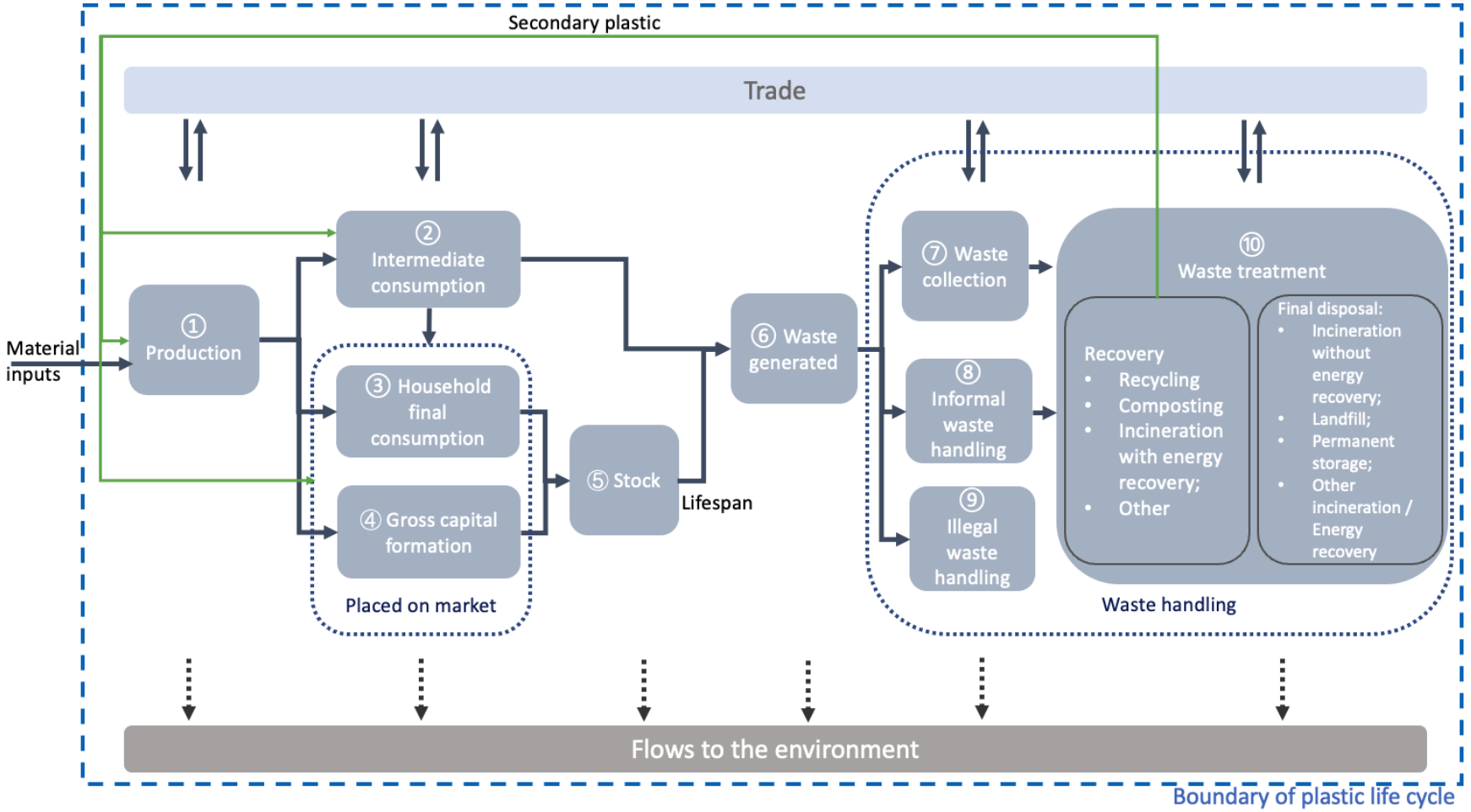
Global trade in non-plastic substitutes is largely dominated by developed economies





Towards harmonized and comparable plastics data for informed action

Measuring plastics over their lifecycle is **complex** due to the interconnected stages of **production**, **consumption**, **waste generation**, and **disposal**, each involving diverse material flows, trade dynamics, and environmental impacts that cross multiple system boundaries.



