UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

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Plastic Pollution & material substitutes

Proposals for the multilateral trade system

David Vivas Eugui and Henrique Pacini

Trade, Environment, Climate Change and Sustainable Development Branch,

United Nations Conference on Trade and Development

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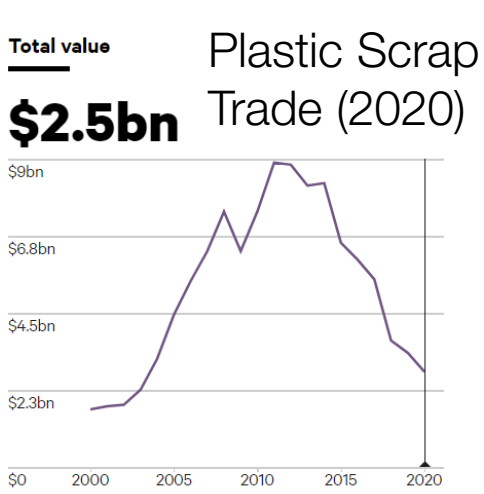
Realities on the ground

Patterns of plastic scrap trade: Waste mostly stays home – but doesn't mean its better managed!



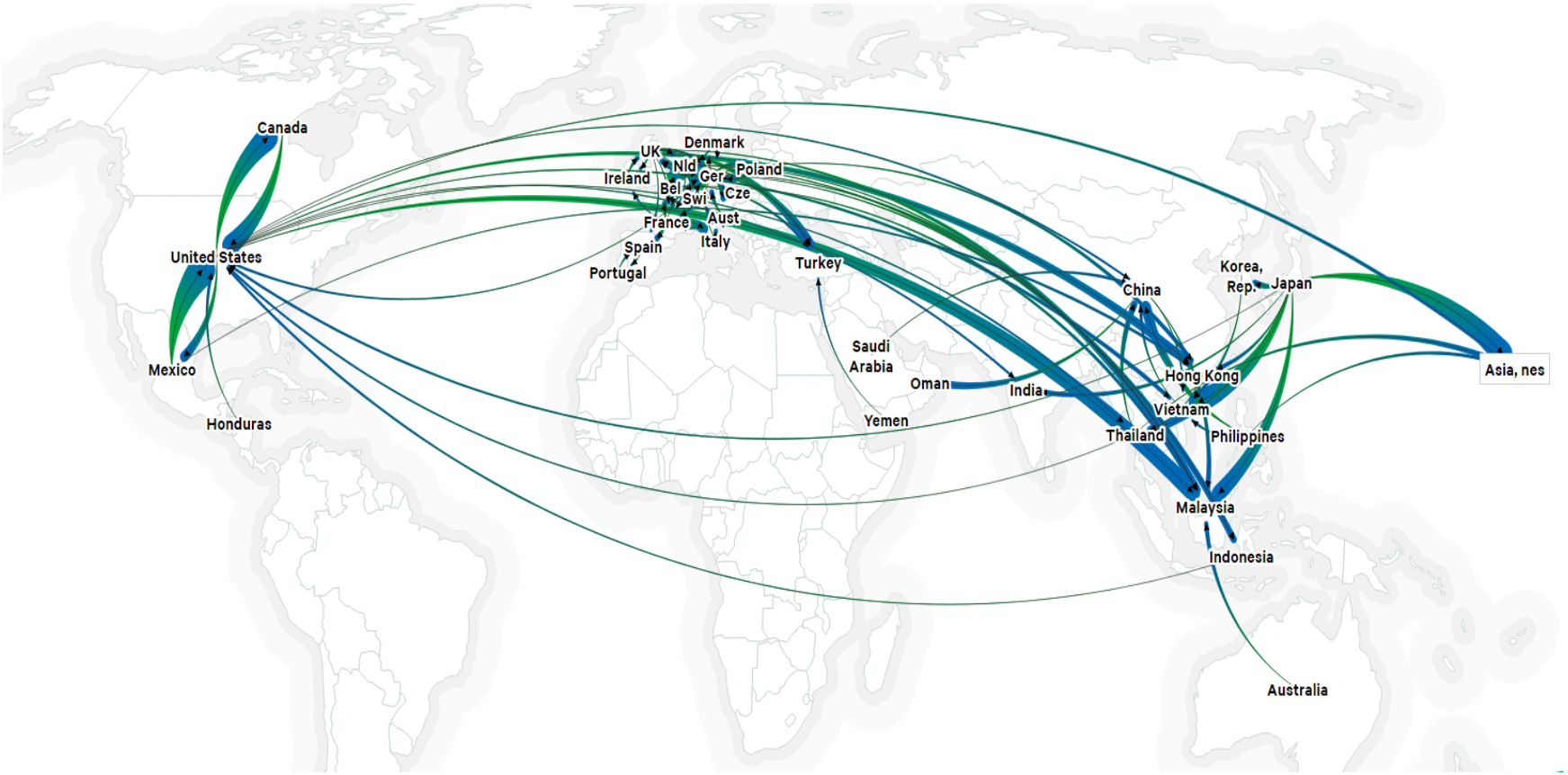
Value: USD 2.5bn
Volume: 7.3 mt
(2020)

