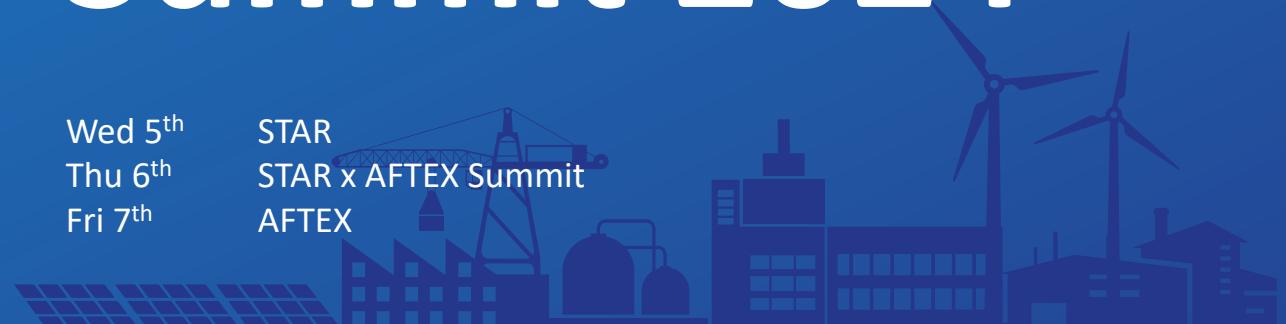


Trade & Sustainability Summit 2024

Wed 5th
Thu 6th
Fri 7th

STAR
STAR x AFTEX Summit
AFTEX



Agenda



Agenda - AFTEX-STAR Day – Thu 06 Jun - Radiant

Time:	Item:	Speaker / Notes:
8:30	<i>Registration</i>	
9:00	<i>Welcome Remarks : NFTI</i>	Mr. Mr. Jumnong Nawasmittawong
9:05	<i>Welcome Remarks: GIZ FABRIC</i>	Mr. Marc Beckmann
9:10	<i>Opening Remarks STAR</i>	Mr. Miran Ali, STAR Spokesperson
9:15	<i>Opening Remarks AFTEX</i>	Mr. Albert Tan, AFTEX Chairman
9:20	<i>Keynote 1: LDC Graduation & Changing Trade Patterns</i>	Mr. Paul Baker, 20 min PPT, 20 min Q&A
	<i>Renewable Energy in Garment Supply Chains</i>	
10:00	<i>Keynote 2: Regional Efforts to Promote Renewable Energy In the GFT Sector</i>	10-15 Minute PPT, 5 Minute Q&A – Mr. Shuvajit Mandal
10:20	<i>Keynote 3: Financing Decarbonization Paper: an FPC Initiative</i>	10 Minute PPT, 5 Minute Q&A – Mr. Saqib Sohail
10:40	<i>Coffee Break</i>	20 Minutes
11:00	<i>Keynote 4: Trends in Due Diligence</i>	Ms. Archana Kotecha, 20-30 Minute Presentation, 20 Minute Q&A
12:00	<i>Group Photo</i>	
12:05	<i>Lunch</i>	1 Hour
1:00	<i>Suppliers Raising Their Voices Together</i> STAR, AFTEX & FPC Key Activities, Positions, Challenges: 5 mins per Regional Grouping	AFTEX Presents Key Activities Briefly – Regina, AFTEX STAR Presents Key Activities Briefly – Tom, STAR / GIZ Fashion Producer Collective Presents Key Activities Briefly – Matthew, FPC
1:15	<i>Success Case: Fair Purchasing Practices I STTI – A Regional Initiative with Impact</i>	STTI – Ms. Lisa Ramershoven, GIZ & STTI Representative
1:30	<i>AFTEX 1: Sustainability and Traceability in Garment Supply Chains</i>	Cotton Council International – Mr. Kha Kieu
2:15	<i>Coffee Break</i>	30 Minutes
2:45	<i>AFTEX 2: Sustainable and Green Transition Solutions in Textile Industry</i>	<i>Dr. Chanchai Sirikasemlert, Executive Director, Thailand Textile Institute</i>
3:20	<i>AFTEX 3: Achieving Sustainability in Fashion through Biotechnology</i>	<i>Mr. Justin Shoji, Head of Business Development, Huue Ms. Nutra Uttamapinant, Executive Director, United Textile Mills</i>
	<i>Audit Fatigue & Data Management in the Context of Due Diligence</i>	
4:00	<i>Audit Fatigue Position Paper</i>	<i>Keynote Mr. Karim (Audit Fatigue Paper)</i>
4:10	<i>BGMEA Data Disclosure Platform</i>	<i>Keynote Mr. Mohammad (Sohel) (BGMEA Data Disclosure Platform)</i>
4:20	<i>Panel: Audit Fatigue & Data Management in the Context of Due Diligence</i>	<i>Panel: Albert (AFTEX), Mohammad (BGMEA), Aziz (PTEA), Matthew (FPC)</i>
5:15	<i>Wrap up and close - Free Time</i>	
6:00	<i>Networking Canapes & Drinks</i>	All Delegates – AFTEX covers drinks / GIZ covers Canapé Dinner.

STAR x AFTEX Original Concept

Arrive:

Tue 4th June

Day 1: STAR

Wed 5th Jun

Day 2: STARxAFTEX

Thu 6th Jun

Day 3: AFTEX

Fri 7th Jun

COLLABORATION CONCEPT

TRADE FOR TOMORROW: STAR X AFTEX SUSTAINABILITY SUMMIT.

PURPOSE

STAR & AFTEX jointly organize a conference in collaboration with FABRIC, ensuring mutual benefits (improved visibility, activity, collaboration) between all parties. The concept will be to organize an event that showcases what chambers can do when they raise their voices together, with a provisional title “Trade for Tomorrow: STAR & AFTEX Sustainability Summit”



Venue: Movenpick BDMS, Bangkok, Thailand.

Speaker Profiles: LinkedIn

THU-JUN-6 – STAR x AFTEX Conference

Opening Remarks (AM)

- 1) Marc Beckmann (GIZ): <https://www.linkedin.com/in/marc-beckmann-5566805/>
- 2) Miran Ali (BGMEA/STAR): <https://www.linkedin.com/in/miranali/>
- 3) Albert Tan (TAFTAC/AFTEX): <https://www.linkedin.com/in/albert-tan-7455982a9/>
- 4) **NFTI:**

Expert Inputs (AM)

- 1) Paul Baker (Trade Economics): <https://www.linkedin.com/in/tradeeconomics/details/experience/>
- 2) Archana Kotecha (Remedy Project): <https://www.linkedin.com/in/archanakotecha/>
- 3) Shuvajit Mandal (GIZ PDP): <https://www.linkedin.com/in/shuvajitmandal/>
- 4) Saqib Sohail (FPC/Artistic Milliners): <https://www.linkedin.com/in/miansaqibsohail/?originalSubdomain=pk>

Expert Inputs (PM)

- 1) Regina Leong (AFTEX): <https://www.linkedin.com/in/reginaleong/>
- 2) Tom Hesketh (STAR/GIZ/TAFTAC): <https://www.linkedin.com/in/thomas-hesketh-aa503631/>
- 3) Lisa Ramershoven (GIZ STTI): <https://www.linkedin.com/in/lisa-ramershoven-8b9a06103>
- 4) Matthew Guenther (FPC): <https://www.linkedin.com/in/matthew-guenther-2b145357/>
- 5) *Kha Kieu (Cotton Council International)* <https://www.linkedin.com/in/kha-kieu-1995a774/>
- 6) *Justin Shoji (Huue)* <https://www.linkedin.com/in/justinshoji/>
- 7) **AFTEX 3: Nutra Uttamapinant**
- 8) Karim Shafei (Gherzi): <https://www.linkedin.com/in/karim-shafei-346268/>
- 9) Azzizullah Goheer (PTEA/STAR): <https://www.linkedin.com/in/azizullah-goheer-6965201a3/>
- 10) Mohammad Sadat (BGMEA): <https://www.linkedin.com/in/mohammad-sohel-sadat-997b04123>

Trade & Sustainability Summit 2024

Wed 5th
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STAR x AFTEX Summit
AFTEX



Opening Remarks



Welcome & Opening Remarks



Marc Beckmann
GIZ FABRIC



Miran Ali
STAR
BGMEA



Albert Tan
AFTEX
TAFTAC



**Jumnong
Nawasmittawong**
NFTTI, AFTEX



Mr. Jumnong Nawasmittawong

Mr. Jumnong began his textile industry career in 1990 at Asia Fiber Public Company Limited. He owns Apparel Blueprints Industrial (Thailand) Company Limited and the brand "Tastelier." He was previously Chairman of AFTEX (2020-2022) and the National Federation of Thai Textile Industries. Currently, he is the Honorary Advisor of the Association of Thai Bleaching Dyeing Printing and Finishing Industries and actively promotes sustainability and the circular economy in Thailand.





Mr. Marc Beckmann

Project Director, GIZ FABRIC

Marc is Project Director of the FABRIC Program: Promoting Sustainability in the Textile & Garment Industry in Asia. Based in Phnom Penh, but covering 6 countries (Cambodia, Vietnam, Pakistan, China, Myanmar and Bangladesh), his project focuses on promoting sustainable practices within the textile industry. With prior roles at UNDP and in the private sector, he steers FABRIC's efforts to foster cooperation among industry stakeholders to enhance production conditions & sustainability.





Mr. Albert Tan

Chairman, AFTEX; Vice-Chairman, TAFTAC

Albert has worked in Cambodia's garment industry for over two decades, managing major factories like Suntex, Bright Sky, and Bloomtime Embroidery, overseeing 12,000 employees. Currently, he advises J&V Investment and Gladpeer Garment Factory. Since 1998, he has been an active TAFTAC Executive Committee member, serving as Deputy Chairman and leading the Sub-Committee on Taxation. He also supports the Cambodian Garment Training Institute and sustainability initiatives.





Mr. Miran Ali

Vice President, BGMEA

Board Member & Spokesperson, STAR

Miran Ali is Managing Director of Bitopi Group in Bangladesh, Vice President of BGMEA and a Board Member of the STAR Network. In these roles, he promotes green practices and sustainability in the garment industry. Miran is a globally recognized voice for suppliers, serving as the spokesperson for STTI and the STAR Network, amongst several others.

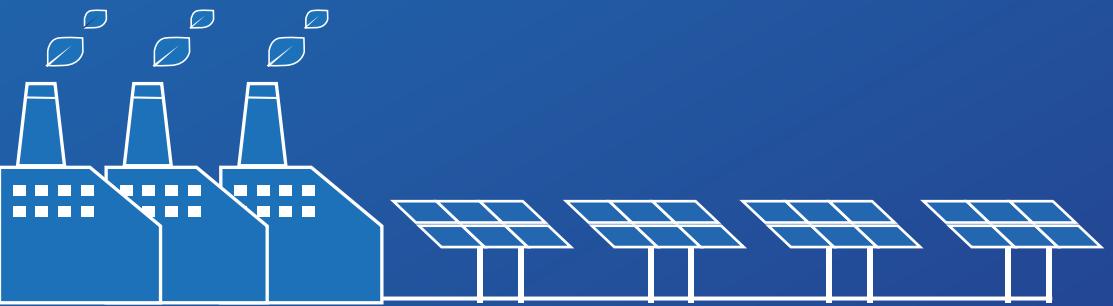
Trade & Sustainability Summit 2024

*Keynote 1: LDC Graduation &
Changing Trade Patterns for Garments*

Paul BAKER



International Economics
Strategic Analysis For Growth & Development

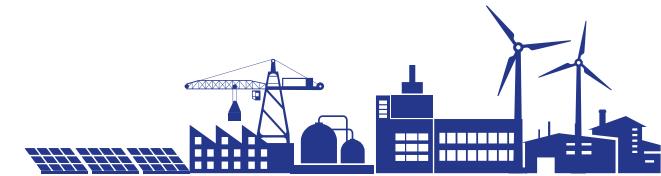




Mr. Paul Baker

Founder & CEO, International Economics

Consulting. A global consultancy practice that operates in over 30 countries. His team of senior economists delivers critical policy advice to G20 and emerging market governments. Recognized as a Global Leader in Trade & Customs, Baker also serves as a board member for UNESCAP and as a Research Advisor at ARTNeT. Focused on economic development and digital trade, he supports multinational corporations in navigating complex markets and expanding internationally.



Trade & Sustainability Summit 2024

*Keynote 1: LDC Graduation &
Changing Trade Patterns for Garments*

Paul BAKER



International Economics
Strategic Analysis For Growth & Development



Focus of the Keynote Address

Three major emerging trends in the industry that will change and reshape the way we do business

1. Low value based production will face disruptions leading to rethinking production networks

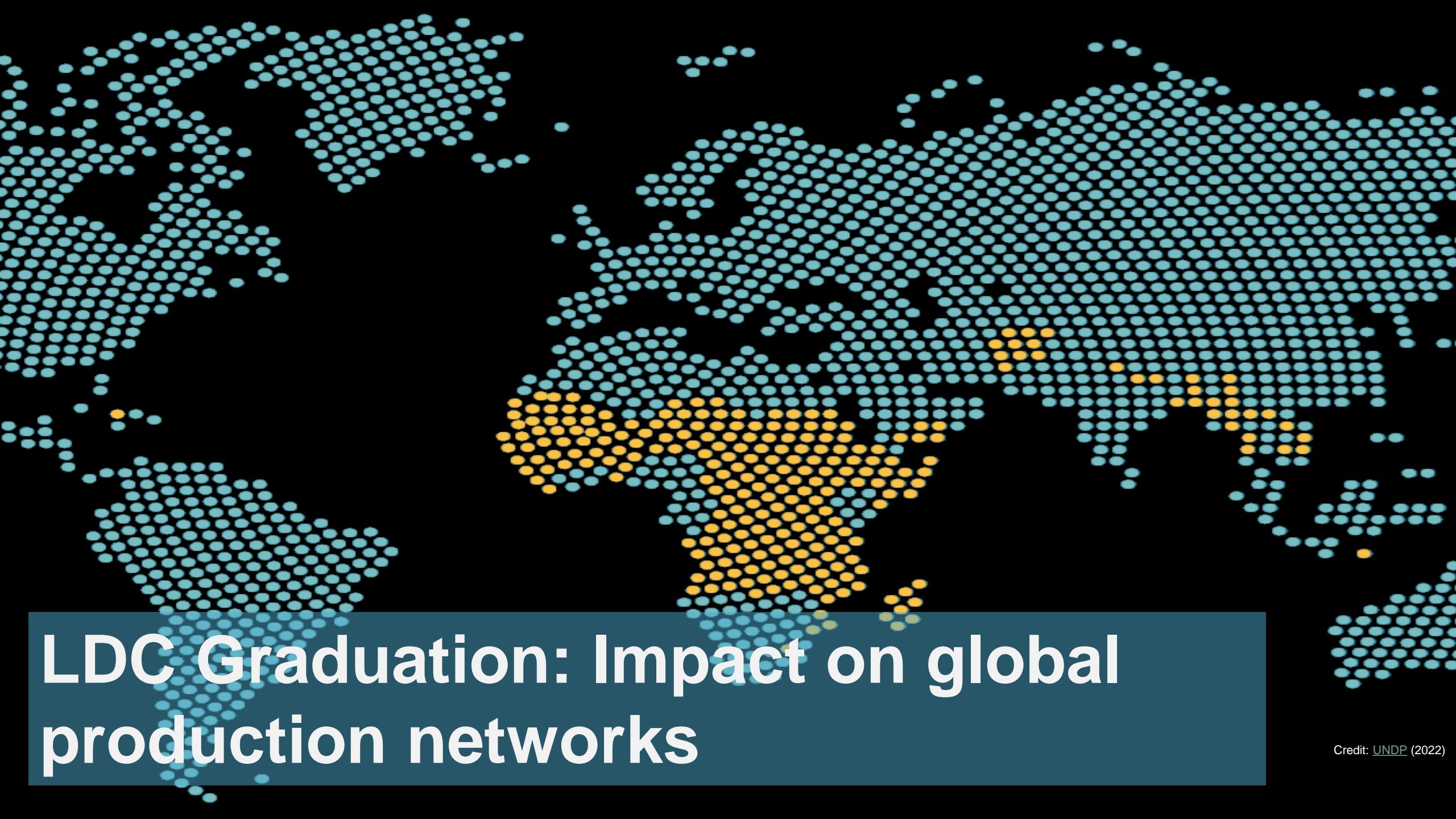
2. The increasing role of sustainability

3. The changing nature of technology in supply chains

Global Trade in Garments influenced by:

Changing Trade Preferences, LDC Graduation

Changing patterns in production and consumption

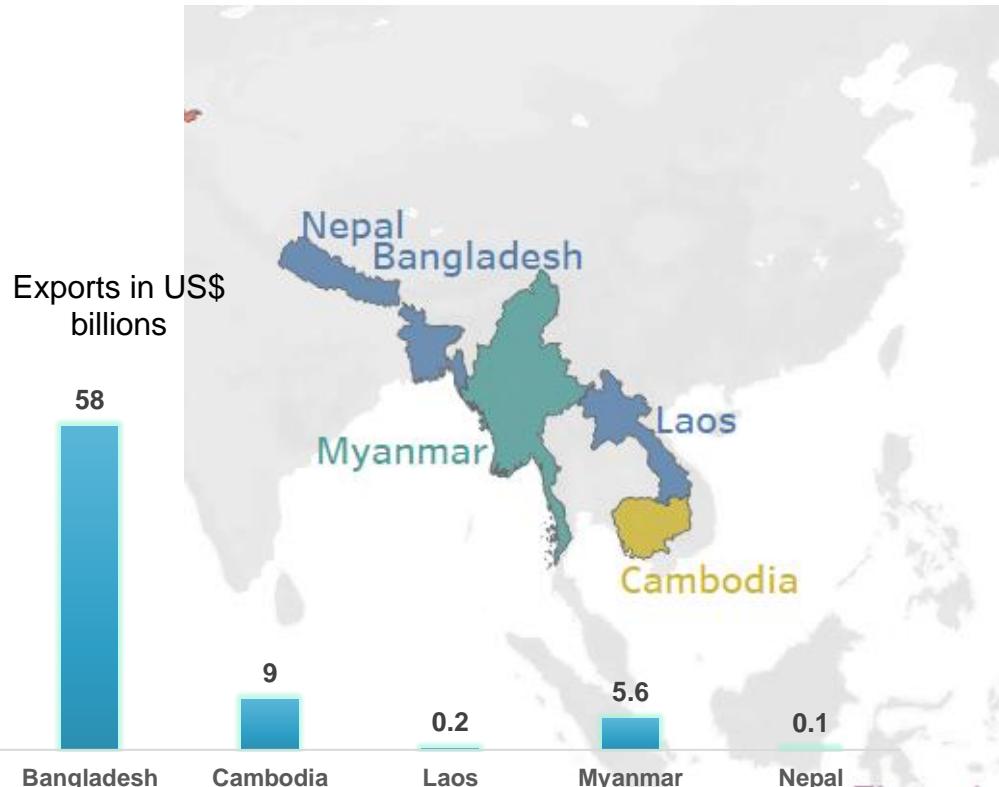


LDC Graduation: Impact on global production networks

Credit: [UNDP \(2022\)](#)

LDC Graduation Across Asia

Graduating Countries South & Southeast Asia



- Graduating LDCs
- LDCs met criteria two or more consecutive times, but deferred by CDP
- LDCs recommended for graduation by the CDP, under consideration by ECOSOC

Note: 2022 export data and estimations; Source: UN DESA (2024). The Least Developed Country Category: 2024 Country Snapshots. ITC TradeMap

Country	LDC Status	Graduation Year	Scheduled to Graduate
Bangladesh	Graduating LDCs	2021	2026
Laos	Graduating LDCs	2021	2026
Nepal	Graduating LDCs	2021	2026
Cambodia	Recommended	2024	2029
Myanmar	Deferred	-	-

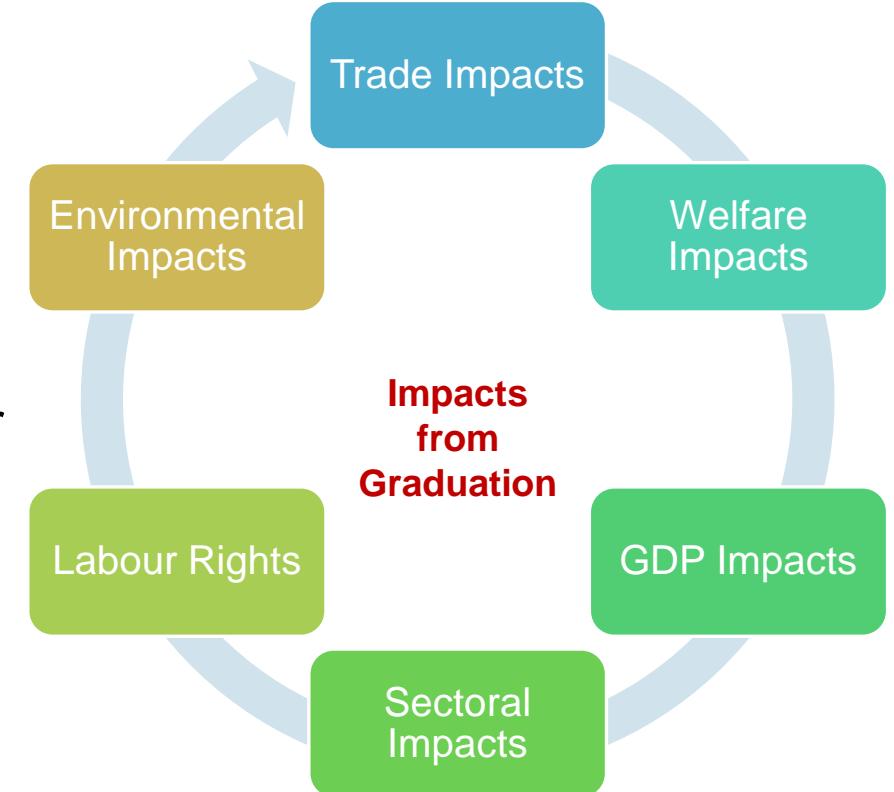
During the preparatory period before graduation is effective, the country still belongs to the LDC category and is entitled to receive all benefits available to LDCs.

International Economics | LDC Graduation & Changing Trade Patterns for Garments

LDC Graduation Market Access

LDC graduation will lead to **lower trade preferences**. Alternatives:

- Exports to the EU: Duty free access through **GSP+**
- Cambodia: **FTAs** with Japan, China and India.
- Bangladesh, Nepal: **Preferential market access** to India and China, but not to EU and Japan, failing back to GSP or MFN rate.
- **Greater competition from Vietnam** given its DFQF access to the EU, UK, Japan and S. Korea.



Key challenges: **Increasing tariffs** and difficulties in meeting **Rules of Origin requirements**.

Market Access Scenario for main markets: RoO

LDC graduation implies **stricter RoO** to qualify for trade preferences under the **GSP or FTAs**, especially for EU and Canada.

However, changes in RoO have **no impact** for US and Asian markets.

EU: Under EBA, single transformation; Under GSP, double-transformation.

Canada: Under GSP, RoO reduce the allowance for non-originating material from 75% to 40% (ex-factory price).

US: RoO are the same for the standard GSP scheme & the GSP sub-scheme for LDCs.

ASEAN/China/Japan: Expected limited impact due to existing FTAs.

Source: Baker (2021). Impact of LDC graduation on the textile and clothing sector. WTO

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Impacts of Graduation on Output and export

Example of Cambodia

- **Significant decline in exports** to the EU upon LDC graduation; unless they secure GSP+.
- Other than GSP+, exports to the EU will fall by between **40% - 47%**.
 - Cambodia's garment exports may be redirected to the UK, the US, Canada, or China^[1].
- If RoO requirements are **not met**, exports must be traded under MFN at higher tariff rates of AVE 11.7%, eroding competitiveness compared to garment exporters (e.g. Bangladesh, Vietnam, etc.)

Cambodia's change in the garment sector's output and export, EBA baseline

Partner	Base 2030 \$m	GSP+ %	GSP %	MFN %	RoO %
Output	22,890	0	-1	-1.19	-1.24
Export to World	22,651	0.18	-2.94	-3.48	-3.52
Export to the EU	6,385	0	-40.00	-47.00	-47.00



Source: Baker *et al* (2023). Trade Impact Assessment of GSP and GSP+ for Cambodia. GIZ August | International Economics | LDC Graduation & Changing Trade Patterns for Garments

LDC Graduation: Impact on Global Production Networks



Shift in Production Locations



Supply Chain Diversification

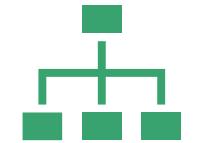


Need for increased competitiveness

Increased Investment in Technology



Upgrading and Vertical Integration



Market Realignment by Global brands



LDC Graduation: Next Steps for the Private Sector

Technological
Upgrades

Sustainability
Practices

Regulatory
Compliance

Cost
Competitiveness

Enhanced buyer
relationships



Emerging purchasing and production trends in the global garment sector

Evolution of Fast Fashion

Fast Fashion Trend Evolution

- First generation of fast fashion trend (e.g. Zara) -> Transitioned to third generation (ultra-low prices and rapid turnover of trendy styles).
- Direct-to-consumer (DTC) business model
- Quick response to consumer demands.
- Growing towards fully integrated production system

Market Value
2022:
**USD 106
Billion**

Forecast
Value 2027:
**USD 185
Billion**

Source: Statista (2023)



Small Batch Trend in Manufacturing

- *Buyers increasingly ordering in Small Batch*
- *Customized production. (e.g. Nike)*

Source: Baker *et al* (2023). Trade Impact Assessment of GSP and GSP+ for Cambodia. GIZ August | International Economics | LDC Graduation & Changing Trade Patterns for Garments

Rising Concerns of the Sector

Common perception problems associated with garment manufacturing, leading to stricter reporting and enforcement controls:

- The sector is often fraught with **concerns on labour**.
 - labour-intensive production processes
 - poor working conditions
 - low wages
 - child labour
- It is also a major contributor to **environmental pollution**.
 - Significant CO2 emissions (approx. 6-8% of total global carbon emissions (ILO, 2021).
 - Use of harmful chemicals, leading to water and soil pollution.
 - Major consumer of water, particularly in cotton cultivation and dyeing processes (Uddin, et al., 2023).



Source: Maydiang UK Ltd. (2023)

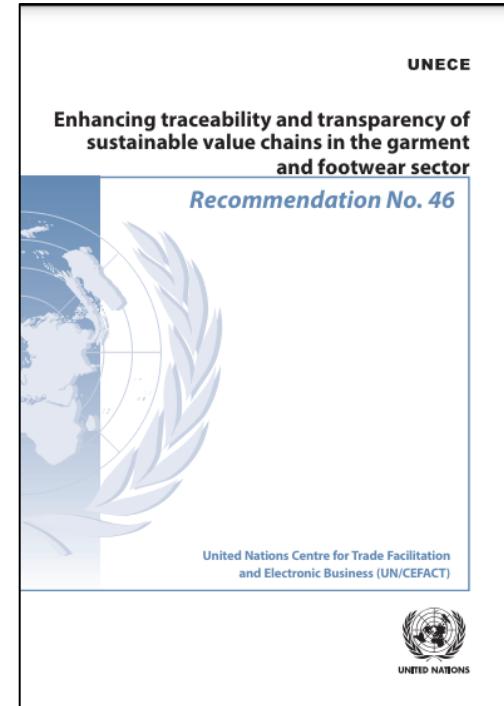
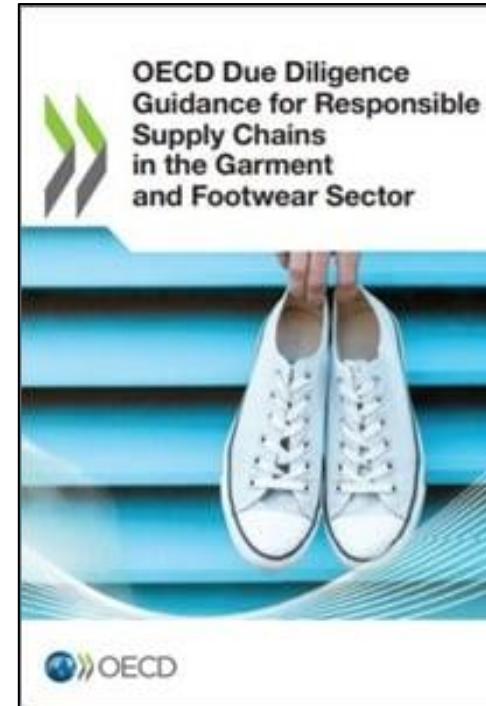
Evolution of Sustainable fashion

- 66% of respondents (and 75% of millennial respondents) say they consider **sustainability** when making a purchase (McKinsey (2020)).
- *Production side trend: greening manufacturing.*
 - Embraced by major brands such as Adidas, Gap, H&M, Levi's, and Nike (Konishi, 2016).
- For manufacturers in LDCs, this implies increased investments to convert to **low-emission and energy-efficient production facilities**.
- However, there needs to be a **differentiation between sustainability efforts and greenwashing**.



Rising Sustainability Concerns of the Sector

- **OECD and UNECE** have developed guidelines and initiatives to promote responsible supply chains and enhance transparency and traceability in the sector.
- **EU** leading the adoption of policy approaches and regulations promoting sustainability:
 - the EU Strategy for Sustainable and Circular Textiles
 - the EU's Corporate Sustainability Reporting Directive (CSRD)
 - the proposed Corporate Sustainability Due Diligence Directive (CS3D).

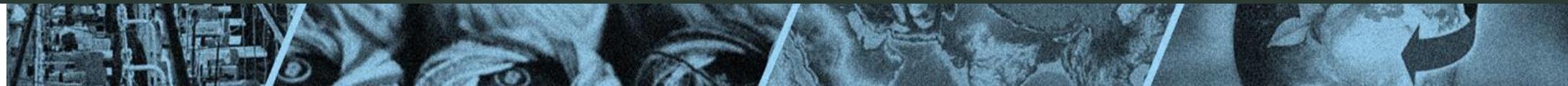


Preparatory actions for sustainability regulations

By 2030, the rules under the CSRD and the CS3D can have notable implications for businesses operating as part of the global supply chains.

