VVWG Themadag Circulariteit

Donderdag 8 September 2022
TenCate Protective Fabrics, Nijverdal

Wouter van den Brink, Sales Director Europe & Africa
Peter van Barneveld, Product management

TENCATE protectivefabrics | *made for life*

Vereniging Veilig & Gezond Werken

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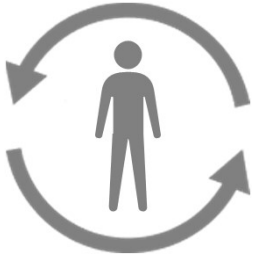
TenCate Protective Fabrics

Protecting over 5 million of people worldwide



End user, Laundry & GM approach

750 colleagues worldwide

> 50.000.000m of fabrics produced in the last 2 years in NL

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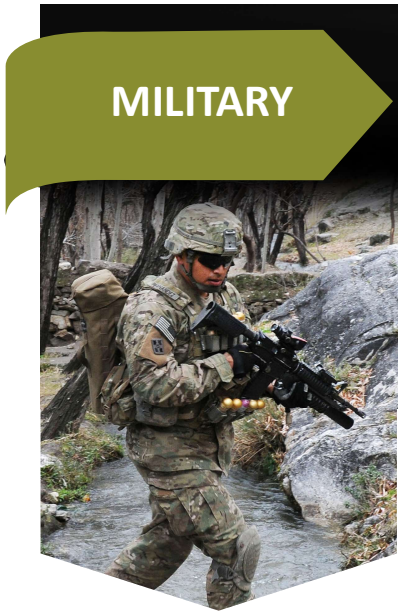
TenCate Protective Fabrics

Largest user worldwide of inherent FR fibers

Quality focus

More than 300 years of textile expertise

Market Segmentation



Sustainability – Tencate Protective Fabrics

	Workwear	Industrial Safety	ER	M
Current Portfolio	TECAWORK™	TECAPRO®	TECASAFE®	TECASHIELD®
Sustainable Portfolio	TECAWORK™ Ecogreen EPD® THE INTERNATIONAL EPD® SYSTEM	TECAPRO® Ecogreen EPD® THE INTERNATIONAL EPD® SYSTEM	TECASAFE® Ecogreen EPD® THE INTERNATIONAL EPD® SYSTEM	

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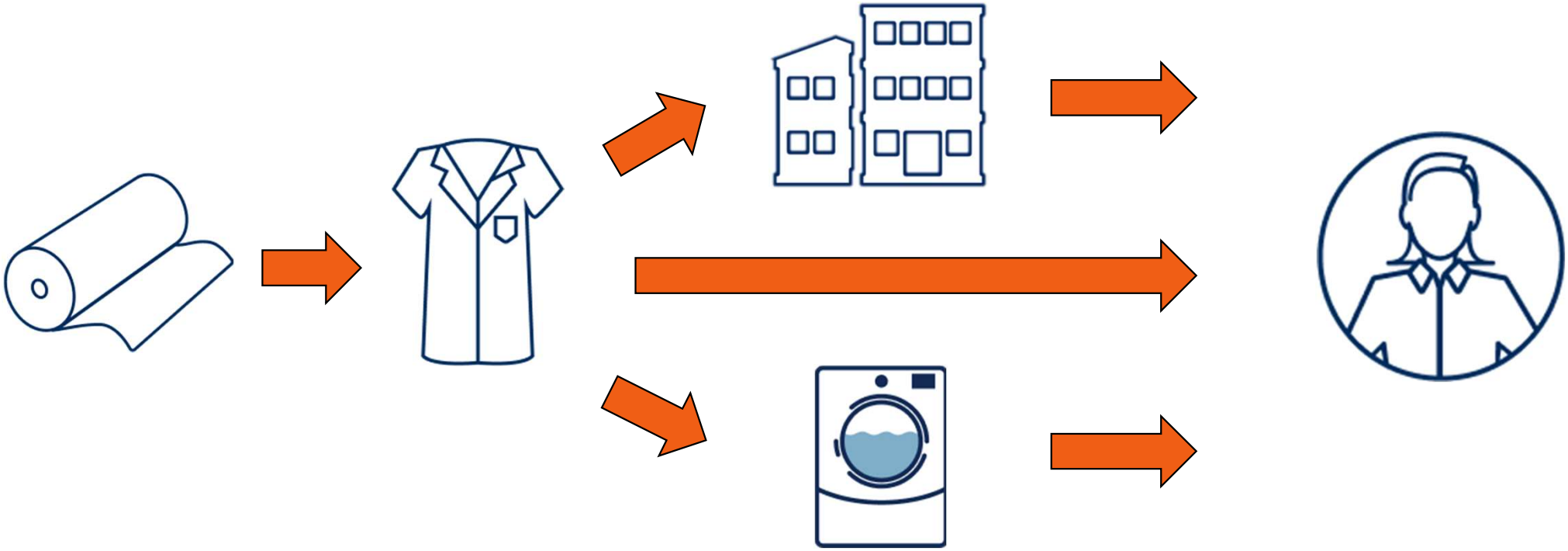
Supply chain



