



Workshopserie UNFCCC Playbook

Modul 6: Erfahrungen aus der Praxis - Reduktion von THG Emissionen

Freiburg | Darmstadt | Berlin, den 29.06.2022

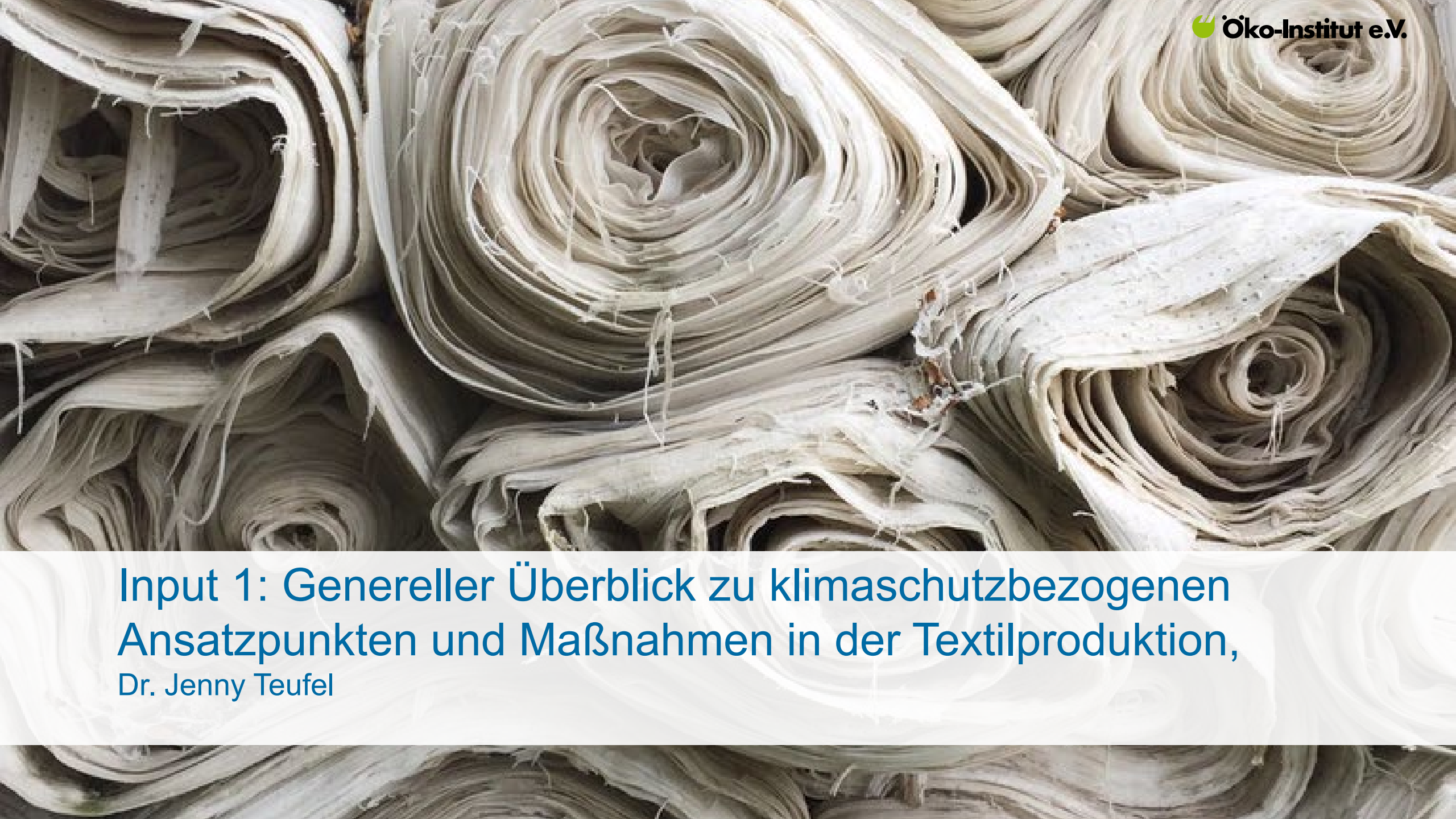


in Kooperation mit



Agenda

Zeit	Agenda Modul 6: Erfahrungen aus der Praxis – Reduktion von THG-Emissionen
09.00 – 09.05	Begrüßung und Einführung
09.05 – 09.20	Genereller Überblick zu Klimaschutzbezogenen Zielen und Ansatzpunkten in der Textilproduktion <i>Dr. Jenny Teufel</i>
09.20 – 09.30	Diskussion und Rückfragen
09.30 – 09.45	MILES GmbH <i>Heinrich Becker</i>
09.45 – 10.00	GIZ Projektentwicklungscluster <i>Katharina Hay</i>
10.00 – 10.15	Apparel Impact Institute <i>Tamara Wulf</i>
10.15 – 10.50	Diskussion und Rückfragen
10.50 – 11.00	Verabschiedung



Input 1: Genereller Überblick zu klimaschutzbezogenen Ansatzpunkten und Maßnahmen in der Textilproduktion, Dr. Jenny Teufel

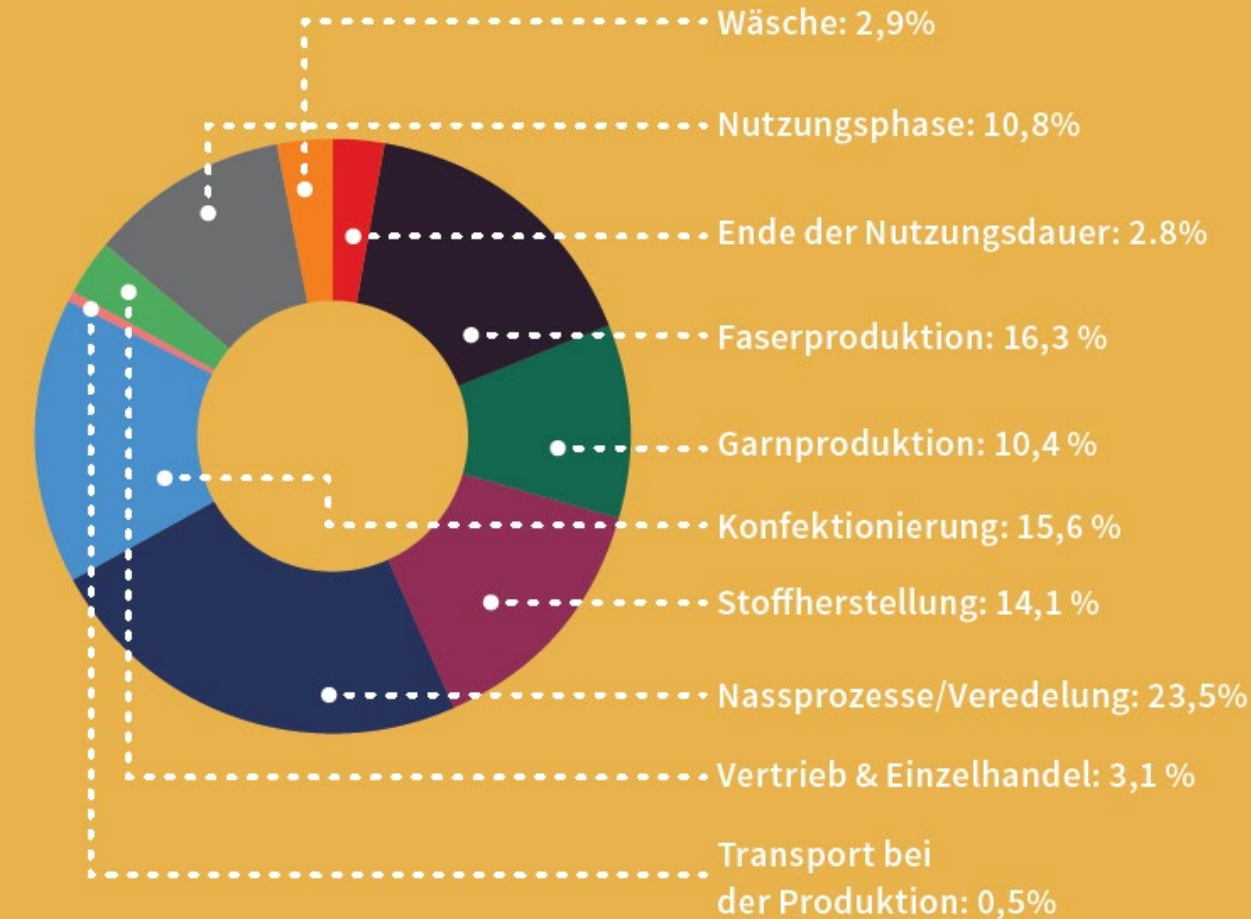
Ziele der Klimaschutzcharta der Modeindustrie



- Der Auftrag der Charta besteht darin, die Modeindustrie bis spätestens **2050** zu **Netto-Null-Treibhausgas-Emissionen** zu bringen. Dabei ist das übergeordnete Ziel, die Erderwärmung unter 1,5°C zu halten.
- Zwischenziel: Die Unterzeichner*innen der Charta haben sich verpflichtet, die Treibhausgas-Emissionen um insgesamt **30 Prozent* bis 2030** gegenüber einem Referenzjahr von frühestens 2015 **zu reduzieren**.

*Dies entspricht nicht dem Ambitionsniveau, das im Pariser Abkommen genannt wird. Hier wird eine Reduktion der globalen Treibhausgas-Emissionen um 45 % bis 2030 gegenüber dem Stand von 2010 und netto Null bis 2050 angestrebt.