Preparatory actions include:

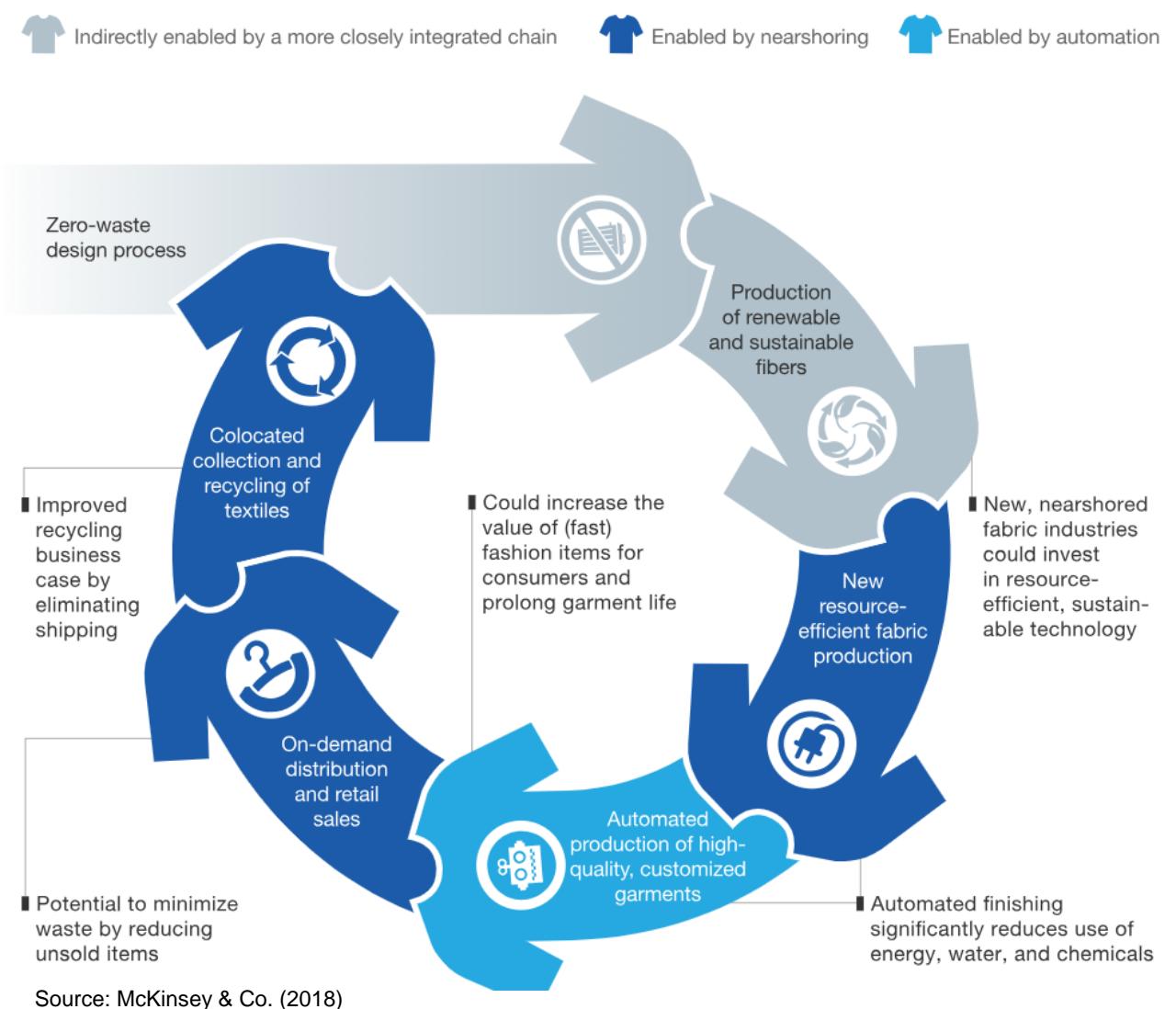
- Mapping the value chain and identifying business partners with a linkage to the EU
- Adhering to the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights .
- Responsible business conduct (RBC), such as the OECD Due Diligence Guidance for Responsible Business Conduct.
- Identifying and developing due diligence policies





Circularity and the use of digital transformation trends and automation

The Circular Fashion Value Chain as a way forward solution...



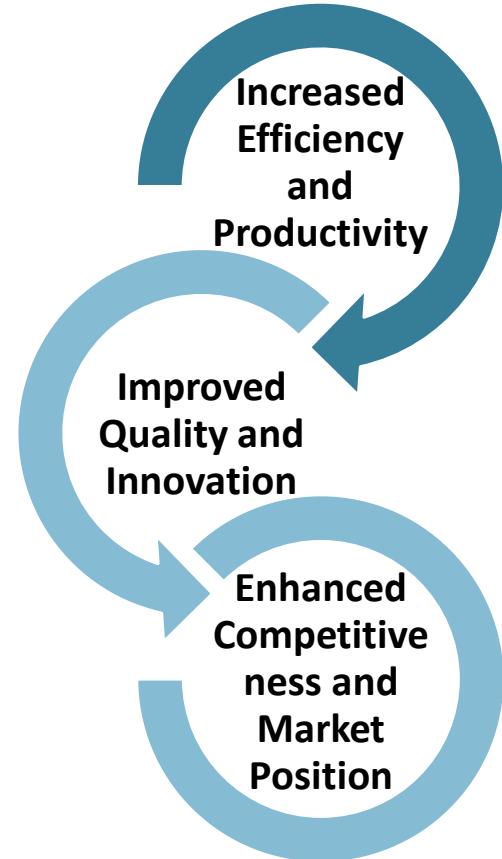
Global production trends, increased automation and sustainability compliance have the potential to improve sustainability and promote the garment sector's transition to a circular economy.

Digital Transformation and Automation



*Countries like India, China, and Vietnam are implementing **Apparel 4.0 technologies**.*

- Raymond from India has started using sewbot technology
- Chinese garment manufacturers are introducing smart clothing, augmented reality, and 3D printing
- Vietnam has developed Radio Frequency Identification devices (RFID), additive manufacturing, and ERP.
- In Bangladesh, Mohammadi Group has implemented automated knitting machines, while Envoy Textiles has integrated robotic autoconers into their processes.



Source: LightCastle Analytics (2023)

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Use cases of Gen. AI in the Garment Industry

Merchandising and product

Convert sketches, mood boards, and descriptions into high-fidelity designs.

Enrich product ideation by collaborating with AI agents that generate creative options.

Customize products for individual consumers at scale.

Supply chain and logistics

Support negotiations with suppliers by compiling research.

Augment robotic automation for warehouse operations & inventory management through real-time analytics.

Tailor product return offers based on individual consumers.

Economic Contribution

In the next 3-5 years, gen. AI could add **\$150 billion**, conservatively, and up to **\$275 billion** to the apparel, fashion, and luxury sectors' operating profits, according to McKinsey analysis.

Sustainability

AI can help fashion companies be more sustainable by optimizing their supply chain and production processes.

By analyzing data, AI can identify areas of waste reduction and energy efficiency.

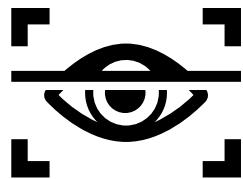
Smart Textiles

Smart textile (or e-textiles) also forms part of emerging trends of the sector.

Smart textiles offer **multiple uses in the medical industry** ranging from wound monitoring, electrocardiography, monitoring inner and outer atmosphere analyses in PPEs, etc.



Global market estimated to grow to **US\$ 2.1 trillion by 2027**, growing by **25.6% a year** between 2019 and 2027.



The market in the Asia-Pacific region, is expected to grow faster, by **26.1% a year** over the same period.



Linking LDC Graduation, Sustainability Issues and Technology: The Nexus for businesses

**Adopt Advanced
Manufacturing
Technologies**

**Increase
Productivity**

**Sustainable
Sourcing**

Energy Efficiency

**Eco-labeling and
Certifications**

**Enhance Design
and Innovation**

**Collaborative
Initiatives**



International Economics

Strategic Analysis For Growth & Development

Mauritius



International Economics Consulting Ltd.
Grand Baie Business Park, Suites 207-208
Grand Baie - 30510, Mauritius
Tel. +230 263 33 24
Email: info@tradeconomics.com

London



International Economics Consulting Ltd.
31 Bleinheim Road
SW20 9BA, London, United Kingdom
Email: info@tradeconomics.com

Ho Chi Minh



International Economics Consulting Ltd.
395/49, Nguyen Thi Kieu street
Tan Thoi Hiep ward, District 12
Ho Chi Minh, Vietnam
Email: info@tradeconomics.com

Thank You

Q&A



Regional Efforts: RE in Garment Supply Chains





Mr. Shuvajit Mandal

Country Manager, GIZ PDP

Shuvajit Mandal serves as Advisor and Country Manager for the Project Development Programme (PDP). An economist with a background in business and engineering, he brings over 15 years of experience in developing, appraising, and financing energy and renewable energy projects, complemented by his expertise in previous roles in management consulting.





Federal Ministry
for Economic Affairs
and Climate Action



Renewable Energy Project Development for the Commercial and Industrial (C&I) sector

Facilitator

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Contents

- Introduction of the project
- Project Development 10 Step Process
- Why Invest in Solar?
- Major driving forces of Solar project development
- Success stories



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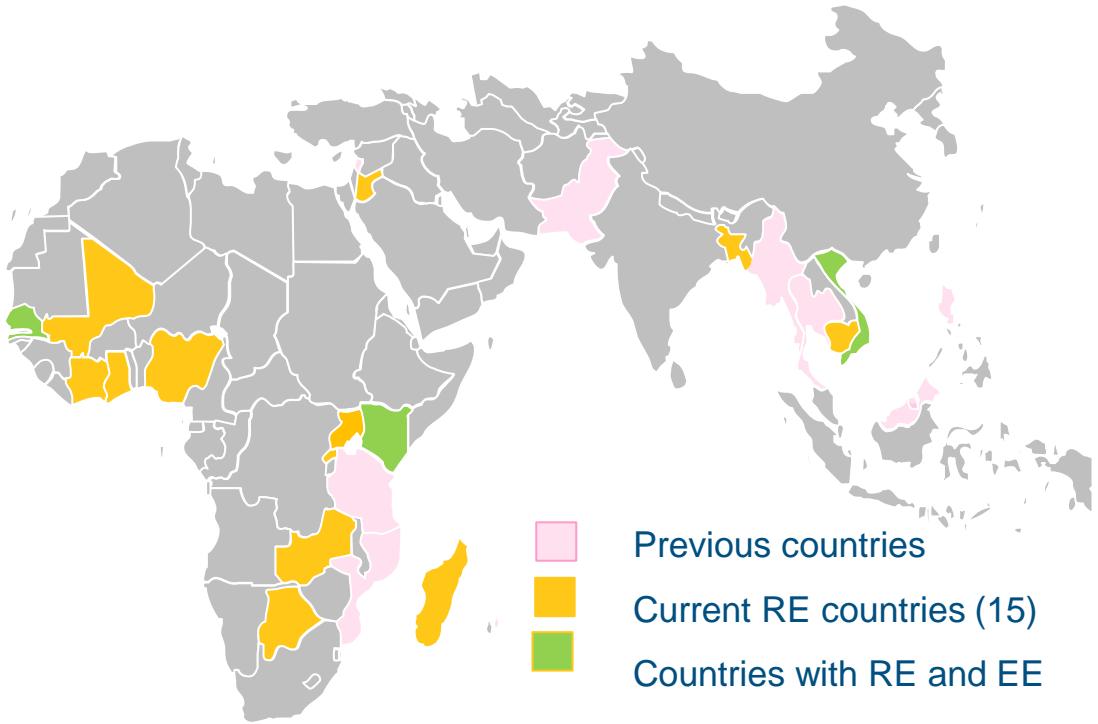
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Project Development Programme (PDP)

- The Project Development Programme (PDP) is promoting Green Energy and Energy Efficiency Solutions in 15 countries worldwide.
- PDP is commissioned by the German Federal Ministry of Economic Affairs and Climate Action (BMWk)



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and Climate Action



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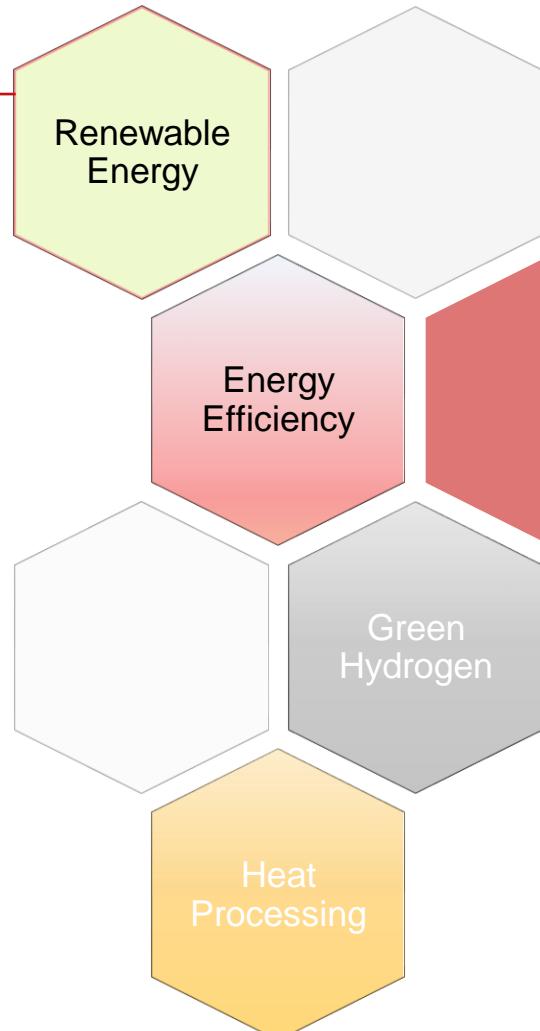


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Active countries:

15 countries

- Sub-Saharan Africa**
 - Kenya
 - Ghana
 - Nigeria
 - Mali
 - Senegal
 - Côte d'Ivoire
 - Botswana
 - Zambia
 - Madagascar
 - Uganda
 - Rwanda
- Middle-East**
 - Jordan
- Asia**
 - Bangladesh
 - Vietnam
 - Cambodia



Service Portfolio



- Connect RE or EE solution providers to pre-developed projects
- Market insight (studies, advice)
- Delegation trips to target countries
- Information workshop



- **Training local developers by international and local professionals** (German Training Week)
- Match making service for projects to energy companies and financing institutes



- Developing commercial rooftop solar projects for **C&I off-takers**
- Evaluation of economic, technical & environmental benefits
- Support C&I off-takers in matchmaking, tendering process, offer evaluation etc.



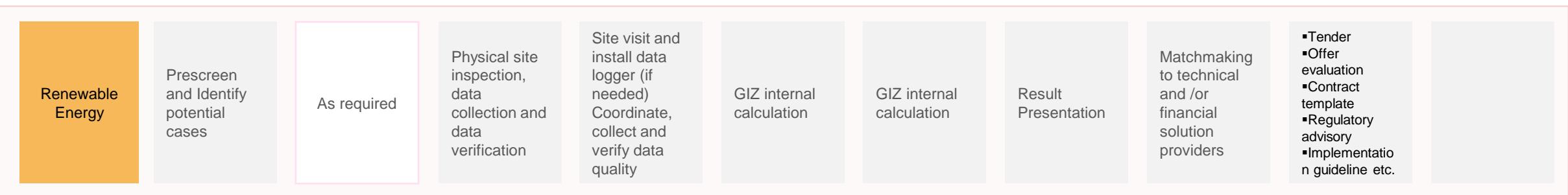
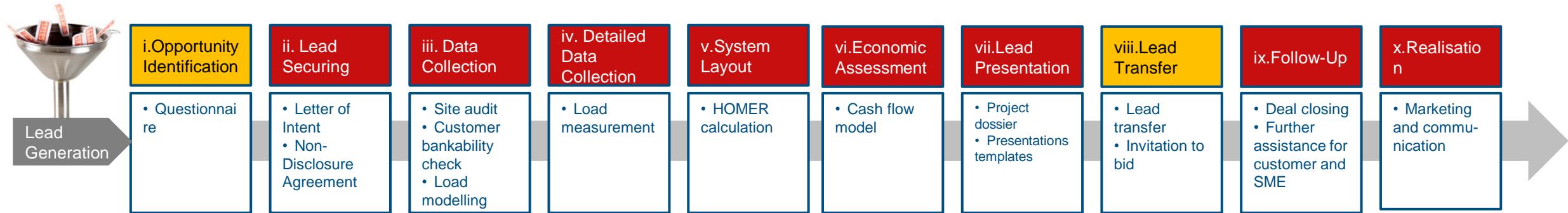
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Collaboration with factory in 10 Step process



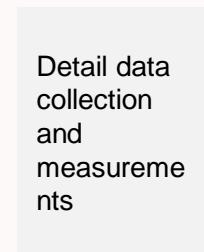
Data Collection



Identification of Potential for EnEff in our focus technologies (based on existing energy audit):

- Compressors
- Motors
- Pumps
- HVAC
- Waste Heat Recovery/Heat Exchangers

Calculation and Presentation



Detailed assessment for the selected focus technologies through the implementation of a Investment Grade Audit by local and international energy consultants

Implementation

Transfer to Technology Suppliers & Implementation



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PDP's value propositions



- **Independent advisory**

We are not a company: free, neutral and transparent advisory to find the RE or EE solution that is best for you



- **International Experience**

More than 12 years project development experience in developing countries and emerging economies



- **Local Experience and expertise**

Practical information on solar energy generation potential
Access to irradiation data from the nearby weather station
Access to shading analysis and optimization software



- **Quality networks**

Access to qualified component suppliers, engineering companies and contractors that deliver projects to the full satisfaction of their clients



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Why Invest in Solar?

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Solar Energy in achieving Climate goals

UN estimates the fashion sector is estimated to be responsible for up to 8~10% of global GHG emissions

Many fashion brands' committed to the Science Based Targets initiative (SBTi) indicate their alignment with the Paris Agreement, aiming to limit global warming to well below 2 degrees Celsius

H&M: 56% GHG emission reduction by 2030 and by at least 90% by 2040

PUMA: 25% of energy consumed by their suppliers from renewable sources by 2025

Levi Strauss & Co.: Reduce greenhouse gas emissions by 40% by 2025.

Adidas: Reduce carbon emissions by 40% by 2025.

Burberry: Reduce supply chain emissions by 30% by 2030.

VF Corporation: Supply chain emissions by 30% by 2030.

Primark: halve its carbon emissions by 2030

Nike: Reduce carbon emissions by 30% across its global supply chain by 2030



One quick and effective solution is onsite
Solar Energy generation



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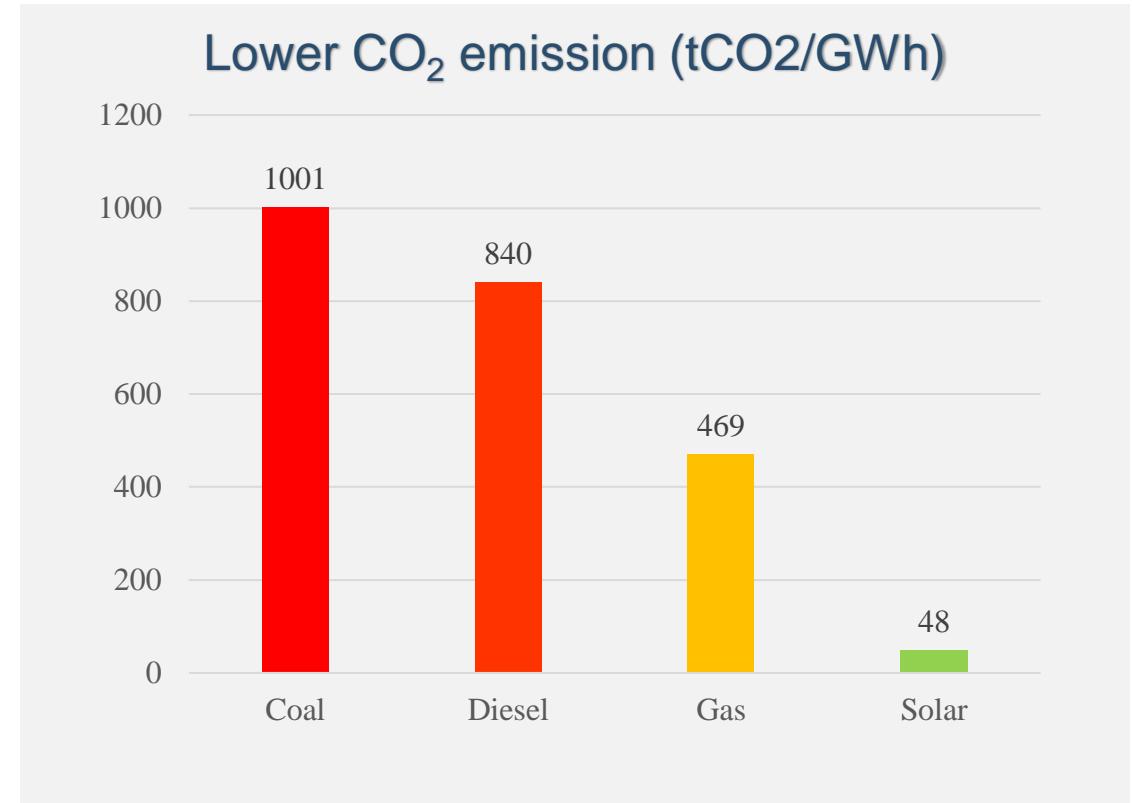
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Solar Energy in achieving Climate goals

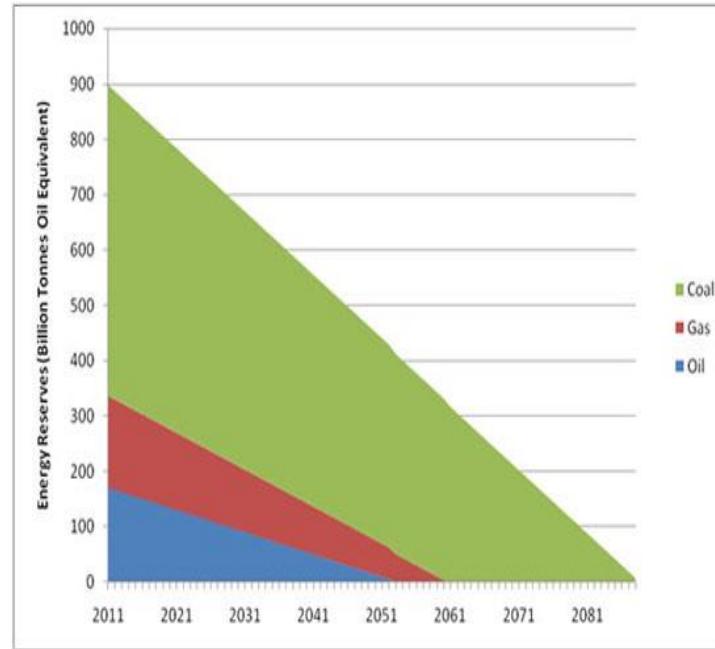
- Electricity from fossil fuel has higher CO2 emission than electricity from renewable energy



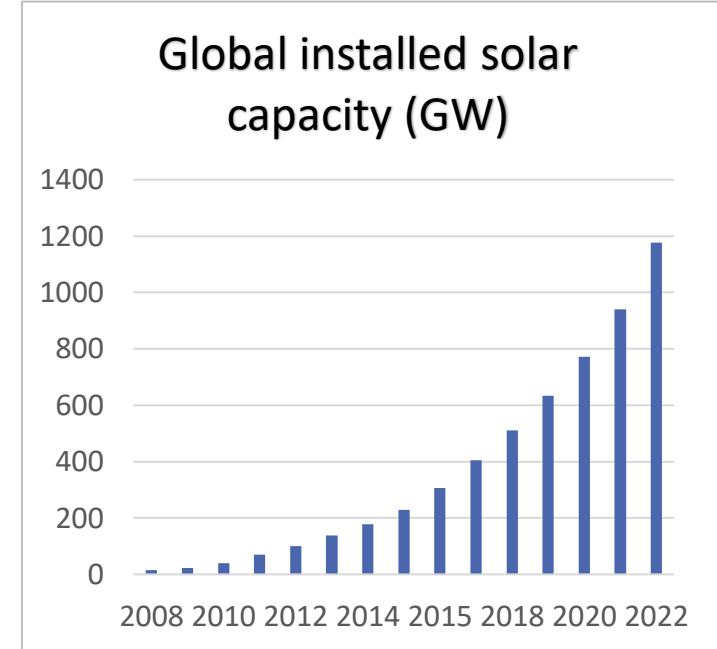
- Energy Source with the Lowest Carbon Footprint

Energy Security and Cost Reduction

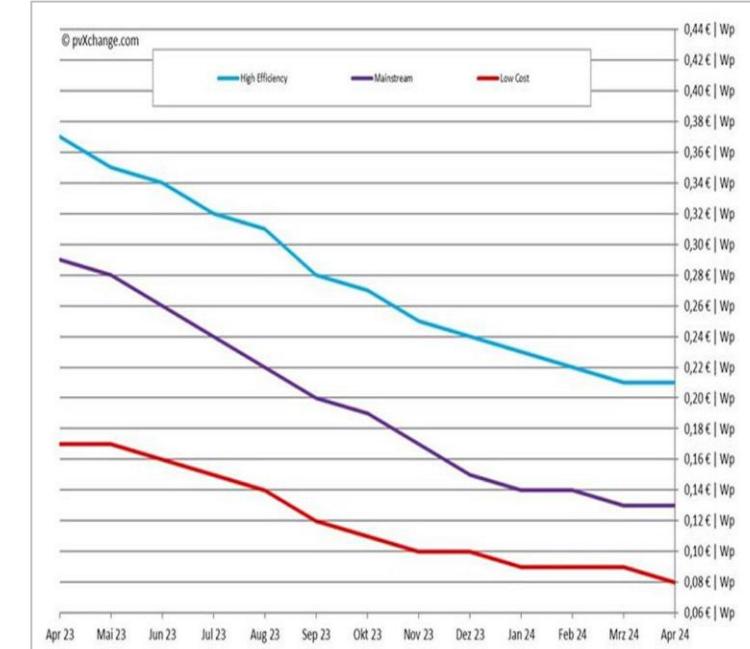
Conventional energy depleting and becoming expensive



Solar is not a new technology!

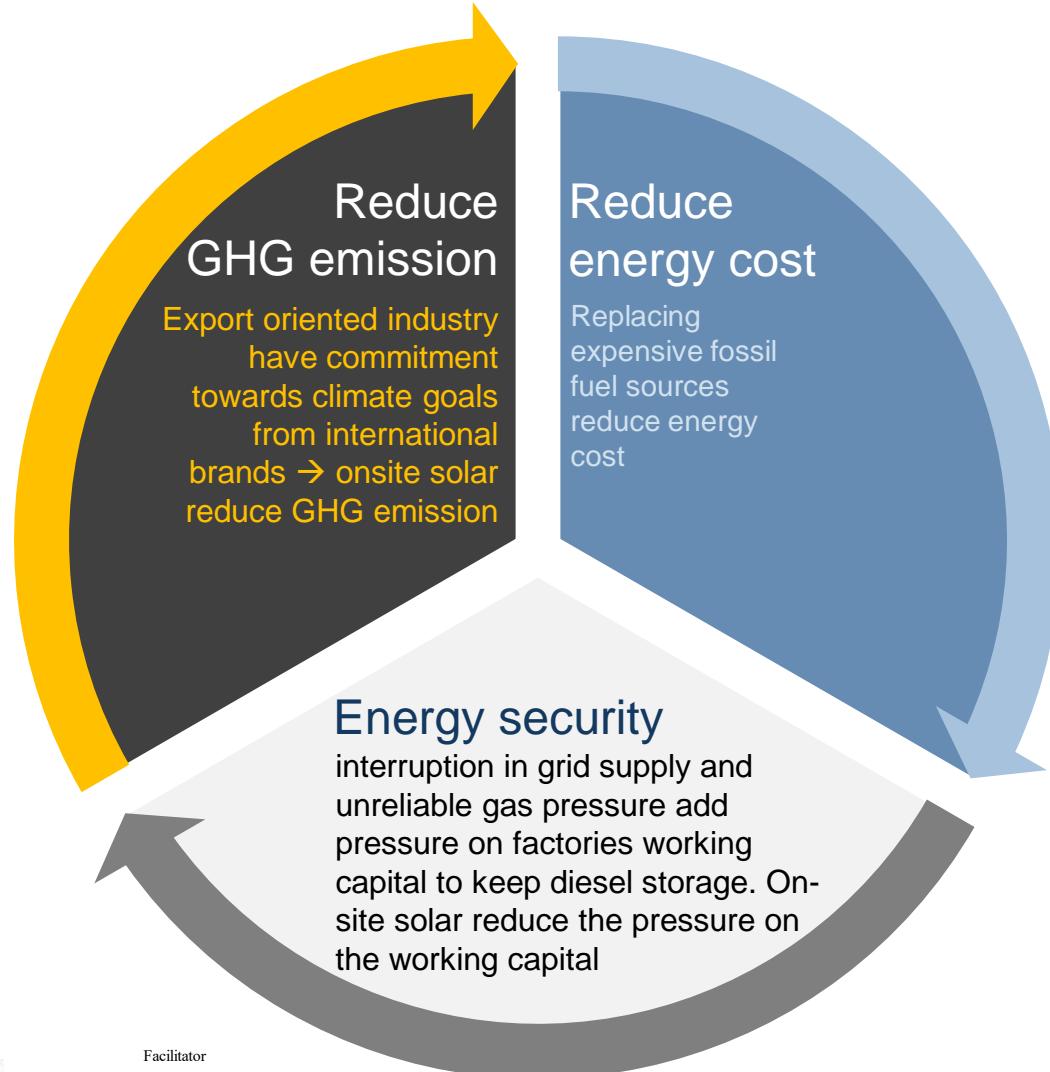


Solar becoming cheaper solution!



