



Threading the loop:

Textile recycling and fibre recovery

1 Introduction

We have entered the decade of polycrises, where climate instability, ecosystem pressures, and geopolitical tensions are expected to exacerbate an already fragile clothing and textile supply chain, and in turn affect the clothing and textile industry's ability to respond to market signals and capitalise on changing trends. Such crises provide an opportunity for innovation and futureproofing against acute shocks and chronic stresses.

One way to achieve this is through the implementations of circular economy principles.

A circular economy keeps products, components, and materials at their highest use and / or value for as long as possible. Circularity is also a strong enabler of localising supply chains by cycling secondary products, components, and materials close to the market.

This is not only a societal and environmental imperative, but a strategic business decision to remain relevant and competitive in an ever evolving industry, both locally, but also internationally.

A solution to unlock an agile circular textile supply chain is the recycling of textile waste. Either through down-cycling into lower value products or by recycling back into fibres. Cape Town possess a number of existing and potential aggregators ready for scaling and upgrading. All that is needed is investment in processing and market uptake. To achieve this investment, a number of barriers need to be overcome and strategic relationships need to be established.

This industry brief covers the role textile recycling play in fostering a more competitive clothing and textile industry. The brief will also introduce the reader to Cape Town's textile waste sector, and illustrate the opportunities that exist for this sector, notably to keep fibres out of landfills and back into thread.



This industry brief is written for:

1. Textile recyclers looking to enter the market or expand operations.
2. Textile industry looking to strengthen agility and competitiveness.

The industry brief discusses:

The role of textile recycling in futureproofing Cape Town.

The state of Cape Town's current textile waste.

The opportunities for growth.

Enablers and barriers to this growth.

Recommendations to overcome the barriers.

¹ WEF (2023) – www.weforum.org/reports/global-risks-report-2023

2 Background

The textile industry relies on highly globalised supply chains, with value chains that span borders, and with consumption taking place largely in Europe, North America, China, and Japan. Together, those four regions account for 78% of global consumption. By contrast, Africa accounts for only 4%. However, as illustrated by **Figure 1**, textile preparation is extremely concentrated in Asian countries, most notably China, but also India and Bangladesh.

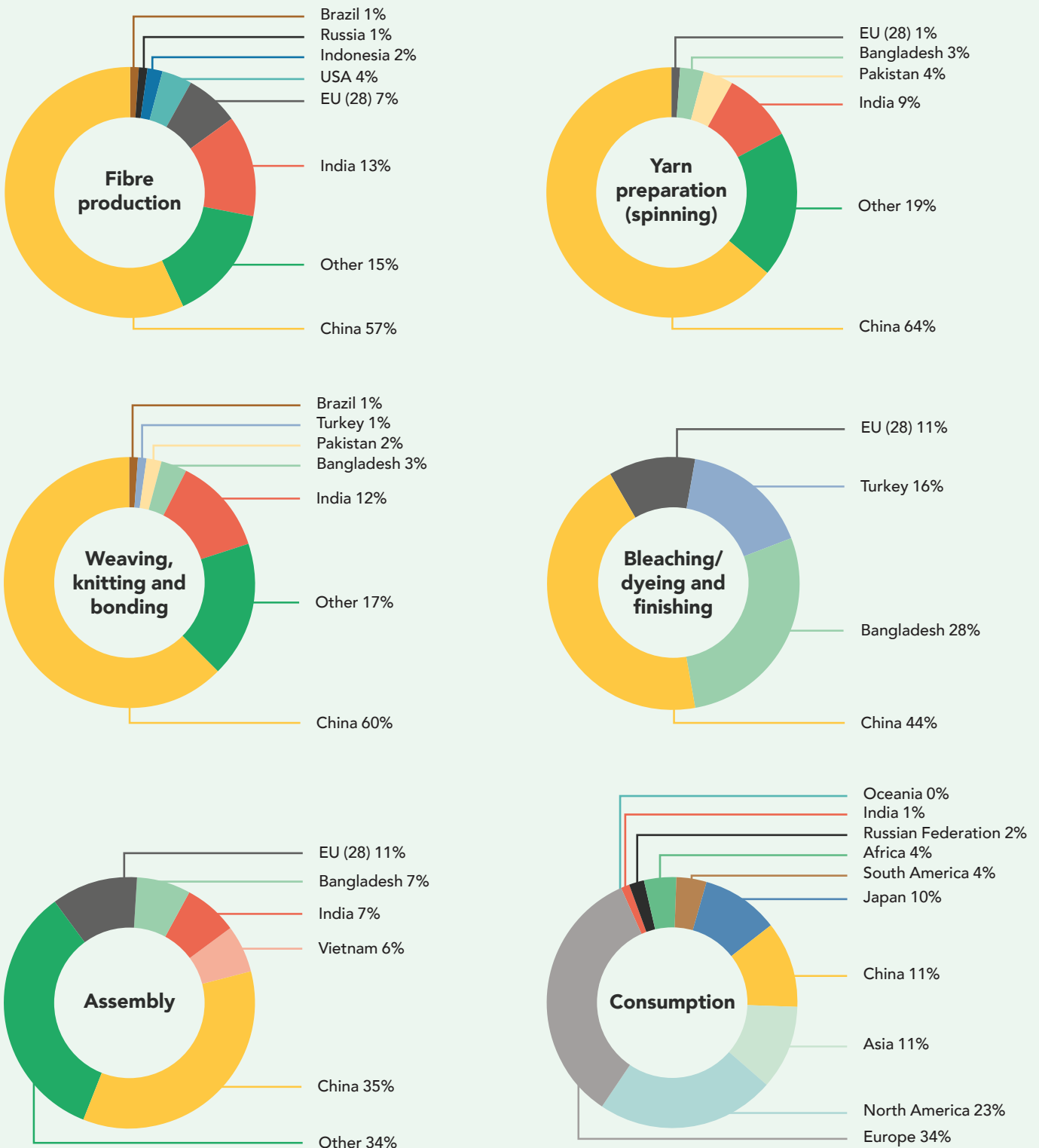


Figure 1: Global textile production and consumption distribution in 2018
Source: United Nations (2020)



Fibres are the basic building blocks of textiles, and come in various forms:

- Synthetic fibres (polyester, polyamide, polypropylene, acrylic, elastane);
- Man-made cellulosic fibres (viscose, acetate, lycocell, modal, cupro);
- Plant fibres (cotton, hemp, jute, flax); and
- Animal fibres (wool, down, silk).

Fibres have various qualities that determine their functionality and potential use. Some textile products can be made of one type of fibre (monofibres) or rely on more than one type of fibre (multifibres).

According to **Textile Exchange**², the global production of fibre was estimated at ~113 million tonnes in 2021: Synthetic fibres made up a 64% (polyester made up 54% of total), and plant based fibres made up 28% (cotton made up 22% of total). **Figure 2** provides a more detailed breakdown of fibre production by type, and includes estimations of recycled fibre.

