Circular Economy in Practice

Textile Sector: Challenges, Opportunities & Policies

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Textile Sector - Environmental Significance

Increasing production and consumption

Clothing utilization levels and recycling rates are low

Clothing production has approximately doubled in the last 15 years

Number of times a garment is worn before being discarded has decreased 36% compared to 15 years ago

Less than 1% of the material used to produce clothing is recycled into new clothing, another 12% going into cascaded recycling

- Increasing Resource Use (Land, Water, Fossil Fuels and Materials) and Increasing Pollution: Air, Water and Soil
- Over 3.3 billion metric tons of greenhouse gases emitted per year, more than all international flights and maritime shipping combined
- Global apparel industry consumes 215 trillion litres of water per year
- Textiles account for ~ 9% of annual microplastic losses to the oceans

Textile Sector - Social Significance

- Human Health Impact --> toxicity and cancer risks from hazardous chemicals
- High employment generation, especially for women ; but gender gap (wages, leadership roles etc)
- Poor and unsafe working conditions, including excessive working hours and low wages
- Child labour

Overview of Textile sector in India

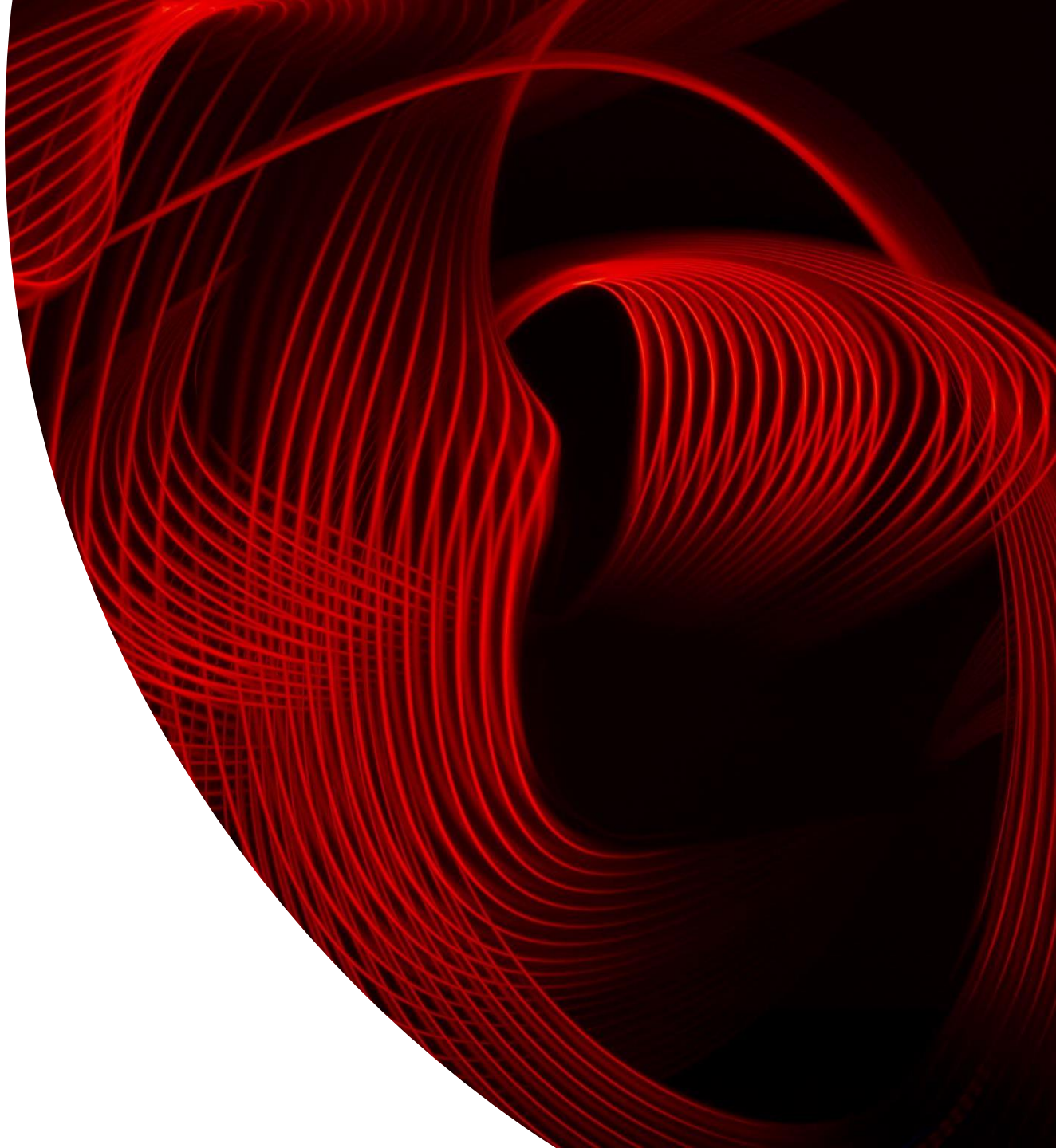
- Spans every part of the value chain , from fibre production to consumption and end-of-use
- One of the largest contributors to India's economy constituting 2% of total GDP
- Second-largest employment generator after agriculture; Employs 45 million people directly
- Textile exports made up ~12% of all export revenue in 2020-21
- Huge domestic market
- Over 25% of the global cotton production comes from India
- 8.5% of global textile waste is accumulated in India every year. 59% of this waste finds its way back into the textile industry through reuse and recycling but only a fraction of this makes it back into the global supply chain
- Budding Innovation Landscape - alternative materials, business models like resale and rental, recycling technologies
- Recent developments - Setting up of 7 Mega Integrated Textile Region and Apparel (PM MITRA) Parks; National Technical Textiles Mission