VVGW – Sustainability

How we contribute by using green fibers

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Impacting trends

Push on sustainability:

- **The EU aims to be climate-neutral by 2050** and to achieve this, impact reduction and circular economy in 2050 is needed.
- **National (NL) ambition** towards a circular economy - **30% recycled content in textile products and 50% footprint reduction by 2030**
- The EU-commission would like to have **standardized methods** to quantify and compare green claims, namely the **Product Environmental Footprint (PEF)**

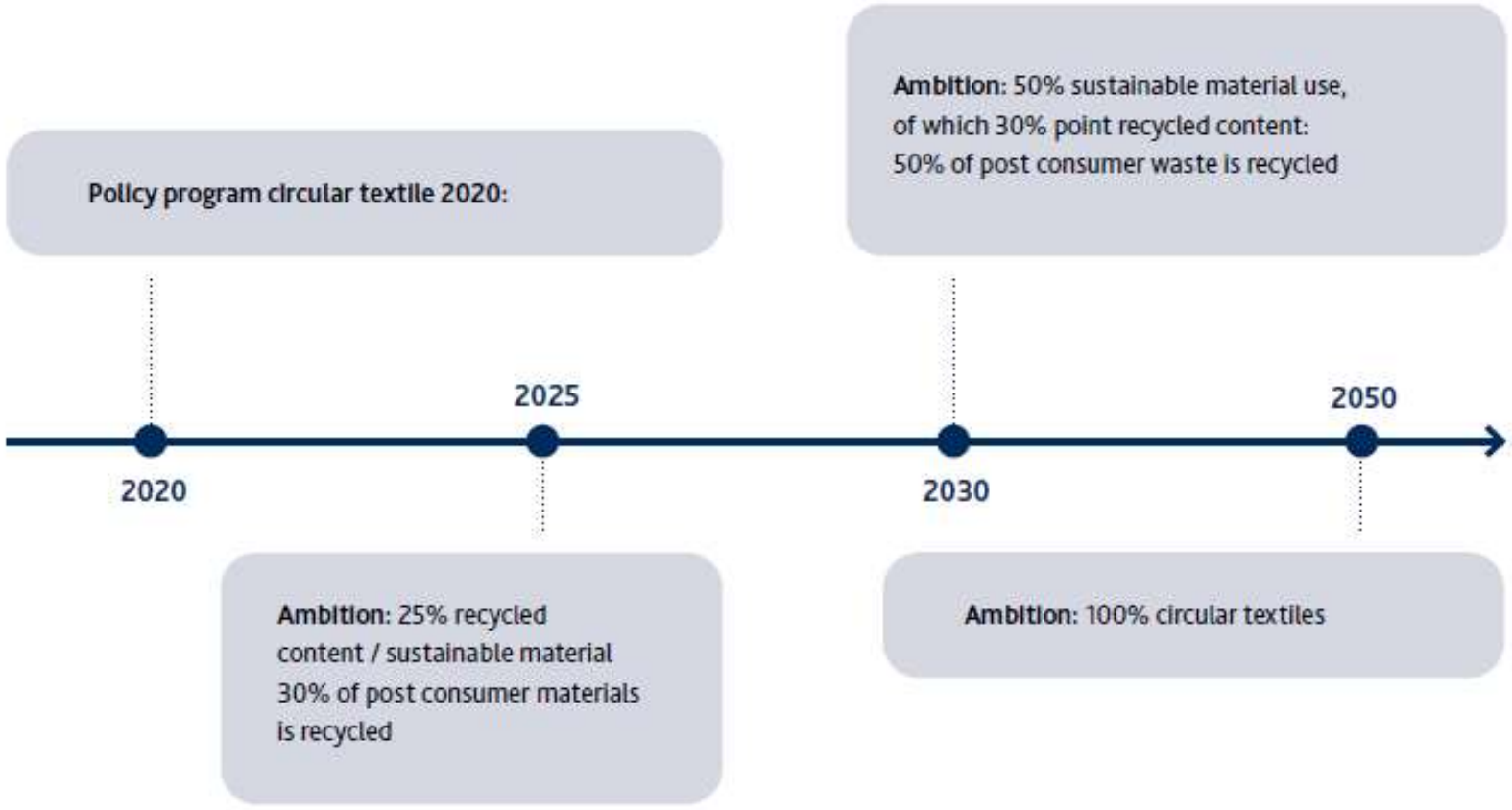
Tackle greenwashing to empower consumers and raise awareness about sustainable fashion

The Commission's 2030 Vision for Textiles

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 respecting social rights

Impacting trends



Design for the environment (DfE)

- The environmental impact of **materials & processes** can be significantly reduced through an optimised design.

