



Cotton & Science-Based Targets: Industry Progress & Path to Net Zero



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we're your go-to textile tool for discovering
what's possible with cotton.

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Type your questions in the Q&A window at any time during the webinar.



Find the presentation slides and other resources at **cottonworks.com** at the conclusion of the webinar.



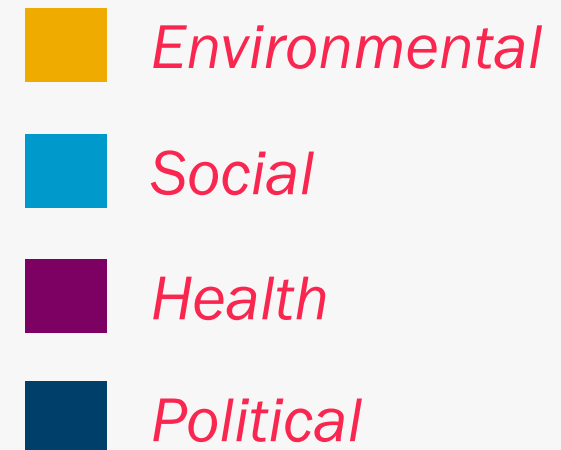
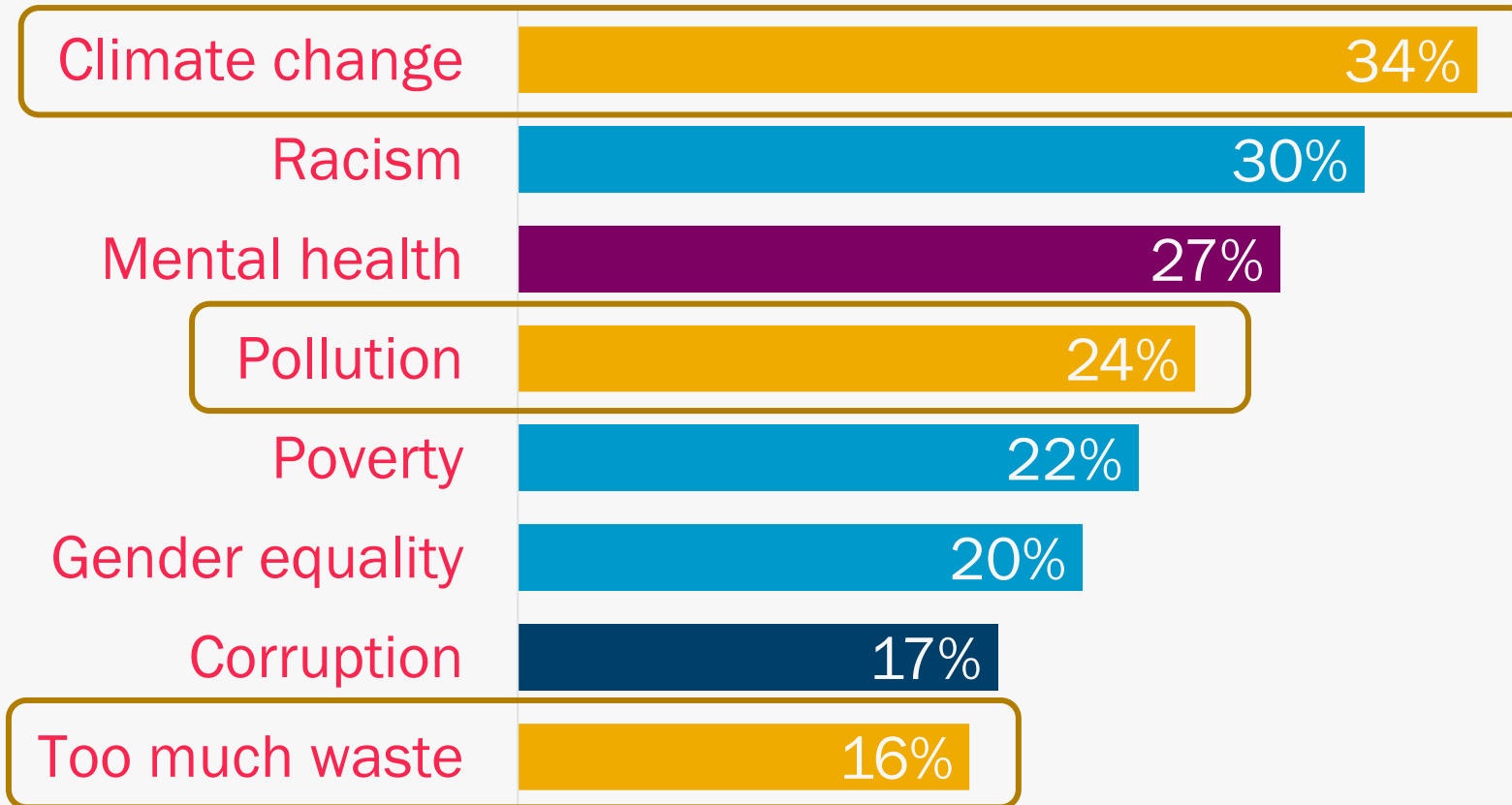
Please turn off your pop-up blocker to participate in this webinar.

Webinar Support

Generation Z highly concerned about climate

Environmental issues top list of Gen Z concerns

Most important challenges facing our world today:



Science-Based Targets Initiative



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



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SCIENCE BASED TARGETS

SET A TARGET

COMPANIES TAKING ACTION

NEWS & EVENTS

FAQ

THE INITIATIVE

Join the companies striving for a 1.5°C future

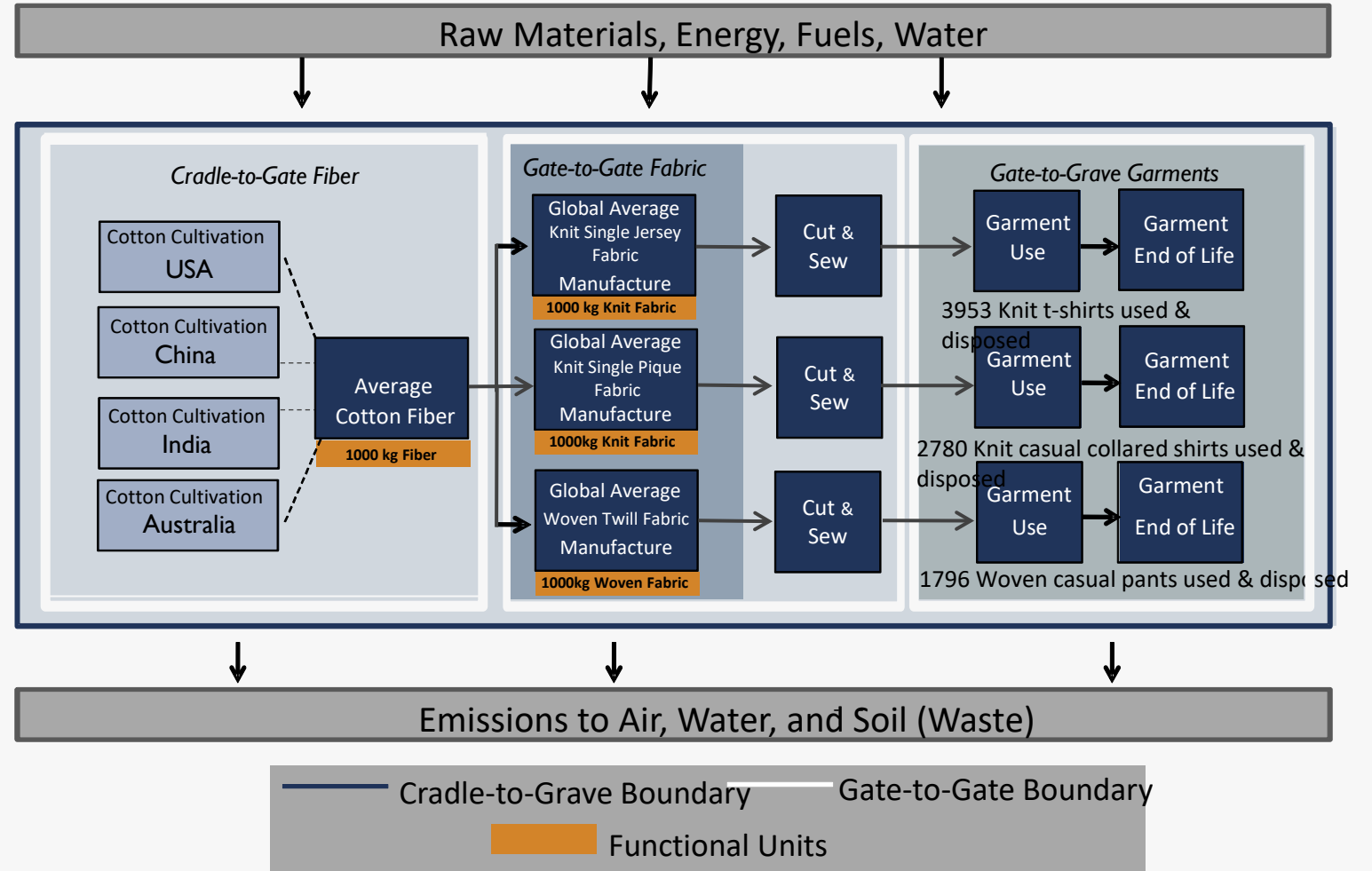
Sign the pledge



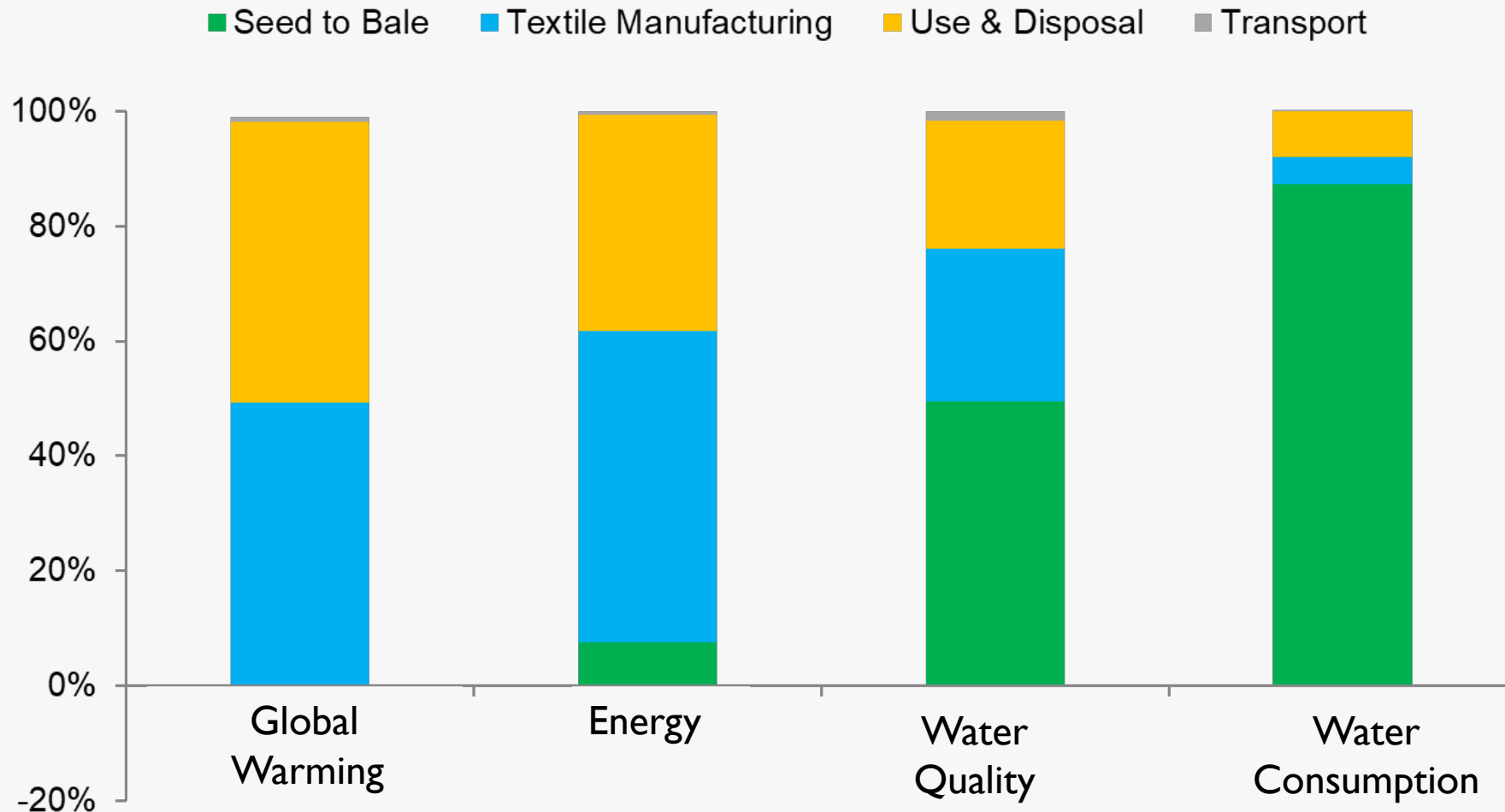
Life Cycle Assessment Overview



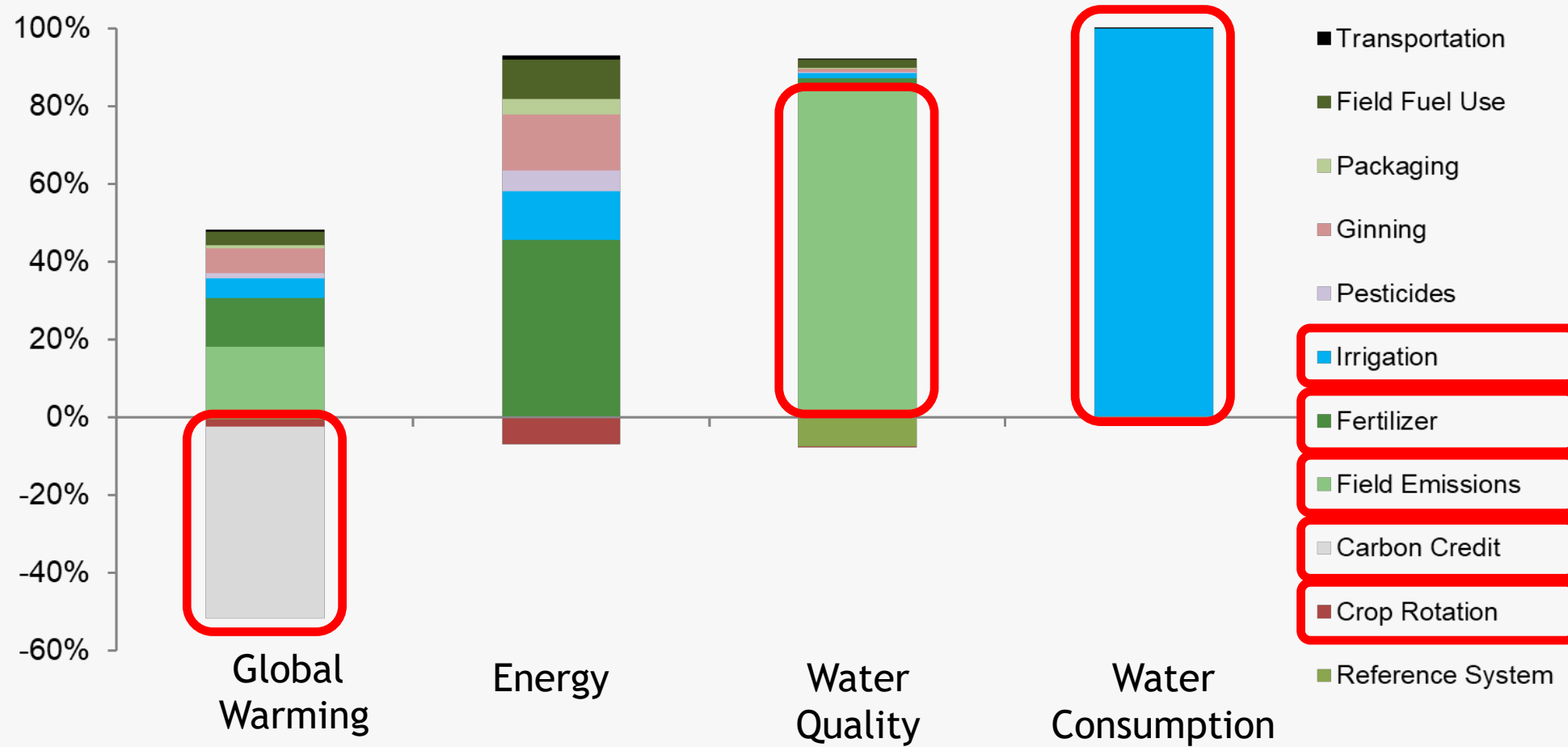
LCA Goal, Scope Functional Units



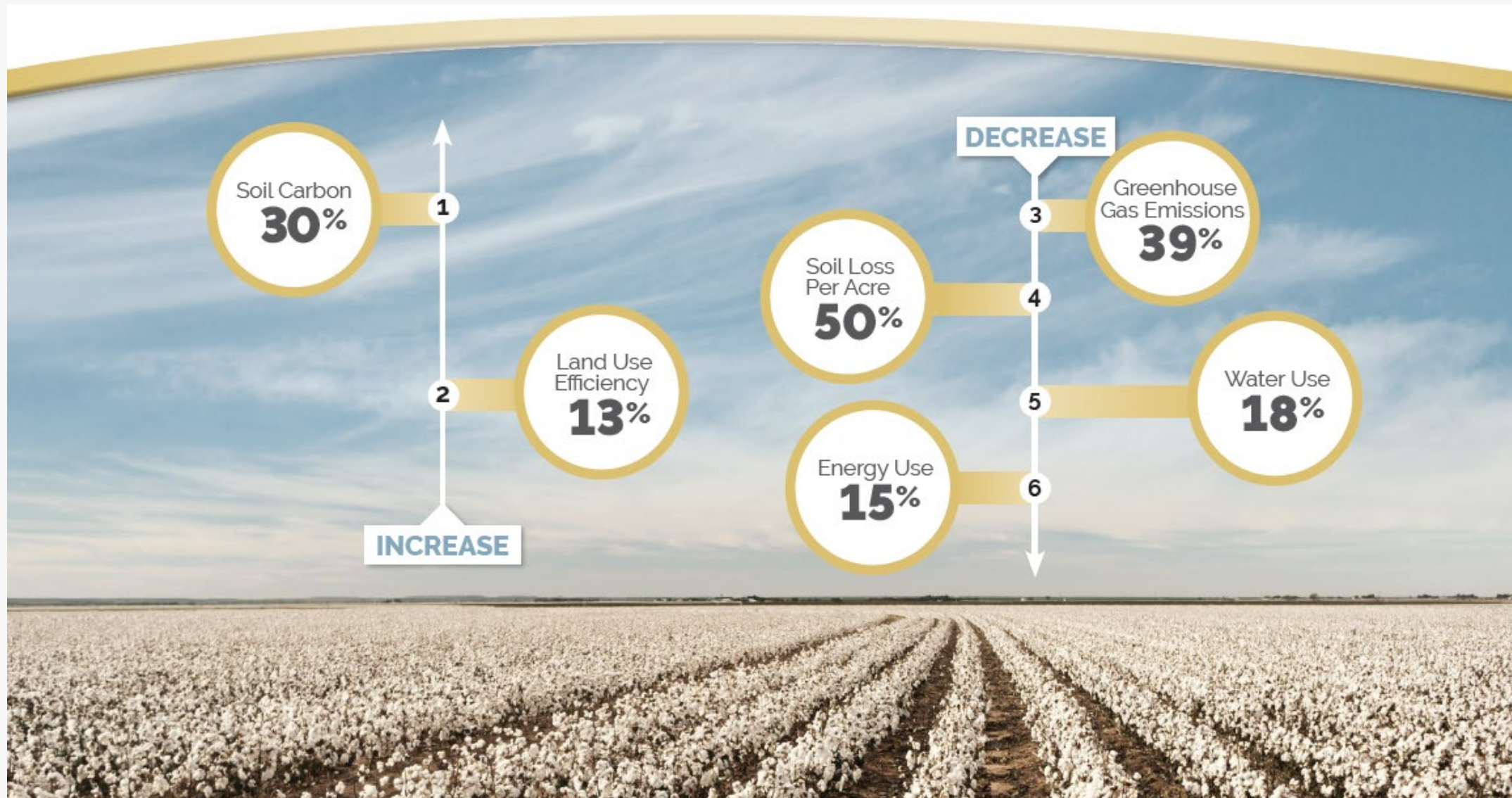
Overall Results for A Knit Collared Shirt