UN trade & development

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Topic:

Sustainable Textiles & Bio-Based Fibers

Heidi Cox,
Textiles Specialist,
South Africa

Bio Fibres as an Alternative to Synthetics

HEIDI COX
FABRICS UNRAVELLED
TECHNICAL ADVISOR ON THE
SMEP PROGRAMME (TEXTILE INDUSTRIES)

UNCTAD figures – textile goods

World figures for the trade of textile fibres, yarns, textiles and clothing) (Million US$)

(https://unctadstat.unctad.org/datacentre/dataviewer/US.IntraTrade)

- Global: US$ 820 746
- Americas US$ 48 999
- Africa: US$ 15 268
- Asia: US$ 545 338
- Europe US$ 208 225
- E & SE Asia US$ 424 386

Synthetic Fibre Production - Polyester

World production of polyester at end 2024 = 78 million tons

Increased from 57% of the total a year ago to 59% of all global fibre production

(https://www.modaes.com/):

- Bio-PET EG-based fibers, made from plant-based ethylene glycol (EG) (corn or sugar cane)
- FDCA-based fibers, derived from 2,5-furandicarboxylic acid (FDCA) from plant sugars
- Both biodegradeable, but especially FDCA-PET which is also resistant to hydrolysis
- Polyhydroxyalkanoates or PHAs are polyesters produced through the fermentation of sugars or lipids by microorganisms (wide range of properties)
- Ref https://www.polyestermfg.com/
- PTA can be extracted from lignocellulose, but usually from petrochemicals (https://pmc.ncbi.nlm.nih.gov/articles/PMC12514950/)

As per the International Bioplastics Association, bioplastics production capacity worldwide is projected to hit 4.9 million tons by 2025

- Some are able to slip straight into existing applications
- Pricing tends to be higher
- Not all bioplastics are biodegradable
- Not all bioplastics are recyclable
- Some bioplastics have very low melt temperatures

Synthetic Fibre Production - Nylon

Nylon production in 2024 +-7million Tonnes =+-5% of global fibre market

- Nylon 6 is the dominant variant at +-65% of Nylon production (apparel, hosiery, carpets)
- Nylon 66 +-30% in engineering components and automotive
- 2.3% of Nylon fibre in 2024 was from recycled Nylon (0.2Mil Tonnes)
- Bio-based Nylon served 0.4% of the market (0.03 mil tonnes)

(Ref: Textile Exchange Materials report Sept 2025)

As per the International Bioplastics Association, bioplastics production capacity worldwide is projected to hit 4.9 million tons by 2025

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- Some bioplastics have very low melt temperatures

Pricing per kg Polyester, Nylon and Cellulosic fibres

1. virgin polyester averages **$0.85–$1.05/kg**,
2. rPET averages **$1.10–$1.40/**
3. Bio-based polyesters are estimated to be higher costs than fossil fuel based PET
4. Bio-based Nylon (610 and 512) is estimated to be approx. double the price of Nylon 6 and Nylon 66; Nylon 11 (100% bio-sourced) tends to be a higher price than all.

Conventional Cotton	$1.60–$2.30
Organic Cotton	$2.80–$3.80
Hemp (degummed)	$4.50–$6.50
Linen (Flax)	$5.00–$7.50
Bamboo Viscose	$3.50–$6.00
TENCEL (Lyocell)	$6.00–$8.50
Banana fibre (ref: TEXFAD Jan 2024 +-)	$15.00
Pineapple Fibre (ref: Vinatex)	$5.90
Jute (ref	$1.50 - $2.50

Ref: https://szoneierfabrics.com/ ; www.tradewhel.com;

Policies, Investment in technologies and Infrastructure

- Establishment and enforcement of policies
- Invest in technologies
- Offer incentives for non-plastic alternatives, to counteract the prices
- Enable informal and smaller scale players so the can collaborate to team up and be global players, especially for alternative fibre types such as pineapple, banana, and others
- Leverage agricultural waste
- Economy of scale
- More complex Textile to Textile recycling technologies require higher levels of capital investment
- Logistical challenges in any reclamation and recycling system add costs

thank you

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Topic:

Biodegradable Marine Gear & seaweed-based Solutions

Emma Algotsson,
Founder & Project Lead,
Catchgreen

catchgreen

Emerging issues at the interplay between trade and sustainable development

18 December 2025

On a mission to end ghost fishing and plastic pollution in our oceans, one biodegradable fishing net at a time.