- DfE is a systematic approach to **consider performance** with respect to **environmental, health & safety objectives and social aspects** over the **full life cycle.**

- Goal is to support:
    - environmental strategy and objectives;
    - engage with key-partners in the design process;
    - to raise awareness amongst employees.

Design for the environment (DfE) and Life Cycle Impacts

Product & Process

Design phase

- **Design from recycling;** consider recycled content alternatives.
- **Select eco-materials** with lower impact on the environment.
- Reduction of **hazardous material usage**.
- Eco-efficiency of **manufacturing technologies**
- Minimize waste, transport and packaging.
- Select preferred suppliers.

Washing & Wearing

User phase

- **Design for purpose** (long or short lifetime) – Short must be easy to recycle.
- **Optimize durability** after washing and wearing .
- **Easy to clean**

Recycling

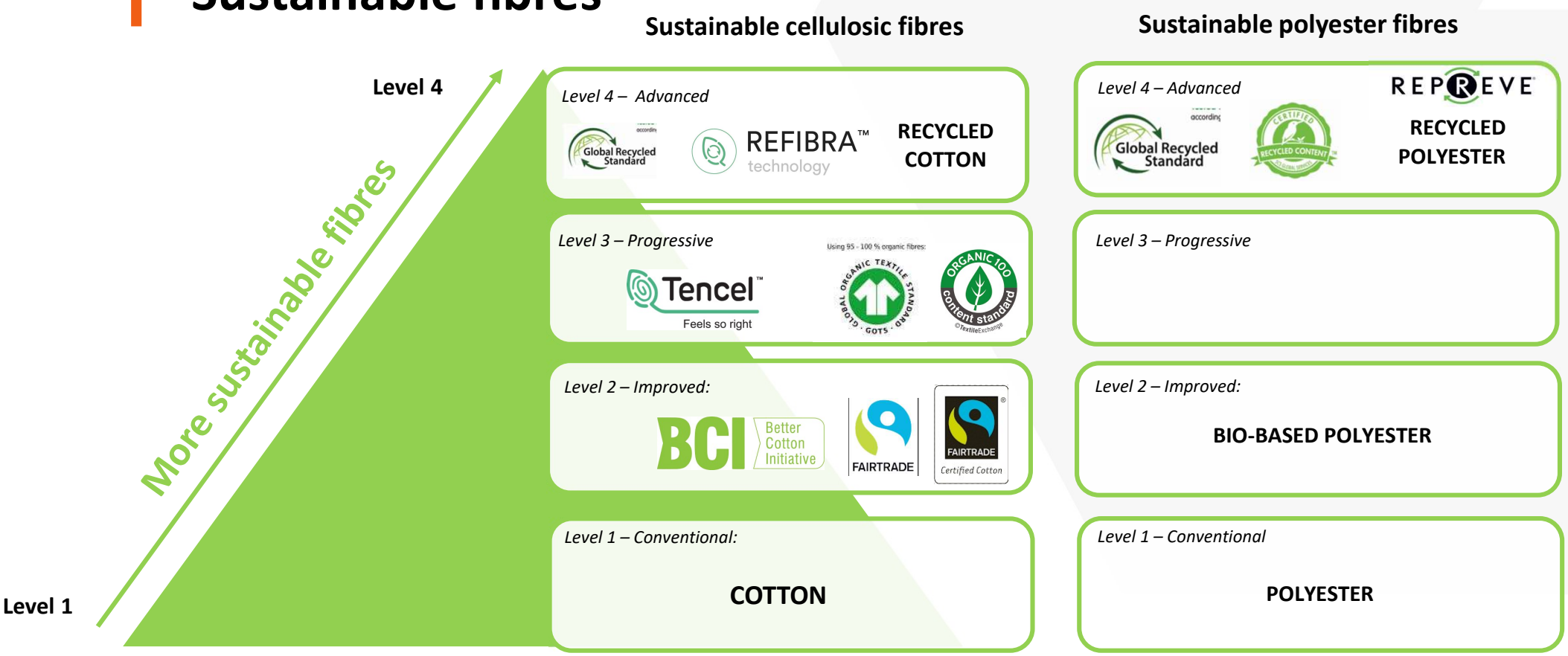
End-of-life

- **Design for recycling** – reduce the number and types of materials used.
- **Design for disassembly** ensure easy removal of any hazardous material
- **Avoid incompatible components** that interfere with recycling process.