- Energy Security: Reliable source of energy
- Cost reduction: Cost of energy generation ranging between USD 5~7 cent

Advantages for Garment and textile industry



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Major driving forces of Solar project development

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Driving forces



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NEM: Net Metering
FiT: Feed in Tariff



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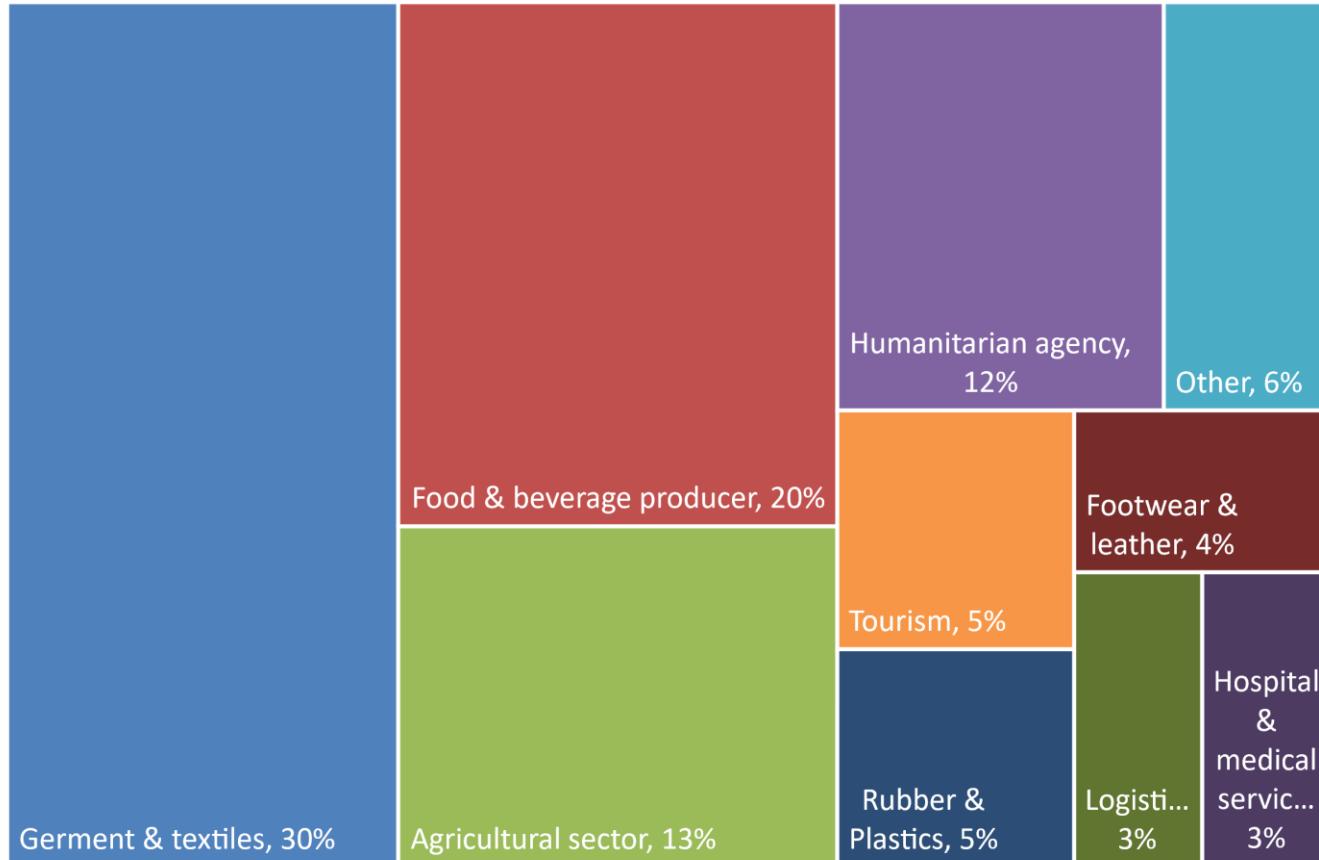
Success stories

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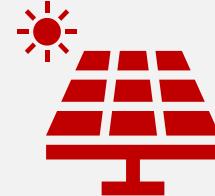
Our advice has led to many happy renewable energy users worldwide

1211 projects in the pipeline



Realized project in operation

Total installed capacity



405.16
MWp

CO2 emission reduction



9,885,819
tCO2e/a



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Regional experience in Garment and textile industry: Bangladesh

Leads

181

Total

Admitted: 145
Leads identified: 36

Project Size

169

MW

Transferred:
51 Leads, 11 MW

Investment Volume

122

Mil.€

Deal closed:
20 Leads, 4 Mil.€

Estimated Emission Redu...

1.033.259

tCO₂e

Realised:
24 Leads, 97.770 tCO₂e

88% factories are from Garment and textile industry



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Regional experience in Garment and textile industry: Cambodia

Leads

65

Total

Admitted: 53
Leads identified: 12

Project Size

52

MW

Transferred:
16 Leads, 3 MW

Investment Volume

39

Mil.€

Deal closed:
2 Leads, 0 Mil.€

Estimated Emission Redu...

29.517

tCO₂e

Realised:
2 Leads, 6.669 tCO₂e

68% factories are from Garment and textile industry



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Regional experience in Garment and textile industry: Cambodia

Leads

168

Total

Admitted: 165
Leads identified: 3

Project Size

609

MW

Transferred:
50 Leads, 360 MW

Investment Volume

552

Mil.€

Deal closed:
17 Leads, 354 Mil.€

Estimated Emission Redu...

9.143.113

tCO₂e

Realised:
18 Leads, 9.032.816 tCO₂e

52% factories are from Garment and textile industry



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Copperbelt Energy Corporation, Zambia – 1 MWp



Amigo Bangladesh, Bangladesh – 1.2 MWp



East African Growers' Shalimar Flowers Farm, Nakuru County, Kenya – 428 kWp



Emergent cold, Vietnam – 308 kWp



Star Aire, Thailand – 1 MWp



Travessia Lodge, Mozambique – 10 kWp



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Garment and textile

Project size: 261.8 kWp

Total available roof space: 3200 m²

Total energy generation potential: 382 MWh

CO2 emission reduction: 236,000 kg/annum

Levelized cost of Energy: USD 4.42cent/kWh

Payback: 5.53 years

IRR: 19.5%



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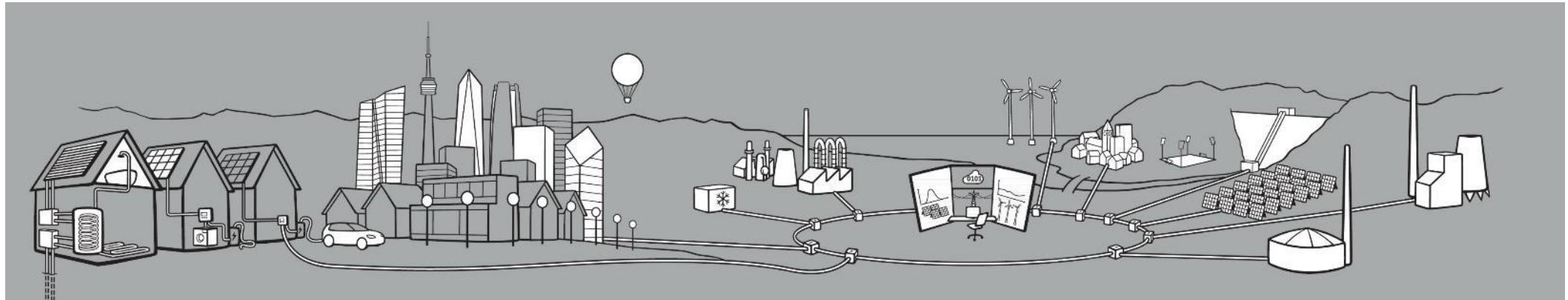
Contact us

Shuvajit Mandal

Advisor & Country Manager

shuvajit.mandal@giz.de

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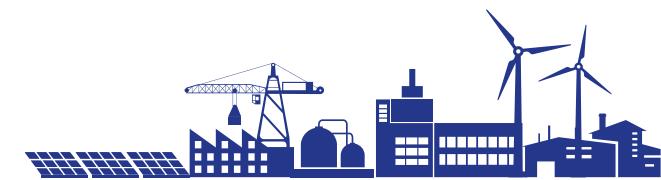
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Mr. Saqib Sohail

**Lead - Responsible Business Projects
Artistic Milliners, Karachi, Pakistan**

Saqib Sohail, with over 15 years in textiles and education, is a lifelong learner and industry innovator. A Ryan Young Climate + Award recipient, he focuses on sustainable cotton farming and community programs at Artistic Milliners. Saqib holds degrees from North Carolina State University and the Textile Institute of Pakistan and is a published author on sustainability and productivity management.



WHITE PAPER

From Catwalk to Carbon Neutral : Mobilising Funding for a Net Zero Fashion Industry



Introductions

This paper was commissioned by:



It was also supported by:



It was written by:

Revan Philip Wickramasuriya

Endorsements



Why did suppliers come together to commission this paper?

- The need for this paper originated in private discussions between producers hosted by the Asia Garment Hub, which led to the realisation that many of our decarbonisation funding challenges are shared. However, we also want to emphasise that our perspectives are not monolithic and we do not align on everything.
- We came together to commission this paper because of our shared belief that manufacturer perspectives on this topic—in all their breadth and complexity—must be better understood if we are serious about driving meaningful impact.
- We also share a conviction that if we fail to devise new ways of funding decarbonisation, we will also fail to realise our climate goals. We wanted to inspire more expansive, creative and imaginative thinking about how the sector might go about collectively funding decarbonisation.

Broader context within which this paper sits

- Paper must be understood within broader need for more shared risk and responsibility.
- In addition to funding decarbonisation, adaptation and resilience have their own funding requirements and a just transition demands a collective approach to all three.
- The specific challenge of how to fund decarbonisation is an opportunity to re-imagine cost-driven supply chain structures to ensure that they are fit for the future and capable of driving sustainability more generally.

Methodology

Research was conducted through interviews with 21 apparel manufacturers and stakeholders—many of whom wished to remain anonymous—such as representatives from brands, impact investing funds, financial institutions and relevant entities, complemented with desk studies. While we do not claim this to be a representative survey, interviewees are from a broad spectrum of countries and business types.

Part 1. Value Chain Structure and Funding Inequity

Value Chain Structure and Funding Inequity

- Cutting roughly **50%** of emissions by 2030 and achieving net zero by 2050 in the fashion sector requires significant investment. The Apparel Impact Institute (Aii) estimates fashion industry decarbonisation will cost **USD1 trillion** up to 2050.
- The vast majority—by some estimates up to **80%**—of fashion's emissions are in the supply chain. Much of the work needed to deliver on the sector's net zero goals must thus happen in production.
- Yet, brands and retailers hold the largest share of revenues and margins. Upstream actors also usually have smaller turnovers and steeper debt-to-revenue ratios. The misalignment of margins, contrasted against the concentration of emissions, poses a real challenge to funding sector decarbonisation.

Part 2 - Funding Manufacturer Decarbonisation: Context, Bottlenecks and Current Solutions

Types of funding needs

- Short-term with payback within the three years
- Medium-term with payback of between three and 10 years
- Long-term with payback beyond 10 years
- Projects that increase OpEx

Paybacks are contextual

Project	Payback Period	Examples/Challenges
Improvement of efficiency of steam system	Short-to-medium. Paybacks are dependent on the cost of the underlying energy source.	E.g., condensate recovery systems, steam traps and insulation.
Improvement of efficiency of steam system/system upgrades	Medium to no-payback, dependent on the cost of the underlying energy source.	Based on age and efficiency of design, these may require a complete overhaul of steam distribution systems. Many systems designed during cheap fossil fuel eras require substantial modernisation or complete replacement of piping and insulation, including all accessories that provide efficiency.
Replacing fossil fuel boiler with biomass	Dependent on cost of original fuel versus biomass. Could be short-payback in some cases, while increasing OpEx in others (especially if the boiler uses sustainably sourced biomass).	Biomass availability is tied to geography. It is not found in some locations while supply is severely limited in others, thereby posing supply chain risks to the company. In many locations, this option is not viable for Tier-2.
Replacing fossil fuel boiler with electric boiler	Generally raises the facility's OpEx and has no payback. Cost may be as high as three times the previous source of energy.	Electric boilers are currently available only in small capacities.
Replacing steam using equipment to electricity	Can be short, medium or no-payback.	Limited solutions exist for some equipment and requirements. Steam irons replaced with irons with electric mini-boilers. Hot water generated through waste heat recovery systems or electric heat pumps.

Business & financing bottlenecks

- Capital expenditure (CapEx) risk not shared
- Lack of solutions beyond debt
- Burden of increased operating expenses (OpEx) not shared
- Business cycle risk
- Debt affordability
- Lack of tools to derisk investment and debt
- Lack of local policies for renewable energy and energy transition

So what?

Project type	Consequence
Short-Term Payback Projects	<ul style="list-style-type: none">• Larger and medium-scale manufacturers with fair visibility of order cycles and moderate leverage have managed to raise funding for short payback projects.• Affordability and accessibility remain elusive to smaller manufacturers with higher leverage levels (even for such projects) but is helped, to some extent, by rising availability of concessional funding.• Many countries offer limited local funds at lower interest rates for manufacturers. But securing it may entail significant indirect costs tied to lengthy, complex application processes.• Upon disbursement, monitoring and reporting requirements create further expenses for manufacturers.
Medium-Term Payback Projects	<ul style="list-style-type: none">• Limited funding is available for larger manufacturers with low levels of leverage. Yet affordability and accessibility remain challenging. For medium and small manufacturers, availability, affordability and accessibility is scarce, regardless of their leverage levels.
Long-Term and No-Payback Projects	<ul style="list-style-type: none">• It is not immediately clear how manufacturers can fund their decarbonisation when paybacks stretch beyond 10 years, as traditional debt instruments are not designed to support this.• Novel frameworks are needed to share decarbonisation benefits upstream by supporting borrowers in different ways, including through revenue sharing and offtake agreements.
Projects That Increase Operational Costs	<ul style="list-style-type: none">• Some decarbonisation projects generate higher OpEx for manufacturers. Even in instances where financing is available, affordable and accessible, this could mean the project is not commissioned.

Part 3 - Funding Solutions for Decarbonisation

Funding Solutions for Decarbonisation

3 categories of solutions:

- Solutions that **evolve business models**
- Solutions that **increase penetration of existing financial products for manufacturers**
- Solutions that **address policy and regulatory frameworks**

→ **Solutions that evolve business models:**
Fair Climate Fund

Built on the principle of equity, adopting the Fairtrade model. Each value chain partner diverts to it a portion of revenue, which is then disbursed as grants to finance supply chain decarbonisation projects.

→ **Solutions that evolve business models:
Brand-supplied debt repaid via product discounts**

The larger, more profitable brands and retailers provide funding for which repayments are through discounts on future product orders.

→ **Solutions that evolve business models:**

Cost-sharing with consumers

— green tag for decarbonisation

A clothing line priced slightly over the conventional range, with clear information to consumers that the premium—displayed as a “green tag” at the point of sale—will exclusively fund decarbonisation of the product’s supply chain.

→ Solutions that increase penetration of existing financial products for manufacturers:

Green bonds and equity

Capitalises on growing interest for green bonds and equity in an environment where investors are increasingly focused on economic, social and governance (ESG) factors.

→ Solutions that increase penetration of existing financial products for manufacturers:

Islamic finance

A project funding tool—particularly for countries with a majority of followers in the Islamic faith—that differs from regular bonds in that it is not speculative and derives revenue through direct asset ownership rather than interest-bearing debt.

→ Solutions that increase penetration of existing financial products for manufacturers:
Mitigating business cycle risk

Business cycle insurance for investment policies to cover disruptions or downturns that impact loan repayment ability.

→ Solutions that increase penetration of existing financial products for manufacturers:

Credit guarantees

Credit guarantees from governments, multilateral development banks (MDBs), development financial institutions (DFIs) or export credit agencies (ECAs).

→ **Solutions that address policy and regulatory frameworks:**
Just Transition Fund

Created through regulatory levies, it will be accessible to manufacturers in developing countries to support value chain decarbonisation.

Conclusions & Calls to Action

- Policy advocacy that supports financing for decarbonisation
- Impose transparency and reporting standards
- Establish the Fair Climate Fund
- Increase availability, accessibility and affordability of finance
- Seize the moment, by commercial banks and private sector lending institutions
- Change the narrative
- Create an environment that facilitates value chain decarbonisation

Questions?

(Download the Report)

Changing Global Due Diligence Landscape



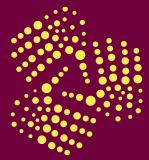


Archana Kotecha

Founder, The Remedy Project

Archana Kotecha is a UK-qualified barrister and mediator, leading innovative efforts in redefining responsible private sector conduct, particularly in supply chains. She has over 15 years of experience advising UN agencies (IOM, ILO, and UNICEF), ASEAN bodies, Governments, businesses, civil society groups, and legal practitioners across Asia. The rights-holder perspective is central in her legal approach, which seeks creative solutions within the context of commercial requirements and complex regulatory challenges.



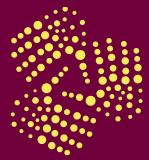


THE
REMEDY
PROJECT

Respect.
Protect.
Remedy.

STAR-AFTEX TRADE & SUSTAINABILITY SUMMIT

Bangkok, Thailand
6 June 2024



TRENDS IN DUE DILIGENCE

Upcoming HRDD Laws

- Thailand NAP launched (2019)
- India Zero draft NAP published (2019)
- Pakistan NAP launched (2021)

From soft law to hard law



These laws translate elements of the standards and principles in the UNGPs into binding legal obligations

Buyers are facing increasing legal, financial, and reputational risks, where they fail to develop and implement human rights due diligence frameworks to manage their human rights impacts

Recent and Imminent Changes in the Regulatory Landscape

Due Diligence

EU Corporate Sustainability

Due Diligence Directive

Relevant companies will need to conduct human rights and environmental due diligence and make available a complaints procedure.

German Supply Chain Due Diligence Law

Relevant companies need to have in place a risk management system, risk analysis, human rights policy statement, preventative and remedial measures to address adverse impacts, and a complaints mechanism.

Sanctions

US Tariff Act of 1930

As per section 307, Importers must demonstrate that they conducted due diligence, and effective supply chain tracing to ensure that they are not importing any product that was mined, produced or manufactured wholly or in part by forced labour into the USA.

EU Forced Labour Regulation

A ban on the sale of products on the EU Market, or export of goods from the EU, made with forced labour.

Transparency

European Corporate Sustainability Reporting Directive

Relevant companies are required to report on due diligence processes regarding sustainability matters and actions taken to remediate or mitigate potential adverse impacts in their value chains.

Voluntary

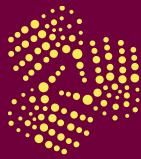
Guidelines on Respecting Human Rights in Responsible Supply Chains (Japan)

The Guidelines set out by the Japanese Ministry of Economy, Trade and Industry's expectations around corporate respect for human rights, including guidance on human rights policies, human rights due diligence, and how to provide remedy in the case of adverse human rights impacts.

Due Diligence in Asia

Some countries in the Asia region have adopted legislation/action plans that contain elements of HRDD:

- Ministry of Marine Affairs and Fisheries Regulations 35/2015 and 2/2017 - **Indonesia**
- Overseas Resources Development Business Act (amendment) - **South Korea**
- National Action Plan on Business and Human Rights - **Thailand**
- Guidelines on Respecting Human Rights in Responsible Supply Chains – **Japan**
- Modern Slavery Act - **Australia**



What is Human Rights Due Diligence (HRDD)?

Definition: HRDD is a core part of the UNGPs and is a continuous process that enables both business enterprises and governments to identify, prevent, mitigate, and account for the adverse human rights impacts of their activities.

Applicability: HRDD is applicable to all business enterprises, regardless of their size, sector, operational context, ownership, and structure. It extends to the entity's own activities and business relationships, including supply chain.

Origin: Rooted in Articles 18 to 21 of the United Nations Guiding Principles on Business and Human Rights (UNGPs), HRDD was formally endorsed by the Human Rights Council in 2011.

Legal Obligations: Numerous jurisdictions are implementing legal frameworks that require HRDD. This reflects a growing recognition of the vital role business plays in ensuring human rights are respected.

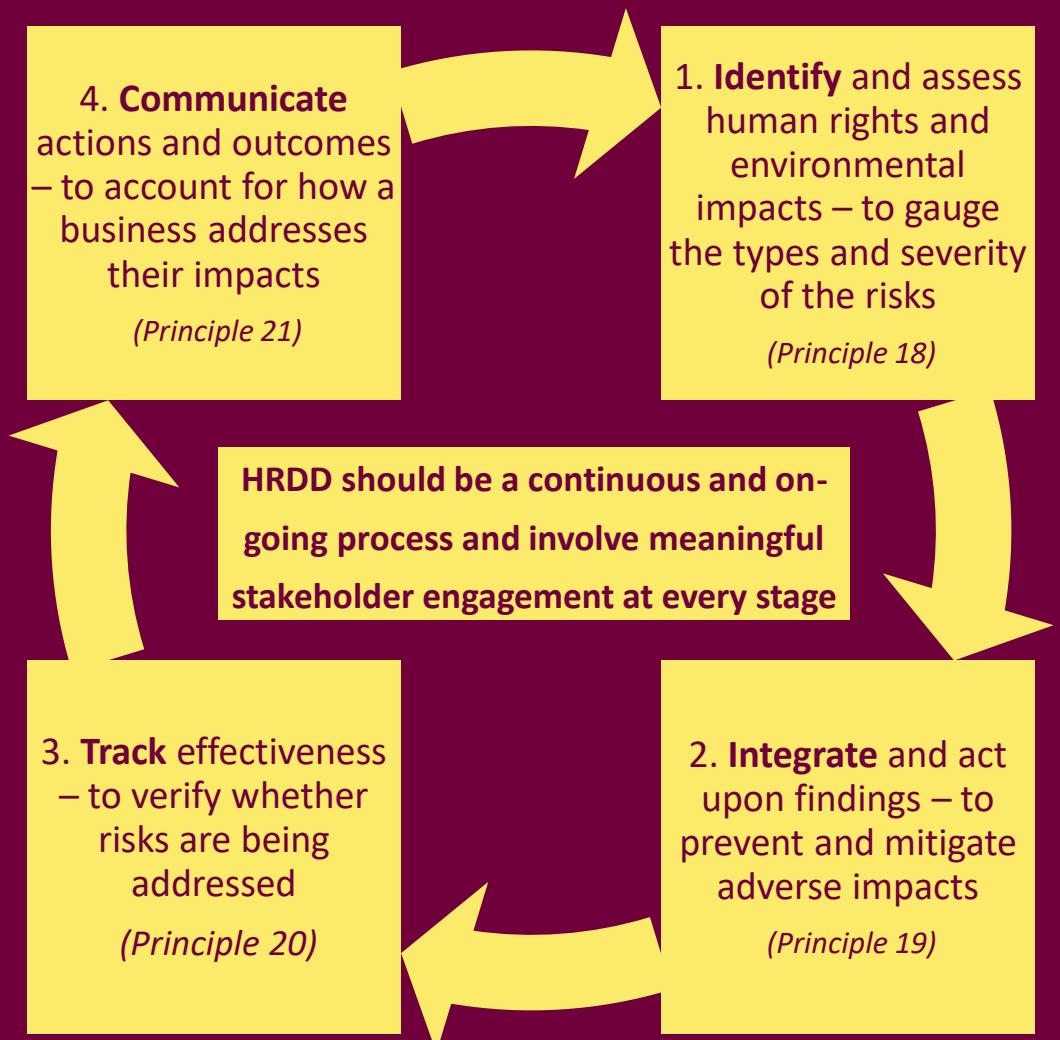
Importance: HRDD aligns the operations of business entities with international human rights norms and standards. It also acts as a safeguard against potential legal risks, fostering ethical conduct.

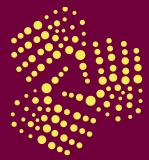
Goals: By engaging in HRDD, organizations demonstrate their commitment to responsible business conduct, contributing to societal trust and sustainable development.

Human Rights Due Diligence (HRDD): A Continuous Four-Step Process

HRDD refers to the process of a business **identifying** and **assessing** its actual and potential human rights impacts (in its own operations and value chain), **integrating** and **acting on** those findings, **tracking** **responses**, and **communicating** how those impacts have been addressed (UNGPs 17)

Environmental impacts are increasingly included with human rights impacts, adding those impacts to HRDD. The process remains fundamentally the same, however.





Expectations Stemming from Due Diligence Laws

Risk
Assessment

Saliency

Accountability

Remedy

Value Chain
Approach

Shared
Responsibility

What is Stakeholder Engagement?

Meaningful and on-going engagement with stakeholders is critical in the implementation of HRDD:

- This ensures that the **perspectives, needs and concerns of stakeholders** are reflected in the development and implementation of policies.
- This can also result in **improved effectiveness** as policies are tailored to the realities of stakeholders and the situation on-the-ground.
- Involving external stakeholders in **monitoring and evaluation** also helps create **accountability**.



Expectations of remedy in upcoming due diligence legislation

EU's Corporate Sustainability Due Diligence Directive 2024

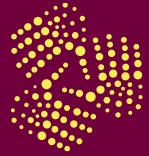
Where a company has caused or jointly caused adverse impact, company required to provide remediation

Where adverse impact is caused by the company's business partner, company can provide voluntary remediation

Use leverage to influence business partner to enable remediation.

Persons can submit 'substantiated concerns' to authorities when reason to suspect non-compliance by a company

Brand and retailers to expand scope of Grievance Mechanisms to cover Tier-2 suppliers or further upstream



Expectations of remedy in upcoming due diligence legislation

German Supply Chain Due Diligence Act 2023

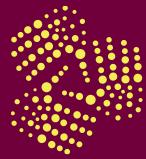
If violation has occurred or is imminent, the company must take remedial action to prevent, end or minimize the violation.

Companies to develop a complaint mechanism where affected individuals or those with knowledge of violations can report

When violations are at the direct supplier level, companies must implement a plan to end violations and consider temporary suspension of the direct supplier.

Termination of a direct supplier is required, if violation is very serious, and remediation plan does not remedy harm

Company must evaluate the effectiveness of the remedial measures at least annually



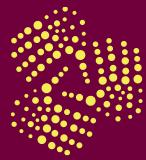
Opportunities to build resilience in business

**Know your supply
chain and
rightsholders**

**Risk assessment
should be top down
and bottom up
through the use of
holistic and
composite data sets**

**Taking a rights-based
approach**

**Demanding more
from business
relationships and
creatively using of
commercial leverage**

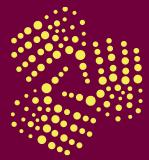


Opportunities to build resilience in business

Meaningful engagement with stakeholders including engagement with independent experts

Grievance mechanisms should be platforms for resolving complaints and for the realisation of rights

Industry collaboration and leadership



Risk to people is the biggest risk to business

Q&A



Suppliers: Raising Their Voice Together





Regina Leong

Honorary Permanent Exec Secretary, AFTEX

Regina Leong is the Director of HY Edar Sdn Bhd and CEO of Hing Yiap Knitting Sdn Bhd, both based in Kuala Lumpur. With over 20 years in industries like textile manufacturing, e-commerce, and digital marketing, she also serves as the Honorary Permanent Executive Secretary at ASEAN Federation of Textile Industries.



AFTEX

ASEAN Federation of Textile Industries (AFTEX)





Year 2022

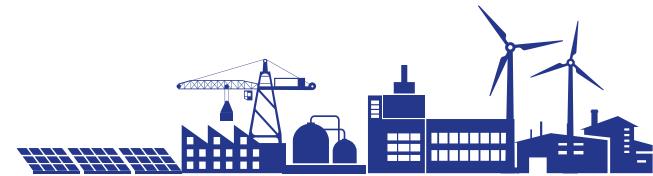
Official Registration under Registrar of Society
Malaysia

Address :
AFTEX Office
C-9-4, Megan Avenue 1
189, Jalan Tun Razak
50400 Kuala Lumpur



Members of AFTEX :

- Textile, Apparel, Footwear And Travel Goods Association in Cambodia (TAFTAC)
- Indonesia Textile Association (API)
- Association of Lao Garment Industry (ALGI)
- Malaysian Textile Manufacturers Association (MTMA)
- Myanmar Garment Manufacturers Association (MGMA)
- The Confederation of Wearable Exporters of the Philippines (CONWEP)
- Singapore Fashion Council (SFC)
- The National Federation of Thai Textile Industries (NFTTI)
- Vietnam Textile and Apparel Association (VITAS)



STRUCTURE OF AFTEX

AFTEX CHAIRMAN

MR ALBERT TAN



AFTEX COUNCIL

HONORARY PERMANENT SECRETARY-GENERAL

1. Managing and Coordinating AFTEX Registered Office
2. Organizing and Coordinating AFTEX Meeting
3. Contact Point and Liaison Officer of AFTEX

AFTEX CHAIRMAN EXECUTIVE SECRETARIAT

TAFTAC



1. Ensuring smooth functioning of Chairmanship
2. Running AFTEX operations
3. Executing AFTEX Projects

Our Objectives:

1. To promote co-operation and coordination among the textile industries in the ASEAN member countries in line with the objectives of the ASEAN Chambers of Commerce and Industry;
2. To hasten the growth and progress of the textile industry in the region through joint approaches, endeavors and action;
3. To promote closer relations and co-operation between and among the textile business communities in the member countries;
4. To maintain close relations and co-operation with regional and international organizations with similar aims and objectives;
5. To assist in the identification of industrial opportunities or projects that lends them to complementation;
6. To formulate recommendation on incentives, tariff and other forms of protection for identified projects and commodities;
7. To affiliate itself with the ASEAN Chambers of Commerce and Industry; and
8. To serve as the sole ASEAN body from the private sector to implement and deal with problems of ASEAN cooperation in the textile industry.