70%

of marine animal entanglement involve lost, abandoned or otherwise discharged fishing nets (ALDFG)

640 000 000 kg

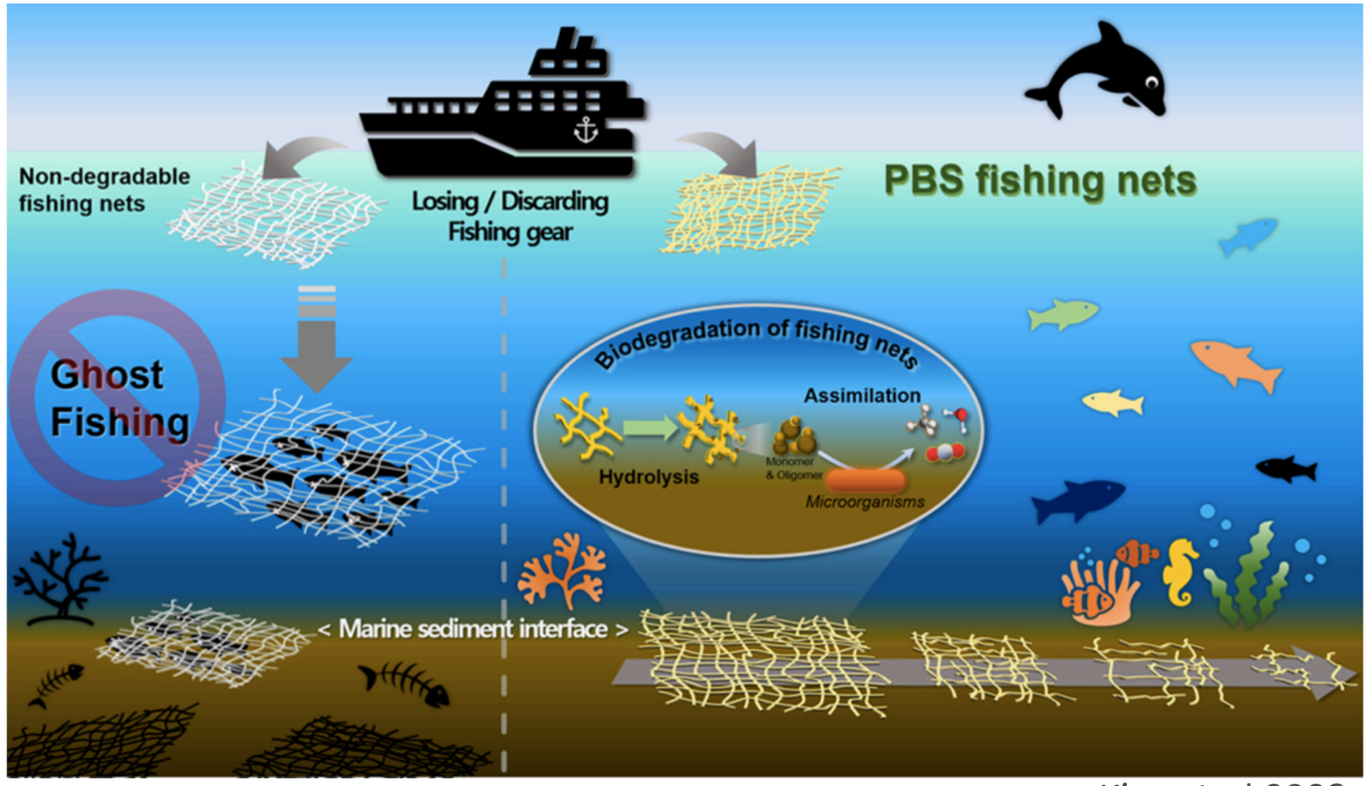
of fishing gear is lost or dumped in the ocean every year

46%

of ocean plastic in the Great Pacific Garbage Patch is made of fishing nets.

catchgreen

- Polybutylene succinate (PBS)-based biodegradable polymer.
- Currently relies on synthesis from fossil resources, but more recently from cost and sugarcane.
- Shown to biodegrade into water and carbon in multiple environments, including compost and marine sludge/sediments.
- Two-stepped process -the hydrolysis on the surface removes monomers/oligomers which then metabolize in a reaction catalyzed by the naturally occurring enzyme PBSase.
- Previous research shows degradation within 24 months.



