

## RECYCLING

### RE&UP: Revolutionizing Textile-to-Textile Recycling for a Sustainable Future



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#### Introduction

The textile industry faces an unprecedented waste crisis, with over 100 million tons of textile waste produced in 2023, most of which is destined for landfills or incineration. Recognizing the need for immediate action, **RE&UP** has introduced a groundbreaking solution to address the textile waste problem by offering high-quality, traceable, recycled raw materials such as cotton fibers and polyester chips. This report outlines RE&UP's technology, processes, and its impact on closing the material gap in the textile recycling sector.

#### The Textile Waste Challenge

According to the Ellen MacArthur Foundation and the European Environment Agency, over 31 million tons of recycled fiber will be missing by 2030. With increasing regulatory pressures such as Extended

Producer Responsibility (EPR) and eco-design directives, brands are seeking sustainable solutions. **RE&UP** addresses this challenge by providing a fully scalable, circular recycling process that turns textile waste into virgin-quality materials without disrupting existing supply chains.

#### RE&UP's Circular Recycling Technology

**RE&UP** is a pioneer in textile-to-textile recycling, offering a one-stop, closed-loop solution that processes various types of textile waste, including pre-consumer and post-consumer waste. Its unique technology separates blended fabrics, enabling the recycling of cotton-heavy, polyester-heavy, and polycotton blends into traceable, ready-to-use fibers and chips.

#### Key Features:

- **Recycled Cotton Fibers:** With a mean fiber length of 20 mm and dust content of less than 2%, these fibers are suitable for Open-End (OE), Ring spinning, and non-woven manufacturing.
- **Recycled Polyester Chips:** Weighing 2.3-

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2.5g/100 pieces, these chips have a viscosity of 0.66 dl/g and are ideal for continuous filament yarn spinning and staple fiber spinning.

- **Sustainability:** The RE&UP process reduces water use by 90%, climate impact by 28%, and land use by 75% compared to virgin materials.

### Fully Circular Recycling System

RE&UP's innovative approach not only provides recycled materials but also ensures minimal waste. Its thermo-mechanical recycling process separates fibers and recycles polyester and cotton, leaving almost no residual waste. For cotton recycling, RE&UP even produces by-products like cellulosic powder, further contributing to zero-waste operations.

#### Process Overview:

1. **Input:** Textile waste is collected and sorted.
2. **Separation:** Waste is sorted into categories like 100% cotton, 100% polyester, and polycotton blends.
3. **Recycling:** Mechanical and thermo-mechanical processes convert sorted waste into high-quality recycled fibers and chips.
4. **Output:** Recycled cotton fibers and polyester chips are produced, ready for use in conventional spinning and fabric production processes.

### Environmental and Social Impact

RE&UP's technology is a game-changer in terms of reducing the textile industry's environmental footprint. The company's closed-loop recycling system significantly reduces resource consumption, saving over 1 billion cubic meters of water annually by 2028 and preventing the release of half a million tons of CO<sub>2</sub> emissions.

#### Quantified Benefits:

- 89% less land use.
- 84% less freshwater eutrophication.
- 57% less fossil resource depletion for polyester chips.
- 75% less land use.
- 80% less water use for cotton fibers.

### Certifications and Traceability

To ensure compliance with global sustainability standards, RE&UP's products are certified by the Global Recycle Standard (GRS), Recycled Claim Standard (RCS), and other leading certifications such as Bluesign and FDA/EFSA approvals. All products offer 100% traceability, supported by digital and physical systems that enable brands to make credible green claims and meet regulatory requirements.

### Market Potential and Strategic Partnerships

RE&UP is spearheading the textile industry's shift toward circularity by offering competitive prices for recycled fibers and chips. The company is actively expanding its operations and aims to handle more than 1 million tons of textile waste annually by 2030. RE&UP's partnerships with global fashion brands, supply chain players, and sustainability organizations, such as Textile Exchange and Global Fashion Agenda, position it as a leader in the recycled textile market.

### Conclusion

As the textile industry moves towards sustainability, RE&UP provides a scalable, high-impact solution to one of its biggest challenges—waste. By converting textile waste into ready-to-use, high-quality recycled fibers and polyester chips, RE&UP is closing the loop and helping brands meet both environmental and economic goals. The company's technology and vision for zero waste are paving the way for a future where the textile industry operates in a truly circular economy.

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This report illustrates how RE&UP is transforming the textile industry by making textile-to-textile recycling a scalable, cost-effective, and sustainable solution for global brands.