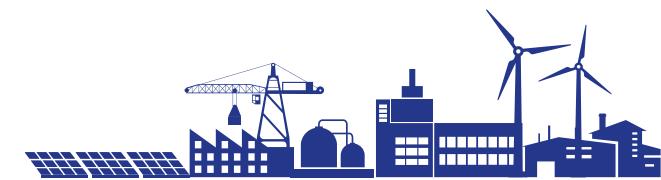


AFTEX
ASEAN Federation of Textile Industries

ASEAN + Fellowship + Textile,
Family Apparel
Lifestyle Industries

+ Economy
Enterprises
Exchange of Information
Engagement (Intra-ASEAN)
Ensemble (One Voice)

+ X Countries



The way we work:

1. One Entity, One Voice;
2. Meet every 6 months;
3. Rotation of Chairmanship every two years (alphabetically order);
4. Ad-Hoc meeting whenever required;
5. Establishment of Committee to resolve issues / special tasks / projects
6. Participate in each member countries' events and activities;
7. Unanimous Agreements or By Vote System; and
8. Membership fees of USD 2000 per year from each member country

our past chairmen and our stories (in a glance)



No	Year	Chairman	Country
1	1978 - 1980	Mr Lam Thian	Singapore
2	1981 - 1982	Mr Phongsak Assakul	Thailand
3	1983 - 1985	Mr Frans Seda	Indonesia
4	1986 - 1987	Mr David N.W. Lee	Malaysia
5	1988 - 1989	Mr Donald G. Dee	Philippines
6	1990 - 1992	Mr Cheng Wai Keung	Singapore
7	1993 - 1995	Mr Sopon Witchitrakorn	Thailand
Vietnam → 8	1996 - 2000	Mr Husein Aminuddin	Indonesia
Cambodia → 9	2001 - 2002	Datuk Yap Fung Kong	Malaysia
10	2003 - 2004	Mr Michael Que	Philippines
11	2005 - 2006	Mr Phongsak Assakul	Thailand
12	2007 - 2008	Mr Lee Quoc An	Vietnam
13	2009 - 2010	Mr Van Sou Ieng	Cambodia
14	2011 - 2012	Mr Ade Sudrajat	Indonesia
15	2013- 2014	Mr One-sy Boutsuvingsakd	Laos
Myanmar → 16	2015 - 2016	Dato' Sri Tan Thian Poh	Malaysia
17	2017 - 2018	Mr Lawrence Delos Santos	Philippines
18	2019 – 2020	Mr Yuttana Silpsarnvitch and Mr Jumnong Nawasmittawong	Thailand
19	2021 – 2022	Mr Vu Duc Giang	Vietnam
20	2023 – 2024	Mr Albert Tan	Cambodia

Cycle 1

Cycle 2

Cycle 3

Cycle 4

Cycle 5

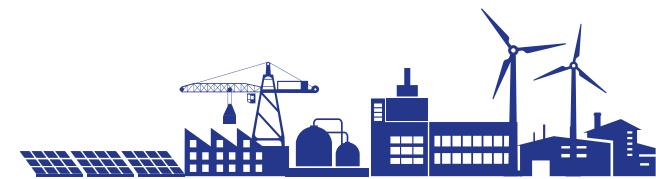
- **Brunei (Malay):** Terima kasih
- **Cambodia (Khmer):** អារុណ (Arkun)
- **Indonesia (Indonesian):** Terima kasih
- **Laos (Lao):** ຂອບໃຈ (Khop chai)
- **Malaysia (Malay):** Terima kasih
- **Myanmar (Burmese):** ကျေးဇူးတင်ပါတယ် (Kyei zu tin ba de)
- **Philippines (Filipino/Tagalog):** Salamat
- **Singapore (Malay):** Thank you
- **Thailand (Thai):** ขอบคุณ (Khob khun)
- **Vietnam (Vietnamese):** Cảm ơn





Mr. Matthew Guenther

Matthew Guenther is the Environmental Sustainability Director for TAL Apparel, leading climate action and circular economy initiatives. He co-chairs the Fashion Industry Charter for Climate Action and the Low Carbon Manufacturing Working Group. Additionally, he is a member of the Fashion Producer Collective. Matthew holds a MSc in Environmental Policy from Bard College and a BA in International Relations from Bilkent University. He resides in Singapore.



Fashion Producer Collective

Contents

1. what is it?
2. What is our intention?
3. What is a project?
4. Producer Committee
5. What my involvement means for the company

1. what is it?

A collection of self-organized, producer-led, projects worth more than the sum of our parts.

We focus on projects related to
sustainability in the Fashion sector.

2. Our intention is to...

Offer producers a safe space for solidarity, belonging, camaraderie, and knowledge sharing related to sustainability.

Jointly explore and co-create a more impactful and equitable way of doing sustainable fashion. We inspire one another and collaborate on things that drive change and bring joy.

To amplify producer voices on sustainable fashion.

3. what is a project?

- Producer-led but may be supported by or otherwise engage non-producers at producers' discretion
- Cover a range of topics and formats. For example, they could be research papers, on-going peer knowledge sharing groups, advisory committees, policy engagement & beyond
- Each project is unique and it will have its own defined roles, team, supporters, budget, & beyond

Projects to which participating producers have contributed to date..

Monthly
Supplier
Meet-Ups

An Apparel
Supplier's Guide to
Sustainability
Legislation

From Catwalk to
Carbon Neutral:
Mobilising Funding for
a Net Zero Fashion
Industry

An Apparel
Supplier's Guide to
Sustainability
Legislation 2.0
(Pipeline)

Apparel Impact
Institute Advisory
Committee
(Pipeline)

New York Fashion
Act Policy
Engagement



4. The Producer Committee

What does the Producer Committee do?



Decide which projects it will endorse on behalf of the collective.



Decide which pitched projects meaningfully amplify producer voices on sustainable fashion.



Protect the 3 intentions by ensuring that any other strategic and forward looking decisions related to the Collective remain consistent with the original spirit and intention of the group.

5. Getting involved

Participants must work for a fashion producer, but they engage as individuals. They do not represent their companies, unless their company decides to formally support or endorse a project.



Mr. Thomas Hesketh

**Head of Secretariat, STAR Network
GIZ Integrated Expert, TAFTAC**

Thomas is the Head of STAR Secretariat and a GIZ Integrated Expert at TAFTAC. He coordinates the activities of the STAR Network. He specializes in private sector development, aiming to enhance trade and supply chain sustainability across Asia. He was previously Executive Director of the European Chamber of Commerce in Cambodia, and prior to that, held roles at Emerging Markets Consulting, BT Group, and Pfizer.



STAR

Sustainable Textiles of
the Asian Region

What is it?

A platform for **dialogue and trust building**, the STAR network **helps members find solutions** to the challenges they all face, **particularly related to sustainability**.

Mission Statement:

We, the STAR Network, ***are committed to shaping a sustainable and responsible textile and apparel industry*** and are dedicated to contributing to the 17 targets of the Sustainable Development Goals of the UN Agenda 2030.



2016

Founded with
support of GIZ
FABRIC

2024

Establishing
more formal
structure



Member Associations



Mr. Junaid Esmail
Makda
PHMA



Mr. Fazlee Shamim
Ehsan
BKMEA



Mr. Ken Loo
TAFTAC



Mr. Miran Ali
BGMEA



Mr. Muhammad
Muzzammil Hussain
TMA



Mr. Azizullah
Goheer
PTEA



Ms. Mai Nguyen-
Thi-Tuyet
VITAS



Ms. Khine Khine
Nwe (Rosaline)
MGMA



Mr. Xiaohui Liang
CNTAC





9

Member Associations

~35,962 Manufacturers
~30 million workers



6

Countries

China, Vietnam, Bangladesh,
Cambodia, Pakistan, Myanmar



49%

% of GFT Export Market

From member countries
(UNCTAD, 2021)



11

Asian Dialogue Events

+5 Publications



422

US\$ Billion in Exports

From countries of STAR members
(UNCTAD, 2021)



7+

International Partners

ILO, UNESCAP, ITMF, OECD,
IAF, UN Fashion Alliance

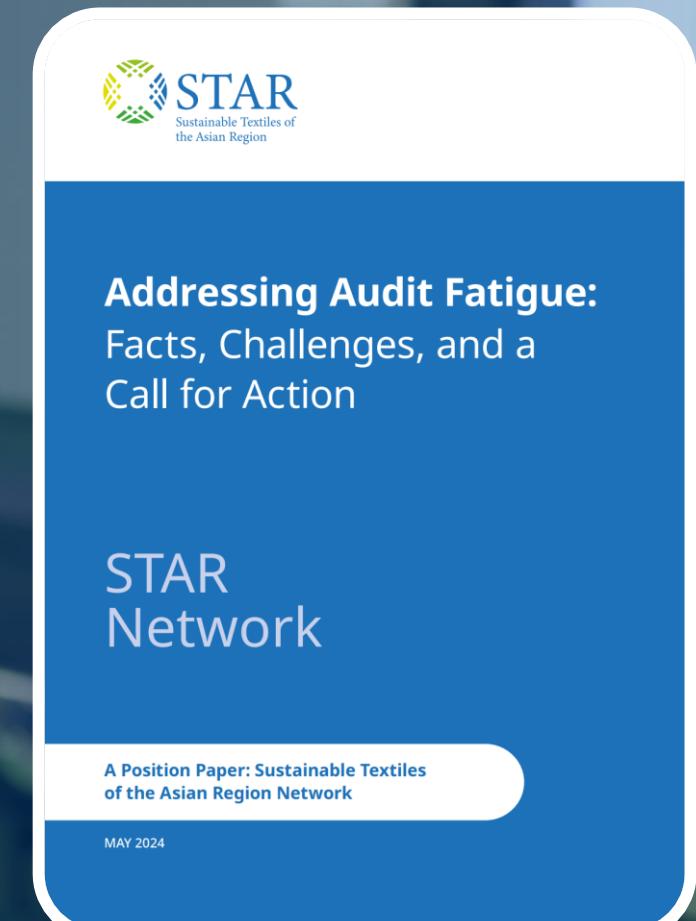


STAR works to raise the voice of suppliers so that they can engage on a more level playing fields with the brands and buyers that dominate the industry.

Position Paper 1: Sustainable Terms of Trade



Position Paper 2: Addressing Audit Fatigue



Position Paper 3:

Calling for Improved Policies for Renewables (in development)

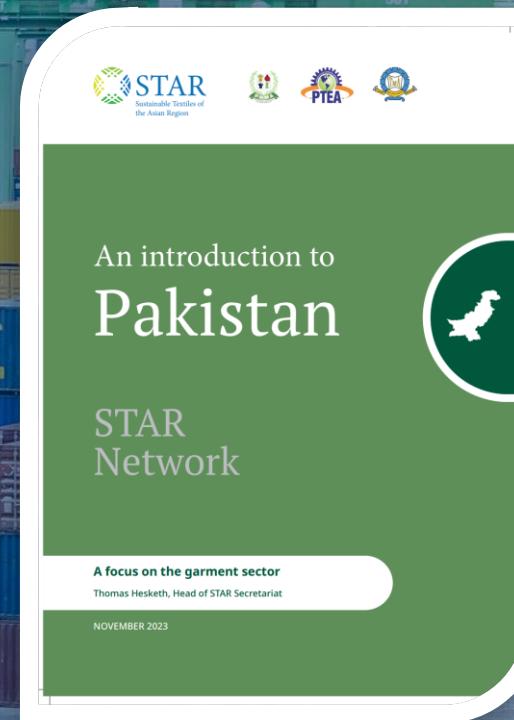
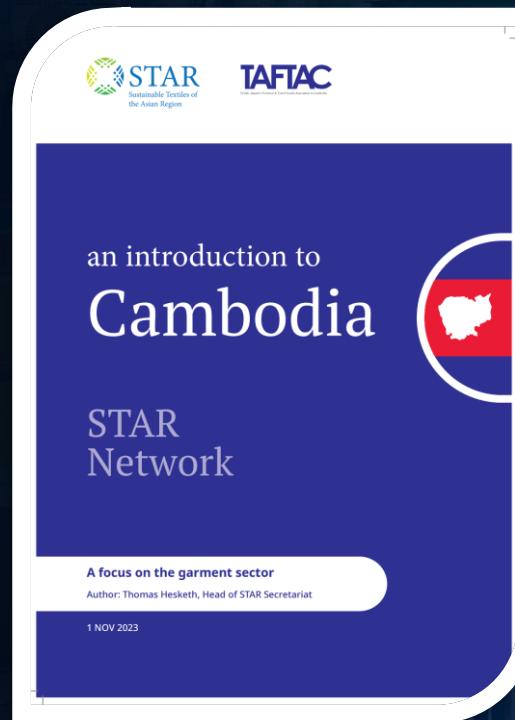


Position Paper 4:
To be confirmed, but
we're looking for
ideas & partners.

HREDD First Impacts?

Other Publications

Country Guides



Thank You!

Contact:

Thomas.Hesketh@cimonline.de

star@giz.de

miran@bitopibd.com

Web:

<https://asiagarmenthub.net/star-network>





Lisa Ramershoven

Advisor, GIZ; Project Lead, STTI

Lisa Ramershoven, with an MA in International Economics and Governance from the University of Bayreuth, specializes in sustainability within textile supply chains. She is an Advisor within GIZ, where she works as the Project Lead for the Sustainable Terms of Trade Initiative (STTI), which, via 13 manufacturing associations, aims to establish responsible purchasing practices in the textile and garment industry.



getting Purchasing Practises in shape for a sustainable market

All participants in this initiative declare that the work carried out in this initiative is not in any way aimed at a curbing of competition or a setting of prices. All associations and member companies involved undertake to comply with antitrust rules within the framework of this initiative without exception and no competition-relevant information is exchanged. This project is aimed purely at improving purchasing practices with the aim of ultimately improving sustainability and working conditions for factory workers.





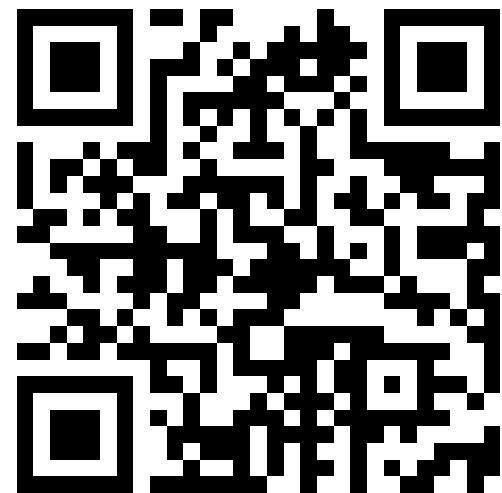
The Challenge

Current purchasing practices don't allow manufacturers to run socially, environmentally and economically viable businesses



Do you agree or disagree?

menti.com
code: 6223 9986



STTI key recommendation for responsible purchasing practices





Sustainable Terms
of Trade Initiative

Sustainability & Traceability in Garment Supply Chains





Mr. Kha Kieu

Representative, Cotton Council International

KIEU Manh Kha serves as a supply chain manager for Cotton Council International (CCI), a nonprofit promoting U.S. cotton worldwide, with offices in 50 countries. Holding a master's in operations management from Western Sydney University and extensive industry experience, Kha leads strategic marketing initiatives that enhance global textile and garment supply chains.



U.S. COTTON: SUSTAINABILITY AND TRACEABILITY

BANGKOK, THAILAND

June 06th , 2024



U.S. COTTON
TRUST PROTOCOL®

AGENDA

- The U.S. Cotton Industry
- The U.S. Cotton Trust Protocol®
- Traceability
- Summary
- Q&A





U.S. COTTON
TRUST PROTOCOL®

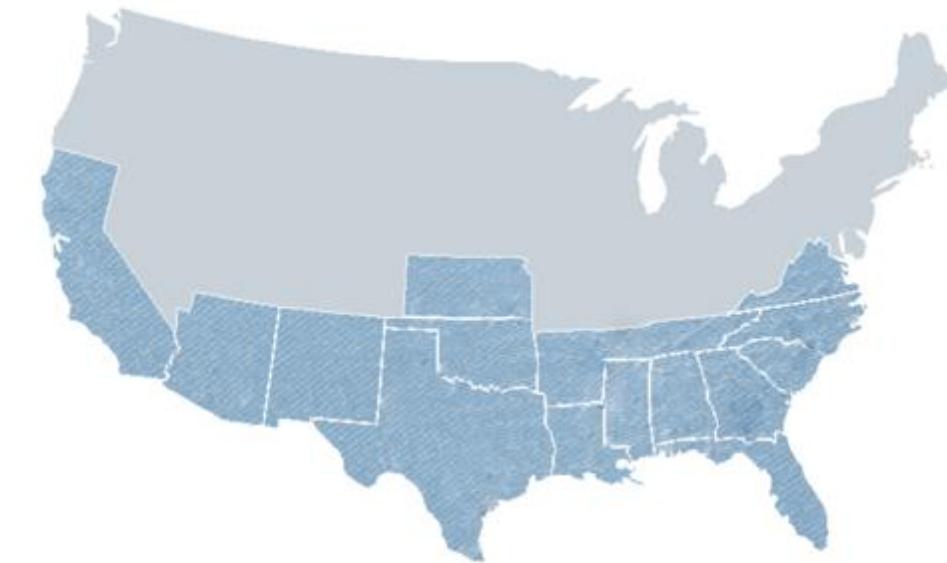
THE U.S. COTTON INDUSTRY



THE U.S. COTTON INDUSTRY

The U.S. plays a vital role in the global cotton market:

- 16,000 cotton growers across 17 states
- No. 3 cotton-producing country
- Leading global cotton exporter
- 2/3 of U.S. cotton is not irrigated, using only natural rainfall to grow



Focused on sustainability for
over 40 years



REDUCED ENVIRONMENTAL IMPACT SINCE 1985

Source: Field to Market: The Alliance for Sustainable Agriculture 2016 Environmental and Socioeconomic Indicators Report, (Fig. 1.29, Reductions over 35 years, 1980-2015)
Available at www.fieldtomarket.org.

↓ **79%**
Reduced water use

↑ **49%**
Increased land use
efficiency

↓ **37%**
Reduced soil loss

↓ **40%**
Reduced greenhouse
gas emissions

↓ **54%**
Decreased energy use

The only country in the world
with cotton
Sustainability goals



2025 U.S. NATIONAL GOALS

↓  **18%**
Reduce water use

↑  **13%**
Increase land use
efficiency

↓  **39%**
Reduce greenhouse
gas emissions

↑  **30%**
Increase soil carbon

↓  **50%**
Reduce soil loss

↓  **15%**
Decrease energy use



U.S. COTTON
TRUST PROTOCOL®

THE U.S. COTTON TRUST PROTOCOL®



HOW IS THE TRUST PROTOCOL UNIQUE?

A program that brings quantifiable and verifiable goals and measurement to more sustainable cotton production that drives continuous improvement in key sustainability metrics.





3 years of
continuously
growing the
program!



ACCREDITATIONS & ALIGNMENTS WITH LEADING INDUSTRY BODIES

ACCEPTED AS A SUSTAINABLE COTTON OPTION:



Partnership for
Sustainable Textiles



SECTOR INTEGRATION:



INDUSTRY ALIGNMENTS:



FASHION
PACT



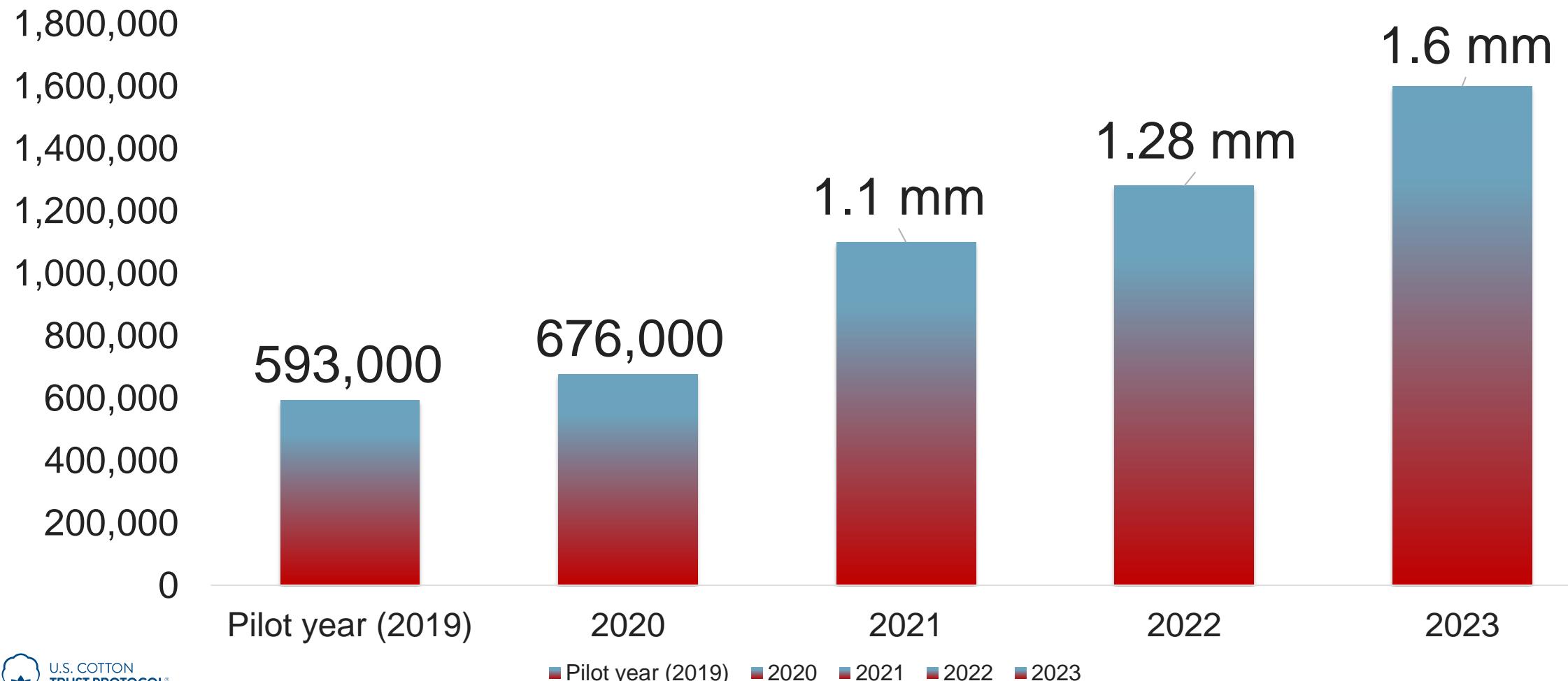
United Nations Climate Change
Global Climate Action



SOIL
CARBON
INITIATIVE



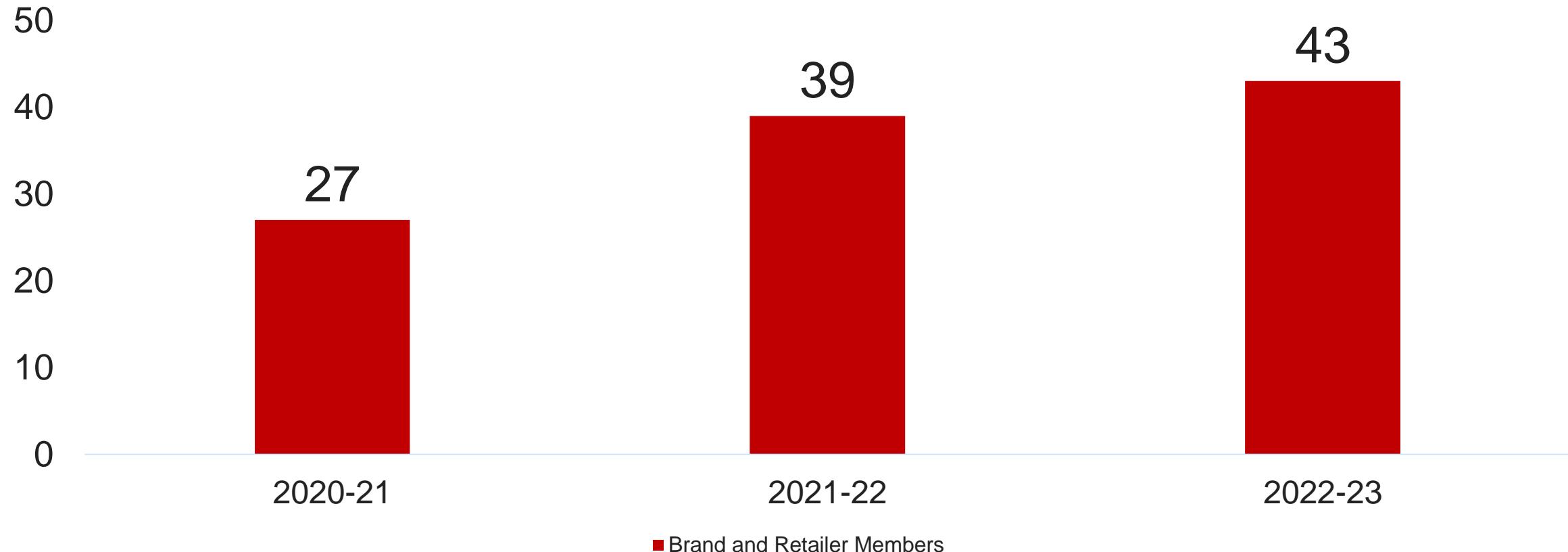
25% INCREASE IN ENROLLED ACREAGE SINCE PREVIOUS YEAR



AS OF 02/01/2024 OVER 2,100 MILL & MANUFACTURER MEMBERS



60% GROWTH IN BRAND & RETAILER MEMBERSHIP SINCE 2020-21



RETAILER & BRAND MEMBERS



RALPH LAUREN



TESCO

adidas

J.CREW



BANANA REPUBLIC

lululemon

CHAPS



LEVI STRAUSS & CO.

LAUREN
RALPH LAUREN

Calvin Klein

macy's inc

NEXT

Gap Inc.

RALPH LAUREN CORPORATION



bloomingdale's

DENIZEN
from
Levi's

KIABI

TOMMY HILFIGER

bluemercury®
makeup • skincare • spa

ATHLETA

SIGNATURE
by LEVI STRAUSS & CO.

A E O

AMERICAN EAGLE aerie

GAP

American
Apparel

COMFORT COLORS®

U.S. COTTON
TRUST PROTOCOL®

Madewell

Sb Suburbia

Servicios Liverpool
SA de CV

ALISTYLE
APRODUCCIONES ACTIVWEAR

GYMSHARK

GILDAN™
ACTIVEWEAR



U.S. COTTON
TRUST PROTOCOL®



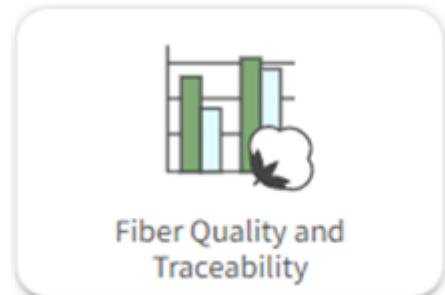
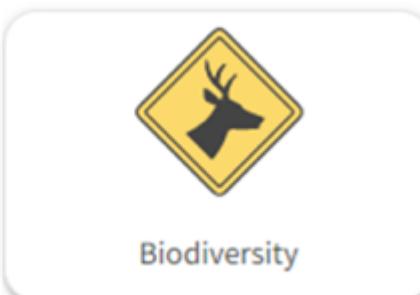
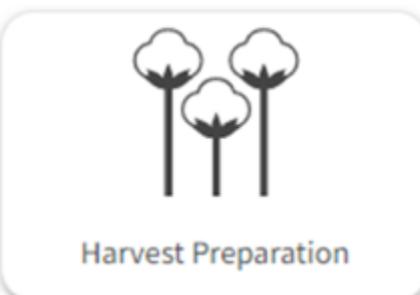
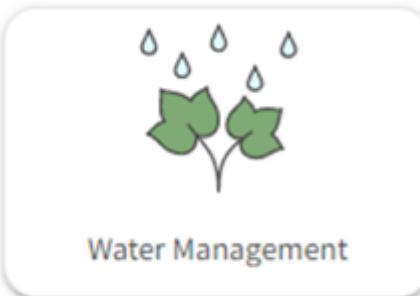
**SUSTAINABILITY
STARTS WITH
OUR GROWERS**

U.S. GROWERS AND THE USCTP



U.S. COTTON
TRUST PROTOCOL®

DATA ASSURANCE & VERIFICATION



- Growers provide farm-level information
- Farm-level data is collected, aggregated, analyzed and verified
- Third-party verification serves several purposes

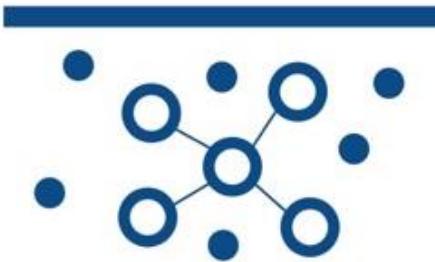
ONLY PROGRAM THAT PROVIDES DATA ON 6 DIFFERENT ENVIRONMENTAL METRICS



Water Use



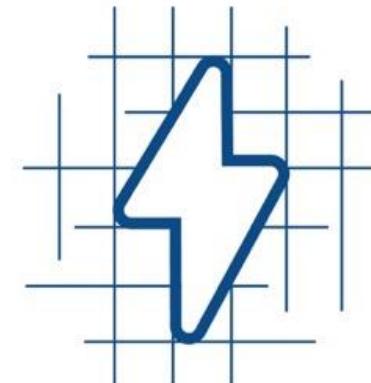
Land Use



Soil Carbon



Greenhouse Gas
Emissions



Energy Use

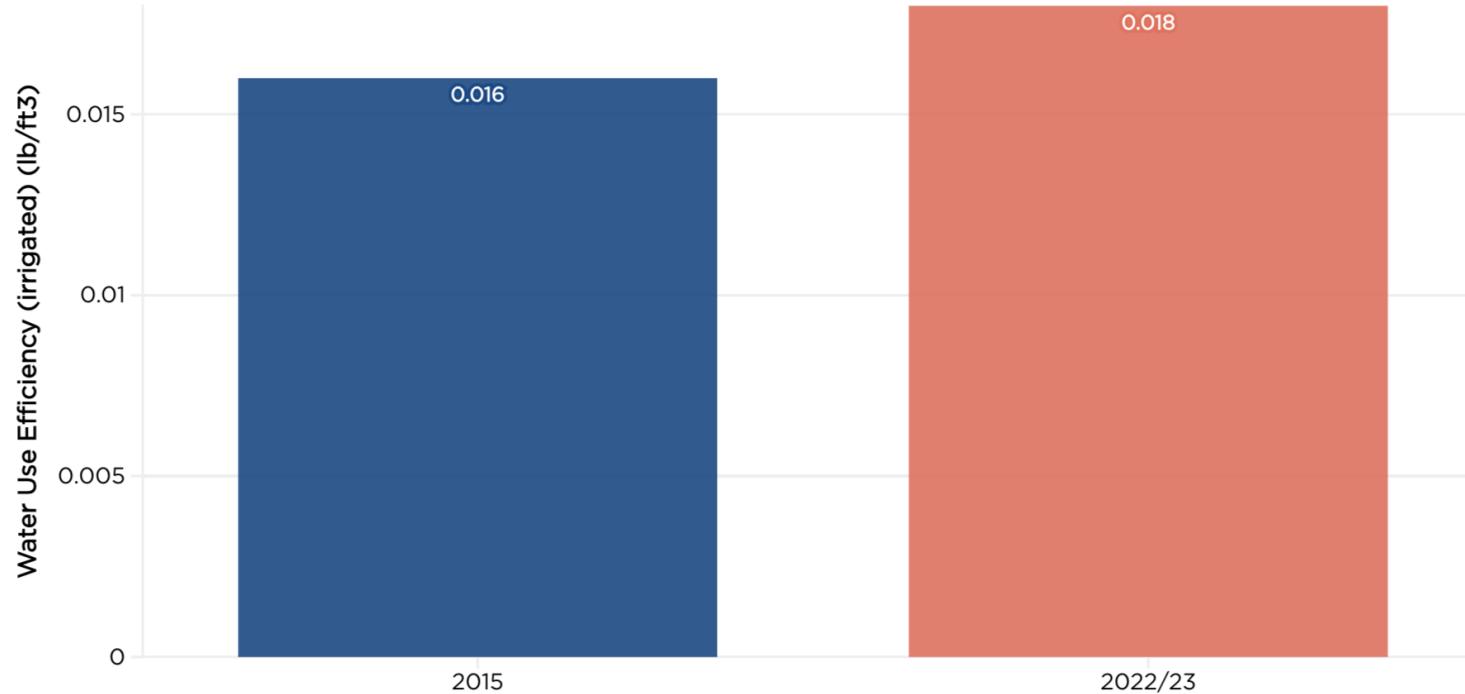


Soil Conservation

HOW ARE WE DOING AFTER THREE YEARS?