HS Code **3915** / SITC code **579**
WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLESWASTE, PARINGS AND SCRAP, OF PLASTICS

(Source: Trade | circulareconomy.earth | Chatham House)

While trade in Plastic Scrap has decreased from USD 3.5 bn (volume: 3.9mt) in 2018, trade in plastics has increased to USD 1.2 tn. (Source: Unctadstats 2021)

Plastic scrap trade is very small compared to overall plastic trade (most scrap is dealt with nationally or "leaked" into nature without crossing borders) .



*considering only reported flows in plastic scrap
Source: Pacini et. al., (2020)
in *Sustainable Production and Consumption*
And circulareconomy.earth (Chatham House)

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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		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.

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HS Chapter	Description	Number of 6-digit HS Codes
04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, n.e.c.	1
05	Animal originated products; not elsewhere specified or included	3
07	Vegetables and certain roots and tubers; edible	8
08	Fruit and nuts, edible; peel of citrus fruit or melons	2
11	Products of the milling industry; malt; starches; inulin; wheat gluten	3
12	Oil seeds and oleaginous fruits, ..., industrial or medicinal plants; straw and fodder	7
13	Lac; gums, resins and other vegetable saps and extracts	4
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	4
15	Vegetable waxes (other than triglycerides); whether or not refined*	1
17	Sugars and sugar confectionery	2
20	Preparations of vegetables, fruit, nuts or other parts of plants	1
23	Food industries, residues and wastes thereof; prepared animal fodder	4
28	Inorganic chemicals; organic and inorganic compounds of precious metals…	2
29	Organic chemicals	2
32	Glass; glass frit and other glass, in the form of powder, granules or flakes*	1
39	Cellulose; Natural polymers…	5
40	Rubber	4
41	Raw hides and skins (other than furskins) and leather	12
42	Articles of leather,…,articles of animal gut (other than silkworm gut)	1
44	**Wood and articles of wood; wood charcoal**	**43**
45	Cork and articles of cork	7
46	Manufactures of straw, esparto or other plaiting materials; basketware…	8
47	**Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap)…**	**17**
48	**Paper and paperboard; articles of paper pulp, of paper or paperboard**	**31**
50	Silk	10
51	**Wool, fine or coarse animal hair; horsehair yarn and woven fabric**	**25**
52	Cotton	3
53	**Vegetable textile fibers; paper yarn and woven fabrics of paper yarn**	**19**
54	Man-made filaments; strip and the like of man-made textile materials	4
56	Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables…	4
57	Carpets and other textile floor coverings	1
63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	2
67	Feathers and down, prepared; and articles made of feather or of down	1
68	Stone, plaster, cement, asbestos, mica or similar materials; articles thereof	1
69	Ceramic products	4
70	Glass and glassware	9
76	**Aluminium and articles thereof**	**17**
94	Furniture,… not elsewhere specified or included	4
95	Toys, games and sports requisites; parts and accessories thereof	4
96	Miscellaneous manufactured articles	1