Kim et al 2023

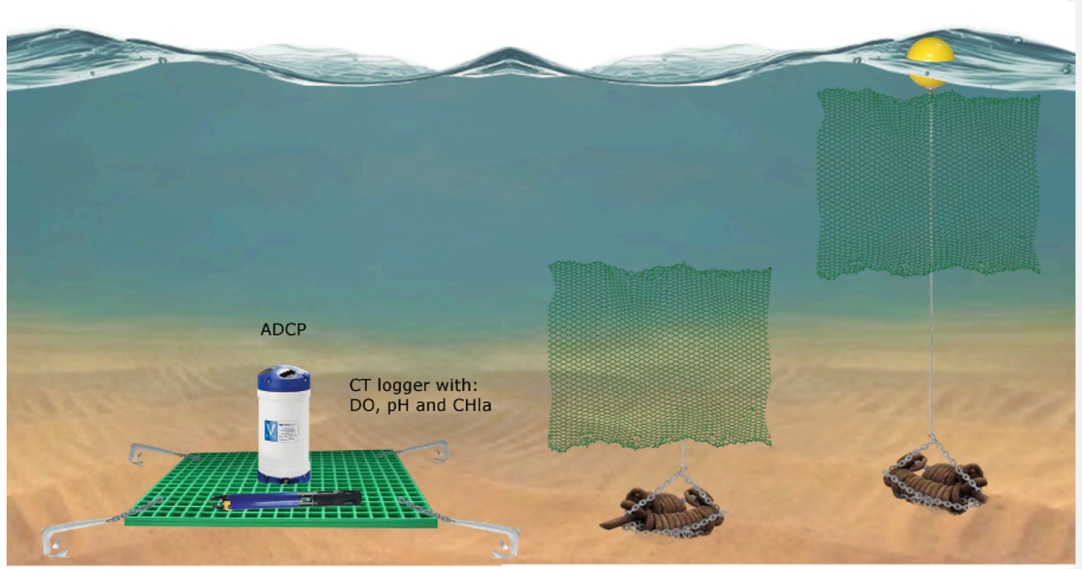
Live Ocean Testing

At-sea deployment to study ghost-fishing and degradation in four locations

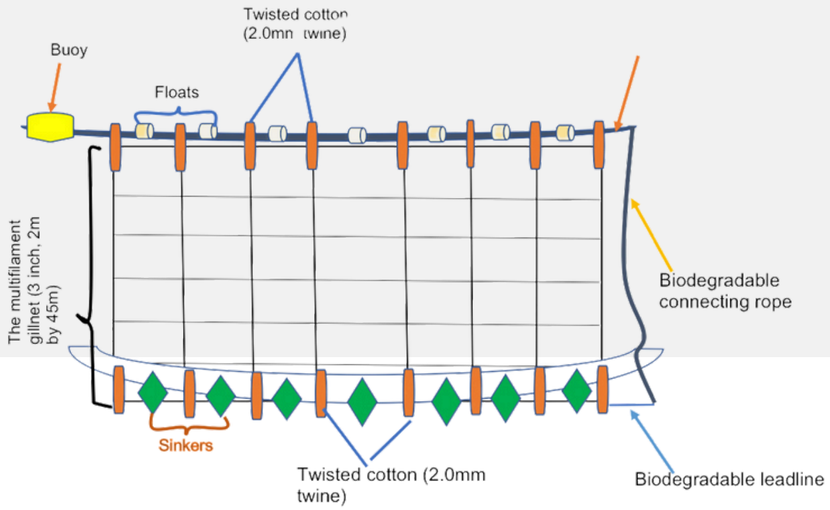
- Experimental seabed grates and nets (UV, temperature, salinity, pH, and microbes)
- Moored at 30 meters
- Testing the assumption that the nets, due to high density, sink to the bottom of the sea.
- Regular samples for strength testing and chemical and microbial analysis.
- 2 years
- Atlantic and Indian Ocean South Africa. Coastal and freshwater Kenya.

CSIR

- Only laboratory for biodegradability testing in Africa.
- Opportunity to develop international standards for biodegradable fishing nets.



Piloting as learning platform



KMFRI
Kenya Marine and Fisheries Research Institute

Kenya

Biodegradable twine for modified gill nets.

- Replacing the headline and leadlines with biodegradable twine
- Replacing 50% of the plastics in the nets
- Reducing plastics on land and in the ocean
- Same fishing efficiency as PE nets

Biodegradable ropes for seaweed farming

- Comparing yield between the two ropes.
- Observing the biodegradation process.
- Measuring microplastics.
- Testing composting on land.
- Demonstrated higher biomass yield on the biodegradable ropes

Policy and trade

Engagement national governments

- South Africa; DFFE/FishSA: piloting, research, fishnet market, and end-of-life management survey, fishnet management input on new fishing legislation.
- Kenya: Fishing and Blue Economy/KMFRI: piloting, research, S&E analysis, market engagement, policy development.
- Sweden: Naturvardverket: EPR on fishing nets (learnings)

International engagements

- INC-plastic treaty and World Bank PROBLUE - to include ALDFG and substitution materials in the Plastic Treaty
- UNCTAD/WTO - promoting trade in plastic substitution materials (HS codes)
- UNCTAD/ECOS - dialogue with environmental protection agencies and national standards bodies in managing compostable plastics (certification/labeling)
- UNCTAD, UNDESA/FAO/UNEP - Oceand forum on trade-related aspects
- FCDO - David Lammy

"Some of our funding has also been used for incredible research. Few will believe, that thanks to the FDCO, a South African business is trialing new biodegradable nets that if lost leave no toxins or microplastics behind. I want many more examples like this."