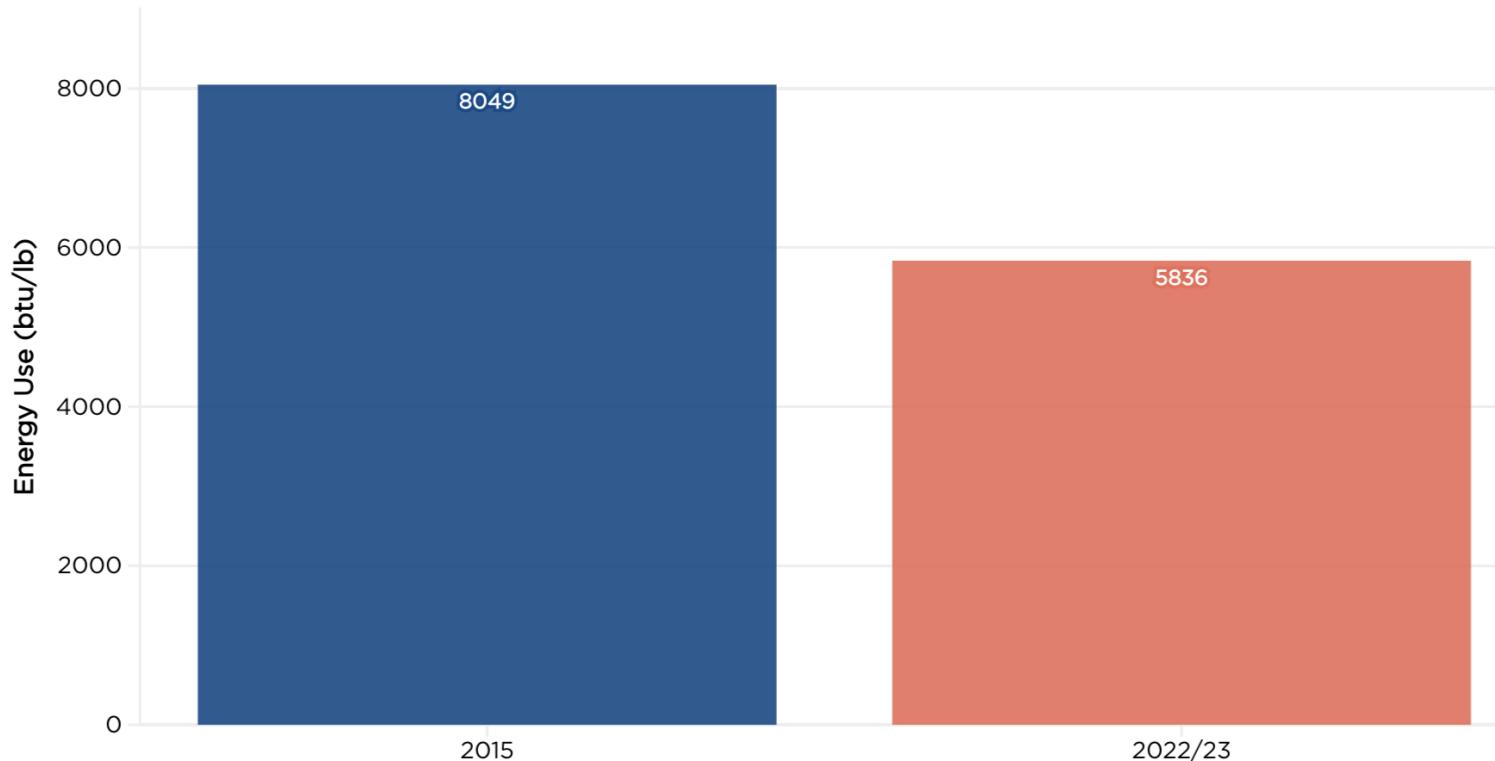


WATER USE EFFICIENCY



In the 2022/23 cotton growing season, Trust Protocol growers increased their Water Use Efficiency by 14% compared to the 2015 baseline.

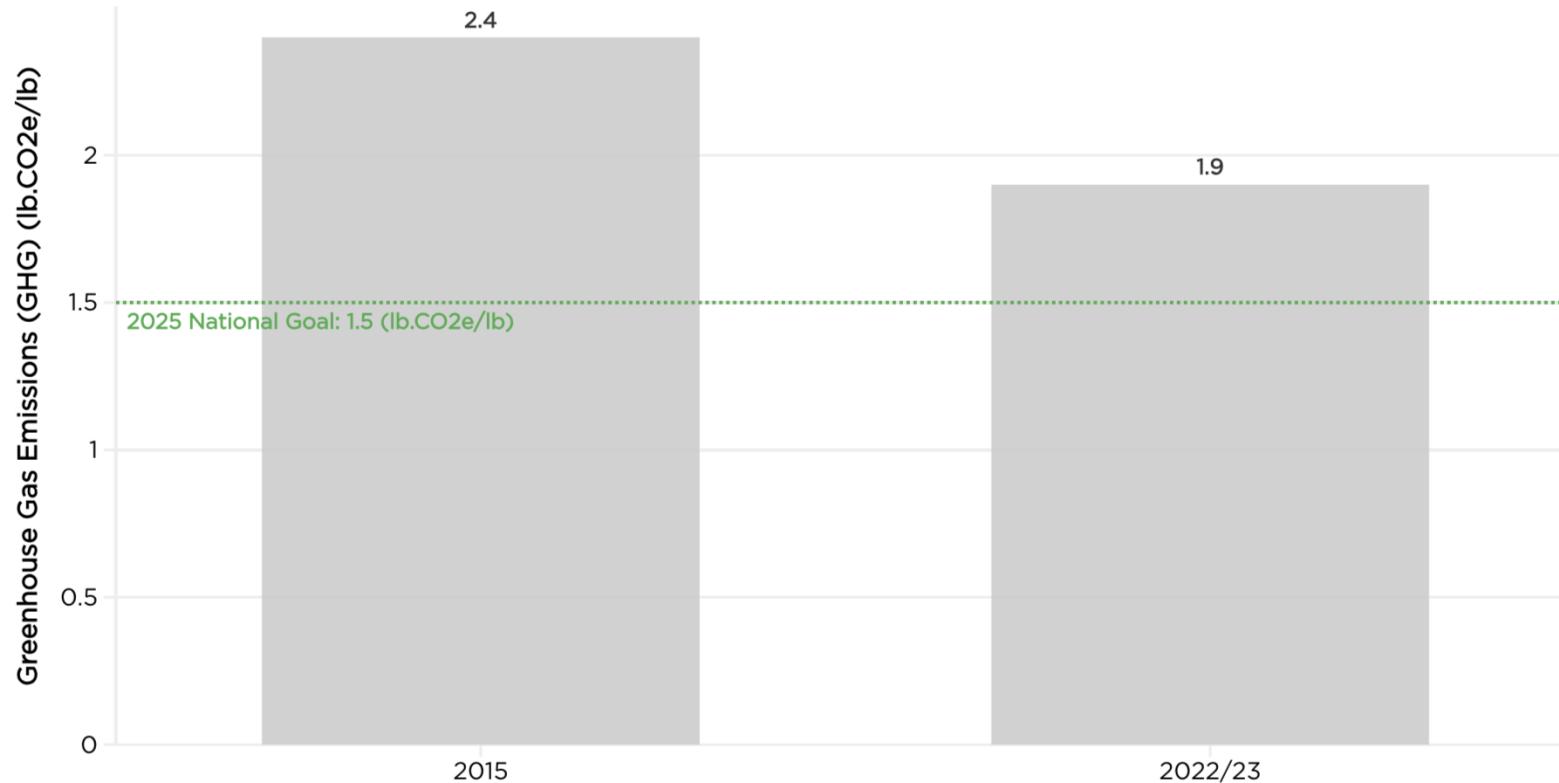
ENERGY USE



By 2022/23 Energy Use had decreased to 5,836 btu/lb as shown in the graph.

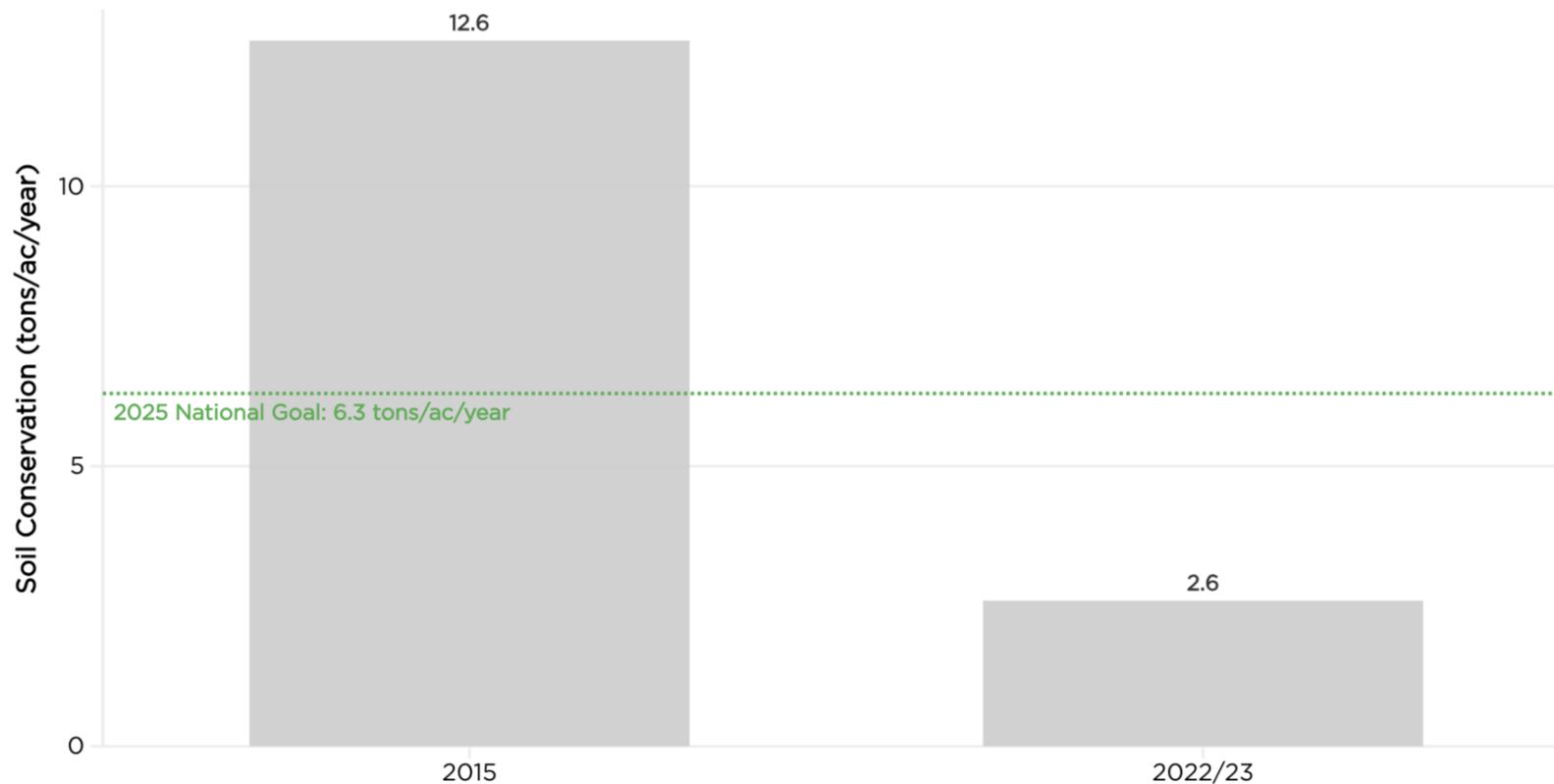
This is a 27% reduction from the 2015 baseline.

GREENHOUSE GAS EMISSIONS



This means that Protocol growers are making significant steps toward reaching 2025 National Goal, which is 1.5 lb.CO2e/lb.

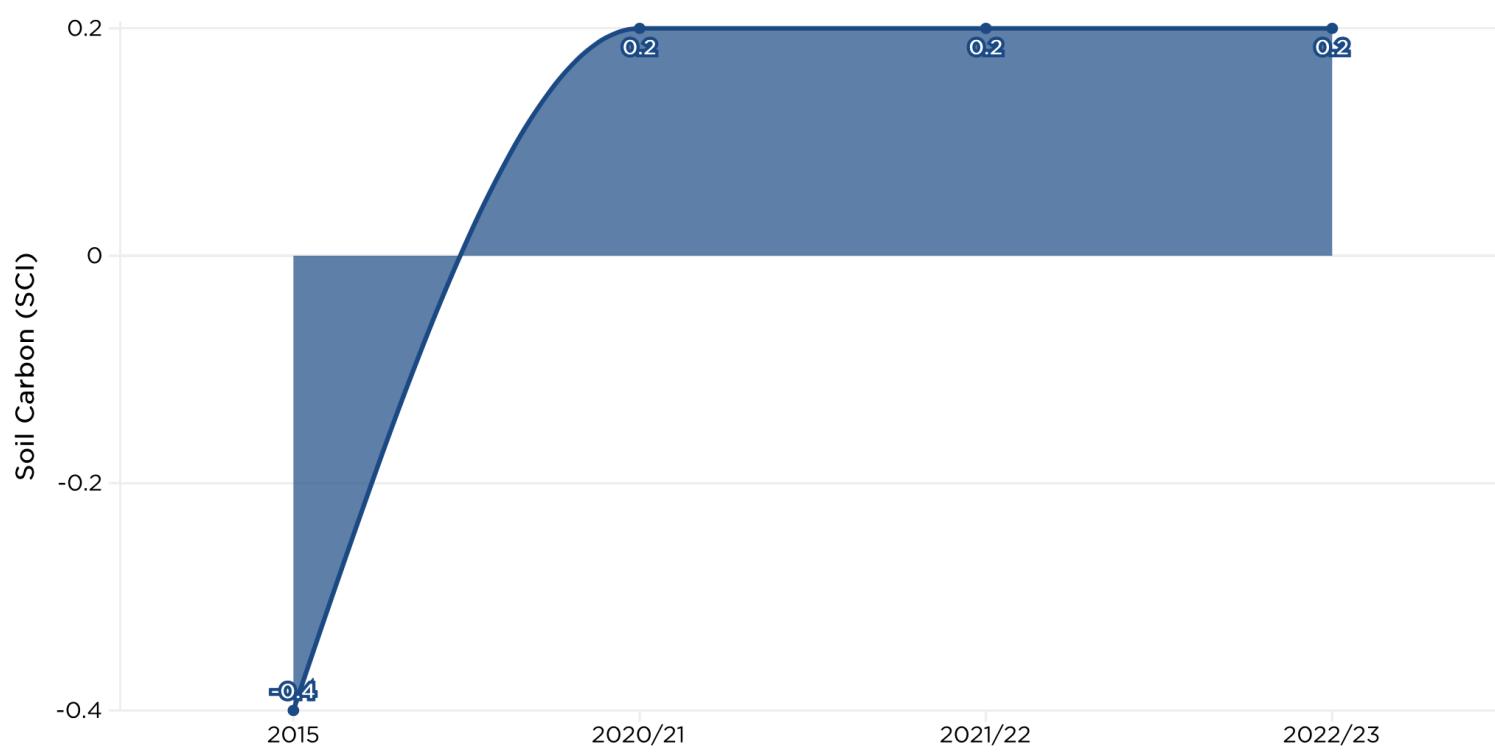
SOIL CONSERVATION



Which means that Protocol growers have exceeded the 2025 National Goal.

In 2022/23, Soil Conservation was measured at a 79% improvement over the 2015 baseline.

SOIL CARBON



In 2020/21, 2021/22 and 2022/23 Soil carbon was 0.2 SCI.

The 2025 National Goal for soil carbon is to focus on 30% of grower members to be in positive SCI improvement. For the 2022/23 crop year, 83% of Trust Protocol grower members had a positive index value, meaning the soil health was well maintained.



**AT THE END
OF 2025, WE
WILL SEE
HOW WE
PERFORMED,
THEN SET
NEW GOALS
FOR 2035!**



U.S. COTTON
TRUST PROTOCOL®

TRACEABILITY & THE TRUST PROTOCOL



**OVER THE LAST 2 YEARS,
BRANDS HAVE SHIFTED
THEIR FOCUS TO
TRANSPARENCY.**

WHY?

LEGISLATION & REGULATION

The EU Green DEAL – aims to reduce 55% of greenhouse emissions by 2030

The UYGUR LABOR PREVENTION ACT



ARTICLE-LEVEL TRANSPARENCY



THE SUPPLY CHAIN



PROTOCOL CONSUMPTION MANAGEMENT SOLUTION

Article-level transparency map showing names and locations of all Trust Protocol mill members in production of goods



TRACKING & TRANSPARENCY MILESTONES

487

Mill/manufacturer
members
registered on
platform

25

Brand and retailers
actively scaling
across value chain

20K

Transactions
recorded in
PCMS

24K+

Live purchase
orders tracking
in PCMS

4M+

Bales of
Protocol Cotton
captured to date

7M

PCCUs claimed with
environmental
metrics assigned to
brand members

Tracking
Milestones

45M

Finished
articles

7M

Kilograms
of cotton

TWO TECHNOLOGY PLATFORMS

Information security and data privacy engineered into system design

PCMS



Protocol Platform Protocol

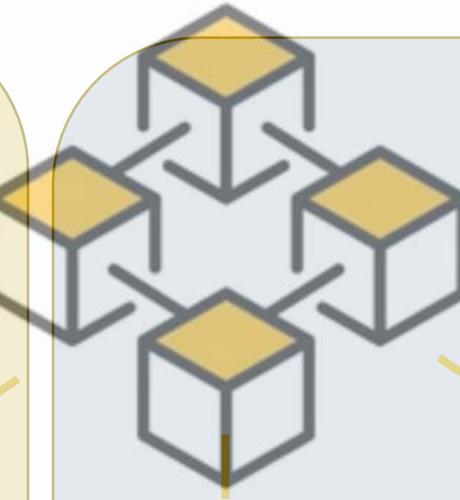
Participating U.S. Cotton Grower



Participating U. S.
Cotton Ginner



Member Cotton
Merchant



TextileGenesis™



Member
Yarn Spinner



Member
Textile Mill



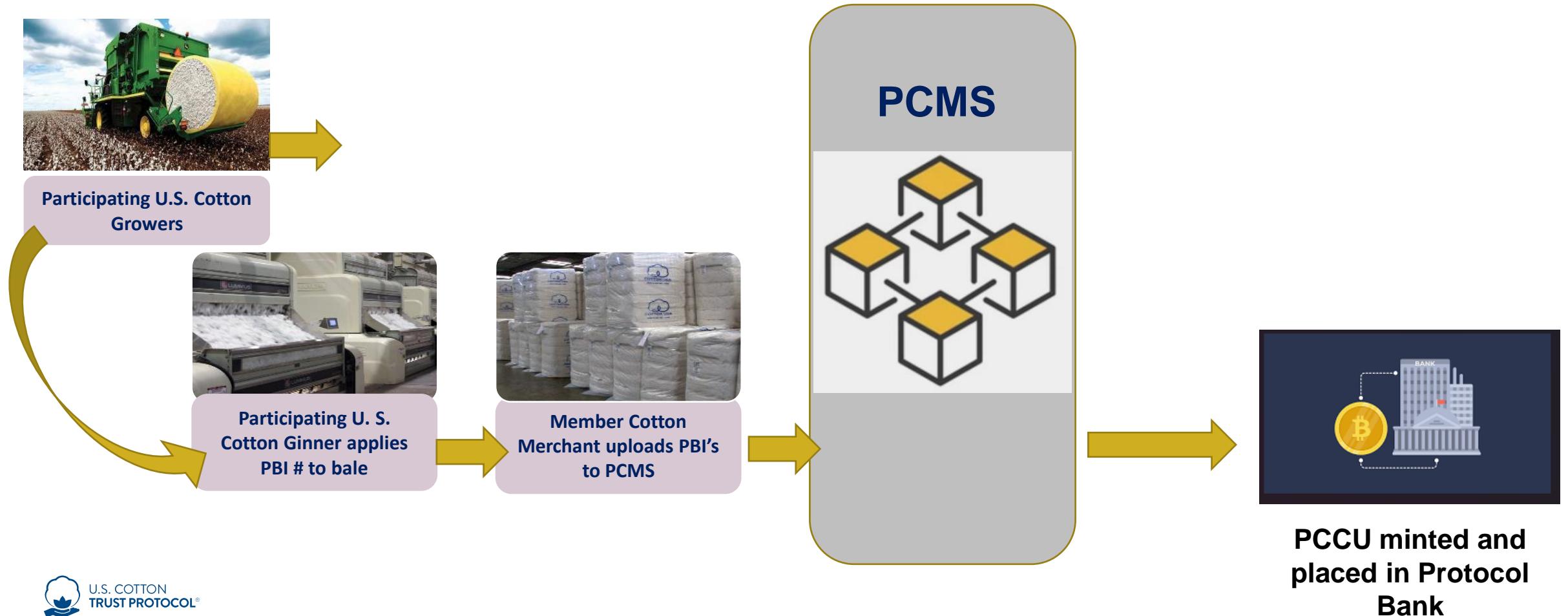
Member
Garment Mill



Brand-Retail
Member

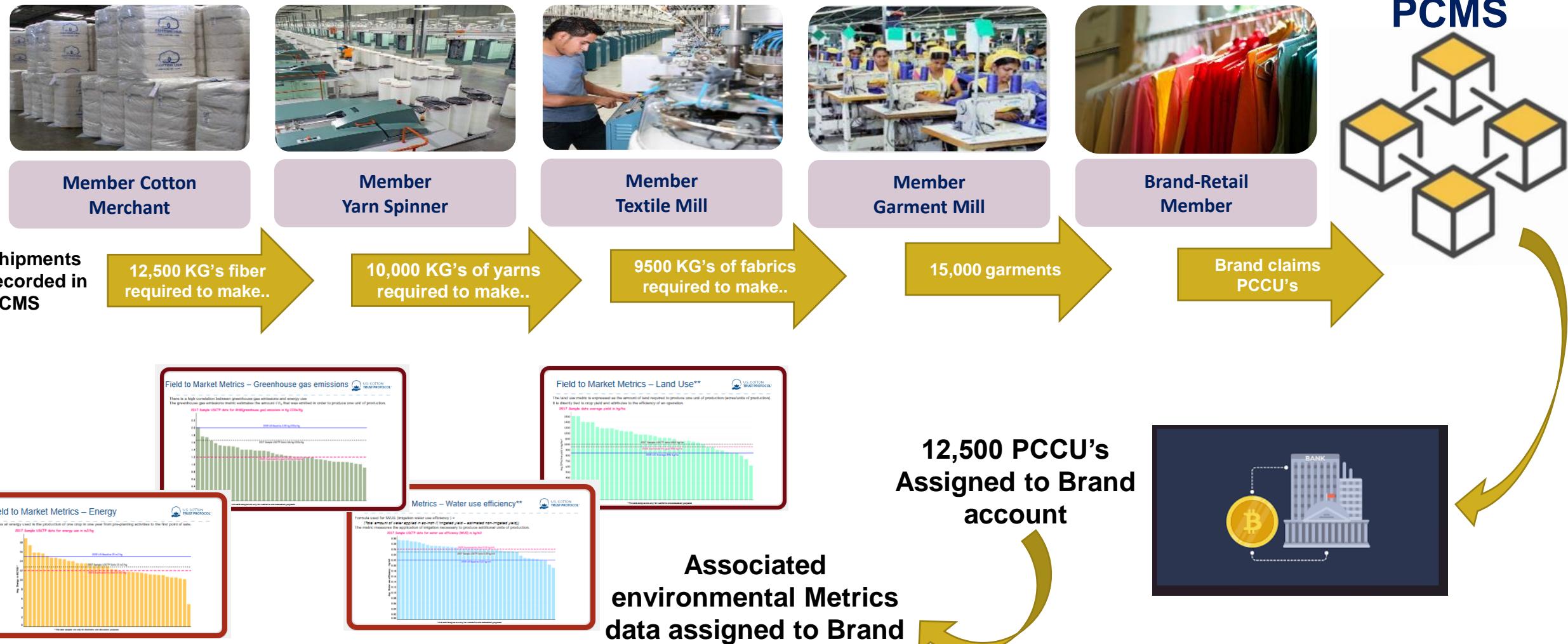
WHAT HAPPENS TO THAT AGGREGATED DATA?

It gets converted into a Protocol Cotton Consumption Units (PCCU's) that Brands consume



HOW DO BRANDS ACCESS ENVIRONMENTAL DATA?

By tracking US Cotton and/or Protocol Cotton fibre in the PCMS and claiming PCCU's at the end



AFTER CLAIMING PCCU'S BRAND ACCESSES TRANSPARENCY MAP

PCMS creates article-specific transparency map for each product tracked in the PCMS



NOTE:

- “Verified US Cotton Origin” only appears on the transparency map
- Names and locations where conversions occurred



IN CONCLUSION



The Trust Protocol sets a new standard in more sustainably grown cotton, ensuring that it contributes to the protection and preservation of the planet, using the most sustainable and responsible techniques. And, tracks products throughout the entire supply chain ensuring full transparency.



THANK YOU

Sustainable and Green Transition Solutions in the Textile Industry





Dr. Chanchai Sirikasemlert

Executive Director, Thailand Textile Institute

Dr. Chanchai Sirikasemlert serves as the Executive Director of the Thailand Textile Institute, and as an Advisor to the National Federation of Thai Textile Industries and the Association of Thai Dying & Printing Industries. With a particular interest in sustainable supply chain solutions, his background includes roles in quality assurance, technical management, and research at The Hong Kong Polytechnic University.



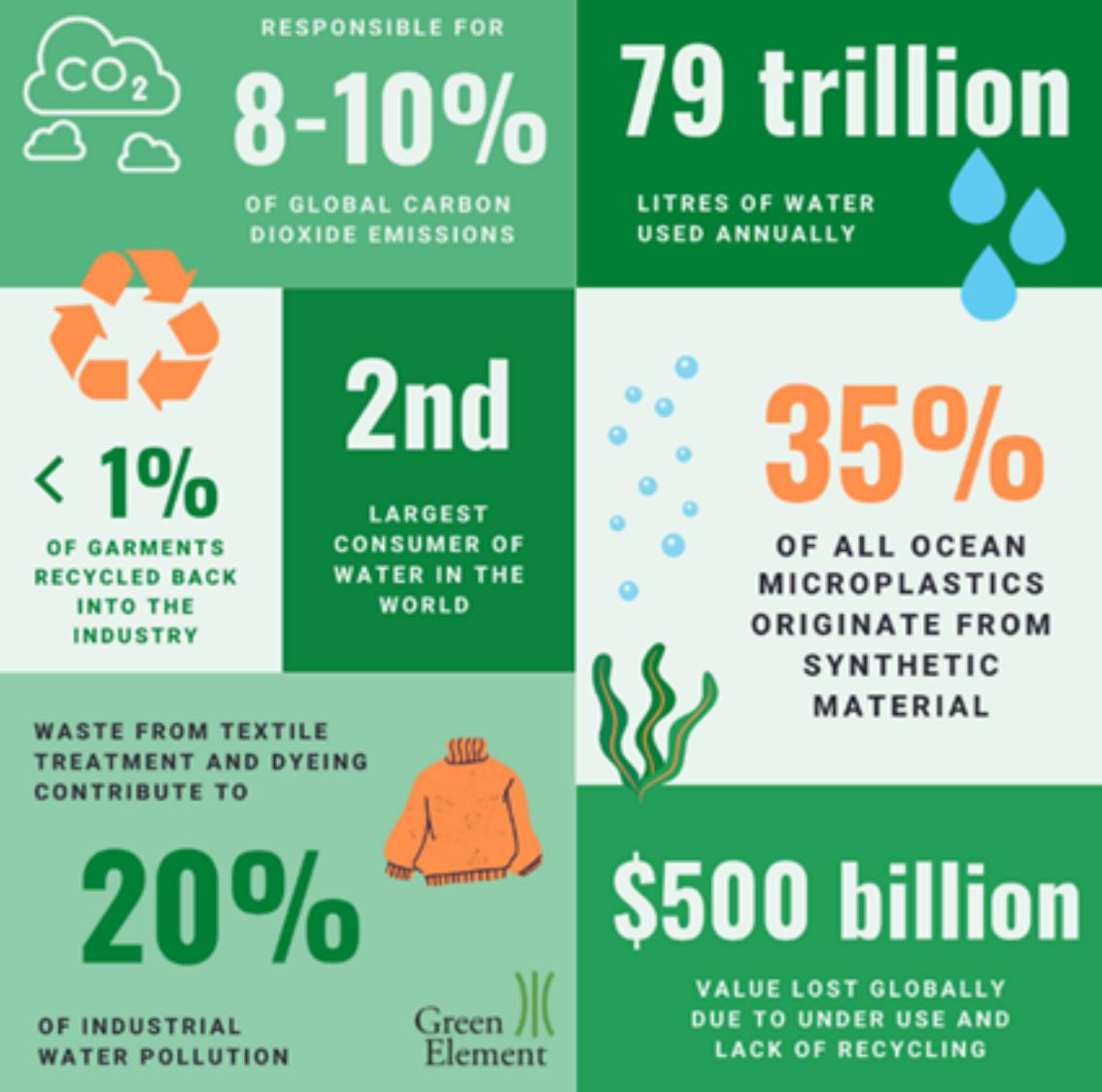


AFTEX 2: Sustainable and Green Transition Solutions In Textile Industry

Dr. Chanchai Sirikasemlert
Executive Director
Thailand Textile Institute, THAILAND

AFTEX x STAR @ Movenpick BDMS, Bangkok, Thailand

The garment and textile sector is a major contributor to the global economy, accounting for 2% of global GDP and employing over 75 million people.