Each DfE, can be analyzed with Lifecycle impact score:

1 Low
2 intermediate
3 medium
4 high

Sustainable fibres



EPD® (Environmental Product Declaration)

The relevant standard and analyzing tool to calculate & communicate the lifecycle impact – is the EPD®. (ISO 10425).

EPD®

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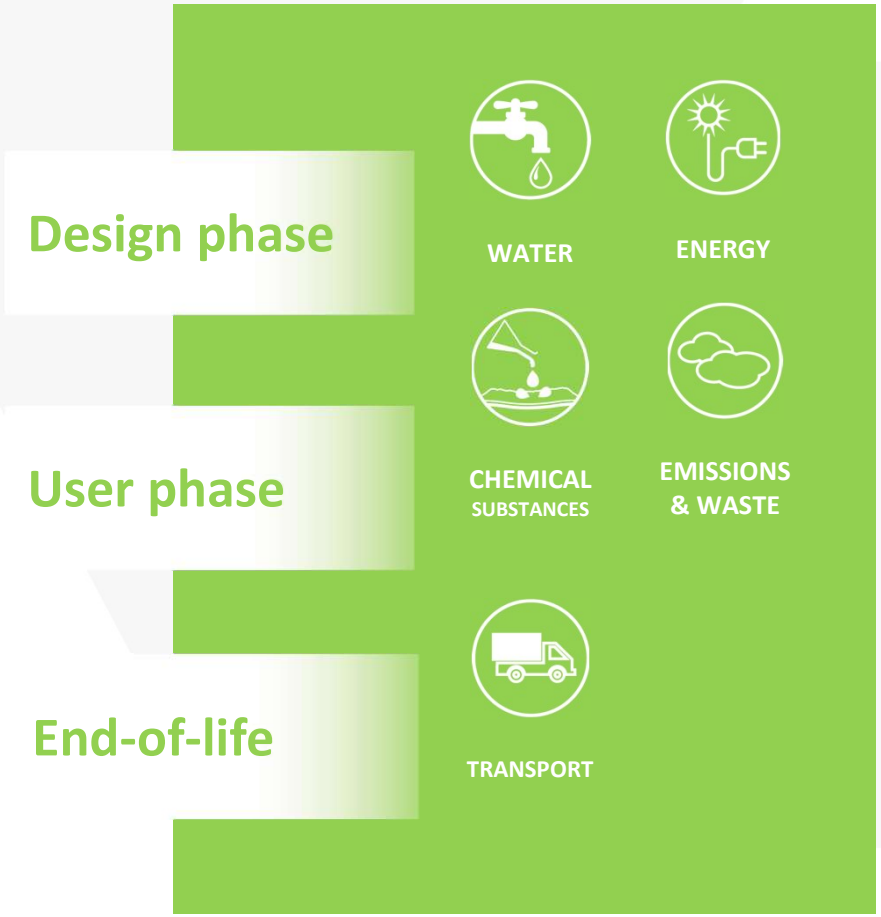
Trust & Transparency

- An **EPD® is an objective and fact based reporting tool** that provides complete and transparent information **guiding end users, procurement professionals and product designers** in their selection process.

- The **EPD® provides** transparent and comparable **LCA* based information** about the environmental impact of a product **throughout its manufacturing chain.**

- Calculation of environmental impact values – **from the extraction of raw materials to End-of-Life.**



All **EPD®'s** are verified by external auditors.

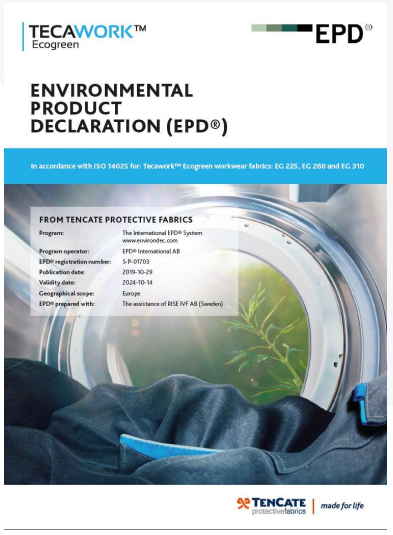
International EPD® system

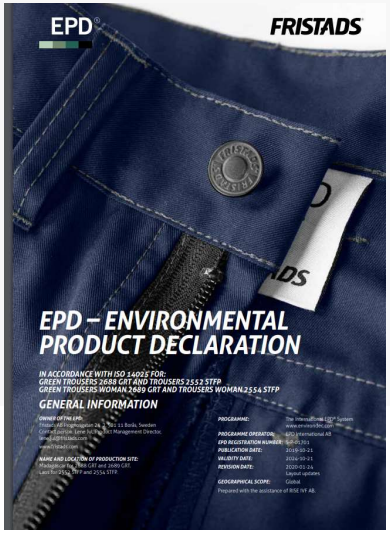
Product Category Rules (PCR)
General programm instructions

