



# Material Change Insights 2022

The state of fiber and materials sourcing

The Materials Benchmark program is the largest peer-to-peer comparison initiative in the fashion, textile, and apparel industry, generating the Material Change Index (MCI) among other benchmarks.

It tracks industry progress toward more sustainable materials sourcing, as well as alignment with global efforts like the Sustainable Development Goals and the transition to a circular economy.



Materials Benchmark

# Foreword

## An industry in transition

This year, our Material Change Insights report reflects the period of transition in which our industry currently finds itself.

2023 marks eight years since the launch of our Materials Benchmark, and seven years away from 2030. It's our mid-point stock take, as the clock ticks towards our Climate+ goal of a 45% reduction in greenhouse gas emissions, and associated benefits for nature, in the production of fiber and raw materials.

With this in mind, the report focuses on the transitional state the textile industry must recognize, own, and take responsibility for. It acknowledges this heightened state of awareness of the challenges we face, and the tension in reaching our goals. It takes stock of where we are now, and points us in the direction of where we need to go.

So, what must this transition still mean for the industry for us to meet our goals on time?

It means companies and markets shifting gears fast to align financial flows and workforces for achieving net-zero emissions and a nature-positive world. It means shifting from a wasteful, linear economy to a regenerative and circular one. It means working together to meet our Climate+ goal. And it means achieving [a just transition](#). The benefits of the transition must be shared equitably, and while accountability sits with us all, it must be led by those who are the greatest contributors to the climate and nature crisis.

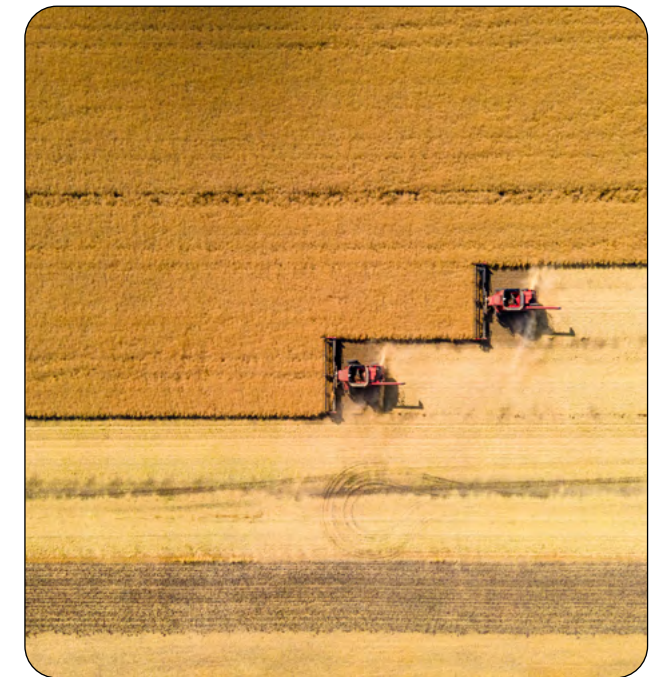
To get there, transformational change is needed on three horizons: individual company action, companies acting collectively, and support from external enablers. But perhaps the most important is our own personal sense of responsibility, driving the individual actions and agency that will ultimately lead to the creation of broader material change. It's about looking at what we can all do ourselves, rather than pointing the finger elsewhere.

At Textile Exchange, we have evolved our benchmark survey from a focus solely on preferred materials uptake to also capturing environmental outcomes, in-line with our Climate+ strategy and grounded in a science-based approach. We could not be evolving the survey in this way without the previous two decades of work Textile Exchange and the industry have spent working together to drive the sourcing and production of more sustainable raw materials. We are adjusting our lens to be wide-angled, outcome focused, more grounded in community, and more science-based in our pathway to our goals for climate and nature.

We have also prioritized alignment of the Textile Exchange benchmark survey with other initiatives. When it comes to materials benchmarking, we know that measuring progress is important, but we also know data collection is a big job for companies and there is an understandable call to reduce survey burden. With regulators, financial institutions, and society calling for greater consideration of climate and nature, we need cross-sectoral alignment and standardized frameworks for reporting, and want to make sure we are setting this example. That's why for us, change and collaboration has been fundamental to ensure our benchmark accelerates the kind of action that we urgently need to see.

Ultimately, transitioning means going beyond textile industry silos to connect with others - sometimes in unexpected ways. It means opening up more space for innovation and those unexpected connections to happen. It means applying our wide-angled lens to the landscape and horizon while also looking internally at our own transformation and opportunities for inner growth. It's all connected.

– **Liesl Truscott**  
Director, Industry Accountability & Insights,  
Textile Exchange



# Contents

<b>Executive Summary</b>	<b>5</b>
<b>State of the Sector</b>	<b>11</b>
Participant Profile	12
Progress to Preferred	14
Leaders' Circle	17
About the Results	23
<b>Business Integration</b>	<b>24</b>
Strategy	25
Sustainable Development Goals	33
Circular Economy	36
<b>Materials Portfolio</b>	<b>41</b>
Cotton	42
Polyester	47
Polyamide	51
Manmade Cellulosics	55
Wool	59
Down	64
Leather	68
Other Materials	72
<b>Extra Insights</b>	<b>74</b>
Supplier Benchmark Pilot	75
<b>Fundamentals</b>	<b>78</b>
Materials Benchmark	79
Frequently Asked Questions	84

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## Disclaimer

The Textile Exchange Materials Benchmark program is externally assured by [ELEVATE](#) in accordance with the Global Reporting Initiative (GRI) guidelines. The Textile Exchange Material Change Index is based on participant self-assessment. While Textile Exchange reviews all data entries, checks calculations, and carries out consistency checks, it does not verify the accuracy of the data or disclosures within a company's survey submission, or the process of preparing the disclosures. That responsibility remains with the participating company. The opinions expressed in this publication are those of Textile Exchange and do not necessarily reflect the views of any of our participants, funders, member organizations or advisors.

Cover photo: Ray Vazquez

# Executive Summary

# Executive Summary

## Thank you to all 2022 participants

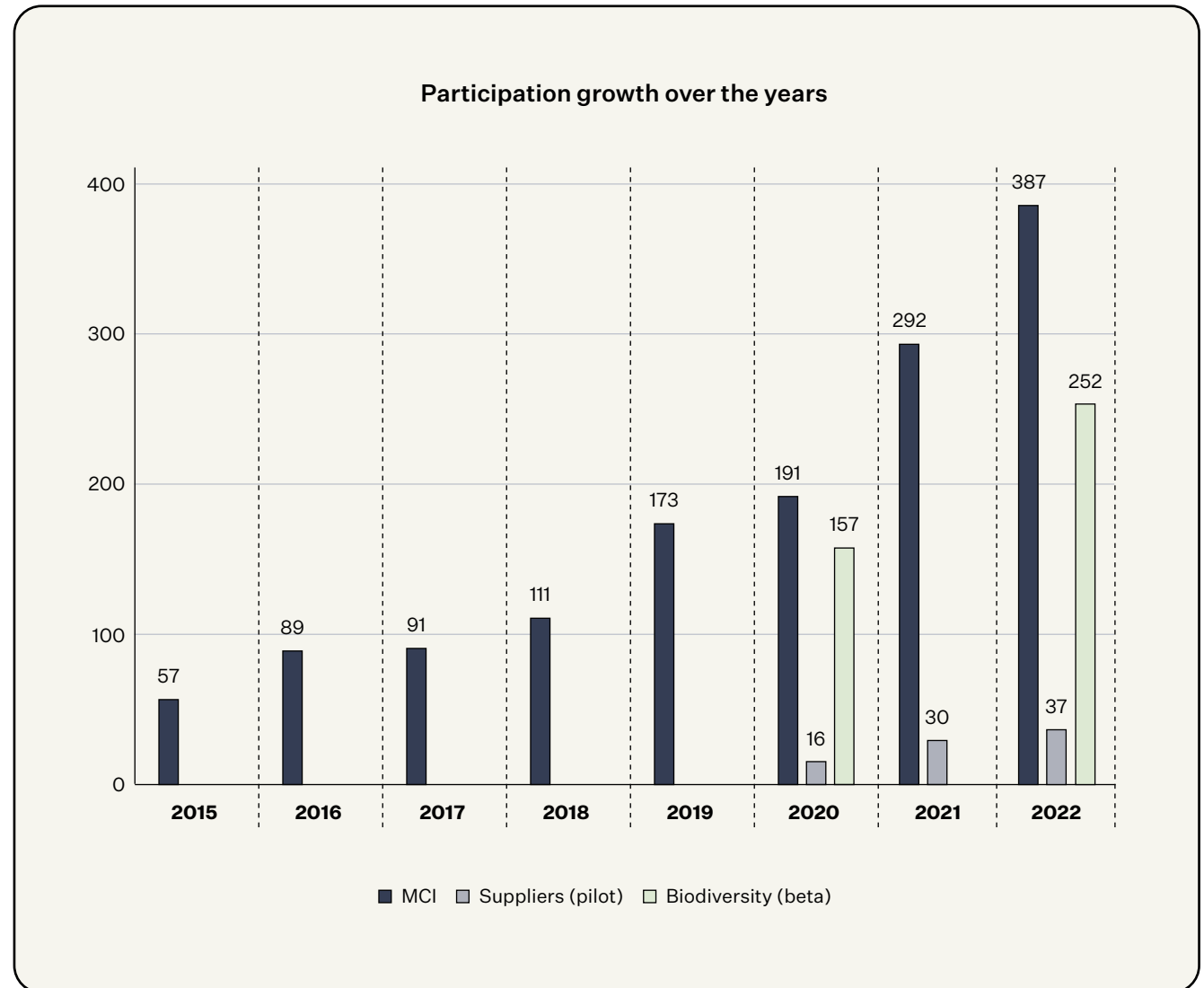
Before we dive into the data, we must acknowledge the hard work of [all participants](#) and congratulate all 424 companies – including brands, retailers, suppliers, and manufacturers – for their efforts in creating material change in 2022.

We are pleased to report that 76% of returning companies improved their Material Change Index score this year and we welcomed 72 new companies to the program. Participation in the Index grew 32% over the previous year. Numbers went from 292 to 387 brands and retailers (including their subsidiaries).

Performance-wise, the Index average remained in Level 3 (Maturing), growing slightly from 68.5 to 69.82. The range of scores spanned from 3.43 to 88.46 out of a possible 100 points.

In addition, the number of suppliers piloting increased by 23%, and the Biodiversity Benchmark portion of the MCI survey attracted 252 companies in its second year, representing a 61% increase over the baseline survey in 2020.

At Textile Exchange, we celebrate the bold and conscientious participation and progress shown by each participating company and make it our mission to drive material change.



# Executive Summary

## 2015 to 2030 – A mid-point stock take: Progress, but not enough?

Back in 2015 we were calling for a more resilient and circular textile industry. We said the textile industry’s dependency upon “cheap” and “plentiful” raw materials had to change. So, what steps have been taken in the last eight years, and what needs to happen in the run up to 2030? Does our benchmark give signs of any progress towards our Climate+ goals? Or are we stuck on an “all talk and not enough action” treadmill? It will take more than individual companies doing brilliant things.

For the fourth year running, we tracked six key indicators of change:

- Uptake of preferred materials
- Recycled materials
- Greenhouse gas emissions
- Land use
- Country of origin
- Circular business models.

On a positive note, there is plenty of evidence to suggest that companies are thinking, strategizing, and building capacity to enable material change inside their companies. And while there is evidence of progress in some of the indicators above, change is not happening fast enough, nor systemically enough, to achieve the Climate+ target of a 45% reduction in greenhouse gas emissions. This lack of holistic change is both due to the time it takes to adapt existing business models, and the urgent need for external enablers to help drive the transformational change needed in the industry.

That transformation will be driven by both “carrots” and “sticks,” in the form of policy, finance, and investment opportunities and/or requirements.

There’s no getting anywhere without [a just transition](#) that brings everybody into the new model. It’s not going to be easy. We must also stop subsidizing fossil-based energy and agriculture, and instead find ways to incentivize the scaling of regenerative and circular systems, including de-risking investments by producers working on the ground.

In short, it will take more of what we are currently doing individually, it will take more than what we are currently doing collectively, and it will need more external support.

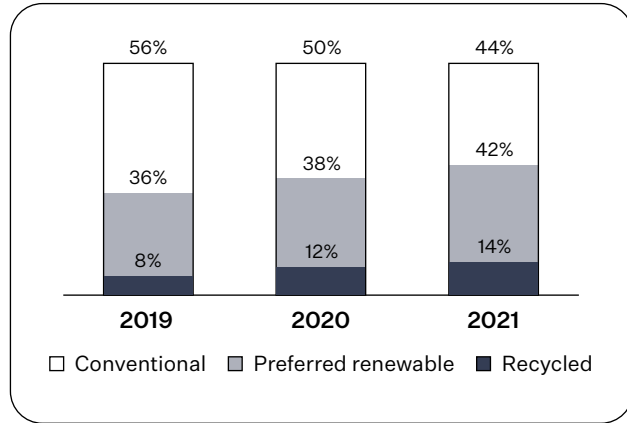
Let’s take a look at each of the six indicators in turn.

*Note on the numbers: All attempts have been made to report robust information using the best available methodologies. However, please note that raw material uptake volumes and product quantities are self-reported by participating companies. Modeling exercises are designed to show trends only. Modeling Tier 4 greenhouse gas emissions are global averages, based on Sustainable Apparel Coalition/Higg MSI Life Cycle Assessment midpoints and limited by the availability of data. Modeling of land area is based on the methodology outlined in the [Materials Impact Dashboard Guide](#).*



# Executive Summary

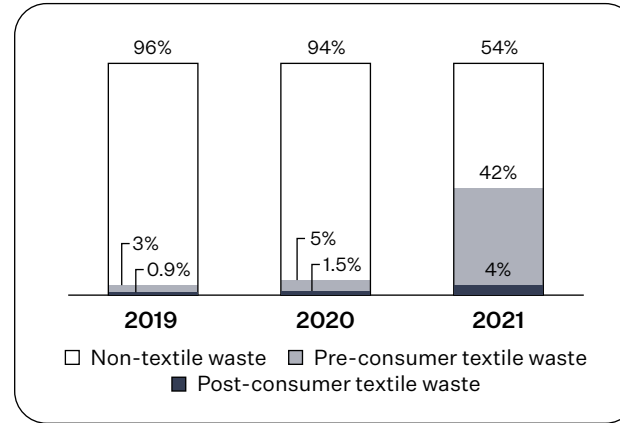
## Indicator 1: Uptake of preferred materials



Volumes of preferred materials continue to increase, but so do conventional.

Overall, the trend in the uptake of preferred materials continues. Companies have made a big push to set targets for preferred and swap out higher-risk conventional materials to the point at which 56% is now preferred. But while it's good to see growth in preferred (6% over last year), conventional volumes continue to grow as well, albeit at a slower rate. Recycled growth rates continue to increase (2% over year before) driving a bigger dent in virgin materials use. However, the shift to textile-to-textile is still slow.

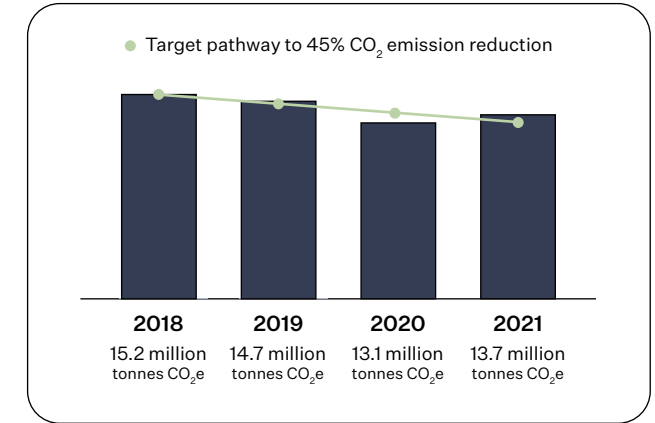
## Indicator 2: Recycled materials



There's further growth in recycled materials, but more innovation is needed.

Recycled textiles continue to be dominated by non-textile waste inputs (mainly plastics) but there are some new trends. Recycled polyamide (nylon) is growing in scale and share (now at 24,262 tonnes, 12.01% of all polyamide use, up from 4.5% last year). Recycled down and feathers (up from 0.1% to 1.7% of down volume in four years) is creating a larger share in the down profile. There has not been the growth spurt we might have hoped for in recycled cellulose into next generation cellulosic alternatives (but it will come). We can celebrate the increase in post-consumer textile recycling from 0.06% to 0.6% over four years, but the volume (just 37,153 tonnes) is still so small.

## Indicator 3: Greenhouse gas emissions



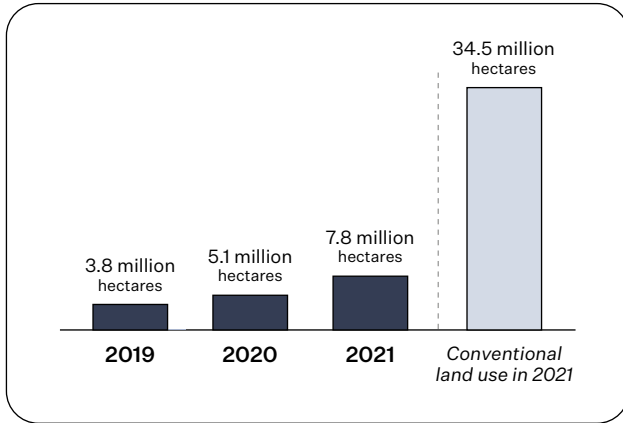
Greenhouse gas levels have reverted from a COVID-induced dip as consumption rates return to business as usual.

Despite the growth in preferred materials, conventional volumes grew too, and greenhouse gas (GHG) emissions in Tier 4 increased by 5% over 2020 figures. The previous year's drop in GHG emissions was likely to be influenced by the COVID-19 "lower-growth" scenario and the associated improvement in emissions has now reversed back to a business-as-usual trajectory. However, there is promise in the commitments companies are making to climate, with over half of participants committing to (or having already set) science-based targets for climate. Volumes of conventional materials need to rapidly be addressed if companies are to meet their targets and for the industry to reach a 45% reduction in GHG emissions at Tier 4 by 2030, aligned with Climate+.



# Executive Summary

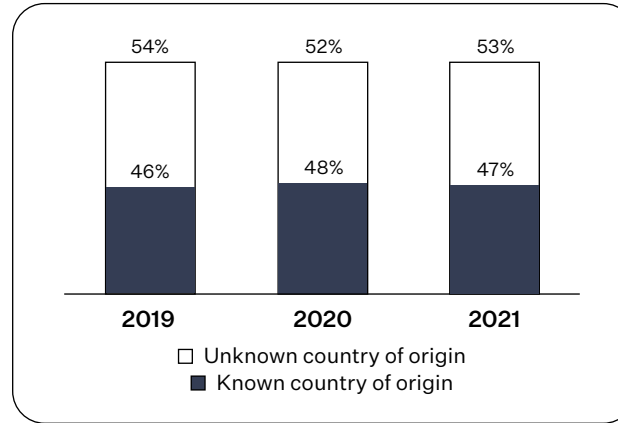
## Indicator 4: Land use



Land under sustainability standards is increasing, but the impact is not confirmed.

Material Change Index participants source natural materials such as cotton, wool, and wood (for manmade cellulosic fibers) from 42.2 million ha of cropland and forests globally. This unlocks considerable potential to restore and regenerate the land associated with our industry. An estimated 18.3% (7.8 million ha) is under sustainability programs and certification, which are expected to result in environmental improvements. However, while promising and necessary progress is being made by scheme owners, there is still work to be done to connect practices with the outcomes and impacts we need to measure.

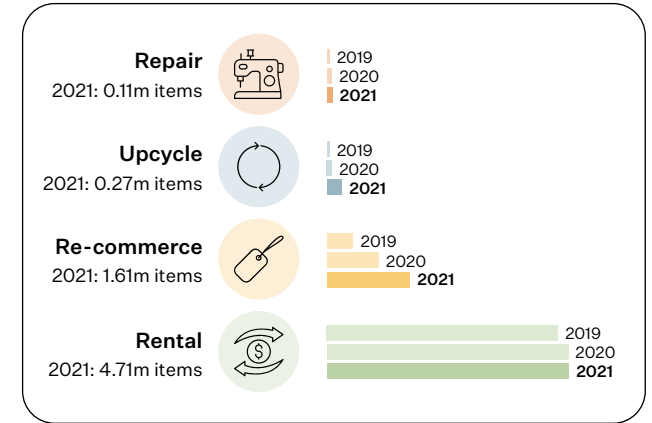
## Indicator 5: Country of origin



Transparency of sourcing regions is a necessity, but it is proving easier said than done.

Line of sight to sourcing origins is an increasing priority for companies, especially as new regulations, such as the [EU Deforestation Regulation](#) (EUDR), are arriving. MCI results suggest that knowledge of country of origin hovers around 47% of materials sourced. Textile raw materials are being traced back to 50 countries. The top five are India, China, Turkey, the US, and Pakistan. Risks most frequently cited by companies usually require transparency of supply location and suppliers to appropriately manage and satisfy due diligence. The sourcing of recycled materials is increasing and with it the welfare risks to supply chain actors including waste collectors and sorters.

## Indicator 6: Circular business models



Investment in secondary markets shows hope of moving mindsets.

73% of participants have reported one or more “circular business-related activity”; however, only 17.5% of companies provided actual volumes. From the 6.7 million garments reported to have been sold via a circular business model, 4.7 million are rental, representing 70% of the items reported. While rental is the lion’s share, the number reported has been relatively stable over the past few years. Compare this to re-commerce: While lower in quantity, growth rates are high, jumping from 0.4 million garments reported in 2019 to 1.6 million in just three years (up 278%). Garments reported as upcycled or repaired are much lower, but those growth trends are also positive. There is currently no correlation between growth in circular business models and reduced consumption, but that would be the goal. Note, this data is not conclusive of definite trends.

# Executive Summary

## Where to next?

Whether you are an absolute beginner or a long-standing expert when it comes to raw materials sustainability, there is always a next step. While the tips below have been organized into beginner, intermediate, and advanced categories, there is never a one-size-fits-all solution. Companies may be advanced in some areas while just beginning in others.

We hope that the details in the main body of this report provide further guidance and spark ideas for every company to take that next step, but for now, here's a place to start.

## Section I: Business integration

### Beginner:

- Develop a raw materials strategy and don't go it alone – join learning groups and talk to others, for example the Textile Exchange's round tables, the SBTN platform, and Textiles 2030.
- Formalize sustainability sourcing policies and commitments, as well as setting preferred material targets.

### Intermediate – All of the above, plus:

- Integrate your raw materials strategy into your overall business strategy, advance a circularity agenda, and align with the [Global Goals](#). Ensure accountability and capacity are built in.
- Deepen engagement with key stakeholders as part of your risk assessment, implementation activities, and communications. Go for collective action wherever possible.
- Set climate and nature targets at the raw material level, aiming to align with science-based targets.

### Advanced – All of the above, plus:

- Publicly report on your corporate strategy, activities, and progress made towards targets, following robust reporting standards and frameworks such as the Global Reporting Initiative, and evolving Taskforce on Nature-related Financial Disclosures.

## Section II: Materials portfolio

### Beginner:

- Build your materials portfolio and data-collection system and start calculating volumes of conventional and preferred materials sourced so that you can track progress against targets.
- Prioritize areas to act depending on risks and opportunities. Once again, wherever you can work together with others, do.

### Intermediate – All of the above, plus:

- Begin building more transparency into your sourcing, starting with country of origin and digging deeper down to site location where you can.
- Start mapping priority suppliers and networks to enable more dialogue and collective action.

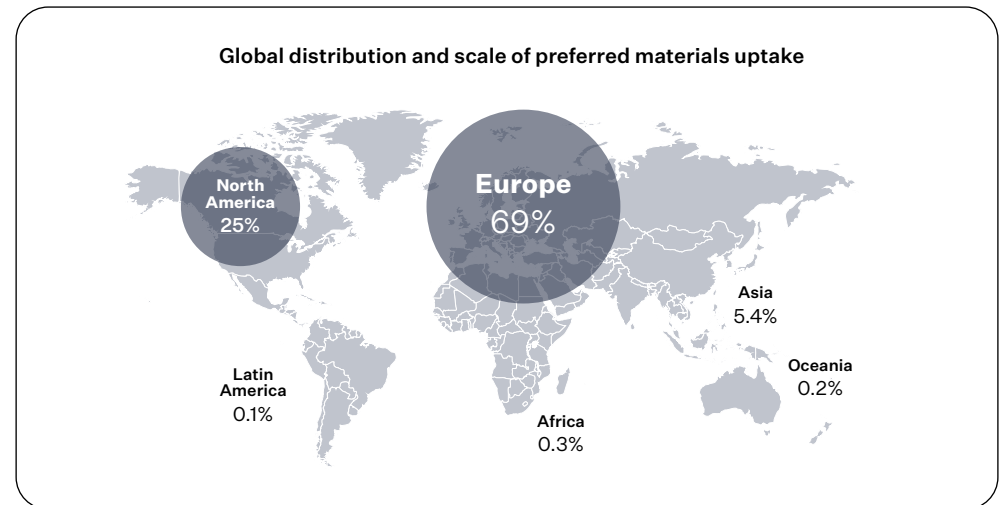
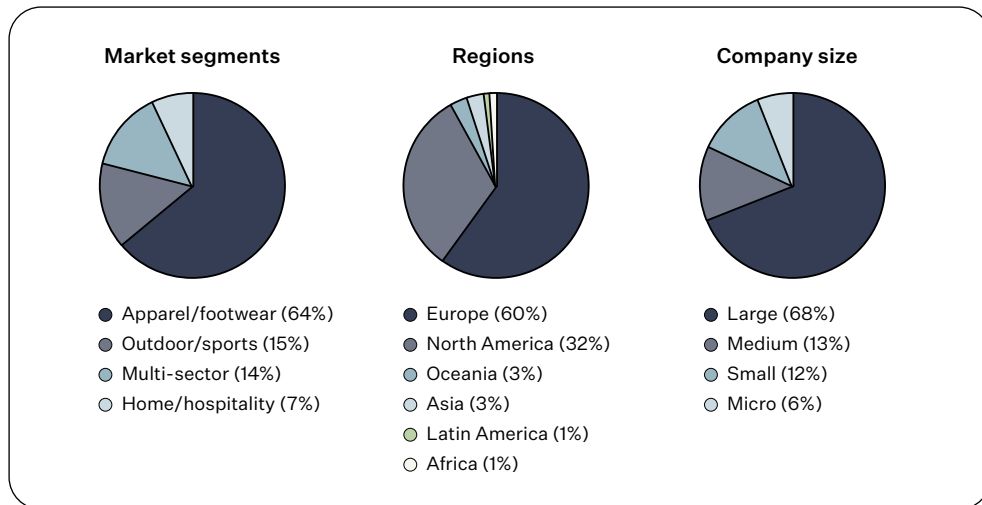
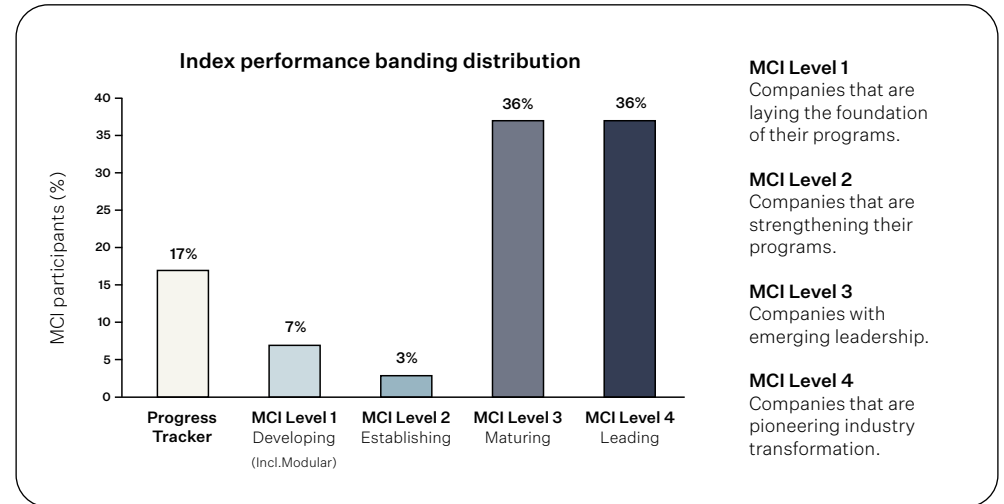
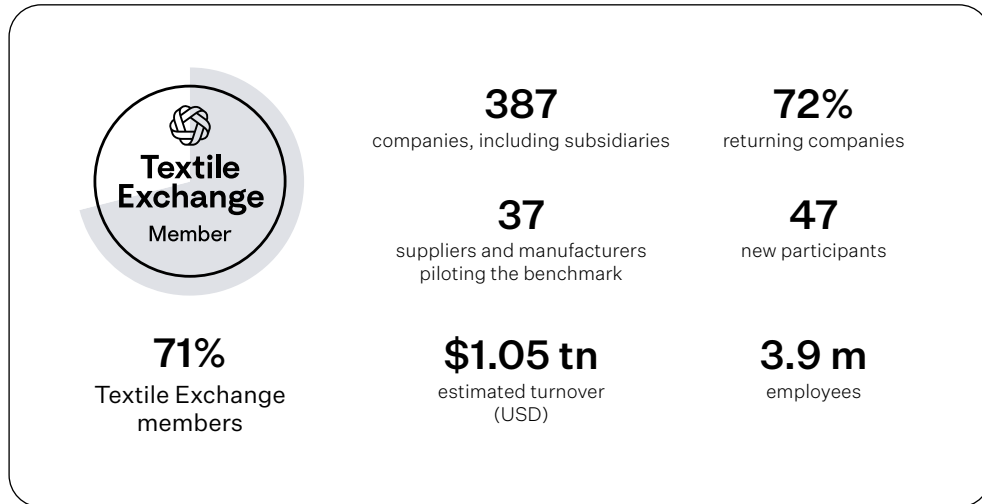
### Advanced – All of the above, plus:

- Deepen your risk/opportunity profile to align with landscape approaches, including water scarcity, land/ecosystem degradation and biodiversity hotspots.
- Invest in producers and community resilience, inside your value chain and/or in important landscapes.

# State of the Sector

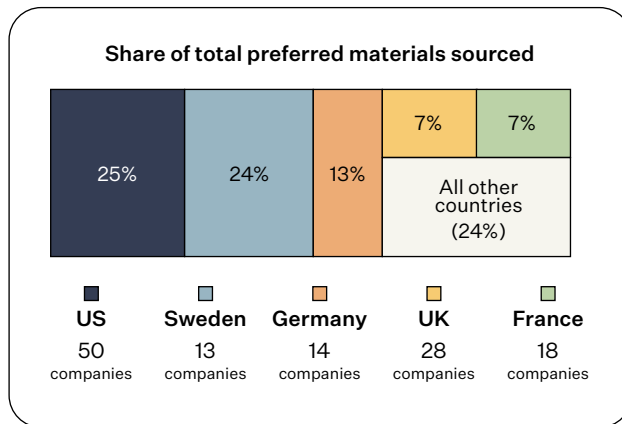
# Participant Profile

## A snapshot of the benchmarking community in 2022



# Participant Profile

## Country distribution

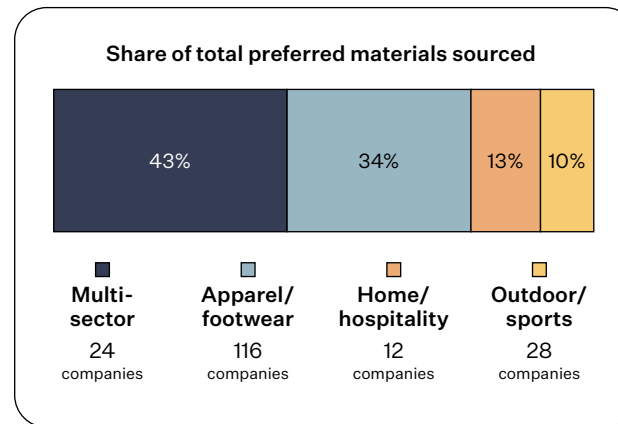


**The US and Sweden source half of the Index volume of preferred materials.**

Between them, the US and Sweden sourced 49% of the volume of preferred materials reported. In terms of participating companies, the US far outnumbered any other country with 43 returnees and 7 new. The United Kingdom saw a growth from 24 to 28 companies taking part, and a one percentage growth in preferred volume share.

All other countries\* Italy, Canada, Spain, Norway, Netherlands, Belgium, Australia, Switzerland, Denmark, Japan, Hong Kong, India, Brazil, South Africa, China, Colombia, New Zealand.

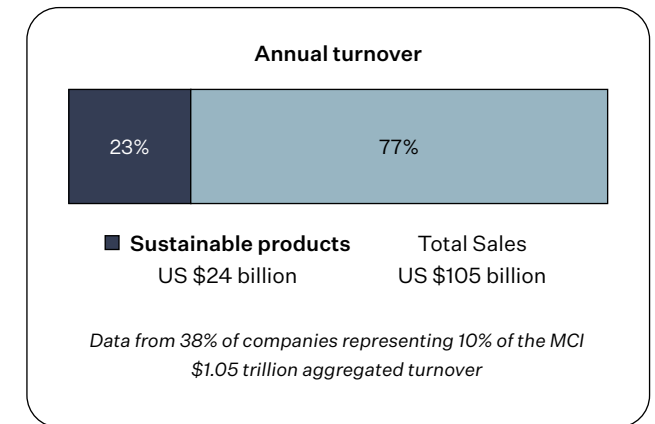
## Sub-sector distribution



**Most preferred materials are sourced by multi-sector retailers.**

Most preferred materials (43%) were sourced by the multi-sector sub-sector, selling both home textiles and apparel. The apparel/footwear sub-sector received by far the most participants (116), sourcing just over a third of the Index volume of preferred materials.