Reducing plastic use is the best way to prevent it becoming waste or hazardous waste. Substitutes can contribute significantly to this aim. A mapping of HS codes of potential plastic substitutes resulted in…

282 HS codes identified
(6-digit)

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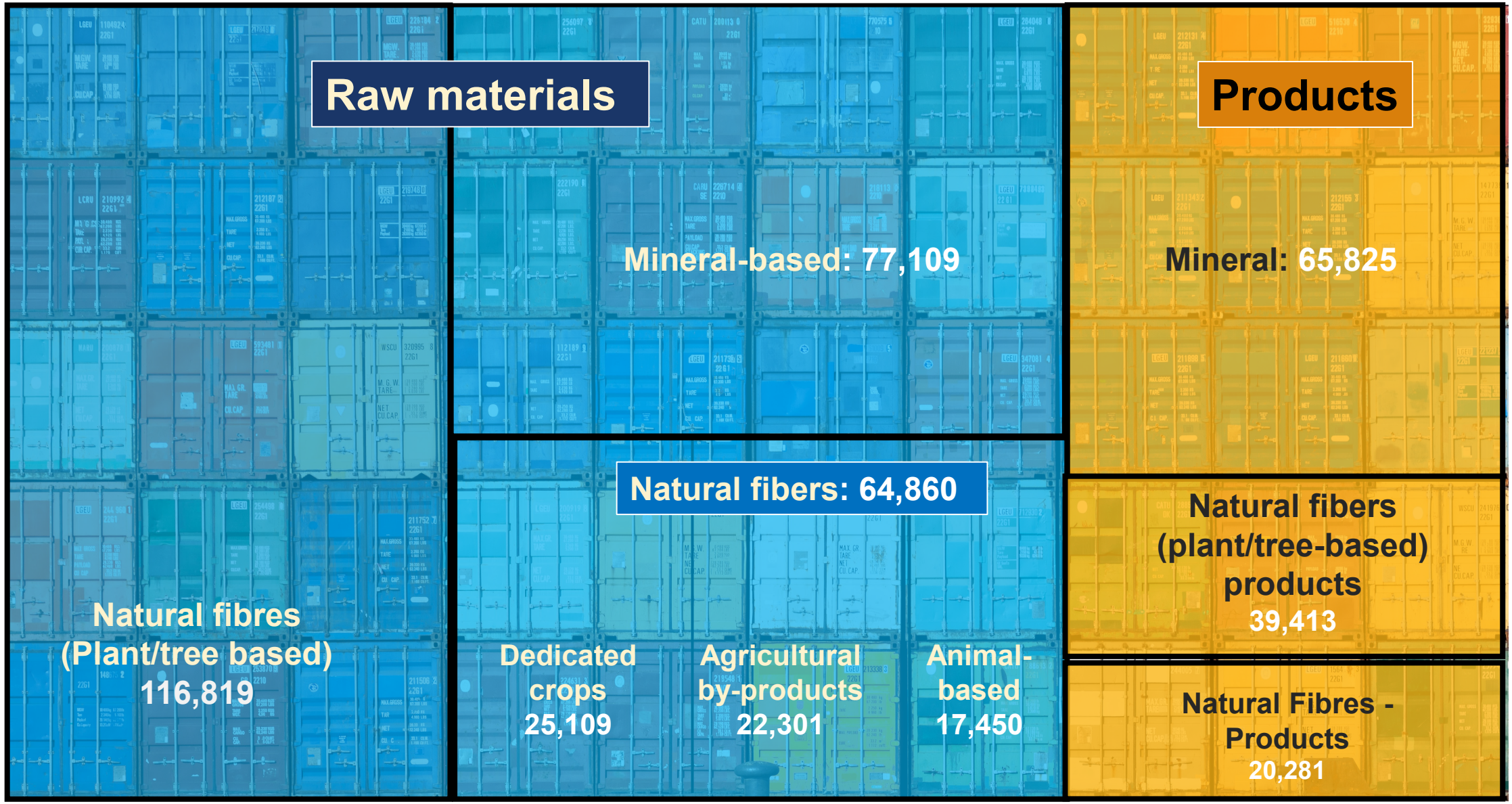
Trade value of plastics substitutes

Export represented $388 billion, approximately 2/3 represents exports of raw materials ($258 billion)



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Life Cycle Analysis of substitutes is important as substitutes have varying environmental impacts.