ABBILDUNG B3 | Klimaauswirkungen des schwedischen Bekleidungsverbrauchs, Anteil der Lebenszyklusphasen

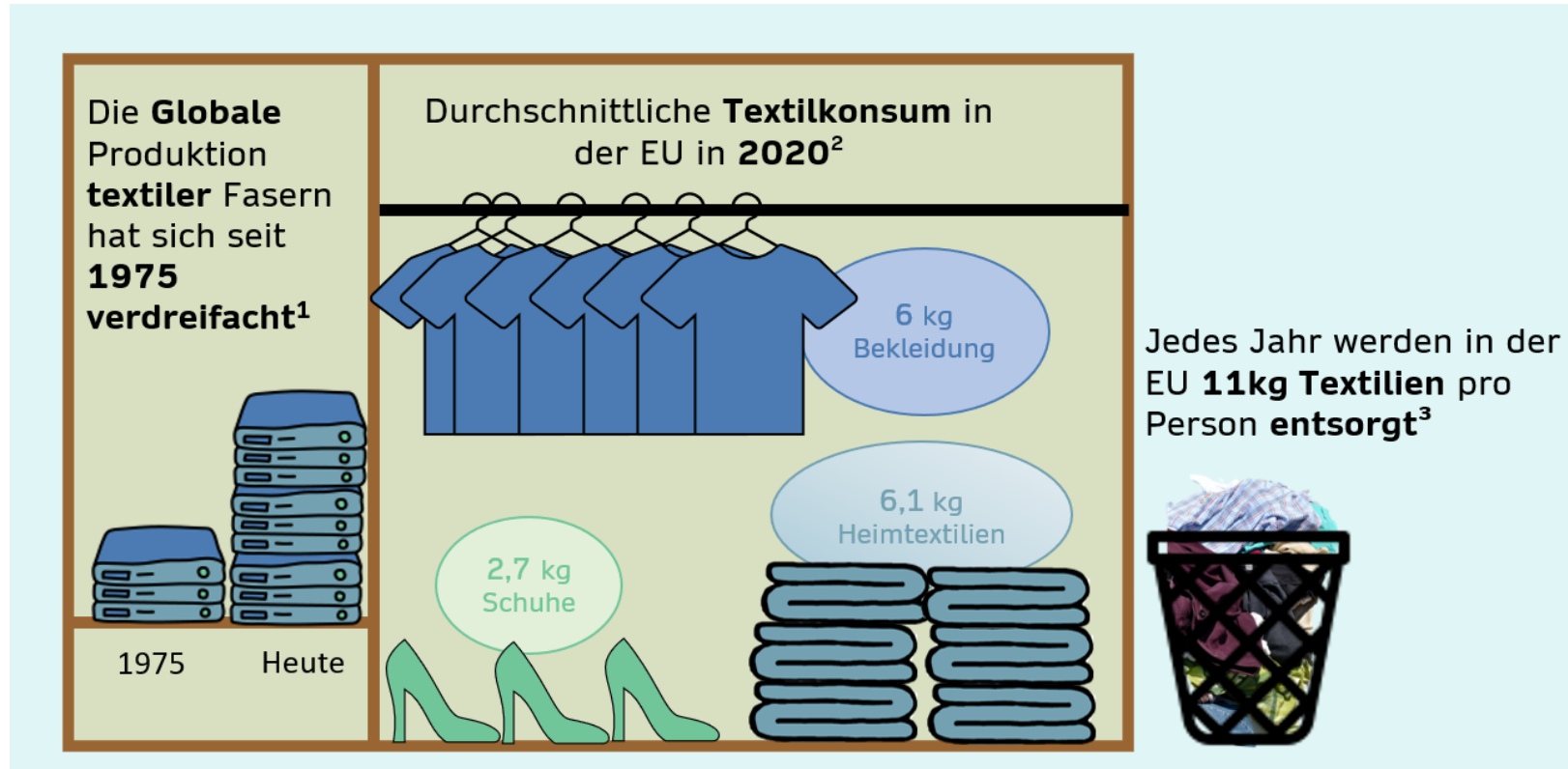


Hot spots der Treibhausgasemissionen entlang der Wertschöpfungskette (ohne Berücksichtigung der Nutzungsphase)

Ca. 80% der Treibhausgasemissionen kommen aus den vorgelagerten Wertschöpfungsstufen, wenn man die Nutzungs- und Endsorgungsphase mit berücksichtigt!

Quelle der Abbildung: [Sandin et al. 2019](#); entnommen aus [UNFCCC Handbuch des Klimaschutzes](#)

Entwicklung Ressourcenbedarf und Konsumverhalten in der EU

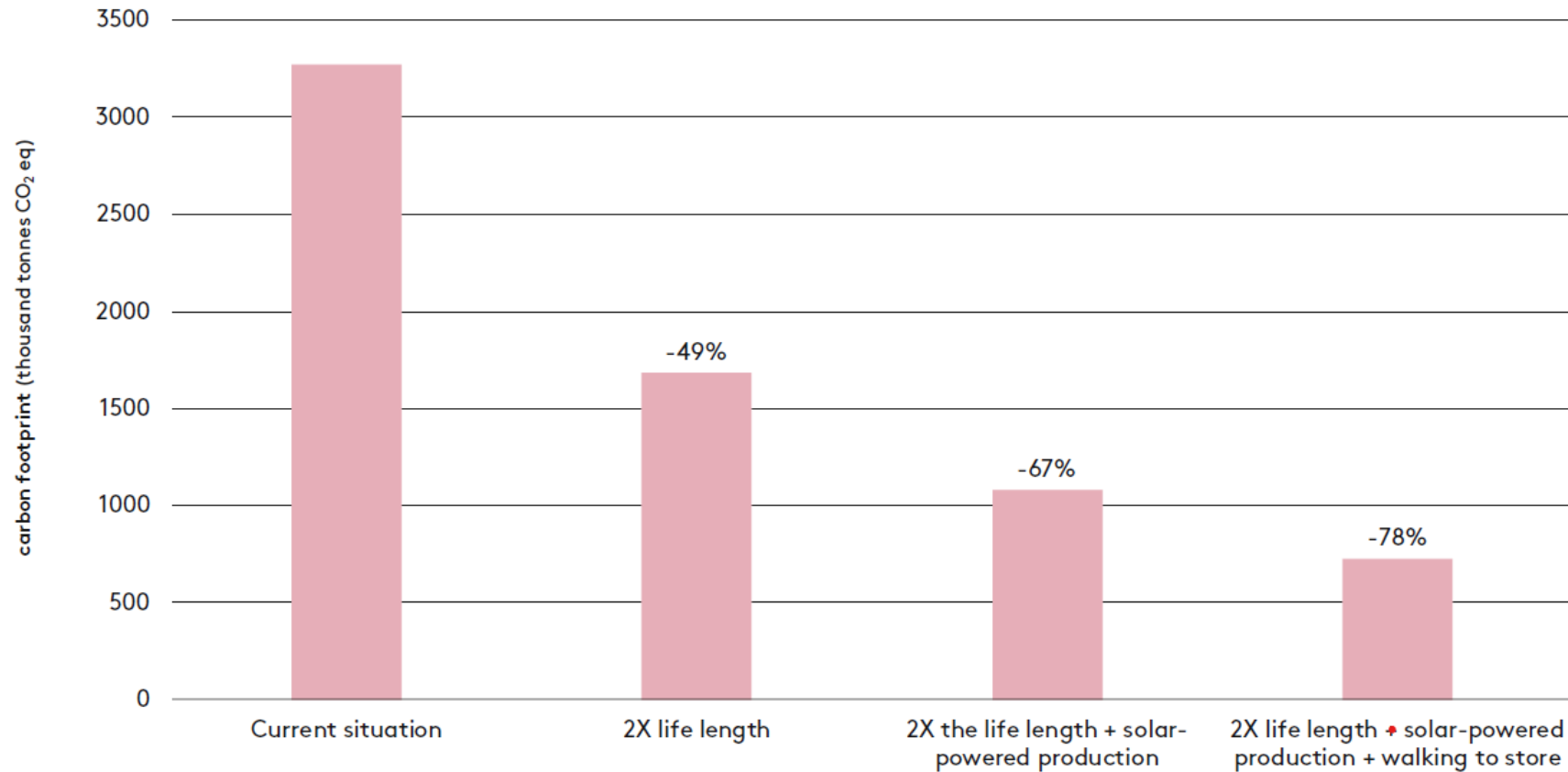


Quellen:¹https://textileexchange.org/wp-content/uploads/2020/06/Textile-Exchange_Preferred-Fiber-Material-MarketReport_2020.pdf

²<https://www.eea.europa.eu/data-and-maps/figures/eu27-apparent-consumption-of-clothing/>

³http://makeresourcescount.eu/wpcontent/uploads/2014/11/FINAL_Advancing-Resource-Efficiency-in-Europe_PUBL.pdf

Szenarien zur Minderung des CO_{2e}-Fußabdruckes, der durch den Textilkonsum verursacht wird (basierend auf Daten aus Schweden)



Marken / Handelsunternehmen: Maßnahmen für THG-Reduktionen in Scope 1 (Bürogebäude, Einzelhandelsflächen, Vertriebszentren)

- Installation von energieeffizienten Heizungs-, Lüftungs- und Klimaanlage (HLK) und regelmäßige Wartung dieser Anlagen
- Verbesserung der Wärmedämmung des Gebäudes
- Nutzung der natürlichen Beleuchtung (für Wärme und Licht)
- Verwendung von Kraft-Wärme-Kopplungssystemen (gleichzeitige Erzeugung von Wärme und Strom)
- Zertifizierung von Einrichtungen nach LEED, BREEAM oder ähnlichen Normen für umweltfreundliches Bauen
-
- Emissionsärmere Fahrzeugflotte
- Dienstreisen mit der Bahn

Marken / Handelsunternehmen: Maßnahmen für THG-Reduktionen in Scope 2

- Maßnahmen zur Energieeffizienzsteigerung
 - Durchführung einer Energieprüfung und Ermittlung der wichtigsten Verwendungszwecke von Strom
 - Siehe Scope 1

- Erneuerbare Energien vor Ort

„2010 installierte PUMA eine 200 kWh-Photovoltaikanlage an seinem Hauptsitz. Diese Anlage hatte eine Amortisationszeit von ca. 10 Jahren und wird in den nächsten 15 Jahren seiner voraussichtlichen Lebensdauer Gewinne erwirtschaften.“

- Bezug von Ökostrom (Achtung: [Kriterien für "guten" Ökostrom](#))
- Stromlieferverträge (Power Purchase Agreement (PPA))
- Kauf von Renewable Energy Certificates (RECs) an Standorten, an denen es keine Ökostrom-Tarife gibt

Marken / Handelsunternehmen: Maßnahmen für THG-Reduktionen in Scope 3: verschiedene Ebenen

Unternehmensebene:

- Verlagerung der Materialbeschaffung von **kohlenstoffreichen zu kohlenstoffärmeren** Quellen (z.B. Polyester, das mit erneuerbaren Energien hergestellt wird; Leder, das von Betrieben mit einem zertifizierten Energie- oder Umweltmanagementsystem hergestellt wird,...)