## Turnover from sustainable products



**23% of turnover from more-sustainable products, according to the companies that disclosed.**

38% of participants representing 10% of total reported turnover of USD 1.05 trillion) were able to report turnover from textile product sales and the income share linked to their “sustainable” textile product lines. \*From the data disclosed by the sub-set of companies, 23% of their turnover in 2021 came from sales of their designated sustainable products.

\*Note, companies use their own definitions of a “sustainable” product. Most companies referred to products made fully or partially using more sustainable or certified materials. Others included safer chemistry and fair production.

# Progress to Preferred

## Material categories and share of preferred

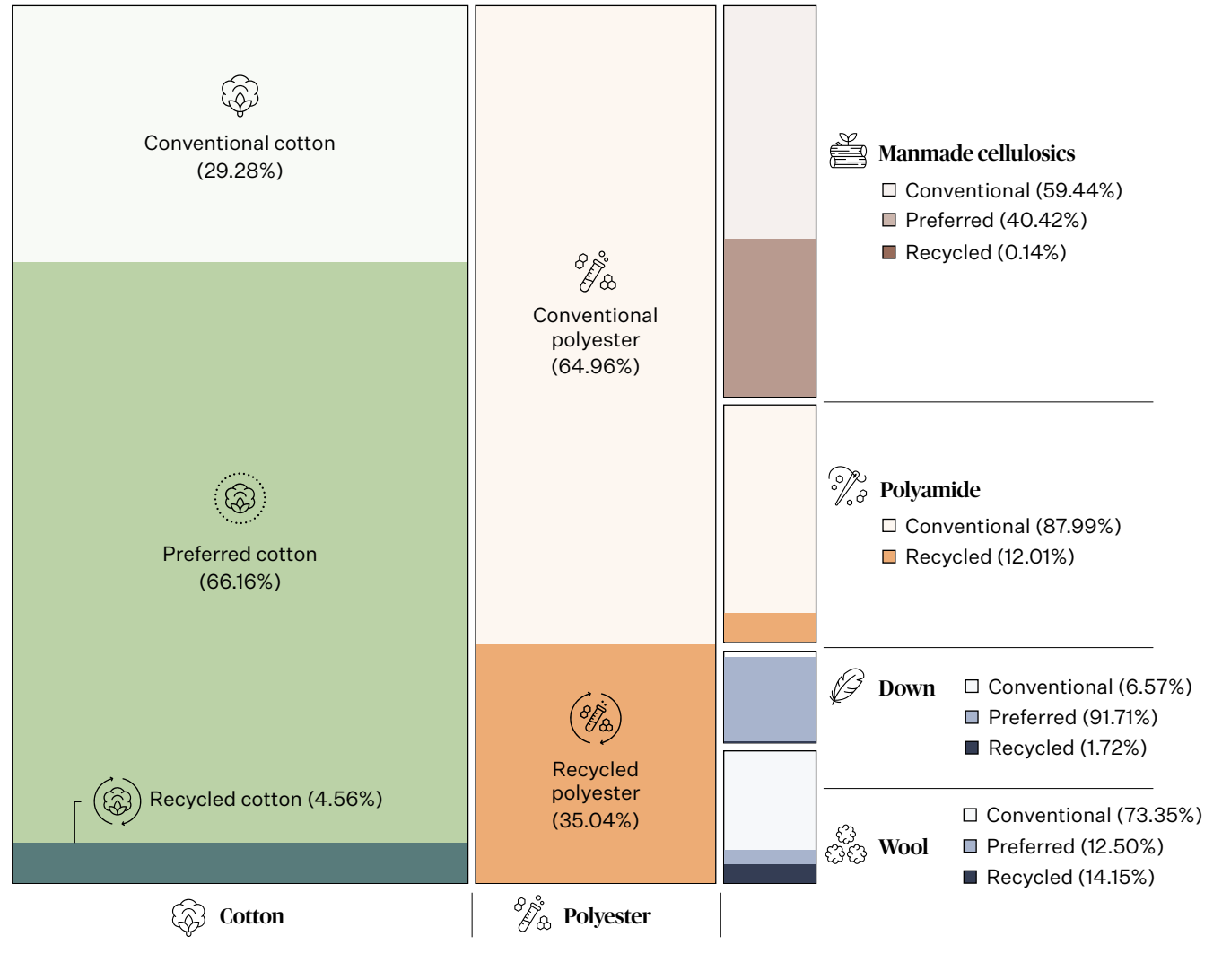
**Preferred materials now at 56%, recycled now represents one quarter of all preferred materials.**

Volumes are apportioned within each material category, including cotton, polyester, manmade cellulosic fibers (viscose, modal, lyocell), polyamide, wool, and down. Excluded are leather and “other” materials reported such as cashmere, natural rubber, acrylic, etc. The shaded areas show the comparative use of preferred, recycled, and conventional materials.

The total volume of materials sourced by Index participants in 2021 was approximately 6.2 million tonnes, 3.5 million of which were preferred and 2.7 million conventional.

Preferred materials, including renewable and recycled, climbed from 50% to 56% of materials reported (renewables 42% and recycled 14%).

For actual volumes of each material (by weight) please see details provided in each of the material portfolio sections of this report or the [Materials Impact Dashboard](#).



# Progress to Preferred

## Land under sustainability standards

### Modeling shows the land area required to produce land-based raw materials.

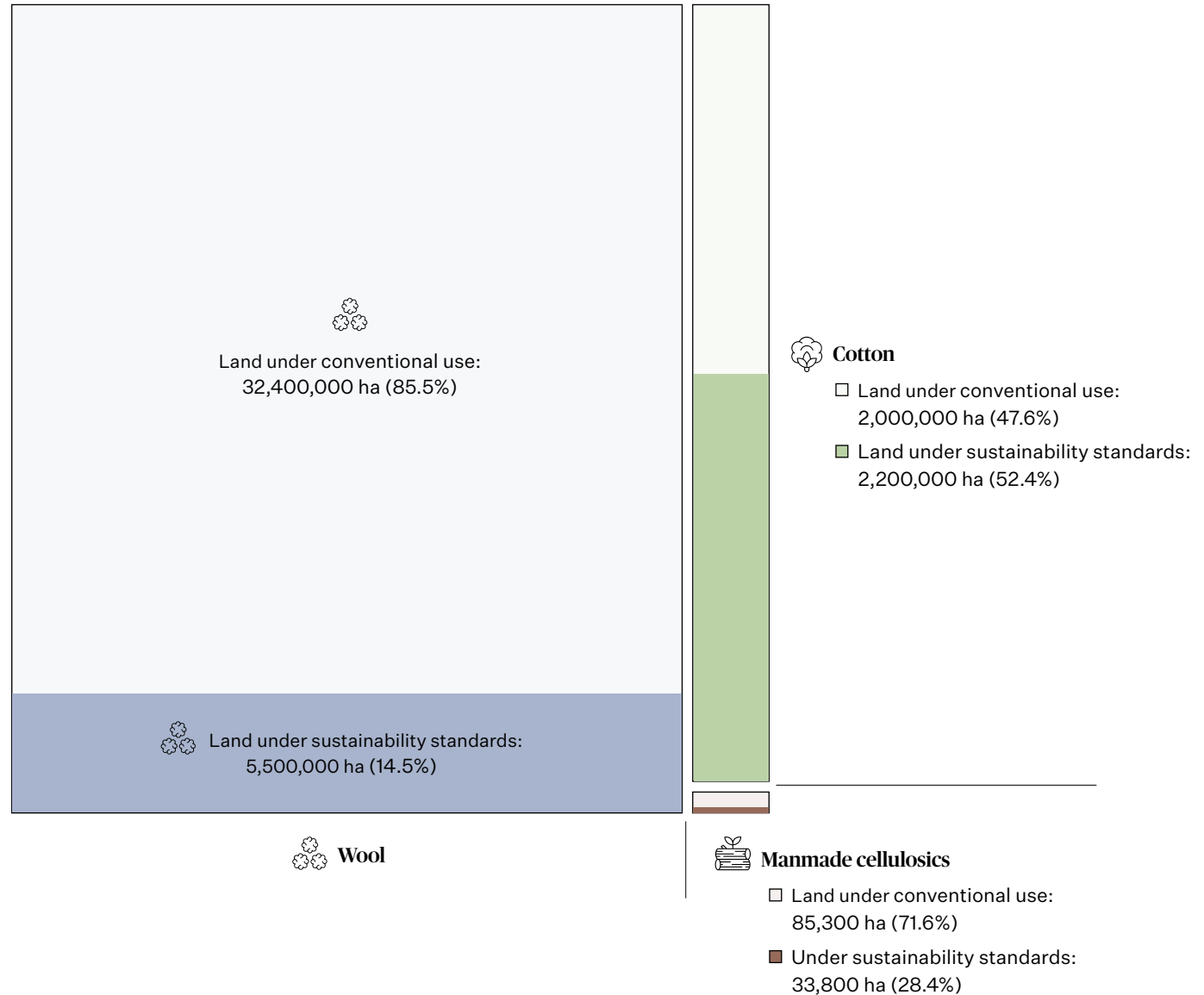
The chart shows the calculated hectares (ha) of crop, grazing and forested land associated with participants sourcing of three key raw materials: cotton, wool, and wood-based manmade cellulosics. Modeling shows the land area required to produce the volume of land-based raw materials is 42.2 million hectares, with 7.8 million hectares (18.3%) under sustainability standards.

Digging deeper, land under sheep grazing is by far the biggest surface area and, as a cohort, participants have some way to go in converting their wool to preferred (currently 14.5% of grazing land), and achieving the potential benefits associated with standards such as the Responsible Wool Standard and ZQ.

By contrast, the land area associated with cotton sustainability standards such as Better Cotton, Organic, CmiA and Fairtrade, is relatively high at 52.3%.

Third by volume and land area is MMCFs, where 28.3% of forest/plantation area is under sustainable forest standards, predominantly FSC and PEFC.

It is important to note that this is a modeling exercise only and based on data reported by companies through the MCI Materials Balance Sheet. Yields are averaged and no differentiation is made between conventional and preferred. All efforts are made to check the accuracy of the data provided. For further modeling details please visit the [Materials Impact Dashboard](#) and read our [Dashboard Guide](#) for details of our methodology.



# Progress to Preferred

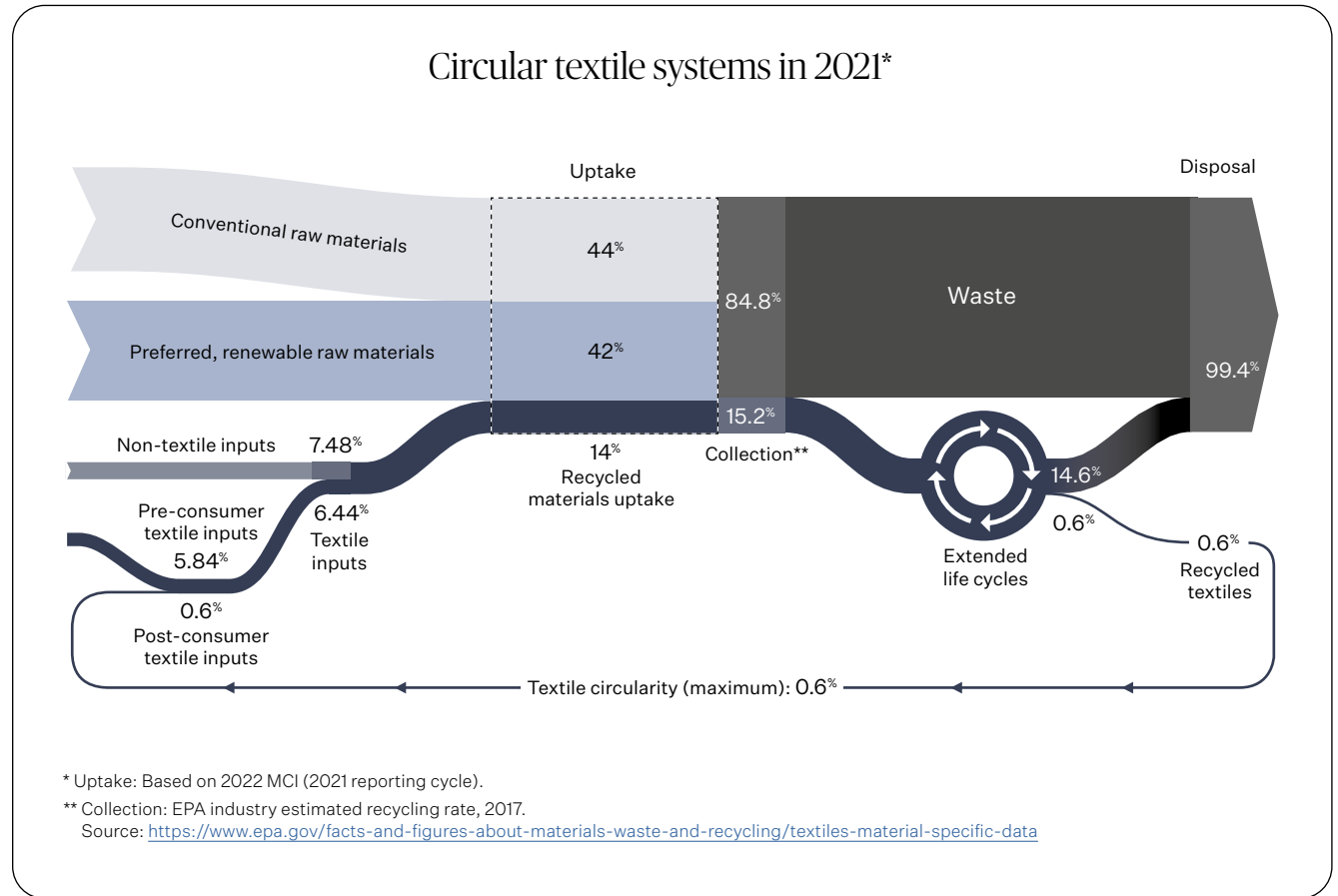
## From linear to circular use of materials

Modeling shows the flows of materials feedstock, including post-consumer textiles.

The Sankey modeling shows the breakdown of virgin materials (conventional and preferred) and recycled. Through the Sankey we model recycled content by non-textile and textile waste, and within the textile portion, the pre- and post-consumer textile recycled portion.

The post-consumer textile slice of recycled inputs is now 4%, moving up from 0.06% to 0.6% of overall materials use between 2018 and 2021.

A total of 37,153 tonnes of post-consumer textile waste converted back into industry feedstock was estimated from the data provided. While this represents an increase of 955% over the four years that we have been collecting this data, volumes of post-consumer recycled textile inputs are yet to make a real dent on recycled content, let alone materials use overall.





# Leaders' Circle

The MCI Leaders' Circle acknowledges companies that have made significant progress in one or more areas of the Index. The Leaders' Circle is a subset of the [Material Change Leaderboard](#) celebrating all participants creating material change. All listings are alphabetical and do not follow any ranking. Some companies listed are holding companies and will have reported on behalf of their subsidiary brands. Please see the [2022 Participant List](#) for full details of participating companies and their reporting scope.

## Overall leaders

54 companies reached a Level 4 (Leading) in the MCI this year, up from 47 last year, indicating leadership across the board from embedding strategy, expansion, and growth in use of preferred materials, alignment with the Global Goals, and actioning circularity agendas.

adidas AG	Ecofashion CORP	KALANI-home	Naturepedic Organic Mattresses & Bedding	Ralph Lauren Corporation
ARMEDANGELS	EILEEN FISHER, INC.	KappAhl Sverige AB	NIKE, Inc.	Reformation
ASICS	Esprit	Kathmandu Limited	Norrøna Sport	REGATTA GROUP
BESTSELLER A/S	Everlane	Kering	Nudie Jeans	Smartwool, a division of VF Outdoor, LLC
Boll & Branch	GANT	Knickey	Outerknown	Stanley/Stella S.A.
Burberry	Gap Inc.	Kuyichi Pure Goods	Patagonia	Stella McCartney
C&A	H&M Group	Levi Strauss & Co.	Piping Hot Australia Pty Ltd	Tchibo GmbH
Coop Group	Icebreaker, a division of VF Outdoor, LLC	Lindex	prAna	Timberland, a division of VF Outdoor, LLC
Cotonea	IKEA of Sweden AB	Madewell	PUMA SE	VARNER
Coyuchi, Inc.	Inditex	Mantis World Limited	PVH Corp.	Veja Fair Trade SARL
Deckers Brands	J. Crew	M&S		
Dedicated Sweden AB				

Through our commitment, pioneering efforts, strategic innovation, and “source to story” production model, Ecofashion Corp/METAwear’s B2B package, builds and manages transparent, authentic, affordable, and accountable supply chains.

Leveraging our RESET farming project’s certified regenerative, organic, and/or biodynamic cotton, along with our circular material and technology partners, we meet brands and retailers where they are.

By identifying their roadblocks and goals, we help to co-create and navigate the complexities of fiber procurement, supply chain costing and efficiencies, quality control, climate action, QR-code ESG traceability, and beyond. As part of our industry leadership to support solutions, we embed our costs into existing price targets, while mitigating risk, tackling international compliance and regulation standards, driving innovation and developing dynamic story-doing and communication strategies.

**Marci Zaroff,**  
Founder/CEO,  
Ecofashion Corp/METAwear

# Leaders' Circle

## Sustainable Development Goals leaders

These 22 companies reached a Level 4 (Leading) in the SDG Index, aligning their work in preferred materials with the Sustainable Development Goals.

ASICS	House of Baukjen	Kering	Smartwool, a division of VF Outdoor, LLC	Vans, a division of VF Outdoor, LL
Brooks Running	Icebreaker, a division of VF Outdoor, LLC	Kuyichi Pure Goods	Tchibo GmbH	
Burberry	Inditex	Levi Strauss & Co.	The North Face, a division of VF Outdoor, LLC	
C&A	JanSport, a division of VF Outdoor, LLC	Lojas Renner	Timberland, a division of VF Outdoor, LLC	
Deckers Brands	KALANI-home	Piping Hot Australia Pty Ltd		
Dickies, a division of VF Outdoor, LLC		PVH Corp.		

## Circularity leaders

These 10 companies reached a Level 4 (Leading) in circularity.

C&A	H&M Group	Levi Strauss & Co.	Mara Hoffman Inc.	Reformation
EILEEN FISHER, INC.	Inditex	Madewell	Patagonia	Smartwool, a division of VF Outdoor, LLC

This recognition reflects our commitment to developing more responsible fashion. We want to be an agent of transformation in the sector, working collaboratively with all the links in our production chain and developing more sustainable processes, products and services. For this reason, we are going to invest in the development of circular and regenerative textile raw materials and aim to ensure that 100% of our key raw materials are more sustainable by 2030.

**Eduardo Ferlauto,**  
Head of Sustainability,  
Lojas Renner S.A

Sourcing better materials is a key way we reduce emissions at Reformation. The Material Change Index is an important tool for benchmarking our progress and holding ourselves accountable along this journey. We look forward to continuing to work with Textile Exchange to raise the bar for ourselves and the industry.

**Kathleen Talbot,**  
Chief Sustainability Officer and Vice President of Operations,  
Reformation

# Leaders' Circle

## Big movers

These 10 companies made the greatest improvement in the Material Change Index from 2021 to 2022.

Aritzia LP	Everlane	Maaji	Roots	Totême
Burton	J. Crew	Madewell	Ted Baker	VOICE

## New entries

These 21 companies completed the Material Change Index full survey for the first time.

Aditya Birla Fashion and Retail Ltd (ABFRL)	Frilufts Retail AB	Marc Cain GmbH	REGATTA GROUP	Underworks
Berghaus	House of Baukjen	Mulberry	Target Corporation	Vestiaire Collective
Cotonea	J-WEAR by Jalin Design	ocean+main	Trendsetter Home Furnishings	<i>+4 undisclosed companies</i>
	Konsciouskind	Ralph Lauren Corporation	Under The Canopy	

At Maaji, we are motivated by a vision of social well-being and a healthy planet for all its inhabitants. Participating in the Textile Exchange Material Change Index has allowed us to keep learning from leading companies in the industry and ask ourselves difficult questions that push us forward. We feel proud to achieve the “Big movers” table this year but are also inspired to make more progress towards expanding our use of preferred materials.

**Andrea Uribe,**  
Sustainability,  
Maaji

At Aditya Birla Fashion and Retail Limited, our commitment towards sustainability involves the incorporation of materials such as BCI cotton, organic cotton, linen, and recycled materials into our product range. We are also actively exploring other sustainable and alternative materials and innovative solutions through collaborative programs like the GIZ/ABFRL developePPP project and the Circular Apparel Innovation Factory.

**Dr. Naresh Tyagi,**  
Chief Sustainability Officer,  
Aditya Birla Fashion and Retail Ltd (ABFRL)

# Leaders' Circle

## MCI Suppliers Pilot

These 37 companies are pioneers, piloting the MCI for suppliers and manufacturers.

APRIL	Pratibha Syntex
Armstrong Mills	Punarbhabaa Sustainable Products (PSP India)
Asahi KASEI Bemberg	Sapphire Textile Mills Limited
Asia Pacific Rayon (APR)	SAPPI
Birla Cellulose, India	Scheffer
Bonaveri	Sodra
Crescent Textile Mills Limited (Crestex)	Sulochana
Eastman	Sustainable Down Source
Elevate Textiles	TCE Corporation
Interloop Limited	The Schneider Group
ISKO	UMDASCH THE STORE MAKERS
ITOCHU Corporation	UPW
Lenzing	Usha Yarns Limited
Manteco SpA	Westpoint Home
Montloup	World Textile Sourcing (WTS)
Noabrands	YKK
Orimpex Textiles	ZXY International
Paradise (Alpine Creations)	
Pidigi	+1 undisclosed supplier

We at ISKO have been diligently transitioning from traditional virgin fibers, focusing our efforts on research and investing in advanced technologies. As a result, we are now making fabrics composed entirely of recycled and regenerated materials that ensure both durability and performance. By making fashion recyclable, we empower consumers to contribute to waste reduction and promote a new era of value, keeping landfills free of unnecessary waste and fostering a more sustainable future for the textile industry.

**Mr. Fatih Konukoglu,**  
CEO,  
ISKO

At Punarbhabaa, we mainly focus on using organic fibers and recycled polyester. We have used 76% of recycled polyester in our total polyester consumption in 2023 and have the goal to use more than 90% recycled polyester within 2024. Though Textile Exchange's benchmarking community, we are stimulated to use more sustainable materials in production and we hope it leads us to a better environment in our future.

**Mr. Sakthivel,**  
Managing Director,  
Punarbhabaa Sustainable Products (PSP India)

Bemberg™ is a unique material within the MMCF group in terms of raw materials and production methods. While its production volume is not large, we are proud to have been included in the Leaders' Circle. We believe that the inclusion of a small but unique material is a clear indication of MCI's diversity and an inspiration to other small and medium-sized fiber and textile manufacturers.

**Shunsuke Sato,**  
Assistant Dept. Manager,  
Asahi Kasei Bemberg

# Special Insight

## A just transition

### What is meant by a “just” transition?

A need for a just transition gained intergovernmental acceptance in the 2015 Paris Climate Agreement, and although the concept is now widely used, there is no universally accepted definition. The International Labor Organization (ILO) has defined *just transition* as “greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.” While everyone is either already feeling, or will feel, the impacts of climate change, the poorest communities across the world are often politically, socially, and economically marginalized and living on the most fragile land, making them especially vulnerable.

According to the World Bank, between 32 and 132 million people could be pushed into poverty by climate change by 2030. Working toward a just transition consistently highlights the need for a more inclusive and participatory strategic approach, placing workers and communities within decision-making and planning structures to address their climate vulnerabilities.

### How does the just transition translate from energy to materials?

The principles of a just transition are as relevant for the sourcing of raw materials used by the fashion, textile, and apparel industry, as they are to the greening of the energy sector. A just transition can generate new, decent jobs, and support the eradication of poverty. It has the ability to create a new, inclusive way of working, where

strong social dialogue and democratic consultation of rightsholders in our supply chains become the norm. [The UN Working Group on Business and Human Rights](#) see businesses’ respect for human rights as a core element of just transition and sustainable development strategies, by applying the three pillars of the UN Guiding Principles. Human rights due diligence processes provide a meaningful step to assess the implications associated with just transition processes. As legislation continues to develop globally on human rights due diligence requirements, the need for businesses across all industries to implement these approaches is becoming more pressing.

Shifrah Jacobs, Chief Impact Officer, Plastics for Change, says: “Globally, there are around 15 million informal waste workers who are the backbone of the recycling system in emerging economies. This translates to 58% of all plastic collected coming from the informal sector in emerging economies. In Southeast Asia, 95% of recycled PET is collected by informal waste workers. These individuals have significant barriers to formal employment, lack social safety nets, are vulnerable to exploitation, human rights abuses, and lack a fair consistent income opportunity.

When it comes to a materials transition, waste collectors are integral to the circular economy. They are removing pollution from the environment as well as providing feedstock to replace virgin materials. A just transition must consider waste workers as core stakeholders in the supply chain and in creating the world we want.”



# Special Insight

## How is this expanded view of a just transition taking shape for companies?

At a company level, just transition strategies must be integrated with business forward planning on climate change. We are seeing the impacts of climate change in the news on an almost daily basis, and as companies seek to mitigate and tackle climate-related issues, they need to ensure these transitions are considered and inclusive to have beneficial outcomes for people and nature, as well as the climate.

[The Institute for Human Rights and Business](#) (IHRB) states that “Deliberate inclusivity and meaningful engagement should be part of all transition plans, processes, and outcomes in order to achieve bottom-up support for the necessary disruptions to come. Both risk prevention and opportunity maximization are dependent on building accountability to, and ensuring the agency of, potentially affected groups in transition planning and decision making.”

## What should companies be thinking about when it comes to materials portfolios and their transition planning?

As our industry re-shapes its production systems to meet our Climate+ goal of a 45% reduction in greenhouse gas emissions by 2030 while driving beneficial outcomes on soil, water, and biodiversity, companies’ strategies must address unequal power dynamics throughout the supply chain. Building truly regenerative systems for agriculture and waste recycling are key to achieving a just transition in fiber and material sourcing.

Highlighted in Textile Exchange’s [Regenerative Agriculture Landscape Report](#), advocates call for an acknowledgement of the Indigenous roots of regenerative agriculture and of past and current social injustice to be central to future work.

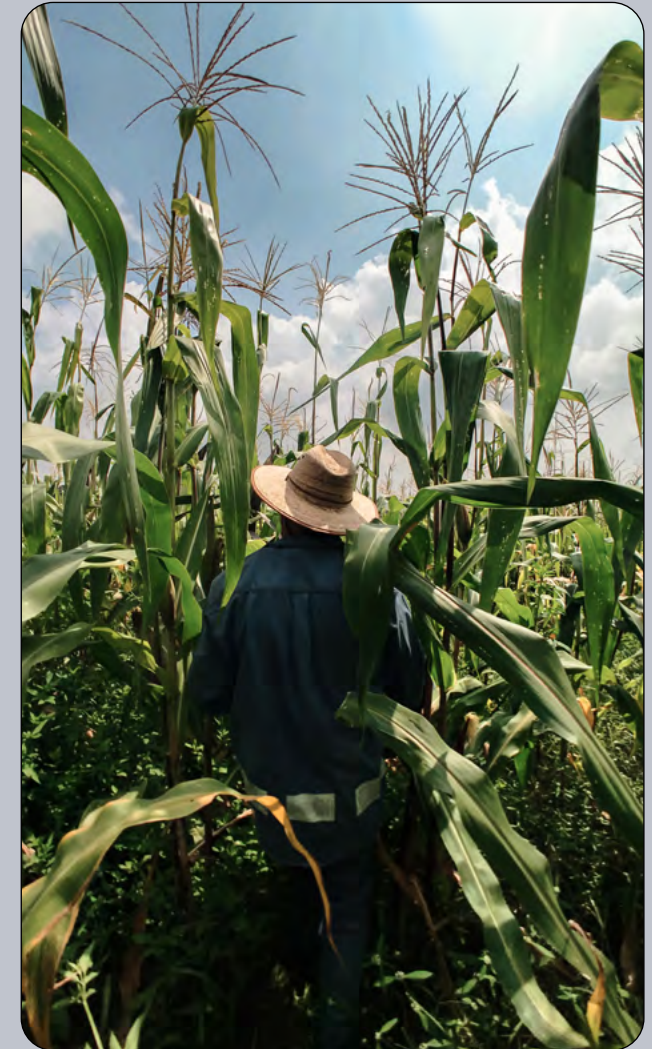
Kelsey Scott of Intertribal Agriculture Council and DX Beef, a fourth-generation tribal rancher from the Cheyenne Sioux River Nation in the U.S. says, “If the humans in the system are not getting healthier, we are not truly regenerative. And that’s not just the producers, but the community also. For me that always means the Indigenous community who owned and managed the land — and ‘owned and managed’ for us is a kinship term.”

### Further resources on a just transition:

ILO: [Frequently Asked Questions on just transition](#)

IHRB: [Just Transitions Resources](#)

ITUC: [Just Transition Centre - Just Transition A Report for the OECD](#)



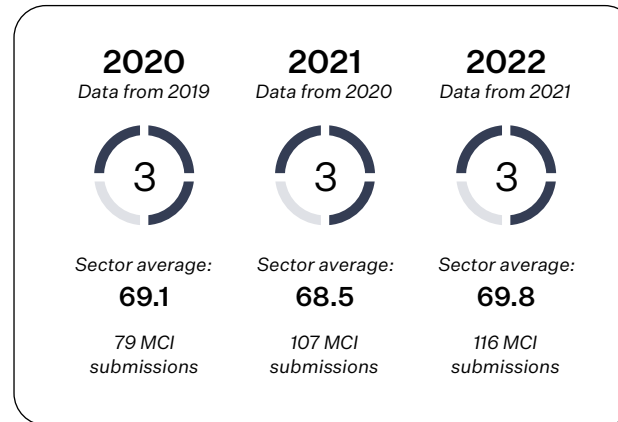
# About the Results

This part of the report takes a dive into the Material Change Index (MCI) 2022 results covering the previous 12 months, either calendar or financial year.

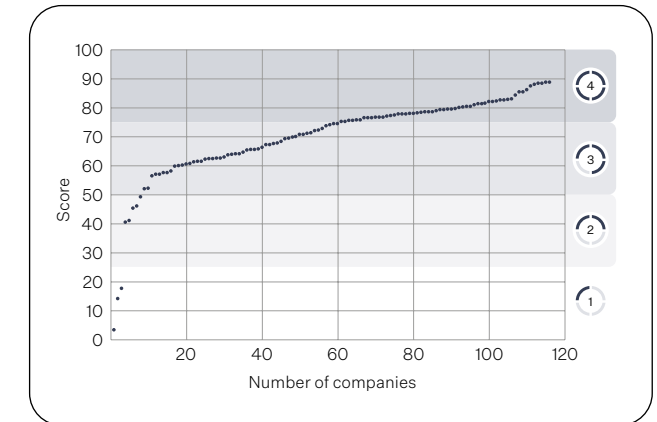
This year, alongside the usual analysis, we have, in places, included four-year MCI trends to provide a sense of where progress has been made and where there is room for improvement and a need to put in more effort. Although the benchmark program has been running for eight years (including the pilot year), this is only the fourth year of publishing the [Material Change Index](#) in the public domain.

As you read the results, keep in mind that the cohort of companies changes annually. There are more companies joining each year and occasionally a company may take a break or leave. As new companies join, this affects comparability from year to year. The way we explain this is to think about the Index average as being a yardstick, but the Index itself is in constant flux – as more companies join, our results become more reflective of the industry. If we follow the [Process of Change principles](#), the Index reflects the innovators, early adopters, and possibly the early majority (but not yet the late majority or laggards/resistors). Also note that survey submissions may cover one company or multiple numbers of its subsidiaries. For more information, see our Frequently Asked Questions in the Fundamentals section.

## Participant profile



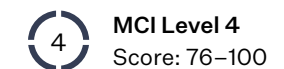
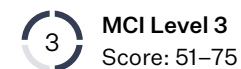
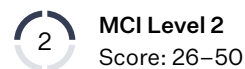
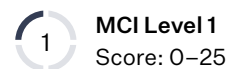
## Distribution of MCI scores



### Material Change Index average jumps a point but remains in the Level 3 banding.

Our results show that the Index average has moved from 59.3 to 69.8 out of a possible 100 points over four years, while participation in the MCI (full survey) has grown from 74 to 116.

To qualify for the full MCI, companies must complete business integration modules on strategy and circularity, and modules for their priority materials (from the portfolio of options). Full MCI participant numbers have now reached 116, a growth of 8% over the year before. The remaining participants completed individual modules or the progress tracker. The Index average has remained relatively stable at Level 3 (Maturing), despite participant growth. The chart on the right shows the distribution of scores for the 116 MCI entries in 2022. See [our methodology](#) for further details of the MCI scoring.