The Real Power of Fashion

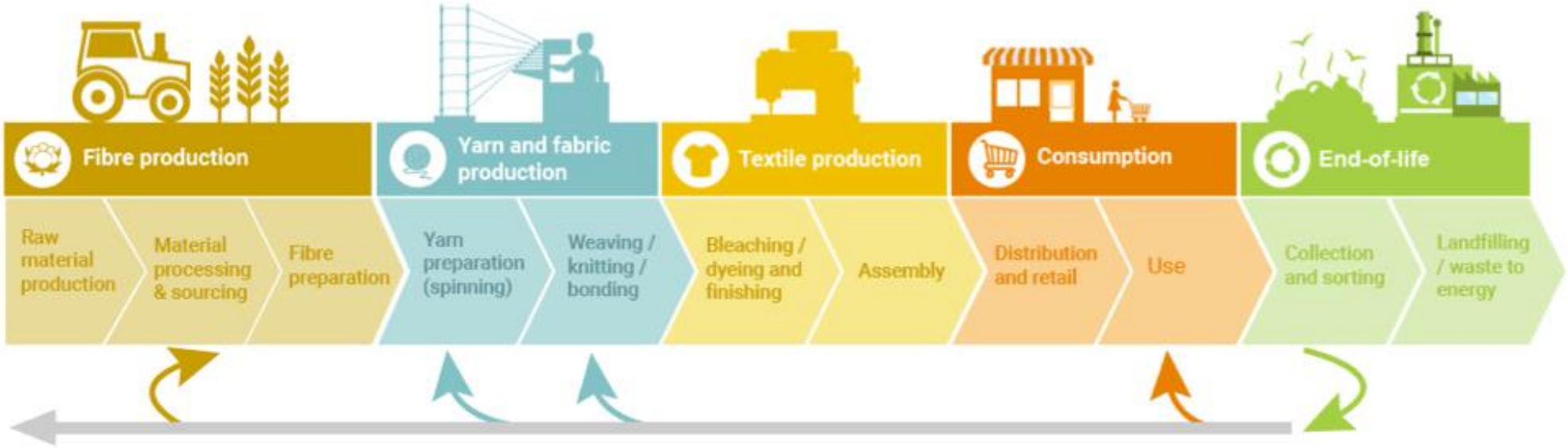
Steve Jobs

Michelle Obama

Cate Blanchett



