

Circularity in Textile Value Chain

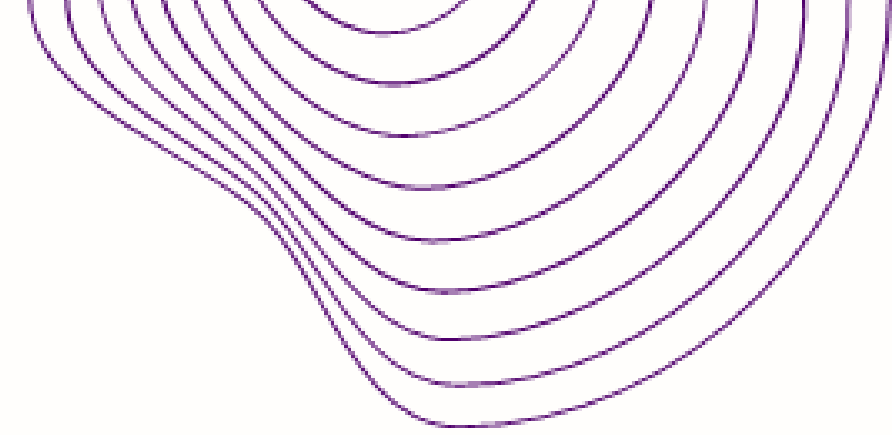


Table of Contents



- 01 Need to shift towards a circular economy
- 02 Circular fashion opportunities
- 03 Benefits of circular textile value chain
- 04 Focus areas for industry
- 05 Industry Initiative

About

Circularity in the textile value chain refers to:

Adopting sustainable and circular practices throughout the lifecycle of textile products, including design, manufacturing, distribution, and end-of-life management.

It **aims to minimize resource consumption, reduce waste generation, and promote the reuse and recycling of textile materials.**





Need to shift towards a circular economy?

2nd Largest Contributor

to pollution, surpassing international flights and maritime shipping combined.

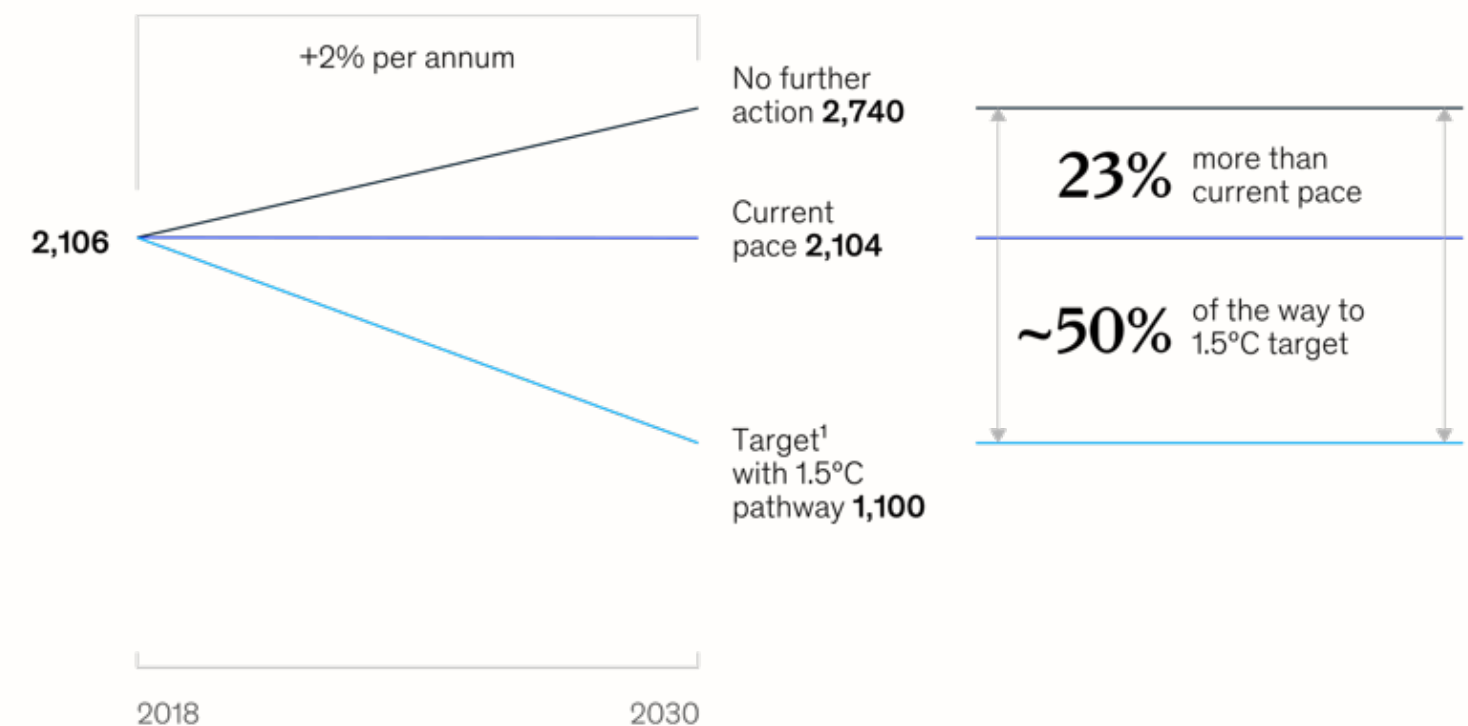
Despite attempts to lower emissions, the sector is **currently headed in a direction beyond the 1.5-degree target for addressing climate change**, as outlined by the Intergovernmental Panel on Climate Change (IPCC) and endorsed in the 2015 Paris Agreement.