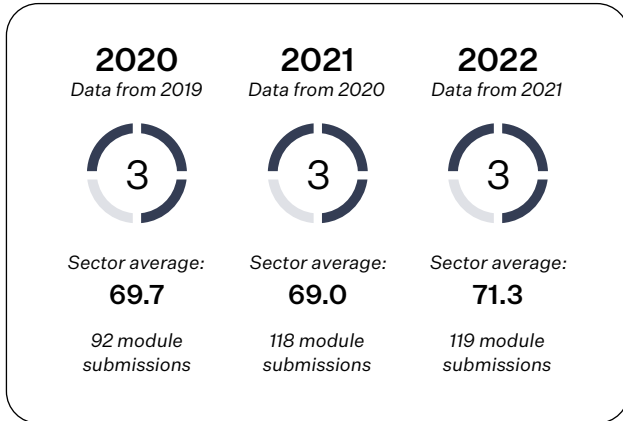


# Business Integration





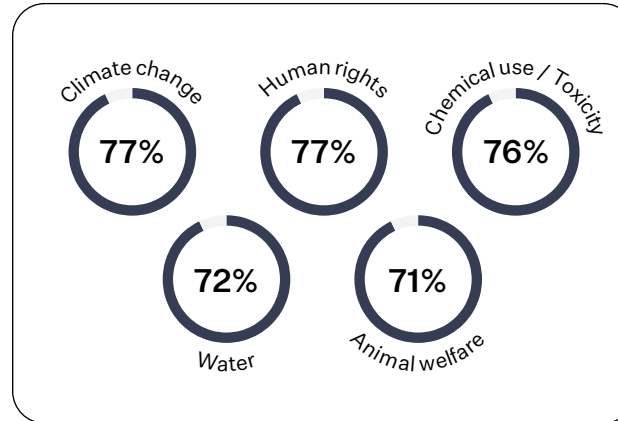
## Participant profile



Performance in strategy continues to improve, remaining in the Level 3 quarter but now climbing a few percentile points, with the Index score now averaging 71.3.

The score for Strategy is derived from a company's response to questions on Strategy Integration, Leadership, Internal Engagement, Materiality, Customer Engagement, and Reporting. Strategies include longer term goals, responsibilities, timelines, and resource allocation. A materials strategy provides a framework to identify risks to supply, focus investment, and drive sustainability performance. Engaging with a diverse range of stakeholders ensures risks and opportunities are not overlooked.

## Top ranked business risks



Climate Change, Human Rights, and Chemical Toxicity continue to dominate the corporate risk agenda.

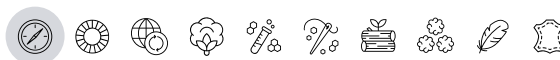
The top ranked business risks mirror the themes driving business today, including due diligence, reputation, and regulation. We are seeing more consideration of the integration of social and environmental issues, and consequently more consideration of the need to solve for both together rather than separating them out into silos. Attention to this tight relationship between social and environmental challenges was further cemented in July 2022, when the [United Nations General Assembly](#) declared that everyone on the planet has a right to a healthy environment.

## Climate and deforestation-free targets



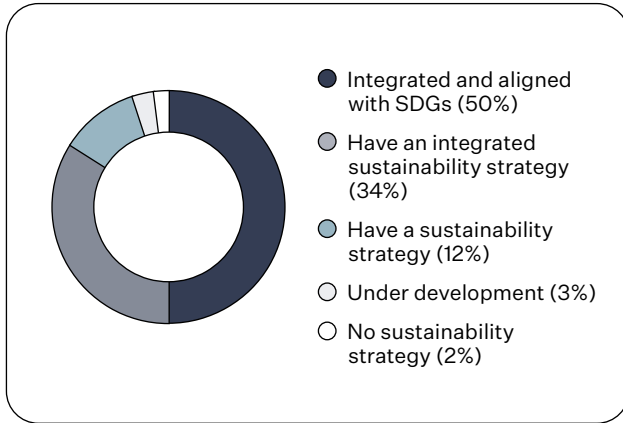
MCI companies step out boldly on climate and forestry commitments.

55% of companies have a commitment to set or have set a science-based target for climate, and 56% have a commitment to set or have set a target for eliminating deforestation from supply chains. Land-based greenhouse gas emissions reduction and eliminating deforestation or conversion of natural ecosystems go hand in hand. More tools and guidance to help companies focus efforts here have only recently become available. For example, the launch of the Greenhouse Gas Protocol's [Land Sector and Removals Guidance](#), and Science-Based Targets initiative's [Forest, Land and Agriculture Guidance](#) (FLAG) alongside the Accountability Framework [12 Core Principles](#), and Science Based Targets Network [Land Science-Based Targets](#) focusing on the protection and restoration of ecosystems (under development).





## Materials strategy



### Half of all participants have aligned their materials strategy with the Sustainable Development Goals.

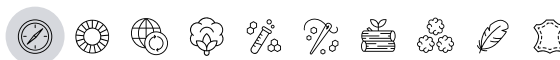
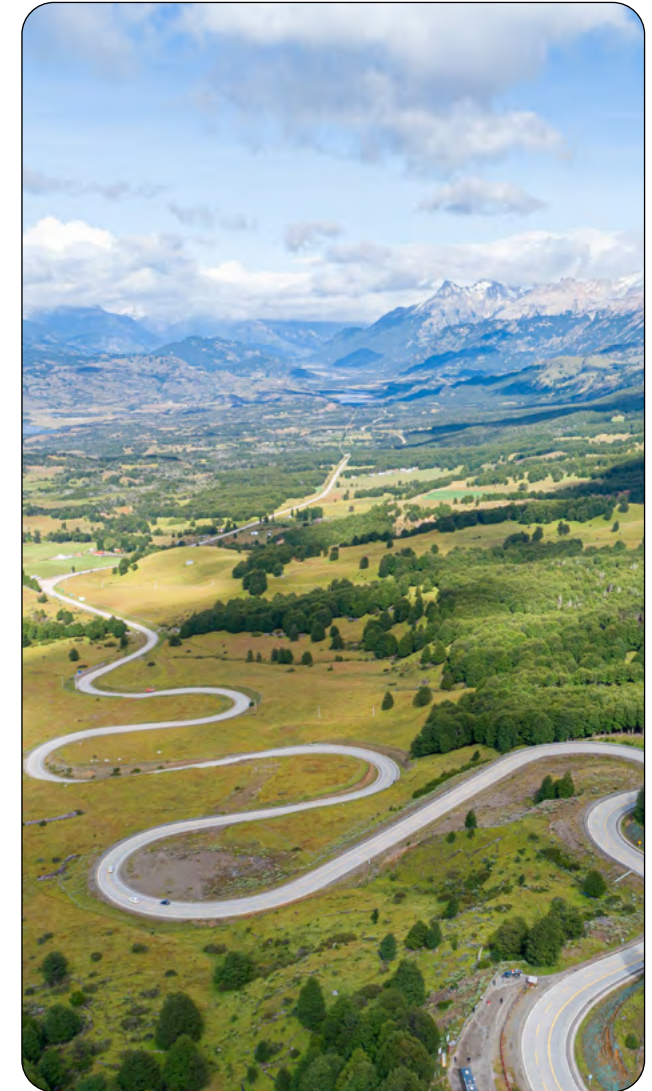
Nearly all respondents have a materials strategy, and progress has been made integrating this into the overall corporate strategy. Alignment with the Sustainable Development Goals (SDGs) has reached 50% but increased only by 1% over last year. Evidence suggests that while some companies are working hard to ladder-up strategically to the SDGs, others are not finding (or prioritizing) an SDG alignment, even when the company believes their company ethos is aligned.

## Global commitments and initiatives



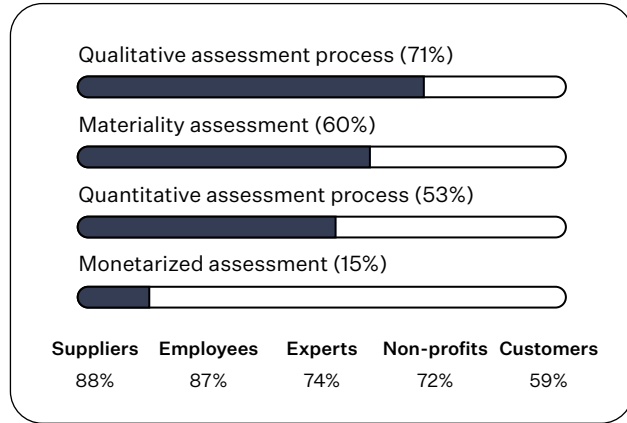
### Companies are joining forces for climate, nature, and a circular economy.

Companies are joining sector specific as well as broader or cross sectoral networks in response to the urgency for action and the repeated call for collaboration. Climate commitments feature strongly through the Science Based Target initiative and the UNFCCC Fashion for Climate, as do commitments to responsible business and circularity through engagement with the UN Global Compact and the Ellen MacArthur Foundation. Awareness of the interconnectivity of climate and nature is growing, and initiatives, such as the Fashion Pact, are helping to consolidate efforts.





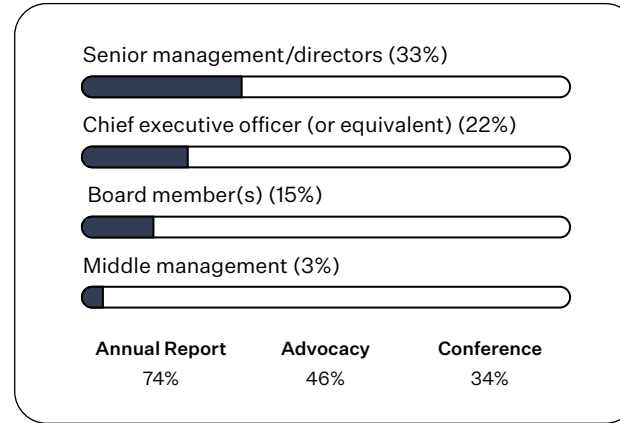
## Materiality



**Materiality assessments are usually qualitative but watch this space.**

Corporate materiality assessments overall tend to be more qualitative than quantitative, with key stakeholders such as suppliers, employees, and NGOs most likely involved in the assessment and prioritization of risks and opportunities. The accountability bar is rising and proving due diligence in the supply chain is a growing expectation. Corporate disclosure based on materiality will sharpen in its importance, and that includes double materiality, which is a company’s impact on environment and society, as well as the risk environmental and societal pressures and changes place on the company. See our [Insight on Accountability](#).

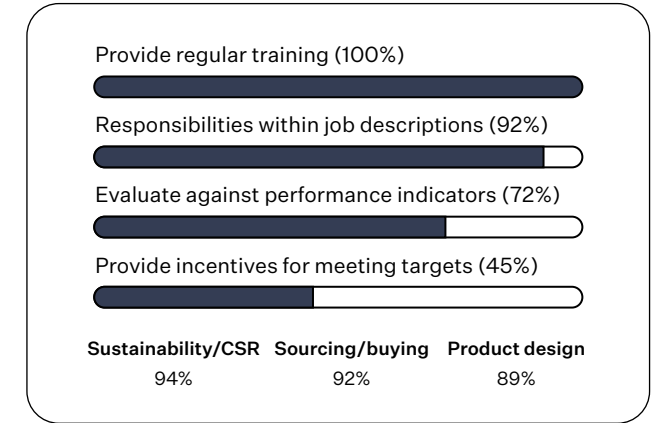
## Leadership



**Leadership teams rightly hold accountability for materials sustainability.**

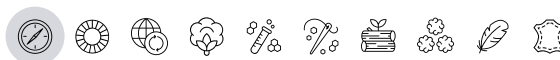
The CEO and other leadership team representatives (46%) are most likely to hold accountability for a company’s materials strategy. Very few companies reported to have not formalized a structure for accountability to be held. More and more CEOs are including action for raw materials in their annual reports or equivalent publications (74% up from 42% over four years).

## Internal engagement



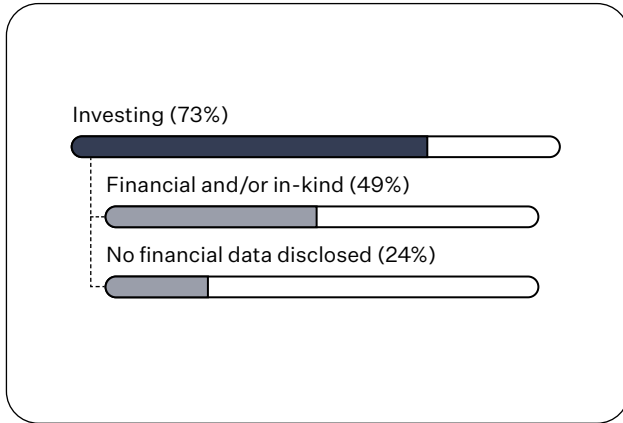
**It’s unanimous – everyone in the company must play a role in sustainability.**

For the first time ever, all participants are receiving some level of training on raw materials. Mainstreaming is across the board, with most participating companies embedding responsibilities for raw materials sustainability into relevant job descriptions, setting and measuring performance against targets, and – while making slow progress on other areas of internal engagement – companies are increasingly including incentives or rewards for meeting objectives. It is important to note that incentives and rewards will range from merits and recognition through to “prizes,” bonuses, and other monetary rewards systems.





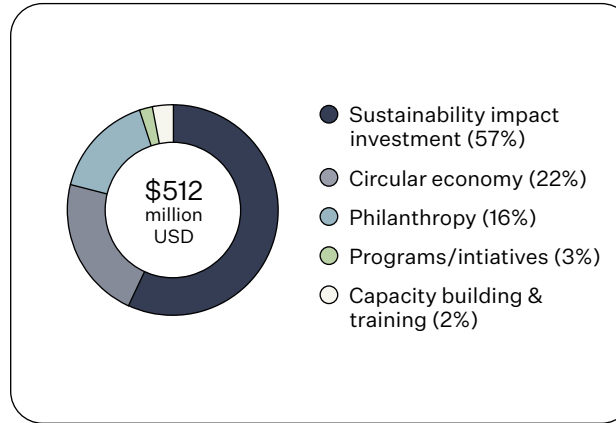
## Investment in raw materials



### Three-quarters of companies are investing in raw materials innovation and sustainability.

73% of companies responded positively to making investments in materials and associated sustainability activities, and a smaller sub-set (49%) provided investment figures. From the data disclosed, we could estimate financial and in-kind contributions to be US \$512 million (obviously an under-estimate based on limited disclosure of financials), but still indicative and allowed for some insight into where companies were allocating their finances. Majority of spend reported was through direct financial channels, with 14% attributed to in-kind spending.

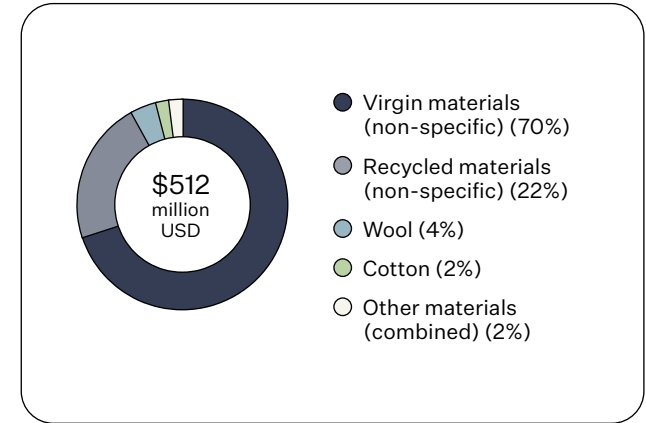
## Share of spend by financial instrument



### Real money is going into impact investing.

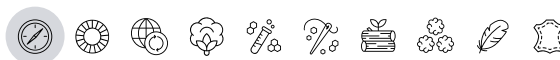
By far the biggest allocation of finances, 57% (\$292 million) of the total reported spend was going into impact investing, including sustainability bonds and carbon credits. This was followed by some large-scale investment (\$113 million) into the circular economy, including collection systems, innovative recycled materials, and technology. Philanthropic spend at \$82 million reflected corporate contributions to important fledgling programs such as conversion to organic or regenerative agriculture. The remaining share (5%) is split between company-led projects, training and capacity building.

## Share of spend by category



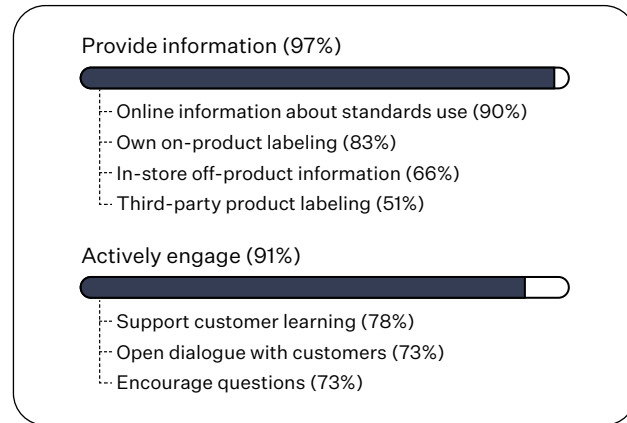
### Majority of spend not specific to one material.

From the data provided, it was evident that companies were not prioritizing one material over another. For instance, impact investing in regenerative agriculture was possibly linked to geography and jurisdictions rather than to specific commodities such as cotton or wool or leather. 8% of spend only was specifically channeled into wool, cotton, cashmere, rubber. Spend on recycled materials included investing in the infrastructure to collect and sort waste as well as the recycling capability.





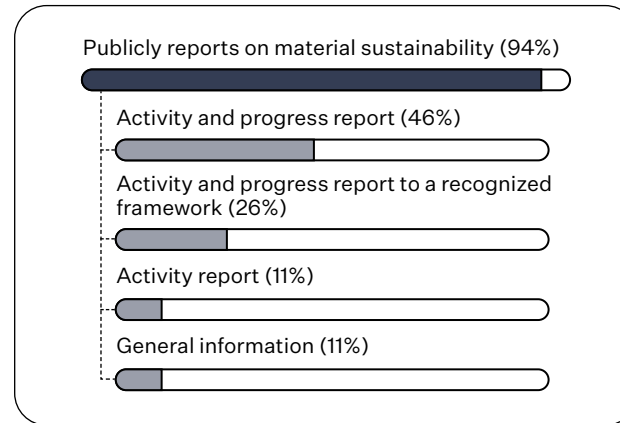
## Customer engagement



### Brands are stepping up – and working differently – on customer communications.

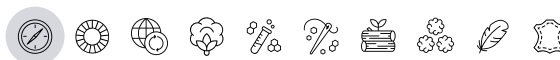
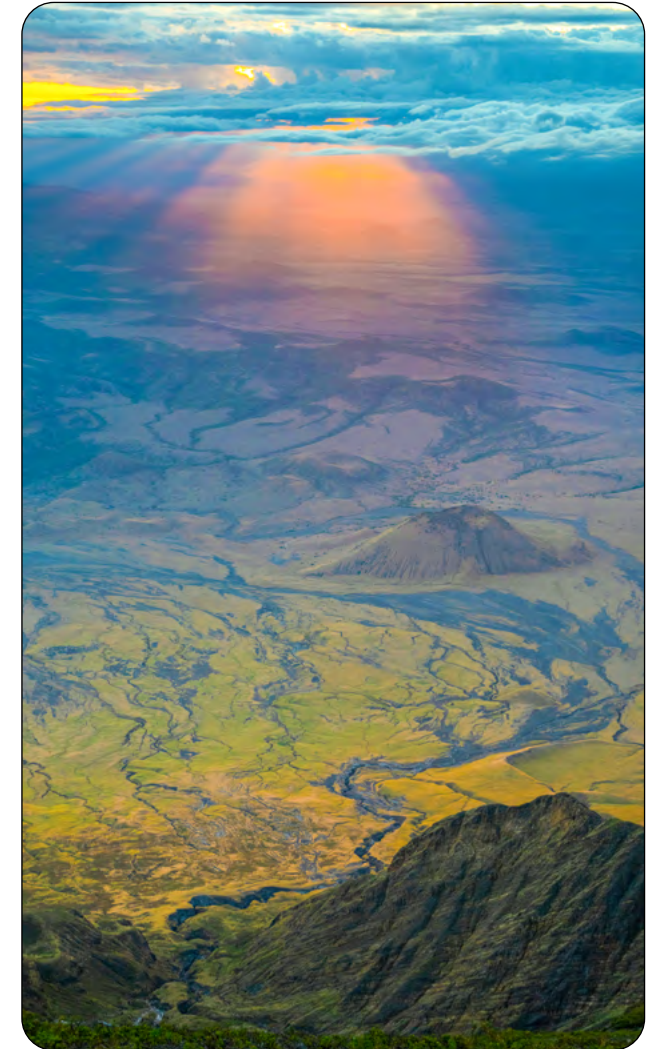
Labeling a product as certified or claiming more sustainable credentials has been common practice, at least for some companies, for a while now – although they are more likely to use their own labels rather than third-party logos and labels. What’s more interesting is the rise in active customer engagement and communications about product sustainability from education to open dialogue and responding to customers’ questions. What makes this even more interesting is that we are in a time of both “green hushing” as well as “greenwashing” as regulations on what can and cannot be said interact with the growth in consumer interest in sustainability. Another area to watch.

## Public reporting



### Disclosure is on the horizon but it’s a waiting game.

Communication is key, but only if it is credible. We are watching with interest as the various reporting and disclosure standards reorganize under the International Sustainability Standards Board (ISSB). Country-level directives and reporting requirements are either around the corner or in play now, such as the European Union’s [Corporate Sustainability Reporting Directive](#) (CSRD) and [Deforestation Regulation](#) (EUDR). Observers such as the Sustainable Apparel Coalition say companies are ill-equipped to cope with increased demands, particularly for supply chain transparency. For now, Index results show corporate reporting is mostly ad hoc with only a quarter of participants reporting to a recognized framework such as the Global Reporting Initiative (GRI), but we know that behind-the-scenes companies are preparing for stricter requirements.





## Konsciouskind

Konsciouskind is a small clothing brand that started in 2021, but this hasn't stopped it from prioritizing principles of sustainability from day one. We spoke with Eiki Homma, the brand's founder and CEO, about the challenges and lessons to be learned from championing sustainable fashion at a small scale.

### What is “sustainable fashion” to you and how do you see it evolving over the next few years?

Sustainable fashion means producing in a way that doesn't compromise our planet or its people. We believe this is a necessary shift, and we're not the only ones. Consumers recognize this need to move away from convention too. They're ever more aware of their impacts, and this inevitably alters their shopping habits. As with all industries, demand drives offer – so this means more companies will adopt more sustainable practices.

We also think sustainable fashion will become the norm rather than the exception. We expect to see more legislation for the wider industry, with stringent requirements making it difficult for companies to avoid sustainable practices. These requirements may include prescriptive carbon targets and minimum levels of circularity, as well as transparency and traceability to verify these.

### What are the biggest challenges and opportunities of an on-demand business model?

The biggest challenge is consumer expectations. Most are used to the “right here, right now” high street shopping

model. For online shopping, it's a “buy now, get it tomorrow” expectation. Our on-demand approach means longer delivery times, and that sometimes tips the scales in favor of mass production models. However, our approach to producing less waste means less carbon emissions, raw material usage, pollution, and habitat destruction.

### What's your advice for small companies looking to implement sustainable principles into their business strategy?

Konsciouskind is a small company, and we embraced sustainability principles from day one, starting with small, achievable steps.

To build a robust foundation for your business, it's important to fully understand why the industry needs to change, develop a culture with values of sustainability at its core, and collaborate with like-minded organizations.

As you grow, carry out a more in-depth audit. Are there any opaque steps in your supply chain? Are there any high-impact areas that need improving? Choosing organic, recycled, and recyclable materials should always be a priority, as should fair labor.

### Mobilizing resources and investing in improved raw material sourcing can be a challenge. What is Konsciouskind's approach?

Since organic, recycled, and recyclable options are nearly always more expensive, this puts pressure on profit margins. Companies must choose between a transparent, sustainable material supply or higher profit margins. Improving raw material sourcing also takes a great deal of

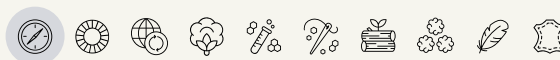
research, testing, and decision-making. At Konsciouskind, we chose early on to only source certified materials, and credentials like Textile Exchange's Organic Content Standard enable us to do this.

We expect to see more legislation for the wider industry, with stringent requirements making it difficult for companies to avoid sustainable practices.

### With your first year of benchmarking, what were the biggest hurdles and benefits for your company?

Benchmarking helped us rethink the way we measure our progress. Our main hurdle was collecting all the data on a retrospective basis, which required collaboration with our suppliers to ensure accuracy. To companies starting out, we'd recommend committing to consistent data collection from the beginning.

For us, key takeaways included adopting a more systemic approach to tracking our material usage, the need to further define our policies towards biodiversity, deforestation, and the UN's Sustainable Development Goals, as well as a focus on improving circularity.





## Investment in raw materials

**Finances are being channeled through new investment models.**

This means that on-the-ground projects, such as in-conversion to organic cotton and regenerative agriculture for wool are not only being financed and de-risked for farmers and growers, but impacts are also being accounted for as part of the investment mechanism. If done well, impact investing (from green bonds to the [Leather Impact Accelerator](#)) that is linked to outcomes can help improve collaboration between investor and investee, ultimately embedding transparency and financial accountability.

“We’re investing in regenerative cotton projects, specifically funding agroforestry in cotton fields in India and Tanzania as part of our tree planting efforts.”

**Investments are going towards circularity-related technology and innovation.**

The risk-aversity that has hindered investment into circular materials and technologies may finally be waning. Early-stage investment has been slow but is now accelerating and is vital to getting the industry to the point where mainstreaming can happen. The demand is increasing for materials innovation, technology, and systems to collect, convert, and scale waste materials into feedstock.

“We’re channeling investment into circular technology and partnerships to facilitate 45% of all our products to be circular by 2030.”

**Philanthropic spending connects people to the cause and can be lifesaving.**

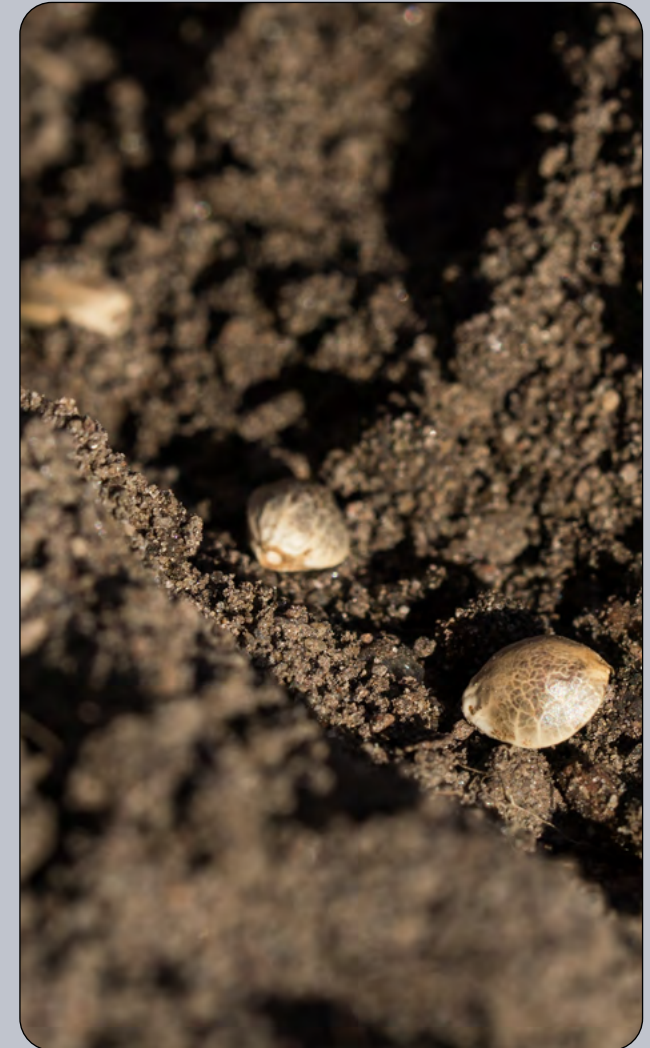
While most companies want to see a direct business benefit and a return on investment, we need to pull out all stops to ensure financial flows are getting to where they are needed. Arguably, philanthropic spend helps by tapping into personal as well as corporate connections. As the world gets more climatically unstable, philanthropy will be needed to help with swift response rates.

“We helped our suppliers and communities through the regional flood crisis.”

**Corporate financing helps de-risk for producers.**

This one is important, especially if it connects shorter-term financial opportunities (for producers) to longer-term business continuity. Pre-financing can help producers get over challenges with financial flows or the availability of inputs like seed at critical moments. Everyone benefits if the result is a reliable product, produced to specification and on time for when it’s needed by the customer.

“Together with our supplier in India, we provide pre-financing for our cotton farmers, so we share the risks of cotton production.”





## Driving corporate accountability

**Accountability is the act of holding companies responsible for their impact. It implies that a company is willing to be judged on its performance.**

Market-based solutions to societal crisis through self-regulation cannot work without guardrails. The landscape of rules (sticks) and incentives (carrots) that help steer the market is changing rapidly. With the right approach, new accountability measures could help companies redefine success, and avoid greenwashing along the way.

The logic is that corporate disclosure leads to greater accountability. The transparency created by disclosure enables companies to communicate risk (and opportunity), declare goals and mobilize resources, and it allows for greater stakeholder engagement and participation. This enabling environment applies to textiles as much as any other sector. We are already seeing the call for transparency on country of origin, particularly in the sourcing of high-risk materials.

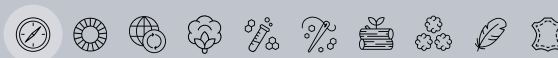
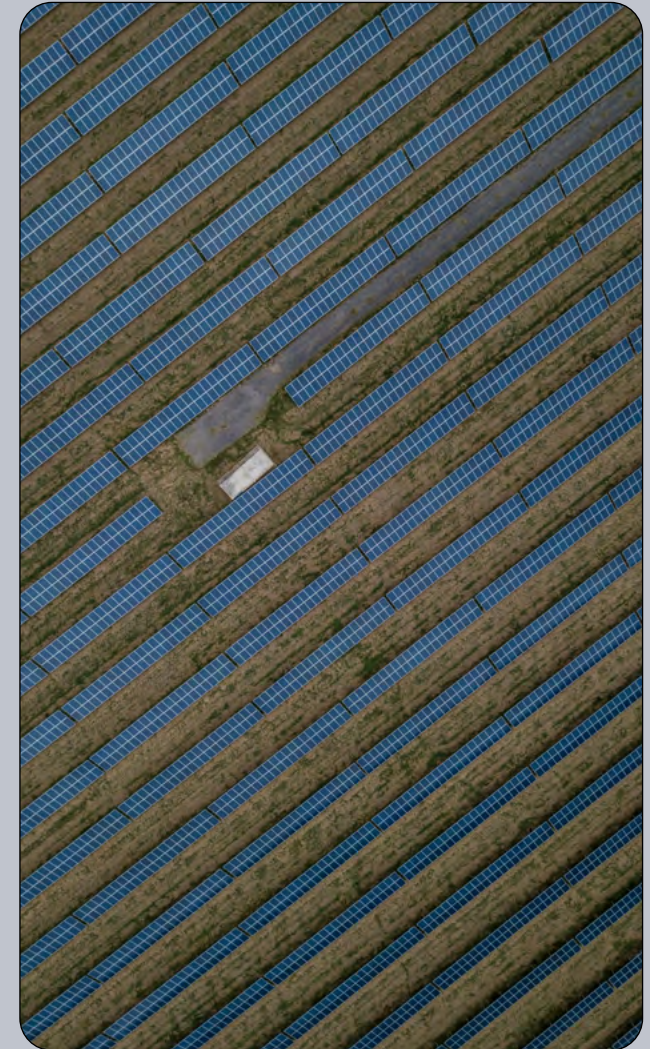
Over the past several years, the development of reporting standards and directives has rapidly accelerated. For instance, the [International Sustainability Standards Board](#) (ISSB) is driving much-needed consolidation and improvements to reporting that meets capital market needs; The European Union's [Corporate Sustainability Reporting Directive](#) (CSRD) raises the status of sustainability reporting to that of financial reporting; the [Global Reporting Initiative](#) (GRI) is constantly reviewing and revising its suite of standards to remain a reporting solutions provider for multiple stakeholders on impact;

and the [Taskforce on Nature-related Financial Disclosures](#) (TNFD), is creating a reporting framework for nature in the same way that the TCFD did for climate. There's a sea of change.

At the Textile Exchange conference in 2022, delegates rated "Channeling investment and resources to the right place" as the biggest benefit of increasing accountability and disclosure (59% of responses) with "Leveling the playing field in the market" second at 23%, and "Driving strategy" third at 12%.

Industry observers such as financial institutions, governments, and regulators are clear on what is needed. Their advice to companies is to be forthcoming with information and be transparent and open. As sustainability reporting becomes more and more scrutinized, engagement with stakeholders (including shareholders, asset owners, investors, customers, and communities), will be essential to building trust.

Felipe Arango, Pilots Lead at the TNFD, alerts us to the urgency to act and set deadlines, "We need to start from the assumption that business models need to evolve. The truth is that they have failed us in many respects. There is urgency to connect ambition to measurements and to delivery dates. My advice to companies is to get strict with your timelines and disclosure on how you are doing. Benchmarking helps here. We also need to channel financial flows more quickly to new business models that drive the right kind of action, to incentivize and accelerate the transformation."