Produktebene:

- Materialeffizienz: **Reduktion der Materialmenge** bei einem bestimmten Produkt, z.B. weniger Gramm Baumwolle pro T-Shirt
- Materialsubstitution: **Ersetzen eines Materials durch eine Alternative** mit niedrigerem Treibhausgas-Ausstoß (z.B. virgin Baumwolle durch Baumwolle mit einem Anteil rezyklierter Baumwolle)

Marken / Handelsunternehmen: THG-Reduktionen in Scope 3

- Erster Schritt auf Basis der Erfassung der THG-Emissionen in Scope 3: Identifikation der wichtigsten Lieferanten in der eigenen Lieferkette und Erfassung ihrer unternehmensspezifischen Daten
- Zweiter Schritt: Einbindung der wichtigsten Lieferanten in Energieeffizienzprogramme der Weltbank (IFC) und/oder anderen erfahrenen Dienstleistern (Liste siehe [Playbook](#))

*„Zwei der größten Tier-1-Schuhzulieferer von New Balance in Vietnam arbeiteten mit der IFC zusammen, um detaillierte technische Bewertungen durchzuführen. Dabei konnten pro Standort durchschnittlich 15 Einsparmöglichkeiten aufgezeigt werden, wobei die Einsparungen zwischen **14-31 Prozent** des jährlichen Energieverbrauchs lagen. Eine dieser Möglichkeiten war die Verbesserung der Isolierung von Heizölleitungen in einer Werkstatt zur Herstellung von Laufsohlen, was zu Brennstoffeinsparungen von über 300 Tonnen pro Jahr und einer wirtschaftlichen Amortisationszeit von weniger als einem Jahr führte.“*

- Dritter Schritt: Reduktion und Verstetigung der Lieferanten in der eigenen Lieferkette

Marken / Handelsunternehmen: THG-Reduktionen in Scope 3

- [Environmental Good Practice Guide von adidas](#) enthält eine Liste von Möglichkeiten, wie Tier-1- und Tier-2-Anlagen den Energieverbrauch und die Treibhausgas-Emissionen reduzieren können (inklusive Angaben zu Geschäftsvorteilen, Stromeinsparungen in Prozent, Amortisationsdauer von Investitionen)
- [Playbook](#) listet ebenfalls Möglichkeiten für Tier-1- und Tier-2-Anlagen zur Reduktion des Energieverbrauchs und der THG-Emissionen auf (Tabelle 2, Seite 43)

Marken- und Handelsunternehmen: Emissionsärmeres Produktdesign

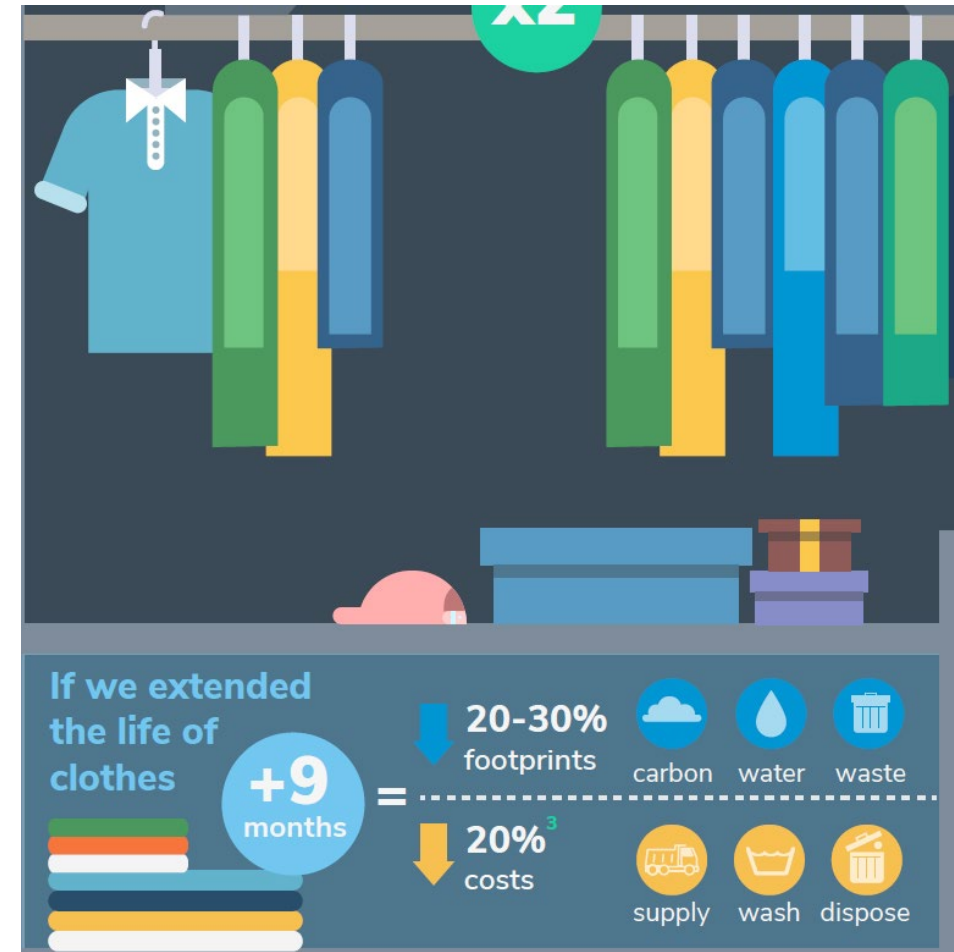
Ansatzpunkte für ein emissionsärmeres Produktdesign

- Zeitlosigkeit
- Haltbarkeit
- Reparierbarkeit / Reparaturmöglichkeiten
- Minimierung Pflegeaufwand



Verlängerung der Nutzungsdauer

- „Design for Recycling“



Quelle der Abbildung: [Botta 2021](#)



Leitfäden und Informationsquellen

- [UNFCCC Handbuch zum Klimaschutz](#)
- [Apparel and Footwear Science Based Targets Guidance](#)
- [Science Based Targets Transport](#)
- Logistik: [Roadmap towards Zero Emissions Logistics 2050](#)
- [Clean by Design](#)
- [Environmental Good Practice Guide von adidas](#)
- [Leitfaden: Einführung Klimamanagement vom Deutschen Global Compact Netzwerk](#)

Einfach umsetzbare Maßnahmen in der Lieferkette zur Einsparung von THG-Emissionen

Maßnahme	Details	Amortisationszeit	Verfügbarkeit der Technologie
Abschalten von Maschinen bei Nichtbenutzung	- Schulung von Mitarbeiter:innen - Kontrollen sind wichtig - Installation von Zeitschaltuhren	0 bis 3 Monate	Sehr gut
Leuchtstofflampen durch LED-Lampen ersetzen		15 bis 30 Monate	Sehr gut
Einführung eines regelmäßigen Überprüfungsprogramms für die Dichtheit von Druckluft		sofort	Sehr gut

Aufwendigere Maßnahmen in der Lieferkette zur Einsparung von THG-Emissionen

Maßnahme	Details	Amortisationszeit	Verfügbarkeit der Technologie
Isolation von thermischen Systemen (Rohrleitungen, Ventile und Flansche)	- Wärmekamera verwenden, um Stellen zu ermitteln, an denen Oberflächen-wärmeverluste auf den Verteilungsleitungen auftreten - Entwicklung eines Programms zur Überwachung und Wartung der Isolierung - Hochwertige Isolationsmaterialien verwenden	6 bis 12 Monate	Sehr gut
Ersetzen von wenig effizienten Motoren durch hocheffiziente Motoren	Es werden mindestens Motoren mit dem Effizienz-Label Premium Efficiency IE3 Standard empfohlen.	30 Monate	Sehr gut
Installation einer Temperatur- und Feuchtigkeitsregelung		> 12 Monate	Sehr gut

The background of the slide is a photograph of a modern, multi-story building with a glass entrance canopy. The building has a brick facade and large windows. In the foreground, there are cherry blossom trees with white flowers. The image is slightly faded to allow the text to be visible.

MILES GROUP

Reduction of GHG Emissions

Heinrich Becker /
GM Quality Management and Sustainability



We are a Li & Fung
Company

MILES GROUP

MILES GROUP AT A GLANCE



MILES GROUP



APPAREL

LADIESWEAR

MENSWEAR

KIDSWEAR

SPORTSWEAR



HARDGOODS

CAMPING

HOUSEHOLD

LUGGAGE & BAGS

GARDEN

PETS

TOYS

BEACH & LEISURE

SPORTS

BEAUTY

DECORATION

SHOES

INDOOR FURNITURE



HOME TEXTILES

BED LINEN

TABLE LINEN

CUSHIONS

TOWELS

CARPETS

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SHOES

INDOOR FURNITURE



HOME TEXTILES

BED LINEN

TABLE LINEN

CUSHIONS

TOWELS

CARPETS

SUSTAINABILITY STRATEGY – ENVIRONMENTAL



REDUCTION OF GREENHOUSE GAS EMISSIONS

- 85% reduction of CO₂ emissions by 2050 (compared to 2015)
- Calculation and monitoring of our CO₂ emissions on an annual basis
- Offering CO₂ emissions-optimized products
- Offsetting unavoidable domestic flights



RESOURCE EFFICIENCY & WASTE REDUCTION

- 50% reduction in plastic retail packaging by 2025
- 30% reduction in office paper consumption by 2025
- Use of certified/recycled paper qualities only
- Definition of an export carton quality guideline
- Avoiding unnecessary packaging in daily office business



REDUCTION OF HAZARDOUS SUBSTANCES

- Roll out the DETOX implementation to all Miles/Promocean softline businesses (Apparel, Home Textiles, Shoes)
- Minimum 90% of main materials sourced from DETOX-compliant wet processing mills
- Establishing a guideline for preferred materials/designs

SUSTAINABILITY STRATEGY – SOCIAL



PROMOTING FAIR & SAFE WORKPLACES

We are committed to promoting safe and fair workplaces within our partnering factories. We require our suppliers to establish a social management system that is aligned with local law requirements, customer requirements, and defined third-party standards.

- Improvement of the factory third-party audit performance (BSCI- 2022: 78% C rating, 20% A/B rating) by 2022.
- 90% completion rate (completed and verified) for measures needed to remedy initial findings from accord inspections on fire and building safety in Bangladesh apparel factories (Accord) by 2023
- Increase of our internal assessment rate (2030: 100% FOB Top 25 suppliers) in 2025



RAISING SOCIAL AWARENESS & PERFORMANCE

We take responsibility in our sourcing regions. In order to increase awareness of social requirements among our suppliers, we are continuously striving to improve the working conditions on site and offer regular training sessions.