Agricultural Phase Details

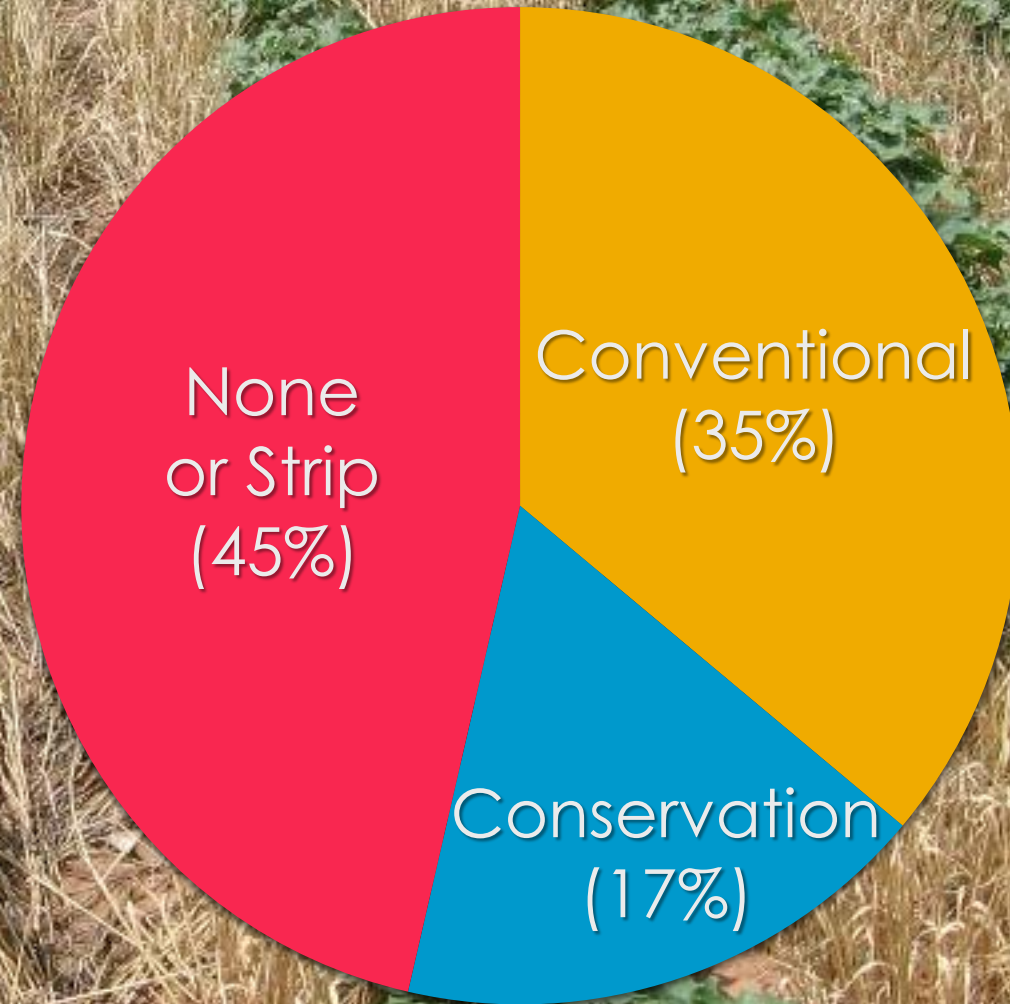


U.S. Cotton's Sustainability Goals for 2025



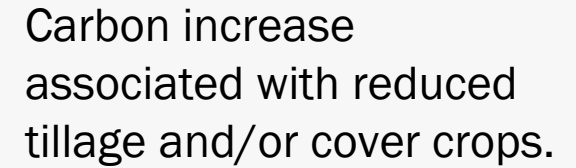
Soil Health: Conservation tillage in the US

Two-thirds of US growers use conservation tillage



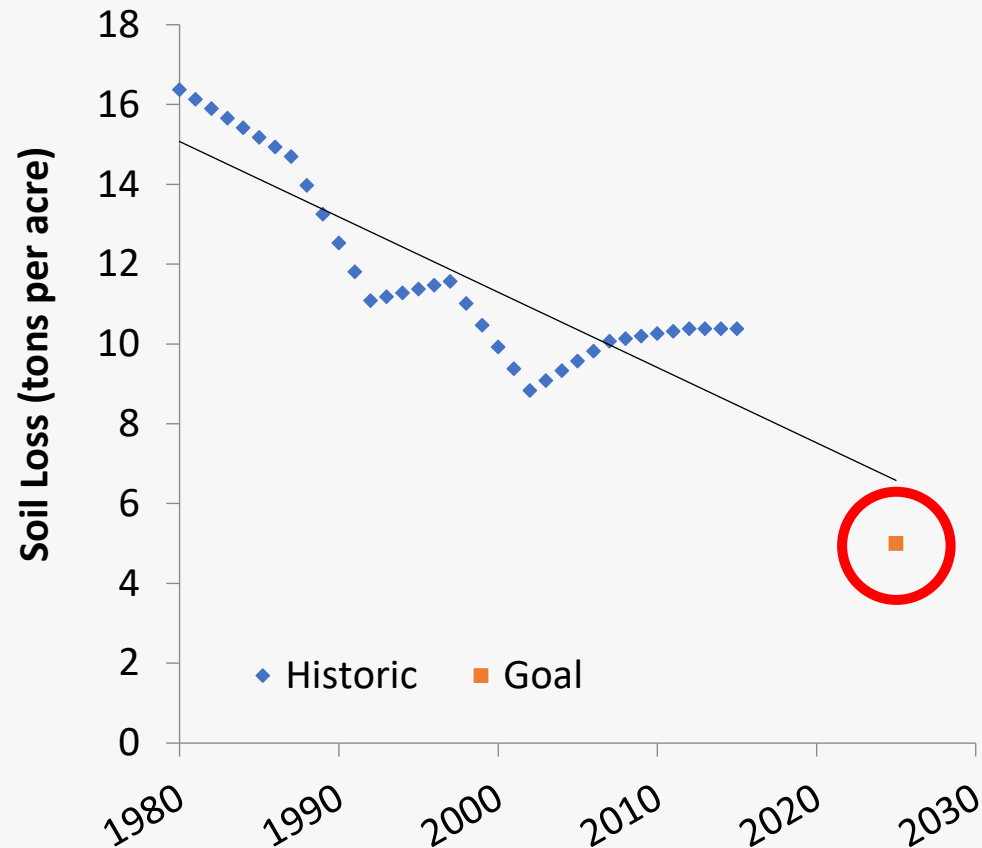
(Increase Soil Organic Carbon 30% Percent)