Textile Value Chain: From Linear to Circular



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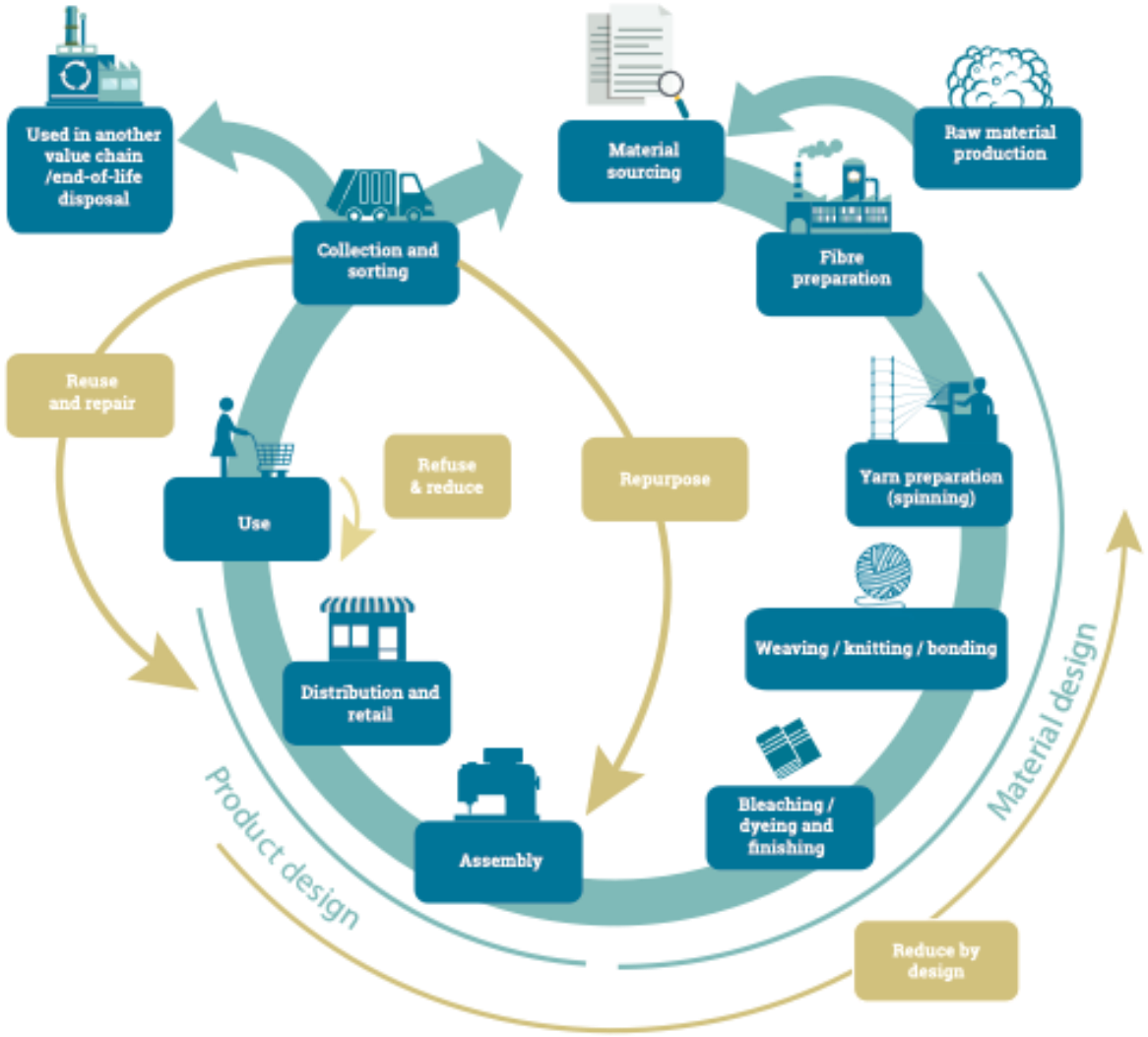