- Arrange severe risk training for 100% of pooled key production facilities by 2022
- Miles partnering factories regularly trained in our supplier CoC, Forced Labor, Responsible Recruitment, and further policies



STAKEHOLDER ENGAGEMENT & INITIATIVES

We engage with affected stakeholders as part of our due diligence efforts.

Our stakeholder engagement supports us in identifying main risks within our supply chain and taking effective measures.

- Implementation of Apprise online Audit tool in selected production facilities (Apparel & Shoes) in 2021
- Renewal of Green Button certification in 2022
- Collaboration with different multistakeholder initiatives to implement Grievances Mechanisms in sourcing countries.

CARBON FOOTPRINT MILES GMBH



Miles Group Carbon footprint 2021	Source of emissions	tonnes CO ₂	in % without: Goods & Services / Delivery of goods / Transport upstream	in % (total result)
Scope 1	Heating (Gas)	508	73,8%	0,4%
	Company Cars	32	4,7%	0,0%
	Aircondition (leakage)	0	0,0%	0,0%
<i>Sum of Scope 1</i>		540	78,5%	0,5%
Scope 2	Electricity**	0	0,0%	0,0%
	(location based)	192		
<i>Sum of Scope 2</i>		0	0,0%	0,0%
Scope 3	Goods and Services	109.363	--	96,7%
	Petrol / Energy loss*	0	0,0%	0,0%
	Delivery of Goods	2113	--	1,9%
	- inbound Seefreight	1175	--	1,0%
	- inbound truck	32	--	0,0%
	- inbound Airfreight	907	--	0,8%
	Waste*	0	0,0%	0,0%
	Business Travel	2	0,3%	0,0%
	Employee commuting	146	21,2%	0,1%
	Transport outbound Goods	942	--	0,8%
<i>Sum of Scope 3 (without goods & services & transports)</i>		148	21,5%	0,1%
<i>Sum of Scope 3 total</i>		112.566	--	99,5%
<i>Total result (without Goods & Services, Transportations)</i>		688	100,0%	
<i>Total result</i>		113.106	--	100,0%

* Calculation in progress

** Due to 100% green energy sourcing, the CO₂-emissions of electricity on a market-based approach can be valued with 0 tonnes of CO₂e. The location-based electricity CO₂-equivalent emissions are 192 tonnes of CO₂e

CARBON FOOTPRINT MILES GMBH

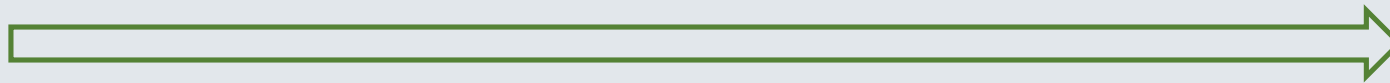


Scope 1 + 2	0.5%
Scope 3 – Transport	2.6%
Scope 3 – Products	96.7%

CARBON FOOTPRINT - PRODUCTS



Miles Perspective – “Cradle to Handover”



Raw Material

- Recycled Polyester
- Recycled Cotton
- Organic Cotton
- ...

Production Processes

- Yarn Count
- Dope Dyeing
- No Dyeing
- ...

Supply Chain

- Country
- Renewable Energy
- CO2 Accounting
- ...

CARBON FOOTPRINT - TOOLS



- MSI Tool
- Product Module



CARBON FOOTPRINT – Raw Material



Towel, 2 pcs Set



- Made in Portugal
- Recycled Cotton / Tencel Modal

Order type	Order number	Article	Carbon emission total order in Tonne CO2 eq.	Carbon emission per article in Kg CO2e.
textiles - medium	CO2-difference Shipping / Airfreight	Towel 2 pcs set	58,511	5,85
Number of articles in order	Article weight, in kg			
10.000	0,5841			
Emission area	Textile			SHIPPING
	Textile emission in Tonne CO2 eq.		57,36	Shipping emission in Tonne CO2 eq. 1,15
Material type	Material 1	Material 2	Material 3	Type of shipping
	Cotton Recycled	Modal (Lenzing Tencel Modal)	N/a	long distance transport carrier by Ship
Material komposition (in %)	70,00%	30,00%	0,00%	short distance transport carrier by Truck
				Distance in km. 0 1784

Order type	Order number	Article	Carbon emission total order in Tonne CO2 eq.	Carbon emission per article in Kg CO2e.
textiles - medium	CO2-difference Shipping / Airfreight	Towel 2 pcs set	86,220	8,62
Number of articles in order	Article weight, in kg			
10.000	0,5841			
Emission area	Textile			SHIPPING
	Textile emission in Tonne CO2 eq.		84,91	Shipping emission in Tonne CO2 eq. 1,31
Material type	Material 1	Material 2	Material 3	Type of shipping
	Cotton conv.	Modal	N/a	long distance transport carrier by Ship
Material komposition (in %)	70,00%	30,00%	0,00%	short distance transport carrier by Truck
				Distance in km. 12000 0 400

CARBON FOOTPRINT – Raw Material



Casual Shorts



- Made in Bangladesh
- CmiA Cotton / Recycled Polyester

Order type	Order number	Article	Carbon emission total order in Tonne CO2 eq.		Carbon emission per article in Kg CO2e.	
textiles - medium	CO2-difference Shipping / Airfreight	Casual Shorts	30,818		3,08	
Number of articles in order	Article weight, in kg					
10.000	0,297					
Emission area	Textile					
Textile emission in Tonne CO2 eq.			30,35			
Material 1			Material 2			
Material type	Cotton CmiA	rPET mechanic	Material 3			
			N/a			
Material komposition (in %)	60,00%	40,00%	0,00%			
Type of shipping			long distance transport carrier			
			by Ship			
Distance in km.			7515			
			0			
			400			

Order type	Order number	Article	Carbon emission total order in Tonne CO2 eq.		Carbon emission per article in Kg CO2e.	
textiles - medium	CO2-difference Shipping / Airfreight	Casual Shorts	35,572		3,56	
Number of articles in order	Article weight, in kg					
10.000	0,297					
Emission area	Textile					
Textile emission in Tonne CO2 eq.			35,11			
Material 1			Material 2			
Cotton conv.			PES			
Material type			Material 3			
			N/a			
Material composition (in %)			0,00%			
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CARBON FOOTPRINT - Processes



Challenges



Jigger / HT PES disperse dyeing



Stenter / drying – heat setting

CARBON FOOTPRINT - Processes



Dyeing Options Polyester

Select	Process	Impact	☐ MSI Score	☒ Life Cycle Impact Assessment
		Global Warming	Eutrophication	Water Scarcity
☐	Continuous dyeing - Disperse or cationic dyes	1.10 kg CO2 eq	7.746e-4 kg PO4--- eq	0.345 m3
☐	Solution (dope) dyeing	0.085 kg CO2 eq	2.800e-5 kg PO4--- eq	0.019 m3
☒	Batch dyeing (incl. piece, jet, jig, kier, yarn) - Disperse or cationic dyes	2.63 kg CO2 eq	3.840e-4 kg PO4--- eq	0.715 m3

CARBON FOOTPRINT – Supply Chain



Possible Solutions in Preparation

- Making supply chain partners to register to Higg and do self-assessments
- Supporting Higg verifications
- Setting targets for Higg FEM Energy performance scores



CARBON FOOTPRINT – Outlook



- Market needs to get used to emission optimized products
- Technical innovations needed in textile finishing processes
- Brands and retailers need to accept higher prices
- Business models need to change for more strategic supply chain management

Thank you
for your attention.

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Tackle climate change in textile supply chain

Project development cluster (PDC)

What is the Project Development Cluster (PDC)?

- Unit within GIZ bundling different projects working on project development in various sectors
- Commissions from various external and internal sponsors



PDC Energy works in the following countries:

Sub-Saharan Africa

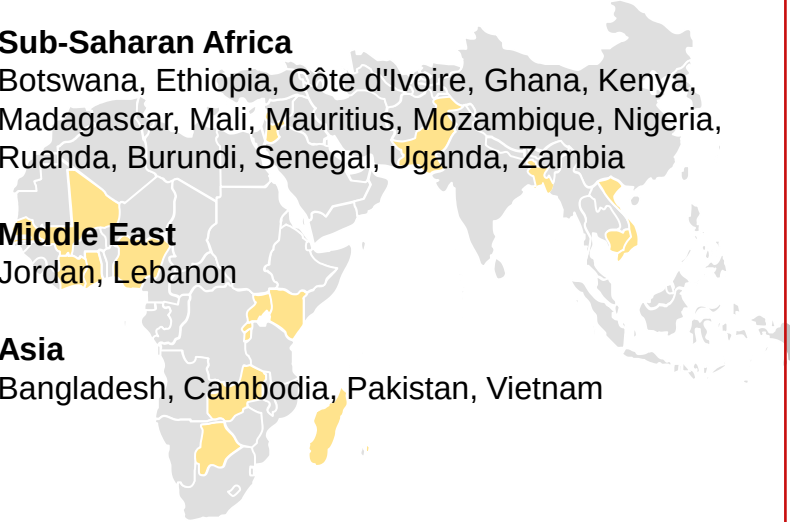
Botswana, Ethiopia, Côte d'Ivoire, Ghana, Kenya, Madagascar, Mali, Mauritius, Mozambique, Nigeria, Ruanda, Burundi, Senegal, Uganda, Zambia

Middle East

Jordan, Lebanon

Asia

Bangladesh, Cambodia, Pakistan, Vietnam



What are the PDC Services?