2/3 of the cotton fields with a net gain in soil carbon



Soil Conservation

Goal: 50% Reduction

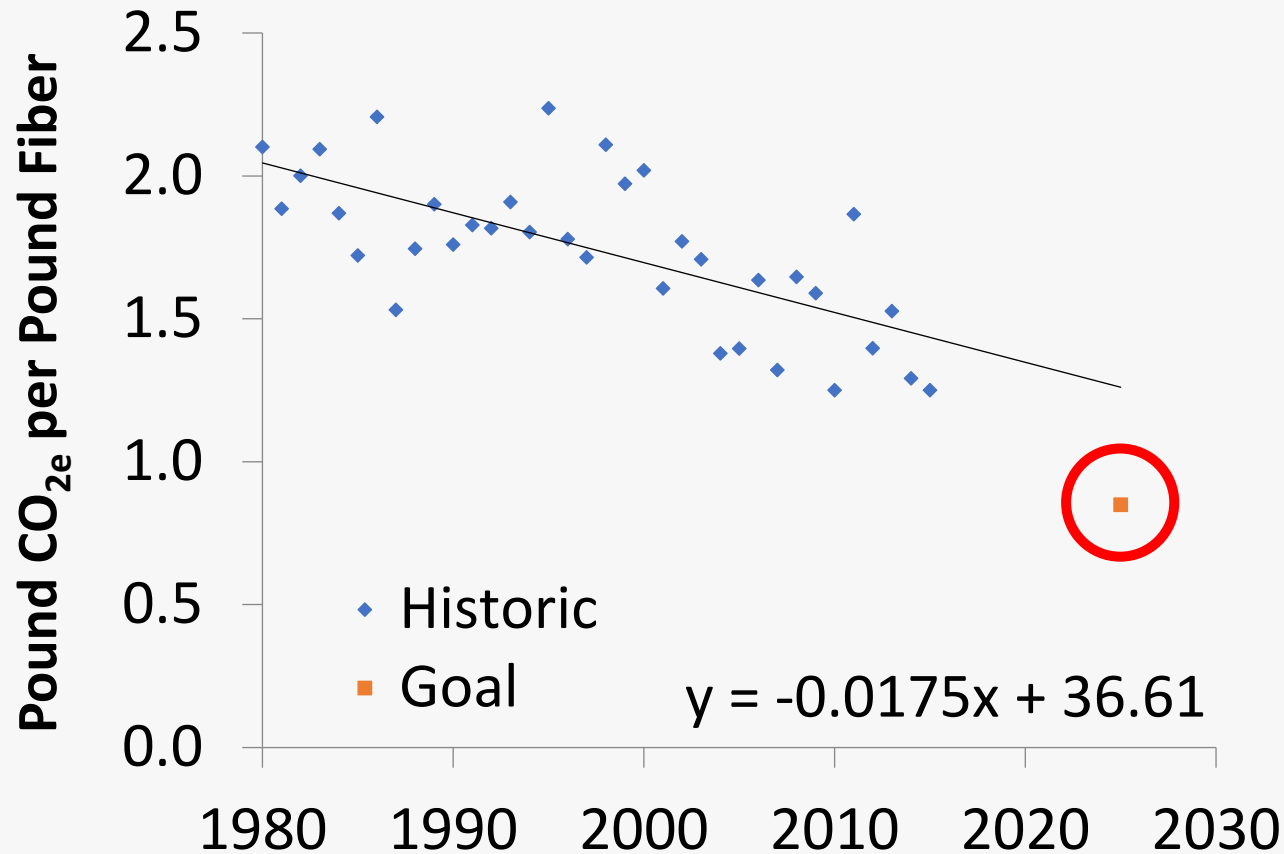


The Field to Market Soil Conservation metric is based on the NRCS model of soil erosion where T represents a balance between soil formation and soil loss (i.e. $T = \text{zero net soil loss}$).

The 10-year goal is T averaged across the U.S. which is 5 tons per acre soil loss.

Greenhouse Gas Emissions

Goal: 39% Reduction



The Greenhouse Gas Goal of 0.85 lbs of CO_{2e} per pound of fiber is ambitious because it matches the U.S. commitment under the Paris Accord and exceeds our historic trend line by 30% and our current F2M Fieldprints.

This metric does not account for carbon sequestered in the fiber (biogenic carbon) which matches current GHG emissions and would designate cotton as carbon neutral.

Drivers for this GHG improvement include:

- Yield and Nitrogen Use Efficiency gains
- Carbon capture from cover crops & no-till

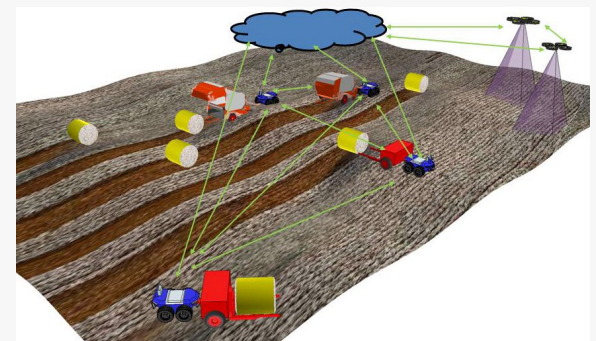
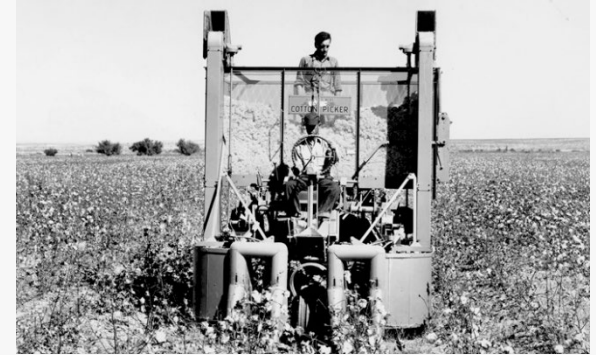
What Will Drive Improvements in Soil Loss?

- More use of cover crops for weed suppression
- Increased adoption of no-till practices
- More adoption of rainfall capture practices (residue and surface roughness) as rain events become more severe
- Expanded producer outreach programs to reach those few growers whose fields experience high erosion rates by demonstrating the profitability of improved soil stewardship.



Common Themes for Improvement

- Yield Increase
- Cover Crops
 - Soil improvement (erosion, quality & carbon)
 - Weed suppression
 - Rainfall capture (Water Quantity & Quality)
- Precision Management
 - Optimizing fertilizer and water use
 - Robots to reduce GHG, energy, labor, and as harvested when boll opens, less field loss and better quality.



Fieldprint Calculator Adoption

- Goal of 2.5 million representative acres
- Grower data can be entered in
 - Fieldprint Calculator
 - Qualified Data Management Partners
- 2019 projects in
 - Louisiana
 - Georgia
 - Texas




Time	Participation in FTM (acres)	Comment
Now	100,000	To date at least 100 farmers have Fieldprinted at least one cotton field. The average cotton acres per farm in the US is ~1,000 acres
5 years	1,000,000	Add an additional 900 farmers to the list of using the Fieldprint Calculator
10 years	2,500,000	Add an additional 1,500 farms to the list of farms using the Fieldprint Calculator
30 years	100% of US Cotton Acres	All U.S. farms use the Fieldprint Calculator on at least one field.

Fieldprint Calculator



Field to Market®

The Alliance for Sustainable Agriculture

seconds per year of data entered causing longer than normal results processing times. Selecting "No" will turn WEPS off. Please click on  for more information.

Save

Location


Soil


Crop Rotation

Management





Product Transportation/Hauling

Drying

Planted But Not Harvested

Conservation Practices

Farm Demographics

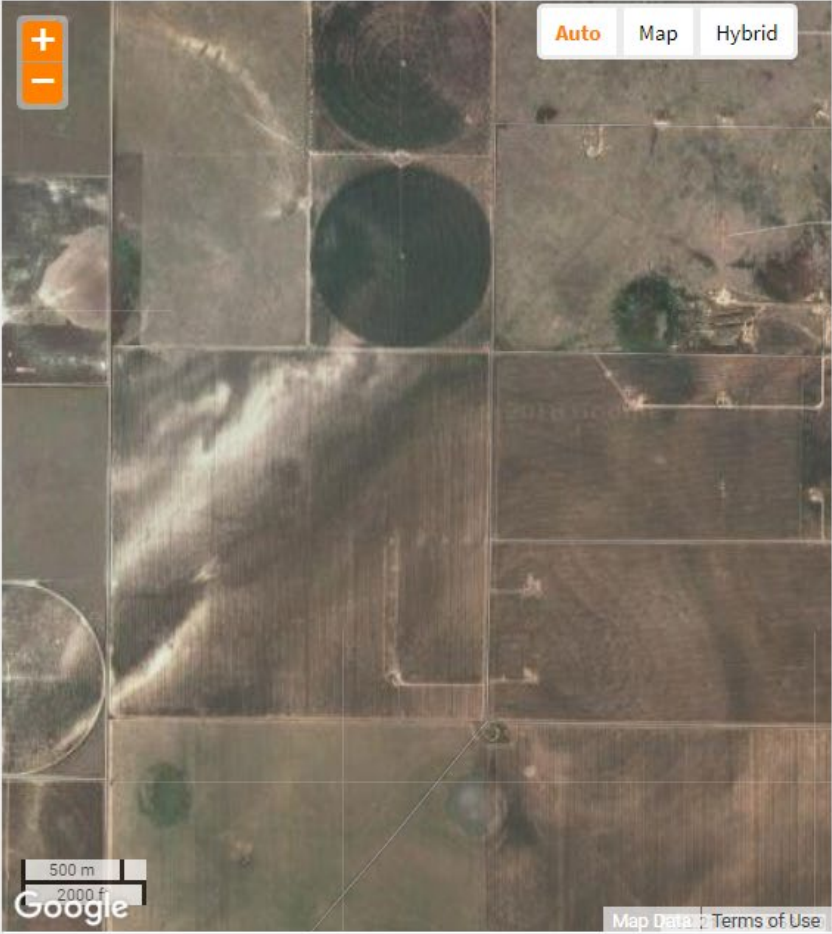


Click and drag to move. Double Click to zoom in.