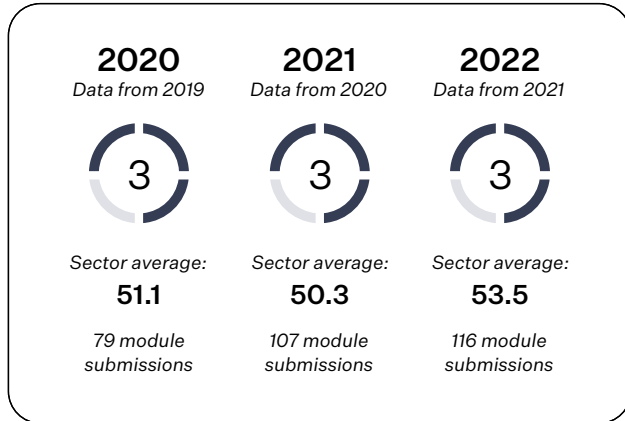




# Sustainable Development Goals



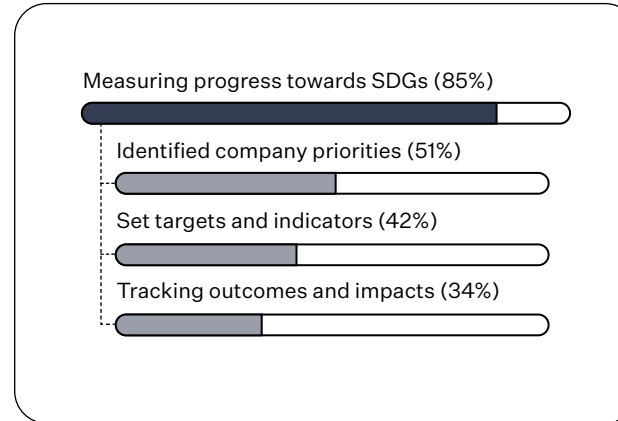
## Participant profile



### Improvement evident in SDG Index scores.

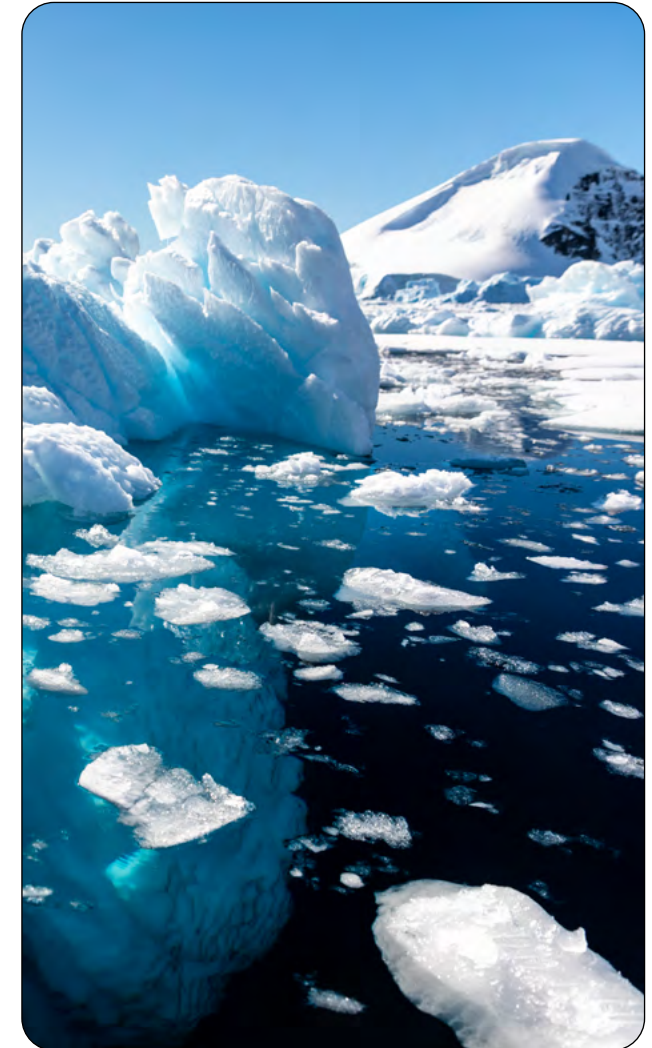
Launched in 2015, the United Nations Sustainable Development Goals (SDGs) are the overarching framework for a better world. Anchoring strategy in the SDGs is good for business and draws companies into collective action for global progress. SDG 12, [Responsible Consumption and Production](#) includes the way we produce, (re)use, and dispose of or recycle our textiles, and has an impact on nearly every one of the SDGs from [Climate Action](#) (SDG 13) to [Gender Equality](#) (SDG 5). The textile industry has a powerful opportunity to shift the needle in both producer and consumer contexts. Results this year are encouraging, but a proper stock take is needed.

## Measuring progress



### More companies are setting SDG targets and tracking results.

There is considerable growth in the number of companies going beyond identifying priorities to setting targets and tracking outcomes and impacts for sustainable development, guided by the requirements of the SDGs. Results for both target-setting and outcome/impact tracking are almost double those of the previous year. The SDG vision is a low-carbon and nature positive economy and society. To get there, we must have a [fair and inclusive pathway](#) that puts people first: a just transition. Can the textile industry accelerate and scale its role in achieving the SDGs? Now is the time to act.



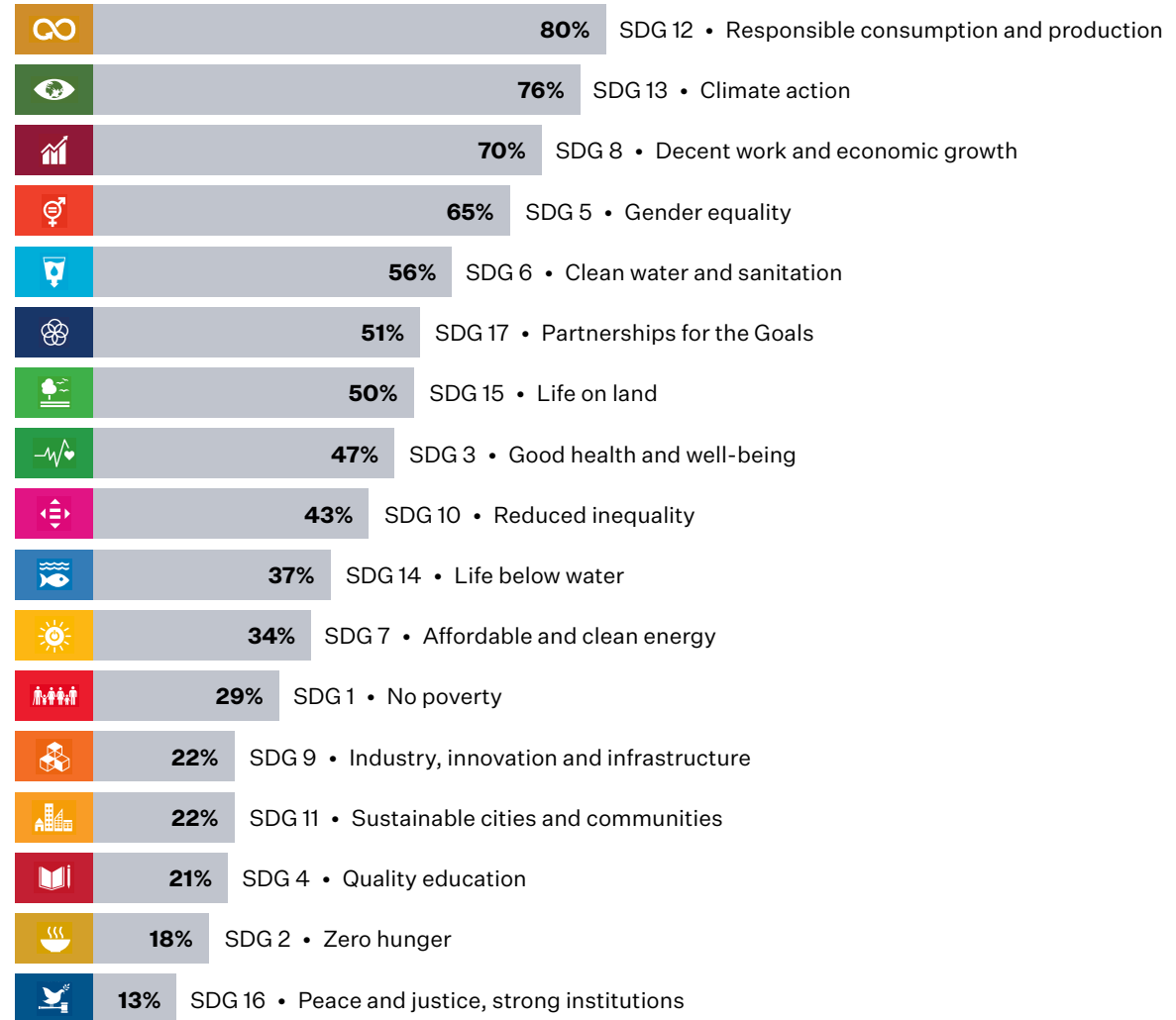
# Sustainable Development Goals



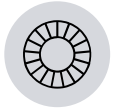
## SDG prioritization

**We are half-way along the Global Goals timeline, priority goals must be made and achieved by 2030.**

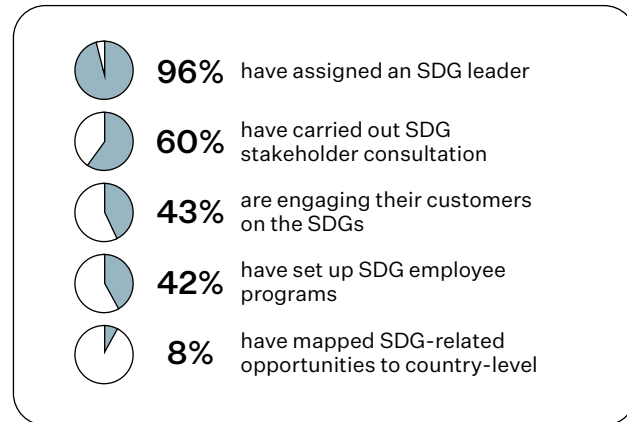
Index participants are likely to see all 17 SDGs as important and interconnected, however SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action) and SDG 8 (Decent Work and Economic Growth) are top priorities. Yes, the SDGs are ambitious and aspirational, and progress towards the Global Goals has been hindered by multiple global interconnected crises – from Russia’s invasion of Ukraine to climate shocks the world over, to inflation. All of this on top of an unprecedented global pandemic. All the more reason to double-down over the next 15 years and bring priority goals to fruition.



# Sustainable Development Goals



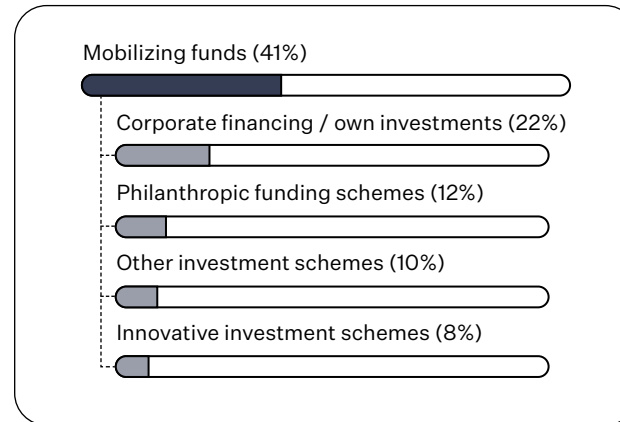
## SDG engagement



**SDG engagement is growing but must lead to country-level action.**

The common language and branding of the SDGs, connects us all to this “decisive decade of action” yet times are tough right now. On the positive side, companies are increasingly understanding their role in change, and more are stepping up to the plate. This year, SDG engagement results are promising with considerable improvement in most areas from leadership to employee programs and stakeholder dialogue. The opportunity is to identify priority geographies for action. Leadership and engagement approaches should be shared widely so others can be inspired. After all, the Global Goals are a movement and to reach them it will take the efforts and energy of all.

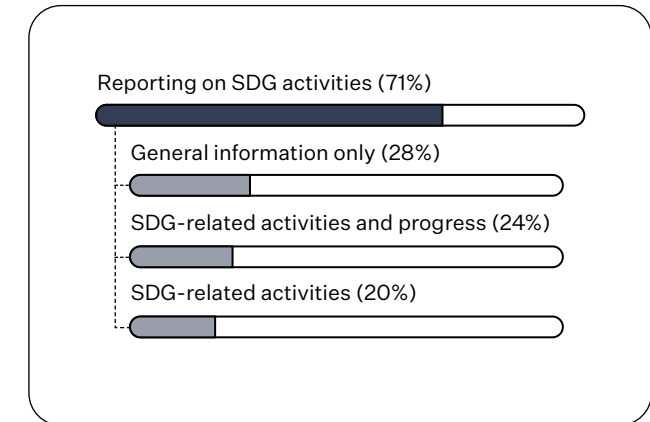
## Mobilizing SDG funds



**Connecting corporate funds to the SDGs is not understood or aligned.**

Each year the United Nations releases the [Financing for Sustainable Development report](#), and the OECD releases its [global outlook](#) on the topic of financing the SDGs. At [USD 4.3 trillion](#) this gap is not insignificant and not surprisingly, business is asked to help. The UN and others call for more corporate involvement and blended financing to help close the funding gap which leaves companies with the challenge of how to get more deeply involved. Linking investments to the SDGs has not been a straightforward process for participants and results stubbornly show a lack of progress. Very few companies could make a connection between their investments and the SDGs, and those that can, are not leveraging explicit SDG-aligned funding or investment opportunities, such as public private partnerships.

## SDG reporting

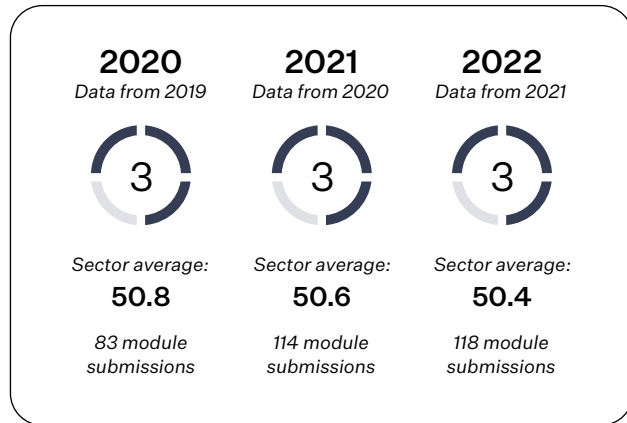


**Reporting on SDGs remains varied in approach.**

We reported last year that where companies have placed a stake in the ground on the SDGs, their accountability and reporting on SDG activities is maturing. For others, it is still relatively unstructured. Deepening the connection between the SDGs and business is needed before more meaningful, quantitative, reporting can be achieved. Initiatives such as the B Lab/UN Global Compact [SDG Action Manager](#) and the Global Reporting Initiative reporting framework are two tools available to help companies progress in this area.



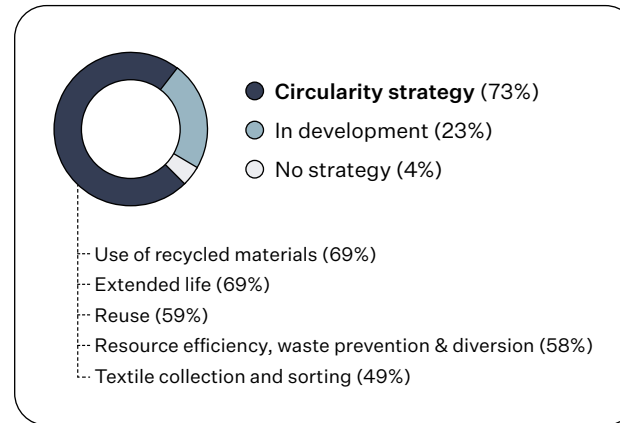
## Participant profile



**Average score for circularity remains constant, masking an emerging transition.**

The way textile products are made, used, and disposed of leads to significant volumes of waste and pollution. Circularity must be part of a materials strategy, from the selection of raw materials to product design, to alternative business models and end-of-life. Keeping products in use longer through resale, reuse and repair requires a shift in business models and societal values. There is exciting evidence that companies are innovating considerably in their business models, with further steps into re-commerce as a viable business model with a strong business case.

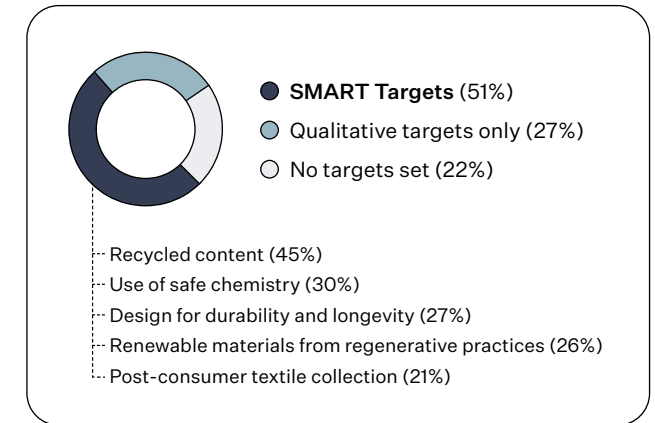
## Strategy



**Product Extended Life topped the strategy agenda, for the first time matching the Use of Recycled Materials.**

Most participants have a circularity strategy in place or under development and are taking steps to extend the life of their products and materials. This year, the growth in strategy scope was impressive and is starting to get interesting. All elements of a circularity strategy increased in numbers (often doubling). The top five elements were: Product Extended Life, Use of Recycled Materials, Reuse, Resource Efficiency, Waste Prevention and Diversion, and Textile Collection and Sorting.

## Targets



**Over half of participants have set measurable targets for circularity.**

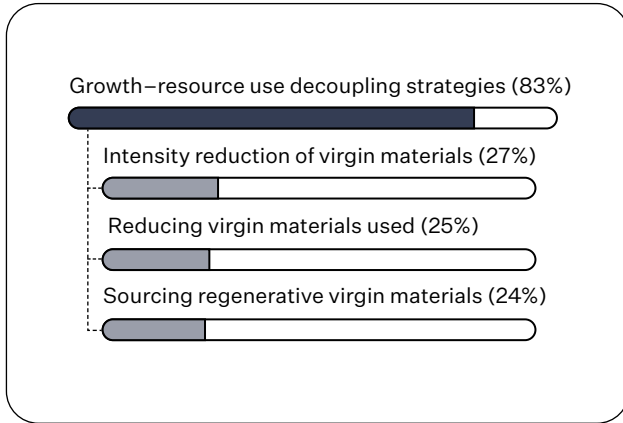
More than half of participants have set one or more measurable target for circularity, with timelines ranging from 2025-2030, and use of recycled content continuing to be the most common. Targets are being set for durability, design (including training of designers), use of safe chemistry, and collection of post-consumer textiles. Circularity targets are also being set for renewable energy, zero waste, and packaging. Targets are wide and varied, and this is commendable. However, if the industry wants to be able to track progress efficiently, more work needs to be done on agreeing the key indicators of the circular economy to track and how best to collect data. A further observation, as the interest in regenerative practices grows, is that companies now need more direction on what to track to evidence those benefits and ensure communications are transparent and meaningful.



# Circular Economy



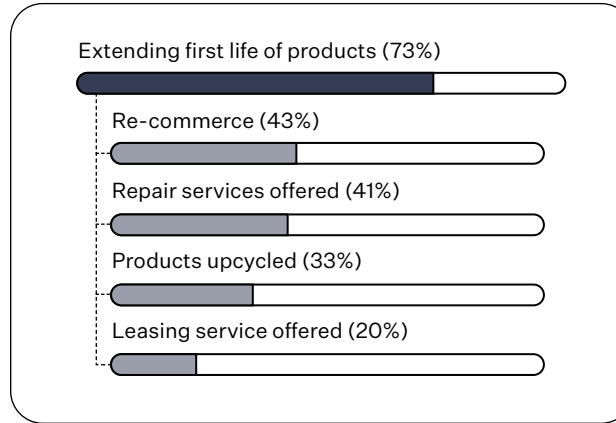
## Decoupling economic growth



**A greener and fairer economy is at the heart of the materials transition.**

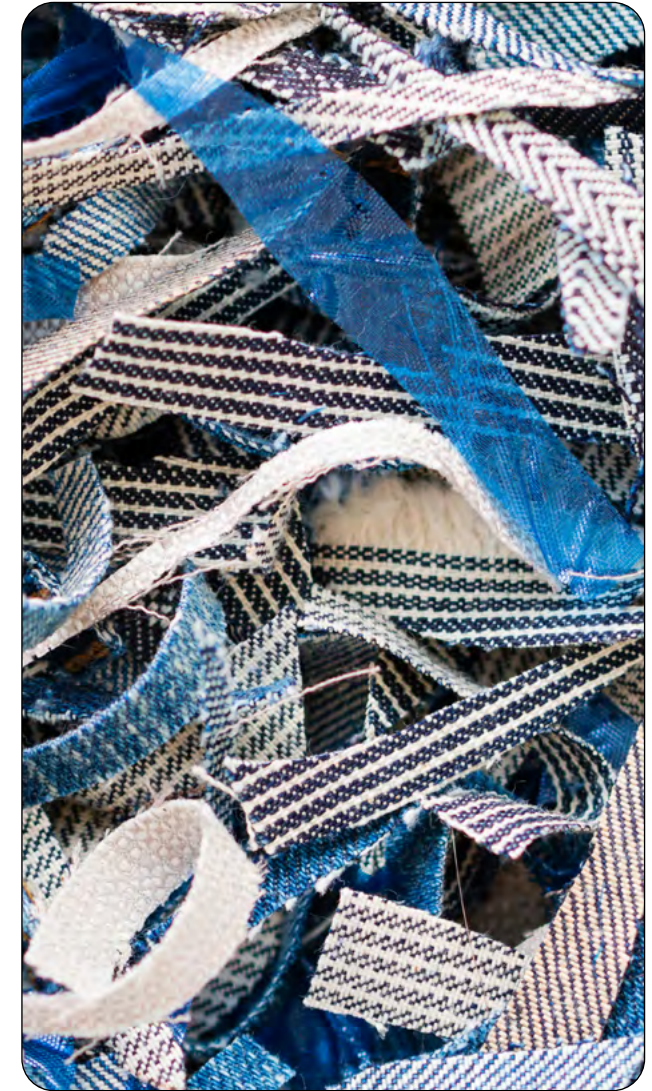
Decoupling business value-creation (aka economic growth) from resource consumption is key to future prosperity while remaining within the planetary boundaries. Some of the ways the textiles economy can transform include reducing volumes of virgin materials used relative to economic growth, increasing the share of recycled materials relative to virgin, and/or reducing the “negative impact intensity” by sourcing renewable materials with regenerative qualities, lower carbon footprints, and similar. Like the energy transition, the materials transition must be fair and equitable for those potentially impacted. This means considering any economic impacts or skills-based needs for raw material providers (farmers, foresters, waste collectors), and how to mitigate or more importantly find the opportunities in the transition.

## Business models



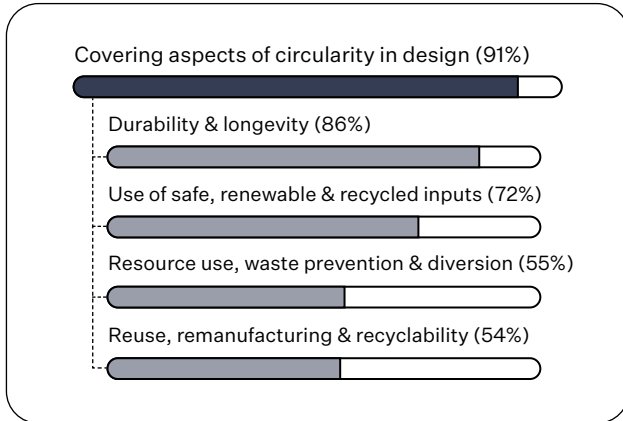
**Re-commerce continues to grow.**

A significant 73% of participants have reported one or more circular business-related activity over the past year, with re-commerce (the reselling of finished, branded products through owned resale or through a partnership resale model) being on the fastest growth trajectory and rental maintaining the highest number of garments in circulation. Circular business models can offer an alternative to growing and manufacturing new raw materials and can reduce our dependency and impact on natural resources if companies are determined to approach circular models with this goal. Growth in re-commerce models matches the innovation we are seeing in this space from the expansion of preloved collections on platforms and instore to “return and upgrade” offers for brand loyalists. While numbers of companies providing actual garment/product units data is still small (17% of participants), the total units that were reported grew by around 0.6 million over the previous year.





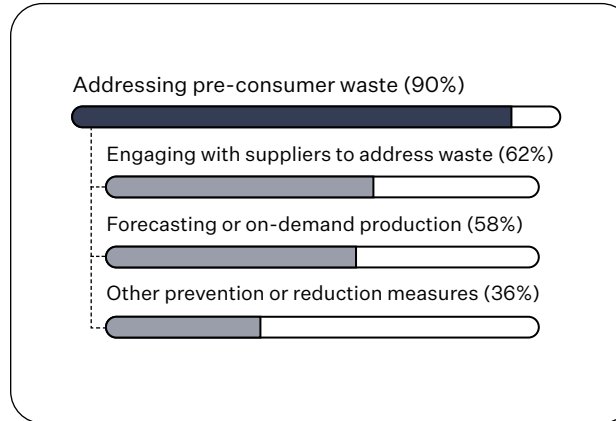
## Product design



### Designers drive the success of a circularity strategy.

Designing products to last longer, be reused, or repurposed, and eventually dismantled and re-entered into the production system is the goal – and the design team is core to seeing this goal delivered. It is impressive to see durability and longevity considerations taken by 86% of participants, and strong coverage of other design elements such as the use of safe, renewable, and recycled materials, waste prevention and diversion and the reuse, remanufacturing, and recyclability of materials.

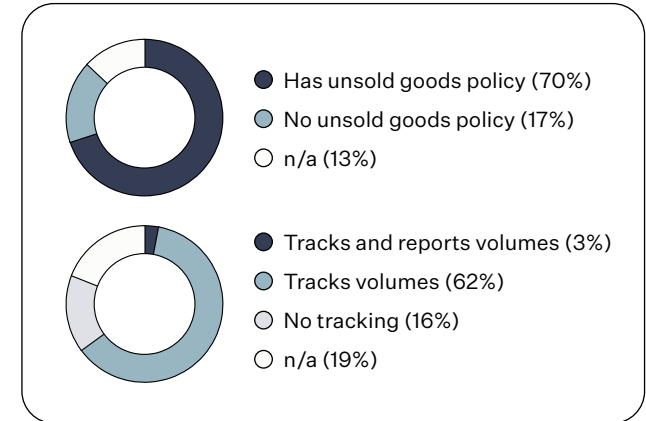
## Pre-consumer waste



### Addressing pre-consumer waste is a space for innovation as well as efficiency.

Pre-consumer waste is sometimes an efficiency issue, and the solution to avoiding waste can be found through improved management practices and not creating waste in the first place. Sometimes, solutions to pre-consumer waste come through materials innovation when the waste from one system is the feedstock for another. In most cases, there can be an economic efficiency to be gained or a market opportunity to be found.

## Unsold finished products



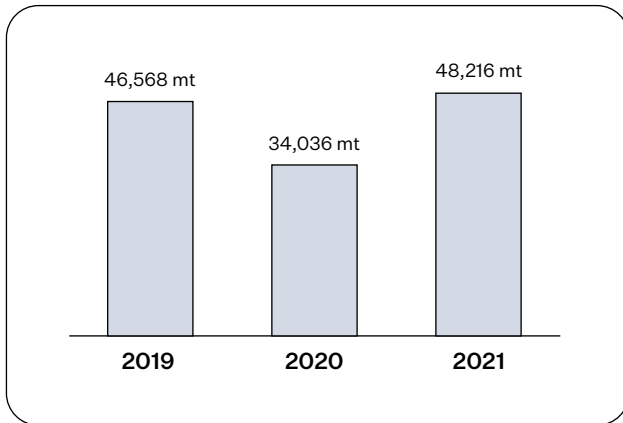
### Majority of companies have a policy and are tracking volumes of unsold goods, but transparency is lagging.

Unsold finished products (unsold goods) are finished products which could not be sold in the intended way, as well as faulty or sample products. They include any finished goods that are written-off (liability goods) such as returns, defects, samples, and other unsold inventory. For the most part, companies have formulated policies laying out their position on the management of unsold finished products. While considerable numbers of companies are collecting and tracking data on items/volumes of unsold finished products, only 3% are reporting publicly.





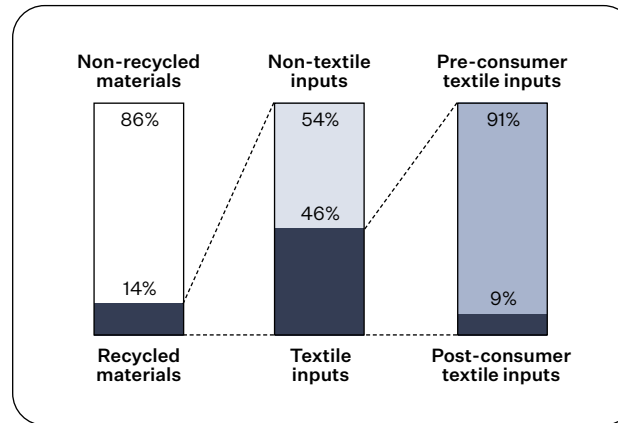
## Post-consumer collection



**Post-consumer textile collection is back on track after the global pandemic blip.**

Participants continue to work hard at encouraging customers to return used clothing rather than take it to landfill or the incinerator. 52% of companies reporting on circularity have a take-back scheme of their own or collaborate with other organizations to collect. A smaller number of participants support their customers with take-back advice but do not collect. Approximately half of the companies with take-back systems were able to report on volumes. As predicted in last year's Material Change Insights report, COVID-19 social distancing requirements were likely to have caused or contributed to a drop in collection, and this year's results suggest companies are back on track. Collected volumes of post-consumer textiles dropped by 30% between 2019 and 2020 but have jumped up again by 18% over 2020 volumes.

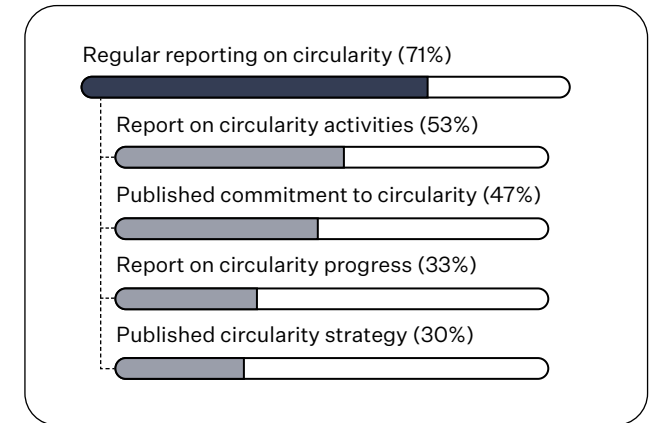
## Recycled content



**Big jump this year in pre-consumer textile waste replacing non-textile.**

Each year sees an increase in recycled content, usually driven by growth in recycled polyester use, and this year is no exception. Recycled content has grown from 12% to 14% of the Index, with an interesting shift in the share of textile vs non-textile (mostly plastic) recycled content. Recycled textile inputs (pre- and post-consumer) have jumped from 6% to 46% of recycled inputs, this is due to a number of big volume users swapping out recycled plastic packaging waste to pre-consumer recycled textile waste inputs. With 9% of recycled textile content coming from post-consumer textile waste (the rest pre-consumer), this lifts the textile-to-textile material share of all materials uptake to 0.6% from 0.18% last year.

## Public reporting



**Reporting on circular progress is still challenging.**

Not surprisingly, companies are more comfortable and more likely to report on circularity activities, including their commitment to a circular economy and less likely to report on the details of their strategy or their progress against targets/indicators. As corporate circular economy strategies mature, and indicators of progress are better established, there should be more public reporting on data to support the activities.



## Kiabi

For the French fashion brand Kiabi, striving for circularity is at the heart of its sustainability mission. From switching to recycled materials to encouraging customers to return pre-loved clothes once they're done with them, Kiabi knows first-hand that circularity is a process, requiring action from multiple angles. To find out more about the barriers to closing the loop and the brand's approach to overcoming them, we spoke with Caroline Bottin, Eco design and Garment Technicians Leader at Kiabi.

### What are Kiabi's main priorities when it comes to circularity?

We believe circularity starts with improving our choice of raw materials, wet processes, and early design stages.

We've already replaced conventional polyester with recycled polyester for things like zippers and braids. Now, it's time to fully close the loop by accelerating our use of recycled yarns, as well as collecting end-of-life products in all retail countries. We're currently collecting in our French stores, but the textiles are donated rather than recycled into new clothes.

In Bangladesh, we've started recording quantities of material waste at the cutting-table stage. Our aim is to collect these scraps and, in collaboration with one of our suppliers, repurpose the textiles within our own supply chain.

### What are you most proud of when it comes to your work in circularity? What would be your advice to companies just starting out on their circularity journey?

We're proud to have introduced recycled cotton yarn in most of our denim production, with some coming from production waste and an increasing amount coming from post-customer waste. In terms of next steps, we're now working towards using our own store's collected items for our denim products.

For companies just starting their circularity journey, my advice would be to begin by measuring their current standing. Creating a successful sustainability strategy starts with knowing where you are now.

For companies just starting their circularity journey, my advice would be to begin by measuring their current standing. Creating a successful sustainability strategy starts with knowing where you are now.

### What are some barriers to implementing your circularity strategy, and how do you overcome them?

Cost is a major barrier at least initially, and budgets need to be adjusted to align with our goals. Another key obstacle is managing our goals within a large team. We have more than 200 people in-house helping to drive the shift toward circularity, and we're working with more than 300 Tier 1 factories. This meant that it was crucial to write a consistent strategy, communicating this as a clear company vision and a three-year plan, as well as an annual roadmap for product, procurement, and brand teams.

### How is Kiabi raising awareness and providing opportunities for customers to participate in its circular fashion initiatives?

To raise awareness, our website has dedicated pages for explaining our global strategy and progress with product improvement. In terms of customers participating in circularity, we encourage our customers to return textiles to our stores in France and Belgium, whatever their condition, and we're aiming to implement this within two years in Spain too. Our main goal is to develop a way to turn these collected textiles into recycled yarn and then fabrics, mainly cotton, which makes up more than 60% of our raw materials.

### How has benchmarking helped you improve?

Benchmarking helped us to precisely monitor our actual raw material mix and its evolution over the years (we started our reporting internally in 2017). It means we can challenge ourselves annually, looking at the quantity of fiber that we use as well as the fiber types, for example conventional, in transition, organic, and recycled fibers. Through our annual carbon and biodiversity reports, we can start to make links between each raw material fiber type and our environmental impacts. Knowing this means we can strategically address issues like greenhouse gas emissions, land use, water pollution, and water ecotoxicity.