Textiles form an integral part of the South Africa's clothing, textile, and footwear and leather (CTFL) sector. However, South Africa is a net importer of textiles and finished products. In 2022, R60.2 billion worth of textile related products were imported compared to R20.8 billion in imported³. In the main,

raw products, such as wool, cotton and hides are exported, and clothing and footwear as finished products are imported. In 2018 (prior to COVID-19) South Africa hosted ~800 clothing manufacturers, and is characterised by 20 large firms, with a high number of small- and micro-enterprises, and informal operations⁴.

Cape Town is one of two traditional clothing and textile hubs of South Africa (the other being eThekweni, KwaZulu-Natal). It has historically been a strong region for South Africa's clothing manufacturing industry hosting 175 (82%) of the 214 clothing manufacturers in the Western Cape. Cape Town also hosts the majority of South Africa's largest domestic clothing retailers⁵, and is well known for its fashion and design⁶. However, Cape Town does not offer as much capacity or capability as KwaZulu-Natal in terms of fabric production and finishing. However, this is a key area for future development.



² Textile Exchange (2022) - https://textileexchange.org/app/uploads/2022/10/Textile-Exchange_PFMR_2022.pdf

³ Quantec (2023)

⁴ An extensive list of major processor and manufacturers can be found in Appendix B of Tips (2022) – www.tips.org.za/research-archive/sustainable-growth/green-economy-2/item/download/2320_ba9affd0b1b12c59f379a5c0756783d8

⁵ Cape Town hosts large retailers: Ackermans, Cape Union Mart, Pepkor, Pick n Pay Clothing, The Foschini Group, Truworths and Woolworths. Cape Town also hosts the Takealot Group, Africa's largest e-commerce retailer whose products include fashion; and will soon host the African headquarters of Amazon.

⁶ Cape Town hosts design centres: TFG Design Centre, Barrie Cline, Blue Jean Traders, Reliance Clothing, TCI Apparel

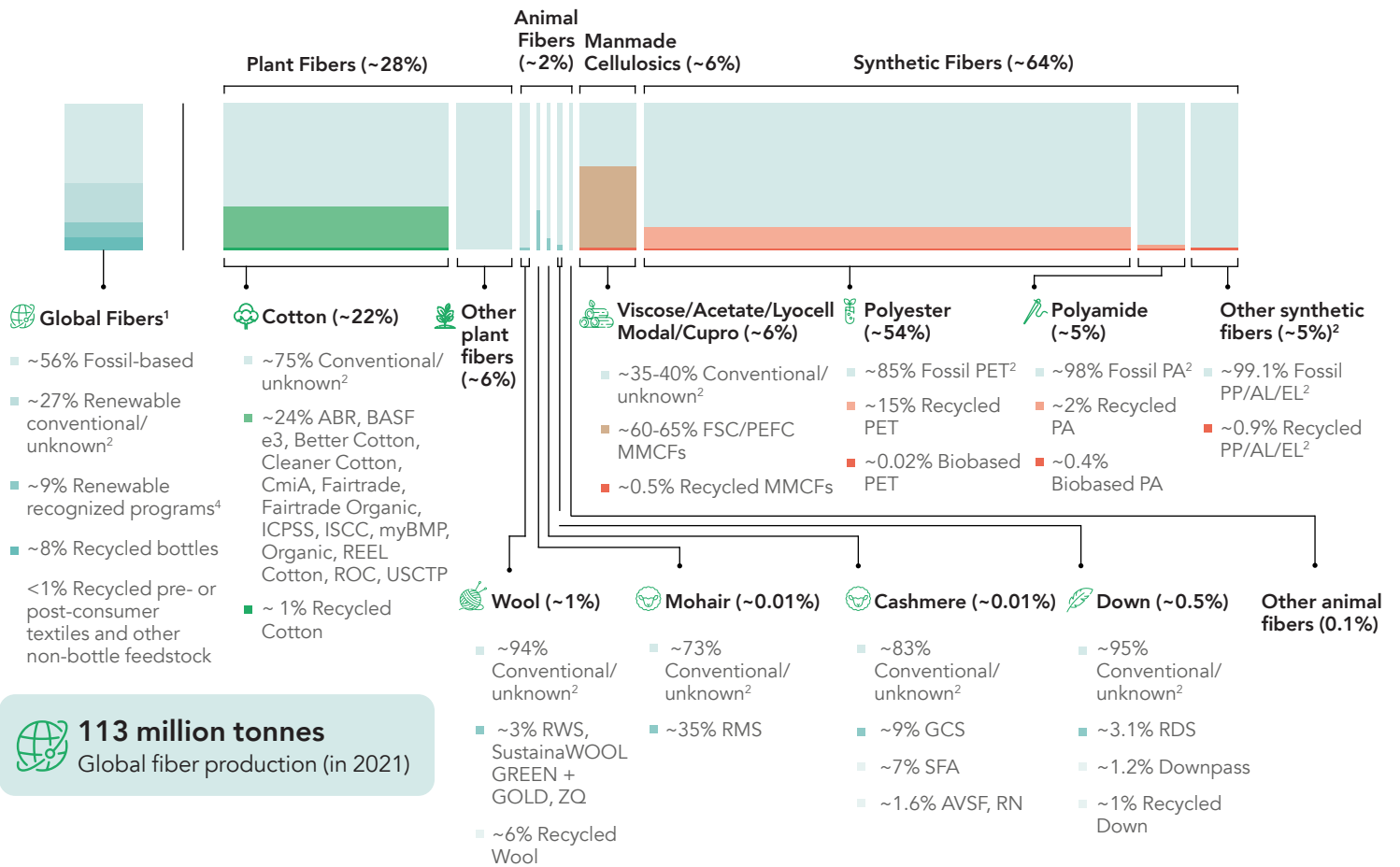
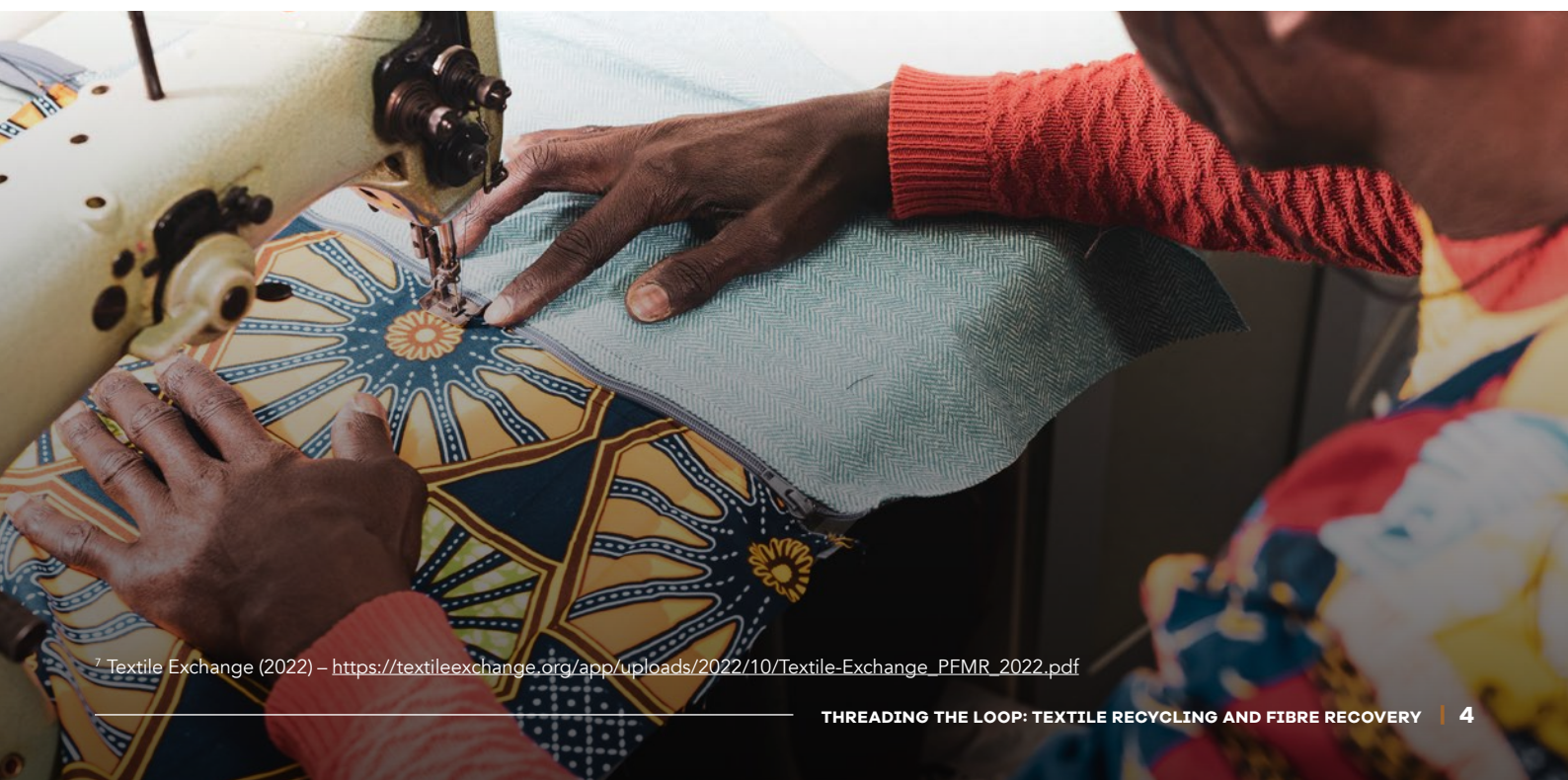