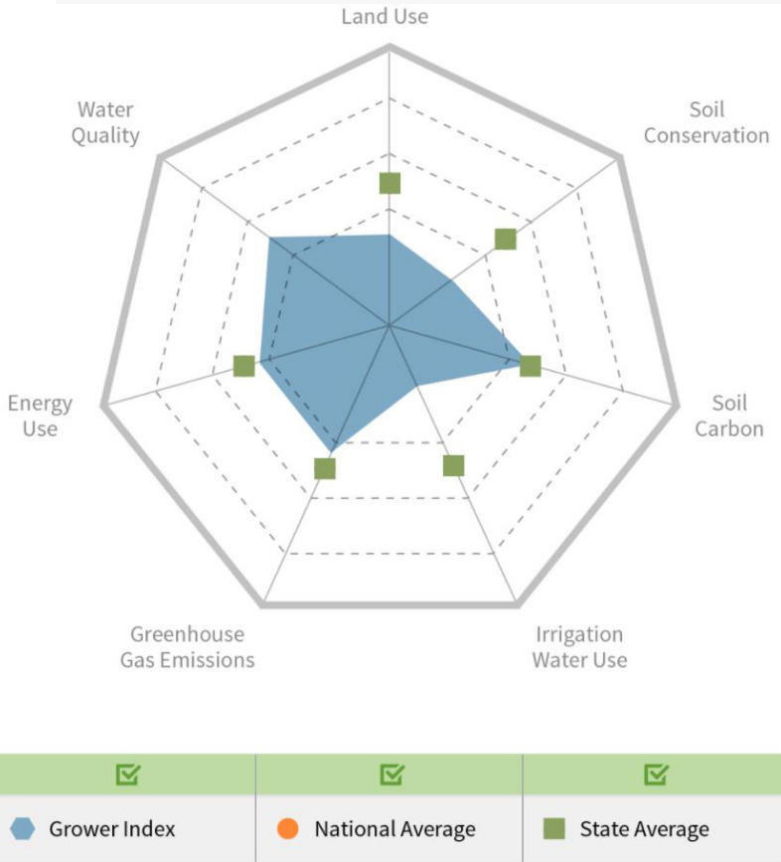
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AutoMapHybrid



Map DataTerms of Use



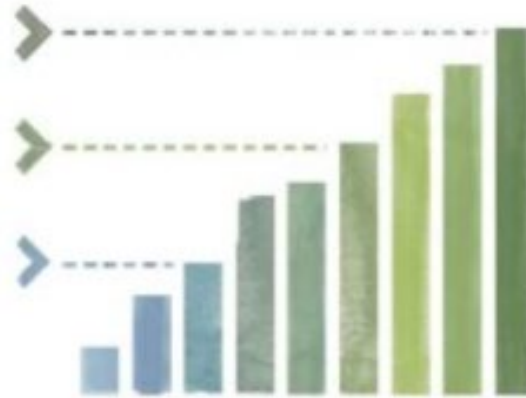
Field to Market Platform

- Robust platform with NGO and other stakeholder engagement
- Well-developed rules and claims guidance
- Provides platform to increase cotton sustainability
- U.S. Cotton Industry Goal of 2.5 million acres of enrollment



Benchmarking

Sustainability Performance



Catalyzing

Continuous Improvement



Enabling

Sustainability Claims



U.S. COTTON
TRUST PROTOCOL

SUSTAINABILITY



Meeting Brand Needs for More Sustainable Cotton

Increased Trust | Lower Brand Risk | Lower Environmental Impacts

U.S. Cotton Trust Protocol

Enrollment

Farm Profile

Sustainable
Farm Practice
Checklist

Do you use cover crops?
Do you follow product labels?
Do you irrigate?

Fieldprint
Calculator

Yields
Soil type
Fertilizer use
Water use

Independent
Verification

Data checks
Practice verification
Connection to further
resources

U.S. COTTON TEN YEAR
SUSTAINABILITY GOALS
PATHWAYS TO PROGRESS



Wrangler





“Soil organic carbon harbors
three times as much carbon
as Earth’s atmosphere.”

Science 2017 355 1420







Science-Based Targets: Industry Progress & Path to Net Zero

Michael Sadowski
World Resources Institute



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Introductions

- Research consultant at WRI and independent consultant
- Co-author of apparel and footwear sector guidance on science-based targets (SBTs)
- Working with WRI and the Apparel Impact Institute on roadmap for delivering SBTs
- 20 years working on sustainability across industries; led partnerships and circular circular economy work at Nike



Michael Sadowski

Research Consultant
World Resources Institute

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Presentation Objectives

1. Provide an overview of science-based climate change targets and the Science-Based Targets Initiative
2. Share an update on the apparel industry's progress on science-based targets (SBTs)
3. Discuss how the industry can deliver on SBTs, including addressing cotton and other raw materials



The Science-Based Targets Initiative

The Science-Based Targets initiative (SBTi) mobilizes companies to set science-based targets and boost their competitive advantage in the transition to the low-carbon economy.

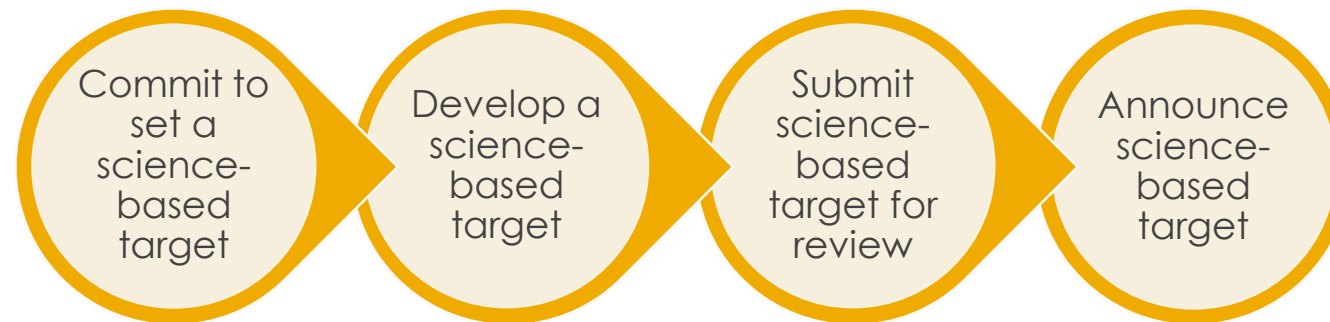
The Partners



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The Process



Science-Based Targets Defined

Greenhouse gas emissions reduction targets that are consistent with the level of decarbonization that, according to climate science, is required to keep global temperature increase to well below 2°C and ideally below 1.5°C compared to pre-industrial temperature levels



Signing of the Paris Agreement, December 2015

IPCC Special Report on 1.5°C (October 2018)

To prevent 1.5°C of warming, global CO₂ emissions must fall by 45% from 2010 levels by 2030, reaching 'net zero' around 2050.

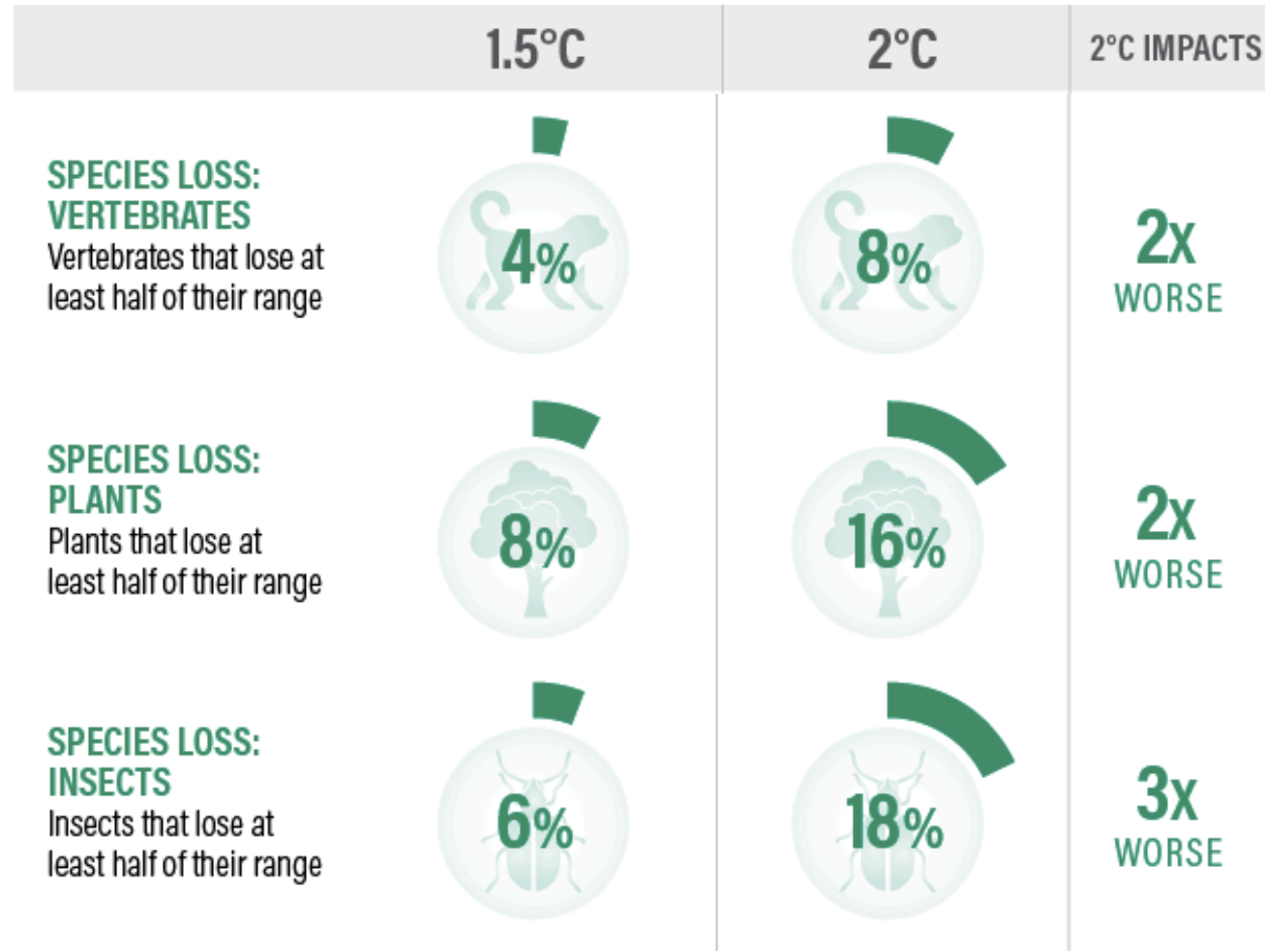
“Rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities needed to limit warming to 1.5°C.

Carbon sequestration will be essential.