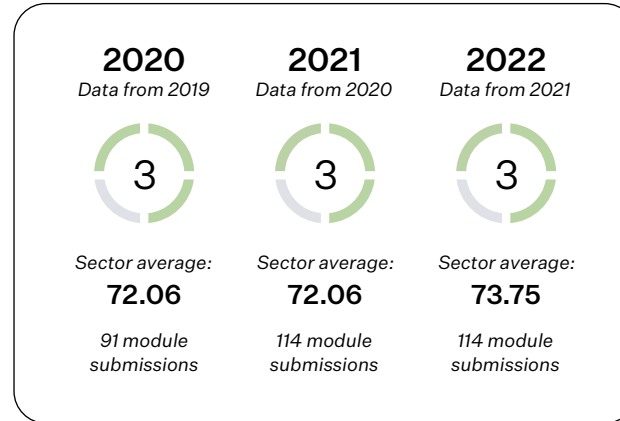
# Materials Portfolio

# Cotton

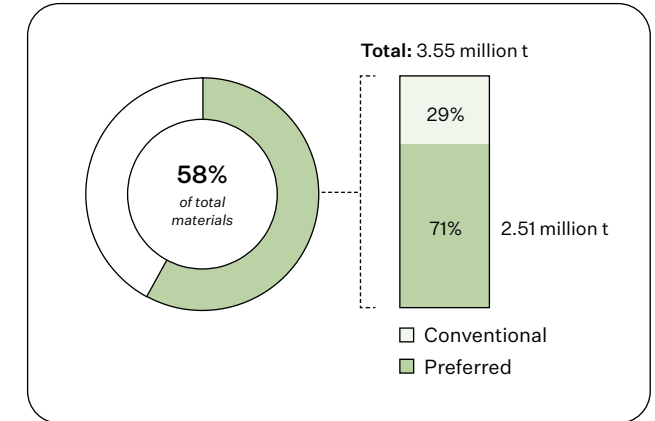


Photo: Myriam Boulos

## Participant profile



## Cotton portfolio



### The MCI Cotton Index increases but remains at a solid Level 3 (Maturing).

Cotton continues to be the dominant fiber type among benchmarking companies, comprising 58% of the uptake portfolio in 2021. 71% of this was from preferred sources. It is a contrast to global production in the same year, with cotton representing just 22% of all fibers produced that year, of which a 24% share comes from cotton programs recognized as preferred (dominated by Better Cotton).

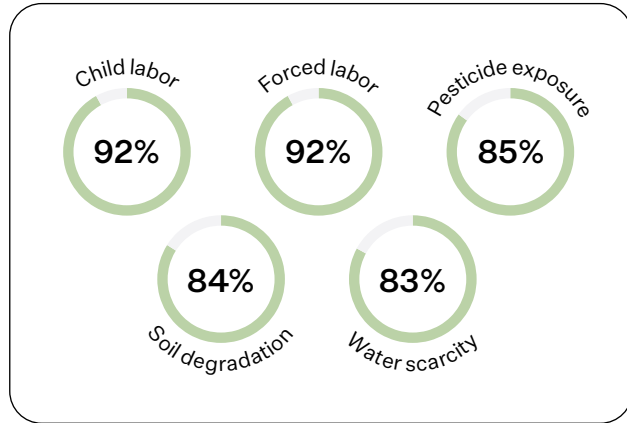
Cotton is the most advanced of all raw materials covered in the benchmark, and the MCI Cotton Index average sits at 73.75 in the Level 3 (Maturing) band, with a small increase in the Index average in 2022.

The number of companies completing the cotton module remains constant with last year. It is the most frequently completed fiber module, with 114 companies (63% of all participants) completing it this year.

The following analysis is based on those 114 companies that completed the cotton module. However, uptake volumes include all cotton uptake data reported as part of a company's materials accounting, totaling 157 companies.



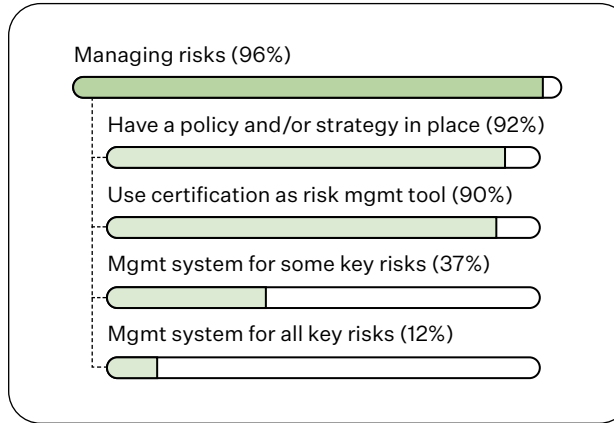
## Top five risks



**Child and forced labor in cotton cultivation remain top of mind for corporates.**

People-related risks (child labor and forced labor) are of most concern in cotton cultivation. Exposure to these and other human rights risks is a critical part of supply chain due diligence and building action plans. People-related risks are interconnected with environmental risks – pesticide use, soil degradation, water scarcity and pollution remain priority environmental risks impacting people’s health, livelihood, and survival. We simply cannot decouple environment and social risk and mitigation strategies anymore since they are interconnected.

## Risk management



**Standards and certification are foundational to managing farm-level risks.**

Policy and strategy set the foundations for risk management, and most companies have one form or another in place. Respondents lean on standards and certification to mitigate farm-level risks, which is critical. However, the next steps will be to identify priority geographies for risk mitigation and seize opportunities to manage risk beyond certification, in collaboration with local stakeholders.

## What companies are saying

### Risk management:

We are investing in cotton fibers for which we have more transparency as well as exploring regenerative farming.

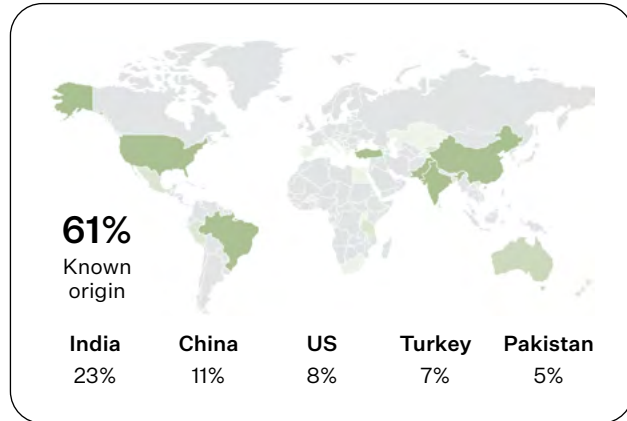
### Transparency:

We conducted a global materials mapping exercise to inform our sustainable materials strategy. Considering the volumes of various raw material types, as well as business risks and opportunities, we identified priority areas of focus within natural, synthetic and animal based raw material categories. To implement this strategy, we are introducing new resources, tools and trainings to our raw materials and design teams to enable them to incorporate sustainability considerations into their daily activities.

# Cotton



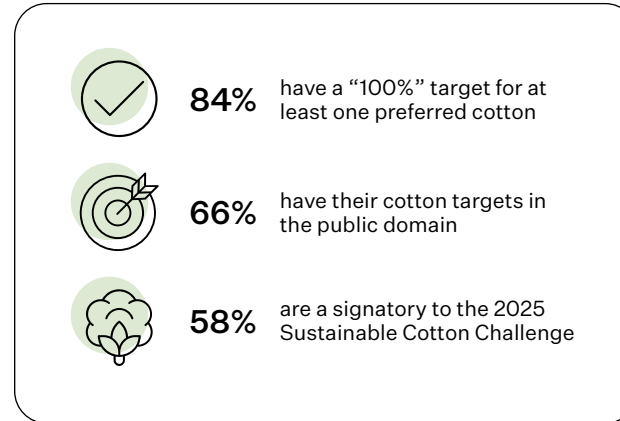
## Transparency



Transparency of cotton sourcing is complex but a necessity.

Around two-thirds of cotton uptake by volume could be traced back to country of origin. Country-level transparency, mapped by volume, is an important step in identifying and prioritizing risk and opportunity. Since cotton is a high-volume fiber for many companies and there are inherent risks associated with it, it is likely that cotton will be high on the list in risk registers. The “on the ground” dependencies and impacts of cotton (such as biodiversity, water, and human rights) will help companies prioritize and tailor action. In 2021, the five most transparent cotton sourcing countries by volume were India, China, the US, Turkey, and Pakistan.

## Targets



Targets for cotton are set at a cotton portfolio level.

Most respondents have either set a target for “100% more-sustainable cotton” or have already reached their goal of only sourcing preferred cotton. Many companies take a portfolio approach to target setting, which means they incorporate two or more sustainability programs in their target (Better Cotton and organic are commonly coupled together). Others are focused on a single program such as organic or organic and Fairtrade certified as a stacked certification.

## What companies are saying

### Transparency:

Recycled cotton is used by one of our denim mills and pre-consumer recycled comes from its own production waste. Our post-consumer cotton is locally collected.

### Targets:

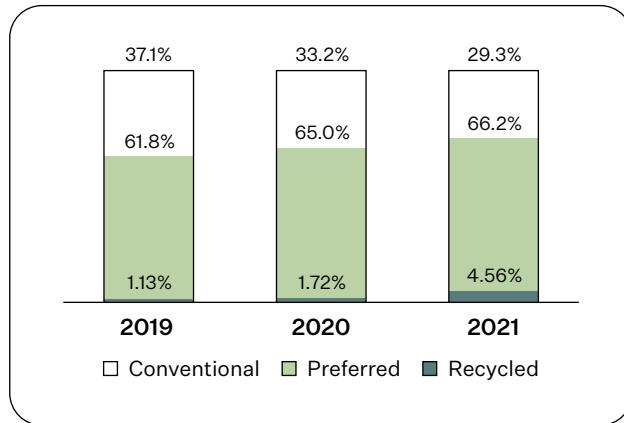
By 2025, 100% of our cotton will come from sustainable sources including but not limited to: certified-organic, transitional-organic, regenerative, recycled and U.S. Cotton Trust Protocol Cotton.

### Impact monitoring:

We use both primary data sources, as well as leverage a number of third-party sources such as Higg MSI, and third-party reviewed LCA industry data. We have performed an LCA on our knit tee with organic cotton sourced from India but leverage secondary industry data for other cotton sources and product implementations.



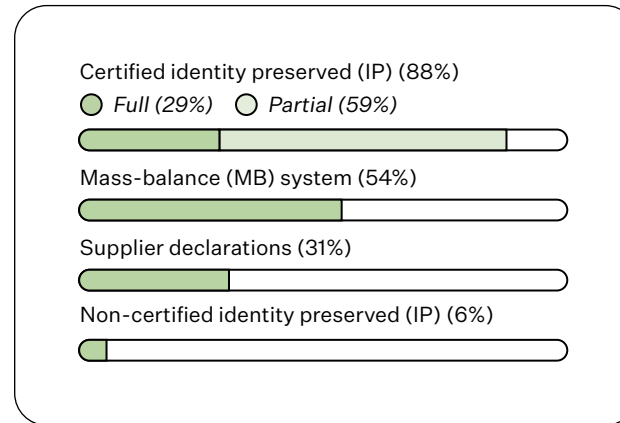
## Progress to preferred



### Volumes of both preferred renewable and recycled cotton continue to grow.

Companies continue to make progress in moving from conventional sourcing to preferred renewable and recycled. While all eyes are on the growth in the uptake of cotton from more sustainable sources, just as important is the reduction of conventional. In other words, more sustainable cotton is displacing conventional, not just increasing the overall volume. While Better Cotton makes up most of the more-sustainable sourced cotton used by participants, the number of companies achieving 100% of their cotton from organic, fairtrade, and/or recycled sources has risen 32% since 2018. Volumes of recycled cotton continue to remain small, however they are increasing. In addition, anticipation is high for recycled cotton/cellulose to make a significant dent in the manmade cellulosic fibers (MMCF) category.

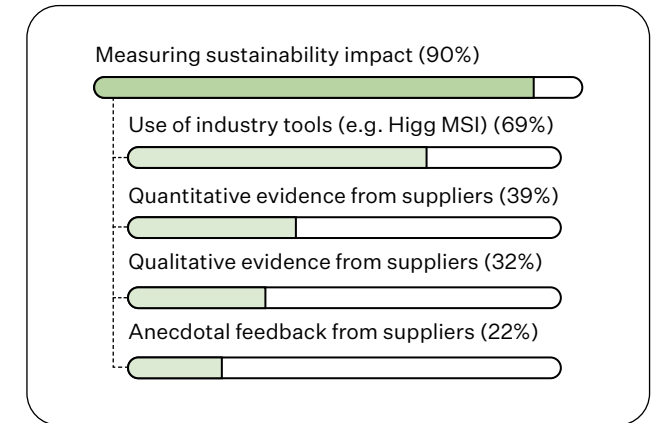
## Verification



### Mass balance and certification are the most common methods of verification.

88% of participants use a third-party certification system (IP) for their cotton, reflecting the sheer number of companies using organic, fairtrade, and/or recycled product chain of custody. Notably, fully certified value chains are challenging, with the majority (59%) achieving partial certification only. The use of non-certified IP (i.e., traceability systems outside of standards) is still uncommon in cotton but will grow as companies become more familiar with the technology. Over 50% of companies use mass balance systems (MB) associated with the calculations of initiatives such as Better Cotton and Cotton made in Africa. Multiple cotton schemes are used by brands, therefore multiple methods of verification are used.

## Impact monitoring



### Impact monitoring remains dependent on industry tools.

Almost all participants are monitoring the impact, mostly at an initiative or program level (such as organic cotton) and using industry tools such as Life Cycle Assessment (LCA) or the Sustainable Apparel Coalition's Higg Materials Sustainability Index (Higg MSI). Most industry tools rely on global averages or secondary data and are a useful place to start. It is more resource intensive – but necessary – to collect data and directly monitor at farm level. Those that are collecting primary information are prioritizing specific suppliers, and/or working collaboratively to collect and analyze impact data or track Key Performance Indicators (KPIs).

# Case Study



## Sapphire Textile Mills Limited

Based in Pakistan, Sapphire Textile Mills Limited sources its cotton from different regions like Egypt, the USA, CmiA from Africa, Turkey, Tanzania, Australia, Greece – as well as locally from Pakistan. Now, as the demand for traceable, more sustainable materials rises, it is leading a project to build organic cotton farming capacities on its home turf. We spoke with Muhammad Shoaib, Head of CSR Compliance & Systems, to find out more.

### Can you tell us more about your shift to locally sourcing cotton in Pakistan? Are you working directly with local farmers to make this transition?

We're aiming to increase organic cotton cultivation in the Balochistan province of Pakistan through a collaborative project with WWF Pakistan. Together, we're focusing on building farmers' capacity in organic farming practices and increasing awareness around organic certification. The project aims to improve the social, financial, and environmental credentials of the sites involved, which cover up to 10,000 acres of land and account for 800 farmers.

### What are some of the main challenges you have faced, and how are you moving past them?

One of the biggest challenges is to change the farmers' mindsets around shifting to organic practices. Another was that some of the existing ways of picking, transporting, and storing cotton were reducing the quality of the cotton. And of course, the massive floods in Balochistan last year can't go unmentioned.

To start the shift towards more sustainable – and consequently more resilient – practices, we helped to set up 37 Farmer Field Schools that provide training and awareness sessions with the team at WWF. We also supported farmers alongside their local agriculture departments to build resilience on their farms. When disaster struck, we provided humanitarian assistance, distributing hygiene kits, water coolers, and mosquito nets.

After shifting towards organic cultivation, they are seeing fewer side effects like itching and rashes caused by pesticides. In addition, water consumption was previously high due to the usage of urea as fertilizer. Since introducing natural inputs, many colorful birds are now visiting the field, as well as bees that produce honey.

### What feedback have you got from farmers and other stakeholders?

Muhammad Ikram has been farming for 25 years, growing different crops including cotton and wheat. He said that the fields in the Lasbela district, in the Balochistan province, are rich in quality. They use natural remedies and organic medicines to kill insects like *Azadirachta indica* (neem), *Commiphora wightii* (gugal), and *Calotropis procera* (Sodom apple). Muhammed said that after shifting towards organic cultivation, they are seeing fewer side effects like itching and rashes caused by pesticides. In addition, water consumption was high due to the usage of urea as fertilizer. Since introducing natural inputs, many colorful birds are now visiting the field, as well as bees that produce honey.

### Is sustainability prioritized by the cotton industry in Pakistan? What changes have you seen happen and can you give us an example of progress?

Cotton associations in Pakistan are now prioritizing social, environmental, and economic sustainability as well as transparency and traceability at the farm levels. Much like in our own project, training is being provided to farmers in collaboration with different non-profits.

Recently, the interest in regenerative farming, and certifications such as regenagri® have triggered a response from the cotton industry. Sapphire Textile is a pioneer in Pakistan, as we are a regenagri® certified facility. We're excited to see farms and organizations transitioning to holistic farming techniques that increase soil organic matter, encourage biodiversity, and build carbon storage. We think that these types of programs can also help develop more sustainable market trends at the consumer level.

### What were your biggest learnings from taking part in the benchmark and how has the experience helped you make improvements?

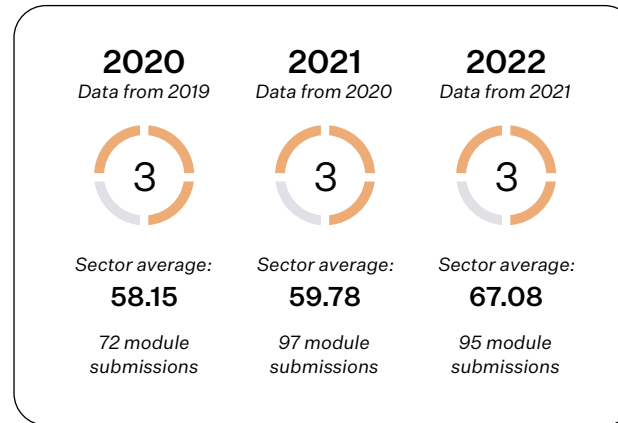
We have been participating since Textile Exchange launched the benchmark for suppliers, so the year-to-year progress helps us a lot when it comes to tracking our material consumption. Plus, seeing a trend in the uptake of preferred and recycled materials from brands and retailers is helping us to shape our sustainable procurement policy. We also share our scorecard with our customers – we're hoping that by encouraging them to make more sustainable choices, we can in turn advance our progress.



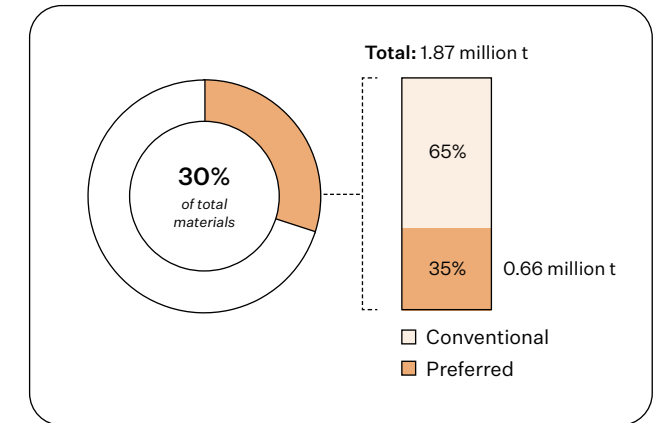
# Polyester



## Participant profile



## Polyester portfolio



**The MCI Polyester Index average score continues to improve through the Level 3 (Maturing) band.**

Polyester remains the second highest volume (30%) reported by the benchmarking companies, with 35% now from recycled sources. In contrast, the global fiber market is dominated by polyester (54%), with 14.8% estimated to be recycled.

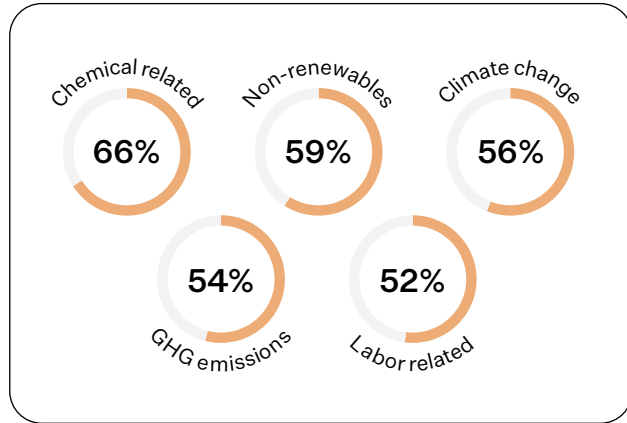
The MCI Polyester Index has jumped to 67.08 (up seven points) entering the middle ranges of the Level 3 (Maturing) banding.

Polyester was the second most frequently completed materials module, after cotton. 95 companies completed the polyester module in 2022, a small yet interesting drop in module participant numbers from the previous year.

The following analysis is based on the 95 companies that completed the polyester module. Uptake volumes include all polyester uptake data reported as part of a company's materials accounting, totaling 147 companies.



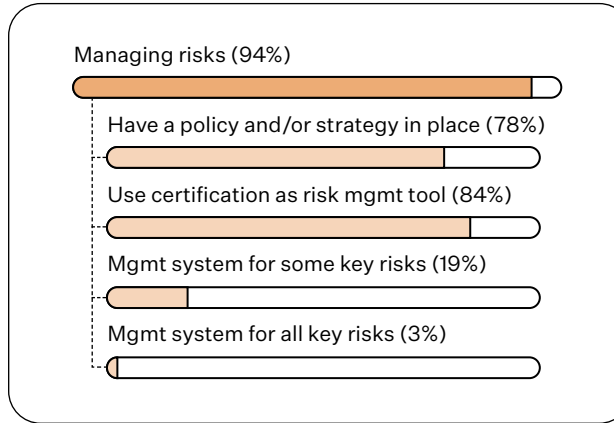
## Top five risks



### People-related risks among the top five business risks in the polyester category.

Conventional virgin synthetic fibers (including polyester) are made from fossil fuels and associated with chemical-related risks, use of non-renewable resources, and climate change. Participants identified labor-related risks in the top five, closely followed by risks associated with waste collectors. Company data provides good evidence that conditions for informal waste collectors is an emerging concern, increasing every year.

## Risk management



### Strategies to convert to recycled and certification remain essential to polyester risk mitigation.

Companies are strategically transitioning their use of polyester to the use of recycled, and certification continues to underpin risk management. This drive by companies to reduce their dependency on non-renewable resources is commendable and the progress being made in uptake is significant. However, companies also know they cannot stop here. Leveling up will involve a move from the use of recycled plastic bottles towards textile-to-textile based recycled, and as highlighted previously, a deeper consideration of the welfare, livelihoods, and opportunities for collector communities that form the base of our secondary materials input.

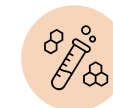
## What companies are saying

### Risk management:

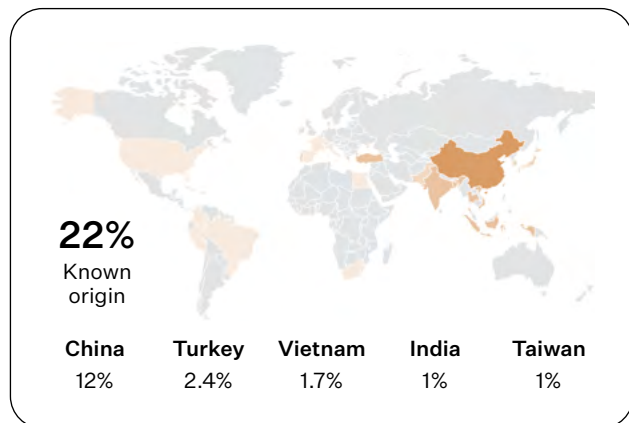
We believe that the industry will need to take further steps to also cover flake processing and collection. We see risks associated with wastewater handling in flake washing, micro plastic pollution in crushing, as well as social risks in collection, crushing and washing.



# Polyester



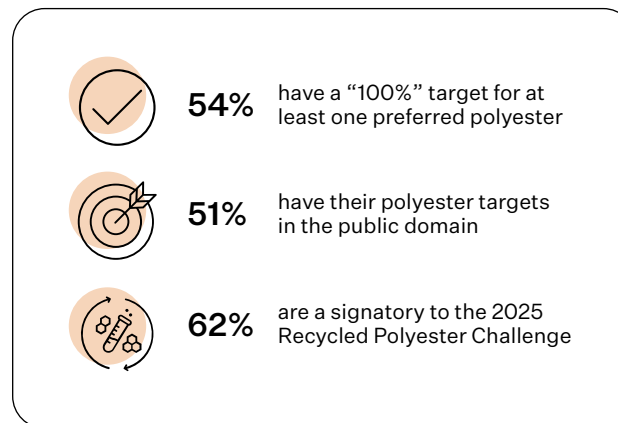
## Transparency



**Transparency of synthetic feedstock is even more complicated than natural fibers.**

Country of origin for polyester refers to polymer production, collection of recycled feedstocks, and country of feedstock production for biobased polyester. Since it is impossible to track conventional virgin polyester back to the original oil well (the equivalent of the cotton farm or sheep farm) defining exactly the “country of origin” for virgin polyester is challenging. In 2021, the top five countries in terms of transparency by volume (using the above-mentioned criteria for feedstock origin) were China, Turkey, India, Indonesia, and Vietnam.

## Targets



**The 2025 Recycled Polyester Challenge is driving target-setting and uptake of recycled.**

Companies are setting targets to convert all their polyester use to recycled and/or are signatories to the Textile Exchange 2025 Recycled Polyester Challenge, in partnership with the UNFCCC’s Fashion Industry Charter for Climate Action. To date, the majority of recycled polyester is coming from recycled plastic bottles and packaging. This is the first step in the journey, and it is encouraging to see companies deepen and broaden their commitment to areas such as textile-to-textile recycling innovation, packaging and shop fitting, and social schemes that improve conditions and livelihoods for collectors, sorters, and others less visible but critically important in the recycled materials supply chain.

## What companies are saying

### Transparency:

We have fully mapped our Tier 1 suppliers and also mapped our core Tier 2 suppliers, which are responsible for approximately 80% of our business volume.

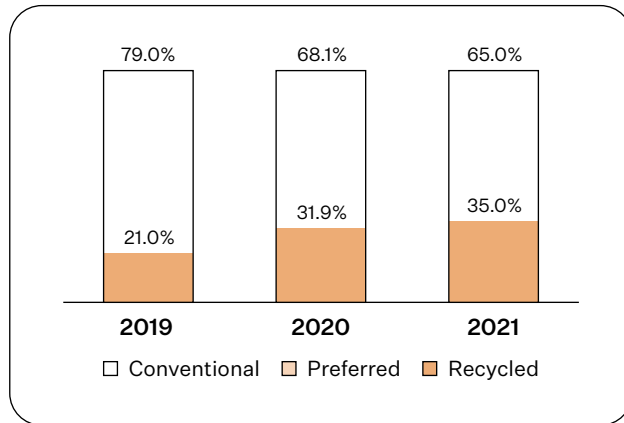
### Verification:

We require material suppliers with recycled content claims to provide GRS or RCS scope and transaction certificates. We request Tier 2 suppliers to provide weight of fiber quantity each quarter along with a transaction certificate and a supplier declaration that the recycled content claim of the material is accurate.

# Polyester



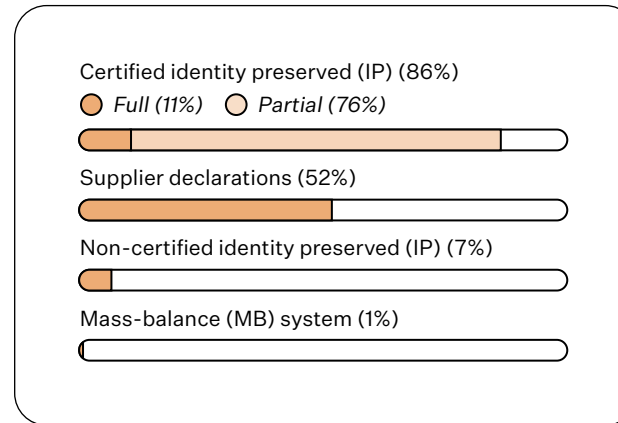
## Progress to preferred



### Ambitions for recycled polyester are reaping rewards.

The share of recycled polyester has reached 35% of polyester sourced by participants. Partially biobased polyester has reportedly tripled but is under 30 tonnes. The growth in recycled polyester continues at a pace exceeding that of conventional (27% and 10% respectively). However, growth in volumes of conventional polyester this year confirms that last year's absolute reduction in virgin sources was an anomaly and not yet the trend. 36% of recycled polyester feedstock is reported to be from non-textile waste (mostly plastic bottles), 38% is from textile-based feedstock (majority being factory waste), and 26% is of unknown origins. There has been a significant shift from post-consumer plastic to pre-consumer textile waste, by several companies, dropping plastic packaging inputs almost in half.

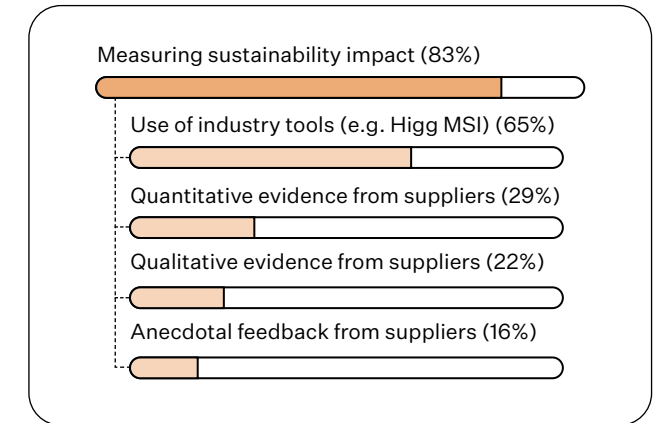
## Verification



### Standards are important to brands' use of recycled polyester.

Each year, there has been an increase in the use of certification for verifying recycled polyester claims. 84% of the polyester cohort use the Global Recycled Standard (GRS) for verification, and 53% use the Recycled Claim Standard (RCS). There will be some companies using a combination of both. It is important to note that supply chain coverage is still low, and work must continue to certify all suppliers to achieve full chain of custody and a content claim on products. Supplier declarations are common but there is no evidence of the use of uncertified integrity preservation tools (traceability tools) outside of standards taking off yet.

## Impact monitoring



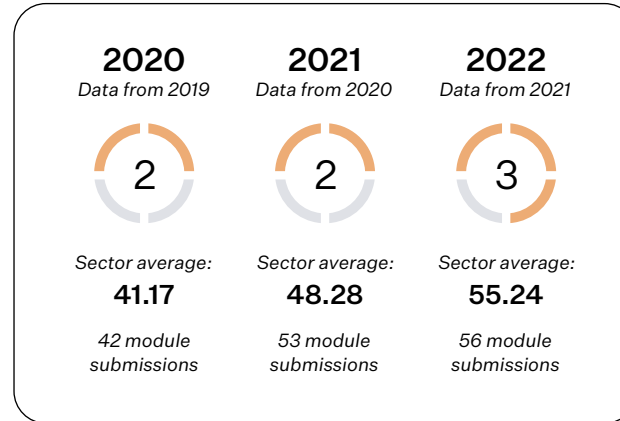
### Growth in companies using industry tools for impact monitoring.

There are almost 20% more companies monitoring polyester impacts this year over the previous year. Most are using industry tools, such as Life Cycle Assessment (LCA) or the Sustainable Apparel Coalition's Higg Materials Sustainability Index (Higg MSI) for measuring impacts such as greenhouse gas emissions, associated with their polyester portfolio.

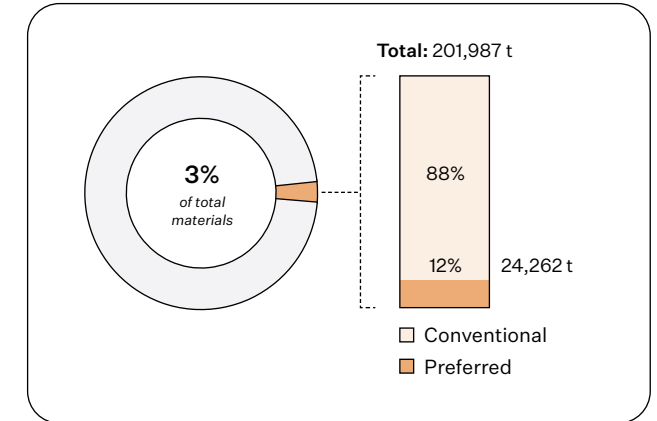
# Polyamide



## Participant profile



## Polyamide portfolio



### The MCI Polyamide Index achieves a Level 3 banding for the first time.

Polyamide represents the lowest reported volume, outside of animal fibers, comprising 3% of participating brands' uptake portfolio. 12% of this now comes from recycled sources, a significant jump from the 4.5% reported the previous year. These uptake shares suggest that demand is growing faster than supply, albeit much smaller volumes. In 2021, polyamide represented 5% of the global materials market, with 1.9% recycled.

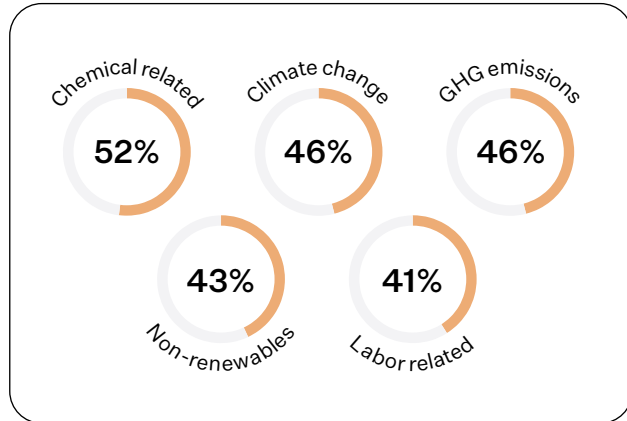
The MCI Polyamide Index now sits in the Level 3 (Maturing) band. There has been a consistent increase in the Index average from 2019. 56 companies (31% of all participants) completed the polyamide module in 2022.