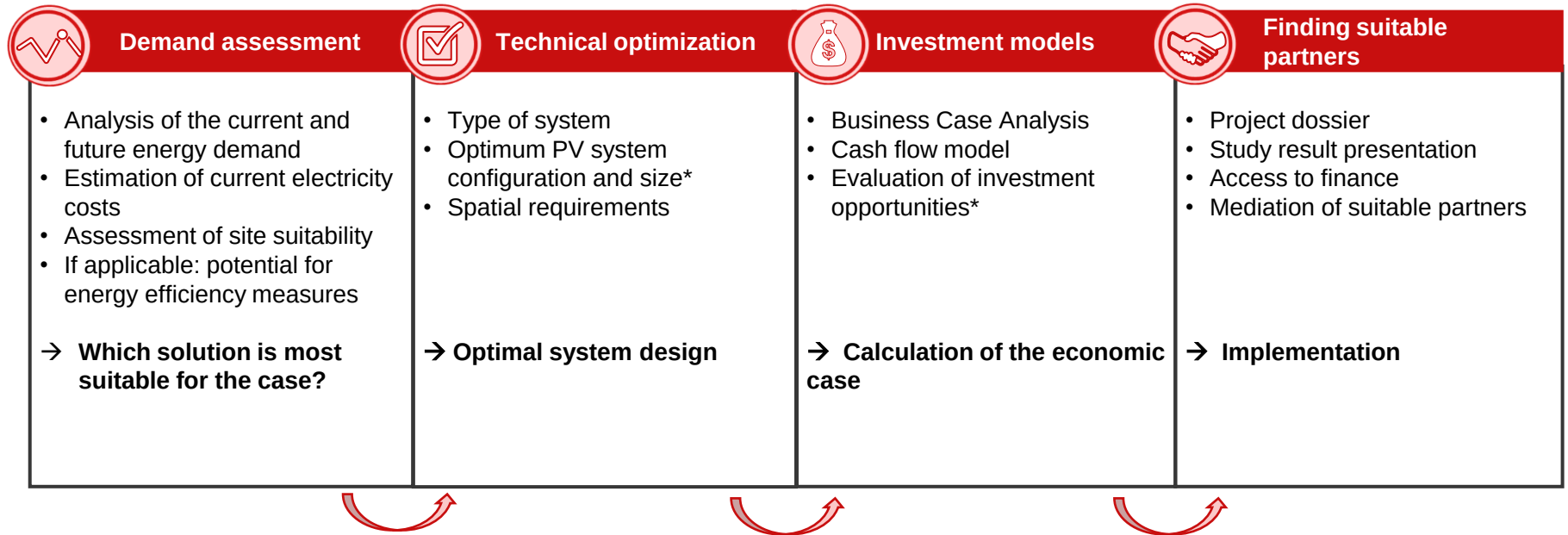
The PDC teams

- are service providers **for early-stage project development** in Sustainable Development Goals (SDGs) related sectors (mainly infrastructure, including energy, agriculture, water).
- **find, screen and predevelop implementable projects at local level, and support the deal closing for those projects.**
- evaluate these project opportunities from an **economic, political and technical perspective** with high expertise, quality and neutrality.
- have **efficient and standard services/processes** for mature sectors and adapt those with tailor-made solutions for new sectors.

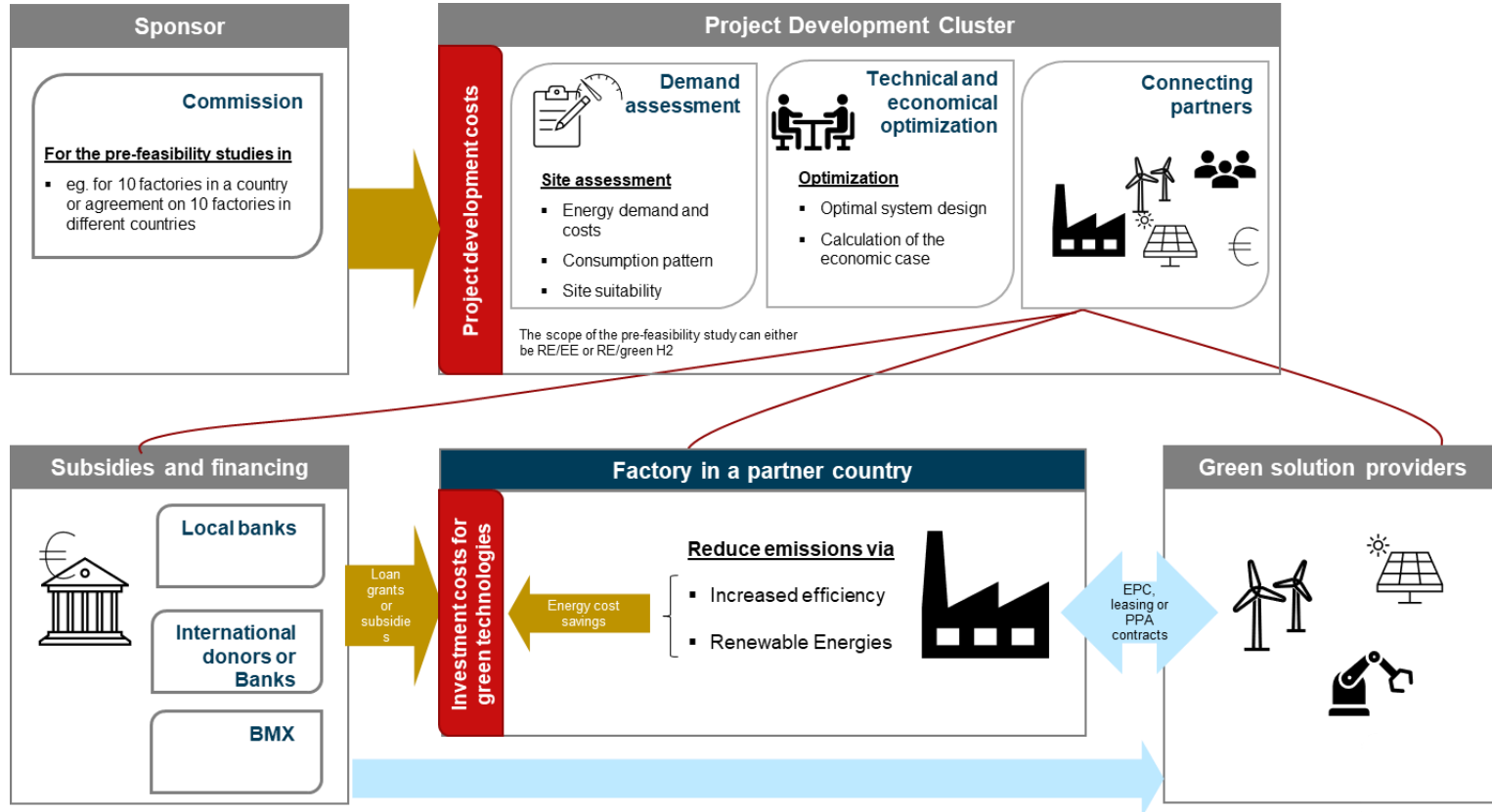


PDC accompanies successful project implementation

The PDC developed a highly efficient **process of demand stimulation for C&I renewable energy (RE) and energy efficiency (EE) projects** in various developing and emerging countries.



What is PDC's approach for RE/EE business cases?



PDC activities in the textile & garment industry

- Project development with the fashion industry began in 2016 mainly on awareness raising and pilot cases
- Since 2019, established global collaboration with renowned brands to develop solar projects in Asia
- Over 100 projects have been developed from thousands of factories, ranked by feasibility



© JiaHsin & Shimmer company

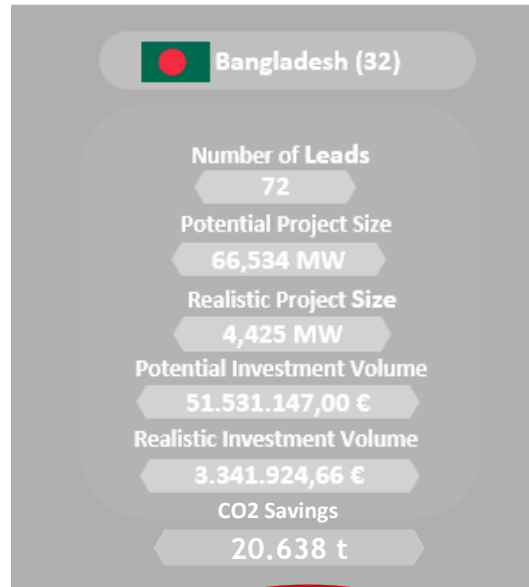
Garment & textile industry – sector with highest share of projects



Overview on energy projects on factory level (I)



25 active
leads in the
textile sector



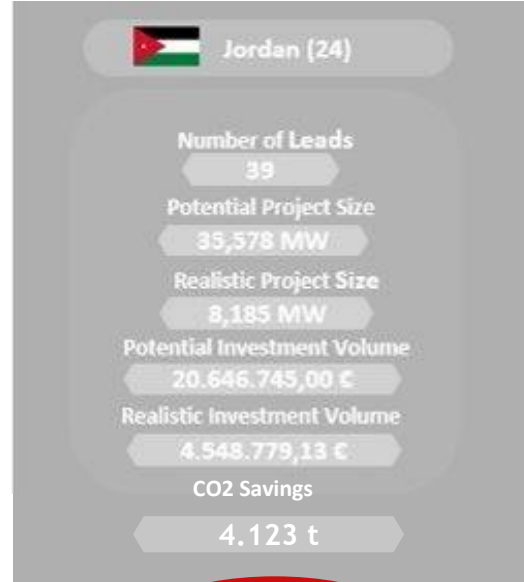
48 active in
the textile
sector



Overview on energy projects on factory level (II)



9 active leads
in the textile
sector



6 active leads
in the textile
sector



2 active leads
in the textile
sector

Sample projects



TyBach (Vietnam)

Clients	Adidas, VF, Nike
PV system size	10 MWp
% of generated solar power on the total electricity demand	66%
Savings (per year)	1,800,000 USD (73% of annual cost)
Reduction of CO ₂ emissions (t per year)	13.375 Tonnen

Jia Hsin (Vietnam)

Clients	Adidas, PUMA, VF, Nike, NB
PV system size	1 MWp
% of generated solar power on the total electricity demand	16%
Savings (per year)	112,000 USD (18% of annual cost)
Reduction of CO ₂ emissions (t per year)	1.299

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Speed.
Scale.
Impact.



apparel
impact
institute

ABOUT Aii

WHO WE ARE

LET'S CREATE AN INDUSTRY CLEAN BY DESIGN

ORGANISATION

Founded in 2017

Not-for profit registered in the state of California (501c3)

Founders: Sustainable Apparel Coalition, The Sustainable Trade Initiative, and Target Corporation

Joined in an Alliance with the SAC, ZDHC and Textile Exchange in 2020

VISION

A transformed apparel, footwear, and textile industry that has a positive impact on people and the planet.

COMPETENCIES

Impact Solutions

- Identification and piloting of early-stage solutions
- Scaling of successful solutions globally

Acceleration of capabilities and impact

- Thought leadership
- Coaching
- Program implementation

Collective action

WHAT WE DO

ALL IDENTIFIES, FUNDS, AND SCALES SCIENCE-BASED, MEASURABLE PROGRAMS.

IDENTIFY



Identify & Validate opportunities that align with current industry roadmap interventions and industry demand.