INC-3 Nairobi Nov 2023

Partners

Funders/support

SMEP | Sustainable Manufacturing and Environmental Pollution

UK International Development
Partnership | Progress | Prosperity

UNITED NATIONS UNCTAD

Piloting

Coral gardeners

KMFRI Kenya Marine and Fisheries Research Institute

I&J SINCE 1910

Technical team

Gaia BioMaterials

KOMPOST-IT

FishSA

ALNET
A Trusted Name A Tested Reputation

SINTEF

THE GREEN HOUSE

catchgreen Powered by Biodiscover

Emma Algotsson
Project lead

emma@kompost-it.co.za
www.catchgreen.net

UN trade & development

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Topic:

Scaling Seaweed-Based Biopolymers

Julia Reisser,
Co-founder & Co-CEO, Uluu

Plastic

Benefits society in many ways, with more than 400 million tons consumed annually

Reduces waste

$380B plastic
packaging market

Provides comfort

$150B plastic
textile market

Decreases emissions

$150B plastic
automotive & construction

Plastic

Yet, generates negative externalities throughout its life cycle

Production

Synthetic polymers (ie plastic), from fossil fuels

Use

Release microplastics & toxic chemicals

Disposal

Accumulate persistent & hazardous waste

made with ULUU

Delivers the things we like about plastic, while doing good for the world.