Environmental labels and declarations
(EPD) ISO 14025

Life cycle assessment (LCA)
ISO 14040/ISO 14044

Environmental management system
ISO 14001/ISO 9001





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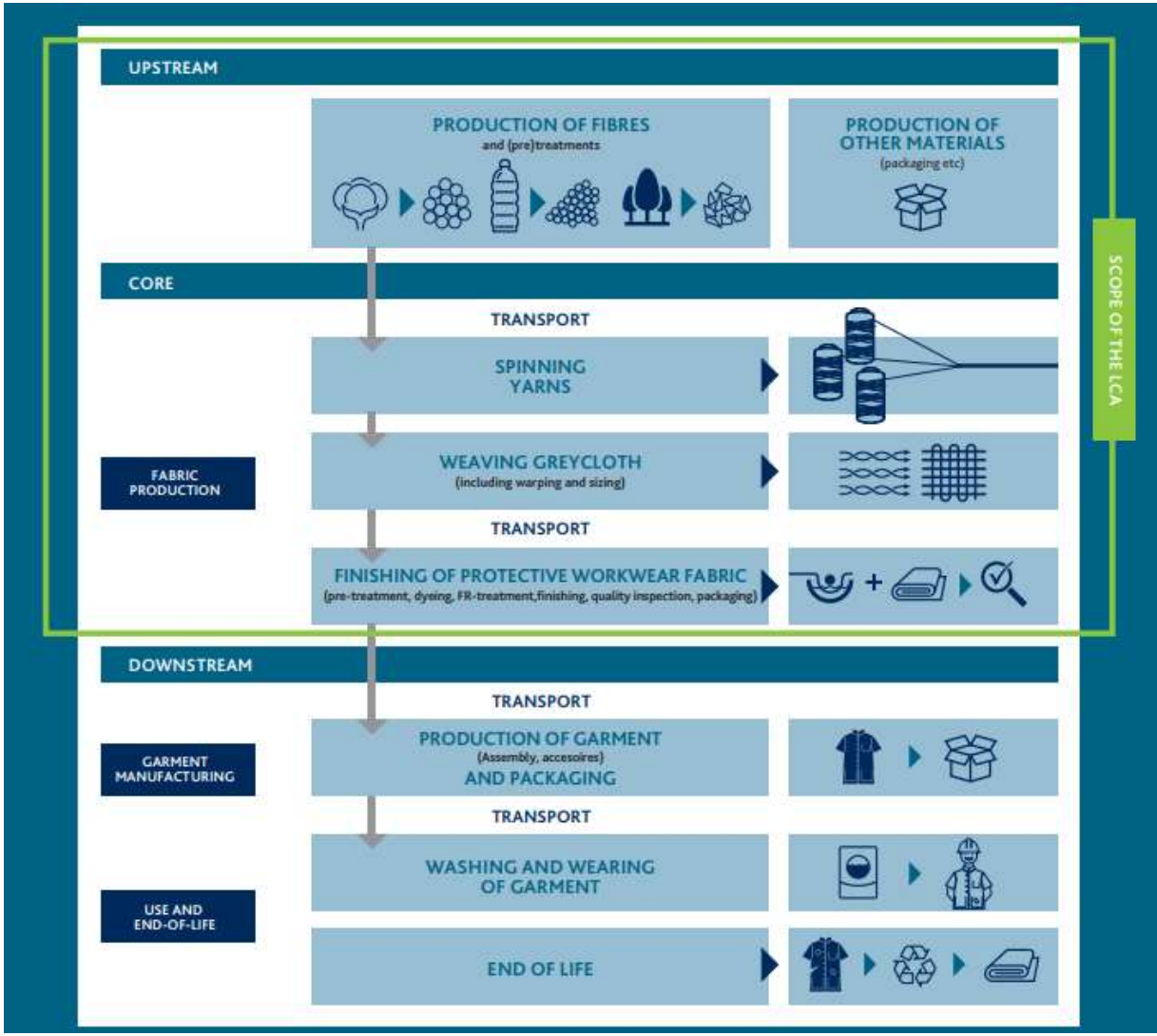
The value of an EPD®