FUND



Catalyze industry and philanthropic funding and organize deployment around pre-seed innovation, program testing and de-risking, and accelerating validated impact programs.

SCALE



Accelerate implementation of impact programs and projects that meet our criteria for quality programming: science-based, measurable results, profitable, globally scalable.

KEY PARTNERSHIPS

AII IS BRINGING THE INDUSTRY TOGETHER TO ACCELERATE COLLECTIVE ACTION AND MEASURABLE IMPACT.

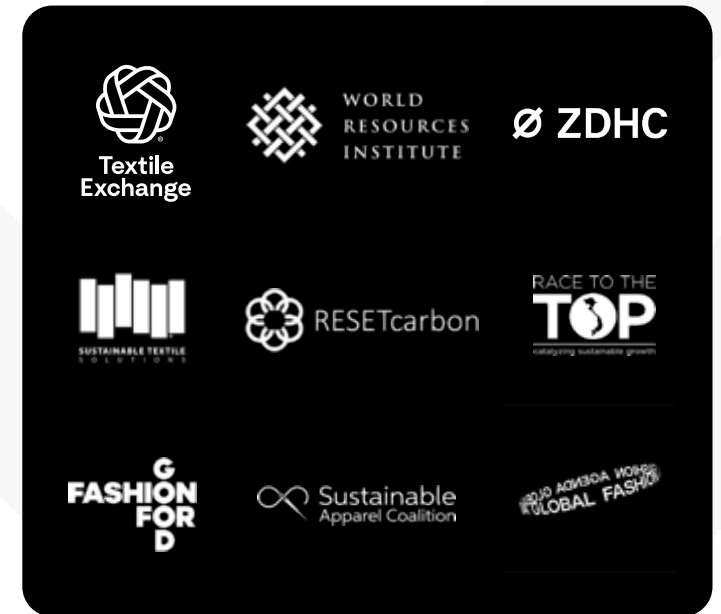
INDUSTRY



FUNDERS



PARTNERS



CARBON LEADERSHIP PROGRAM

Aggregated Analysis and Roadmapping

CARBON LEADERSHIP PROGRAM

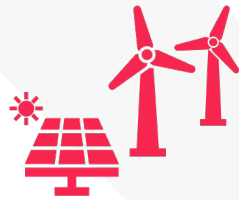
FOUNDATION FOR COLLECTIVE CARBON MANAGEMENT

Factory Carbon
Targets and Action
Plan



Use an industry specific standardized approach to setting factory level carbon targets and low carbon action plans

Evaluation of
reduction
opportunities



Identify and evaluate multiple carbon reduction opportunities, prepare an action plan and prepare facilities to track the performance over time.

Capacity Building
on Carbon
Management



Provide a holistic in-house capacity-building on carbon management through 1:1 workshops and classroom trainings

Implementation
Support



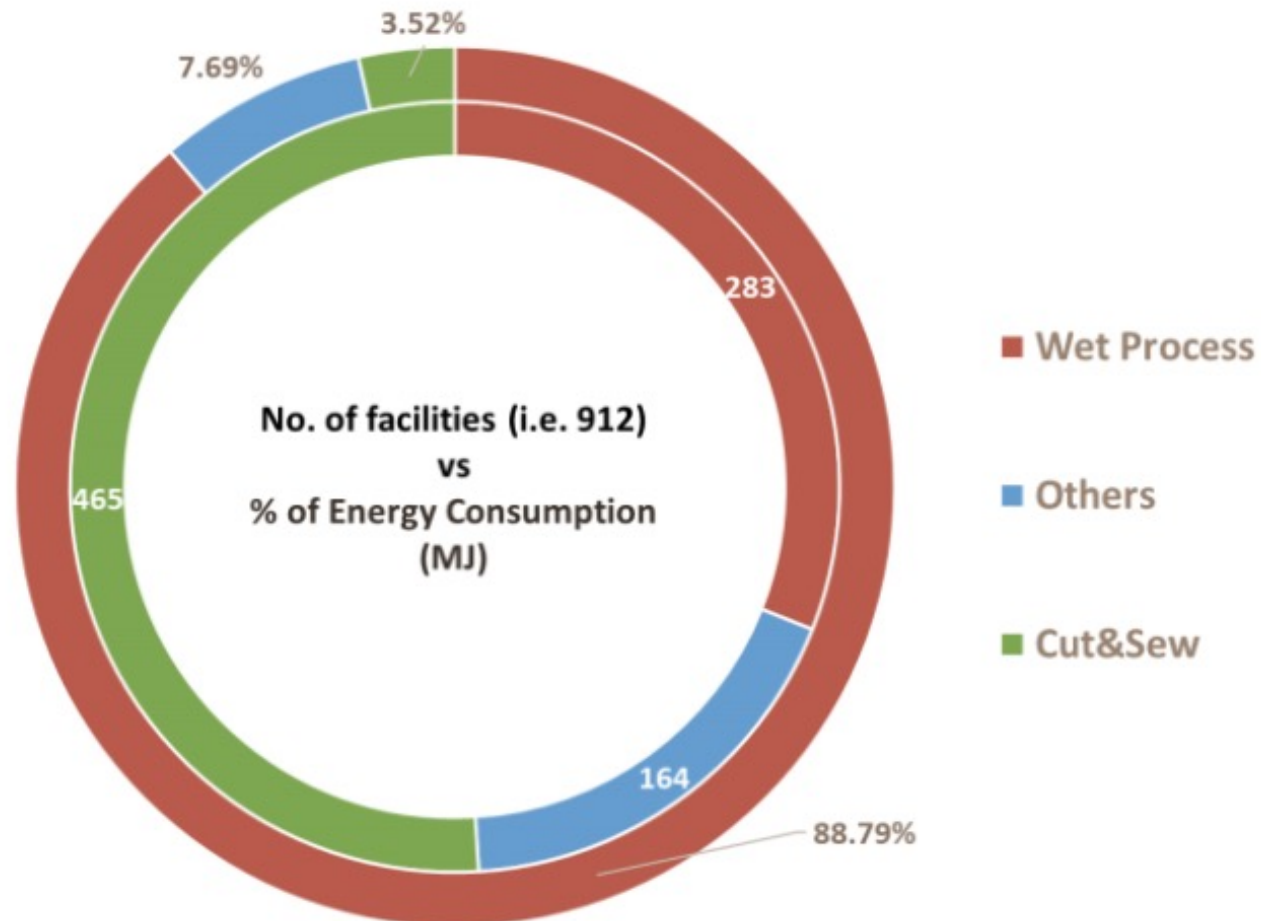
Provide resources to support design and execution of implementation projects

AGGREGATED ANALYTICS

HIGG FEM DATA TO INFORM ABOUT ENERGY CONSUMPTION DISTRIBUTION BY FACILITY TYPE

By facility type

- Majority of energy consumption is from wet facilities
- 31%** of the facilities(i.e. wet process) accounts for **89%** of the total energy consumption
- Cut&Sew facilities (i.e. 51% of the total portfolio) accounts for only **3.5%** of energy consumption.

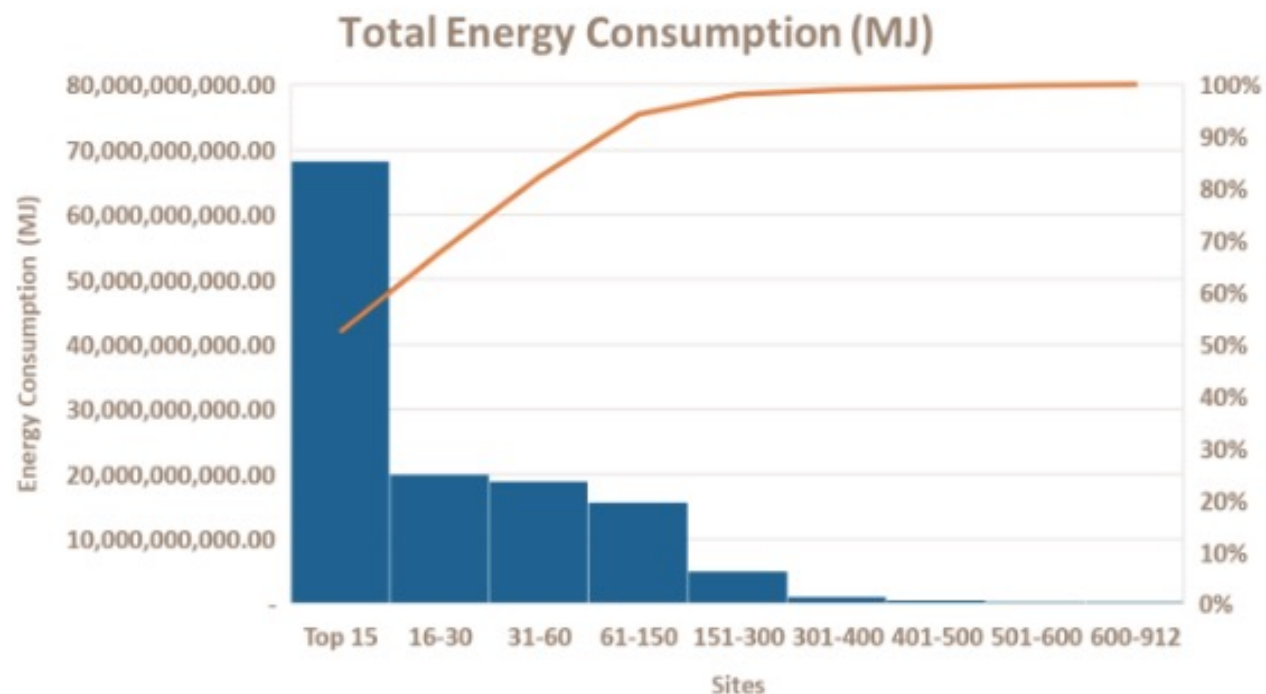
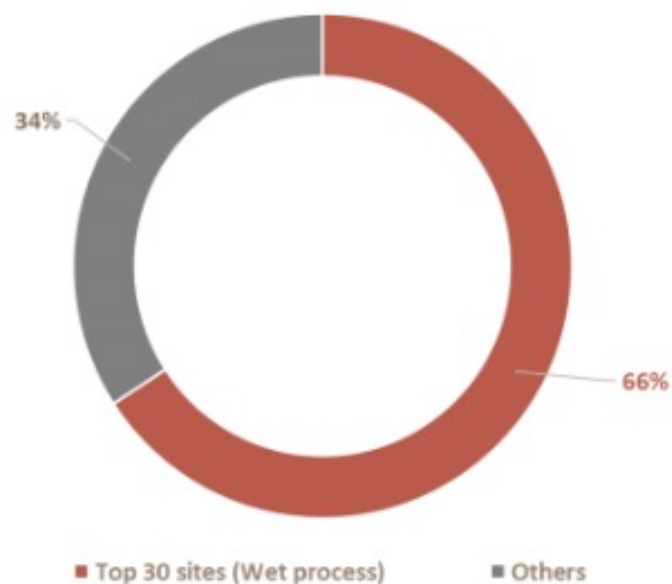