Move to a circular system where materials remain in the economy at the highest possible value as long as possible

Reduce by Design

Value Retention Loops

Hotspot Analysis

Hotspot : Stage in the product life cycle that accounts for a significant part of the environmental, social or economic impact

Hotspot analysis helps to identify priority needs based on level of impact, on which interventions can be focused to achieve maximum possible impact reduction in the value chain as a whole

Social and Environmental Hotspots in the Global Apparel Value Chain

 **Fibre Production**	• High use of **fossil fuels** to produce **synthetic fibres** (which involves climate, human health and ecosystem quality impacts) • High use of **agrichemicals, land** and water to produce **natural fibre**s, especially cotton (leading to biodiversity and ecosystem quality impacts) • **Unsafe working conditions** and **fragility of the legal system** (leading to human health impacts and social risks)
 **Yarn and Fabric Production**	• **No hotspots identified** (although there are climate, human health and ecosystem quality impacts, along with social risks, the available life cycle data shows yarn and fabric production is not among the top contributors to impacts when the whole value chain is considered)

Textile Production

- High use of **fossil fuels** for heat and electricity generation in energy-intensive textile processes (which involves climate, human health and ecosystem quality impacts)
- Use of **hazardous chemicals** (leading to high human health and ecosystem quality impacts, particularly via water pollution)
- **Release of microfibres** (leading to ecosystem quality impacts and potential human health impacts)
- **Unsafe working conditions** and **fragility of the legal system** (leading to human health impacts and social risks)[18]

Use Phase

- High use of **electricity** in the care of textiles over their lifetime (fossil fuels used for energy production, leading to climate, human health and ecosystem quality impacts)
- High use of **water** and releases of **microfibres** in washing textiles over their lifetime (leading respectively to water scarcity, ecosystem quality and potential human health impacts)

End-of-Life

- **Low rates of recovery** of textiles at end-of-life leading to high material value loss and non-renewable resource depletion

Key Challenges for Circularity and Sustainability in the Textile Sector

High levels of fragmentation
Large number of MSMEs
Lack of robust business case
Inadequate policy support and regulatory implementation
Lack of awareness and technical skills
Outdated technology and high cost of technology upgradation
Unorganised and Informal value chains
Lack of adequate R&D -> safer and greener chemicals, closed-loop recycling technologies, alternative materials
Lack of standards and benchmarks
Greenwashing ; authentic communication to consumers

Policy Interventions for the Textile Sector

India:

- Zero Liquid Discharge norms for wastewater for textile industry

- ATUFS – consideration for inclusion of sustainability criteria

Global developments:

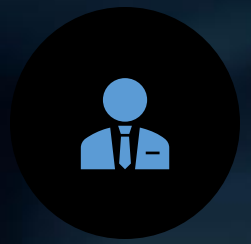
- EU Textiles strategy under CE Action Plan (circular design requirements, product informati on labeling and digital product passport, stop overproduction and overconsumption)

- French Law, Dec 2021 –ban on the disposal of unsold textiles

- New York Fashion Legislation proposal – "Fashion Sustainability and Social Accountability Act" - requires disclosures by fashion companies on sustainability in the supply chain

LEVERS OF CHANGE

CONSUMPTION AND BEHAVIOUR CHANGE



UNPRECEDENTED LEVELS OF COLLABORATION (EG. WORK BEING DONE BY ORGANIZATIONS LIKE FASHION FOR GOOD IN PILOTING AND SCALING INNOVATION)