According to a 2018 report by the McKinsey, the fashion industry's **greenhouse gas emissions** in 2018 were

2.1 Billion Mt. Tons CO₂e

Under the current trajectory, the fashion industry misses the 1.5°C pathway by 50 percent and abates only emissions from incremental growth.

Emissions abatement assuming the industry decarbonization continues at current pace, million tons of CO₂ equivalent



¹Calculation: half of available 1.5°C pathways indicate 25 billion to 30 billion tons of CO₂ equivalent a year by 2030 (IPCC). 4% of 27.5 billion tons of CO₂ equivalent equals 1.1 billion tons of CO₂ equivalent.
 Source: Consolidated model as of June 19, 2020



Need to shift towards a circular economy?



Social Impact

A circular economy approach can help create new jobs and improve working conditions in the textile industry.

It can also help reduce the negative social impacts of the industry, such as the displacement of local textile industries in developing countries.



Environmental Impact

The industry is responsible for a large amount of waste, water pollution, and greenhouse gas emissions.

A circular economy approach can help creating zero waste system by keeping materials in use for longer and reducing waste.



Resource Scarcity

The textile industry relies on finite resources such as water, energy, and raw materials.

A circular economy approach can help reduce the industry's reliance on these resources and create a more sustainable and resilient industry.



Consumer Demand

Consumers are increasingly demanding sustainable and circular products.