AGGREGATED ANALYTICS

IDENTIFICATION OF TOP 30 ENERGY CONSUMERS (WET-PROCESSING)

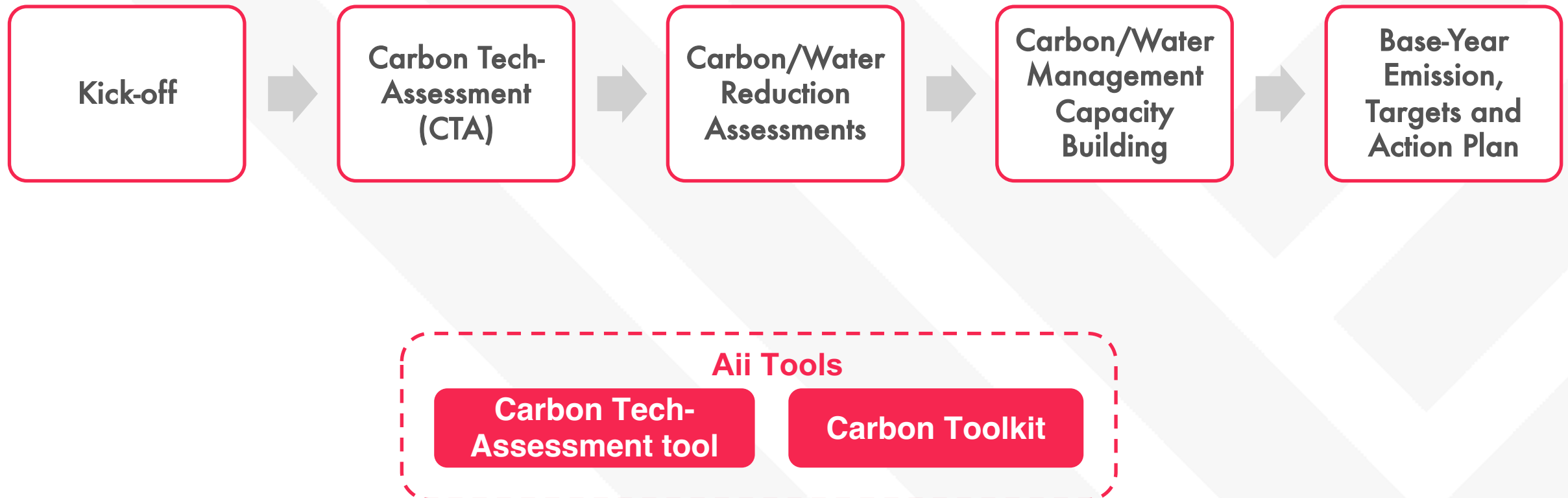
Significant concentration of MJ occurs in the largest sites with the top 30 sites consuming 66% of the portfolio MJ. Focusing on large sites will drive disproportionately higher carbon reductions.

Note: An overlay of [REDACTED] procurement data is required to understand how this concentration of MJ consumption occurs within energy allocated to [REDACTED] products.



ROADMAP TOWARDS FACILITY CARBON TARGETS

DESIGNED TO LAY THE FOUNDATION FOR CARBON MANAGEMENT IN ALIGNING WITH BRAND REQUIREMENTS



EXAMPLE CARBON TECH ASSESSMENT OUTCOME

MILL PERFORMANCE VS. CARBON REDUCTION POTENTIAL

- Completed the CTA analysis for target facilities
- These facilities are categorized in Type 1, 2 and 3

Type 1: 30%

Type 2: 47%

Type 3: 23%

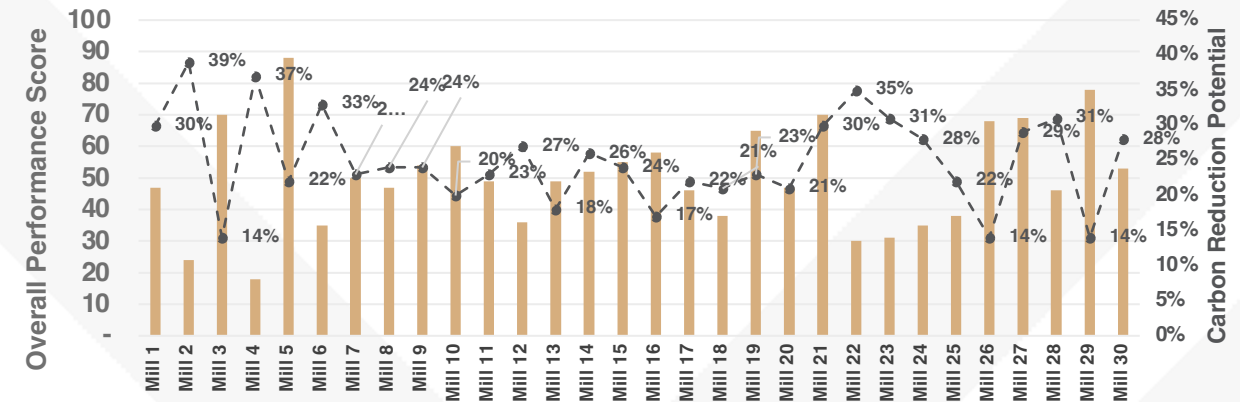
- Savings potential

Average Carbon Reduction Potential: 25%

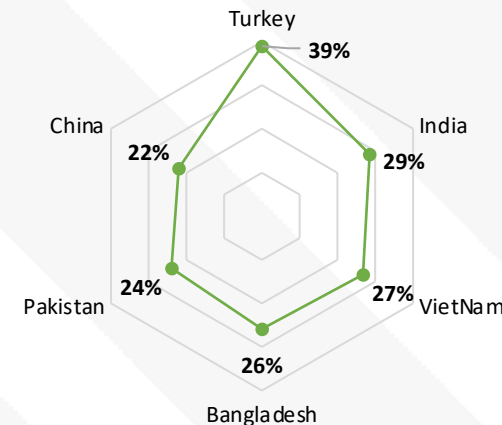
Note: Business growth, offsite procurement and decarbonization of grid is not included

Average overall performance score: 50.2

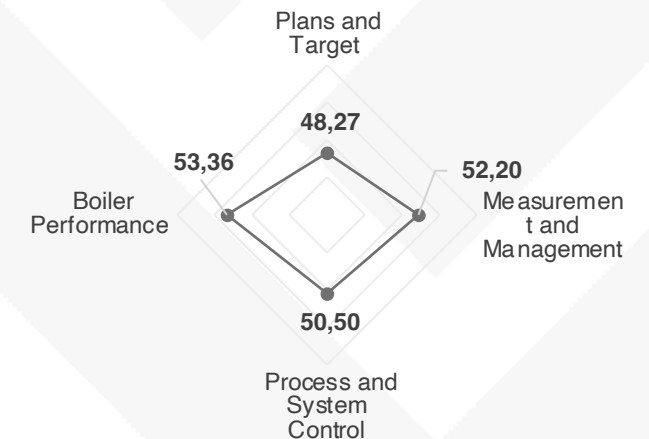
Mill's Overall Performance vs Carbon Reduction



