

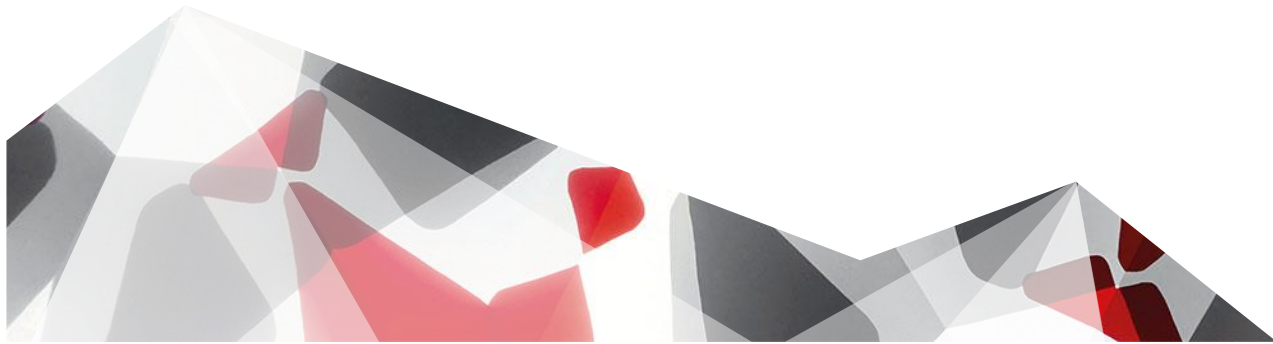
Pilot Project:

“Advancing Post-Industrial Textile Waste Recycling in a Circular Supply Chain in Cambodia”

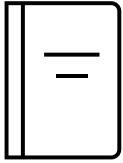
(shortly: Textile Waste Pilot)



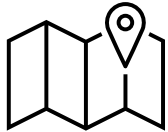
Textile Recycling in Cambodia – Current Insights



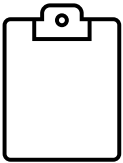
Research Insight



Waste Stream Mapping – Cambodia [[Link](#)]



Recycler and Waste Actors Mapping – list of recycler, downcycler, waste collectors/handlers, waste management companies



Factory Waste Survey – data on waste volume, composition and textile waste management practices of 38 factories



Textile Waste Event – May 16th, 2023, brought together government, factories, brands, recyclers, service providers to raise awareness on the topic and solutions

Situation Analysis: Textile Waste Sector Cambodia

1

More than 800 factories

Working on GTF sector
800,000+ workers

2

Approx. 136,000 tons textile waste generated / year

Internal calculation from
Customs / HS Codes

3

Low recycling infrastructure

One formal recycler, few informal
downcyclers, handicrafts, waste
handlers / exporters etc.

4

Landfilling and burning

60% of industrial landfill full of textile waste;
on-site burning, brick kilns (GIZ, 2019)

5

Solid waste regulation

Fibrous and textile scraps are considered
as non-hazardous, unless burning

6

Government low priority

Despite NDC measure; plastic and
hazardous waste are priorities

7

Fashion industry circularity commitments

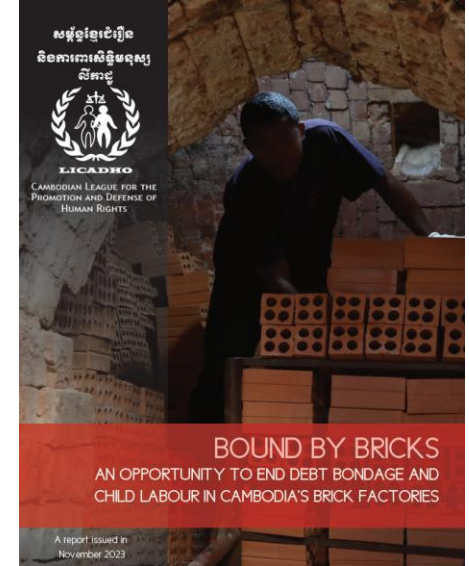
Zero-landfill and circularity targets;
compliance of waste actors

8

Rising Interest in investments/ sourcing feedstock from KH

Untapped market compared to other
countries with high waste prices

Textile Waste Situation

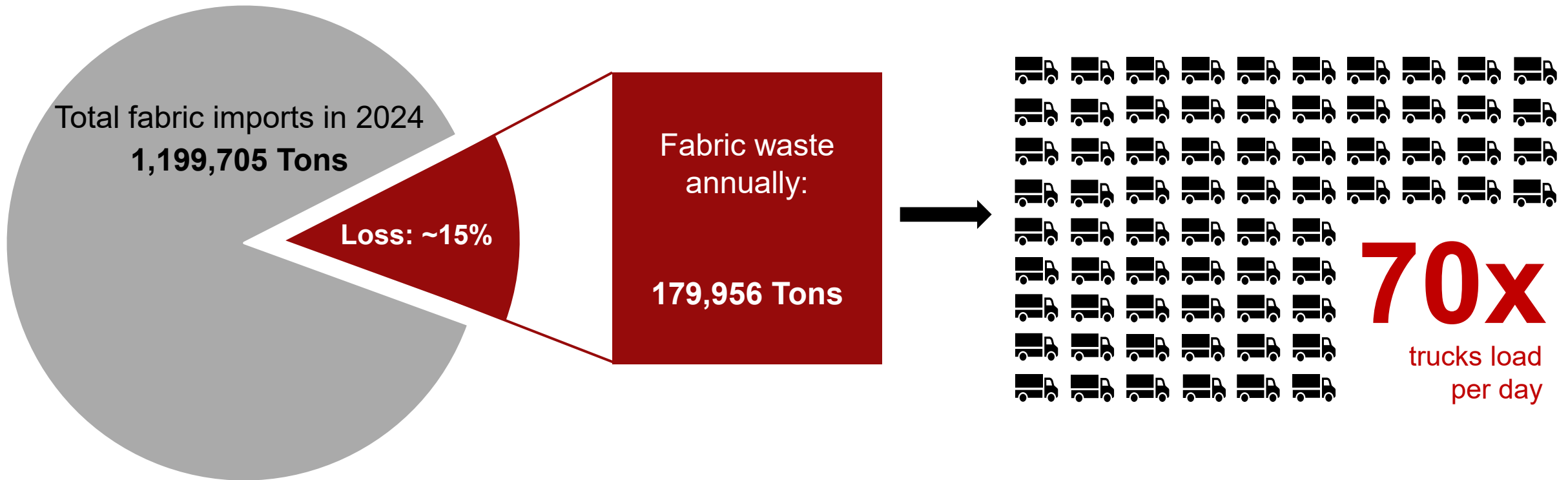


[Licadho Report](#)