Figure 2: The global fiber market 2021: Program overview
Source: Textile Exchange (2022)

- Figure 2 aims to inform the industry about the global total production volumes and the shares covered by different programs. Our definition of "preferred" is currently being updated, and the assessment of the programs along a continuum of different levels of preferred is work-in-progress. For more information see also our methodology chapter.
- Conventional and unknown. This includes volumes of preferred or potentially preferred but unassessed programs for which data are not accessible or available.
- Other synthetic fibers include polypropylene (PP), acrylics (AC), and elastane (EL).
- Renewable recognized programs include here all the recognized programs listed in this chart apart from the recycled fibers



⁷ Textile Exchange (2022) – https://textileexchange.org/app/uploads/2022/10/Textile-Exchange_PFMR_2022.pdf

In light of supply chains challenges, both recently and expected, and the growing pressures by shareholders, consumers and regulators for more sustainable goods and services, two major objectives dominating the South African clothing and textile industry:

Just-in-time



Lean-through-circular

South Africa's CTFL industry has experienced a sharp decline in the last two decades largely due to global competition. To strengthen competitiveness, whilst also localising investment and jobs, the national Department of Trade, Industry and Competition (dtic), in collaboration with industry, have developed a Retail-CTFL Masterplan. The Masterplan lays down a common vision for the South African CTFL sector; and, as summarised in **Figure 3**, acts as a blueprint to direct action and investment into the localisation of South Africa's value chain.

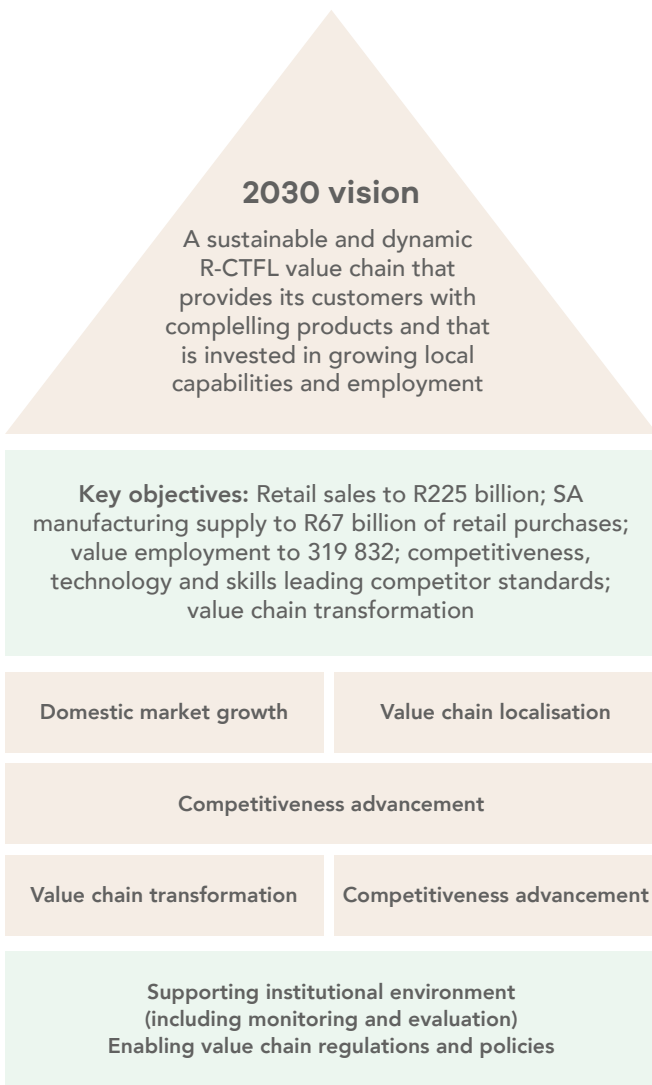


Figure 3: The R-CTFL Masterplan Framework for South Africa
Source: DTIC 2020

The CTFL industry seeks to leverage this Masterplan to strengthen the just-in-time model as a competitive advantage over foreign competition through flexibility and speed-to-market.

