Advancing the circular economy through trade

Research insights from the Sustainable Manufacturing and Environmental Pollution (SMEP) Programme

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UN trade & development UNCTAD

Sustainable Manufacturing and Environmental Pollution (SMEP) Programme

- Funded by UK - FCDO (GBP 24.5m) | 2018 - 2026
- 23 active projects delivering circular economy solutions
- 9 countries across Sub - Saharan Africa and South Asia
- Plastics, textiles, organic waste, tanneries, ULABs
- Focus on South - south, public - private collaborations, i.e. “consortia”

➢ Grantee-led research and recommendations for policy making

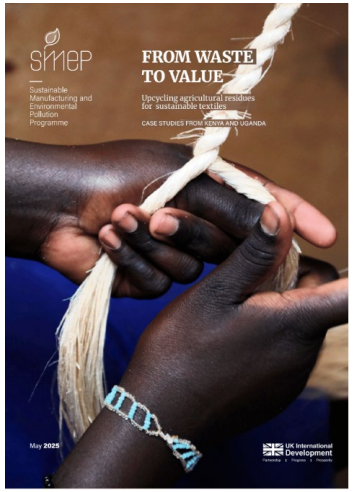
Partnership | Progress | Prosperity

Trade-related research

- Three dimensions of analysis:

  1. Policy frameworks that enable the circular economy
  2. Markets for circular goods and services
  3. Business insights, i.e. challenges and opportunities

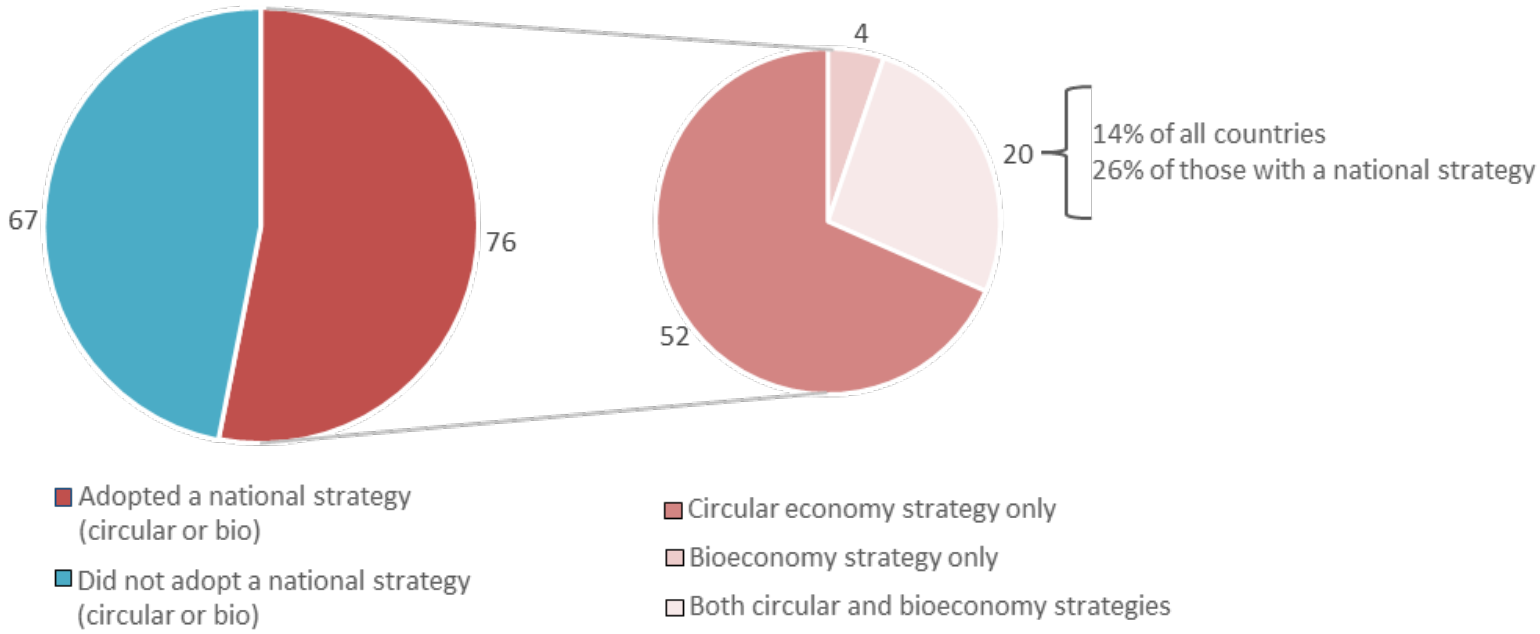
- Thematic briefs on trade-related aspects of the circular economy:



1. Policy

Increasing attention, high fragmentation

Countries adopting circular economy and bioeconomy roadmaps and strategies (2015 -24)