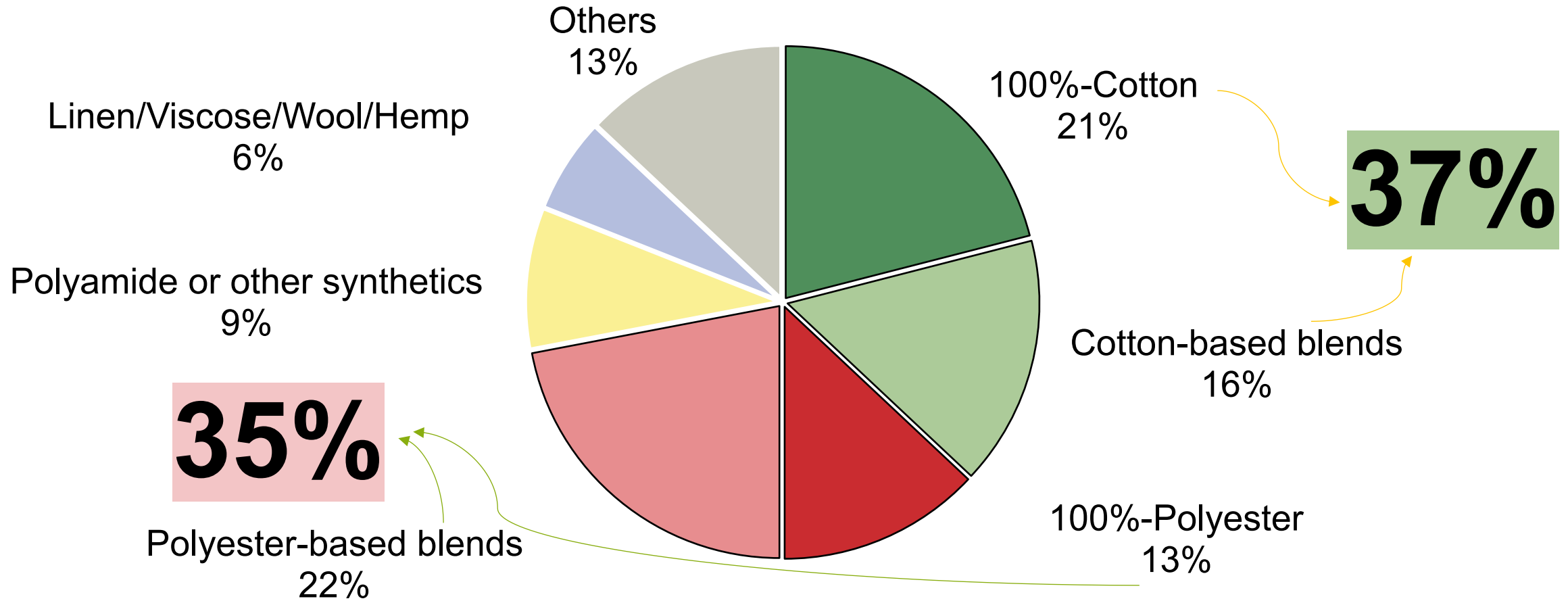
[BBC News](#)

Situation Analysis: Fabric waste volume



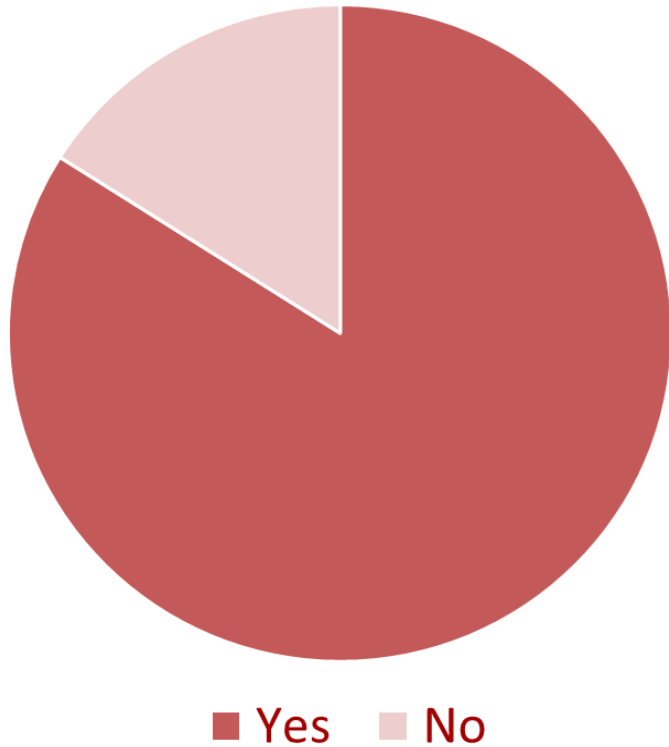
Fabric Import Data from the General Department of Customs & Excise of Cambodia (GDCE) in 2024 with 15% wastage