The following analysis is based on the 56 companies that completed the polyamide module. Uptake volumes include all polyamide uptake data reported as part of a company's materials accounting, totaling 117 companies.

# Polyamide



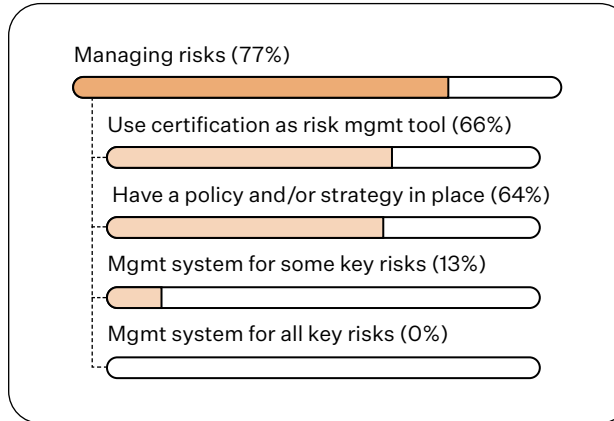
## Top five risks



**Labor-related risks join chemical use and climate change in the top five.**

Conventional virgin synthetic fibers (including polyamide) are made from fossil fuels and deeply associated with chemical-related risks, use of non-renewable resources, greenhouse gas emissions, and climate change more broadly. The inclusion of labor-related risks in the top five reflects the ever-increasing awareness of health and safety among other risks and impacts on people in the supply chain.

## Risk management



**Policy, supplier schemes, and certification are common to managing risk.**

Polyamide risk management continues to increase, with most participants depending on policy setting and use of certification in their recycled polyamide supply chains. The uptake of recycled polyamide, while still relatively low, has increased considerably over previous years and our evidence suggests participants rely heavily on supplier declaration and non-certified integrity preservation rather than third-party certification. For conventional virgin polyamide some companies use certification such as bluesign® and ZDHC programs to manage chemical-related risks in processing.

## What companies are saying

### Risk management:

We are prioritizing recycled content to align with our climate action goals and researching other solutions to support water pollution risks associated with synthetic fibers. Our strategy is to use 100% recycled content by 2025 and continue research and development on microfiber shedding solutions to add into our strategy once viable solutions are available.

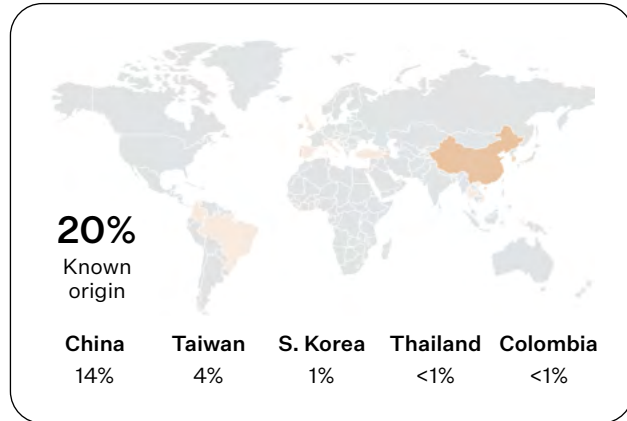
### Transparency:

Our supplier list is not categorized by material type, but the majority of our raw material and finished goods suppliers are published on our transparency map.

# Polyamide



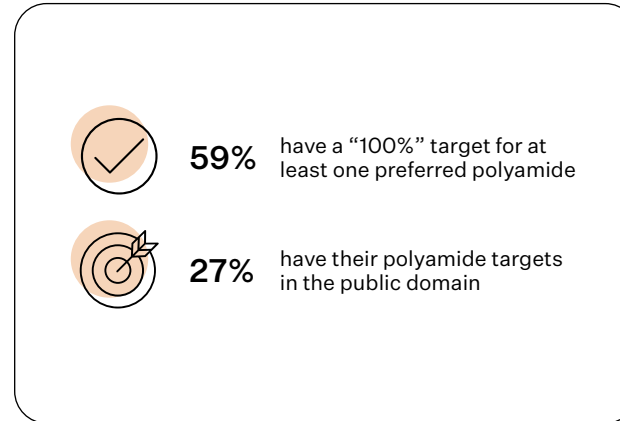
## Transparency



### Transparency of polyamide feedstock origins is low.

Country of origin for polyamide refers to polymer production, collection of recycled feedstocks, and country of feedstock production for biobased polyamide. Since it is impossible to track conventional virgin polyamide back to the oil well (the equivalent of the cotton farm or sheep farm) defining exactly the “country of origin” for virgin polyamide is challenging. In 2021, 20% of polyamide feedstock was traced back to origin (using the above-mentioned criteria for feedstock origin). The top in transparency by volume was China, with Taiwan, South Korea, Thailand, and Colombia significantly further behind.

## Targets



### Target setting for recycled polyamide is resulting in change.

Target-setting has moved up considerably over the years, with 59% of companies now setting 100% targets for polyamide uptake. Targets include recycled and biobased. bluesign® certification is also popular but not strictly a feedstock production program. Five companies have achieved 100% recycled polyamide and a further 24 have surpassed 50% of their polyamide portfolio. While polyamide can be seen as the lesser cousin in terms of volumes and response to sustainability, the recent tripling of recycled polyamide use shows the focus and attention some companies are paying to this fiber.

## What companies are saying

### Targets:

Our internal policy, which came along with our No New Plastic Commitment in 2018, was to source 100% recycled synthetic materials across our product range (apparel, footwear, accessories, trims, packaging) from 2021.

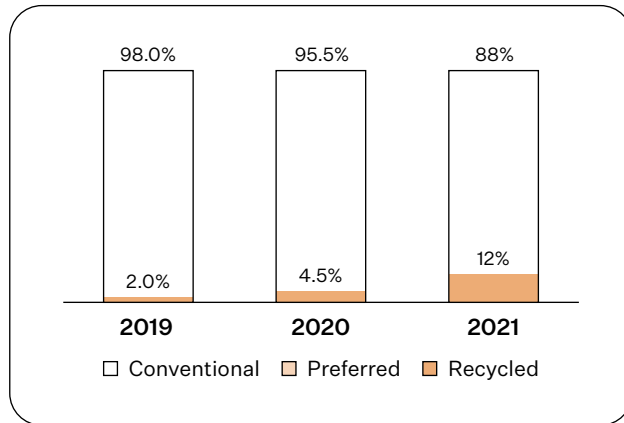
### Verification:

We are working with our supply chain to conduct LCA on recycled nylon production. In addition, we use the Higg FEM and our own supply chain monitoring to understand the impacts of the production process.

# Polyamide



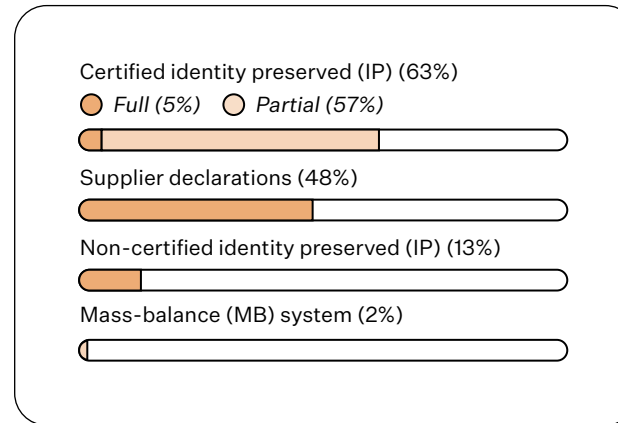
## Progress to preferred



### Recycled polyamide has recorded a significant increase.

Polyamide is a small-volume material for most companies yet for some, such as swimwear and some luxury, outdoor and sports brands, it can be a priority or otherwise important to a company's materials portfolio. Overall, polyamide remains conventional, however the recycled share has jumped up to 12.01%. This increase reflects significant work by a selection of companies in this year's benchmark. While recycled is a reason to celebrate, biobased innovations are not impacting (reported at less than one ton) and, furthermore, conventional uptake continues to increase.

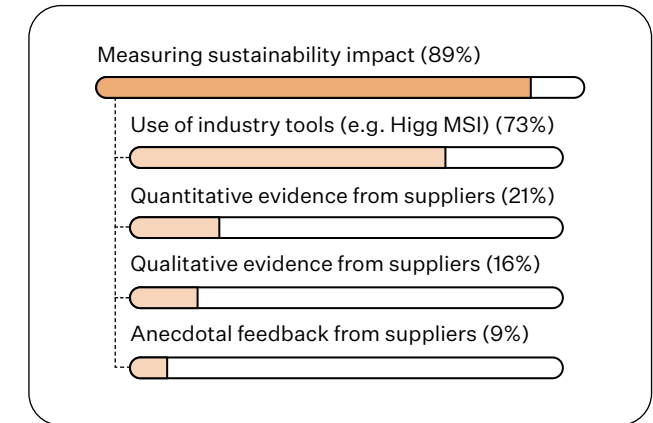
## Verification



### Use of supplier verification of branded materials is growing.

Over the years, there has been an increase in the use of both the Global Recycled Standard (GRS) and the Recycled Claim Standard (RCS). In 2021, the GRS remains the most common verification program used by 74% of polyamide participants. It is important to note that full supply chain coverage is low, and work must continue within supply networks to achieve full chain of custody and a content claim on products. Supplier declarations and branded recycled products are commonly relied upon in the recycled polyamide innovation space and increasingly we see the use of branded materials with their own traceability systems.

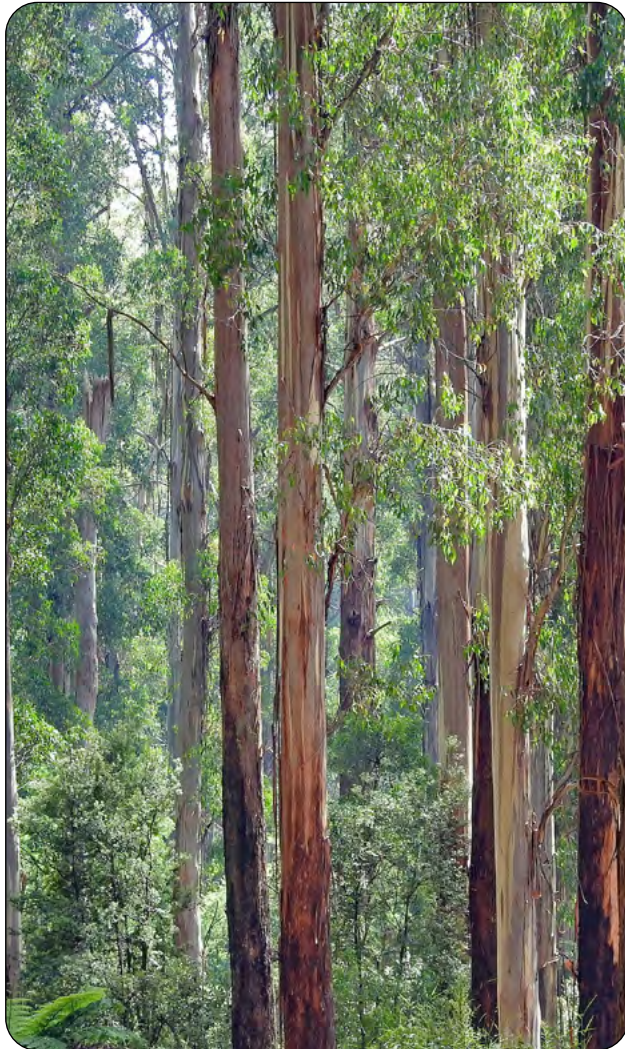
## Impact monitoring



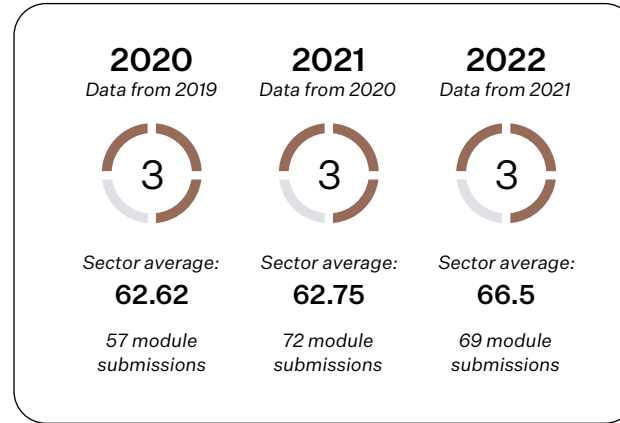
### Companies are dependent on industry tools for impact monitoring of polyamide use.

There are almost 20% more companies monitoring polyamide impacts this year over the previous year. Most are using industry tools, such as Life Cycle Assessment or the Sustainable Apparel Coalition's Higg Materials Sustainability Index (Higg MSI) for measuring impacts such as greenhouse gas emissions, associated with their polyamide portfolio.

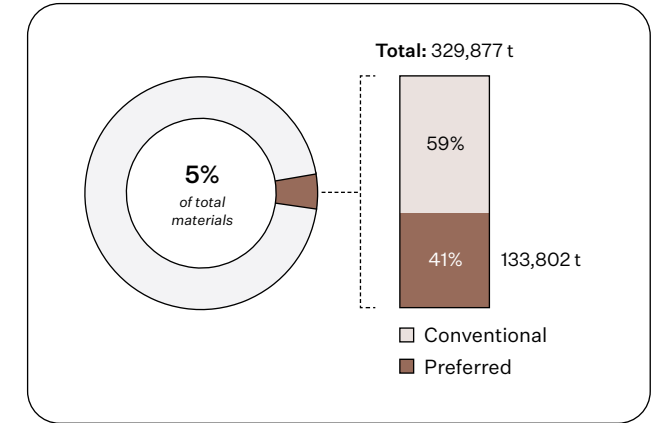
# Manmade Cellulosics



## Participant profile



## Manmade cellulosics portfolio



### MCI Manmade Cellulosics Index constant at Level 3 (Maturing).

Manmade cellulosic fibers (MMCF) comprised 5% of materials reported in 2021, with 41% coming from forest certified feedstocks (mostly FSC® and PEFC), and small amounts of recycled cellulose. MMCF production (supply-side) represent approximately 6.4% of global textile materials produced, of which 11% is coming from certified forests and plantations.

The MCI Manmade Cellulosics Index average has improved by 3.5 points between 2021 and 2022.

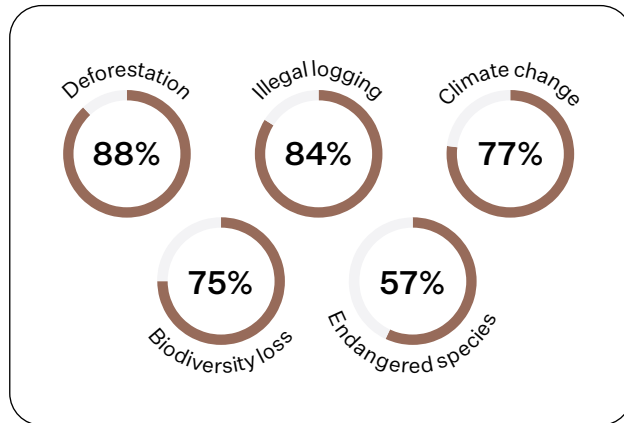
69 companies (38% of all participants) completed the MMCF module in 2022 – a slight drop in participation on the year before.

The following analysis is based on the 69 companies that completed the MMCF module. Uptake volumes include all MMCF uptake data reported as part of a company's materials accounting, totaling 116 companies.

# Manmade Cellulosics



## Top five risks

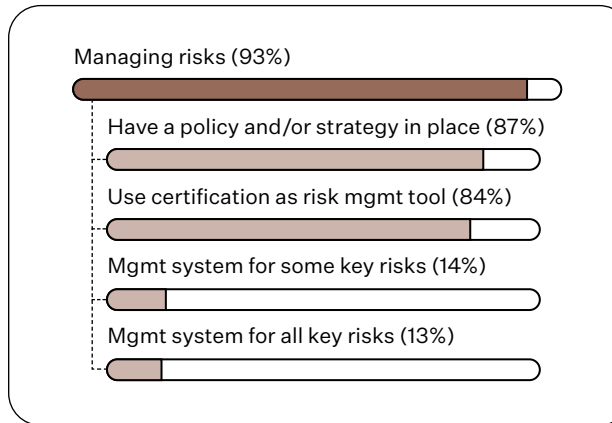


**Deforestation, climate, and biodiversity loss are the top business risks for MMCFs.**

Deforestation sits at the top of the risk list for sourcing manmade cellulosic fibers (MMCF), followed closely by highly associated risks of logging in high conservation value forests, biodiversity, climate change, and species extinction. Increased visibility of the impact deforestation has on climate and nature, alongside new regulations such as the [EU Deforestation Regulation](#) (EUDR) are powerful forces driving companies to act.

The importance of engagement with Indigenous Peoples and Local Communities (IPLCs) will be increasingly evident under the new Global Biodiversity Framework agreed at COP15 in Montreal last year. As custodians of local knowledge as well as land, business will do well to seek and listen to the advice IPLCs can offer, as well as ensuring benefit sharing and seeking appropriate [free, prior, and informed consent](#) as and where required.

## Risk management



**Companies set sourcing policies and depend upon forest product certification.**

Risk management is mostly in the form of policy adoption, including sourcing from suppliers that have been assessed and hold [CanopyPlanet Green Shirts](#) and/or provide certified forest feedstock (namely FSC® and PEFC). For smaller companies, sourcing may sit entirely with one or two suppliers. Many participants recognize the opportunity to transition more of their MMCF feedstocks to post-consumer textile and away from virgin forest-based feedstocks, but our data does not indicate this ambition has resulted in mainstreaming or even much growth in actual sourcing of “next generation” MMCFs.

## What companies are saying

### Risk management:

We conducted a global materials mapping exercise to inform our sustainable materials strategy. Considering the volumes of various raw material types, as well as business risks and opportunities, we identified priority areas of focus within natural, synthetic and animal based raw material categories. To implement this strategy, we are introducing new resources, tools and trainings to our raw materials and design teams to enable them to incorporate sustainability considerations into their daily activities.

### Risk management:

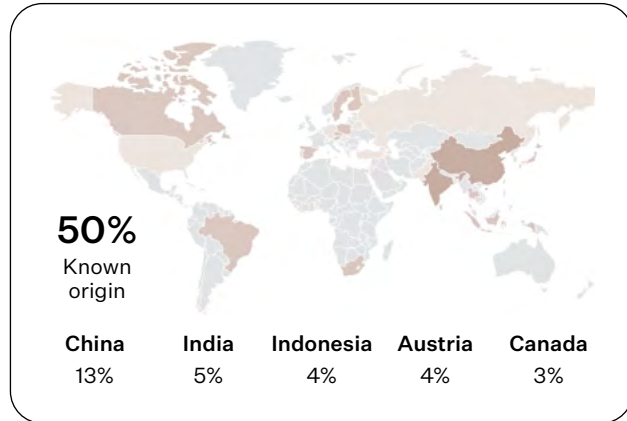
The two most important factors in the procurement of cellulose fibers are the source of the cellulose and the processing of the raw material into textile fibers, as high amounts of energy, water and chemicals are required to manufacture the fibers.



# Manmade Cellulosics



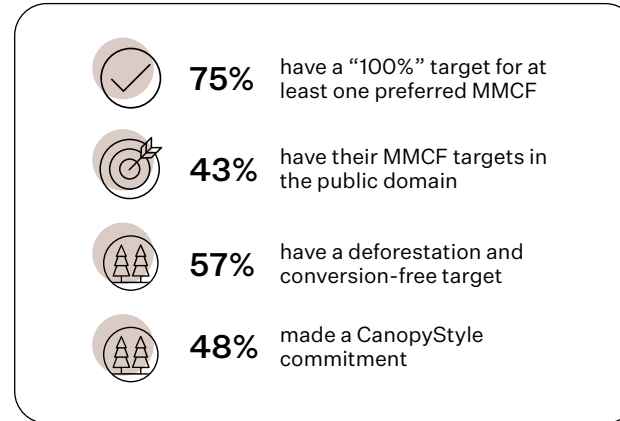
## Transparency



Transparency of origin has not changed from the previous year, but the pressure is on as deforestation regulations come online.

Transparency back to forest or alternative sources remains challenging due to the complexities of physically tracking all the way from forest to finished product. However, in 2021, half of the total reported volumes of MMCF can be identified back to sourcing origins. Top countries, according to transparency, are China, India, Indonesia, Austria, Canada, and South Africa.

## Targets



Deforestation and Conversion-Free Targets have jumped to 57% from 22%.

An impressive 57% of participants claim to have a Deforestation and Conversion-Free (DCF) target. This figure is all the more interesting since the share of participants with a DCF target was 22% last year. Tightening legislation, the connection between deforestation and land use change to climate change, and the increased awareness of biodiversity loss makes solid action around forests essential. 75% of module participants have adopted a target for "100% more sustainable feedstock." This usually translates to the use of certification, a preferred process such as lyocell (over viscose), and/or sourcing from a nominated supplier. Overall, companies' commitment to the sustainability of MMCF is growing. 48% have made commitments aligned with the [CanopyStyle initiative](#) and 43% have made their MMCF commitments or targets public.

## What companies are saying

### Transparency:

As we work towards greater uptake of MMCFs in the upcoming years, we will build in greater levels of traceability information/documentation. Unfortunately, we have not been collecting full traceability data of the pulp or fibers but will work to do so in the future.

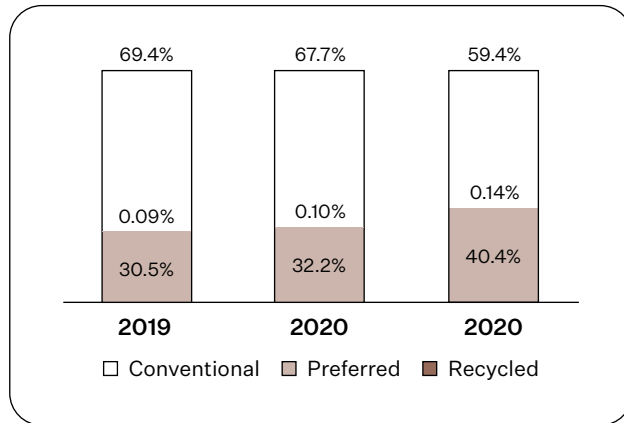
### Transparency:

We became a signatory of the CanopyStyle and Pack4Good policy. As part of this policy we have commitments to eliminate sourcing from ancient and endangered forests, which is part of our strategy.

# Manmade Cellulosics



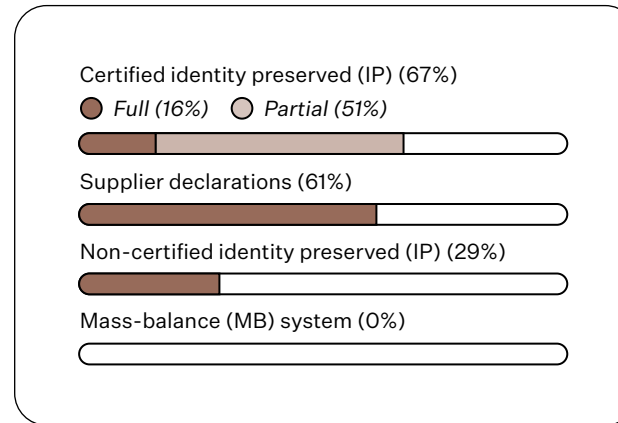
## Progress to preferred



### Certified MMCF uptake has tipped the 40% mark.

The third most prolific textile category, MMCFs (including viscose, lyocell, and modal) is certainly one to watch due to the innovation underway but also the high-risk to deforestation and forest degradation associated with wood-based fibers. The volume of MMCF from certified forest sources in 2021 has increased, after a few years of relative stagnation in reported volumes. While volumes of recycled cellulose feedstock have almost doubled, volumes are still small. Overall, increases in certified MMCF outpaced the growth of uncertified, but there was some growth in the reporting of conventional volumes, adding to the overall increase in volume of MMCFs sourced.

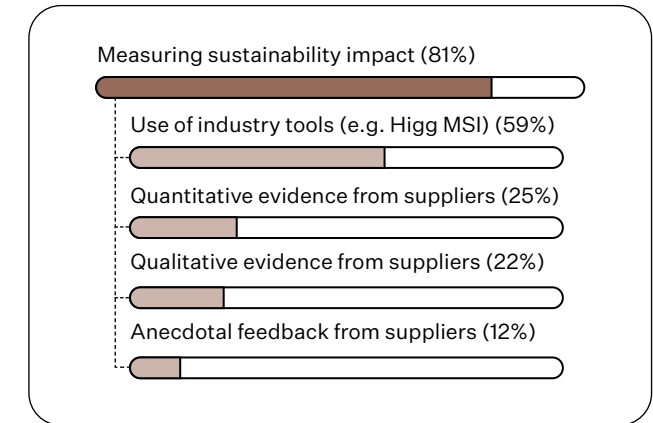
## Verification



### Certification is growing as dependency on supplier declarations reduces.

Companies' reliance on supplier declarations to validate their MMCF credentials continues to wane. 67% now use identity preserved (IP) systems (e.g., FSC®, PEFC, GRS) to verify at least some of their wood-based or recycled sourcing (more than doubling since 2019). Use of non-certified IP systems significantly increased over the years, but this year witnessed no growth.

## Impact monitoring



### Companies continue to use industry measurement tools.

Most module participants are measuring the impact of MMCF production, mainly by using industry tools, such as Life Cycle Analysis or the Sustainable Apparel Coalition's Higg Materials Sustainability Index (Higg MSI) for measuring impacts such as greenhouse gas emissions.

# Wool

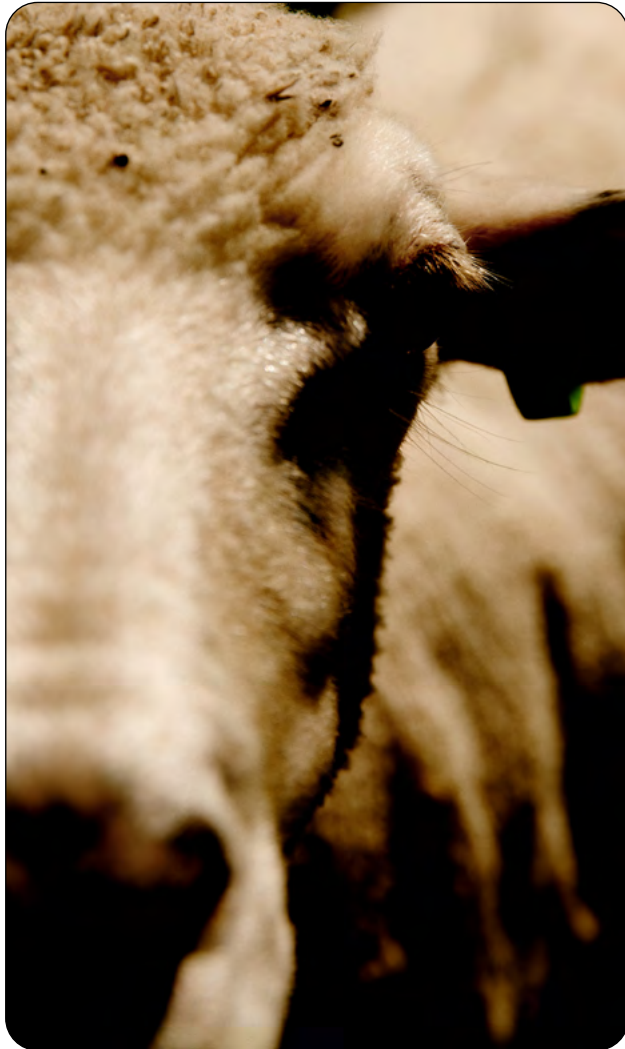
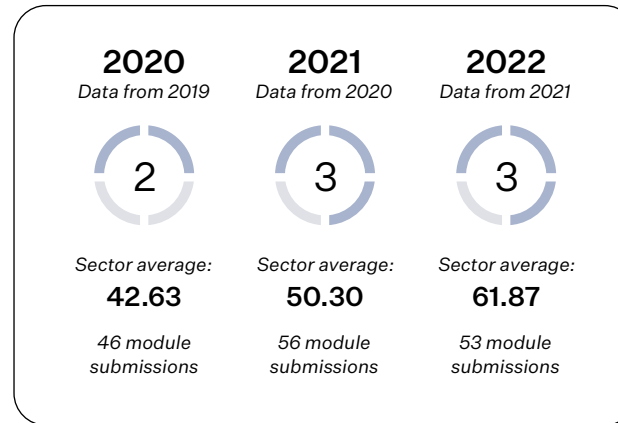
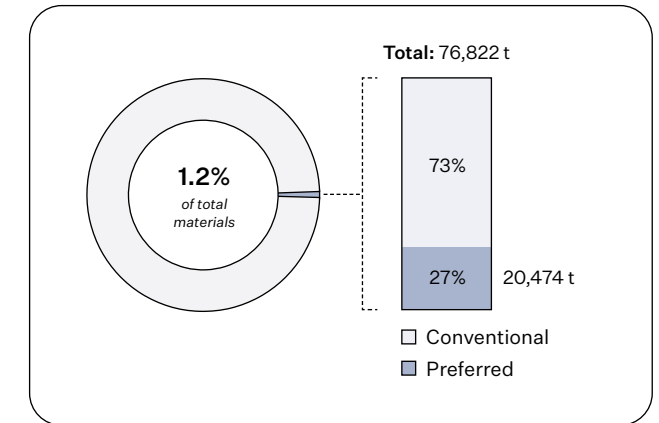


Photo: Joss McKinley

## Participant profile



## Wool portfolio



### Performance in the MCI Wool Index continues to strengthen.

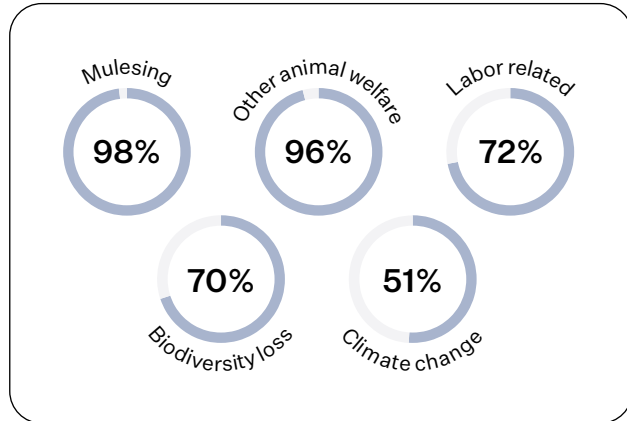
Wool comprised 1% of materials reported in the benchmark, which is on par with the share of global wool production. Certified wool, from both renewable and recycled sources is now 27% of the 2022 wool usage by participants. The use of more sustainable wool by the 2022 cohort of participants far outpaces the growth of the world's wool supply that is produced within a more sustainable wool program (3%).

Over the last year, the MCI Wool Index moved up almost 12 Index points after moving up almost eight Index points the year before, reflecting accelerated improvements in wool sustainability and sourcing strategies.

The following analysis is based on the 53 companies that completed the wool module. Uptake volumes include all wool uptake data reported as part of a company's material accounting, totaling 106 companies.



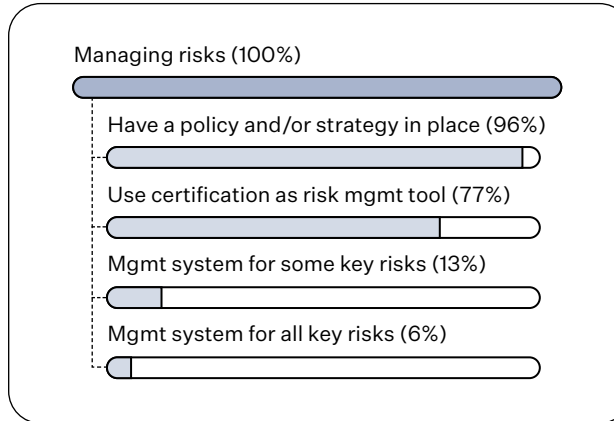
## Top five risks



**Animal welfare and labor-related risks are key concerns for wool users.**

Mulesing and other animal welfare risks continue to top the risk list. Wool users also have on their radar labor related risks. Climate and biodiversity, increasingly recognized as two sides of the same coin, feature in the top five risks for wool users.

## Risk management



**Policy and certification increase in importance as risk mitigation measures.**

The number of companies formalizing policies, developing strategies, and using certification to mitigate risks associated with their wool use continues to increase. 77% are using certification, up from 68% the previous year, as a key risk management tool. The Index has seen the number of companies not managing wool risk decrease from 30% to zero over four years. These improvements reflect major changes in awareness by wool users.

## What companies are saying

### Risk management:

By signing our supplier contract, all of our business partners ensure that products from animals are derived only from animals that are bred, raised, kept, transported, handled and killed according to the applicable laws, regulations and conventions and where the Five Freedoms of animal welfare are respected.

### Risk management:

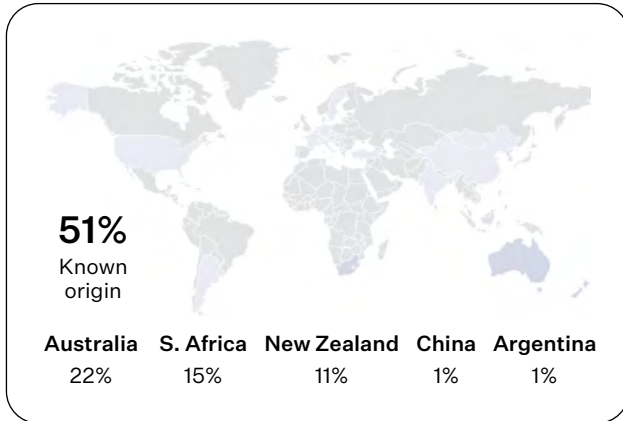
We visit our partner in Argentina regularly and assess risks at site, as well establish corrective action plans together if needed. In 2021 our intervention (farm visits and random checks) helped us identify a non-compliant wool source.