Production

Natural polymers (PHAs),
from seaweed

Use

Biocompatible with
human & environmental health

Disposal

Reusable, recyclable &
truly biodegradable


Farming seaweed, Indonesia
made with ulüu

Extracting sugars from seaweed at Uluu's test plant, Western Au

Fermenting seaweed into PHAs at Uluu's test plant, Western Australia

made with uluu

Extracting and pelletising PHAs at Uluu's test plant, Western Australia

Uluu pellets to replace plastic in packaging

Uluu pellets to replace plastic in textiles

A truly compelling alternative to plastic

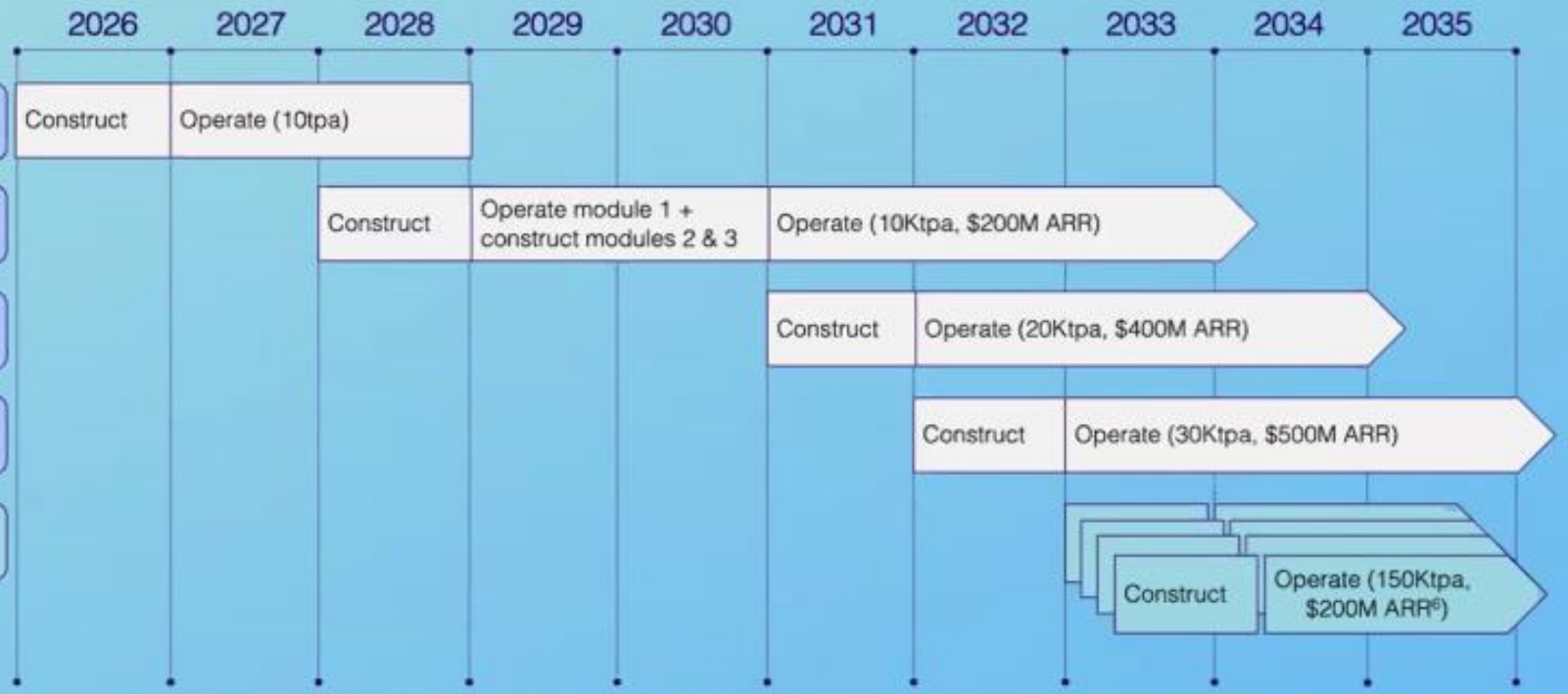
made with ULUU

1 Seaweed		2 PHAs		3 Saltwater fermentation	
Regenerative	Scalable	Mainstream	Compostable	$2/kg	- 5kg CO_{2eq}/kg
Unsustainable	Hard to scale	Niche markets	Won't biodegrade	$10/kg	+ 2kg CO_{2eq}/kg
Kaneka | CJ Materials	Paques | Great Wrap	Notpla | Sway	Origin | Bloom	RWDC | Mango Materials	RWDC | NatureWorks
Other feedstocks		Other materials		Other processes	

Our scale up journey

Build and operate 3 x plants, then shift to franchise & seaweed enzyme sales

Stage	Year	Total capacity	ARR[1]	Capital required	Type
Demo plant	2026	10tpa	$1M	$15M[2]	Equity
1st Plant	2028	10Ktpa	$200M	$100M[3]	Project finance, JV[4]
2nd Plant	2031	30Ktpa	$600M	$150M	Project bonds, JV
3rd Plant	2032	60Ktpa	$1.1B	$200M	Project bonds, JV
Franchise[5]	2034	210Ktpa	$1.3B	$50M	Third party franchisees



Note: USD. Targets & estimates only.

[1] Uluu cumulative ARR as each new plant reaches full capacity. Note: ARR varies not only with increased production capacity, but also improved plant productivity and lowering pricing (from $15/kg to $10/kg in 2033, then $5/kg after 2035). Protein co-product priced at $2.5/kg, this is conservative as we shift from feed to food markets.

[2] $15M Series A includes ~$5M capex for demo plant build, along with ~$10M for growth.

[3] $100M project finance for 1st commercial plant build excluding working capital. Estimated finance mix $80M debt, $20M equity with drawdown spread across construction of the modules.

[4] Exploring several engineering/ops JV partners (eg GHD, Jacobs) that may contribute capital & engineering resources and serve as preferred engineering/ ops partner for franchisee builds.

[5] Assumes we franchise 5 x plants by 2034, served by one enzyme plant ($30M capex) run by Uluu. This plant has capacity to produce ~50ML enzymes annually to underpin 1Mtpa franchised pellet production and generate ~$1B ARR for Uluu via enzyme sales & franchise fees after 2034.

[6] Revenue includes franchise fees (equivalent to a 5% revenue royalty) and enzymes sales (US$5/L), resulting in ~$20M enzyme sales and ~$20M franchise fees per 30Ktpa plant

Thank you

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MAIN SEQUENCE
CSIRO Innovation Fund

Alberts IMPACT CAPITAL

BurdaPrincipal Investments

Possible. VENTURES

THE UNIVERSITY OF WESTERN AUSTRALIA

8 THE EIGHTS VENTURE CAPITAL

KPMG

Startmate

DEAKIN UNIVERSITY

WWF

MISTLETOE

Department of Primary Industries and Regional Development

GO!PHA

L'ORÉAL lululemon BOARDRIDERS papinelle

GLASTONBURY FESTIVAL

TAME IMPALA

INNOVATION ALLIANCE FOR A GLOBAL PLASTICS TREATY

MARINE TÜV AUSTRIA

UN trade & development

UNCTAD

Topic:

Community Engagement & Behavioural Change

Brian Sagala,
Communications and Sustainability Consultant

How communication, behavioral change, and public awareness strategies can support a successful transition to bio-based substitutes

Prepared by: Brian Sagala

Date: 18-Dec-2025

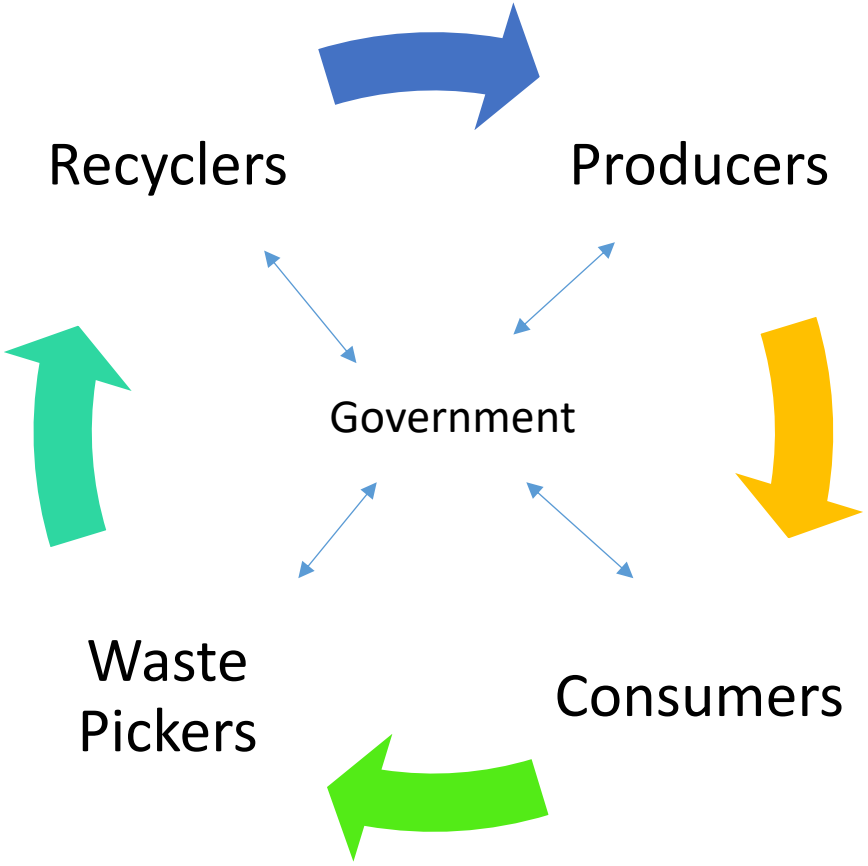
Background

In order to deal with the current plastic pollution menace, bio-based substitutes have been proposed as a possible solution to cut plastic production and reduce plastic waste ending up at landfills

Common Bio-Based substitutes for plastic packaging include

a. Natural alternatives e.g. glass, metal, wood
b. Fiber based materials e.g. bagasse
c. Bio-degradable plastics e.g. bio pet, PLA

Key Stakeholders



- For effective adoption of bio-based substitutes all relevant stakeholders in the plastic life cycle have to be approached and addressed uniquely

Common factors influencing communication to stakeholders

- **Access to information** – not knowing where to get information on bio-based substitutes
- **Literacy Levels**- Groups such as waste pickers unable to properly break down information when they eventually access it
- **Product Labels**- Products lacking labels on their material type
- **Local lingo and nomenclature** – Products named differently by groups such as waste pickers
- **Audience intrinsic motivation** – Stakeholders refusing to switch based on cost and other
- **Misconceptions on bio-based substitutes** – individuals disposing substitutes poorly because of the tag ‘bio-degradable’
- **Government Regulation-** some regulations compel producers to provide sustainability information

Sample Approaches

Factors	Target Group	Key Approach
Access to information	Producers	• Make Material Safety Data Sheets (MSDS) available to the public • Properly label products conspicuously
Literacy Levels	Waster Pickers	• Make adult classes available to waste pickers • Include circularity information in basic school curriculum
Product Labels	Consumers	• Include sustainability information in advertising campaigns • Use of QR codes and websites to easily countercheck product sustainability