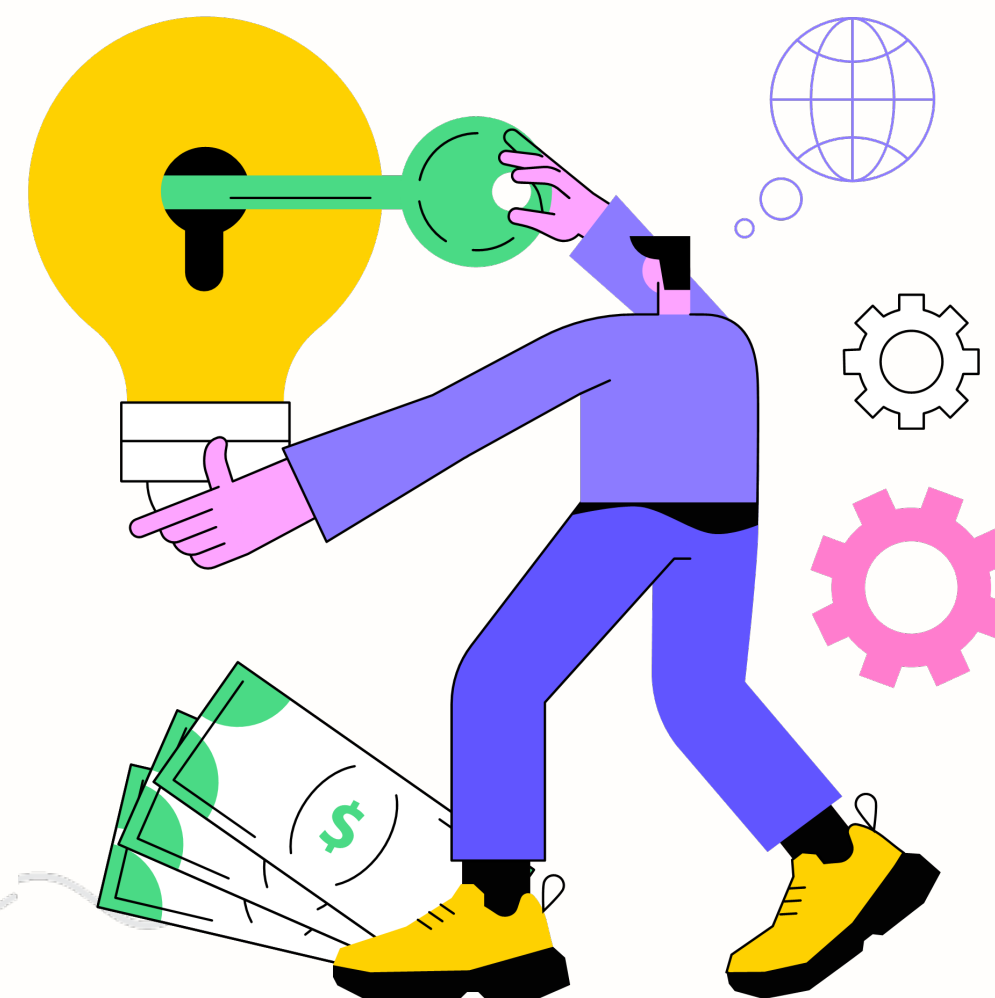
A circular economy approach can help meet this demand and create a competitive advantage for brands that adopt circular practices.



Circular fashion presents new opportunities

- According to the **Ellen MacArthur Foundation**, transitioning the fashion industry to a circular system can unlock
- Fashion has a **negative environmental impact**, but **brands** have the **opportunity** to make a **positive impact** by helping **Indian buyers** responsibly dispose of their discarded garments.
- **India** has been a **global hub** for **textile recycling** for decades. Several International **sustainable brands** are sourcing from these **recycling factories**.
- The brands needs to take **initiatives** that can also create **new business opportunities** , such as establishing a **closed-loop supply chain, which can help reduce costs and improve their sustainability credentials**.

ECONOMIC
OPPORTUNITIES
\$560
BILLION





1. Closed Loop - Zero Waste



Source: Oxford Institute for Energy Studies, Circle Economy, Goldman Sachs Global Investment Research

Implementing closed-loop systems provides a significant advantage for textile businesses.

- It allows them to create a **continuous flow of materials** within their operations, fostering a self-sustaining ecosystem.
- This approach **reduces** their **dependence** on **virgin resources** while enhancing supply chain resilience.
- Adopting circular economy principles can help to **reduce waste generation** during **production** and **post-consumer stages**. This leads to **cost savings** associated with **waste disposal** and **management**.



2. Access to New International Markets

- The EU has framed the **Circular Economy Action Plan** for sustainable and **circular textiles** and it strives to make garments and other physical items more sustainable. The EU market should provide **long-lasting, recyclable** textiles made mostly of **recycled fibres**.
- The **Circular Fashion Pledge**, a fashion brand commitment to a circular fashion industry, is one of numerous US fashion **circularity** projects. US fashion businesses have also launched **take-back** and **recycling programmes**.



To compete on a global scale, domestic manufacturers and brands must increase their focus on circularity.

The illustration features a central globe with a network of lines. Surrounding the globe are icons for a cargo ship, an airplane, a clipboard with a checklist, a person standing next to a stack of yellow boxes, and a yellow truck with 'EXPORT' written on its side.



3. Access to green funding and grants

1

A report by Kalaari states **Indian Startups** in Circular Economy attracted **\$ 1.8 Billion** investments since 2018.

Source: yourstory.com/2022/04/indian-startups-circular-economy-investments-kalaari-capital

2

Social Alpha, an incubator for startups in India, actively searches for **innovators** in the **circular economy** and provides them early-stage incubation support and seed capital.