FINANCING THE TRANSITION

STRONG POLICY SUPPORT

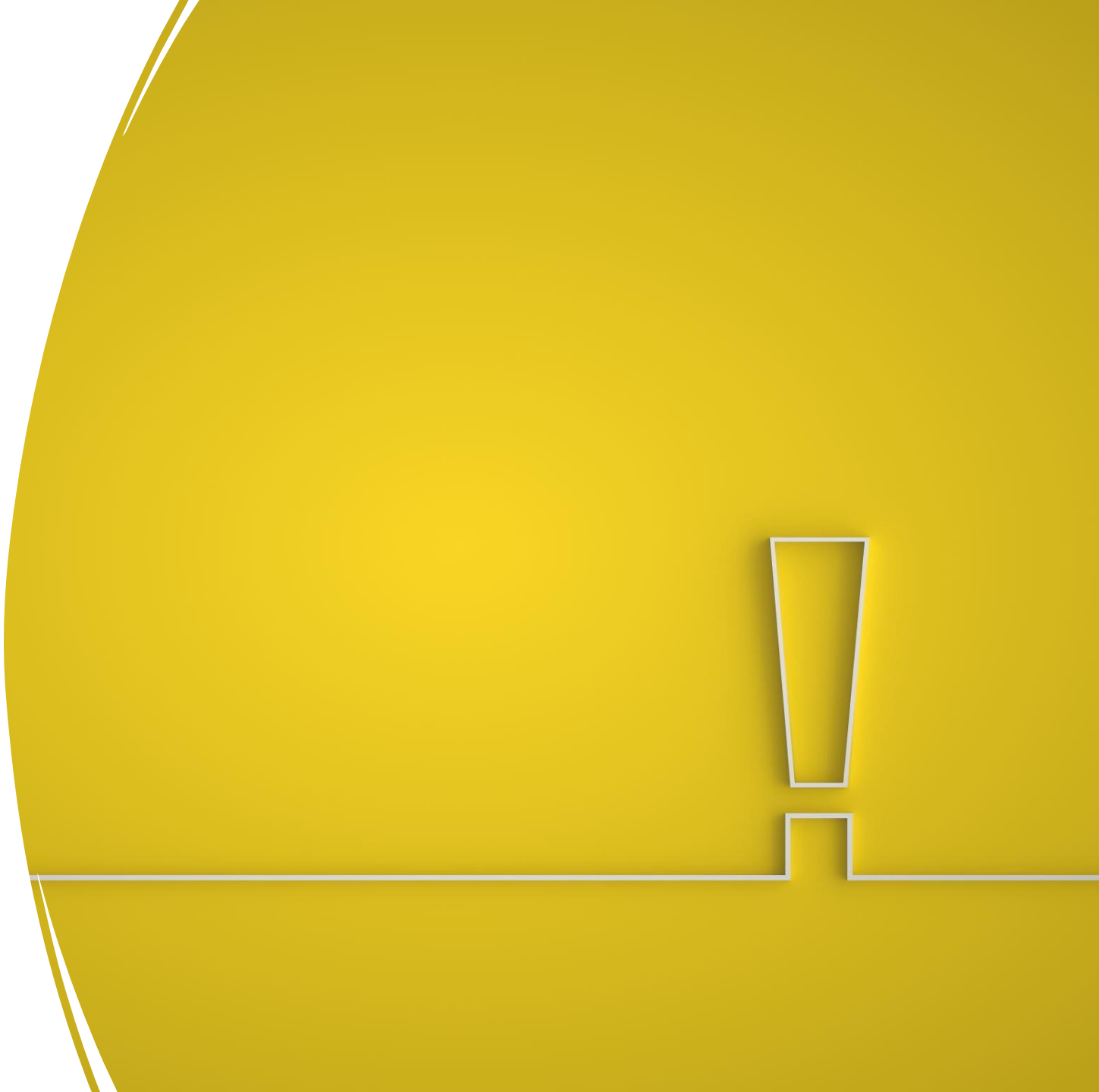
TREACEABILITY & TRANSPARENCY

Let's think about the SCALE OF THE OPPORTUNITY

RENT YOUR WARDROBE – WHAT WOULD IT TAKE TO MAKE THIS WORK?

Unintended Consequences

- The oft-told story of clothes cycle in India : hand-me-downs to rags for household cleaning
- Is PET to fibre really circular?
- Incentivising recycling businesses ?



Calling on Youth

- Challenge the Status Quo
- Change the Narrative

Thank You

- Contact

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