Sample Approaches

Factors	Target Group	Key Approach
Local lingo and nomenclature	Waste Pickers	• Incorporation of local languages in awareness campaigns
Audience intrinsic motivation	Recyclers & Waste Pickers	• Package the message in a way that they understand i.e. they will still earn even after they switch
Misconceptions on bio-based substitutes	Consumers	• Awareness campaigns on proper disposal of bio-based substitutes
Regulations	Government	• Use of lobby groups and research to push for regulation encouraging use of bio based substitutes over plastic • Enhanced enforcement against parties that do not provide data on their products

UN trade & development

UNCTAD

Topic:

Agri-Residue Fiber Innovation

James Boyd-Moss,
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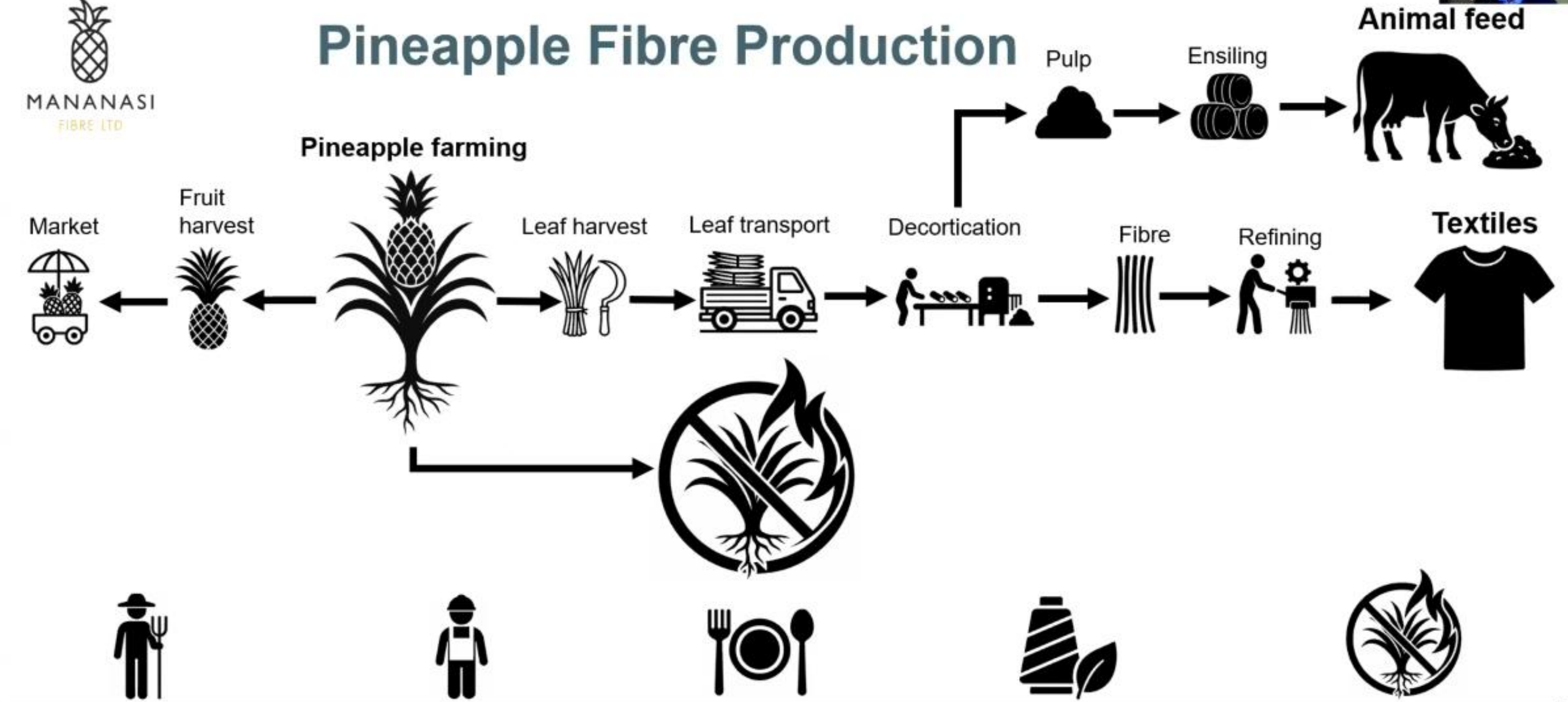

1. Agricultural resilience
Farmer earn an additional source of revenue

2. Local Wealth Creation
Process is labour intensive creating employment and

3. Food Security
Stable & affordable source of feed for

4. Sustainable fibre
Sustainable, low CO_2/land/water footprint &

5. Environmental protection
Waste incineration is avoided