Situation Analysis: Fabric waste composition

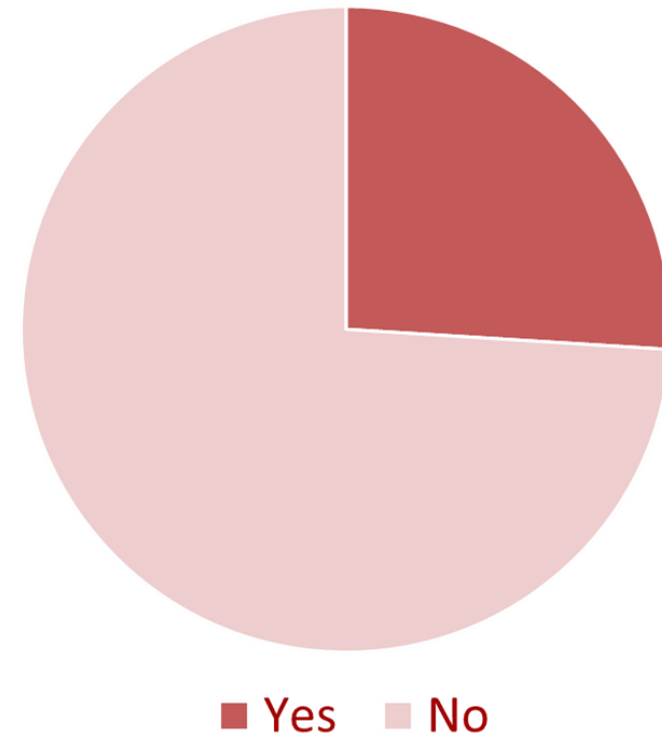


Situation Analysis: Fabric waste segregation

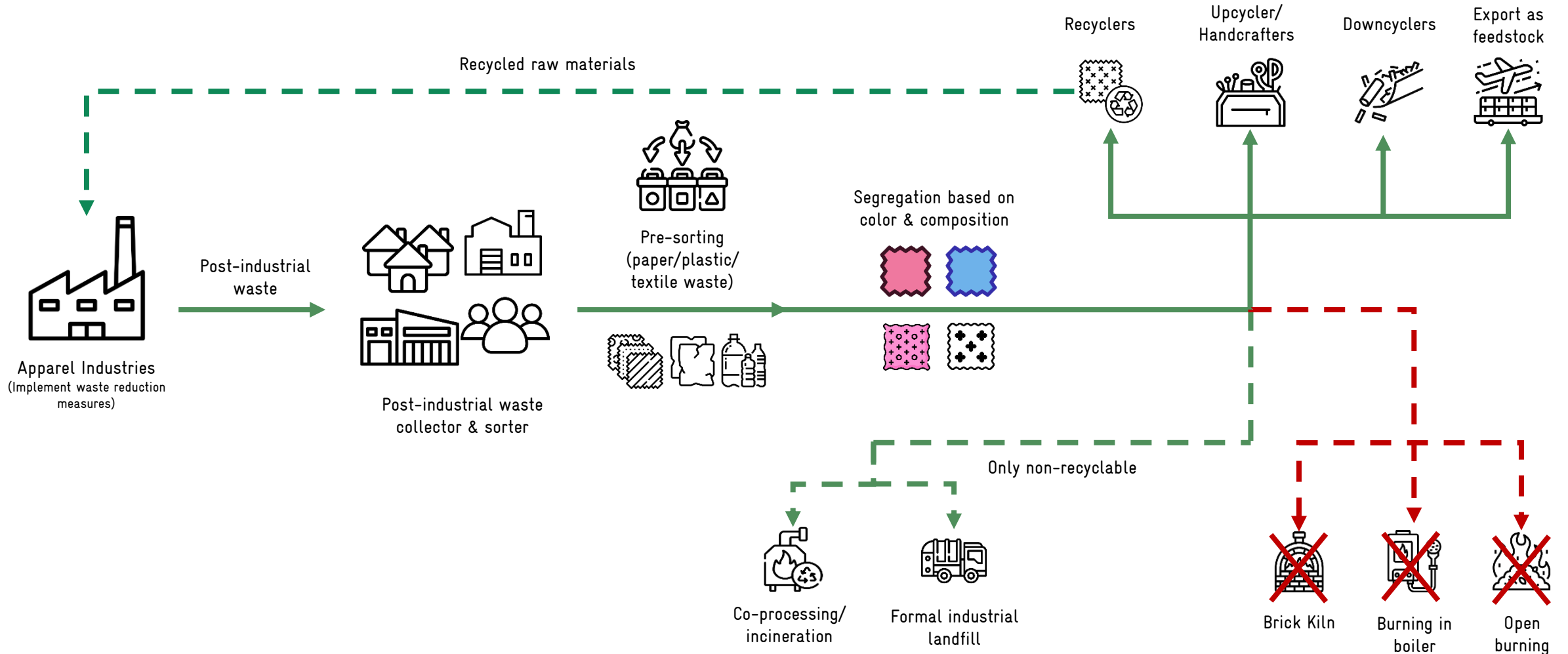
Separation **fabric cutting waste** from **other waste**



Sorting **fabric waste** according to **composition** and **colour**



Textile Waste Flow - Cambodia



Textile Waste Improvement Programme for Circularity (WIP4C)



Objectives, Approach & Methodology



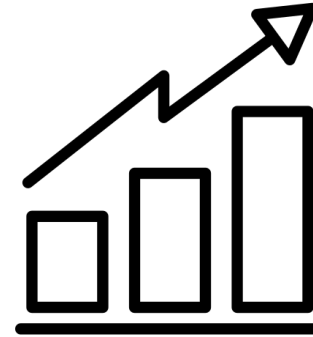
Objectives



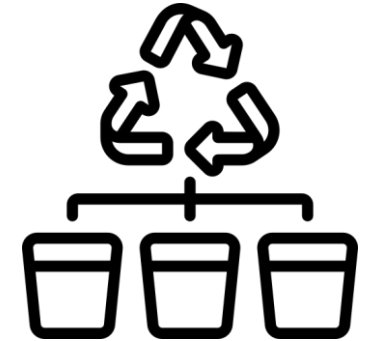
Supporting
Circular supply
chain



Improving
waste disposal
situation



Improving local
economic conditions
and fair/formal jobs



Improving textile
waste management
/sorting

Our Approach & Methodology

Our **Pilot Project** consisted of **4 Work Packages**:



Textile
Waste
Assessment



Textile Waste
Management
Action Plan



Textile Waste
Management
Implementation
and Training

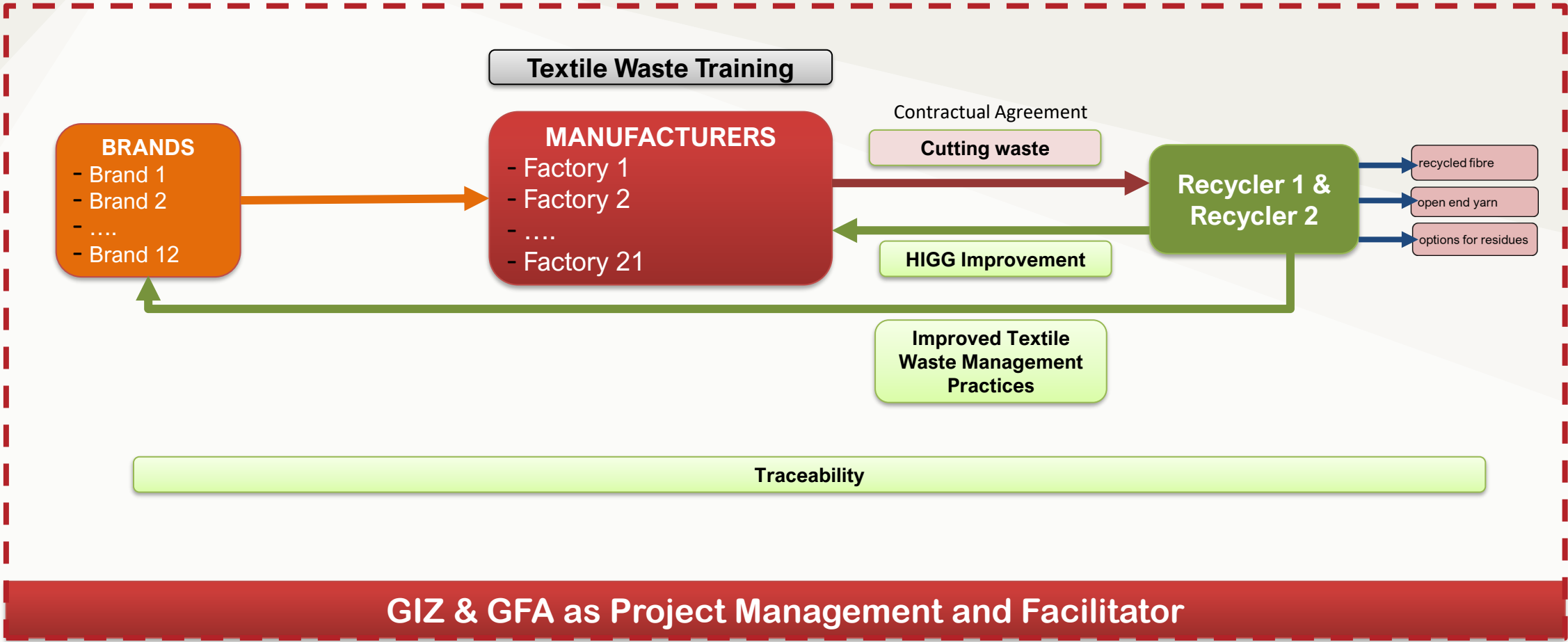


(Digital) Textile
Waste Tracking

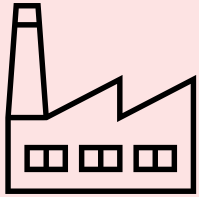


Follow-up,
coaching &
monitoring
factories

Design of the **Recycling Model on Circular Approaches**



Criteria to nominate factories



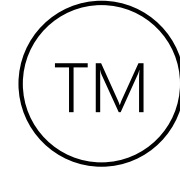
Cotton-rich
(> 30%)



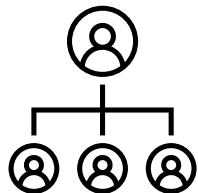
Min. 1,000
workers



15-20 Tonnes
per month



Strategic partners
with brands



Signed commitment by
factory's management



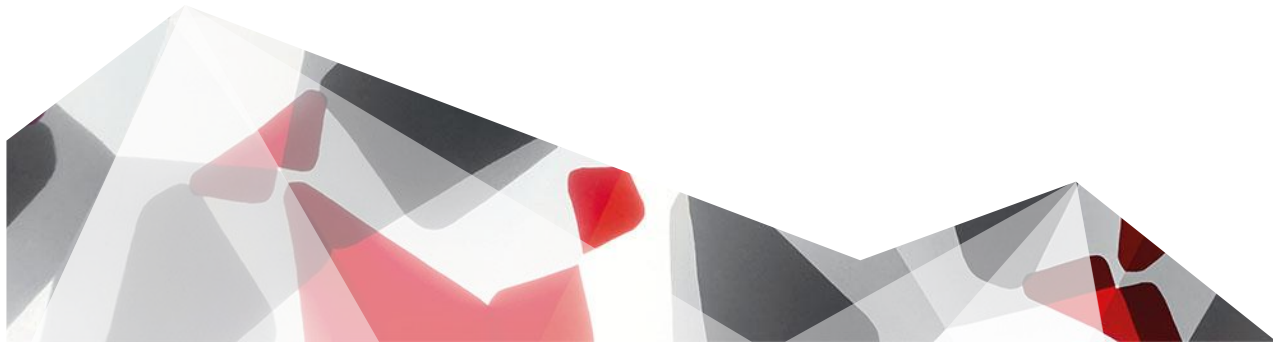
Indicated
CSR/Compliance team



Following GRS/ Higg
FEM (Optional)



Pilot Activities and Engagements



Pilot Activities & Engagement

21/11



Onboarded,
Factories/Brands

Dec to Mid-Feb 2024

Sevea | CLF



Textile Waste On-site
Assessment

26 Feb - 09 Mar 2024

Sevea | CLF



Training on Textile
Waste Management

12 Mar 2024

Recycler | Factories



Matchmaking

12 Mar 2024 onwards

Recycler | Factories



Intro: textile waste
transaction in RR platform

08 Apr 2024

CAP Meeting



One-on-one with
each factory

15 May - 31 May 2024

Follow-up



One-on-one with
each factory

1 June - 31 Jul 2024

Peer-to-Peer



Best practices
sharing & group
activities

Jul & Aug 2024

RECYCLING PARTNERS

Shun Wei Ke Ji Co.,Ltd: Cotton Recycler & Spinner



Focus on *cotton 100% recycling*



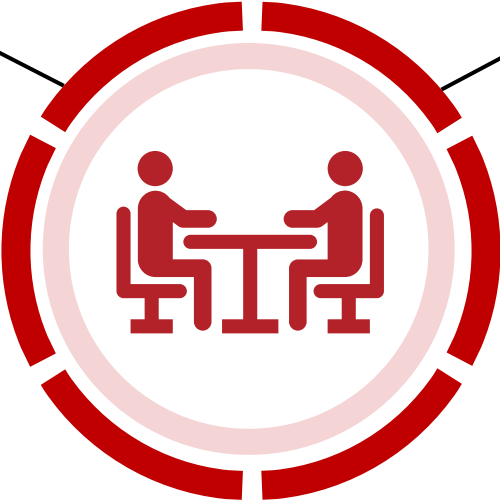
Total capacity 1,000 tons/month



Pre-consumer waste recycled fiber for OEY cotton (export to China)



Operated since 2023 | GRS Certified



Kakkar Spinning Mill: Poly/Cotton Recycler



Focus on *poly-cotton recycling (CVC)*



Total capacity 500 tons/month



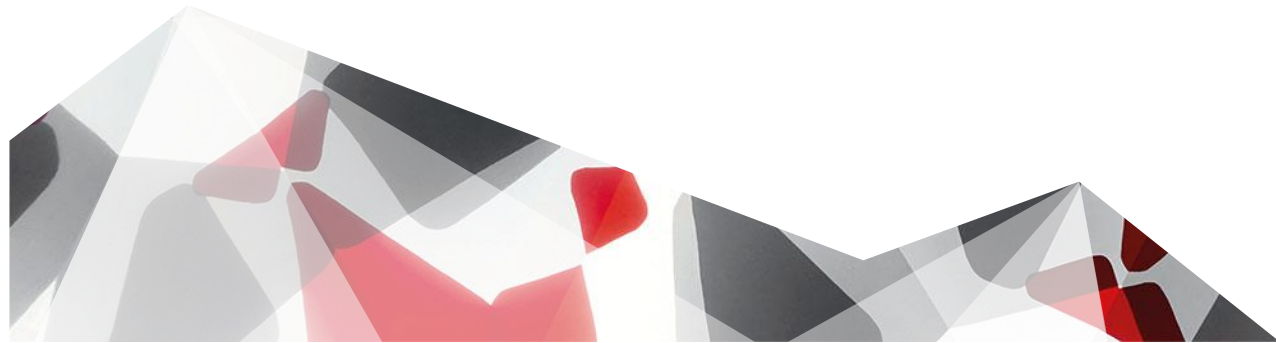
Pre- & Post-consumer waste recycled for T2T or OEY spinning for home-textile