Source: UN Trade and Development on data Chatham House ´s Circulareconomy.earth

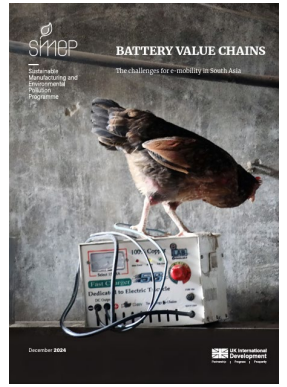
Note: Sub-national strategies and roadmaps and sectoral or categorical policies are not included

2. Markets

Trade-related (dis)incentives to circularity

- E-rickshaws play a key role in urban in mobility in South Asia
- Lead-acid batteries (LABs) are often used as power units
- The total tax incidence (TTI) for importing LABs can be as high as 90% (25% tariffs)
- Import as a "last resort", fostering local demand for repair, replacement and refurbishment services
- Weak regulatory enforcement and informal reverse supply chains (e.g. lead smelting)
- Failure in safe reverse logistics and sustainable recycling
- Severe health and environmental risks

Find more here:



3. Business

Challenges

Waste management

Weak policy frameworks and ineffective enforcement

Organic fertilizers

Limited awareness and conflicting policies

Opportunities

Alternative textiles

Innovation in waste valorisation

Alternative textiles

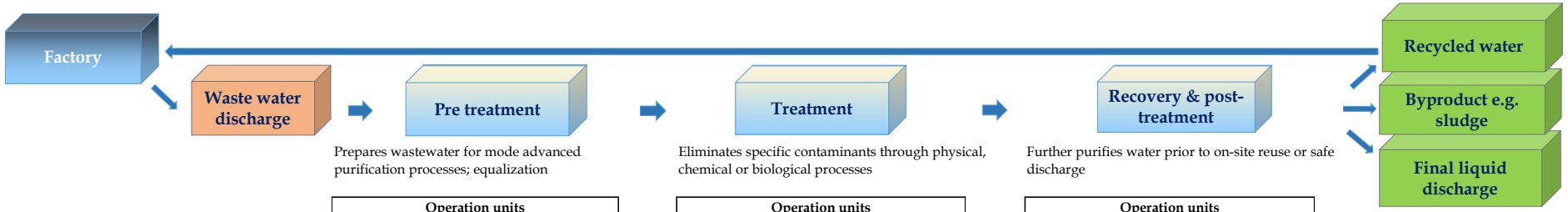
Local technology fabrication and transfer

Biochar

New revenue streams (e.g., carbon credits)

Forthcoming:

Industrial water treatment: A mapping



Prepares wastewater for mode advanced purification processes; equalization

Operation units	
Name	**HS code**
Coarse aeration	842121
Dissolved air floatation (DAF)	
Electrocoagulation (EC)	
Filtration (multimedia, trickling etc.	
Oil, grease and fat separator	
Three-stage filters unit	

Components	
Name	**HS code**
Acid dosing pumps	841350
Lifting pumps	841370
Pump spare parts	841391
Compressors	841440
Compressors spare parts	841490
Cooling tower	841989
Coarse bubble air diffusers	842199
Control panel	853710
Flow meter	902610
Level sensors	902610
Weir flow meter	902610
Spectrophotometers	902730
pH meter	902789

Eliminates specific contaminants through physical, chemical or biological processes

Operation units	
Name	**HS code**
Advanced oxidation	842121
Biological reactor	
Chemical-physical treatment	
Clarifier scraping bridge	
Dissolved air floatation (DAF)	
Electrocoagulation	
Ozonator	
Sludge dewatering	
Sonicator	
Ultrafiltration (UF)	
Filtration (multimedia, trickling etc.	

Components	
Name	**HS code**
Acid dosing station (CEB)	841350
Caustic dosing station (CEB)	841350
Hypochlorite dosing station	841350
CIP pump	841370
Feeding pump	841370
Sludge pump	841370
UF backwash/permeate pump	841370
Pump spare parts	841391
Air compressor	841440
Air blower	841480
Backwash blower	841480
Blower spare parts	841490
Fine bubble air diffusers	842199
Mixers	847982
Control panel	853710
Flow meter	902610
Level sensors	902610
Venturies/Orifice plates	902610
Pressure switches	902620
Spectrophotometers	902730
Dissolved oxygen meter	902789
pH meter	902789
Conductivity meter	902790

Further purifies water prior to on-site reuse or safe discharge

Operation units	
Name	**HS code**
Aeration	842121
Disinfection	
Filtration (multimedia, trickling etc.	
Nanofiltration	
Ozonator	
Reverse osmosis (RO)	
Sonicator	
Ultrafiltration	

Components	
Name	**HS code**
Antiscalant dosing station	841350
Dosing pumps	841350
CIP pump	841370
Feed pumps	841370
High-pressure pumps	841370
Permeate/concentrate pumps	841370
Pump spare parts	841391
Air compressors	841440
Backwash blower	841480
Blower spare parts	841490
Cartridge filter	842199
Membrane housing and parts	842199
RO membrane elements	842199
Control panel	853710
Flow meter	902610
Level sensors	902610
Pressure switches	902620
pH meter	902789
Conductivity meter	902790

1. Sewage system
2. Water bodies (rivers, lakes etc.)
3. Land/irrigation

Grantee - led:

- ✓ Critical, highly traded technologies
- ✓ HS codes, e.g. from customs declarations
- ✓ Trade trends and barriers

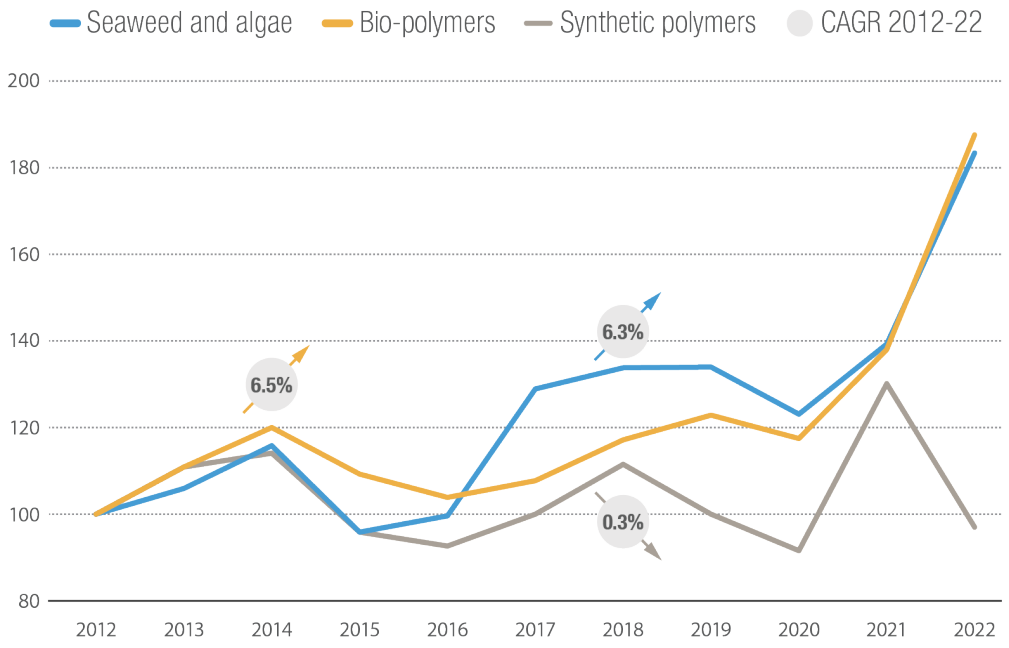
Thank you

For more information on SMEP Programme: lorenzo.formenti@unctad.org

Backup

Booming markets, high barriers

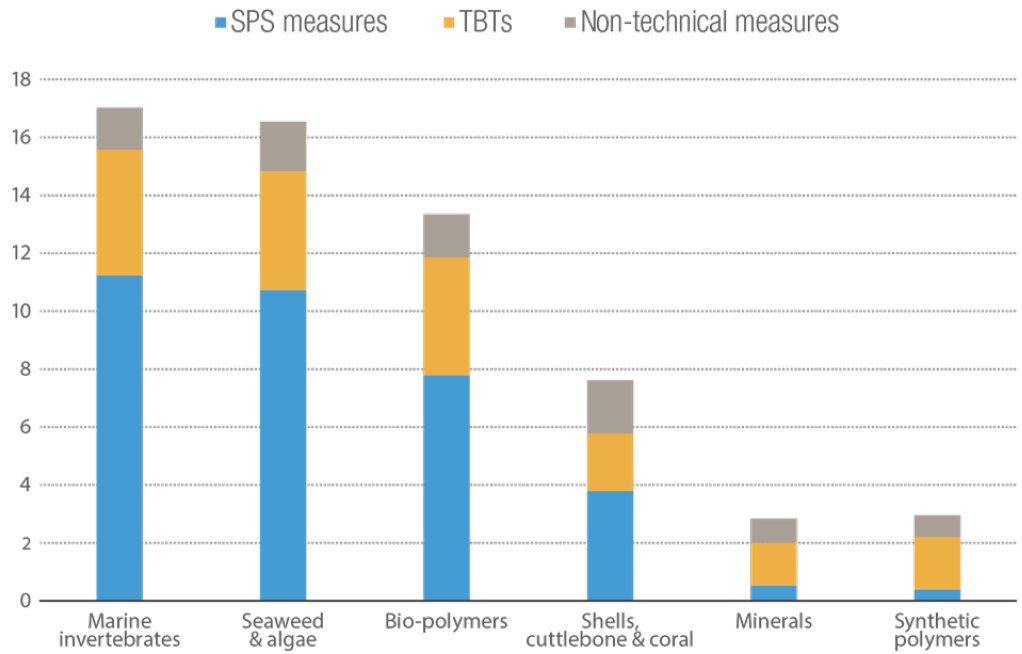
Global exports of marine biopolymers vs. synthetic polymers



Source: UN Trade and Development.

Note: Base year: 2012=100. Bio -polymers include agar -agar, carrageenan and alginates.

Average NTMs applied to marine substitutes vs. synthetic polymers



Source: UN Trade and Development.