Link: <https://www.ipcc.ch/sr15>

The Difference Between 1.5°C and 2°C



Source: [WRI](#)

The SBTi Continues to Expand

Since launching in June 2015

900+

Companies engaged with the SBTi (commitments and approved SBTs)

~400

Companies with approved SBTs

70+

Apparel and footwear companies have approved SBTs or commitments

Geographic Distribution of Engaged Companies (HQ Location)



Top 10 countries

1. USA: 156
2. Japan: 95
3. United Kingdom: 95
4. France: 63
5. India: 41
6. Germany: 37
7. Sweden: 33
8. Switzerland: 28
9. Spain: 26
10. Netherlands: 23

AP & FW Companies with Approved SBTs



As of June 2020

AP & FW Companies with SBT Commitments

NORDSTROM

GRUPOMalwee

TINTEX
NATURALLY ADVANCED

SCM

OJG
ONE JEANSWEAR GROUP

OMAX
COTSPIN PVT. LTD.

White House

AMERICAN EAGLE
OUTFITTERS

PINE TREE COMPANY FOR
TEXTILE MANUFACTURING

W
WOOLWORTHS

Elevate Textiles

Artistic
Milliners
DENIM COMPANY OF THE FUTURE

Auchan

AVERY
DENNISON

TAI WAH GARMENTS

MAMMUT
SWISS 1862



LARS
PARTNERS



RENNER

TED BAKER
LONDON

YKK

YUNUS
TEXTILES FOR LIFE



THE
SCHNEIDER
GROUP

INDITEX

EASTMAN EXPORTS
Division of Eastman Exports Global Clothing (P) Ltd.

adidas

PANDORA

FAST RETAILING

SCOOP

MAPLE COMPANY LTD

THE
WAREHOUSE
GROUP

OLIVE APPAREL

BESTSELLER

SC TAILOR STUDIO SRL



VAUDE
The Spirit of Mountain Sports

GUESS



BOSS
HUGO BOSS

RICHEMONT

As of June 2020

Examples of Approved SBTs



Reduce absolute Scope 1 and Scope 2 GHG emissions 90% by 2025 from a 2016 base-year.

Reduce absolute Scope 3 emissions from purchased goods and services 40% by 2025 from a 2016 base-year.



Reduce absolute scope 1 and 2 GHG emissions 40% by 2030 from a 2017 base-year.

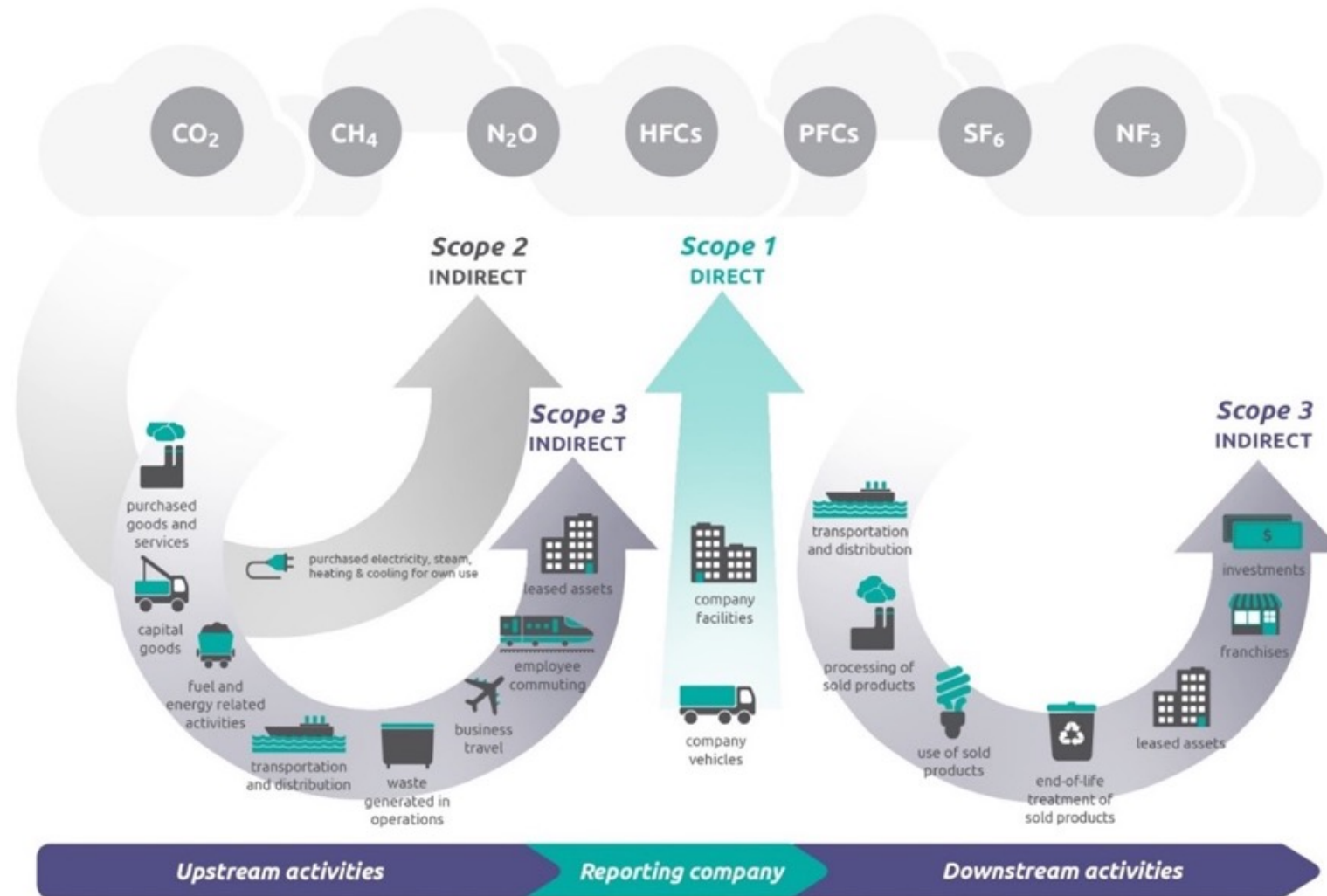
Reduce absolute scope 3 emissions from purchased raw materials, fabric and garment 59% per piece by 2030 from a 2017 base-year; increase annual sourcing of renewable electricity from 95% in 2017 to 100% by 2030.



Reduce absolute scope 1 and 2 GHG emissions 55% by 2030 from a 2017 base year.

Reduce absolute scope 3 emissions from purchased goods and services and upstream transportation 30% by 2030 from a 2017 base year.

SBTs Cover the Three Scopes of Emissions



Source: GHG Protocol

SBTi Criteria (Excerpt)

Scope: Company-wide scope 1 and 2 emissions per GHG Protocol Corporate Standard (all relevant GHG gases, can exclude 5%)

Timeframe: Minimum of 5 years, maximum of 15 years from target submission date

Ambition (S1 and 2): Consistent with 2°C pathway (min. 2.5% annual reduction) or ideally 1.5°C pathway (min 4.2% annual reduction)

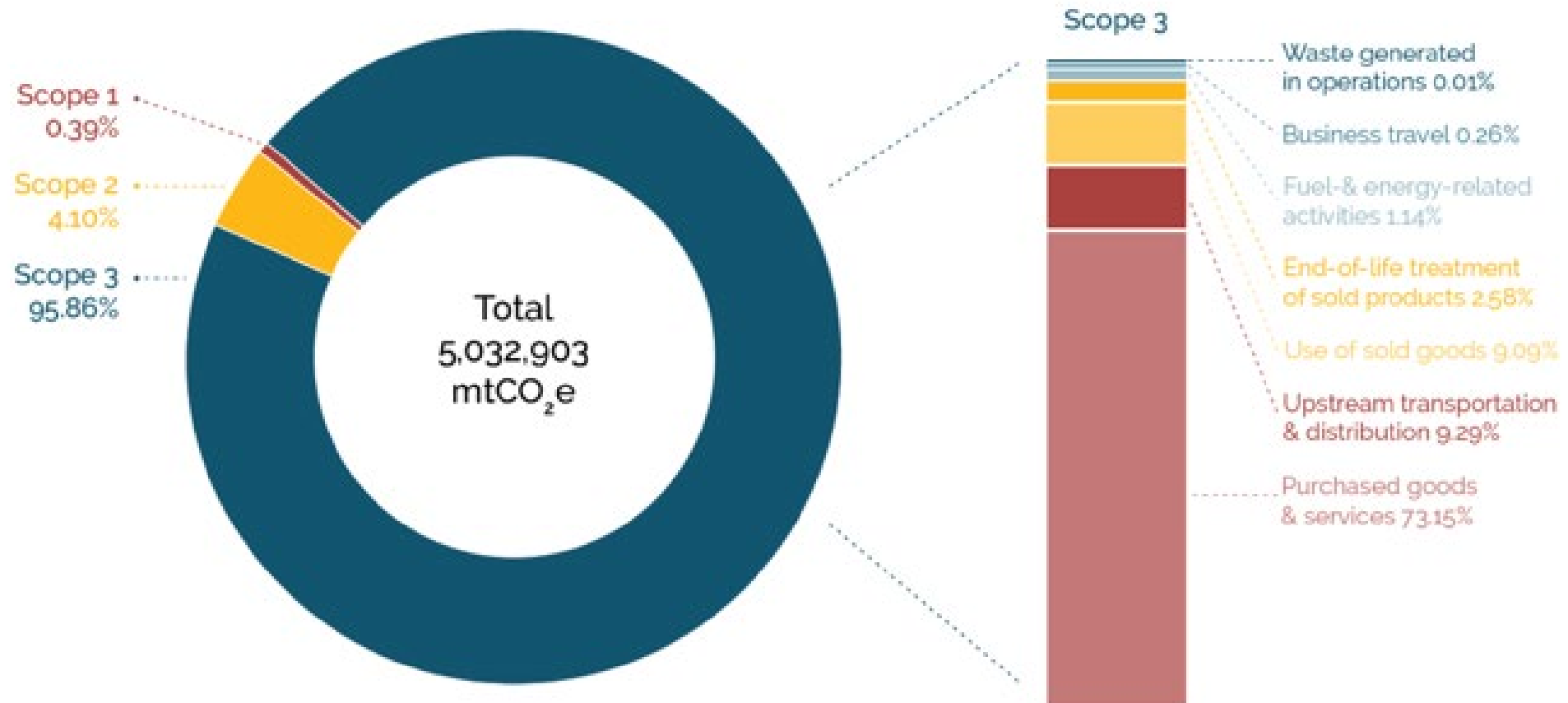
Progress to Date: Targets must be forward-looking