GRS & RCS Certified (India)



Pilot Results

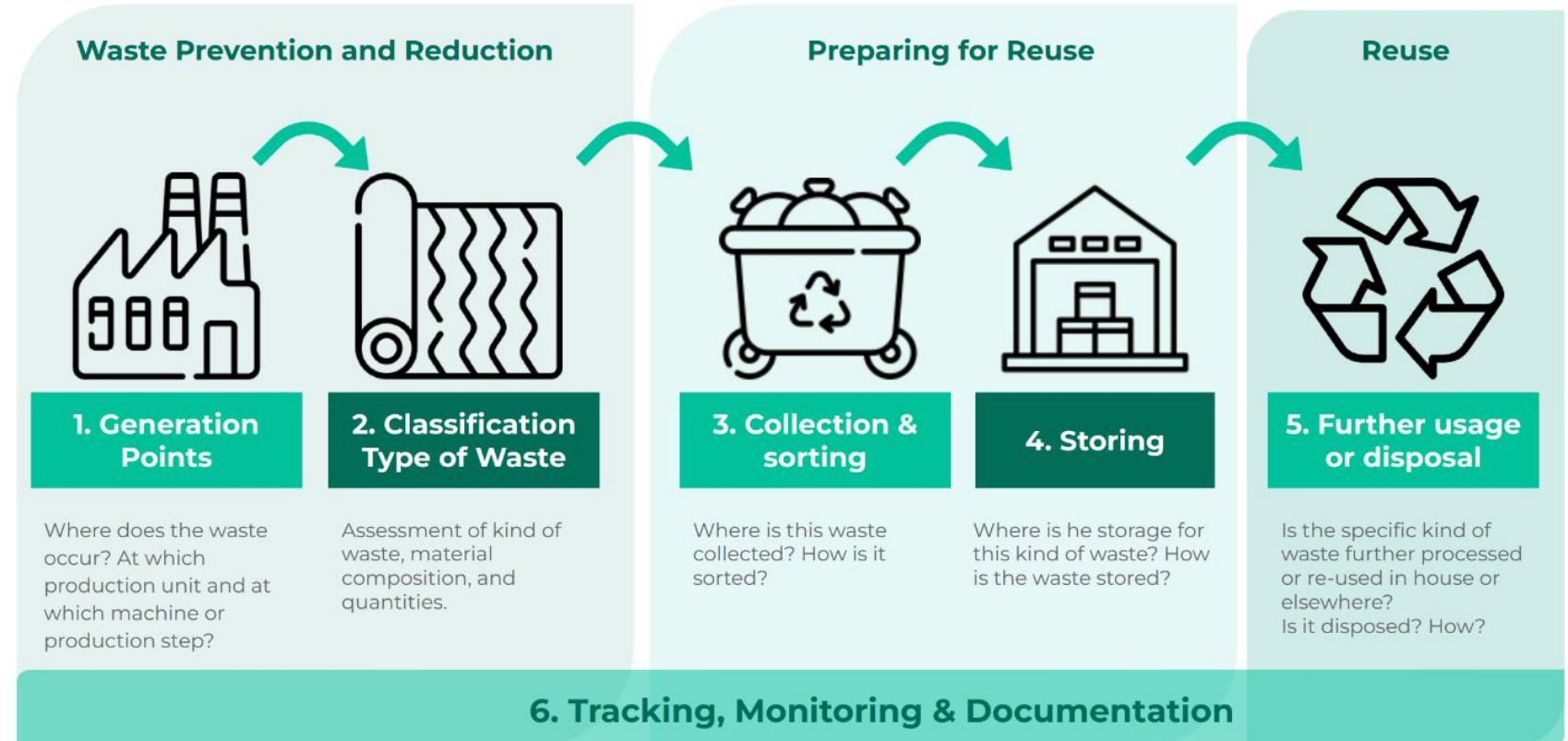


Zoom-in: Textile Waste Onsite Assessment

Type of assessment:
Textile waste management
& textile waste mapping

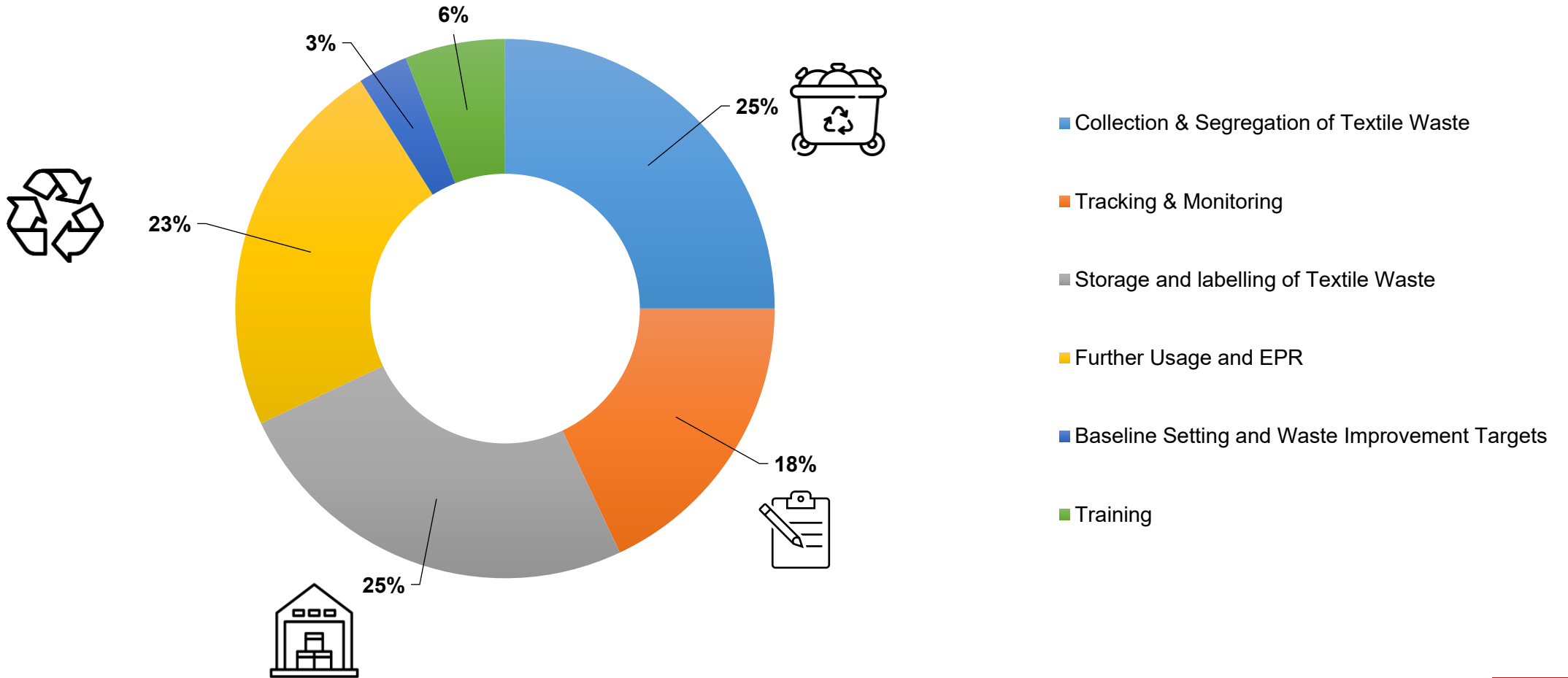
Assessment date:
26th Feb – 11th Mar 2024