Source: ssir.org/articles/entry/circular_social_innovation_in_india

3

Circularity Capital is a **Dutch investment** firm that invests in companies that are developing **circular solutions** for the **fashion industry**. The firm has invested in companies such as Infinited Fiber Company, Resortecs, and Rescale.

4

Södra and **Lenzing** have received **10 million**, largest **EU LIFE subsidy** for their **textile recycling project** on an industrial scale. The project aims to boost circularity in the textile industry.

Source: tinyurl.com/5dj4bd6m

5

Accelerating Circularity has received a **US\$1.2 million research grant** from the **Walmart Foundation** to explore **circular textile-to-textile systems** generated from **fabric waste** in US.

Source: acceleratingcircularity.org/ourpress



4. Improved stakeholder engagement



Encourages **businesses** and **organizations** to involve a diverse range of stakeholders, including customers, suppliers, employees, and local communities, in the process of **rethinking** and **redesigning products** and **systems**.



The major benefits can be experienced in terms of:

- **Brand image** and trust amongst users
- Increased chances of getting **big investors** (due to ESG push these days)
- Collaborative **supplier partnerships**
- **Policy support**

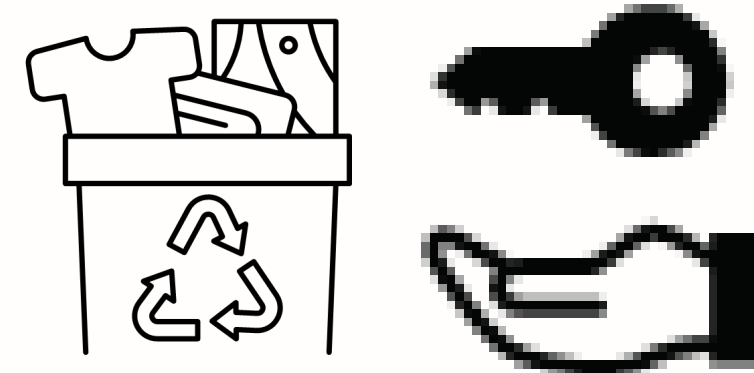
5. New income sources

New Business Model



Circular business models include recurring sales of recovered components and materials in addition to the **Product as a Service and sharing-economy business models**. These generate revenue whenever they are resold.

Waste as a Asset



Waste is transformed into an asset rather than a liability to be discarded. In Informal market pure **white cotton chindi is collected at rate of Rs 90/kg**

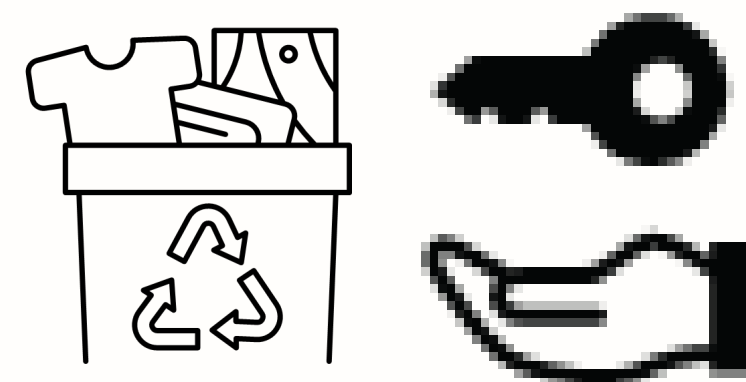
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6. Govt Perspective

Sustainability has always been a part of our **tradition, culture and values.**



LiFE
Lifestyle for
Environment

The **Government of India's** "LiFE"
(Lesser Footprint, Enhanced
Sustainability, and Greater Efficiency).

It aims to promote sustainable development and responsible consumption and production

India's per capita carbon footprint is 60% lower than the global average. This is because our lifestyle is still rooted in sustainable traditional practices.



GACERE
Global Alliance on
Circular Economy and
Resource Efficiency

An alliance of **governments** committed to promoting and advocating circular economy at a global level and ensuring "more sustainable management of natural resources" at the political level.

As one of the alliance's main **goals** is to map the country's **domestic policies, fiscal, and regulatory frameworks** and improve the situation, **circularity transition policies** would **affect Indian businesses** as well.