Reporting: Annual public disclosure of progress

Scope 3: If scope 3 emissions are 40% or more of total, a company must set a scope 3 target. This target must include 2/3 of scope 3 emissions.*



Example of Emissions by Scope: C&A



Example of Emissions by Value Chain: Levi Strauss & Co

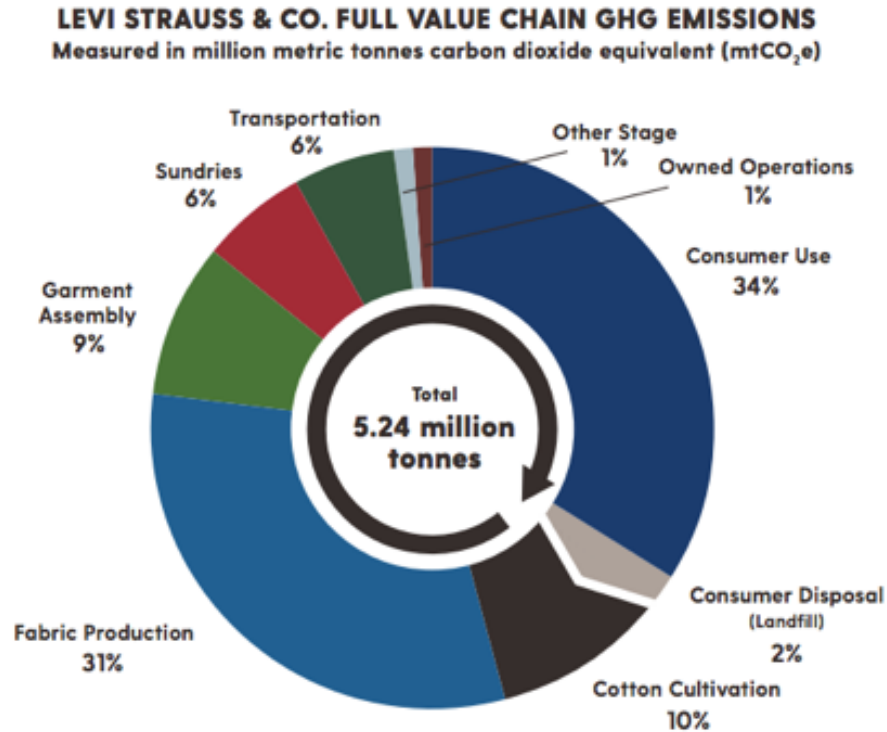
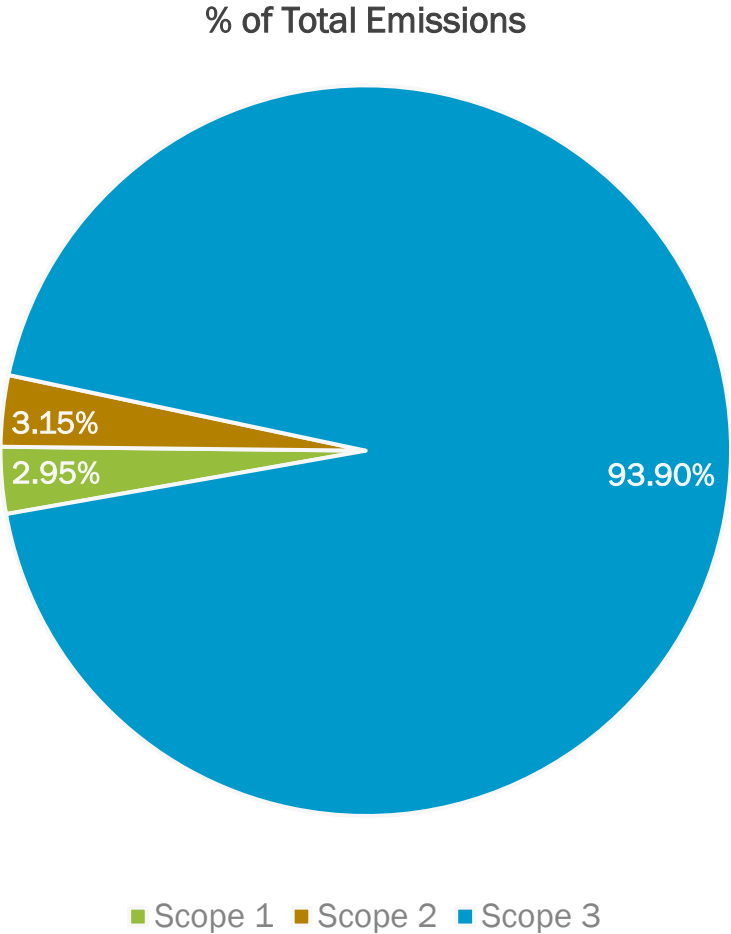


Figure 1: Levi Strauss & Co.'s estimated GHG emissions from the full value chain in 2016, by source category

Breakdown Of Emissions, SBTi-Approved Companies*



Top Scope 3 Categories

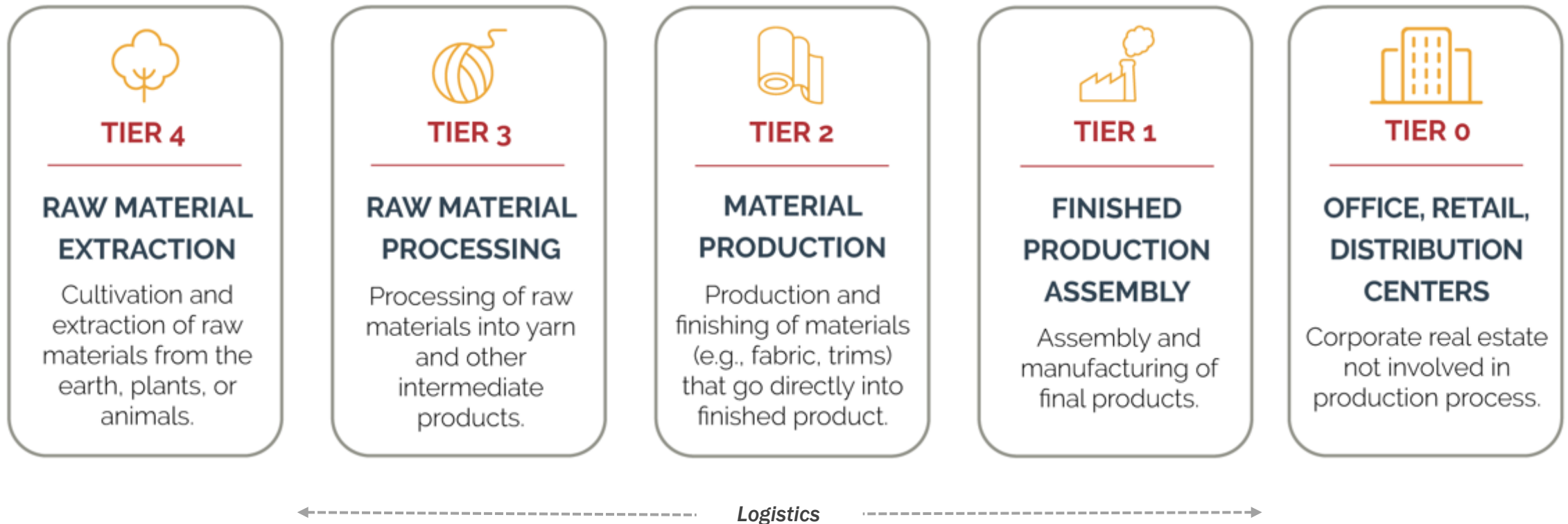
Category	% of Scope 3
1 Purchased goods & services	78.5
4 Upstream transportation & distribution	5.1
12 End of life	1.9
9 Downstream transportation & distribution	1.6
2 Capital goods	1.3
7 Employee commuting	1.2
15 Investments	1.2