Thus, more emphasis will be made on localising value chains, including the building blocks of textiles, this being fibre.

The textile system is traditionally linear, highly inefficient, and unsustainable. With regards to clothing, **Figure 4** illustrates the global material flows for clothing in 2015. Of the 53 million tonnes of fibres used in clothing, an estimated 12% was waste during production and 73% after use. An estimated 12% was down-cycled into low value applications (insulation, underfelt, stuffing), and only 1% is recycled back into fibres for clothing.

This wastage is not only an opportunity loss for manufactures, but also a disposal cost to the supply chain. This puts pressure on the competitiveness of the local industry.

Global fibre recycling is already on the rise, increasing from 6.89% in 2016 to 8.45% in 2021. Whilst recycled cotton makes up only 1% of total cotton production, it is expected to grow significantly in the coming years thanks to a number of internal brand commitments

These international trends are not lost in South Africa. The industry is in the process of updating the R-CTFL Masterplan, and have included a sustainability focus driven by a sustainability working group. Much of the focus of this working group will be on tackling textile related waste. No commitments have been determined as yet. But if the industry seeks to localise production, it would benefit from localising secondary fibre supply and demand.



² WDTIC (2020) - Briefing on the Retail-Clothing, Textile, Footwear & Leather Masterplan.
www.thedtic.gov.za/wp-content/uploads/Briefing-on-R-CTFL-1-Sept-2020.pdf

³ Textile Exchange (2022) – https://textileexchange.org/app/uploads/2022/10/Textile-Exchange_PFMR_2022.pdf

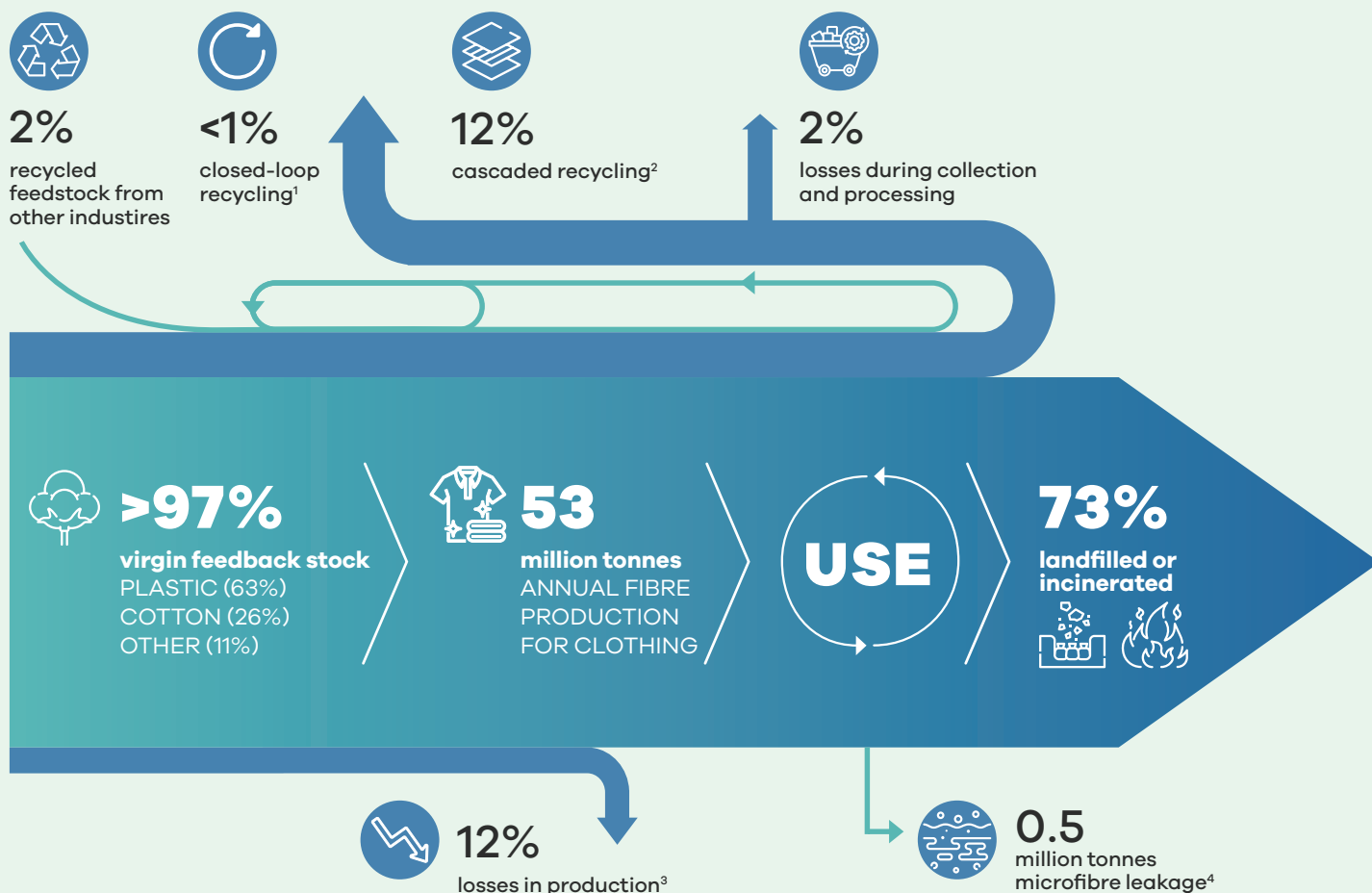


Figure 4: Global material flows for clothing in 2015
Source: EMF (2017)

3 Textile waste in Cape Town

South Africa lacks meaningful textile waste related data. It is rare for textile related businesses to monitor the tonnages of textile waste, and even rarer to include the types fibre waste. Textile waste was also not included in the State of Waste Reporting (2017)¹⁰, and in turn textile waste was not specifically covered by National Waste Management Strategy (NWMS) (2020)¹¹ or Operation Phakisa¹² interventions. If the NWMS highly ambitious targets are to be met¹³, textile waste must be integrated into future updates.

The City of Cape Town (CCT) has made some effort to tackle textile waste. Of the ~1.1 million tonnes of waste disposed of at municipal landfills in 2022, ~6.38% is textile¹⁴. As illustrated by Figure 5, this equates to just over 70 300 tonnes. For comparison, plastics makes up ~190 500 tonnes (17.29%) of plastic waste landfilled. This excludes the unknown tonnes

of textile waste landfilled at the only private landfill in Cape Town, of which ~600 000 tonnes are landfilled each year.