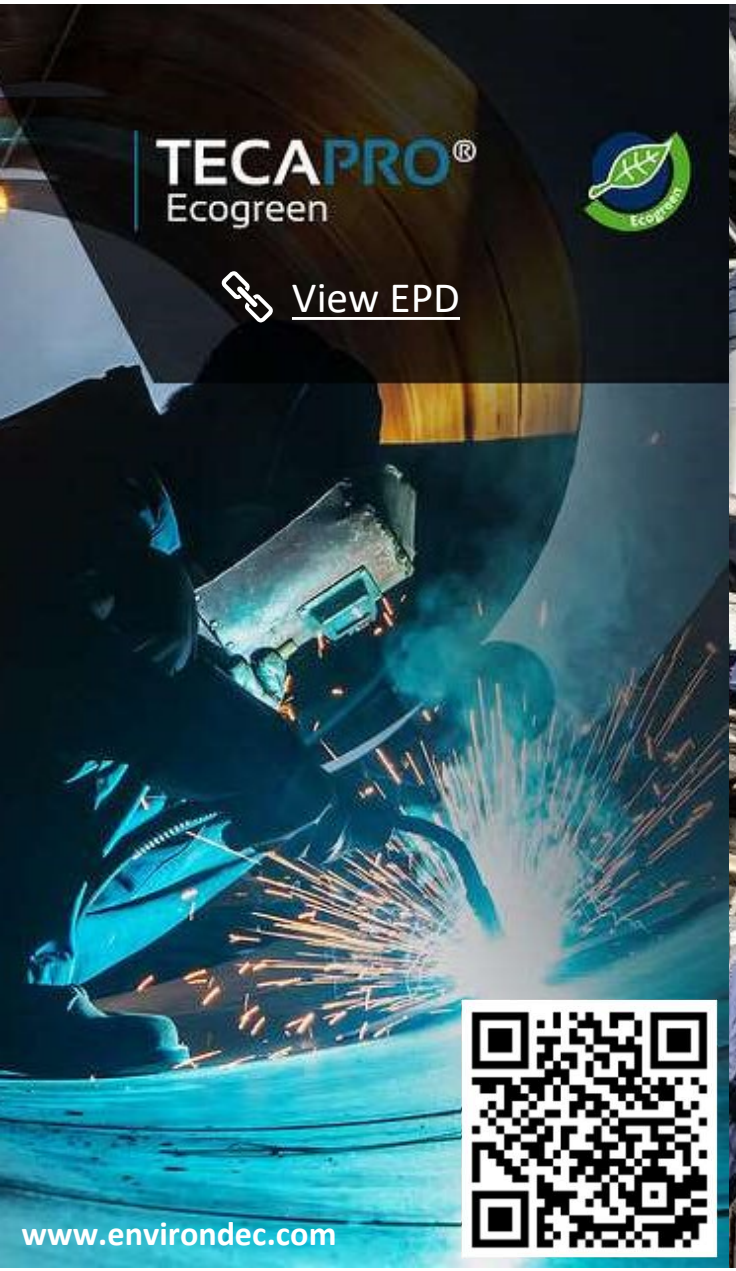
- More than **1800 EPD®s** have been published and now spans (almost) the **entire globe**.
- EPD®'s are compatible with SDG of United Nations
- **The European Commission** is well placed to play a role in three key areas of **EPD® development in Europe:**
  - Improving the **harmonisation of EPD® schemes** through a Framework Directive based on an **ISO or CEN standard and minimum requirements**
  - **Stimulating the supply chain** by improved access to **good quality LCA data;**
  - **Stimulating the demand side** by strengthening the link **between public procurement and EPD®s**

European Commission

System diagram

Our **EPD® covers** upstream and core process to produce **protective fabrics**. And therefore it is easier **to declare garments** in the downstream processes as well.

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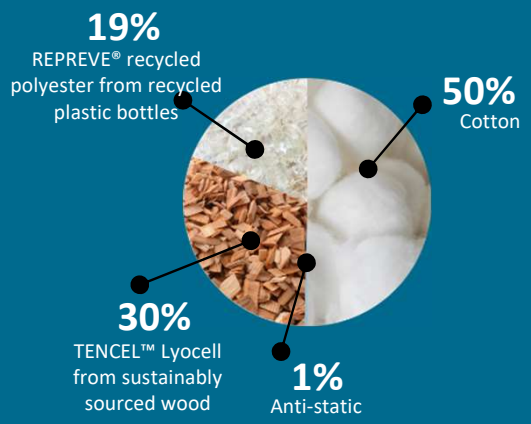
TECAPRO®
Ecogreen

OUR GOAL

THE SMALLEST ENVIRONMENTAL FOOTPRINT POSSIBLE
The highest-quality, most comfortable protective workwear with the smallest environmental footprint possible: Tecapro® Ecogreen was designed to tick all these boxes while meeting the highest standards for multi-norm protection.