### Risk management:

We are aware of the risk in terms of biodiversity because we have carried out a materiality assessment for all fibers.



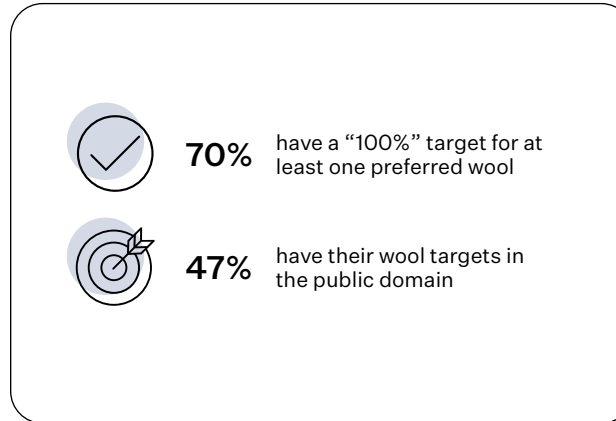
## Transparency



Country of origin transparency now at over half of all reported volume.

Country of origin transparency continues to improve, with volumes from Australia, South Africa, and New Zealand making up the bulk of the 51% of wool volume that was traced back to source in 2021, with the remaining volumes traced back to Argentina, China, Italy, and Uruguay.

## Targets



Considerable progress made by companies to meet wool targets.

70% of reporting companies have set measurable targets for “100% uptake of preferred wool” in 2021. This share of the Index continues to grow, compared to 35% in 2019. Nine companies have already achieved 100% preferred wool and 32 are at 50% or more of their total wool use.

## What companies are saying

### Transparency:

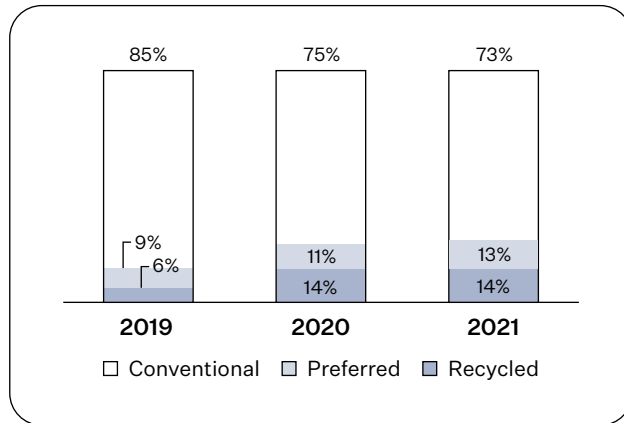
We have mapped our entire supply chain. An internal wool database has been created with detailed information about our wool suppliers, their fiber sourcing countries and their processing facilities.

### Targets:

We’ll use wool from sheep that are responsibly raised, on land that is managed with concern for the environment. Our goal is sourcing 100% of our wool from responsible or recycled sources by 2025.



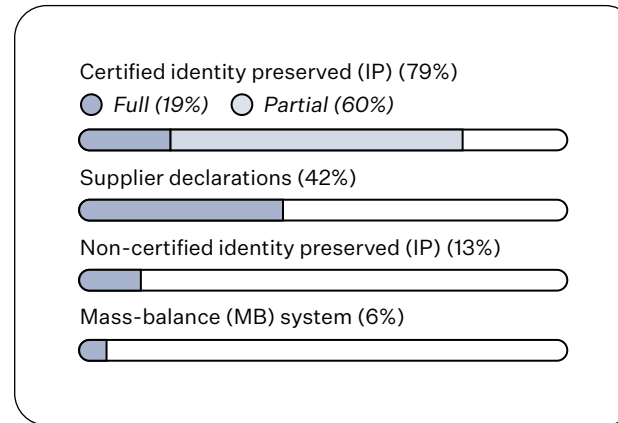
## Progress to preferred



### Preferred wool continues to increase, however so does conventional wool.

The uptake of both recycled and preferred, renewable wool (e.g., Responsible Wool Standard, ZQ certified), continues to increase. However, so too does conventional wool, possibly reflecting a return to business-as-usual by some wool users that have not managed to convert a growing wool portfolio to certified. The interesting parallel growth in recycled and certified virgin wool possibly reflects the profile of the benchmark cohort more than the industry more broadly.

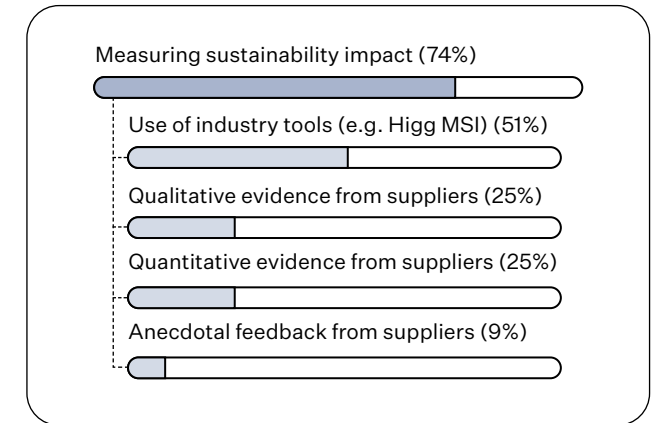
## Verification



### As preferred wool use grows so does certification.

The use of verification programs associated with preferred wool has increased over the past four years. Certified identity-preserved programs such as the Responsible Wool Standard for virgin preferred wool dominate the certification options, and Global Recycled Standard for recycled. Overall use of certification is now at 79% from 64% the previous year – although as with all chain of custody, the challenge is to get from partial supply chain coverage to fully certified.

## Impact monitoring



### Wool users continue to improve monitoring of impact.

Impact monitoring of wool continues to increase as more companies look for evidence of the benefits associated with sourcing wool. Alongside industry tools, companies are gathering qualitative and quantitative information from suppliers or sourcing partners and using data to support case studies and communications.

# Case Study



## Fjällräven

Founded in 1960, Fjällräven's brand was born from a love of spending time outdoors and making nature accessible to more people. The Swedish outdoor clothing company's respect for the natural world is reflected in its raw materials sourcing decisions too, which prioritize finding more sustainable solutions.

We spoke with Johanna Mollberg, Fjällräven's Sustainability Manager of Materials and Products, to find out about the brand's journey with regenerative, traceable, and recovered wool.

### How important is wool to Fjällräven?

Wool is very important to us, and we hope to use it in more innovative and unconventional ways. It's one of the world's oldest materials, yet one of the most technically advanced. It suits Fjällräven perfectly thanks to being durable, long-lasting, odor resistant, breathable, and excellent at regulating temperature – in other words, ideal for outdoor adventures.

### Fjällräven has made significant progress by working with ZQ in New Zealand and investing in its regenerative wool program. How has this laid the groundwork for the future?

It has been great to get a better understanding of ZQ and its goals, which center around protecting animal welfare, the environment, and farmers' livelihoods. Moving forward, Fjällräven has committed to using the ZQRX index, which outlines farms' regenerative potential, highlighting the ways in which they are operating beyond the already high

starting point of ZQ certification. We aim to align with the principles of regenerative farming and intend to apply this approach to more fiber types in the future.

### Tell us about implementing your Swedish wool pilot program within the local community. What challenges did you face, and how did you overcome them?

This was a collaboration we did with Brattland, a farm in northern Sweden. The aim was to get an understanding of holistic approaches to farming. It was also the start of our "wool promise," focusing on achieving wool certification and traceability. To do this, and to learn about more sustainable wool sourcing on a global scale, we had to do our homework and start small.

It's actually easier to start with the fiber than trying to dig yourself back from the finished product. That's why it has been key to keep the supply chain short, with a select few valuable partners and strong relationships all the way through.

It was a real challenge, especially since we wanted to keep the full supply chain in Sweden initially. However, there are only a few very small spinners in Sweden today, mainly focused on handcraft. When two of the spinners closed, we decided to do the spinning and knitting in Italy. We learned a lot through this. In Italy, they requested more consistent wool quality. That was the start of "The Swedish Wool Initiative" for us: a collaborative project between different brands and stakeholders in the wool community in Sweden, aiming to create a national sorting and classification system.

### How did you collaborate with external stakeholders in the creation of your Recovered Wool program?

We collect wool from farms via our partner, Ullkontoret, on the island of Gotland. It's coarse, unlike the finer fibers of New Zealand wool, but it still has all the properties that make wool a brilliantly functional material. After a lot of time trying to decide how best to use it, we reached out to Lavalan, a German company producing nonwovens. A visit to Gotland, a tour of the farm, and a handshake was the start of using recovered wool. It is now used as padding for our jackets and even a sweater.

### What advances have you made with traceability, and what have you learned from this?

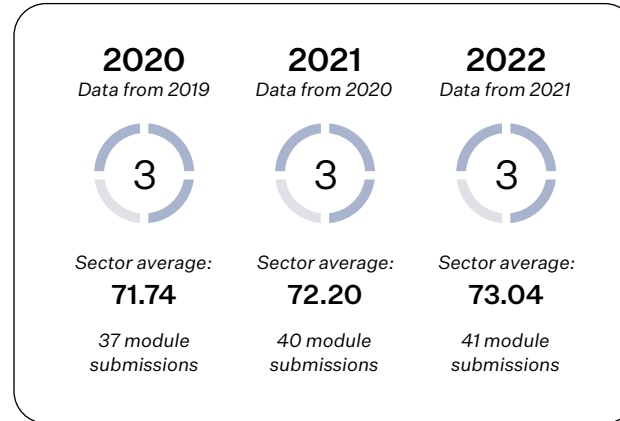
It's tricky to get supply chain visibility all the way down to the fiber level. But it's actually easier to start with the fiber than trying to dig yourself back from the finished product. That's why it has been key to keep the supply chain short, with a select few valuable partners and strong relationships all the way through.

### How has benchmarking helped you improve?

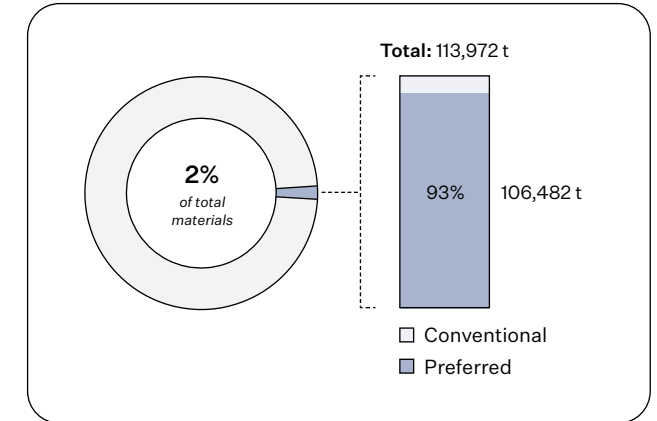
The benchmark has been a great tool to show us the bigger picture and the gaps in our knowledge. It allows us to plan ahead, set our future goals from an informed perspective, and discover new focus areas.



## Participant profile



## Down portfolio



### MCI Index for Down remains solid.

Compared to volumes of other fibers and materials, down is small in volume, mostly used for insulation and padding. This year not only did the total volume of down increase, but the down portfolio also changed in interesting ways. For starters, an increased volume of conventional down was reported, dropping the volume of preferred from 97% to 93%. But much more interesting was the increased volume of recycled down reported. While only sitting at 1.7% of overall down use, the number of companies using recycled down is now at 15, and the volumes being used are almost 2,000 tonnes and increasing each year. These numbers send a clear signal to the industry.

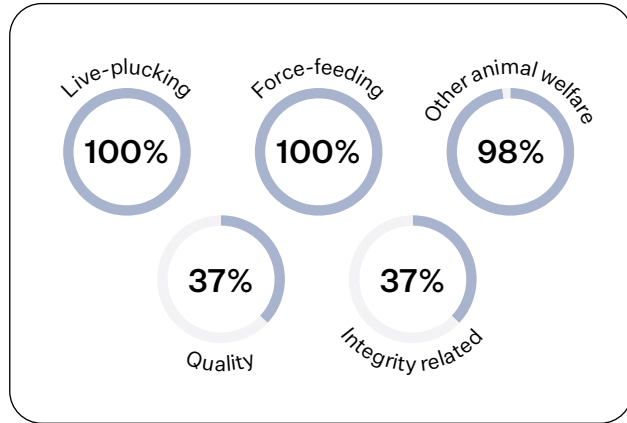
41 companies completed the down module in 2022, up one from last year, and the MCI Down Index has remained on par in the Level 3 (Maturing) band.

The following analysis is based on the 41 companies that completed the down module. Uptake volumes include all down uptake data reported as part of a company's materials accounting, totaling 59 companies. The down analysis is derived from both duck and goose down and feathers.





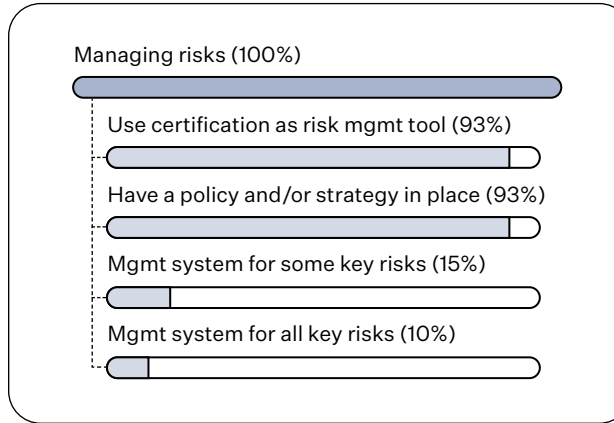
## Top five risks



**Integrity and quality join welfare-related risks in the top five.**

The overarching risk in down sourcing lies in the treatment of the ducks and geese, with live plucking, force-feeding, and other welfare related risks top of mind for down module participants. The integrity of certified down remains paramount and for the first time the quality of down enters the top five risks to business, potentially due to the increased use of recycled down.

## Risk management



**Policy and certification key strategies for managing down-related risks.**

Over the past four years, our data reflects the high use of certification by down participants. Companies have developed animal welfare policies and have strategically transitioned to certified down use (predominantly the Responsible Down Standard and DOWNPASS) to reduce the risk of animal welfare issues in their supply chains. Recycled down is an option of growing interest and potentially being used to manage risks associated with feathers and down sourcing.

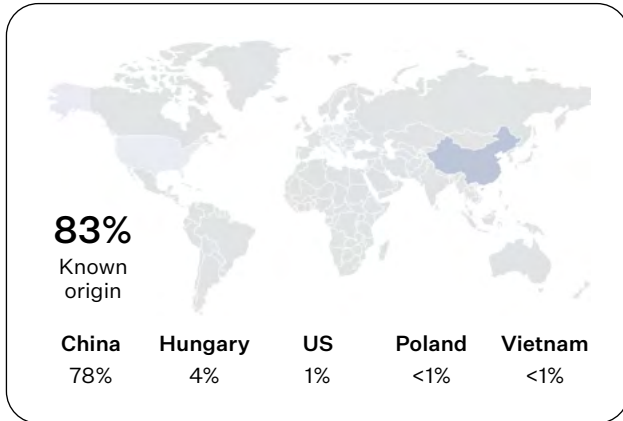
## What companies are saying

### Risk management:

We have internal policies and procedures relating to animal welfare. 100% of down must be Responsible Down Standard certified or recycled. Our animal materials sourcing policy will be published soon, but all suppliers must adhere to these requirements.



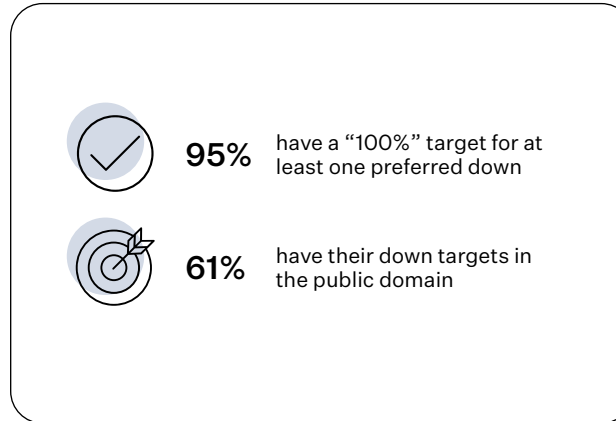
## Transparency



### Majority of down sourced can be traced to China.

Visibility of sourcing countries cover 83% of down and feather volume. China continues to dominate the down and feather supply as reported through the benchmark. The other countries are Hungary, the US, Poland, and Vietnam. While country of origin can be reported, the exact locations of the farms are still opaque.

## Targets



### Targets and sourcing of certified down remain high, alongside growth in the use of recycled.

95% of the 41 down module respondents are at 100% preferred down with almost two thirds of companies communicating their down targets in the public domain. The biggest change in down sourcing is the increase in recycled down and synthetic alternatives, with the sustainability angle focused on the use of recycled content.

## What companies are saying

### Transparency:

We have implemented a system to enable us to trace down and feathers from the supplier back to the slaughterhouse and down to direct farm level. Suppliers of down and feathers must also ensure sub-suppliers comply with the same requirements.

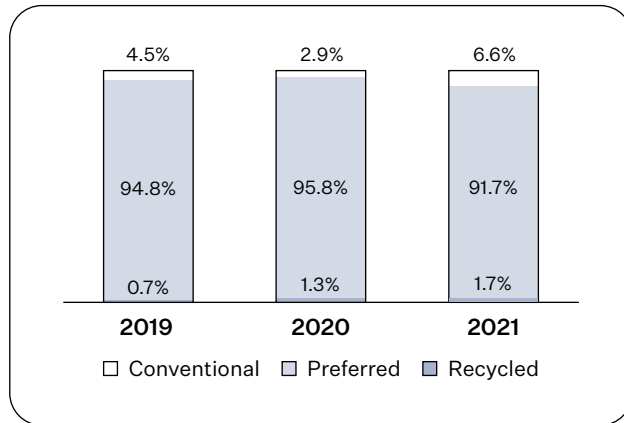
### Impact monitoring:

There is better animal welfare after changing transportation systems and stricter animal welfare standards. We do annual inspections and audits and have CAP processes on improvements which are recorded internally.

# Down



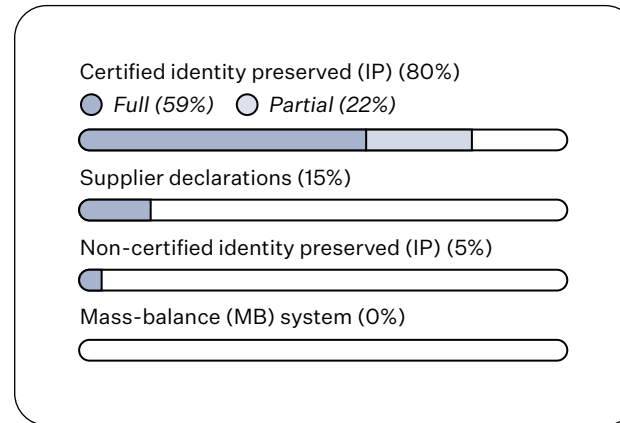
## Progress to preferred



**Down portfolios are shifting to reflect the emerging growth in recycled.**

The preferred portion is dominated by the sourcing of Responsible Down Standard (RDS) certified down and feathers and DOWNPASS certification, and a small volume of organic. However, the most interesting growth comes from the volumes of recycled down. As predicted in the previous Material Change Insights report there is a parting of the way between companies using certified down and others looking to alternatives for padding and filling, such as recycled synthetic fibers and recycled down and feathers. Almost 2% of volume is now coming from recycled sources.

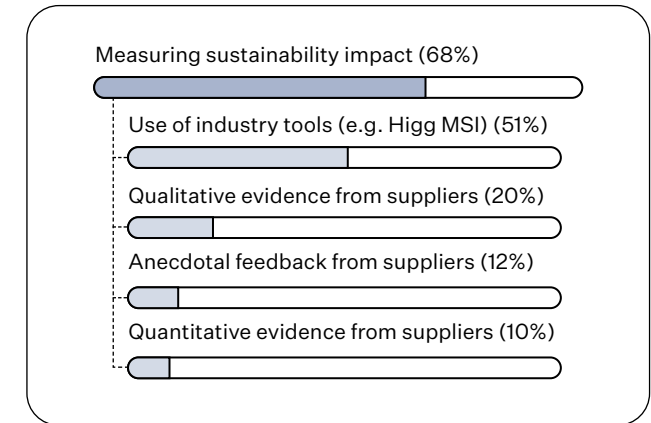
## Verification



**Majority of down certified to a farm standard or recycled.**

The majority of down sourced by participants is certified to the Responsible Down Standard (RDS), DOWNPASS, a small amount of organic (Global Organic Textile Standard, Organic Content Standard), and a growing volume of recycled (Global Recycled Standard and Recycled Claim Standard). Down is a commodity that can be relatively easily transitioned to certified due to lower numbers of down manufacturers (although the linkage between farms and textile companies is aggregated at the abattoir). Demand can be driven through supply partners back to the sourcing agents and farmers.

## Impact monitoring



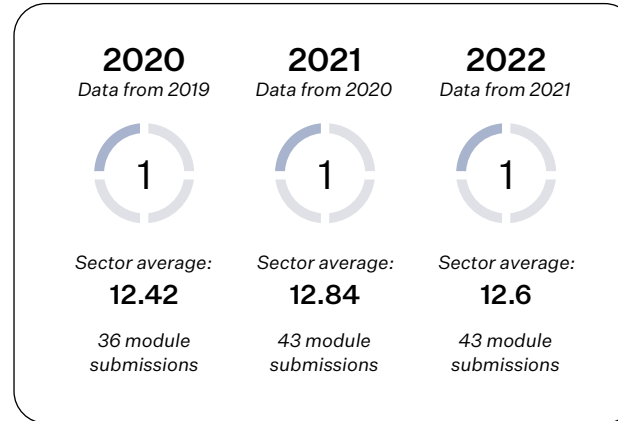
**Companies rely less on impact metrics and more on animal welfare certification when it comes to monitoring their impact.**

For down, there is more focus on certification and less on impact measurement when compared with other materials, given the focus is on animal welfare. When they do however, industry tools are most likely selected to measure and report on sustainability impacts.

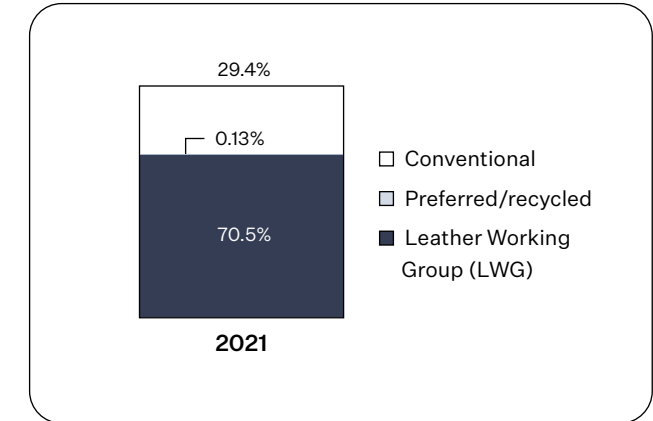
# Leather



## Participant profile



## Leather portfolio



### MCI Leather Index in the early stages at Level 1 (Developing).

Leather volumes (measured in weight of fresh hides) reported through the benchmark represented approximately up to 3.7% of the global leather production in 2021 (over 12.5 million tonnes, see the [Preferred Fiber and Materials Market Report](#)).

Cattle hides were the most used type of hides by participants, with 37 leather module participants reporting on bovine leather. Other animal-based leathers were reported in small numbers such as water buffalo.

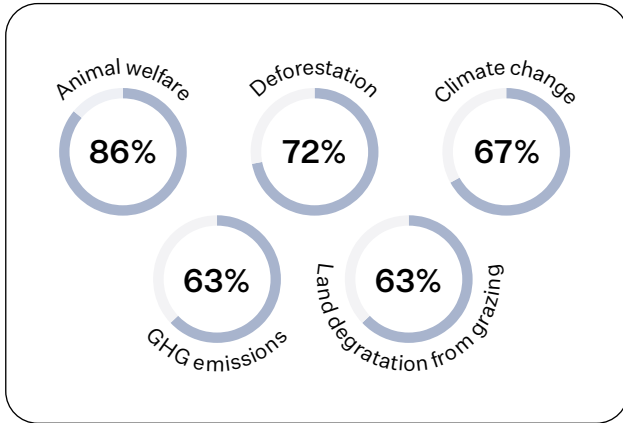
70.5% of leather was sourced from Leather Working Group certified tanneries.

The MCI Leather Index is currently at a Level 1 (Developing). This considerably lower average (compared to other modules) reflects the limited options there are currently for leather programs (standards, certification at “Tier 4”) and challenges in connecting back to origin, as much as it does the early stages of company management and performance of their leather supply. As a high-risk material and a priority for Textile Exchange as well as many brands, we will see more activity in the leather space.

43 companies (24% of all participants) completed the leather module – no change from last year. The following analysis is based on the 43 companies that completed the leather module. Uptake volumes include all leather uptake data reported as part of a company’s materials accounting, totaling 68 companies.



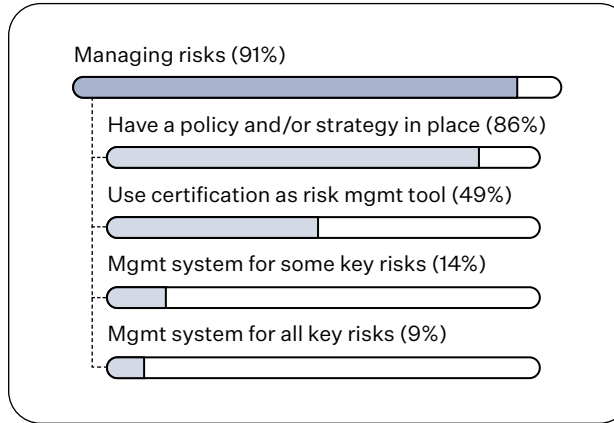
## Top five risks



**Animal welfare, deforestation, and climate change remain the top risks.**

Animal welfare and deforestation are the most highly rated risks for leather. Leather risks are intertwined with risks associated with cattle farming and the meat industry since leather is usually a by-product of meat. Forests are at risk in countries such as Brazil due to land clearing for cattle ranching and animal feed production (such as soy). Deforestation (and land use change) are receiving more attention with each passing year, due to the connection to climate change and biodiversity loss, as well as human rights such as those of Indigenous Peoples. Legislation that has been looming has now arrived, such as the European Union’s Deforestation Regulation (EUDR) and will emphasize deforestation as a priority risk for leather users.

## Risk management



**Companies use policy to help mitigate risks.**

In 2021, 91% of participants have started managing risks associated with leather sourcing. 86% have developed animal welfare and/or leather sourcing policies or strategies and 49% refer to the use of certification schemes. When it comes to certification, most companies are referring to their use of Leather Working Group (LWG) certification that starts at the tannery. Connecting back to the farm level is complex and challenging, but there is genuine interest by companies and innovative work underway to enable the connection to be made.

## What companies are saying

### Progress to preferred:

We give preference to leather providers that are certified under the Leather Working Group and to bonded leather fibers certified by the Global Recycled Standard or by the Recycled Claim Standard.

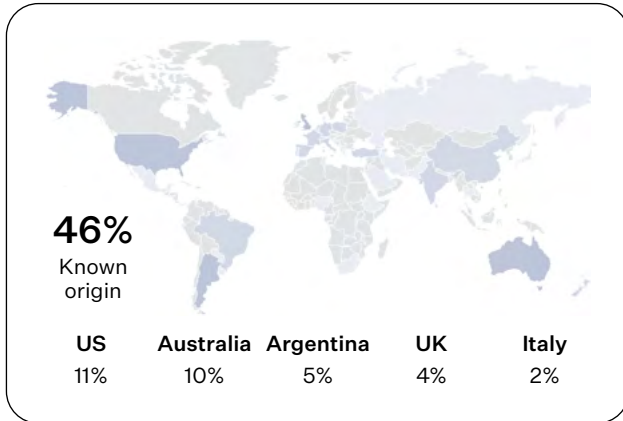
### Transparency:

For every batch of leather or skin delivered, the tannery must upload a tannery, SL and trader self-declaration and a traceability summary. Declarations include information on where the animal is from, that the animal has been well cared for and free from harm, that they do not come from protected regions where we will not allow sourcing due to deforestation, and that they can provide all documentation should we ask for it.

# Leather



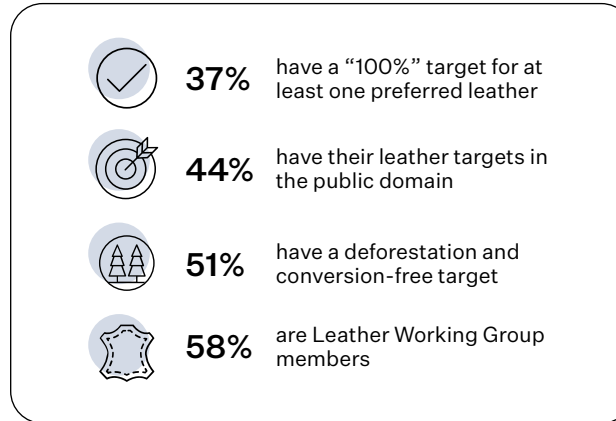
## Transparency



### Country of origin transparency has more than doubled.

Transparency by volume has increased from 15% to 46% between last year and this year. The US, Australia, and Argentina, followed by the UK, Italy, France, and Brazil, were the countries most cited as sourcing locations for leather products, and likely to be a combination of processors and feedstock origins due to the challenges mentioned earlier in tracing to farm. Farm-level supplier mapping remains a challenge with only 14% reporting to have carried out this exercise. However, 65% of participants have mapped most of their leather supply back to the tannery. This work is in line with the direction and support offered by the Leather Working Group and gives these participants a starting point for going further towards farm location. It is likely that traceability systems, involving tracking devices, will help bridge the gap from processors back to farm.

## Targets



### Over half have set Deforestation and Conversion-Free targets.

51% of leather module participants have targets for Deforestation and Conversion-Free (DCF) leather. Considering this share of participants was 19% last year, it is clear more companies are aware of the issue and want to be part of the solution. The next step will be to track progress and/or compliance with this target. Other targets, as set by the company, include sourcing only from LWG certified suppliers, or chrome-free leather. 58% are Leather Working Group members.

## What companies are saying

### Impact monitoring:

We use Textile Exchange tools and the Higg MSI to measure the savings we are making by replacing conventional leather use with more sustainable leather options. We also use generic data from our consultant experts to calculate the water, climate and energy impact.

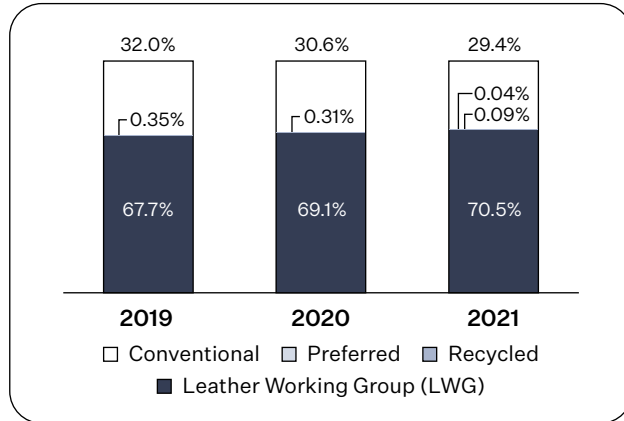
### Targets:

Our goal is to source 100% of our leather from tanneries with environmental, traceability and social compliance certifications.

# Leather



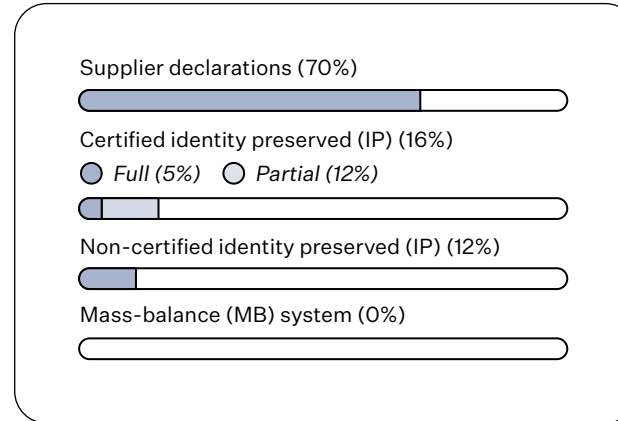
## Progress to preferred



Sourcing leather from LWG certified suppliers is an important step to Tier 4.

Currently “preferred leather” includes organic, recycled, and Land to Market certified. However, we have allowed volumes of leather passing through LWG suppliers as a “half-way base” until other programs at the farm level shape up and become viable options. Currently, 10 companies have achieved 100% LWG status and a further 37 companies have over 50% of their leather supply sourced from LWG suppliers.

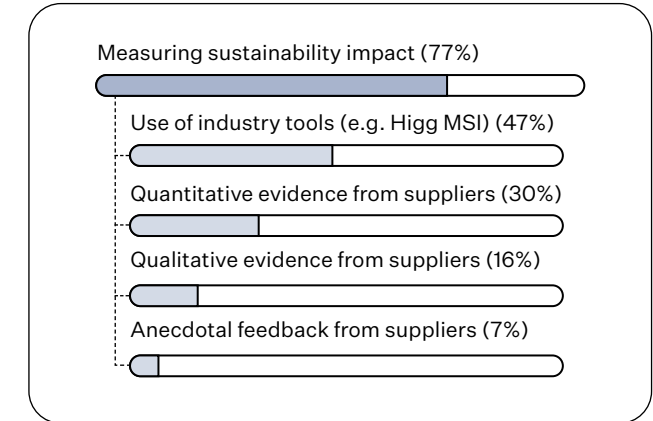
## Verification



Companies use supplier declarations for assuring leather status.