The environmental impacts of the textile industry

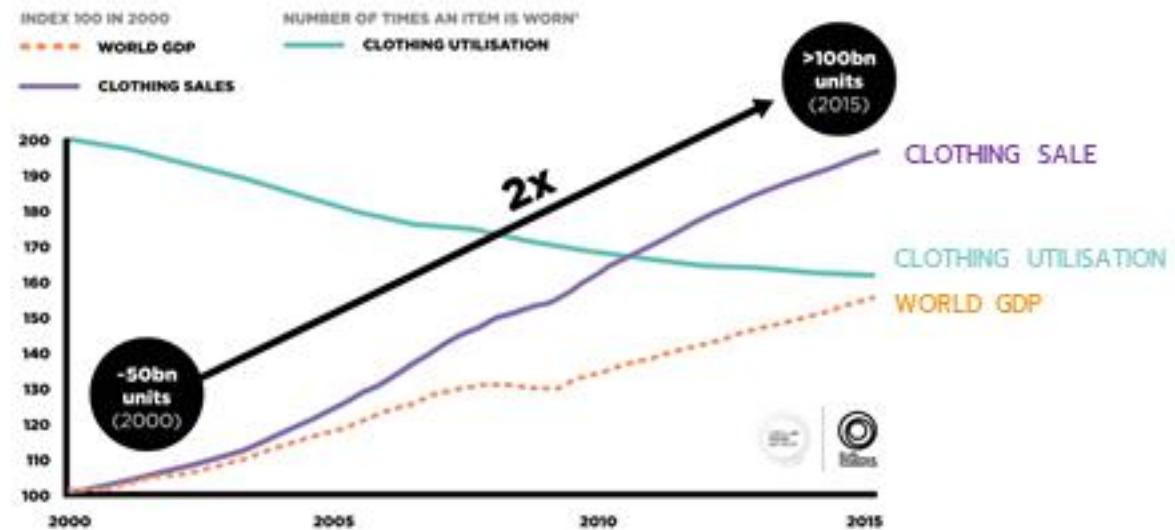
- 10% of global greenhouse gas emissions (1.7 million tons of CO₂ emitted annually)
- 20% of global water pollution
- Cotton production uses 4 percent of all world pesticides and 10 percent of insecticides.
- 92 million tonnes of textile waste each year
- About 35% of microplastics in the ocean come from textiles

Source: Chile's desert dumping ground for fast fashion leftovers,
<https://phys.org/news/2021-11-chile-dumping-ground-fast-fashion.html>



Fast Fashion Problem

GROWTH OF CLOTHING SALES AND DECLINE IN CLOTHING UTILISATION SINCE 2000



SUSTAINABLE TEXTILE



Freitag

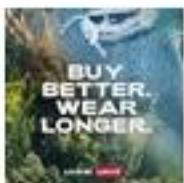
All made of recycled stuff like tarps and inner tubes and car safety belts.



Patagonia

The concept at the very heart of Patagonia's business is to manufacture, repair and recycle products in order that they last a lifetime.

LEVI'S



["Buy Better. Wear Longer"](#) – raising awareness and speaking to our shared responsibility on the environmental impacts of apparel production and consumption.



Salvatore Ferragamo

Italian luxury house Salvatore Ferragamo has launched a 300-piece collection of upcycled shoes and accessories call "Icon-Up".



H&M

- As of 2019, 57% of the group's materials are recycled or sourced in a sustainable manner, on track to reach 100% by 2030.



DryDye

Creating environmentally friendly dye machine without the use of water.



ZARA

Zara has announced all clothing will be made from sustainable fabrics by 2025.



Adidas

The shoes are designed to come back to us at the end of their life and feature a prominent QR code which can be scanned with a smartphone to open a digital experience where the returns process can be easily accessed.



Uniqlo

Uniqlo has laid out its sustainability targets towards a net-zero carbon goal by 2050. It said that by 2030, it aims to raise the percentage of recycled fabrics used in its products to 50 per cent, while using 100 per cent renewable energy for all its in-house operations, among other things.

Policy and regulation



EXAMPLE

EU strategy for sustainable and circular textiles (adopted 30 Mar 2022)

The Strategy aims to create a greener. The Commission's 2030 vision for textiles is that all textile products placed on the EU market are durable, repairable and recyclable, to a great extent made of recycled fibres, free of hazardous substances, produced in respect of social rights and the environment.

https://environment.ec.europa.eu/publications/textiles-strategy_en



The Ecodesign Directive for Sustainable Products (ESPR)

The regulation aims to make products more sustainable and circular. It does this by setting requirements for the design and production of products, such as energy efficiency, durability, and recyclability. ESPR could be applied to the textile industry by requiring the use of recycled materials, requiring longer product lifespans and making textiles easier to recycle.

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02009L0125-20121204&from=EN>



Waste Framework Directive (WFD)

The Waste Framework Directive sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery. Textile waste is set up separate collection systems by 1 January 2025 and mandatory extended producer responsibility (EPR) schemes for textiles in EU .

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02008L0098-20180705>





Sustainable and Green Transition Solutions In Textile Industry

Sustainable materials



Hemp fiber



Water hyacinth fiber



Pineapple fiber



recycled fiber



Sugar cane leaves fiber



Organic cotton

UP STREAM
TECHNOLOGY

Green Chemical



The textile industry uses over 8,000 types of chemicals and dyes.

⚠ Some types are harmful to humans and animals.

⚠ Some types are accumulated in nature and generate pollution.

The innovation of dyeing with natural dyes for uniform mercerization and durable dyes such as indigo, lac, Garcinia dulcis, Burma padauk, etc. is undertaken to reduce the use of harmful dyes and chemicals.

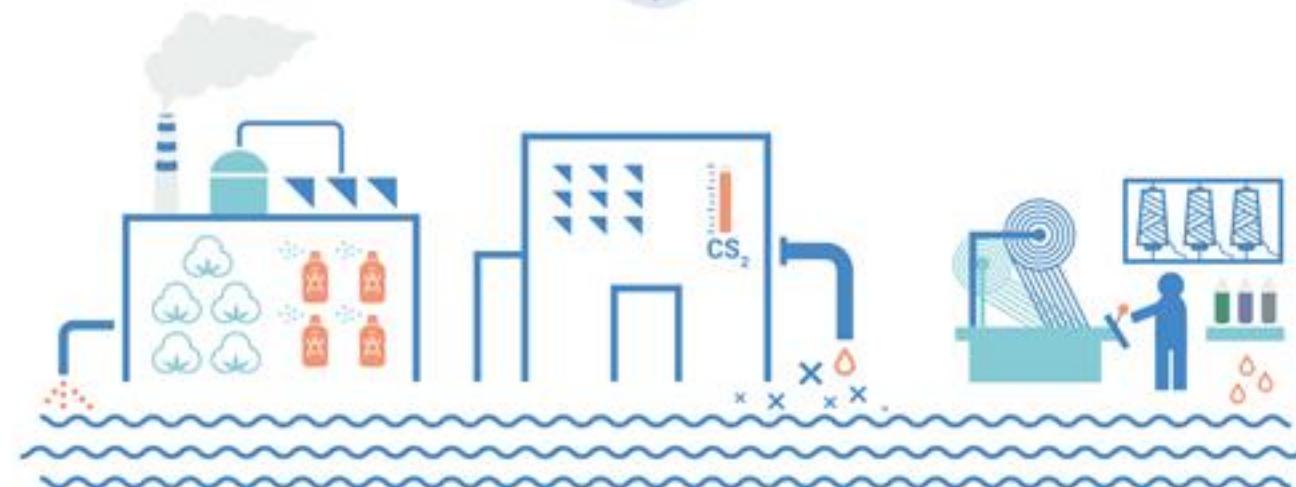


Water Conservation



The textile and garment industry is a major water consumer, accounting for about 10% of global industrial water use. Here are some ways to conserve water in the textile and garment industry:

-  Good housekeeping  Reuse of wash water
-  Low wet pickup technology
-  Waterless dyeing  Use of recycled water



Green Energy



Green energy or clean energy is the energy or the source of energy which comes from raw materials that are not fossil fuel. It is alternative energy that does not generate harmful pollution, unlike others. The energy includes solar energy, wind energy, biomass, and hydro energy.



Eco-Design



Environmental-friendly design can find the solution of design with the lowest impact possible on the environment during the life cycle of a product with four design strategies:

- ⟳ Design with the least waste such as zero waste
- ⟳ Design for the materials and the processes with low environment impact such as fabric made from the environmental-friendly process
- ⟳ Design for long life span such as selection of material that is durable and easy to repair
- ⟳ Design for recycling such as reduction of components for easy separation, use of fabric made from one material

Circular economy



The circular economy can help to reduce the environmental impact of the textile and apparel industry by:



Design for longevity

Designing products that are durable and can be easily repaired or reused.



Recycling

Using recycled materials in the production of new garments.



Upcycling

Transforming waste materials into new products of higher quality or value.



Sharing

Promoting the sharing of clothes and other textiles.

Certification / Eco Label



It is one of the requirements of the trading partners to demonstrate that the product is the **Green Product**.

EXAMPLE



Global Organic Textile Standard (GOTS)

GOTS was founded by four well-reputed organisations: [Organic Trade Association](#) (OTA, USA), [Internationaler Verband der Naturtextilwirtschaft](#) (IVN, Germany), [The Soil Association](#) (UK) and [Japan Organic Cotton Association](#) (JOCA, Japan). Two of these (IVN and JOCA) are textile industry organisations, while the other two (OTA and Soil Association) are organic organisations rooted in organic agriculture and food.

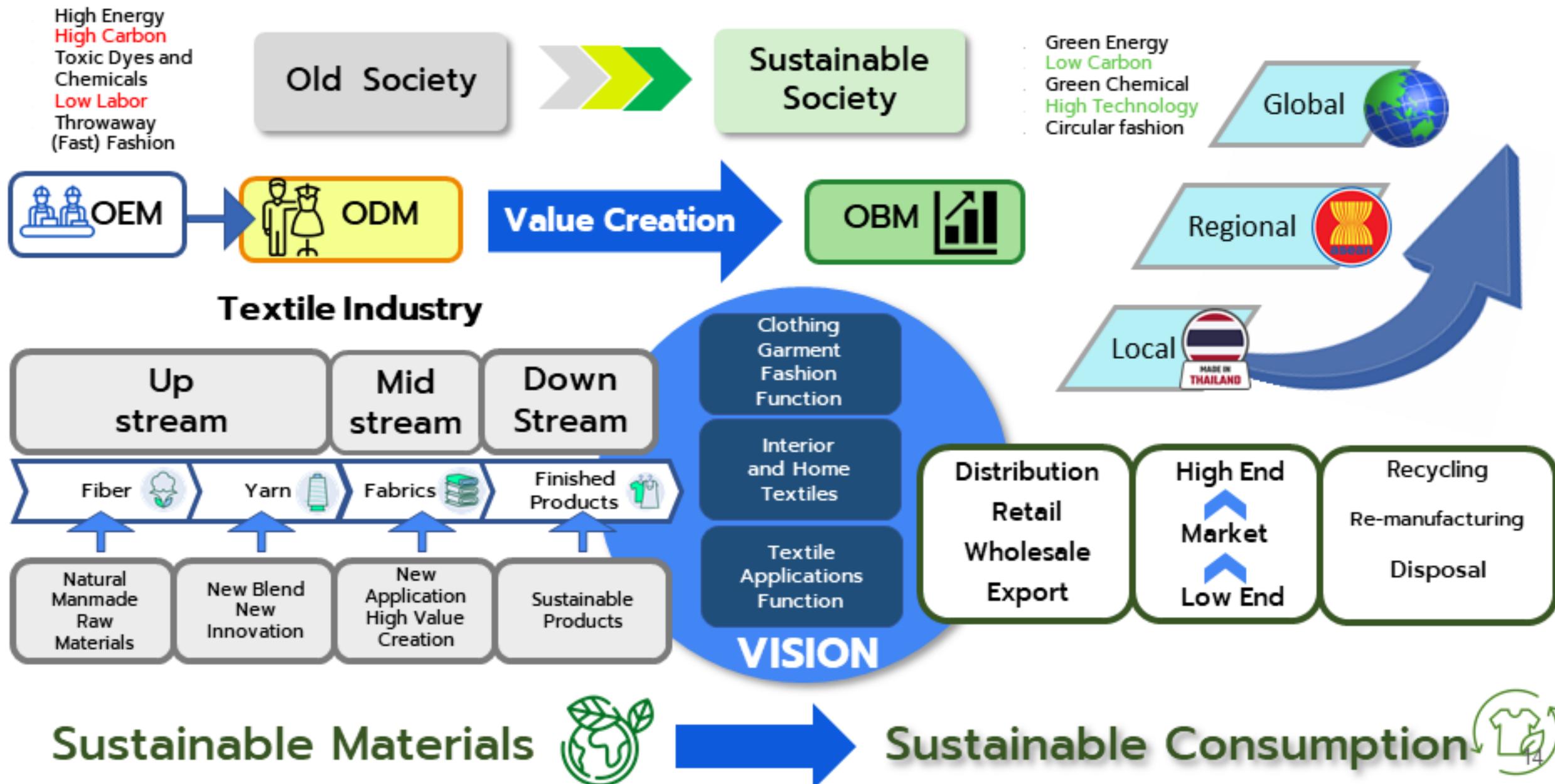
Oeko-Tex Standard 100

OEKO-TEX® consists of independent textile and leather testing institutes in Europe and Japan. The organization was founded in 1992 with the aim of using laboratory tests to ensure textile products are harmless to human health.

Global Recycled Standard (GRS)

The Recycled Claim Standard (RCS) and **Global Recycled Standard (GRS)** set the criteria for third-party certification of recycled materials and chain of custody. The GRS includes a higher (50%) minimum recycled content percentage and additional social and environmental requirements related to processing and chemical use.

Creative Economy driven Industry toward Sustainability



THAILAND'S BIO-CIRCULAR-GREEN ECONOMY (BCG) MODEL



Sector target



photo: www.stsbeijing.org

The Bio-Circular-Green Economy (BCG) Committee convened on 13 January 2021 at the Government House. Serving as the committee chairman, Prime Minister General Prayut Chan-o-cha stated that the government will include BCG in its domestic agenda alongside Thailand 4.0.

The BCG model capitalizes the economy's strengths in biological diversity and cultural richness and employs technology and innovation to transform Thailand to a value-based and innovation-driven economy. The model also conforms with the UN Sustainable Development Goals (SDGs) and is also intended to align with the Sufficiency Economy Philosophy (SEP) which is also the key principle of Thailand's social and economic development.

www.rstda.or.th

www.nxpo.or.th/th/en/bcg-in-action/



MIND



The Thai government through the **Ministry of Industry** started to use the concept of sustainable industrial development as part of the determination of the guideline of the economy's industrial development to ensure environmental-friendly production via the Project of Green Industry in 2011 and has been implemented ever since. The Project focuses on the promotion of industrial establishments, industrial plants, and mining establishments in Thailand to continuously improve and change production process to ensure environmental-friendly production. Moreover, it also provides assistance and stimulates the development and the upgrading of environmental management, safety, and energy conservation.

5 levels of development towards the **Green Industry**

Green Commitment

Green Activity

Green System

Green Culture

Green Network

Green Productivity Projects in Textile Industry

- 2009, Under the Eco Label Development Project, THTI supported 18 factories in developing their products certified the Carbon Footprint Label (21 products).
- 2011-2013, THTI had been supported by MOI to implement environmental projects to develop the textile industry in accordance with concept of Cleaner Technology and LCA. (30 Factories)
- 2016-2017, THTI work on a project "The Application of Cleaner Technology for increase the green productivity in textile industry" (30 Factories)



Example of Eco Labels for Textile and Apparel products in Thailand



THTI'S ACTION ON THE BCG ECONOMY

Alternative Fibers :

- Hemp fiber
- Banana fiber
- Water hyacinth fiber
- Pine apple fiber



Bio Economy



- Cleaner Technology (CT)
- Renewable energy
- Reduce Hazardous Chemicals



Green Economy

Circular Economy

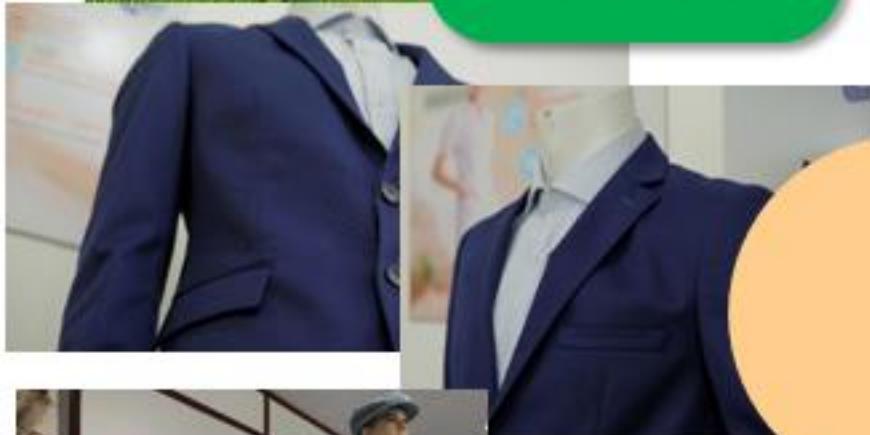
- Zero waste
- Recycled PET, Recycled fabric
- Upcycled textile and Fashion



Natural Fiber Development



Hemp Fiber



Water Hyacinth
Fiber



Sugar Palm
Fiber



Lotus Fiber



Coconut and
Bamboo Fiber



Sugar Cane
Fiber

Circular Textile Economy Prototype



Under the project on development of Thai Fabric to world's market by circular economy concept , 2020 (supported by DITP)

CIRCULAR TEXTILES PLATFORM OF THAILAND

<https://www.textilescircle.com/th/>



Knowledge source

Raw material source

Product market

about us

message



CIRCULAR
TEXTILE ECONOMY
IS THE FUTURE

CIRCULAR TEXTILES PLATFORM OF THAILAND

Thailand's Renewable Textile Platform To Create A Society Of People
Who Save The World, Help Help Preserve The Environment
And Pa

• FIND MATERIALS

PRODUCT

**The Project on Development of Circular Textile
Economy Digital Platform to promote the
transition to a circular economy of Thailand**



SUCCESS CASE STORY



Moreloop is a startup enterprise that is committed to making the circular economy a reality. They are a featured seller in the Quality Surplus Fabric Online Marketplace and are recognized for their exceptional climate-smart and eco-inclusive approach to sustainability.

<https://moreloop.ws/>



SEED
promoting entrepreneurship
for sustainable development

Moreloop has won several awards for its sustainable fashion business model, including the SEED Low Carbon Awards (SEED Awards) 2021. SEED was founded as part of a global partnership between the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP) and the International Union for Conservation of Nature (IUCN). These awards are a recognition of Moreloop's commitment to sustainability and its innovative business model.

SUCCESS CASE STORY

SC GRAND

Sustainable Textile



Help create less impact on the planet by choosing SC GRAND's products.

1

kg

of SC GRAND recycled fabric*
(Knitted Undyed and Non-Printed Fabric)



water.

You help reduce water used by
440.54
liters.
= 231.86
days of water requirements.



Energy

You help conserve
6.50
kWh of energy.
= 500.29
of bulb-energy saved.



CO2 emissions

You help avoid
3.83
kilogram of CO2 emissions.
= 14.72
kilometers of driving emissions.

SC GRAND COMPANY was established since 1987 or more than 30 years ago.

SC GRAND (SAENG CHAROEN GRAND) We transform textile waste into valuable items such as recycled yarn and sustainable textile, with the goal of reducing the use of natural resources to create less negative impacts on the environment. Above all, we hoped to inspire the textile industry to be a part of the solution for our shared future.

<https://www.sc-grand.com/en>



SUCCESS CASE STORY



<http://wishulada-art.com/>



WISHULADA is social activist artist and social enterprise which provides design service and create artwork from many kinds of waste materials to achieve the maximum benefit according to Circular Economy concept with the believing of "Nothing worthless" and "Everybody can do". That is everybody can change waste materials to be reused and create value-added workpiece.

SUCCESS CASE STORY



THAI TAFFETA

We have been a leading vertical textile company since 1987. Our products range from weaving, dyeing, finishing, coating, lamination, and transfer printing.

Our mission is to become a leading global textile manufacturer, delivering sustainable and innovative products in harmony with business operators and the environment.

ACTION

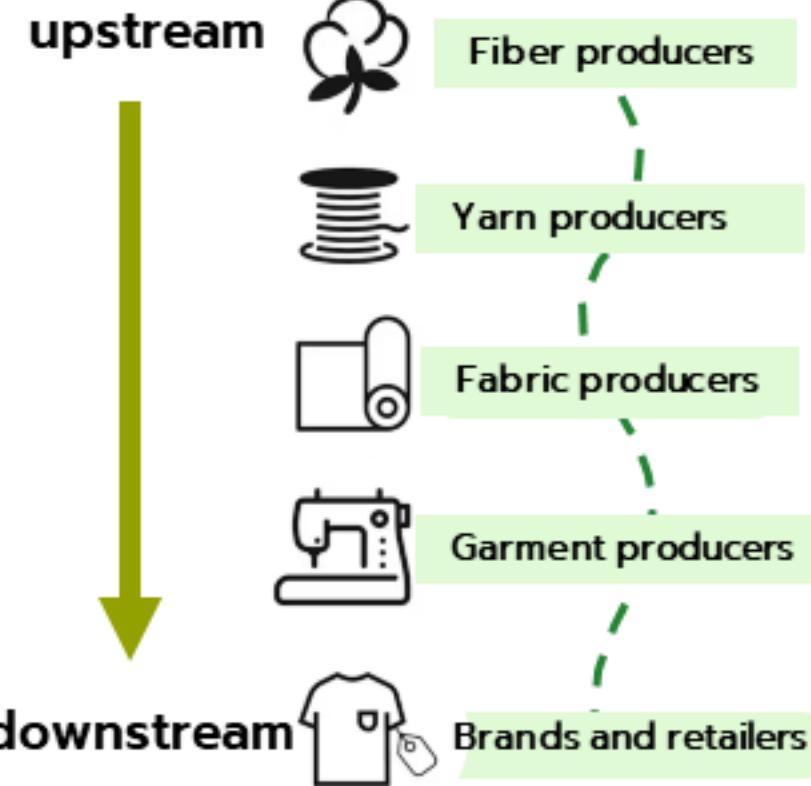
- Switch to solar cells (without battery) to generate its own electricity. The system will pay for itself in 7-8 years and will also help to reduce the factory's carbon footprint.
- Buy new machine model every 5 years to increase productivity, reduce waste, reduce energy and water.

Holistic approach to sustainable garment and textile industry

Good Practices and environmental Goals

-  Sustainable Materials
-  Green Chemicals
-  Water Conservation
-  Green Energy
-  Waste Reduction
-  Circular Economy
-  Product Development (yarn / textile / garment)

Sustainable Supply Chain



Certifications



OEKO-TEX®
CONFIDENCE IN TEXTILES
STANDARD 100



bluesign®



Thank You



www.thaitextile.org



Thailand Textile Institute



Thailand Textile Institute



0 2713 5492-9

Contact

Soi Trimit, Rama 4 Road, Phrakanong, Klong-toey, Bangkok 10110, Thailand

chanchai@thaitextile.org

Sustainability Through Biotechnology

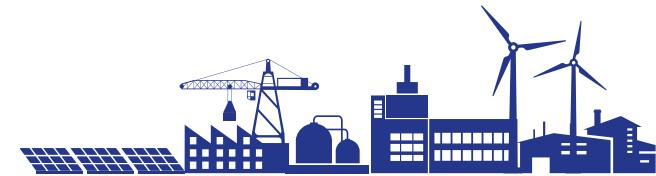




Mr. Justin Shoji

Head of Business Development, Huue

Justin Shoji is the Head of Business Development at Huue, where he spearheads sales and business growth strategies. With over 15 years of experience, Justin specializes in commercial sales and strategic planning across fashion and related industries. At Huue, he focuses on using biotechnology to create sustainable dyes, starting with indigo blue for denim makers.



A wide-angle photograph of a serene landscape. In the foreground, a dark green lake with small ripples reflects the surrounding lush vegetation. The middle ground is filled with dense, green trees and bushes of various types, their reflections visible in the water. In the background, a large, rocky cliff face rises, covered in a mix of green foliage and patches of exposed rock. The sky is a clear, pale blue.

huue.

The Team



Team

Fully-rounded team with recognition track record



Michelle Zhu
CEO & Co-founder

WashU St. Louis BSBA
Prev. Deloitte Consulting



Dr. Tammy Hsu
Research & Co-founder

UC Berkeley PhD
Stanford BS



Drew Ross
Product Development

Prev. Lygos, JUST



Justin Shoji
Business Development

Prev. Evolved By Nature,
Swarovski, Vince, Diesel

Investors



*iglobe*partners



material
Impact

SUSV

Awards



POPULAR
SCIENCE



Entrepreneur





Color defines fashion

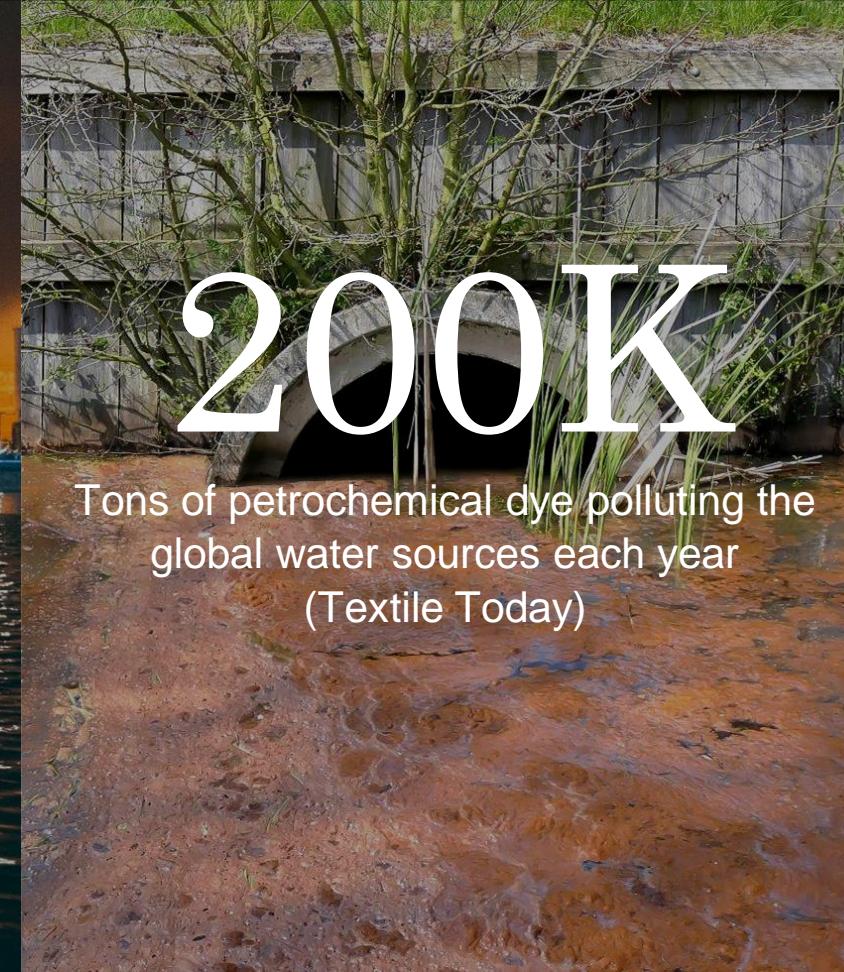
The Dark Side of Color

Dyes and pigments are a major source of pollution and toxicity around the world



>30%

Of all greenhouse gas emissions comes from the chemical industry
(World Economic Forum)



200K

Tons of petrochemical dye polluting the global water sources each year
(Textile Today)

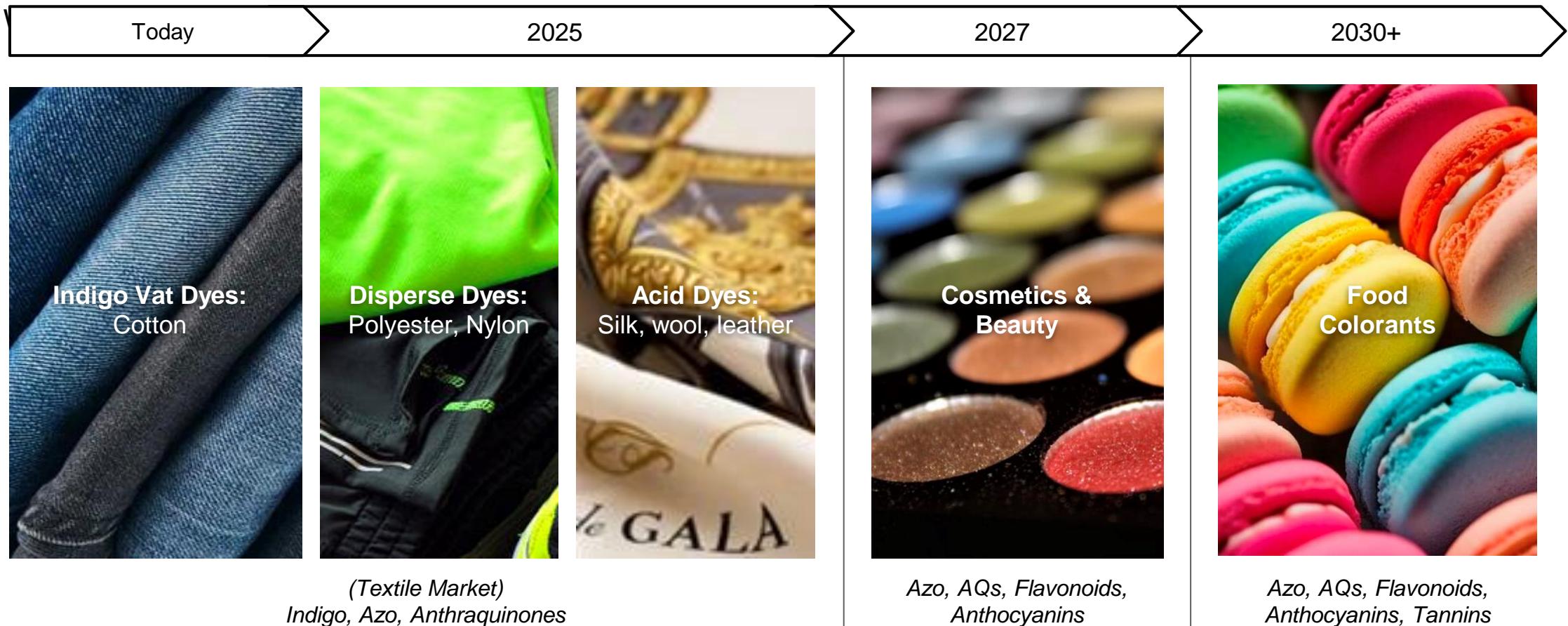


8,000+

Chemicals are used in the textile manufacturing, creating toxic runoff
(C&EN)