Allocated time:
8 hours/factory
assessment visit

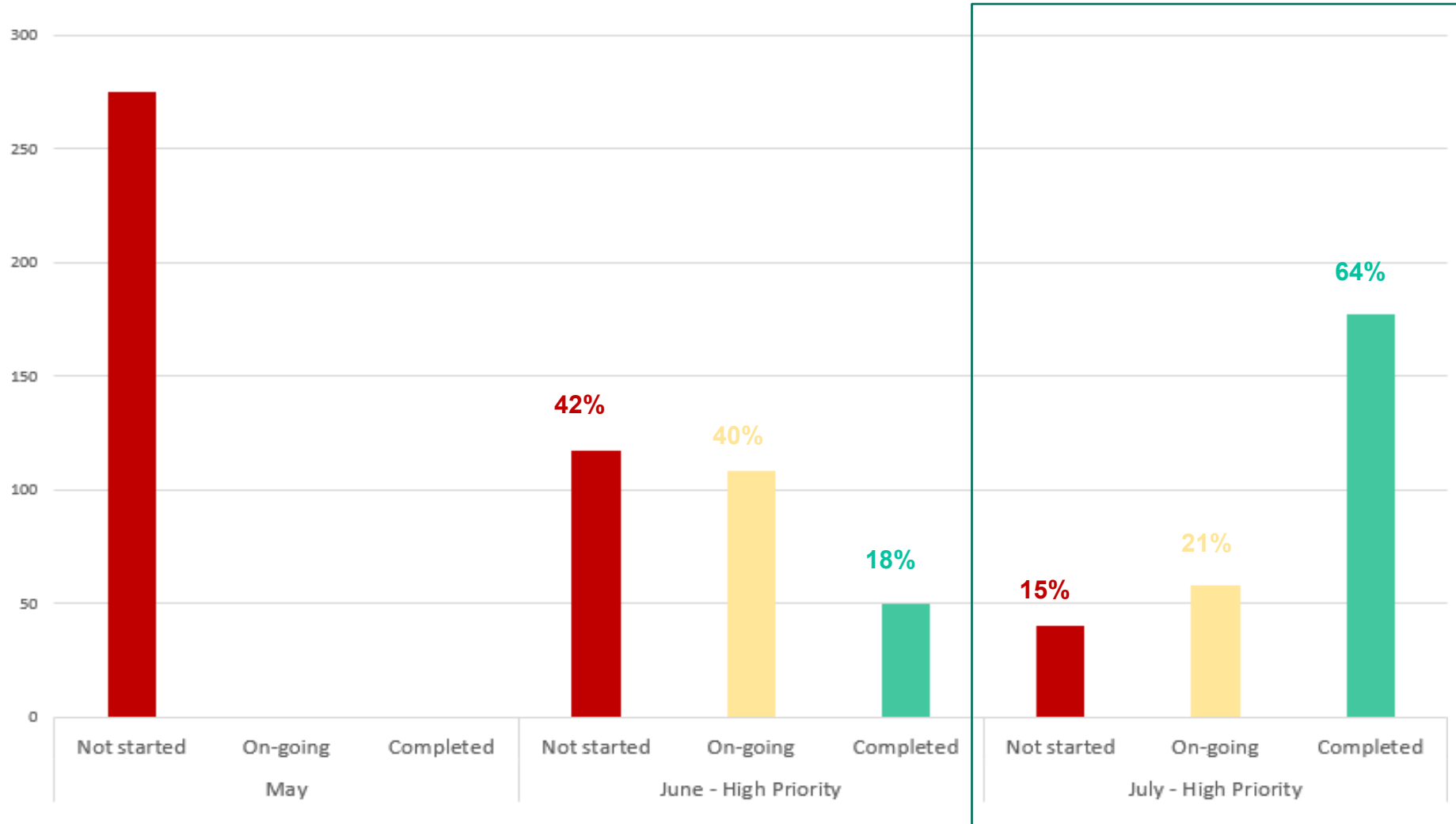


Pilot: Key Findings

Type of Collective Actions - All Factories



CAP Results of Improvement



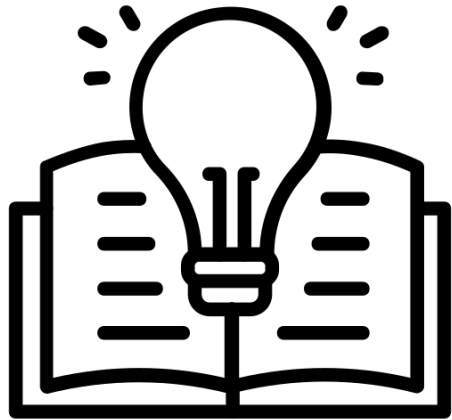
CAP Finding 1

Assessment Finding	Corrective Action Plan (CAP)
None of waste segregation from incompatible waste materials (e.g., paper, plastic).	Identifying all incompatible waste sources and segregate accurately per type either at the point of generation or at a dedicated sorting station before placing in the dedicated final storage.
No labelling system in place.	Implementing a clear labelling system for identification of the type of waste inside a waste bags. In the best case, labels also include other relevant info for the waste contractor (e.g., weight, fibre composition, colour, etc.)
The facility may have properly disposed of waste, as their collector claims to sell the textile waste for downcycling. However, this cannot be verified without evidence or permits from the collector.	Facilities should strive to identify preferred solutions for wastes. (Reuse/Recycle/Downcycle) are preferred options for CE.