Furthermore, the CCT has also recognised the role the textile industry plays in exacerbating climate change. The CCT has included investigating options for the recovery of textile waste as part of its Climate Change Action Plan (2022).

However, as the industry seeks to increase localisation of the CTFL sector, including the upstream production, then it must also take cognisance of the localisation of waste.



¹⁰ DFFE (2018) – https://soer.environment.gov.za/soer/UploadLibraryImages/UploadDocuments/141119143510_state%20of%20Waste%20Report_2018.pdf

¹¹ DFFE (2020) - https://www.dffe.gov.za/sites/default/files/docs/2020nationalwaste_managementstrategy1.pdf

¹² DFFE https://www.dffe.gov.za/projectsprogrammes/operationphakisa_chemical_waste_economy

¹³ NWMS targets are diversion of 40% of waste from landfill by 2025, 55% by 2030; and at least 70% by 35 years.

¹⁴ CCT appointed JG Afrika to undertake a waste characterisation study in 2018.

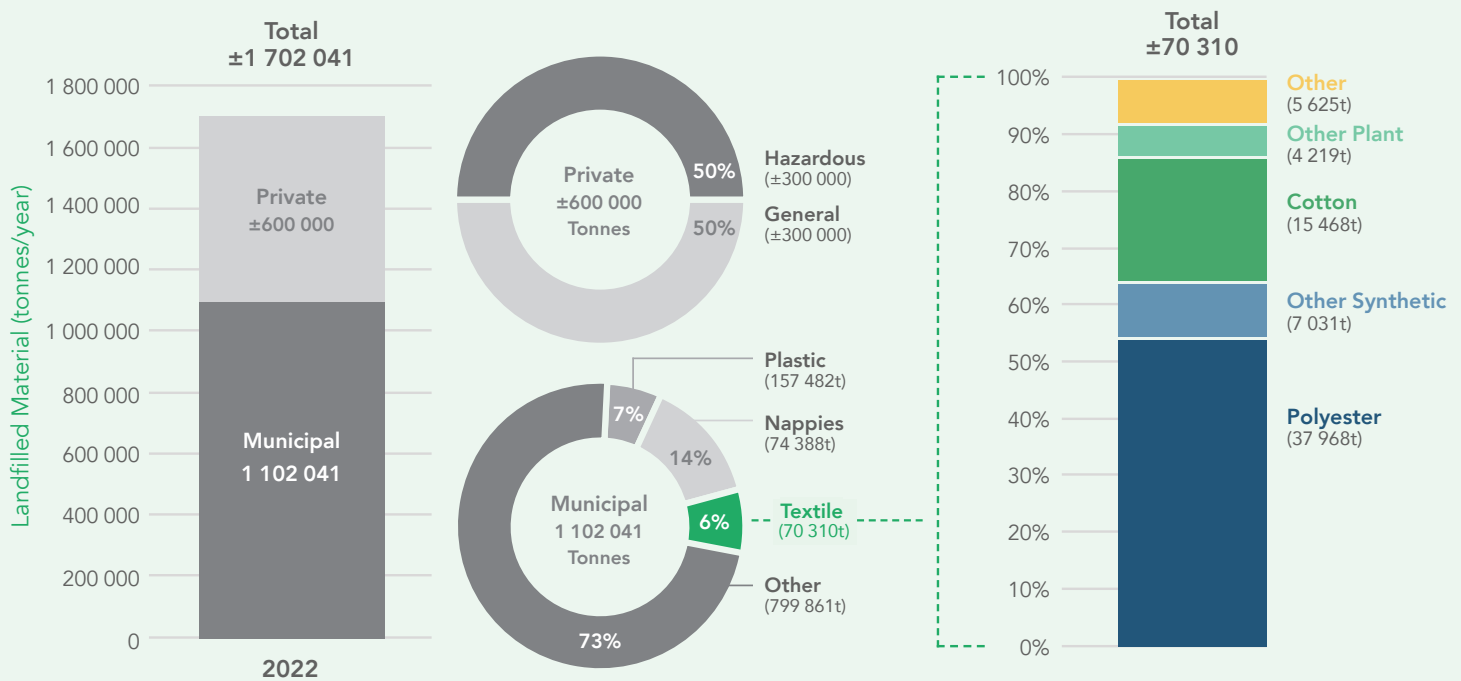


Figure 5: Textile waste landfilled in Cape Town in 2022
 Source: Adapted CCT (2023), CCT (2018), industry engagements, and Textile Exchange (2022)¹⁵

Cape Town supports a vibrant second hand culture, from hand-me-downs to markets. This is largely informal, and as such, the volumes are unknown. In addition to these informal solutions, there are a number of trusted formal entities providing textile specific landfill diversion services at scale to clients and donor’s. These include, but are not limited to:

Taking Care of Business¹⁶: is a trusted public benefit organisation (PBO) providing retailers with a cost effective landfill alternative to pre-used clothing and fabrics. Their Resell Programme directs tax deductible clothing donations to a network of woman led micro-enterprises who sell the clothing onto their communities. Their Remake Programme leverages a network of seamstresses to remanufacture surplus pre-used fabrics into sellable products.

U-turn: is a trusted PBO providing retailers and residents with a landfill alternative solution to pre-used and post-used clothing. Their Thrift programme directs tax deductible clothing donations to a network of shelters or to charity stores that employ previously homeless people.

U-turn is also an aggregator of un-usable clothing items, which makes up a majority of donations. In an effort to keep non-usable clothing out of landfill, U-Turn is also investigating textile recycle activities to bolster their service offering.

Clothes to Good: is a trusted PBO providing retailers and residents with a landfill alternative solution to pre-used and post-used clothing and textiles. All non-usable clothing and textiles are aggregated and transported to strategic recycling partners. Although Gauteng based, the company is in the process of establishing operations in Cape Town.

Rewoven: is a Cape Town based small, medium or micro-sized enterprise (SMME) and is a sorter, collector, and aggregator of a broad spectrum of pre-used fabrics. Through its strategic recycling partners, Rewoven is able to ensure its client’s a traceable alternative to landfill.

Connacher: is a Durban based recycler of pre-use and post-use clothing and textiles. The company leverages its nationwide network of collectors to aggregate and transport textiles to its Hammersdale processing facility. Connacher processes a wide spectrum of textiles into the reusable fibre for various applications.

City of Cape Town: It is worth noting that the CCT seeks to expand its already extensive material recovery infrastructure and programmes. Though it is difficult to secure material from the CCT itself, it is much easier to partner with the private sector contracted by the CCT to manage the drop-off facilities, material recovery facilities, and collection of dry recyclables from strategic catchment areas. These aggregation nodes provide a great opportunity to increase the access to textile related waste streams.