IF YOU CAN'T MEASURE IT,
YOU CAN'T IMPROVE IT



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Changing cotton by Tencel Lyocell®

Tencel™
Feels so right

The best ecological alternative to conventional cotton
TENCEL™ Lyocell fibres are the best fibres in moisture management; it not only absorbs up to 50% more than cotton fibres but moreover it dissipates much quicker making it cooler and drier. The fibre is also silky smooth to the skin compared to cotton.

TENCEL™ lyocell reduces water usage
The water scarcity impact of TENCEL™ Lyocell fibres is 46 L/kg and far lower than that of conventional cotton, which is 994 L/kg. Replacing cotton with TENCEL™ Lyocell reduces the water scarcity impact.

TECAPRO® Ecogreen

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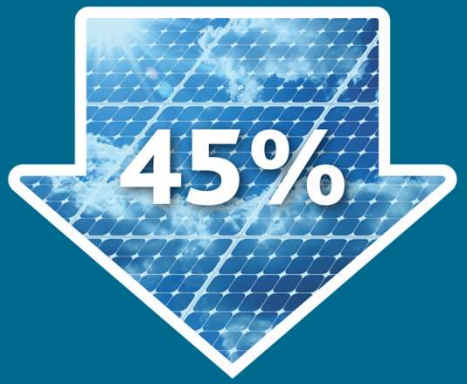
Changing virgin PES by recycled PES

EPD®

REPREVE

The best alternative to virgin-polyester
REPREVE® keeps bottles out of our landfills and oceans, conserves electricity and water and reduces greenhouse emissions and petroleum use. The world's leading brands choose REPREVE® to drive product innovation by combining uncompromised performance with trusted sustainability.

Recycled polyester reduces energy consumption
Mechanically recycled polyester reduces energy consumption by 45%, water consumption by nearly 20% and greenhouse gas emissions by over 30% in comparison to virgin polyester.



TECAPRO® Ecogreen

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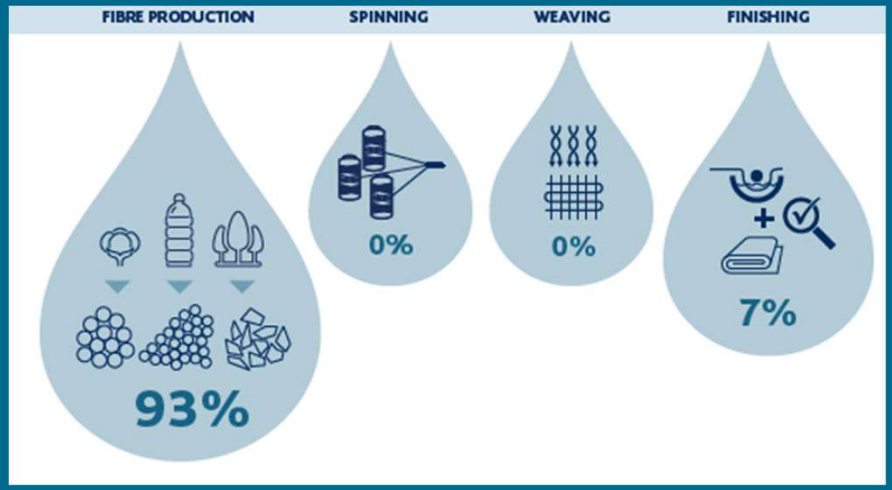
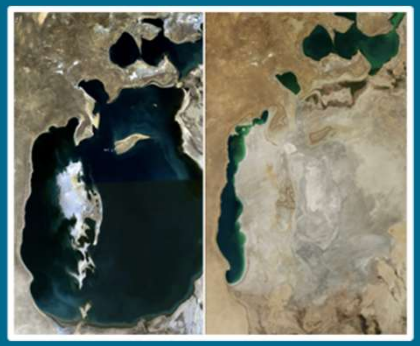
Reducing water footprint

EPD®

ANALYZED:
WATER SCARCITY FOOTPRINT

Looking at the impact throughout the value chain from fibre to fabric production, we can conclude that the fibre production, is the most contributing element that impacts the water scarcity footprint.





