

# TEXTILE WASTE RECYCLING PRACTICES AND CHALLENGES

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## **Abstract**

The rapid growth of the clothing and textile industries, combined with the consumer's fast fashion trend, has resulted in an increase in textile waste in municipal solid waste (MSW) streams around the world. Globally, 75% of textile waste is landfilled, while 25% is recycled or reused. Landfilling of textiles waste is a prevalent option which is deemed unsustainable. Promoting an enhanced diversion of textile waste from landfill demands an optimized reuse and recycling technologies. Reuse is the most preferred option than recycling, but textile waste imports for reuse is banned in many developing countries. There are various textile recycling technologies are available, and as technology advances, blended fabrics are becoming more popular. Technologies such as anaerobic digestion, fermentation, composting, fiber regeneration, and thermal recovery are among the prevalent recycling options for textiles waste. Improved collection system, automation of sorting, and discovering new technologies for textile recycling remains a challenge. Practicing extended producer responsibility (EPR) policy along with circular economy system imply a sustainable management of textile waste.

**Keywords:** Textile waste, Recycling, Municipal solid waste