UNCTAD's plastics-substitutes dashboard allows analysis of single-use plastics compared to single-use material substitutes & reusables.

Importantly - reuse is fundamental for better environmental performance.

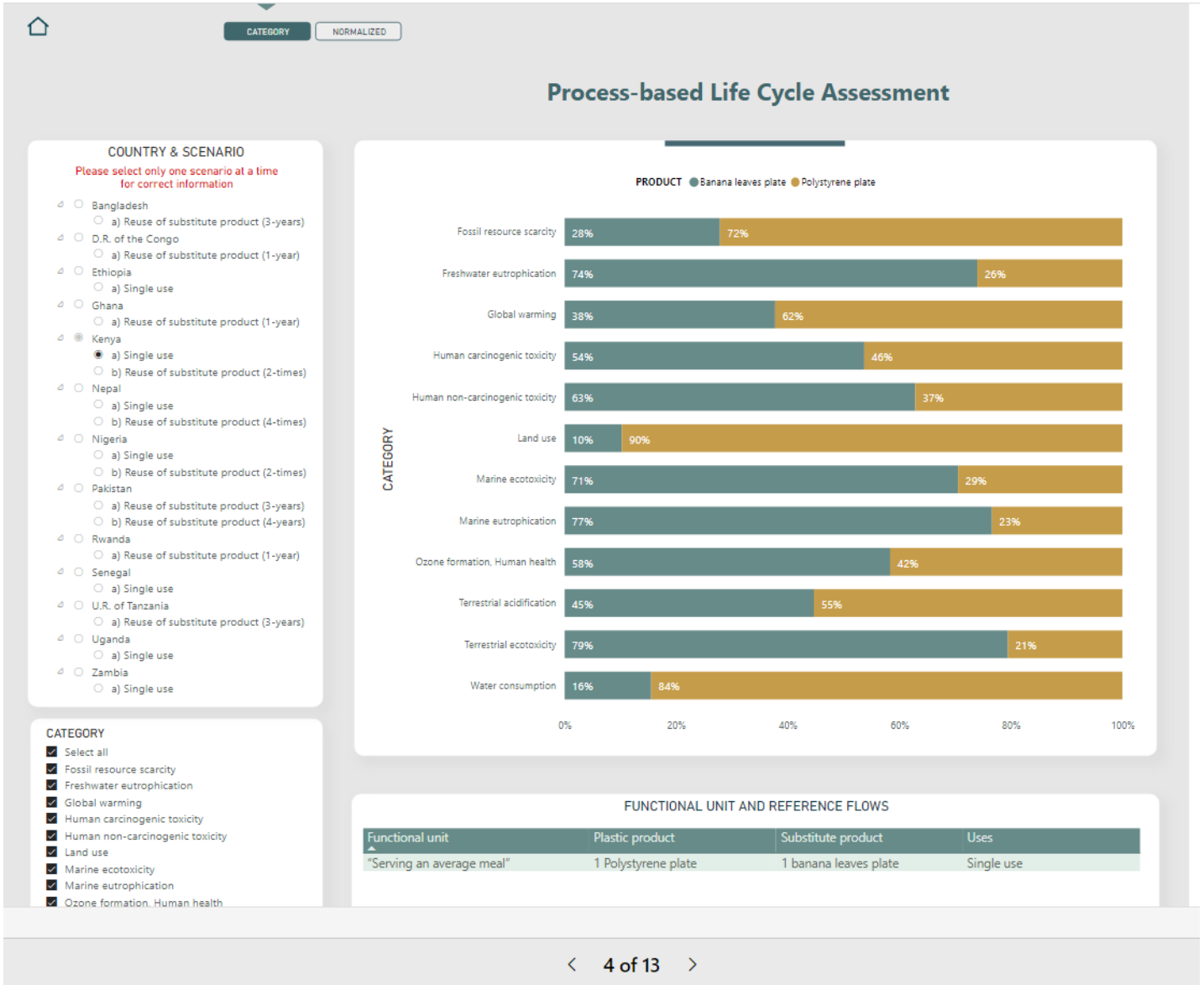

Image source, UNCTAD SMEP Dashboard: https://unctad.org/news/dashboard-shows-environmental-impacts-exports-african-and-south-asian-countries

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Notpla

Making packaging disappear

An all-natural packaging solution made from seaweed and plants that is naturally biodegradable and home-compostable, just like a piece of fruit.

One innovation is a takeaway food container coated with seaweed, a revolutionary move for the takeaway industry that has traditionally relied on plastic or chemicals to hold food.

Image source, NotPla: https://www.notpla.com/products/

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BIO-LUTIONS
Fibre Based Solutions

Bio-Lutions converts agricultural residues into self-binding, durable natural fibres to make biodegradable and compostable single-use disposables and packaging.