Product Pipeline

We began with one color,
but have our sights set on other categories





Our first mission: indigo,
the heart of denim

2B+

Pairs of jeans
made annually

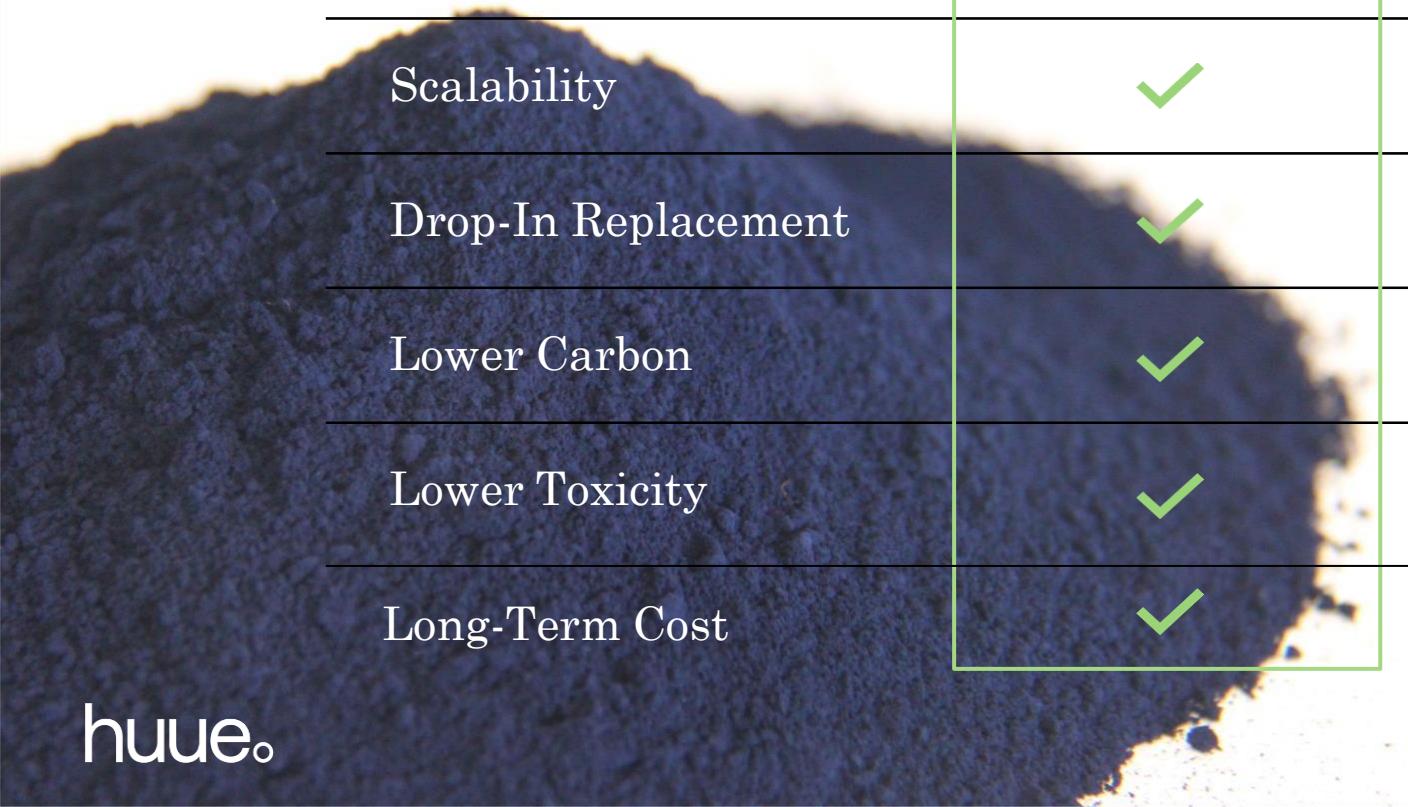
70,000

Metric tons of indigo
produced every year

Made without:
Petroleum
Aniline
Cyanide
Sodamide
Formaldehyde

An Uncompromising Solution

A bio-based approach eliminates the trade-offs from conventional methods



	huue.	Plant Based	Chemical
Performance	✓		✓
Scalability	✓		✓
Drop-In Replacement	✓	✓	✓
Lower Carbon	✓	✓	
Lower Toxicity	✓		
Long-Term Cost	✓		✓



We use nature's blueprint to create an uncompromising cleaner source of color

Our Bio-based Approach

Flexible key color backbones model

DISCOVERY

BIO-
ENGINEERING

Scalable process development

FERMENTATION

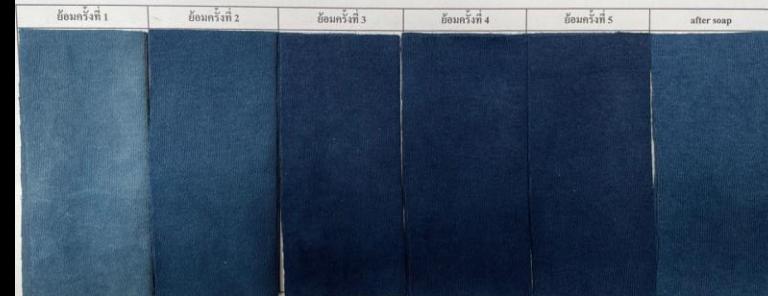
PURIFICATION

Industry
informed product

APPLICATION



Indigo (Cotton 40/1 INT)



UTM x Huue Collaboration



huue.



LAUNCH AT KINGPINS AMSTERDAM
OCTOBER 18-19, 2023: BOOTH #42, BLUE AREA

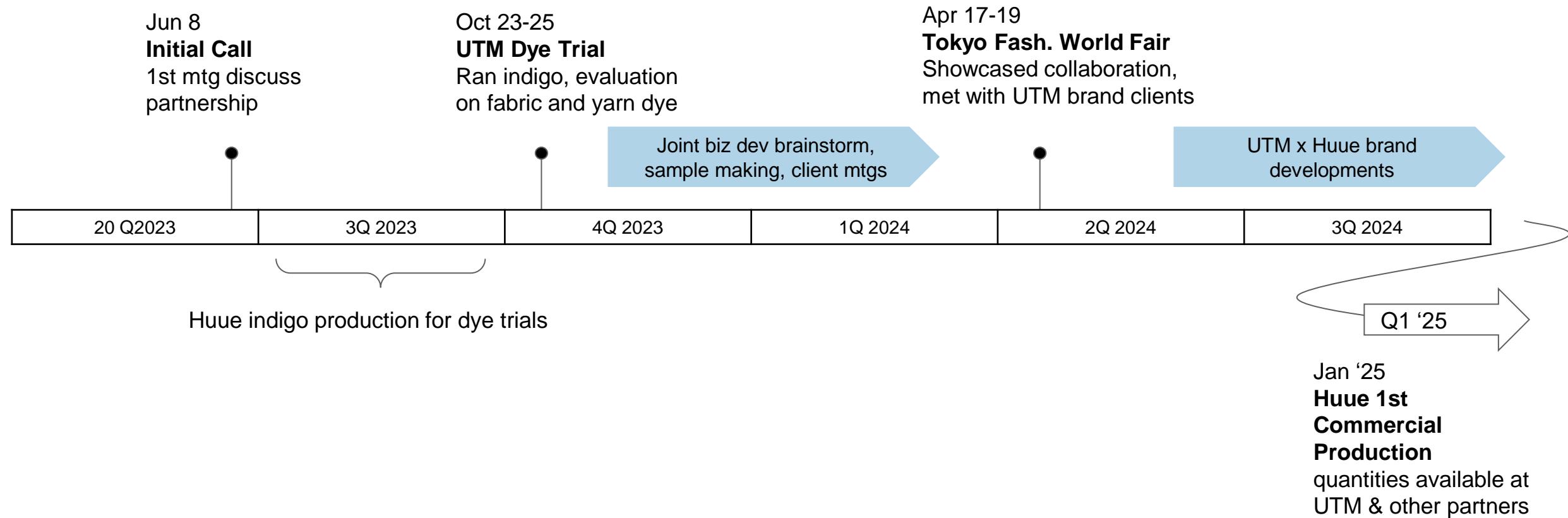


huue.



237

UTM x Huue Timeline



Questions?

huue.

Contact

justin@huue.bio

huue.



Nutra Uttamapinant

Executive Director, United Textile Mills

Nutra Uttamapinant is the Executive Director at United Textile Mills (UTM), a leading Thai textile company specializing in 100% cotton and cotton blend knit fabrics. Under her leadership, UTM is pioneering digital transformation to enhance manufacturing automation and customer service, leveraging big data solutions to stay aligned with global brand customers and industry trends.



Panel: Data Transparency in the Context of Audit Fatigue

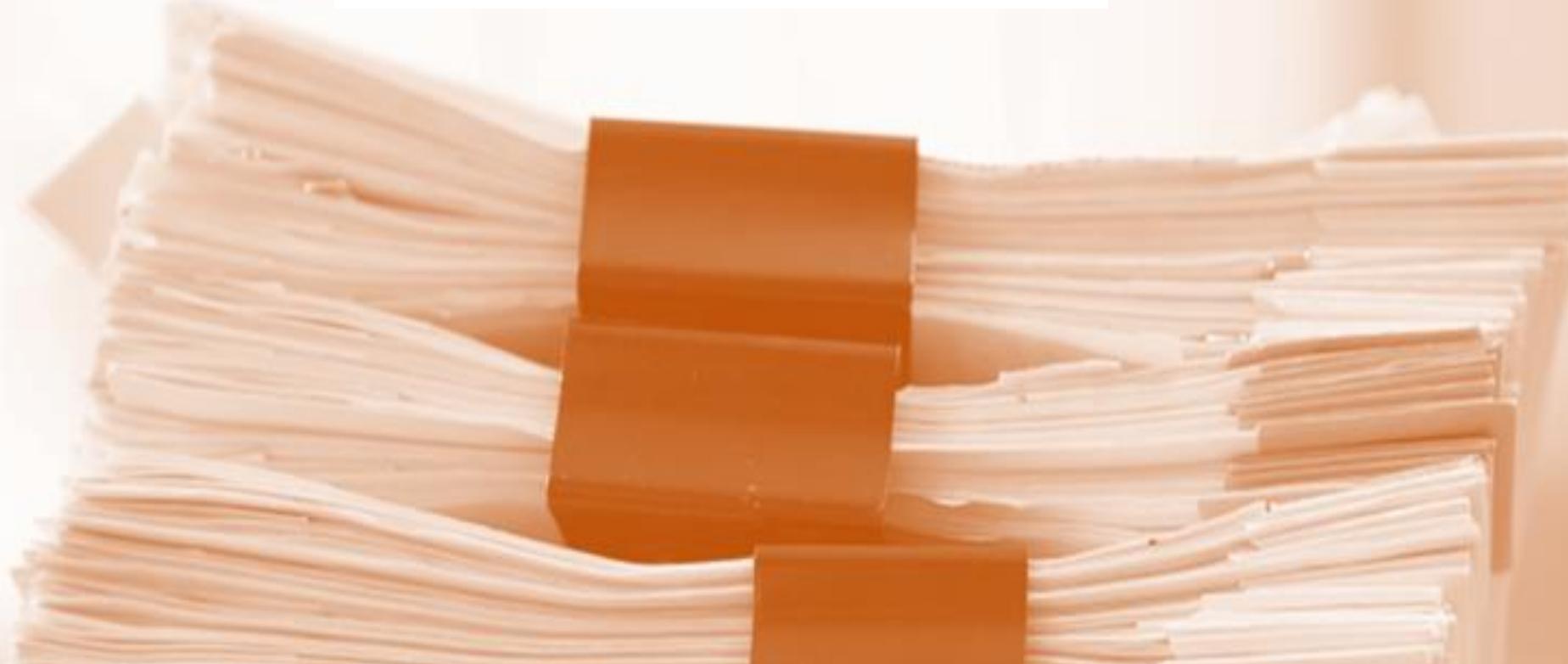




Mr. Karim Shafei

Partner, Gherzi Textile Organisation

Karim Shafei is an International Partner at Gherzi Textile Organisation, spearheading innovative market developments across the textile, fashion, and retail sectors as well as strategy and overall business planning. Additionally, he has worked extensively with various stakeholders on the topic of Audit and Standard fatigue and has made significant contributions as the researcher for the STAR Network Position Paper on Audit Fatigue.



STAR Position Paper: Tackling Audit Fatigue in GFT Sector Supply Chains

Contract 81301502

Webinar 30.05.2024

May 2024



Background and objectives of today's meeting

1 min

Takeaways from the interviews

4 min

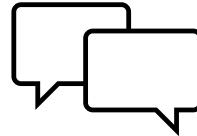
Approach to the drafting of the position paper

3 min

Review the contents of the document

7 min

Background and objectives of today's presentation



Key objectives

Briefly summarize what we the findings of the research ahead of the drafting of the paper.

Describe the approach and considerations for the development of the position paper.

Review the contents of the position paper.

Background and objectives of today's meeting

Takeaways from the interviews

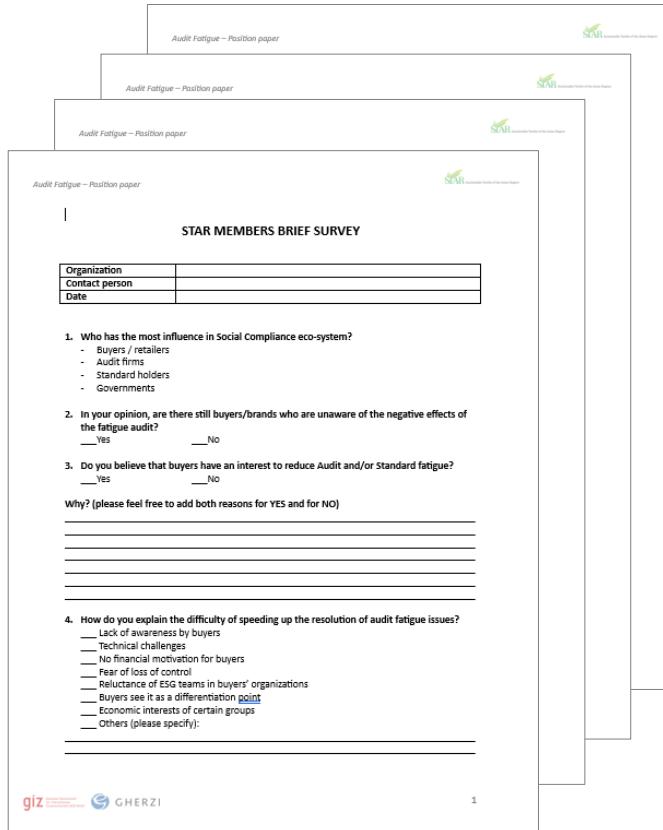
Approach to the drafting of the position paper

Review the contents of the document

Interview schedule

	3	1	5	6	9	4	7	2	8
									
Interview date	01.02.2024 (10:00 CET)	25.01.2024 (12:00 CET)	14.02.2024 (09:00 CET)	21.02.2024 (10:30 CET)	30.01.2024 (Questionnaire) 12.02.2024 (Interview)	29.02.2024 (10:00 CET)	29.01.2024 (11:00 CET)	04.03.2024 (Questionnaire only)	
Interviewee(s)	Miran Ali Vice President	Ehsan Fazlee Shamim Vice President	Ken Loo Secretary General	Dr. Liang Xiaohui Deputy Head Office for Social Responsibility	Junaid Makda Deputy Chief Coordinator	Azizullah Goheer Secretary General	Muhammad Muzzammil Hussain Executive Director	Phan Thanh Nga Foreign Trade Specialist	
Interviewer(s) (Gherzi)	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	Karim Shafei Laurent Aucouturier	
Participants (GIZ)	Anushua Madhubanti	Thomas Hesketh Anushua Madhubanti	Thomas Hesketh	Thomas Hesketh Li Siyu	-		Thomas Hesketh		

This section summarises the answers to the questionnaire given by the STAR members interviewed by Gherzi in January and February 2024



- Questionnaire distributed by the STAR Secretariat last January 12, 2024...
- ...to the 9 STAR members
- 12 questions on the ins and outs of audit fatigue syndrome and...
- ...on the strategy to adopt regarding the position paper
- X interviews conducted from January 25 to February X

12 questions, 3 of which are of great importance for today's exercise

1

Who has the most influence in Social Compliance eco-system?

Buyers / retailers

2

In your opinion, are there still buyers/brands who are unaware of the negative effects of the fatigue audit?

No

3

Do you believe that buyers have an interest to reduce Audit and/or Standard fatigue?

Yes

4

How do you explain the difficulty of speeding up the resolution of audit fatigue issues?

No

No financial motivation for buyers

Reluctance of ESG teams in buyers' organizations

Economic interests of certain groups

12 questions, 3 of which are of great importance for today's exercise

5

In your opinion, what is the role of manufacturers in reducing audit fatigue?

There is nothing we can do!

With buyers, we are in "whatever you say" mode

Manufacturers have no say in the matter of audit fatigue

We can unite and raise our voice through IAF, ITMF, etc.

Theoretically, we would not need audits

(i) Efficient and clear communication system with buyers, (ii) capacity building and special projects , (iii) improve practices in compliance

6

What do you believe is the best way to address audit fatigue?

Mutual recognition of audits by buyers / retailers

Centralized digital solution for collecting, storing and sharing audits

Relying on standard holders and convincing buyers to use them

7

In your opinion, are there "ready-to-use" technical solutions available today that meet the challenges of fatigue auditing?

Yes

8

Is widespread adoption of one of the existing solutions (SLCP, etc.) THE solution?

Yes

No

12 questions, 3 of which are of great importance for today's exercise

9

How would you rate the following initiatives based on your perception of how they can help reduce Audit and / or Standard fatigue?

10

What is your feedback on each if any?

11

In your opinion, which of the following labels / standards can best meet the demands of the buyers in terms of social compliance?

12

What do you expect from the position paper?

+



Helpful



Wrap is now a minimum standard.

You need it but it does not mean much

WRAP and BSCI look alike

Better Work offers a full package including advocacy, guidance, etc.

BSCI #1 especially for European brands

A simple message to create awareness

To promote an existing or future technical solution

Denounce a current no-win situation

Promote a political and regulatory solution

Background and objectives of today's meeting

Takeaways from the interviews

Approach to the drafting of the position paper

Review the contents of the document

Our approach to developing the position paper included several parameters and considerations

Consensus

The document is based on the inputs received from the STAR network members and is reflective of their views. It should gain the approval of the entire group.

Strategic

Explain the problem from a strategic level highlighting the real challenges and avoid getting dragged into the details.

Impactful

Strong messages that align the interests of the entire value chain around working towards a dignified working environment for labor in the sector.

Practical

Offering solutions and practical next steps to bring stakeholders closer together.

Background and objectives of today's meeting

Takeaways from the interviews

Approach to the drafting of the position paper

Review the contents of the document

Target audience

- Like minded industry bodies and associations
- Buyers
- Government officials
- Audit firms and certification bodies

Format:

A4 vertical document of 6 pages

Section

1

Introduction

2

Audit and Standard Fatigue

3

Why is reducing audit fatigue a challenge

4

The way forward

Background and objectives of today's conference call

Takeaways from the interviews

Draft Position Paper bias

Round table on the draft Position Paper

Takeaways, wrap-up and next steps

Objective

- Deliver a clear and impactful message
- Summarize the situation
- Address the concerns regarding current practices bluntly and honestly

Key points

- 1 Current practices are conuterproductive
- 2 Social responsibility is a place for collaboration not for competition
- 3 STAR network is committed to the wellbeing of labor
- 4 The way forward

2. Audit and Standard Fatigue

Objective

- Deliver a simple and efficient description of Audit and Standard Fatigue as well as their impact on the industry and on labor
- Include buying practices and their impact on the entire eco-system

Key points

- 1 Audit Fatigue: repeated and redundant efforts spent by the industry
- 2 Stakeholders need to recognize and trust audits performed by others
- 3 Standard Fatigue: standards are almost always similar but not identical
- 4 Buying practices are key to social sustainability

3. Why is reducing audit fatigue a challenge?

Objective

Key points

- Present and argue conventional wisdom used to perpetuate the status quo

Social audits are a means of differentiation

This is not a place for competition

Audits do not cost retailers anything

Costs are ultimately born by the buyers

Buyers are not willing to take any risks

Collaboration is a better protection for everyone

Audit companies have an interest

Addressing Tier 2 and 3 will give more business

Manufacturers have no influence

Manufacturers are the most capable of making a difference

3. Why is reducing audit fatigue a challenge?

Objective

- Outline the roles of stakeholders each in their domain to reduce audit and standard fatigue

Key points

	<p>Manufacturers</p> <p>Collaboration not duplication</p>	<p>Standard holders</p> <p>Mutual recognition & working with reliable existing solutions</p>
	<p>Consumers</p> <p>Support responsible brands</p>	<p>Buyers</p> <p>Improve buying practices</p>



We are an independent, global firm of consultants, technical specialists, engineers, architects and planners working across all areas of industrial and infrastructure projects.

Being independent for the last 90 years, we have always been putting the interest of our clients first.

Founded in Switzerland, we continue to bring our hallmark «Swissness» into services offered to our customers worldwide.

For further information, please visit www.gherzi.com

Contact

Karim Shafei, Partner
k.shafei@gherzi.com

Laurent Aucouturier, Partner
l.aucouturier@gherzi.com

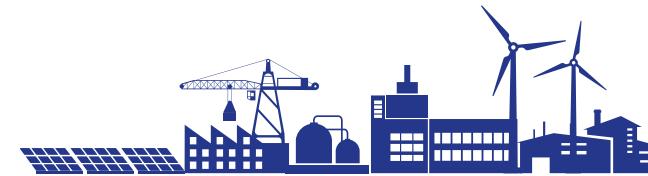


Mr. Mohammad Sadat

Director, BGMEA

Chairman, Shin Shin Group

Mohammad Sohel Sadat is the Chairman of Shin Shin Group and a Director of BGMEA, where he represents the BGMEA Digital Data Disclosure Platform. He leads Shin Shin Group with a focus on consumer benefits, quality, and ethical practices in the global apparel trade. A leading voice and supplier within the Bangladeshi garment sector, his factories are located in Dhaka and Chittagong.





BGMEA DIGITAL ESG DATA DISCLOSURE PLATFORM



Implemented by:
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



IGS INITIATIVE FOR
GLOBAL SOLIDARITY

In four decades, Bangladesh
Emerged as the

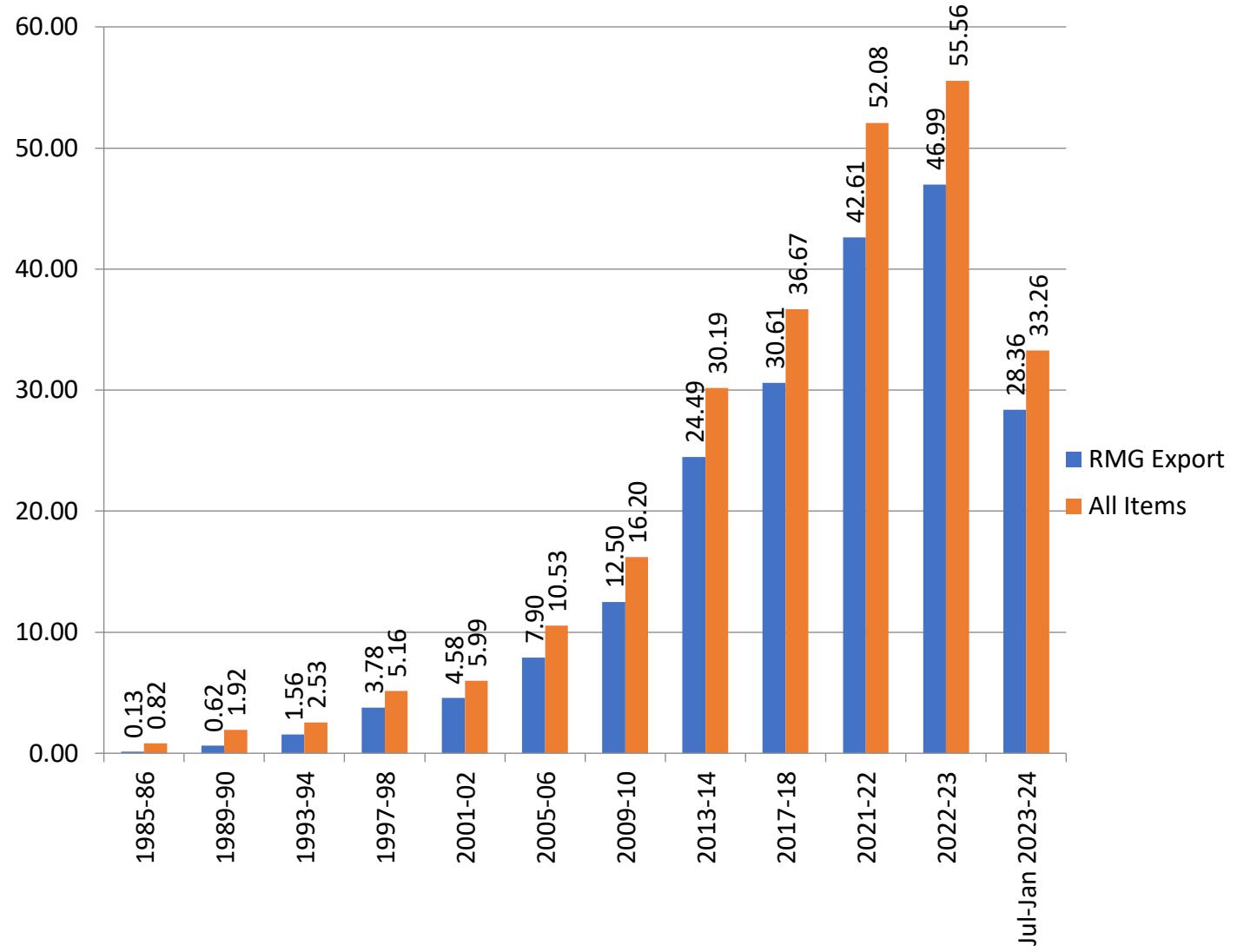
SECOND LARGEST

Garments Exporter in the
World

contributing immensely
to our economic growth &
prosperity



RISE OF THE RMG INDUSTRY IN BANGLADESH



THE EXPORT ORIENTED RMG INDUSTRY AT A GLANCE



3500

Active Clothing
Factories



4

million workers



\$20 billion
investment



519 spinning &
938 textile mills
99% accessories sourced
locally



Exports to
167
countries



Export
\$47
billion (2022-
23)

AMAZING FACTS

01

Bangladesh is the largest source of **Denim**, both in USA and EU markets

Closing in **China's share** of EU market.
Became **number one** cotton apparel supplier to USA.