Waste management companies: Cape Town hosts a number of large waste management companies: *Averda, Don’t Waste, Enviroserv, Interwaste, Wastemart and Wasteplan*; and a wide network of SMME waste management companies. These companies seek to provide their clients, include textile related companies, with a full suite of solutions.

¹⁵ Total waste landfilled in Cape Town was taken from CCT (2023) and Industry Engagements. The CCT (2018) waste characterisation study was applied to the CCT landfilled waste. Textile Exchange (2022) was applied the existing to provide some estimates to the types of textiles potentially landfilled.

¹⁶ A Case Study of Taking Care of Business (then The Clothing Bank) can be found at www.green-cape.co.za/assets/Case-study_Life-beyond-sales-rack.pdf

4 Opportunity

The era of globalisation, is over, and a decade of polycrises¹⁷ is here. Such a decade is expected to see a number of crisis, notably related to the environment and geopolitical strife. This will likely disrupt the supply chains and increase supply and price volatility for various goods, notably clothing, textiles, and most importantly, fibres that form the foundation of textiles.

Such unstable conditions provide an ideal opportunity for innovation to strengthen competitive into the future. Such futureproofing is achievable through circular economy principles. **Figure 6** provides a framework for circular textiles as it relates to the value hill, a circular business framework that provides an understanding of how to position a business in a circular context.

However, eventually there will reach a point where textiles will come to an end of life. This is well illustrated by the experience of clothing redistribution NPOs where a majority of donated clothing is not recoverable and is sent to landfill. To this point, these fibres in their various forms becomes costly disposal overheads in the form of refuse rates and disposal tariffs.

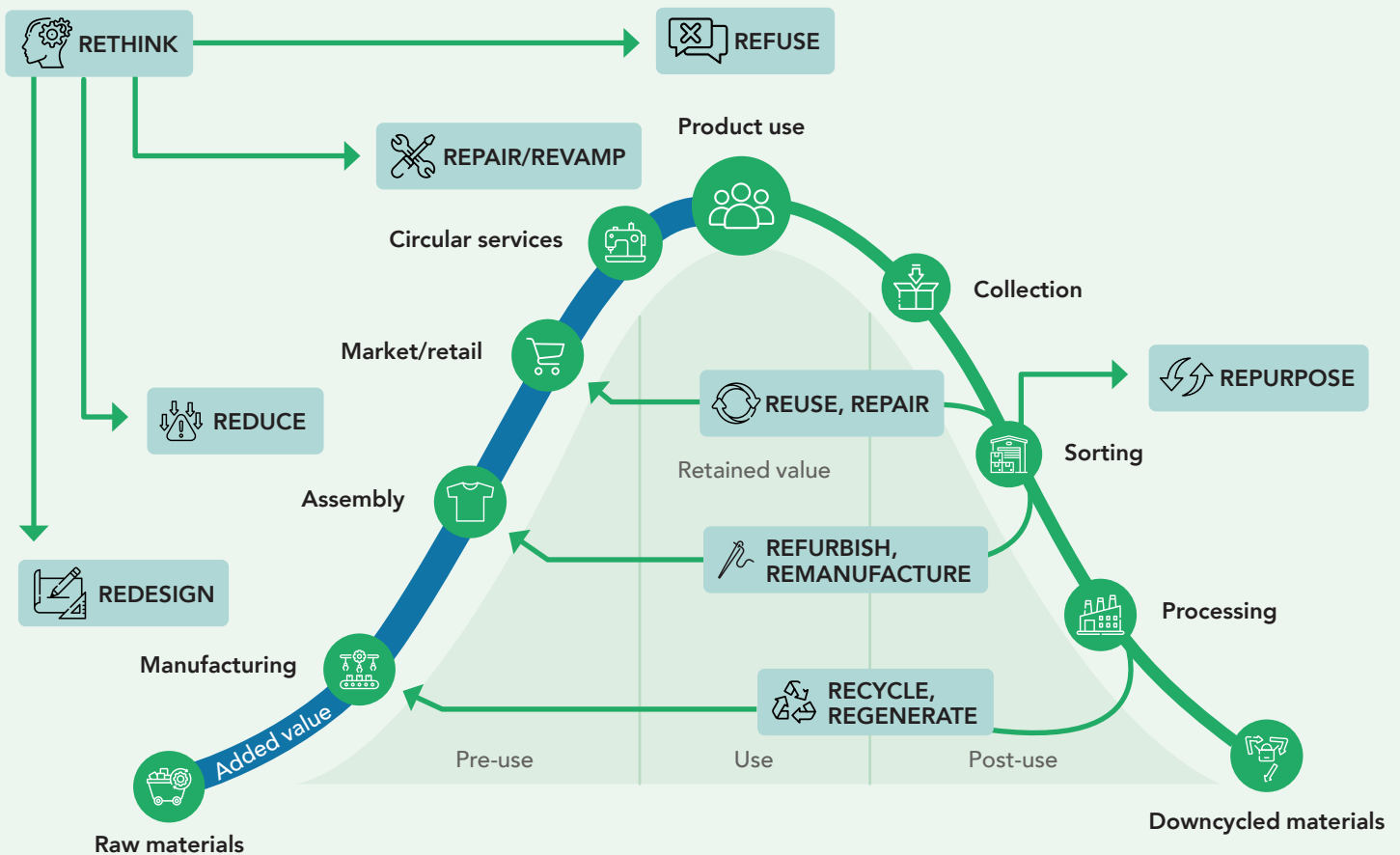


Figure 6: Circular Textile Value Hill Framework
Source: Adapted from Circular Innovation Collective (2023)

¹⁷ A Polycrises is a cluster of related global risks with compounding effects, such that the overall impact exceeds the sum of each part.

Textile recycling is just one part of the circular textile picture (see Figure 6), but a necessary one to deliver on the sector's most basic competitive goals. Be it open-loop down cycling or closed loop recycling. These are the two overarching opportunities discussed below:

Large-scale mechanical recycling

Leveraging South Africa's existing textile recovery and aggregation network is critical for establishing a commercial open-loop recycling hub in Cape Town to process over 70 000 tonnes a year textile related waste.

South Africa already hosts a number of open-loop recycling activities that process pre-and post-consumer textiles into a number of products: underfelt, insulation, rescue blankets etc. However, Cape Town has no actual textile recycling activities taking place that process end-of-life textiles into secondary materials / products at scale.

With the CCT driving the localisation of textile related production, at present, the opportunity exists for increased large-scale textile recycling activities in Cape Town. The collection, sorting and recycling of pre-consumer industrial textiles is being implemented but with little focus on post-consumer textiles. This is largely due to the complexity involved, further affected by the increased likelihood of mixed material types and erratic volumes of the waste.

There is over 70 000 tonnes of textile related waste available for beneficiation in Cape Town (Figure 5). This excludes what is being landfilled at Cape Town's only private landfill, by neighbouring municipalities, and what could be imported from neighbouring provinces or countries.