All other scope 3 categories are less than 1%

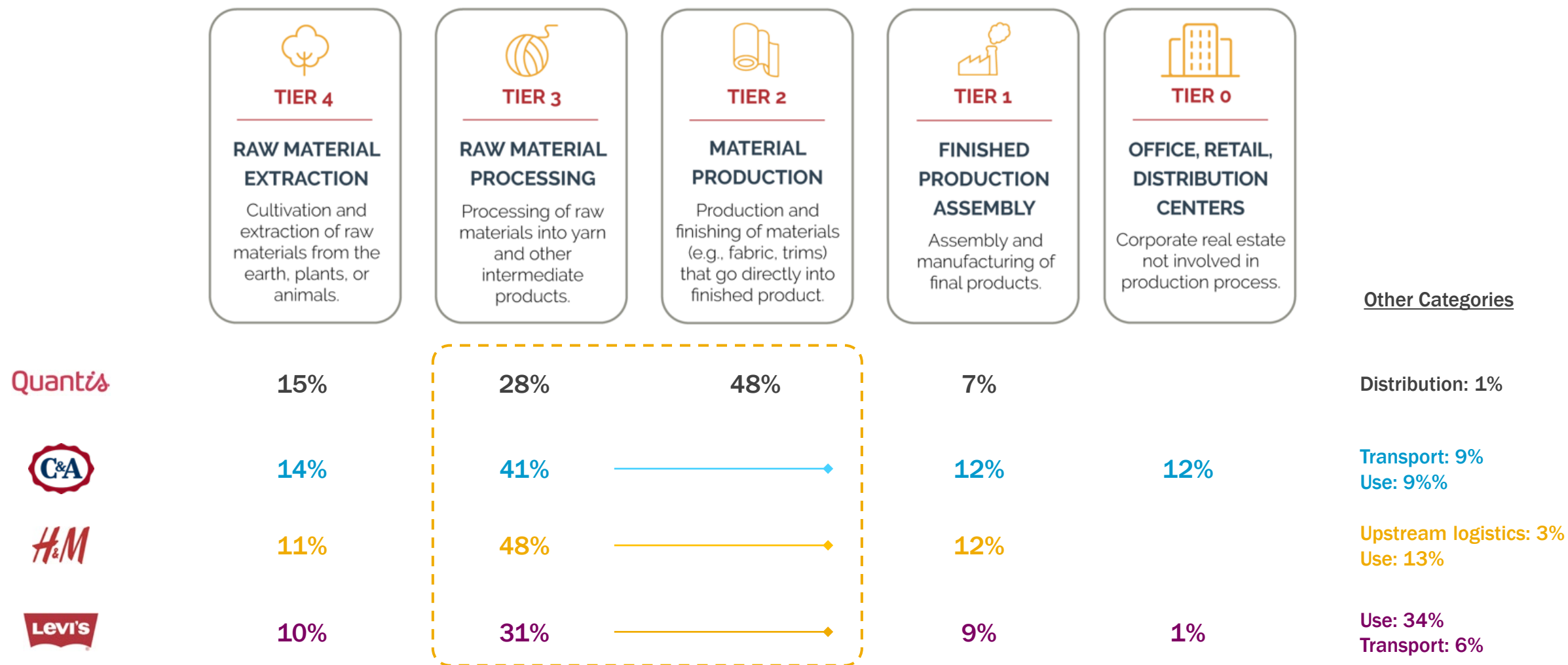
*Averages of ~20 companies with approved science-based targets (SBTi)

The Apparel Value Chain

The relevance of scopes is determined by where a company sits in the value chain



Illustrating Emissions Across the Value Chain



Getting to Net Zero

How will the apparel sector reduce CO₂ emissions by 45% by 2030, and to 'net zero' by 2050?



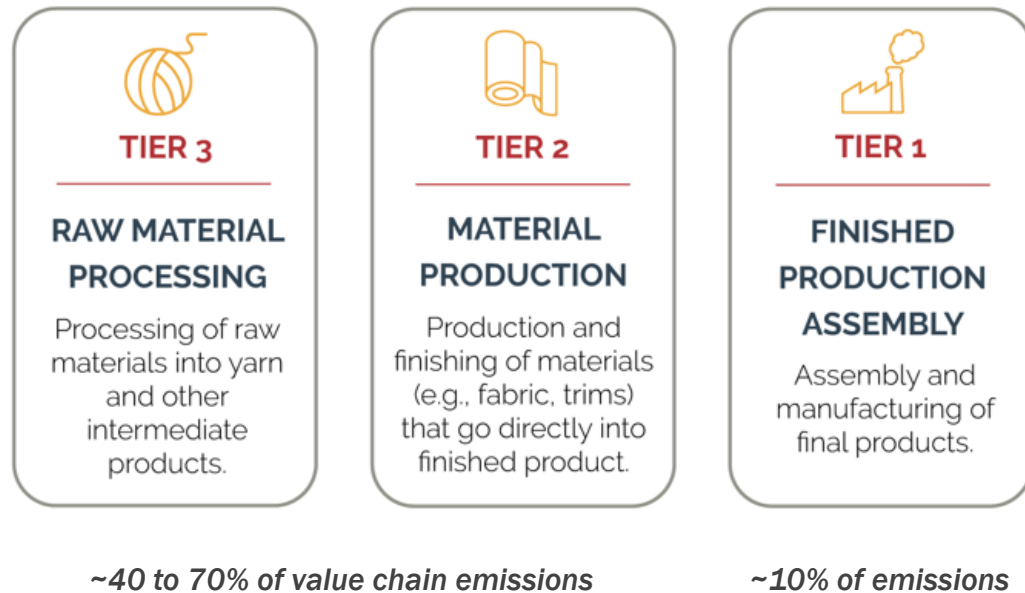
Opportunities for Reduction: Tier 4



*Rough estimate: 10 to 15%
of value chain emissions*

- Increase material efficiency (i.e. brand makes same product with less raw material)
- Maximize efficiency of inputs (water, fertilizer, ag chemicals, etc.)
- Deploy good soil management practices (e.g. low / no till, cover crops)
- Use lower carbon materials (e.g. recycled)
- Shift to renewable energy where relevant (e.g. renewable electricity for ginning)

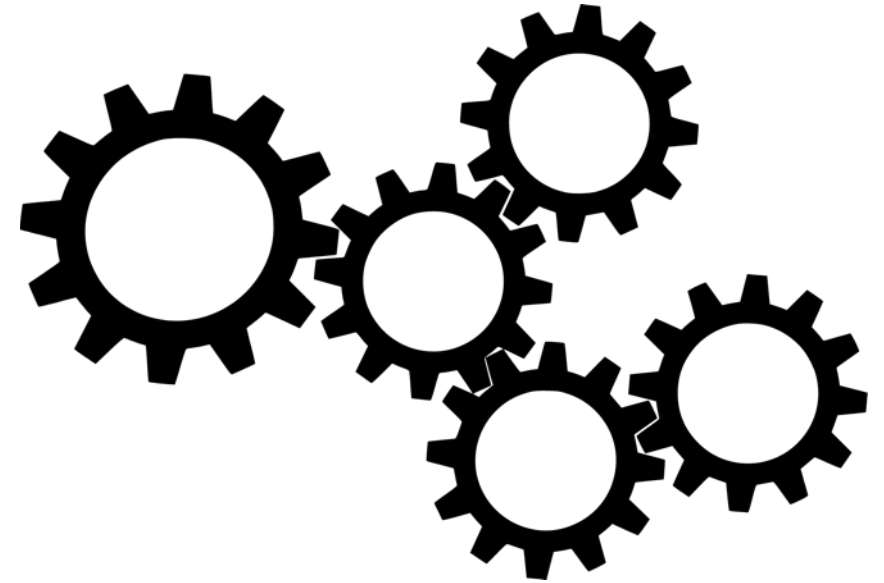
Opportunities for Reduction: Tiers 1 to 3



- Increase energy efficiency (e.g. more efficient motors, capture waste heat)
- Shift from coal to lower carbon fuels (e.g. gas, biomass, electric) for thermal energy needs (e.g. dyeing and finishing)
- Deploy low carbon technology (e.g. waterless dyeing)
- Scale the use of renewable electricity

Key Enablers to Delivering on SBTs

- More robust data for measuring and tracking performance
- Industry alignment on hotspots of emissions and collective action on solutions
- Supportive policies, regulations, rules, etc.
- Technical and financial assistance, especially for suppliers and SMEs
- Innovation in materials and manufacturing
- Investment!



Thank You

Questions and more information:

Michael Sadowski

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Visit **sciencebasedtargets.org**



Cotton Sustainability

Topics > Sustainability > Cotton Sustainability



Cotton Sustainability Basics

From water conservation to soil health to reducing energy, cotton farming has made immense progress in sustainability.



Recycled Cotton

The use of recycled materials is a growing topic of interest and recycled cotton can find new life in many different products.



Biodegradability of Cotton

What happens when your favorite cotton shirt finally reaches the end of its functional life? Explore this natural fiber's afterlife.



Life Cycle Assessment of Cotton

This presentation will identify key impact areas and elaborate on environmental benchmarking for cotton.



Consumer Perceptions

Explore consumer perceptions relating to cotton and cotton sustainability using ongoing research from Cotton Incorporated.



Cotton LEADSSM

The Cotton LEADSSM program strives to make sure cotton is produced responsibly now and for years to come.

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Technologies to Reduce WEC

Topics > Sustainability > Cotton Sustainability

[ADD TO LIST](#) 

For over three decades, Cotton Incorporated has been at the forefront of facilitating innovations that help make textile manufacturing more efficient and effective. The *World of Ideas* presents practical and effective technologies for reducing the use of water, energy, and chemicals (WEC) in cotton textile processing, which is best achieved in fabric preparation, dyeing, and finishing processes. Using these solutions, the cotton textile industry can reduce the WEC environmental footprint by at least 50%.



World of Ideas

Learn more about technologies for reducing the use of water, energy, and chemicals in cotton textile processing.

Life Cycle Assessment of Cotton

Topics > Sustainability > Cotton Sustainability

[ADD TO LIST](#) 

From fiber sourcing to end product, stakeholders and consumers alike are demanding methods of measuring and reducing the environmental impact of textile products. Tools such as Life Cycle Inventories and Assessments can aid in environmental decision-making by identifying key impact areas and benchmarking success over time.

Executive Summary

The Cotton Foundation has completed the most comprehensive assessment of cotton product life cycles to date — The Life Cycle Inventory & Life Cycle Assessment of Cotton Fiber and Fabric. Download the full summary on this topic and then listen to the webinar below for the synopsis.

[Download the Executive Summary](#)

Webinar

How do your industry decisions impact the earth? Hear from Cotton Incorporated's Mark Messura, Senior Vice President of Global Supply Chain Marketing, and Dr. Ed Barnes, Senior Director of Agricultural and Environmental Research, as they discuss highlights from the cotton LCA including valuable insight for decision-makers in the textile industry. This presentation will identify key impact areas and elaborate on environmental benchmarking for cotton.

Life Cycle Assessment (LCA)

Learn more about Life Cycle Assessments and how they can aid in environmental decision-making by identifying key impact areas.



Cotton & Science-Based Targets: Industry Progress & Path to Net Zero



**Submit all final questions now
using the Q&A box on your screen.**



**Please take our brief survey on today's
presentation prior to exiting the webinar.**