CAP Finding 2

Assessment Finding	Corrective Action Plan (CAP)
No tracking system in place for the waste movement between different units.	Ensuring the transfers of the waste containers between different production units must be traceable, documented, and proof.
There is no inventory of all waste streams including waste types and quantities of waste generated, recycled, and disposed, and names and locations of disposal facilities.(EPR)	Records of the quantities of reused, recycled, resold and disposed waste are fundamental KPI's for a TWM system that enables circularity and can be transformed into environmental data related to natural resources and emission savings. > A recording system must be put in place (excel list, invoices, inventory, etc..)

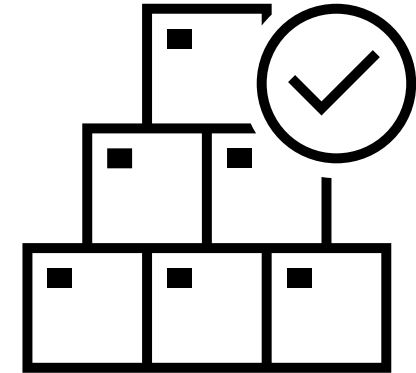
Pilot Achievement



60 participants / **21**
factories



Over **3,000** tonnes



65% of sorting
quality



932.78 tonnes
(cotton-OE-yarn)



802.8 tonnes
(Chief Value Cotton)



1,000 tonnes (Polyester)
355 tonnes (sorting)



Best Practices from the Pilot

Best Practices from the Pilot

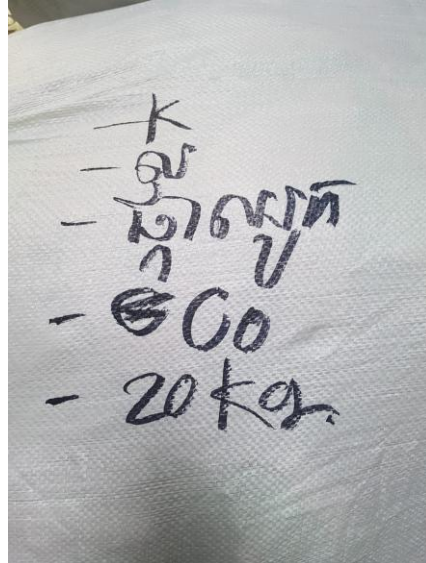


manual cutting



Auto cutting

Sorting textile waste from other materials



Labelling textile waste by type, composition, colour, & weighting



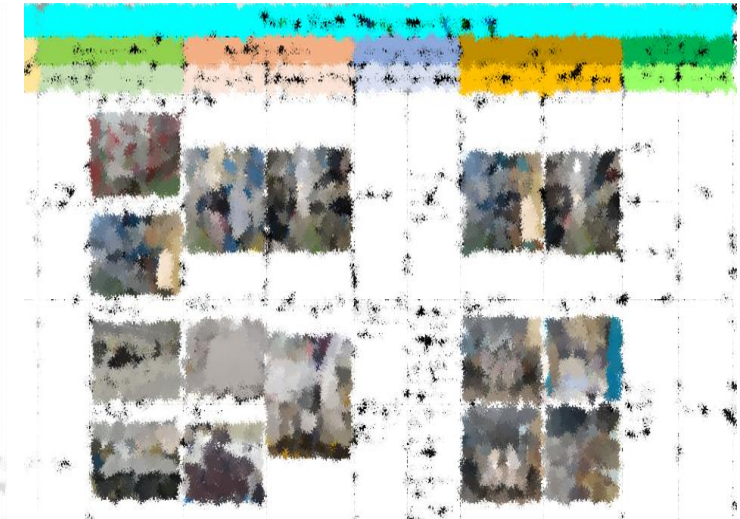
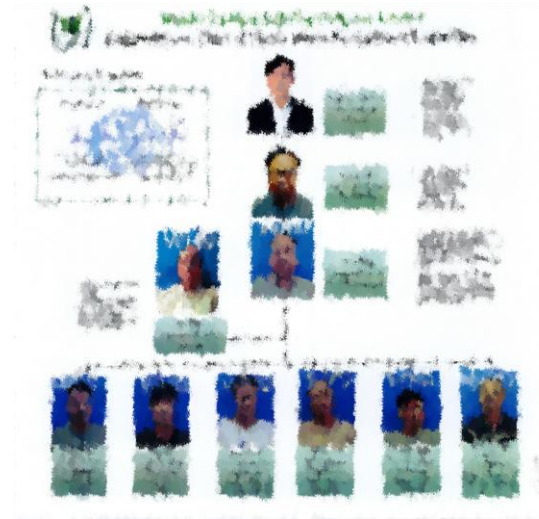
QR code at cutting table for fabric identification



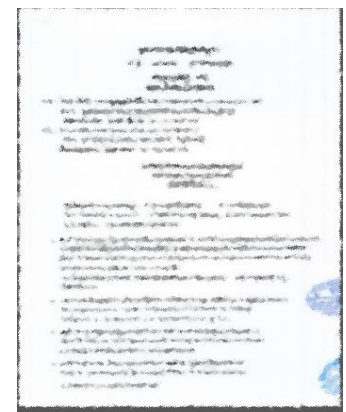
Best Practices from the Pilot

Factory established for Textile Waste Management

- Fabric waste committee
- Job description
- Appointment letter for responsible person who comply with the project requirement
- Waste Mapping
- Waste Recycler contract
- Waste Collection, Sorting and Scale
- Waste Data Tracking in System



The table has 4 columns and 6 rows. The columns are labeled 'Waste Type', 'Location', 'Quantity', and 'Remarks'. The rows contain data for different types of waste, such as 'Textile Waste', 'Plastic Waste', 'Paper Waste', 'Metal Waste', 'Glass Waste', and 'Other Waste'. The 'Quantity' column contains numerical values, and the 'Remarks' column contains descriptive text.