South Africa hosts a well-established open-loop recycling with appetite to expand, a strong network of textile aggregators transporting out of the Western Cape, and a strong CTFL industry presence in Cape Town. As such, Cape Town is ready for the establishment of a commercial recycling activities of pre-and post consumer textiles in the short-to-medium term.

Table 1 summarises the drivers, enablers, barriers and risks of this opportunity, whilst three major drivers are discussed further:

Rising cost of landfilling: The CCT has the highest landfill tipping fees¹⁸ when compared to other South African metros. This costly overhead is expected to increase above inflation in years to come. As Cape Town hosts a number of major textile related manufacturers, brands and retailers, this should strengthen business case and demand for landfill alternatives.

Landfill airspace: The Western Cape, like many regions of South Africa, is grappling with long term landfill airspace / capacity to accommodate disposal. Old landfills are closing, and the sighting of new landfills is challenging. This has resulted in the CCT making sizable investments into material recovery infrastructure to access potential valuable material to supply to a willing market. Lack of airspace will also mean waste generators will need to identify legally compliant alternatives to landfill.



Sustainable products: Clothing brands, notably international brands, and retailers are under pressure from shareholders and consumers to reduce the environmental impacts of products. This is illustrated by the inclusion of a sustainability focus into the R-CTFL Masterplan update. This will likely include a focus on diverting textile waste from landfill. This should increase the demand to solutions to textile waste.

A number of organisations are investigating the development of voluntary agreements to unite South Africa's clothing and textile industry under a circular textile vision. This will likely commit signatories to targets, including landfill diversion. Thus increase the demand to solutions to textile waste.

¹⁸ In 2022/23, the cost of landfilling one tonne of general waste, such as textiles, was R584 (excl. VAT)

Fibre-to-fibre recycling

Leveraging South Africa's textile recovery, aggregation and processing network is critical to establishing Africa's first commercial scale closed-loop fibre-to-fibre recycling facility.

South Africa, and more generally Africa, has no large scale fibre-to-fibre recycling activities taking place. While fibre-to-fibre recycling is non-existent in South Africa, more focus and investment is taking place internationally, as illustrated by Fibersort Project's [database](#) and Textile Exchange's [supplier map](#).

This provides an early mover opportunity, especially as South Africa already hosts textile open-loop recycling, enjoys an existing network of collectors / aggregators, and a strong clothing and textile industry presence in Cape Town, which is expected to grow in the coming years.

However, due to the innovation and capital requirements, coupled with large guaranteed volumes and skilled labour force, this opportunity will take time to build.

In the meantime, the opportunity could leverage demand for aggregated textiles by the international markets in short term, before advancing operations towards a local fibre-to-fibre operation in South Africa / Cape Town is likely a medium to long term opportunity.

Table 1 summarise the opportunities, and the drivers, enablers, barriers and risks. Three major drivers of demand for secondary fibre are discussed further:

Supply chain security: The global fibre market is a highly globalised supply chain. This includes fibres and the inputs to produce fibres: resins for synthetic fibres and fertilizers to grow plant based fibres, notably cotton. This enhances the ability to respond to market indicators during times of supply chain challenges. This brands an opportunity to diversify supply, even at a premium, from imported fibres / threads to local fibres / threads. Notably, secondary fibres. This provides demand for more agile and responsive supply chains, including for secondary fibres.

Volatile commodity prices: Supply chains are affecting the supply of products, which increases the demand, and subsequently, the price of commodities. Textile related commodities are no different. The price of raw synthetic fibres, namely polyester and nylon, which are made from petrochemicals, are closely linked to the price of crude oil¹⁹. The price of crude oil also affects the price of natural plant based fibres, notably cotton²⁰. This is due to reliance of petrochemical based synthetic fertilizers and general logistics costs linked to agricultural activities. Supply chains challenge are expected to continue in the coming years and in turn will affect price volatility.

Demand for sustainable fashion: Many brands, notably international brands, are under immense pressure from regulators, shareholders, and consumers to reduce the



environmental impact of their goods. There are a number of preferred fibres commitments documented by [Textile Exchange](#)²¹. Of particular note, there are the more than 105 international companies committing to science based targets²². Europe has the largest distribution of preferred fibre uptake (69%) whilst North America has the second highest (25%)²³. Furthermore, the EU's Strategy for Sustainable and Circular Textiles (2022)²⁴ seeks to, amongst others, set eco-design requirements for local and imported textile goods. Whilst scope of the eco-design requirements is still to being determined, there is focus on secondary fibre inclusion. This should stimulate investment into fibre-to-fibre infrastructure, whilst also increasing demand for products made with secondary fibres, but also secondary fibres themselves.

¹⁹ Global crude oil price – <https://tradingeconomics.com/commodity/crude-oil>

²⁰ Global cotton price – <https://tradingeconomics.com/commodity/cotton>

²¹ Textile Exchange – https://textileexchange.org/app/uploads/2021/08/Textile-Exchange_PREFERRED-Fiber-and-Materials-Market-Report_2021.pdf

²² Global Fashion Agenda – <https://globalfashionagenda.org/resource/scaling-circularity-report/>

²³ Textile Exchange (2023) – https://mci.textileexchange.org/wp-content/uploads/2023/04/Textile-Exchange_MCI-Insights_2022.pdf

²⁴ The strategy aims to implement the commitments of the European Green Deal, the new circular economy action plan and the industrial strategy for the textiles' sector.