A circular view through a window or porthole showing a scenic landscape. In the foreground, a river flows over a rocky, shallow section. In the middle ground, a cluster of buildings is visible, including a prominent church with a tall spire. The background features rolling hills and a sky filled with large, white clouds. The text "Circularity Focus Areas for Industry" is overlaid in the center of the circular view.

**Circularity
Focus Areas for
Industry**

Focus Areas in Industry



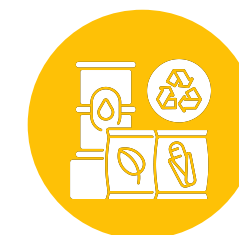
Raw Material

- Use of **sustainable** and **ethically sourced** raw materials in fashion production.
- Use of **recycled fabrics** and **alternative circular fibers** in reducing the reliance on virgin materials.



Waste

- Adoption of **'take back'** programs to encourage the return and **recycling** of used clothing and textiles.
- Implementing **zero waste to landfill** policies to minimize the environmental impact of fashion waste.
- To check **upcycling potential** to **repurpose waste** materials and create new products, thereby creating value and reducing the overall waste .



Packaging

- To explore the potential of **sustainable packaging materials** and **eco-friendly** packaging designs in textile/apparel packaging.
- This includes materials such as **recycled** and **biodegradable plastics**, recycled paper.

Focus Areas in Industry



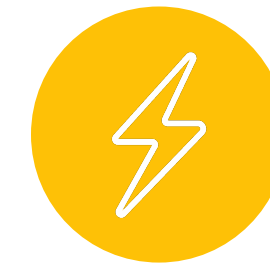
Water

- Implementation of **Zero Liquid Discharge (ZLD)** facilities to minimize **water usage** and pollution.
- Importance of **water recycling** and **reuse** in textile production processes.
- Use of **water-saving technologies** and practices.



Chemical

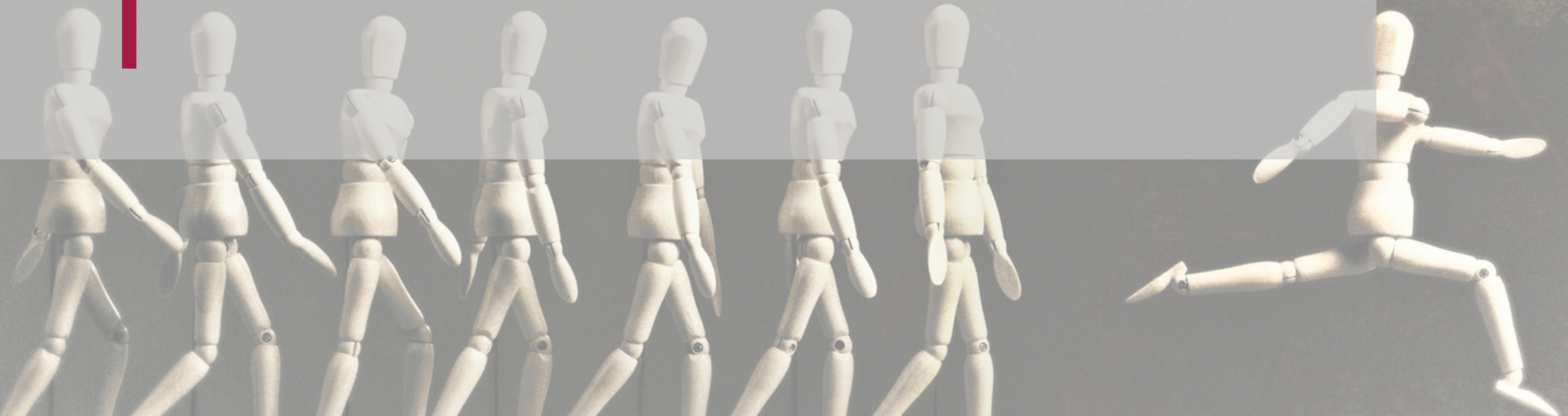
- Use of **eco-friendly** and **non-toxic chemicals** in textile manufacturing to minimize environmental pollution and health hazards.
- Stringent **chemical management practices** to ensure the **safety** and sustainability of the entire **supply chain**.



Energy

- Adoption of **energy** from **renewable sources** in manufacturing processes to reduce the industry's **carbon footprint**.
- Adoption of **energy-efficient technologies** and practices in reducing **energy consumption** during production.