TECAPRO® Ecogreen

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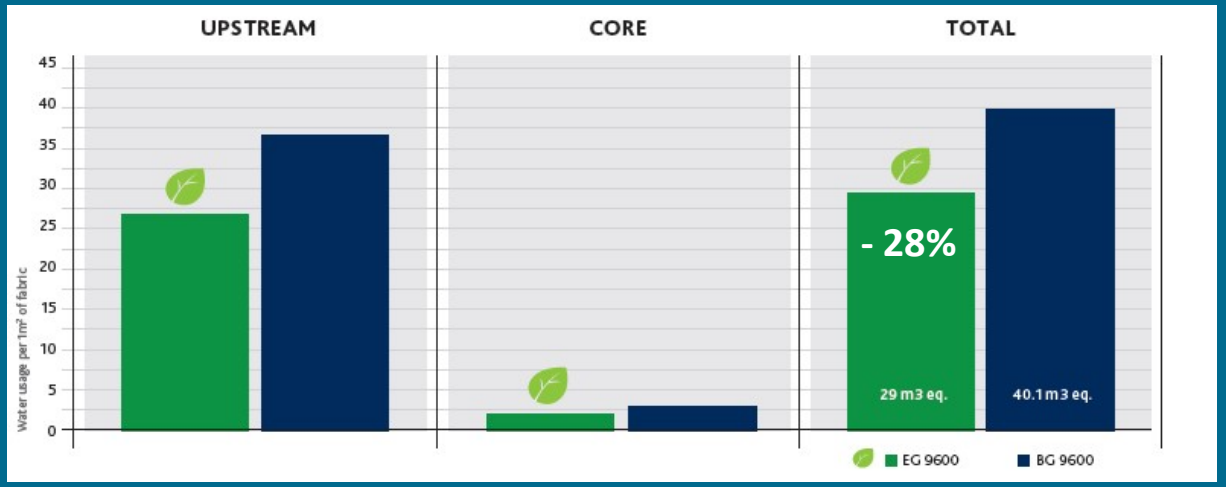
Reducing water footprint

EPD®

ANALYZED:
WATER USAGE

WATER SCARCITY FOOTPRINT SIGNIFICANT REDUCED

The reduction in water scarcity footprint of Tecapro® Ecogreen is almost 11m3/m2. This is equivalent to more than 17.000 litre (17 m3) water reduction per linear meter of fabric or equivalent to a reduction of 140 bathtubs with an average capacity of 120L.



Water reduction per linear meter of fabric: 17.000 litre, equal to 140 filled bathtubs

TECAPRO® Ecogreen

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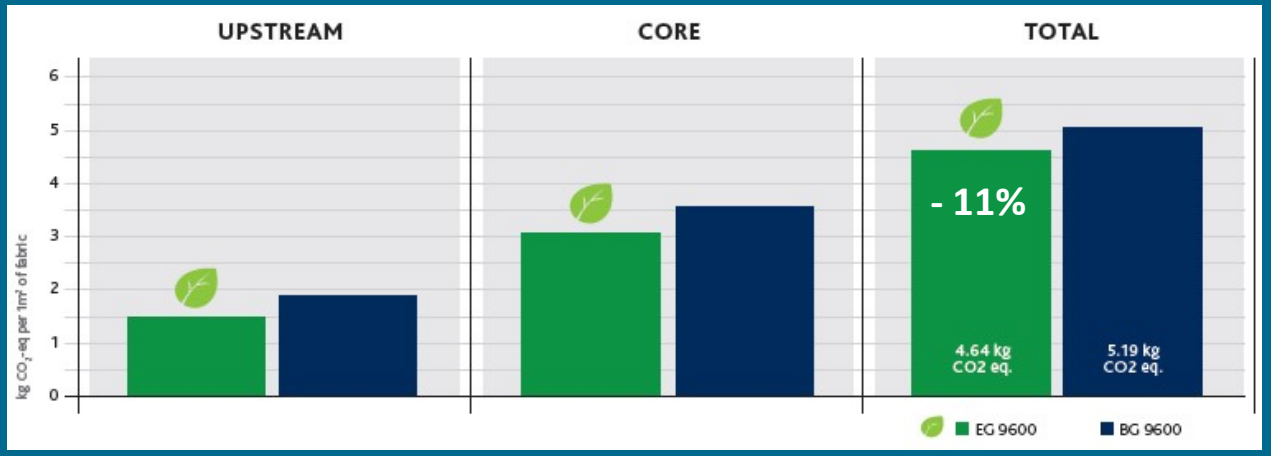
Reducing CO2 footprint

EPD®

ANALYZED:
GLOBAL WARMING POTENTIAL

The reduction in CO2 is more than 11% and comes down to 0.55 kg CO2/m2. This is equivalent to 0.84 kg CO2 per linear meter of fabric or equivalent to driving an average medium segment car (118 g/km) for 7km.



CO2 reduction per linear meter of fabric: 11%, equal to the emissions from driving for 7km

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