The process uses a wide range of agricultural residues such as wheat straw, hemp shives, nettle, reed, banana stems, vine shoots and more.

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Image source, Bio-Lutions: https://www.bio-lutions.com/

Bananatex

The world's first durable, technical fabric made purely from the naturally grown Abacá banana plants is Cultivated in the Philippine highlands.

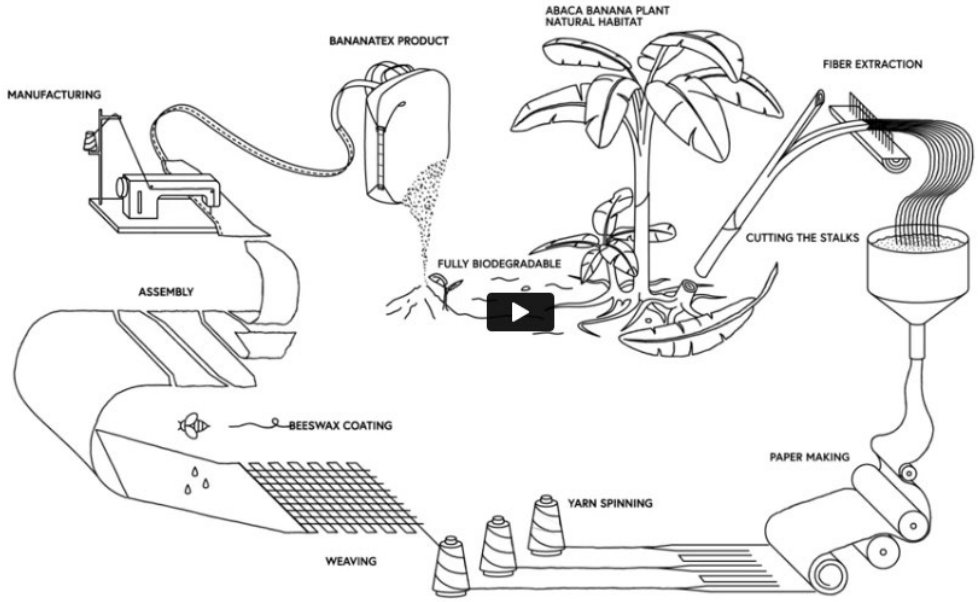

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Image source, Bananatex: https://www.bananatex.info/index.html

Guia Biomaterials

Biodegradable fishing nets

(alternative plastic)

UNCTAD-SMEP project developing renewable-based, biodegradable and compostable fishing nets.

Based on PBAT, PLA and Calcium Carbonate. (Biodolomer®)

Images source: UNCTAD

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Thank you
Merci

david.vivaseugui@unctad.org
Henrique.pacini@un.org

Sustainable Manufacturing and Environmental Pollution Programme

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UNCTAD Ocean Economy