Best Practices from the Pilot

Factory established at the cutting table section (1)

- Segregation by type (fabric, plastic and paper)
- Segregation by composition
- Segregation by colour
- Weight process
- Label on waste bag
- Keep in proper storage between GRS and Non-GRS storage



Best Practices from the Pilot

Factory established at the cutting table section (2)



Best Practices from the Pilot

Factory established on training methodology

There are 4 kinds of training methods provide to workers about Waste Management topic as below:

1. Orientation Training
2. Annual Training
3. Onsite Training
4. Peer to Peer Training





Other Achievements



Other Achievements

TEXTILE WASTE HANDLERS TRAINING

15 waste handlers

Two training sessions

Guidebook for textile waste
management

ESG AND COMPLIANCE IMPROVEMENT TO RECYCLERS

Health & Safety conditions

Social and environmental conditions

Raising awareness to the workers

Other Achievements

CROSS-BORDER STUDY OF TEXTILE WASTE TRADING - CAMBODIA, VIETNAM, AND THAILAND



Identify policy & regulatory framework

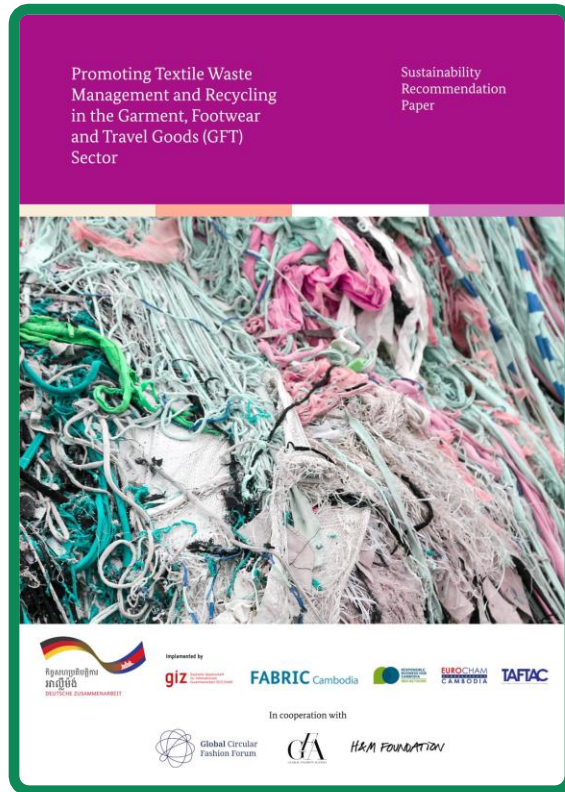


Identify textile waste export requirements

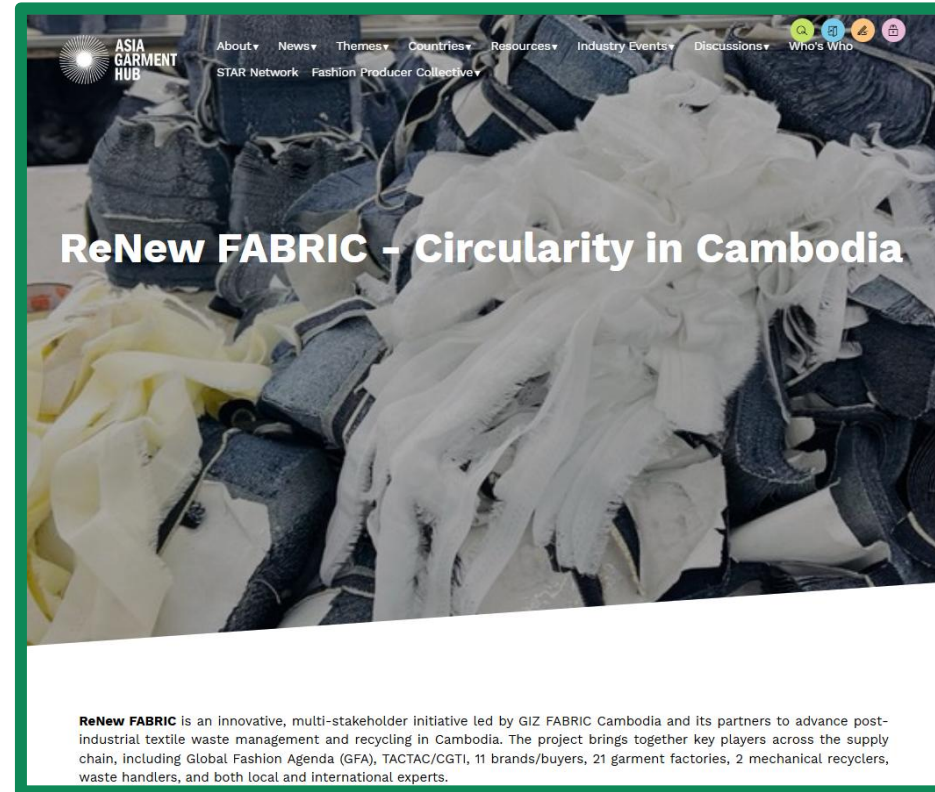


Study industrial solid waste export procedure from Cambodia to Vietnam

Other Achievements



[Download HERE](#)



[Link to ReNew FABRIC webpage](#)



Key Findings & Recommendations

From our implementing activities

KEY FINDINGS

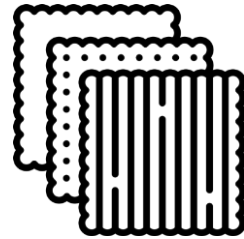
KEY

RECOMMENDATIONS



ECONOMIC IMPORTANCE OF THE GFT SECTOR

- Employment opportunities
- National exports



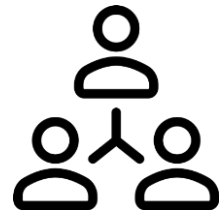
TEXTILE WASTE CHALLENGES

- Landfilling and downcycling
- Limited recycling investment



GOVERNMENT INITIATIVES AND REGULATORY LANDSCAPE

- The effective implementation of regulation remains a challenge
- The emergence of global policies



STAKEHOLDER COLLABORATION

- Establishing transparent waste management systems
- Setting industry-wide standards

KEY FINDINGS

KEY

RECOMMENDATIONS



FACILITATE INVESTMENT & ENHANCE INFRASTRUCTURE

- Attract funding for recycling technologies
- Establish centralized sorting & recycling hubs



IMPROVE DATA COLLECTION & TRACEABILITY

- Enhance data collection on waste management activities
- Implement regulations for better traceability



CLARIFY REGULATION

- Develop specific regulations on import/export of textile waste
- Address tax implications for formal sales of textile waste



PROVIDE CAPACITY BUILDING RESOURCES

- Develop training programs and resources on textile waste management and circularity
- Collaborate with local and international sector experts



FOSTER NETWORK & FACILITATE MATCHMAKING

- Organize events for collaborative initiatives
- Connect factories with local and regional recyclers



Source: Shun Wei Je Ke recycler

giz

THANK YOU