Beyond LWG verification, supplier declarations are used by participants to confirm their leather sourcing is meeting company sourcing requirements or their code of conduct. A further 16% of participants reportedly use identity preserved (IP) systems, mostly Organic Content Standard for organic and Global Recycled Standard or Recycled Claim Standard for recycled. There has not been much evidence to suggest traceability through digital or blockchain-based systems is shifting from pilots and trials into more scalable systems. But these types of platforms will arrive and help create the missing link back to farm.

## Impact monitoring



Industry tools are useful for measuring generic impacts in leather, but more work is needed to prove zero deforestation.

47% of participants rely on industry tools to measure sustainability impacts related to the use of leather. The industry tools and resources most frequently quoted are the Sustainable Apparel Coalition’s Higg Materials Sustainability Index (Higg MSI), and results provided by the LWG on certified facilities.

# Other Materials

## Participant profile and portfolio

Alongside the option to complete the dedicated material modules, such as cotton or polyester, there is the option to select the “other material” module and self-select a material important to the company’s business.

In the 2022 survey, 26 companies reported on one or more additional fiber/material using this option. This was up one from 25 companies in 2021, and nine companies in 2020. Between them, participating companies reported on 12 different material types, up from 10 materials reported in 2021, and eight the year before. Materials reported:

- **Plant:** Flax/linen (4), latex/natural rubber (4), hemp (1), and kapok (1)
- **Animal:** Cashmere (6), silk (2), alpaca (1), llama (1)
- **Synthetics:** Elastane (3), acrylic (1), biobased (2)

## Top risks identified

While it is impossible to aggregate risks across the reported material categories there are some observable trends, which will not be surprising. These include human rights- related risks, animal welfare and that of wildlife, climate change, and use of non-renewables and chemicals.

### Plant fibers and materials:

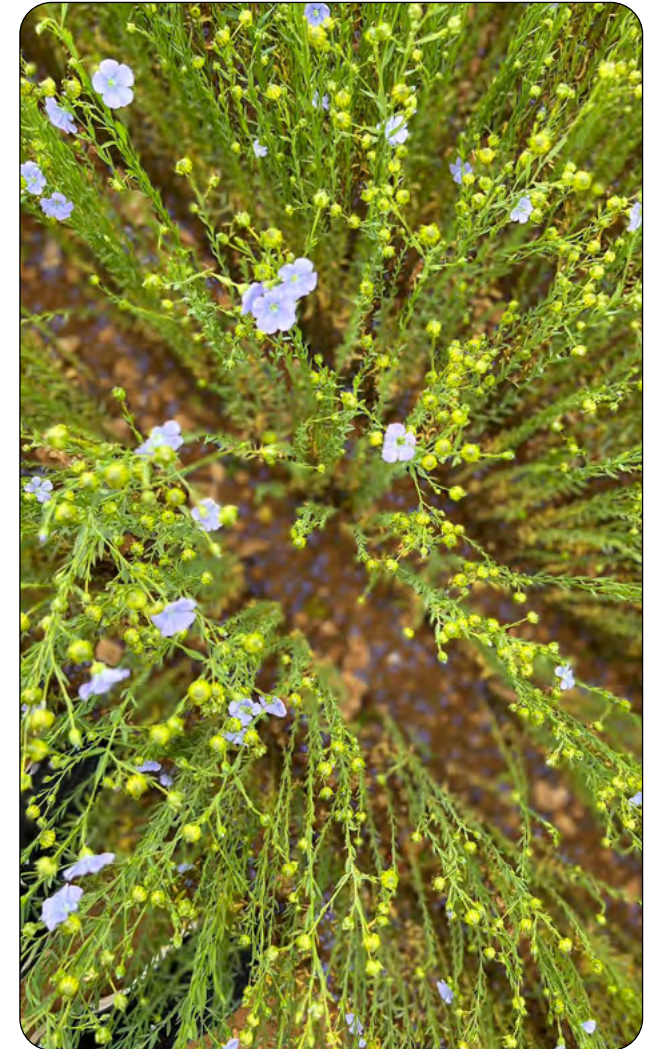
- Child labor, forced labor
- Climate change, pesticide exposure, soil degradation
- Biodiversity loss and land use change
- Water scarcity, water pollution

### Animal fibers and materials:

- Animal welfare
- Climate change, greenhouse gas emissions
- Land degradation from grazing
- Labor-related risks

### Synthetic fibers and materials:

- Chemical-related risks
- Climate change, greenhouse gas emissions, energy use
- Labor-related risks
- Quality





# Special Insight

## Re-defining priority materials

### An evolving landscape-based context for business

For the purposes of benchmarking, Textile Exchange defines a priority material by the scale, risk, and opportunity it represents to the company. Until recently the emphasis of the benchmark has been on scale by volume, meaning the share of a company's portfolio that the fiber or material represents.

Companies can mitigate risk by transitioning priority materials to preferred alternatives which may include use of standards to help address risks inherent to the material.

While standards will continue to be a key part of defining preferred materials and making content claims, we also want to ensure that the practices historically included in standards requirements are actually linking to the beneficial outcomes we want to see.

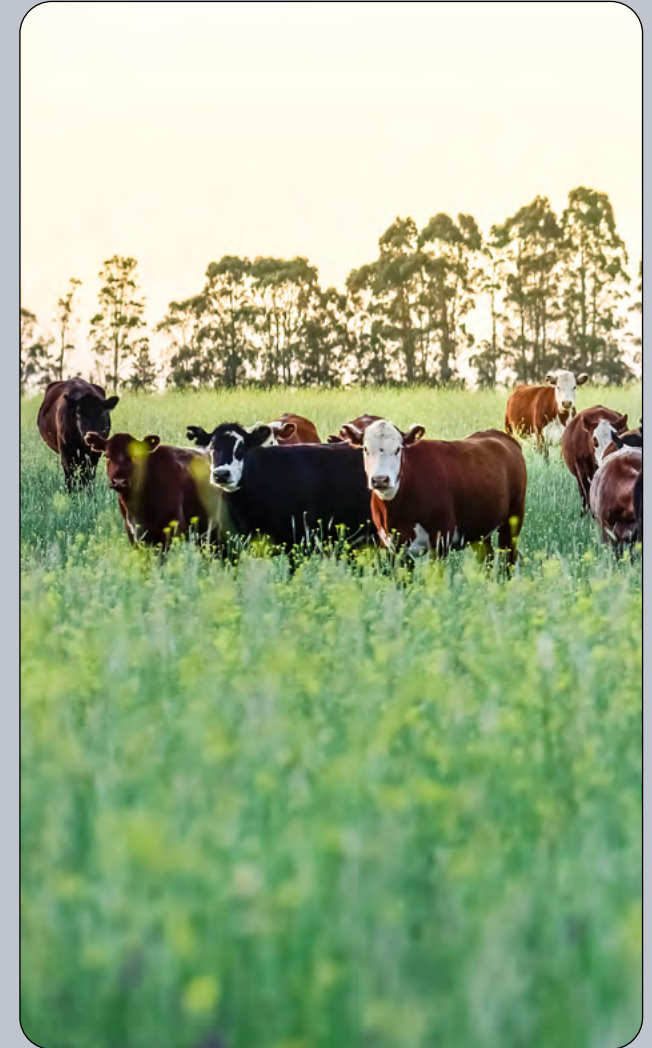
As companies begin to build action strategies around priority materials, based on geography as well as volumes, the emphasis on collective – and connected – action will become more and more apparent. At the same time, going beyond traditional sector-based approaches to consulting and collaborating with a wider set of stakeholders will become increasingly important.

All this leads to a re-defining of priority materials, with a new consideration of broader concerns such as habitat for wildlife and biodiversity, water stewardship, and broader stakeholder representation beyond the farm gate.

This awareness creates the context for not only stabilizing supply and license to operate in the region but also for contributing to long-term resilience and climate adaptation. Thinking about resilience at the landscape level goes beyond the previous definition of “priority” which tended to focus on the volume of raw materials produced and consumed.

An often-quoted example is the production of Mongolian cashmere. Volumes may be relatively low in a company's materials portfolio but the sustainability risks to herders and ecosystems in the production landscapes may be high. For this reason, cashmere is likely to be a priority material when it comes to the business case to act.

Transparency of sourcing locations helps companies decide how and where to prioritize action by shining a light on risks, opportunities, and dependencies beyond material type and volume, and into the landscape setting. This added insight and intelligence can help companies make more informed decisions and illustrate the importance of a materials sustainability strategy going beyond the standards used and into the communities and landscapes from which sourcing happens. Broadening the approach to priority materials also opens the door for companies to think about long-term resilience, materials innovation, circularity, and new business models. And where to work collaboratively to create a positive impact.



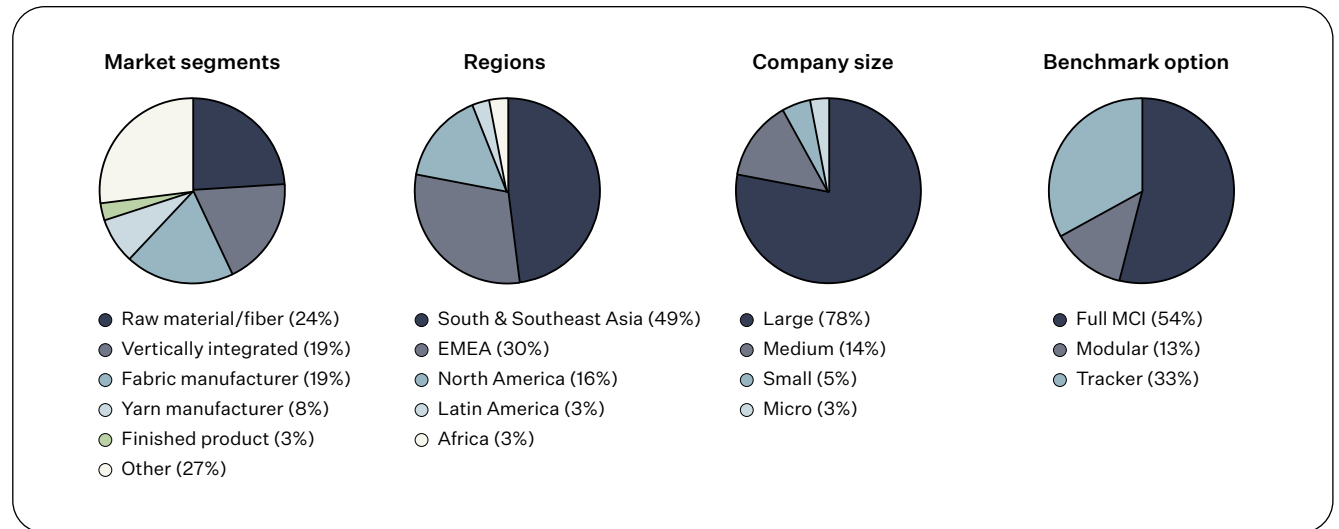
# Extra Insights

# Supplier Benchmark Pilot

2022 represented the third and final year of the Suppliers Benchmark Pilot. Due to the impactful role of suppliers and manufacturers in making responsible sourcing decisions, Textile Exchange has decided to move the program from pilot into the full-service offer starting from 2023.

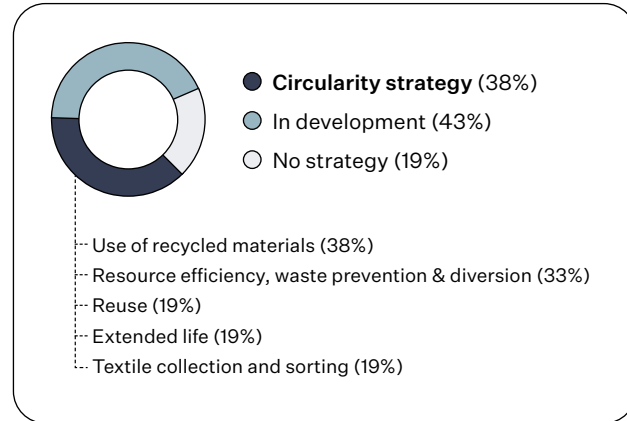
In its third year of piloting, we saw increased participation with 37 companies located at the different tiers of the supply chain (growing from 16 companies in the initial pilot). 20 suppliers completed the full Material Change Index survey, 11 completed the Progress Tracker, four completed as The Fashion Pact members, and two companies completed the Modular option of the survey, focusing on a selected fiber or material of their choice.

A full review was conducted of all surveys submitted. The following segment zooms in on the responses to the circularity section of the benchmark, bringing to life the hard work of suppliers and manufacturers in contributing to the circular economy.



# Supplier Pilot in Second Year

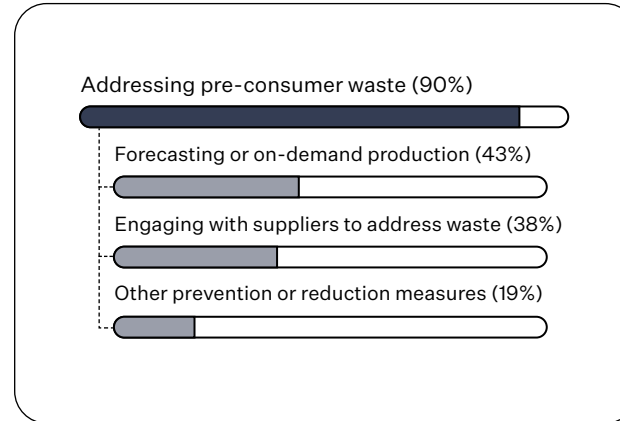
## Circularity strategy



### Circularity strategies growing among pioneering suppliers.

38% of piloting suppliers and manufacturers have a circularity strategy in place with a further (43%) under development. According to the 2021 data, suppliers and manufacturers are mainly focusing on increasing the recycled content of their products (38%) and working on resource efficiency as well as waste prevention and diversion (33%) to be able to reduce the volume of pre-consumer waste during the manufacturing phase. Other key circularity activities include textile collection and sorting (19%) and investigating new ways of extending a product's life.

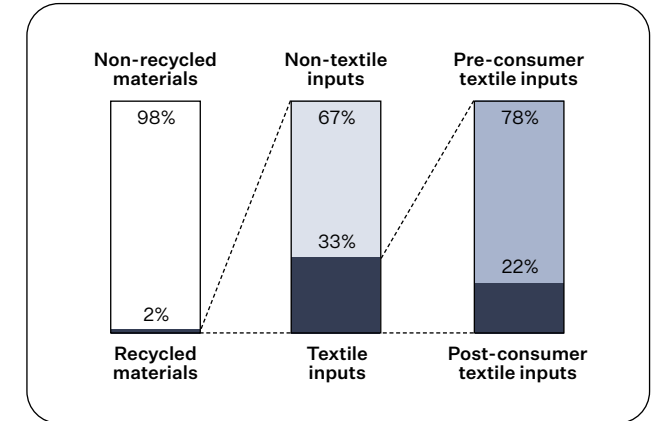
## Pre-consumer waste



### Supply chain partnerships working together to avoid pre-consumer waste.

Almost all piloting suppliers and manufacturers (90%) are addressing the issue of pre-consumer waste during the manufacturing phase. Around half of this cohort are engaging with their supply chain and business partners to map out the hotspots and implement systems to reduce the volume of pre-consumer waste or working with their customers to forecast and plan orders to avoid over-production.

## Recycled content



### Signs of textile-to-textile recycling are emerging.

2% of materials were from recycled content, with the majority (67%) of recycled inputs based on plastic packaging waste and other non-textile waste materials. From the third of recycled inputs that was textile derived, the majority (78%) was pre-consumer waste. However, at 22% of recycled textile content, signs of textile-to-textile recycling are emerging.

# Case Study

## The Schneider Group

The Schneider Group's supply chain begins with the purchasing of natural materials like wool, cashmere, and silk across locations including Australia, New Zealand, Argentina, China, and Mongolia. Dedicated to improving farming practices on the ground, it is prioritizing traceability through its Authentico Integrity Scheme and bringing producer voices to the table through its Natural Fibre Connect conference. We spoke with Willy Gallia, Group Sustainability Manager, to learn more.

### How are you approaching opportunities to improve life for farmers/herders and rural communities?

We aim to improve the livelihoods of farmers, herders, and rural communities at various levels through our sustainability strategy and everyday business, but there are two key examples we'd like to share here.

Firstly, we realized that growers and herders were lacking representation at most working groups and forums. So, we decided to provide them with an opportunity of this kind. We created the Wool Connect conference, which has since evolved into Natural Fibre Connect, to ensure they have a seat at the table when decision-making unfolds within our industry.

The second initiative to highlight is our Authentico Integrity Scheme for traceability along the wool supply chain. By having this level of traceability, we've been able to identify ways to improve the livelihood of growers and herders and have a pilot program set for 2023. We believe it might be a game-changer in this sense.

### How has certification, such as the Responsible Wool Standard helped The Schneider Group's business?

The Responsible Wool Standard (RWS) has helped us to identify best practices and to provide visibility into what is happening on the ground. It has been an inspiration to pursue improvement and to provide a price premium when these best practices are respected. It has also been providing a way to link our product to the brands and growers, connecting the supply chain as never before.

Through our tools and initiatives, we hope to start scaling the best practices that we are identifying to mitigate climate change. This is a year of implementation for us that has the potential to deliver scalable solutions – starting with growers and herders and moving us towards the rest of the supply chain.

### How is climate change impacting your business?

Climate change is at the center of our sustainability strategy and is affecting all aspects of our business. Through our tools and initiatives, we hope to start scaling the best practices that we are identifying to mitigate climate change. We have been also inspired by Textile Exchange's Climate+ strategy and this is a year of implementation for us that has the potential to deliver scalable solutions – starting with growers and herders and moving us towards the rest of the supply chain. The connecting tissues we are developing are aimed at creating the resiliency and mindset that we require to tackle this challenge together.

### What tools and technology has The Schneider Group invested in and what have been the most successful outcomes from these investments?

Technology will bring out the multiple dimensions of impact that our decisions have and link the true costs of each fiber to the buyer and consumer in an increasingly evident way. Investing in technology will be fundamental in the coming years for both Authentico and Natural Fibre Connect – solidifying our approach to traceability, storytelling, and impact measuring. It can help us to reach every corner of the earth and to prove the value that growers and herders are providing to humanity.

# Fundamentals

# Materials Benchmark

## About the program

Building on the success of the program since 2015, and over 12 months of stakeholder consultation with key industry partners and our own internal teams, the 2023 Materials Benchmark has some changes for 2023, including its shorter, snappier name.

### Summary of changes for 2023

- New name “Materials Benchmark”
- New performance bandings to support our Climate+ Goals
- Streamlined Section I: Business Integration and Circular Economy
- Remodeled Section II: Materials Portfolio
- Collaboration and alignment with the Sustainable Apparel Coalition’s Brand & Retail Module (BRM)



# Materials Benchmark

## Unpacking the changes

### Performance bandings

The Materials Benchmark has the responsibility to continually push and challenge our participants and help them set the direction of travel. What is considered leading evolves as the industry changes and evolves, therefore we have revised our performance bandings to reflect where the industry needs to go in line with our Climate+ goals.

### Streamlined Section I: Business Integration

We listened to the feedback and have worked to streamline the number of questions in this section, while maintaining its relevance. In this section we ask about the company's fibers and raw materials sustainability strategy, including incorporation of climate and nature, and how this broader strategy is integrated into the core of the business. This stretch into climate and nature helps us understand if participants are evolving their fibers and raw materials sustainability into Climate+ areas and integrating it into their overall corporate strategy.

### Streamlined Section I: Circular Economy

Linear business models need to rapidly evolve into circular and regenerative models. The number of new materials and products produced needs to be reduced to create meaningful change.

We were extremely grateful to have the opportunity to collaborate with the Ellen MacArthur Foundation again this year. The revised questions are streamlined and focus on the company's transition towards a circular economy and

how companies are implementing strategies to decouple economic activity from the consumption of finite resources and designing waste out of the system.

### Remodeled Section II: Materials Portfolio

Section II remains the core of the program and we have worked to condense and streamline how we ask companies questions to report on their materials uptake. Participants can now build out their own portfolio based on their materials use rather than select from a pre-determined base of materials. We have worked with our Fibers and Materials and Data Intelligence teams to align on program classifications. This year, there is now an extensive list of raw material programs to report on.

The materials modules have been fully absorbed into this section. The data is important to track and record the use (volume) of non-conventional materials as well as conventional. By asking for targets, we can assess the ambition to scale the adoption of non-conventional fibers and raw materials and track industry progress.

### Finalized Section III: Climate & Nature

The aim of this section is to capture the participants' progress, targets, monitoring, and reporting for climate and nature-related activities. In line with our Climate+ goals, we have developed questions on key impact areas.

Prioritizing nature in fiber and materials management and sourcing decisions will bring long-term business benefits, more resilient livelihoods, health and wellbeing for communities, and safer interfaces between wild and managed lands and species. For this to happen, it will

require a heightened focus on designing and implementing biodiversity-sensitive raw materials strategies that drive positive action, as well as outcomes, and impacts that can ultimately be tracked and measured.

Textile Exchange's benchmark has focused on driving a race to the top in materials sourcing, measuring companies' progress in transitioning to more sustainable sourcing. Measuring progress through materials uptake will remain important, however there is an urgent need to think and act strategically about the impacts and outcomes for climate and nature associated with materials production.

Our Climate+ strategy recognizes that climate change and biodiversity loss are inextricably linked and are best considered within an integrated strategy. Our strategic intent is to be a driving force for urgent climate action in textile fiber and raw materials production, specifically through:

- Enabling and guiding the textile industry to reduce greenhouse gas emissions from fiber and raw material production by 45% by 2030.
- Amplifying positive impacts on soil health, water, and biodiversity.



# Materials Benchmark

## 2023 Materials Benchmark Framework

### Collaboration

Our work with the Sustainable Apparel Coalition (SAC) first started in 2021. As the Materials Benchmark went through a transition phase, timing for alignment with the Brand & Retailer Module (BRM) in 2023 made sense as both questions were being revised. We identified around 70 companies that report into both tools and believed it was important to align and reduce some of the reporting duplications.

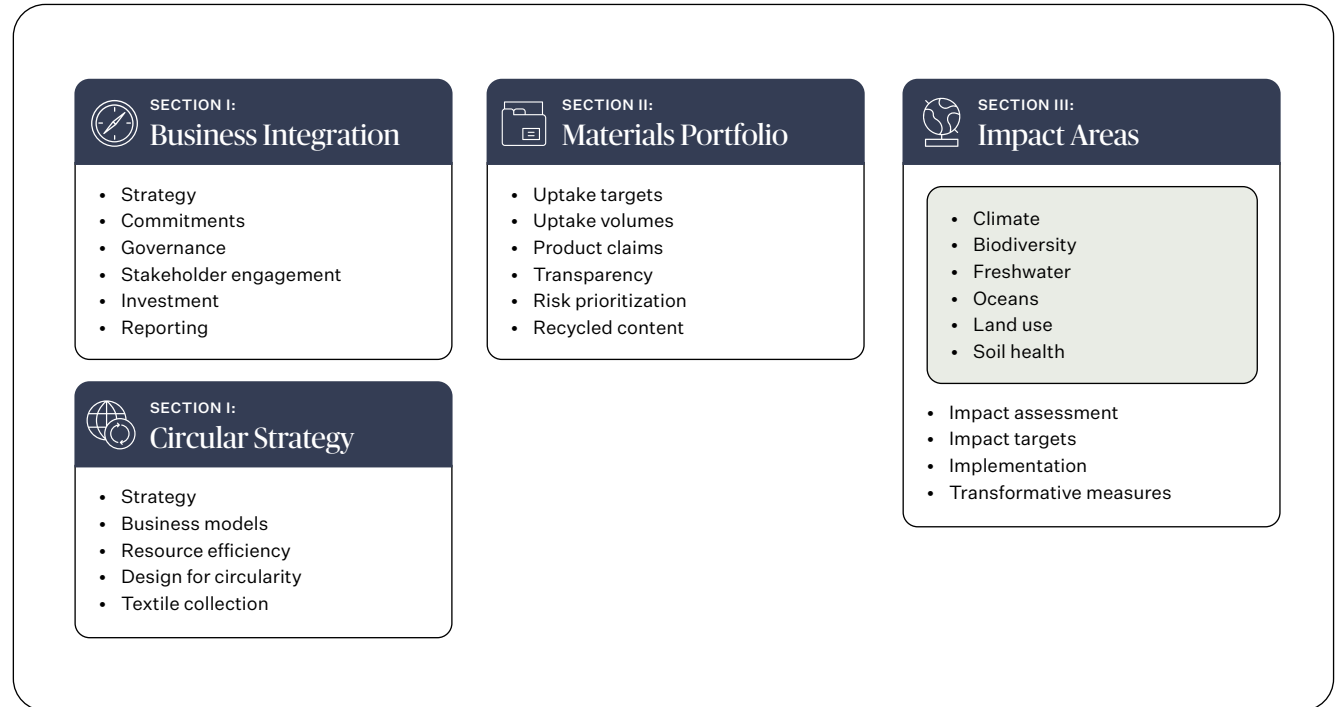
We worked with the SAC team to align on as many questions as possible with the understanding that the SAC Brand & Retailer Module and our Materials Benchmark surveys have different but complementary scopes. Progress was made in question alignment and agreeing industry terminology. Both programs are adopting the same terminology and guidance:

- Definition of preferred
- How to calculate uptake
- Classifications

Moving forward in 2024, we are continuing this partnership and investigating how we can align further and look at data sharing capabilities.

### Updated reporting timeline

This year's reporting cycle has shifted. We will now be opening the survey in April and requiring all submissions by the end of June. This will allow us to analyze the data and provide participants with their confidential scorecards and the associated aggregated data sooner.



# Materials Benchmark

## 2023 Materials Benchmark Framework

### Looking ahead

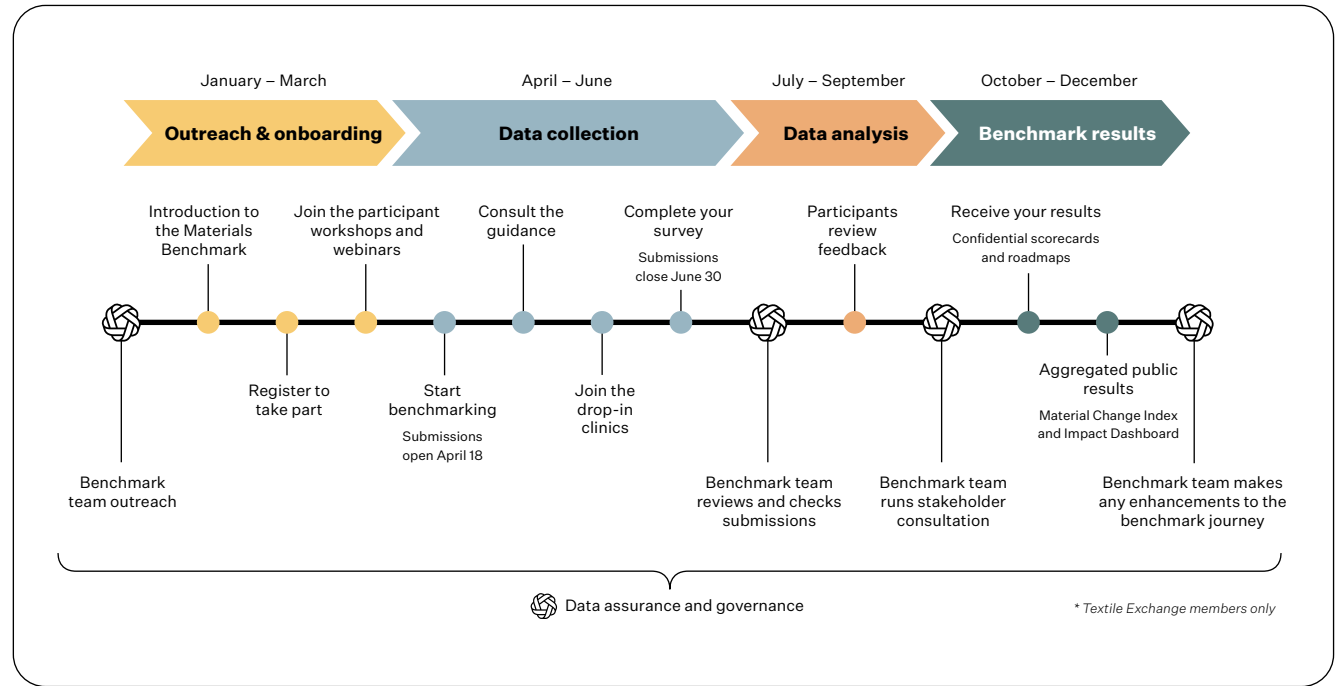
2022 was a great year of growth and transition. Now, our hope is that we increase participation and help provide a best practice framework for our participants.

We are committed to developing and offering the benchmark for suppliers. We have worked with key stakeholders to review the questions, update the result offering and clearly define the scope. And we hope to expand our reporting partnerships with other organizations. Above all, we are committed to supporting companies to create material change.

### Defining “preferred” fibers and materials

In 2010, Textile Exchange began utilizing the term “preferred” to categorize fibers and materials that included environmental or social improvements over the conventional or status quo options. This was aimed at helping to address the growing ambiguity around what constitutes a sustainable or responsible material. In doing so, Textile Exchange provided the industry with guidance to step up its sustainability commitments, and over the years, the definition of “preferred” has continued to evolve to capture its growing progress and ambition.

It is imperative that we do everything we can to help limit global warming to 1.5°C, and the time is now to update the definition of preferred to align with that pathway. In today’s climate, incremental improvements associated with doing less harm aren’t going to get us to our goals. We’ve got to



harness the potential of fiber and raw material production to bring beneficial impacts to people and ecosystems, starting to repair the damage that’s been done.

That’s why Textile Exchange is revisiting the definition to identify key indicators across climate, nature, animals, people, and governance that not only focus on reducing negative impacts but that also drive forward measurable beneficial outcomes.

### Proposed updated definition for a preferred fiber or material

A fiber or raw material that delivers consistently reduced impacts and increased benefits for climate, nature, and people against the conventional equivalent, through a holistic approach to transforming production systems.

To see the criteria for climate, nature, animals, people, and governance, please see our initial guidance on [Preferred Fibers and Materials: Definitions](#).

# Materials Benchmark

## Explore our suite of benchmark results

For the full experience of the 2022 MCI results, this report can be read alongside the Material Change Leaderboard, Materials Dashboard, and Sector Scorecard.

All four products are designed to take the user through the journey of material change – from digging into each company’s performance (Leaderboard) to exploring aggregate level scoring (Scorecard) and modeled impacts (Dashboard).

- The [Material Change Leaderboard](#) is a public resource that celebrates all companies that took part in the benchmark, delivering transparency by sharing participants’ performance banding with the world.
- Our **Sector Scorecard** is designed to help us pin down where progress is happening through a detailed sector level and sub-sector overview. We provide the numbers for apparel and footwear, outdoor and sport, home and hospitality, as well as a multi-sector benchmark.
- The [Impacts Dashboard](#) provides an opportunity for interested stakeholders to observe the progress made by the entire group of benchmarking companies across different impact areas, from preferred materials uptake to climate action.

For further information visit the [MCI website](#) and explore our [suite of guides and reports](#).



# Frequently Asked Questions

## How many companies take part in the Material Change Index?

In 2022, there were 387 participating companies (this includes subsidiaries covered by holding companies). Every year participant numbers grow and change. It is important to mention that the “participant count” is lower since this refers to the number of survey submissions (e.g., a holding company may submit a survey on behalf of multiple brands, but it counts as one submission). Further, a company may submit a fully completed survey (the MCI), a modular response, or a progress tracker (volumetric data only), which means the total count for each section of the survey changes depending on company responses.

## How representative of the apparel and textile industry are the results?

This analysis is based on the results of the 387 companies (explained above) that voluntarily participated in the benchmark in 2022. Results do not represent the entire industry. The estimated combined turnover of the 387 participants was US\$ 1.05 trillion. In comparison, this is approximately 30% of the 1.5 trillion-dollar global fashion industry.

## What year do the insights and data align with?

The date of the report aligns with the year of the Material Change Index survey (2022). The data, however, reflects the previous 12-month “reporting period” of the participants. In most cases this is calendar year 2021, and you will see that the graphs and our analysis point to this date. Note, that some companies report financial or buying year. Ideally, all companies would report in calendar year

for consistency, but as long as the data represents a full 12-months cycle, Textile Exchange prefers participants to use their regular corporate reporting year rather than creating a separate data set for the MCI.

## How accurate are the results?

Textile Exchange puts in place data strengthening requirements at every step of the benchmark cycle, starting with clear guidance and support. The survey requests evidence to back up answers and a sign-off by senior management. We conduct a thorough review of all survey submissions to a formal methodology and share review information back with the company in a documented format allowing the participant to respond before a change is made. Each year, our systems and process are reviewed by Elevate, a third party, and we are issued with an assurance statement along with improvement suggestions. Benchmarking is about continuous improvement and each year we aim to see improvements by companies and ourselves alike.

## What is the difference between this report and Textile Exchange’s Preferred Fiber & Materials Market Report?

The [Preferred Fiber & Materials Market Report](#) is an annual report on the global production of materials (the supply-side), while the Material Change Insights covers the progress made by a sub-set of the brand and retailers (demand-side) reporting into the benchmark. Both reports reflect deep levels of important and unique data collection and analysis at Tier 4 of the supply chain to support the textile industry in its preferred materials journey and to make a positive contribution to people, climate, and nature.