03

Non-traditional markets accounting **one-eighth** of export, from less than 8% in 2010

05

Home of highest number of **LEED** factories – 209 factories

Earning **84.58%** of country's export income, contributing **11%** to GDP, employing around **2.4** million women directly

Embracing **Circularity & renewable energy**

Safest and most **transparent** apparel manufacturing hub in the world

02

04

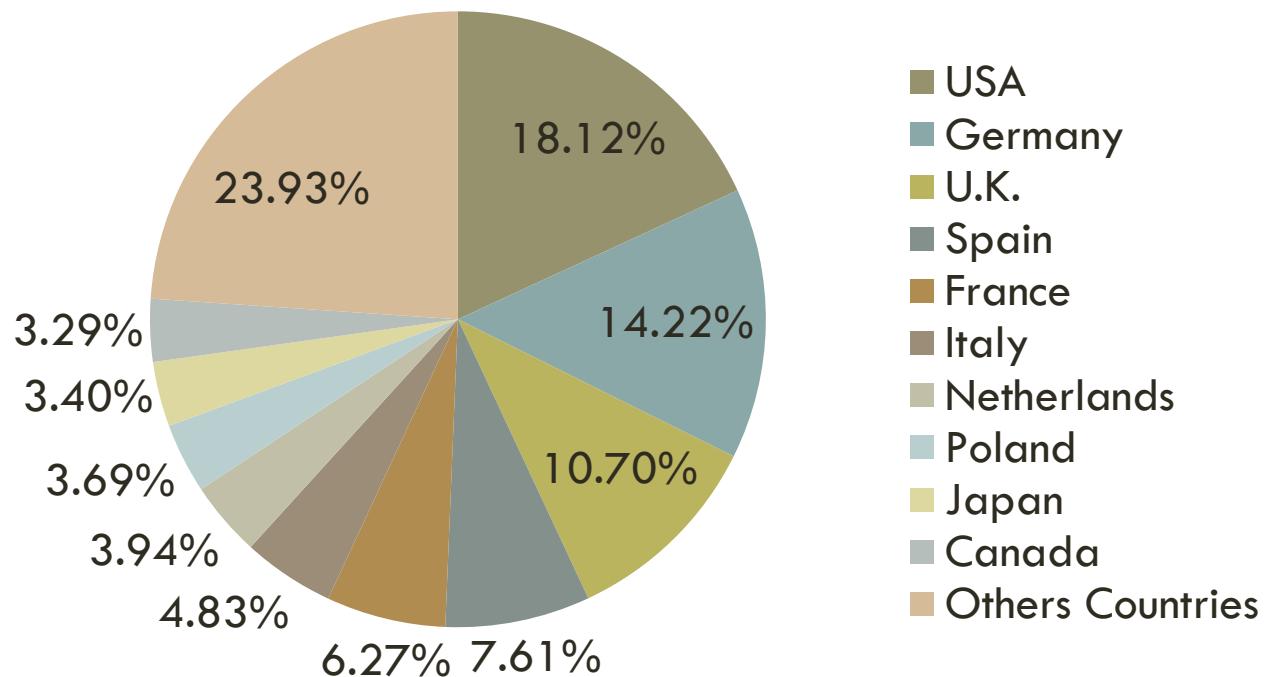
06

07



MAJOR MARKETS OF BANGLADESH'S APPAREL

BD's RMG Export Share to Top 10 Markets in FY2022-23
Values in Million US\$



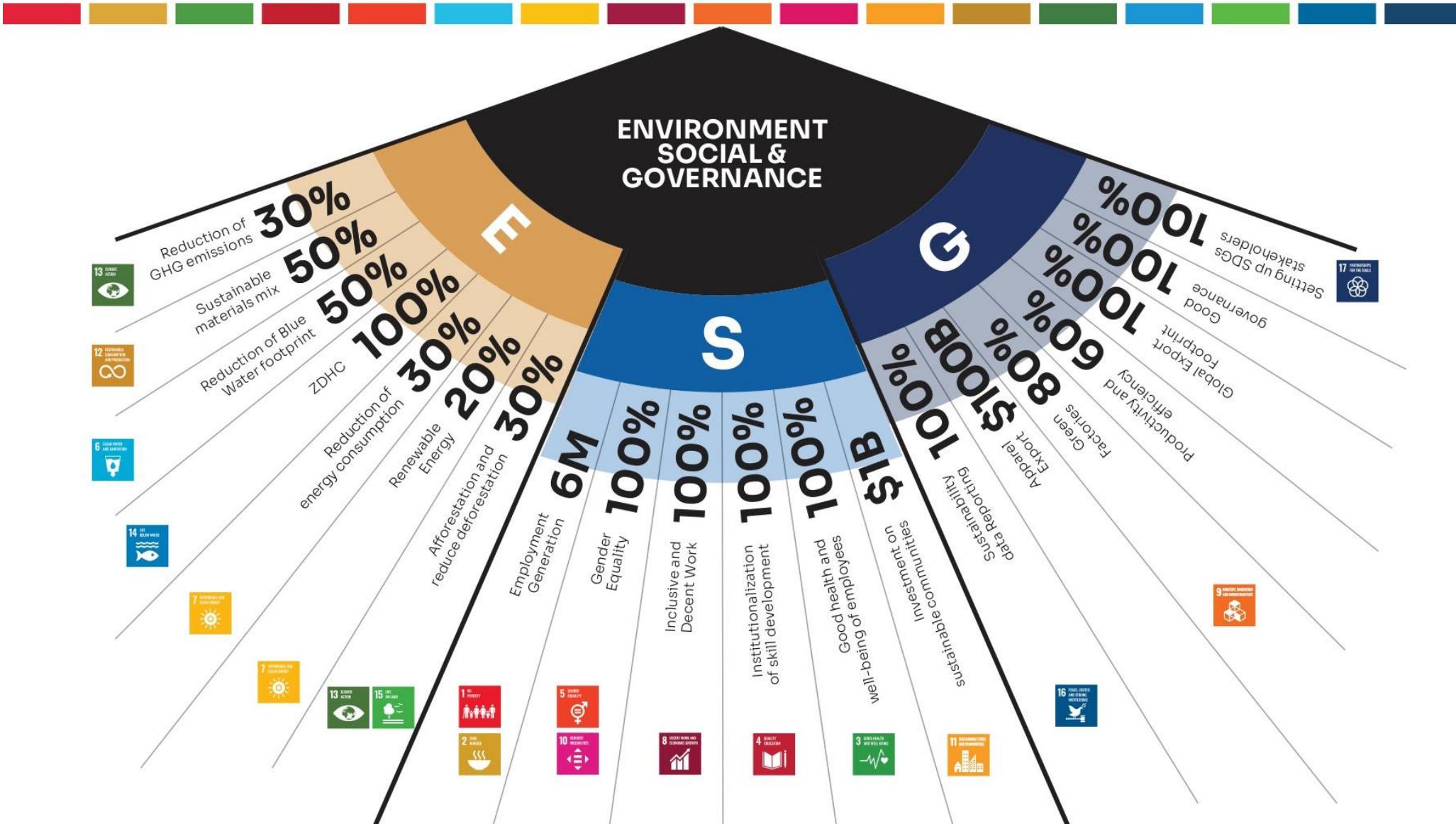
Source: EPB

BGMEA INITIATIVES ON SUSTAINABILITY





BGMEA SUSTAINABILITY STRATEGIC VISION: 2030



Partnership for Cleaner Textile (PaCT)

Water

saved
29.5 billion
litres/year

Energy

saved
3.4 million
MWh/year

GHG

GHG avoided
650 tonne CO2
eq/year

PaCT Partners

DEVELOPMENT PARTNERS



**EMBASSY
OF DENMARK**



Kingdom of the Netherlands

IMPLEMENTING PARTNER



BRAND PARTNERS

Gap Inc.

LEVI STRAUSS & CO.

**Omerta
SOLAR**

PUMA

TESCO

VF

CIRCULAR ECONOMY (INITIATIVES)

- Pursuing circularity in the RMG sector in Bangladesh, particularly in the pre-consumer waste recycling.
- Aligning stakeholders including brands and retailers and waste handlers to facilitate initial engagement among the partners in the supply chain and create an enabling policy environment.
- Develop and test a business case for manufacturers and investors.
- Projects -
 1. Reverse Resources, GFA, Bestseller, Circle Economy and H&M is implementing a project titled “SWITCH to circular economy value chains (SWITCH2CE)”
 2. Circular Economy in Bangladesh’s Garments Industry (CREATE) project
 3. H&M Group and BGMEA to collaborate on building a climate-neutral and circular garment sector in Bangladesh

THE CENTER OF INNOVATION, EFFICIENCY & OSH AT BGMEA

The CIEOSH aims to work as a knowledge hub among the industry and its stakeholders.

The main scope of the centre will be as follows:

- Industrial Engineering
- Occupational Health and Safety
- Sustainability
- Product Development



EDUCATION FOR WOMEN GARMENT WORKERS AT AUW

- In 2016, BGMEA started a collaboration with the Asian University for Women to provide free education to women in the garment industry.
- Currently around 90 young garment workers are pursing higher studies at AUW with the support from their respective employers.
- The university provides full scholarship and the factories continue to pay the students' salaries during the 5-year study course.
- BGMEA aims for 500 enrolments from RMG industry within next 2 years.

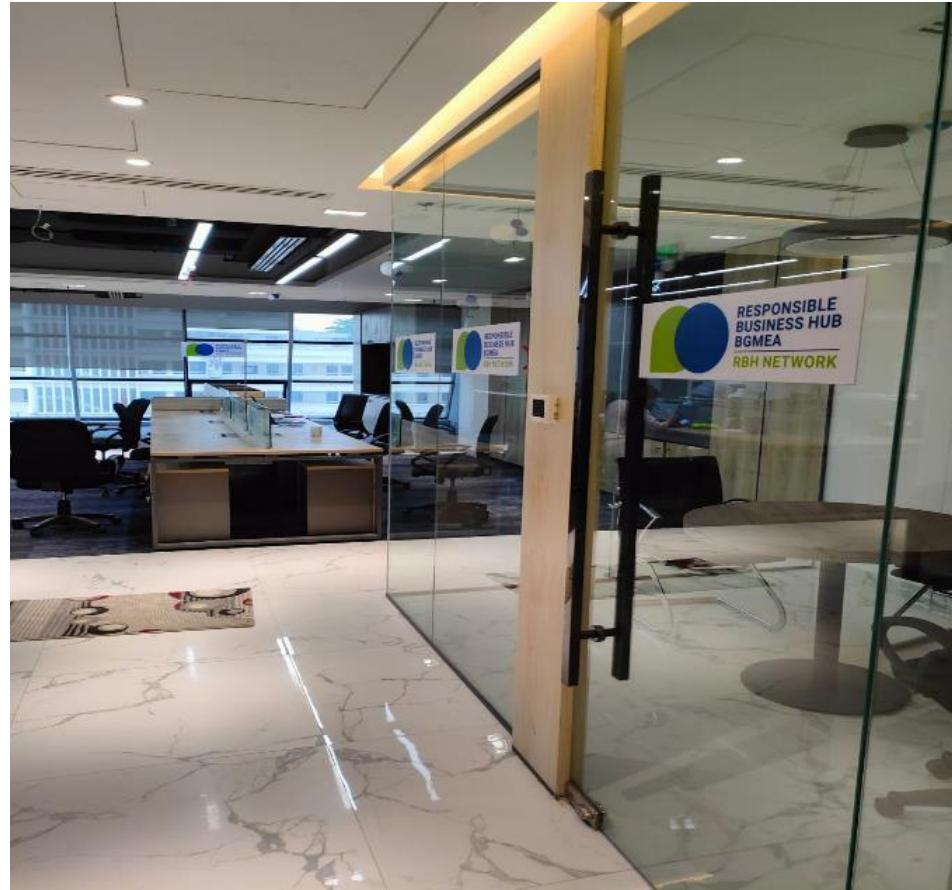


<https://www.youtube.com/watch?v=d9xkEUGdMLA>

<https://www.youtube.com/watch?v=tAKVzfQePaM>

RESPONSIBLE BUSINESS HUB (RBH)

- BGMEA with the technical support from GIZ have established a RBH Unit under The Future Centre in both Dhaka and Chattogram Office.
- Purpose of this unit is to provide hands on support to BGMEA member factories regarding the Due Diligence directives, and create a readiness throughout the industry.
- Website Link:
<http://rbh.bgmea.com.bd>



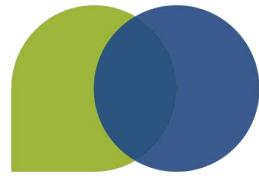
ESG DIGITAL DATA DISCLOSURE PLATFORM



What is DATA DISCLOSURE PLATFORM?

- A Digital Data Platform or Data Management hub that collects and visualizes ESG (Environment, Social and Governance) related data.
- Data reporting technology aligned with BGMEA SUSTAINABILITY STRATEGIC VISION 2030
- Established by BGMEA with **technical** and financial support of GIZ.
- Purpose - To align the whole RMG sector with the BGMEA SUSTAINABILITY STRATEGIC VISION 2030
- Main focus is to see the overall ESG data of the whole RMG sector of Bangladesh where each factory can track their own data

ESG DIGITAL DATA DISCLOSURE PLATFORM

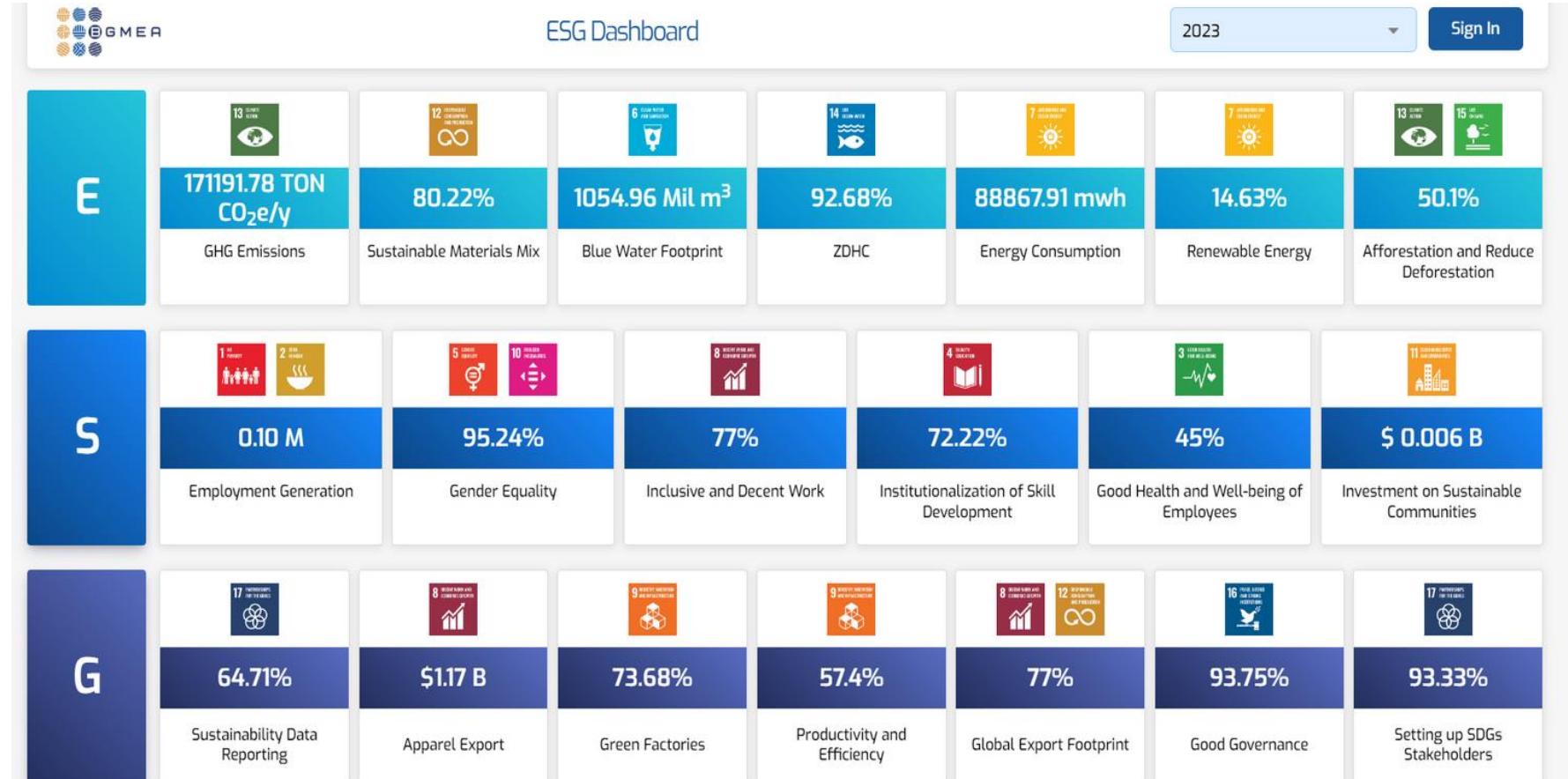


RESPONSIBLE
BUSINESS HUB
BGMEA
RBH NETWORK

Environment

Social

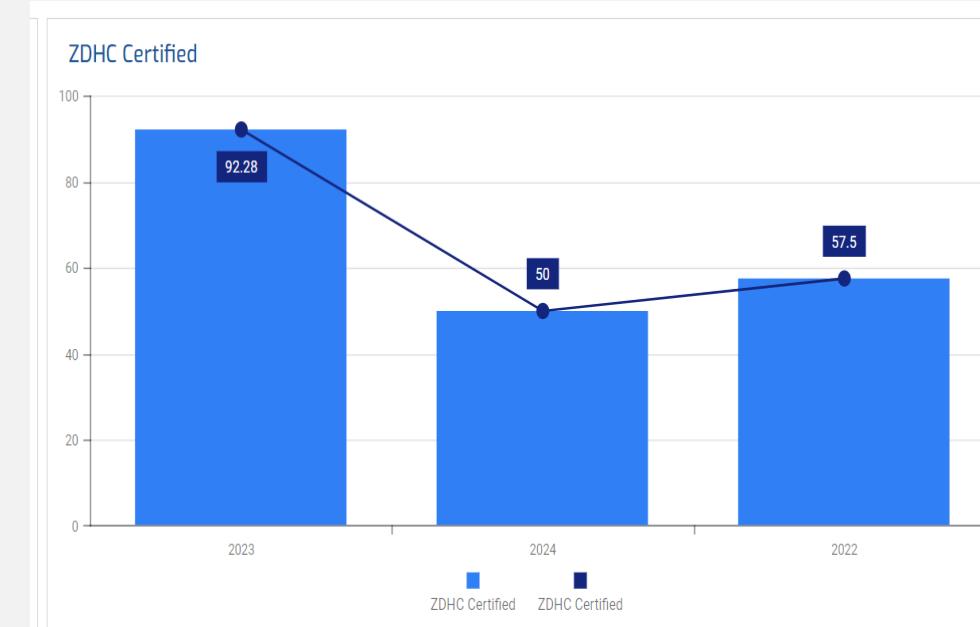
Governance



THIS PLATFORM IS RUNNING ON TEST BASIS.

Key Features

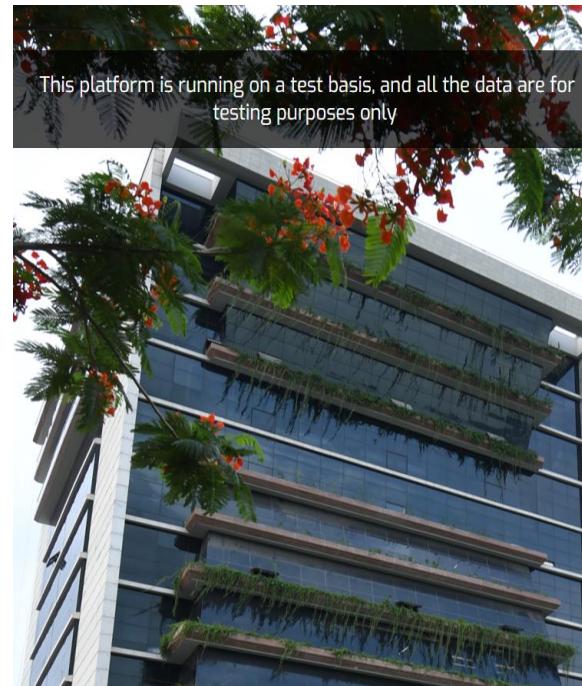
- Smart Question Answering with Functional Dashboard
- Interactive Dashboard with Automated Calculation Systems
- Year to Year Data Review System
- Data Visualization with Dynamic Visuals
- One to One Comparison of Data Points
- Dynamic dashboard representing cumulative information of all RMG factories on ESG data.
- Visualizes environmental, social and governance sustainability data
- Generates reports on ESG data.



The Comparison Dashboard

INFORMATION/DATA SECURITY

- Non Disclosure Policy (NDA) to protect each factory's data (with photo)
- BGMEA will host the platform with BGMEA's website which has its own data protection policy
- BGMEA core team dedicated to this platform approves individual factories' data by verifying the correct format of the data-No work on Data Validation has started yet



This platform is running on a test basis, and all the data are for testing purposes only

SIGN UP

Compliance Person Name	EPZ Name
<input type="text" value="Enter Compliance Person Name"/>	<input type="text" value="Select"/>
Compliance Designation	Division *
<input type="text" value="Enter Compliance Designation"/>	<input type="text" value="Select"/>
HR Person Name	District *
<input type="text" value="Enter HR Person Name"/>	<input type="text" value="Select"/>
Hr Designation	Upazilla *
<input type="text" value="Enter Hr Designation"/>	<input type="text" value="Select"/>

I have read and agree to the [Terms of Service](#).

[← Previous](#) [Submit](#)

Already have an account? [LOGIN](#)

TYPE OF USERS

BGMEA- Administrator	Member Factories-Beneficiary	External Stakeholders
Host the central dashboard	Dynamic Graphical User Interface (GUI)	Visualize the overall ESG sustainability data of the RMG industry.
Set specific ESG indicator questionnaires for factories to answer	Access to web-based Sustainability Form for authorized users to provide annual ESG data.	
Provide approval for the requested factories to use the BGMEA dashboard	Track and monitor respective factory's carbon footprint, energy consumption, groundwater extraction, and other environmental, social, and governance indicators.	Access cumulative overviews over time, by sector, by zone, and other categories through on-demand dynamic visualizations.
Notify factories in any kind of data discrepancy, missing, outliers		
Collect, Store each factory's data in the database and represent the RMG industry's dashboard. ESG sustainability data cumulatively in the Dashboard	Compare their data with BGMEA's central	
Compare and visualise ESG data of all inputted factories over time, by sector, by zone, and other categories through on-demand dynamic visualizations		View the number of factories that have provided information on the dashboard.
Generate customized ESG data reports		

E**170735.49 TON
CO₂e/y**

GHG Emissions

**80.06%**

Sustainable Materials Mix

**1048956.91 m³**

Blue Water Footprint

**92.28%**

ZDHC

**88867.74 mwh**

Energy Consumption

**14.66%**

Renewable Energy

**48.16%**

Afforestation and Reduce Deforestation

S**0.10**

Employment Generation

**95%**

Gender Equality

**76%**

Inclusive and Decent Work

**76.47%**

Institutionalization of Skill Development

**42.11%**

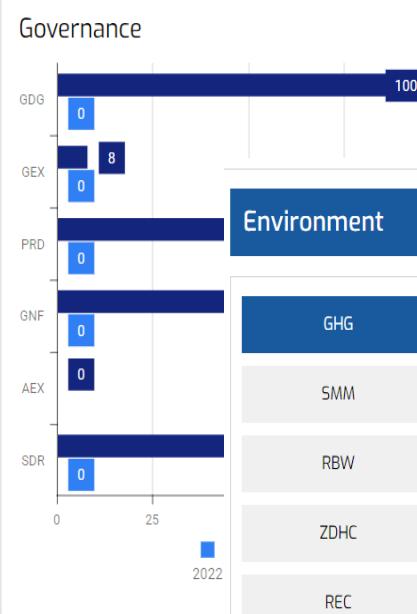
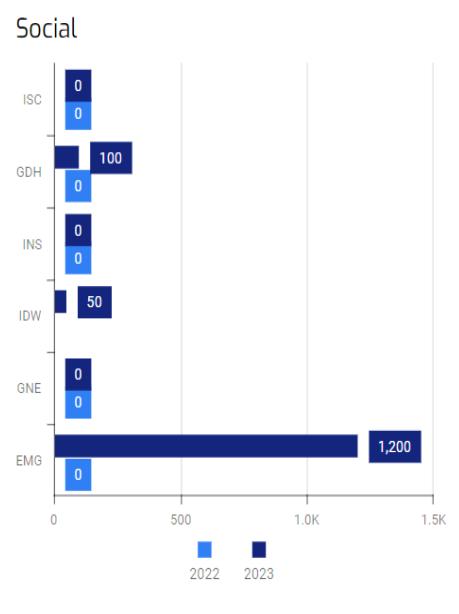
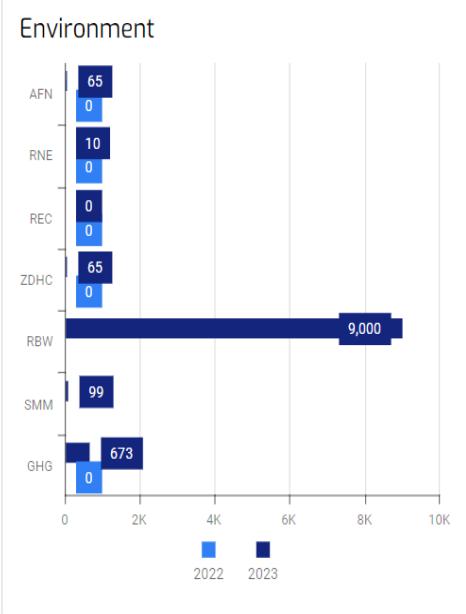
Good Health and Well-being of Employees

**0.006**

Investment on Sustainable Communities

G**62.5%****\$1.25 B****76.47%****58.07%****76%****93.33%****92.86%**

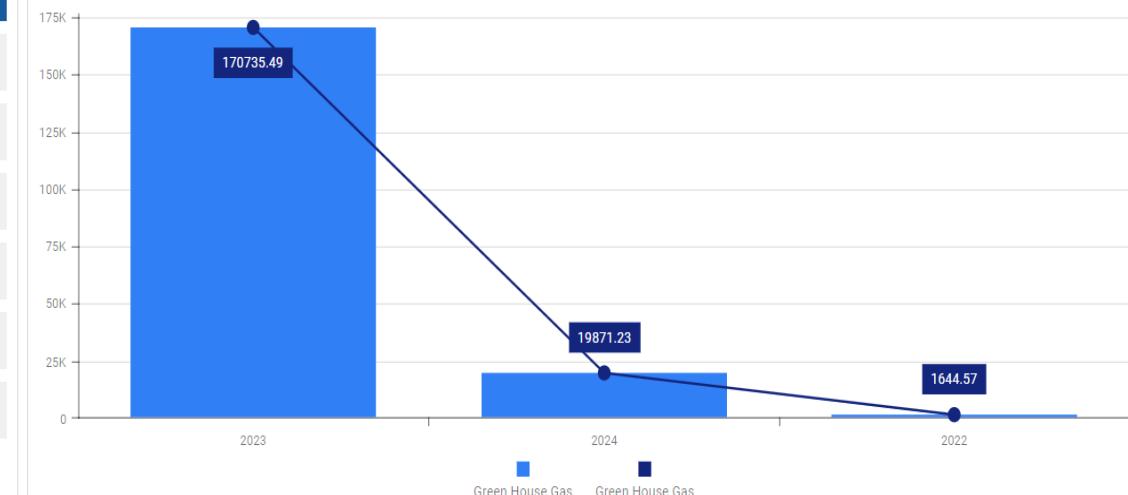
PHOTO OF EXTERNAL STAKEHOLDERS AND ADMIN USER DASHBOARD)



Environment

GHG

Green House Gas



PHOTOS OF COMPARISON(YEAR WISE AND ELEMENT WISE)



PHOTOS OF A DEMO FACTORY USERDASHBOARD OF ENV.
SOCIAL AND GOVERNANCE

THE RMG INDUSTRY BENEFITS FROM THE DIGITAL DATA DISCLOSURE PLATFORM

- Create an industrial baseline about industrial sustainability.
- Portrays an overview of RMG industry performance through BGMEA's Sustainability Report (Biennial).
- Evaluate sustainability performance to take necessary programs, projects, decision making, and our future activities.
- Let this platform be the manufacturers' voice to the brands, stakeholders, and buyers for easier and high business benefits.
- A communication tool for internal and external use.
- Tool for industry risk assessment, identify improvement areas and risks to mitigate, and enhance due diligence at the supply chain.
- Digitization of factory data regardless of small, medium, and large size factories and provide data for the sustainability report.
- Support government to take timely policies and initiatives towards sustainability.

MANUFACTURERS' BENEFIT FROM DATA DISCLOSURE PLATFORM

- Digitization of your factory data
- Let this platform be the manufacturers' voice to the Brands, Stakeholders, Buyers for easier and high business benefits
- A communication tool for internal and external use
- Need assessment, Self-assessment, Due Diligence
- Support towards Sustainability Reporting
- Showcase yourself to others
- Generate Audit Support Document

Progress- In a Blink



- Member factories enrolled : 79
- Factories receiving Data Management Training: 79
- Number of factories that uploaded data already : 37 till now
- Validation process by BGMEA's pool of experts starts: June 2024

MILESTONES



Continuation.....

FUTURE VISION OF DIGITAL DATA DISCLOSURE PLATFORM

- Develop industry wide Sustainability reporting for RMG factories
- Linking with other platforms with other reporting initiatives (Government, intergovernmental institutions) etc. to have an alignment or integrated data platform
- BGMEA is based on membership and will act as an inclusive service provider to BGMEA member factories and provide continuous support towards our member factories in reporting their data thorough this platform.
- Explore options for economic sustainability of the platform, e.g. by membership fees or industry contributions



Thank You



For More information-
RESPONSIBLE BUSINESS HUB (RBH)
Email: info@rbh.bgmea.com.bd
Web : rbh.bgmea.com.bd
BGMEA Bangladesh



Mr. Karim Shafei

Partner, Gherzi Textile Organisation

Karim Shafei is an International Partner at Gherzi Textile Organisation, spearheading innovative market developments across the textile, fashion, and retail sectors as well as strategy and overall business planning. Additionally, he has worked extensively with various stakeholders on the topic of Audit and Standard fatigue and has made significant contributions as the researcher for the STAR Network Position Paper on Audit Fatigue.



Mr. Azzizullah Goheer

Secretary-General, Pakistan Textile Exporters Association. Board Member, STAR Network.

Azizullah Goheer is a Certified Director and Project Management Professional (PMP), currently serving as the Secretary-General of the Pakistan Textile Exporters Association (PTEA). With two decades of industrial experience, he has worked with top global companies and served as a consultant for the Government of Punjab. He is also a Board Member of the Sustainable Textile of the Asia Region Network (STAR).



Mr. Mohammad Sadat

Director, BGMEA

Chairman, Shin Shin Group

Mohammad Sohel Sadat is the Chairman of Shin Shin Group and a Director of BGMEA, where he represents the BGMEA Digital Data Disclosure Platform. He leads Shin Shin Group with a focus on consumer benefits, quality, and ethical practices in the global apparel trade. A leading voice and supplier within the Bangladeshi garment sector, his factories are located in Dhaka and Chittagong.





Mr. Albert Tan

Chairman, AFTEX; Vice-Chairman, TAFTAC

Albert has worked in Cambodia's garment industry for over two decades, managing major factories like Suntex, Bright Sky, and Bloomtime Embroidery, overseeing 12,000 employees. Currently, he advises J&V Investment and Gladpeer Garment Factory. Since 1998, he has been an active TAFTAC Executive Committee member, serving as Deputy Chairman and leading the Sub-Committee on Taxation. He also supports the Cambodian Garment Training Institute and sustainability initiatives.





Archana Kotecha

Founder, The Remedy Project

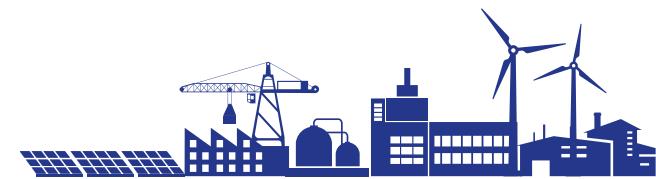
Archana Kotecha is a UK-qualified barrister and mediator, leading innovative efforts in redefining responsible private sector conduct, particularly in supply chains. She has over 15 years of experience advising UN agencies (IOM, ILO, and UNICEF), ASEAN bodies, Governments, businesses, civil society groups, and legal practitioners across Asia. The rights-holder perspective is central in her legal approach, which seeks creative solutions within the context of commercial requirements and complex regulatory challenges.





Mr. Matthew Guenther

Matthew Guenther is the Environmental Sustainability Director for TAL Apparel, leading climate action and circular economy initiatives. He co-chairs the Fashion Industry Charter for Climate Action and the Low Carbon Manufacturing Working Group. Additionally, he is a member of the Fashion Producer Collective. Matthew holds a MSc in Environmental Policy from Bard College and a BA in International Relations from Bilkent University. He resides in Singapore.



Data Transparency in the Context of Audit Fatigue



Panel: Data Management in the Context of Audit Fatigue



**Mohammad
Sohel Sadat**



**Azizullah
Goheer**



**Karim
Shafei**



**Albert
Tan**



**Matthew
Guenther**



**Archana
Kotecha**

MODERATOR