Average Carbon Reduction Potential (By Country), n=30

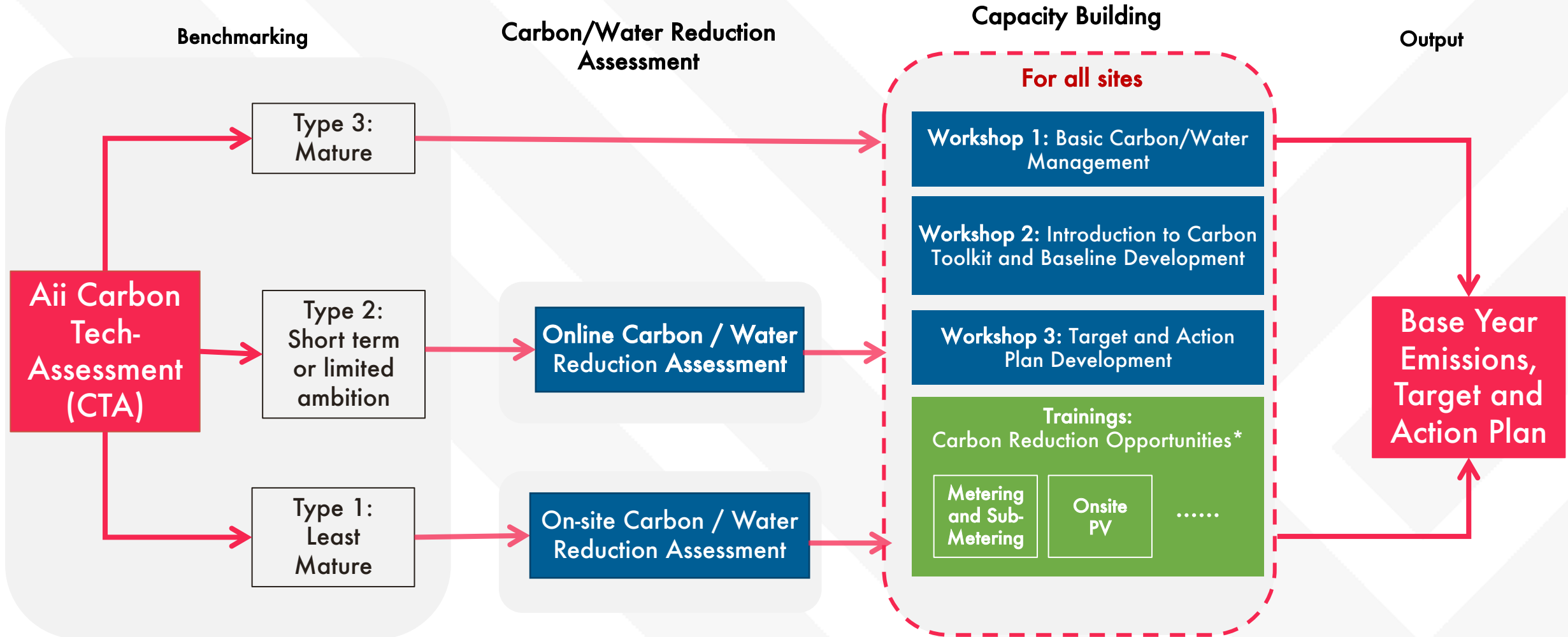


Performance Score, n=30



IN DETAIL: FACILITY LEVEL CARBON TARGET SETTING

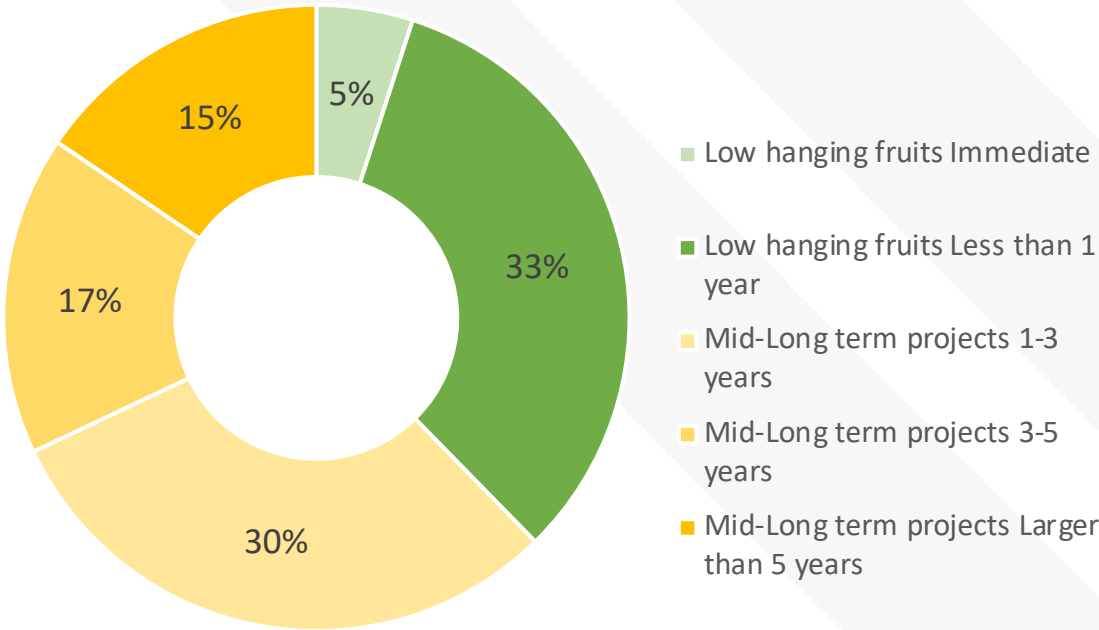
LEVERAGING THE RESULTS OF THE CTA TO CATEGORIZE SUPPLIERS AND ENGAGE THEM BASED UPON THEIR EXISTING CAPABILITIES TO DEVELOP A CARBON TARGET AND SUPPORTING CARBON REDUCTION ACTION PLAN



CLP INSIGHTS

ESTIMATED FINANCIALS AND RETURN OF INVESTMENT

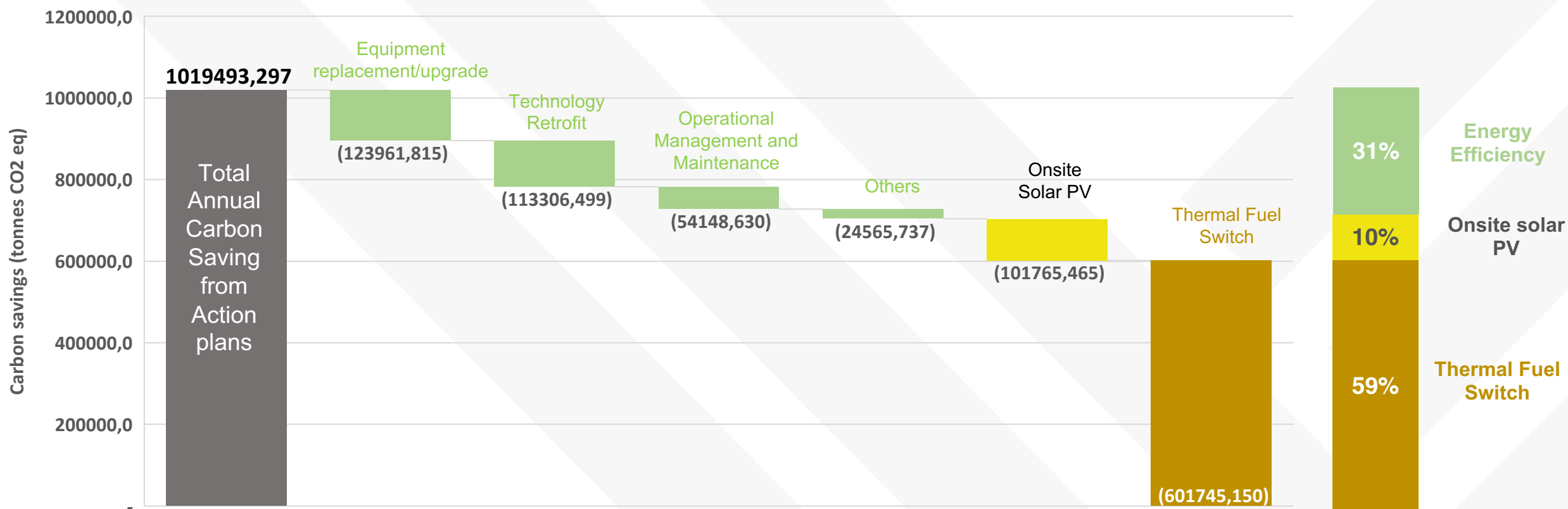
High Level Savings Breakdown Based on ROI



Payback Period		Some examples of the projects
Low hanging fruits	Immediate	Compressed air pressure setting optimization, leakage checking program, increase one-time success rate of dyeing
	Less than 1 year	Boiler efficiency optimization (blowdown control, steam trap maintenance etc.)
Mid-Long term projects	1-3 years	Heat recovery at Boiler and Dyeing process, Thermal insulation for boiler and dyeing tank, VFD installation for FD Fan
	3-5 years	Equipment replacement e.g. low bath ratio dyeing tank, IE1 air compressors, low MLR laundry machines, onsite solar PV, coal phase out
	Larger than 5 years	Onsite solar PV , Coal Phase out

CLP INSIGHTS

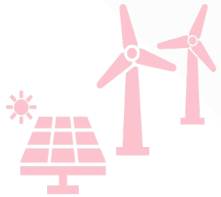
AGGREGATED ANNUAL SAVING OPPORTUNITIES FROM ACTION PLANS



WHAT'S NEXT

IMPLEMENTATION IS KEY TO DRIVE CARBON REDUCTION

Identification of
reduction
opportunities



Use an industry
specific
standardized
approach to
identifying factory
level water and
carbon reduction
potential

Capacity Building
on Carbon & Water
Management



Holistic and
customised capacity-
building on water and
carbon management
through 1:1
workshops and group
trainings

Factory Carbon,
Water & Energy,
Targets and
Action Plan



Evaluate reduction
opportunities, set a
baseline, prepare
an action plan and
prepare facilities to
track the
performance over
time.

Implementation



Impact Programs
driving action plan
implementation on
factory level in the
local context.

Impact Reporting



Carbon reduction
monitoring and
reporting

Aii's CURRENT CLIMATE SOLUTIONS & PROGRAMMING

Aii SOLUTIONS ARE DESIGNED FOR IMPACT AT SCALE

- 1** Energy Efficiency Tier 1 program: results in up to 15% energy savings.
- 2** Energy & Water Efficiency Tier 2 program: resulting in up to 20% energy and 30% water reductions.
- 3** Energy Efficiency Tier 3 program: expected carbon reductions related to efficiency are between 5%-20%.
- 4** Chemistry & Wastewater Mgmt program: results in 10%-20% auxiliary chemical reduction and 7%-30% bulk chemical reduction.
- 5** Energy Efficiency - Sector Expansion: apply proven CbD methodology to hard goods products.
- 6** Materials Efficiency: expected results of 30%-40% reduction in waste to landfill and incineration.
- 7** Coal Phase Out project: feasibility and pilot based on recommendations for low carbon options for thermal use.
- 8** Onsite Renewables Program: expanding initial pilot to more facilities in Vietnam and potential region expansion.
- 9** Offsite Renewables Project: feasibility and pilot for off site renewables projects.
- 10** Supplier Toolkit: designed to support a manufacturer in setting a carbon target.

- Maximize Energy Efficiency
- Maximize Material Efficiency
- Coal Elimination
- 100% Renewable Energy
- Industry Leadership

Aii's 2021 IMPACT

Aii SOLUTIONS ARE DESIGNED FOR IMPACT AT SCALE

TOTAL REGIONS WITH PROGRAMMING:



India, Italy, Mainland China, Pakistan, South Korea, Taiwan region, Vietnam, USA

- 1: Efficiency: Tier 1
- 2: Efficiency: Tier 2
- 3: Efficiency: "Plus"
- 4: Chemicals Program
- 5: Renewable Energy Aggregated Procurement project
- 6: Coal Phase out project
- 7: Carbon Leadership Project

ACTUAL + FORECASTED IMPACT

GHG REDUCTIONS:

WATER / SAVINGS:

CAPITAL INVESTED:

FINANCIAL SAVINGS:

MONTHLY PAYBACK:

ACTUAL IMPACT FOR FACILITIES THAT COMPLETED PROGRAMS IN 2021:

316,451 tonnes/year or **10%**

2,903,575 cubic meters/year or **10%**

\$28M • Average **\$519k** invested per facility

\$38M • Average **\$700,000** savings per facility

Monthly Payback: **9 months**

FORECASTED IMPACT FOR FACILITIES THAT STARTED PROGRAMS IN 2021:

482,706 tonnes/year or **10%**

3,458,350 cubic meters/year or **10%**

\$58M • Average **\$859k** invested per facility

\$54M • Average **\$800,000** savings per facility

Monthly Payback: **13 months**

27

Total **number of brands** with active programming in 2021

295

Total number of facilities that **started a program** in 2021



APPAREL IMPACT INSTITUTE

CONTACT US

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Feedback

Wir würden uns sehr über Ihre Rückmeldung zu dieser Veranstaltung freuen!

Link zur Umfrage: <https://forms.office.com/r/1dG5DrpXKj>