Industry Initiatives



Industry Initiatives

- **Investing in Innovation and Collaboration:** Fashion brands are partnering with **sustainable startups** to create **new materials** and **eco-friendly production methods**. They're also exploring ways to **recycle** and **upcycle** used clothing.
- **Rethinking Business Processes:** Fashion brands are adopting **circular production processes** to **reduce waste, increase energy** and **resource efficiency**, and respond to changing **customer preferences** and **environmental concerns**.
- **Pursuing Certifications and Standards:** Fashion brands are increasingly seeking **certifications** and adhering to **standards** that promote **sustainability, ethical manufacturing**, and **environmental responsibility**.
- **Future-Proofing Business Strategies:** Fashion brands are adopting **circular business models** to **mitigate risks** associated with **resource scarcity** and **market instability**.



Industry Examples



Initiatives by a Spinning Industry



Reducing fresh water consumption to zero: The company is investing in new water treatment technologies to allow the company to reuse and recycle its wastewater.



Reducing GHG Emission: It is reducing its GHG emissions by switching to renewable energy sources, such as solar and wind power. The company is also investing in energy-efficient production processes.



Reducing landfill waste (ETP Sludge): It is reducing its landfill waste by reducing its ETP sludge generation. It is working with other companies to develop new ways to reuse and recycle ETP sludge.



Adopting Renewable Energy by 2025: The company is installing solar panels at its manufacturing facilities and is also purchasing renewable energy from third-party providers.

Source: Pratibha Website (pratibhasyntex.com/esg-content)

Industry Examples



Initiatives by Wet Processing Industry



Conducting **Life Cycle Analysis** (LCA) of products to find more ways to minimize the environmental impact along the entire value chain.



Use of **sustainable raw materials** (Organic, BCI and recycled Cotton) and standards such as GOTS (Organic Textile Standard) and OEKO-TEX® Standard 100.



Use of **recycled sewage water** for process use, and adherence to the **Zero Discharge of Hazardous Chemicals** (ZDHC) standard while continuously improving our processes and treatment systems.

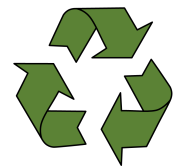


ETP sludge being used as a fuel source to substitute the use of **fossil fuels** and will also lead to **zero hazardous waste** sent to landfills

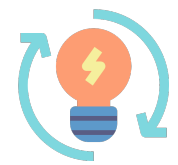
Industry Examples



Initiatives by Integrated Textile Mill



Recycled Cotton Technology for **mechanical recycling** of yarn or fabric to rejuvenate fiber to a level akin to virgin fiber.



Collaboration for product development, particularly in the renowned **Jeans Redesign initiative**.



Utilization of **recycled polyester yarn** derived from **post-consumer plastic bottles** and **marine plastic waste**.



Collaborated with **Innovator** to provide **Blockchain-based** denim **traceability**.

Industry Examples



Initiatives by Garment Manufacturer



Cradle to Cradle Certified product collection comprises **women's dresses** for a brand.



Segregating fabric waste based on the **size of cloth** pieces, and based on **fabric composition** in several units and ensuring all the waste is downcycled, upcycled, or recycled.



Segregated cotton waste (100% in composition) shared with **several innovators** working on **recycling fabric waste** to produce **new materials** such as viscose and recycled cotton.



Collaboration with **International Research Institute** to transform **cellulose powder** recovered from separating **cotton-polyester blends** into a **Cellulosic Superabsorbent Polymer (CSAP)**.

Industry Examples



Initiatives by a Fashion Brand



Energy

- Installed Energy efficiency measures such as remote energy management systems,
- **More than 50%** of **total energy** is from **renewable energy** across brand owned facilities.



Water

- **Water positive** across all facilities.
- Water saving initiatives such as rainwater storage tanks, digital rain gauges, and pipeline modifications with digital meters to monitor water usage.
- **104,878 kl** of **Rainwater Harvested** and Artificially Recharged within premises



Waste

- The operations have reached '**Zero waste to Land all**' for all non-hazardous waste.
- **100% Waste Traceability** across owned facilities.



Sustainable Packaging

- Usage of recycled paper packaging and **91.5% sustainable packaging** (Compostable Polybag)



Implemented by



Project Circularity Pilot Project



Punarbhavaa pilot video





Implemented by



DISCUSSION SESSION