Table 1: Summary of opportunities for Cape Town textile recycling

	OPEN LOOP DOWNCYCLING	CLOSED LOOP FIBRE 2 FIBRE RECYCLING
Opportunity	Leverage South Africa's existing textile recovery and aggregation network to establish a commercial scale open-loop recycling hub in Cape Town.	Leverage South Africa's textile recovery, aggregation and processing network to establish Africa's first commercial closed-loop fibre-to-fibre recycling facility.
Drivers	<ul style="list-style-type: none"> • Rising cost of landfilling waste. • Demand for landfill diversion. • Demand for sustainable products. • Demand for sustainable fashion. • Raw material prices of low value fibre based products. 	<ul style="list-style-type: none"> • Supply chain security. • Volatile commodity prices. • Demand for sustainable fashion. • Strategic sourcing diversification. • Demand for market responsive supply chains.
Enablers	<ul style="list-style-type: none"> • Strong industry collaboration (CCTC). • R-CTFL Masterplan sustainability focus. • National Waste Management Strategy Targets. • EPR Regulations to develop textile EPR Scheme. • None prohibitive waste related regulations. • Strong waste logistics sector. • Strong cotton using hotel and hospitality industry. • Existing recyclers located outside of CPT. • Stronger utilities security (water, electricity). • Access to ports for imports. • Access to African textiles (ACFTA). • Textile included in CCT Climate Change Action Plan. • Atlantis SEZ incentivises / supports green tech. 	<ul style="list-style-type: none"> • Strong industry collaboration (CCTC). • R-CTFL Masterplan localisation commitments. • Growing demand for separated fibres. • Growing demand for secondary fibres. • No local fibre-to-fibre competition in SA. • High reliance on external fibre sources. • Demand for diverse sources of fibre. • Atlantis SEZ incentivises / supports green tech. • Access to African textiles (ACFTA). • Stronger utilities security (water, electricity). • Access to ports for imports. • Strong waste logistics sector. • Existing recycling capacity to expand operations. • 'Made in the Cape' brand campaign and trade portal.
Barriers	<ul style="list-style-type: none"> • Lack of waste data to inform decision making. • Low number of local textile focused recovery solutions. • Requires pre-processing skill / experience. • Potential scope creep / requires inter-departmental collaboration. • No entity to convene towards sustainable textiles. 	<ul style="list-style-type: none"> • Lack of waste data to inform decision making. • High capital investment into fibre-to-fibre technology. • Requires reliable feedstocks. • Lack of technology in SA to separated blended fibres. • Requires strong fibre type separation protocol. • Difficult to process post-consumer textiles. • Lack of local fibre-to-fibre technology / skills.
Risks	<ul style="list-style-type: none"> • Businesses may resist paying for collection service. • Pre-consumer destruction policy for brand protection of products. • Informal / NPO clothing redistribution resistance. • Potential for large volumes of low-value, beyond-reuse post-consumer textiles. • Lack of textile focus in NWMS. • Energy security. • Competition with incineration. 	<ul style="list-style-type: none"> • Competition with foreign down-cyclers. • Foreign demand for local secondary fibre. • Currency recovery favours import of conventional fibre. • Lack of textile focus in NWMS. • Energy security. • Trade embargoes due Russian affiliation. • Limited local recycling capacity.

5

Broad recommendations

To facilitate the scaling of Cape Town's, and more broadly South Africa's, textile recycling, and to strengthen the competitiveness of the South African textile sector, a number of key recommendations have been identified for respective stakeholders, including:

1. Industry representatives

- Leverage the R-CTFL Masterplan to unite industry behind ambitious circular targets. This could form a voluntary agreement similar to the SA Plastics Pact or the UK's Textile 2030 initiative.
- Establish a formal industry body funded to provide focused circularity support to industry, and to coordinate the funding of recycling infrastructure.
- Host an annual summit focused on showcasing circularity initiatives, and to guide industry towards a vision.
- Engage the EU to better understand how to leverage the strategy for sustainable and circular textiles to facilitate investments in fibre-to-fibre innovation and support exports to EU.

2. Brands, Manufacturers, Retailers

- Engage textile collectors and recyclers to ensure that material is sorted in a way that maximises textile waste uptake.
- Collaborate with strategic individuals to gain insight and expertise into models that can be implemented.
- Make landfill diversion commitments to illustrate the future opportunities to recycling industry so that they can in turn prepare for scaling and investments.
- Commit to secondary fibre inclusion targets to drive market demand for secondary fibres. Providing a pipeline of commitment provides recyclers an enough time to make investments.
- Design textile related products with recycling in mind.

3. Collectors / Processors / Recyclers

- Leverage niches service offerings to unite under one collective to generate economies of scale. [See Spain based Koopera.](#)
- Engage Fibersort Project's [database](#) and Textile Exchange's [supplier map](#) to identify export opportunities.

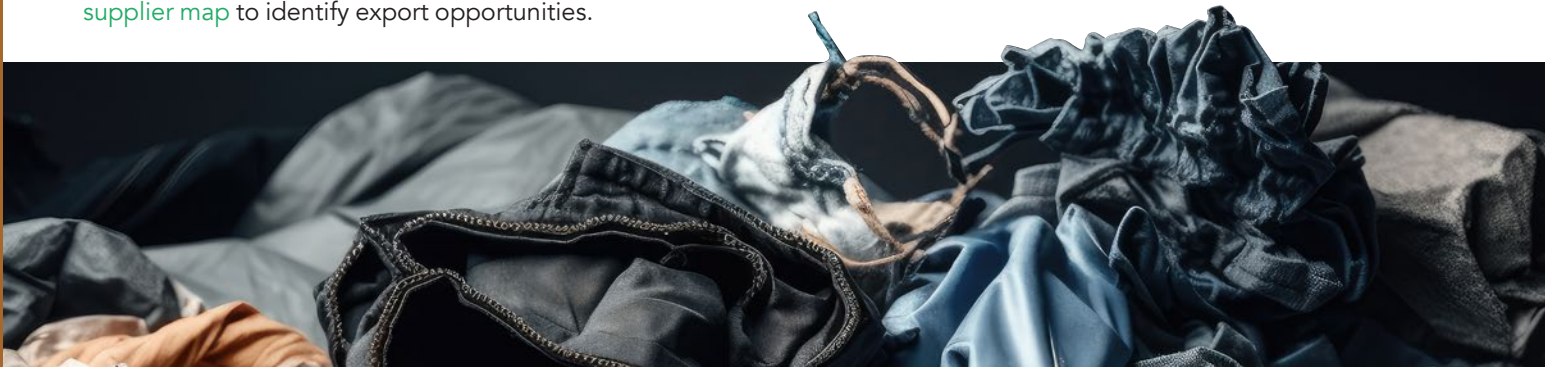
- Provide the R-CTFL Masterplan with insights and guidance on the challenge and enabler for textile recycling.
- Lobby DFFE for the development of industry informed mandatory textile EPR requirements to raise levies to facilitate landfill diversion and innovation.
- Partner on supply (waste generators) and demand (end market offtakers seeking recycled material) end of the value chain

4. Government / Agencies

- Municipalities should include textile data criteria in waste characterisation studies to better inform planning, but also to inform investor decision making.
- DFFE to include textile data in waste studies, such as the state of waste updates, to inform future updates to the NWMS and subsequent programmes.
- DFFE to develop in consultation with industry mandatory textile EPR requirements to strengthen textile data, raise levies to facilitate landfill diversion activities, and to fund innovation.
- DFFE to leverage existing paper and packaging EPR regulations to set requirements to ensure that rPET based textiles produced from recycled PET bottles kept out of landfill.
- DSI to actively fund research towards fibre-to-fibre sorting and processing. This could be through the [Circular Economy Demonstration Fund](#).
- DTIC, Invest SA, Invest Cape Town, WESGRO, to active seek fibre-to-fibre investment to Cape Town, and identify offshore markets for secondary fibres.

5. Academia / Researchers

- Develop research agenda relevant to CTFL recycling, notably fibre-to-fibre related. This could be through the [Circular Economy Demonstration Fund](#).



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