

Sustainable Fashion Practices

Sustainable Fashion Practices – Quick Reference Notes

1. Core Principles

Principle	What It Means	Why It Matters
Reduce	Cut material waste, energy use, and water consumption throughout the product lifecycle.	Lowers environmental footprint and production costs.
Reuse	Extend the life of garments through resale, rental, upcycling, or repair.	Keeps textiles out of landfill and reduces demand for new fibers.
Recycle	Convert post-consumer or post-industrial textiles into new fibers or products.	Saves resources and creates circular supply chains.
Responsible Sourcing	Choose fibers, dyes, and trims that have lower ecological and social impacts.	Improves biodiversity, reduces pollution, and supports fair labor.
Transparency	Provide traceable information about materials, factories, and logistics.	Builds consumer trust and enables accountability.

2. Material Choices

Category	Sustainable Options	Key Benefits	Typical Challenges
Natural Fibers	- Organic cotton (GOTS) - Hemp - Linen - Tencel/Lyocell (closed-loop)	Low pesticide use, biodegradable, good breathability.	Land use (cotton), water consumption (hemp), higher cost.
	- Recycled polyester (rPET) - Recycled nylon (e.g., Econyl)	Saves plastic waste, reduces virgin oil demand.	Downcycling loss of quality, microfiber shedding.

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Category	Sustainable Options	Key Benefits	Typical Challenges
Animal-Based	Responsible wool (RWS)	Renewable, durable when managed responsibly.	Animal welfare concerns, methane emissions.
	Certified leather (Leather Working Group)		
Innovative Bio-Materials	Piñatex (pineapple leaf)	Very low land/ water footprint, often biodegradable.	Scaling production, consumer acceptance.
	Mycelium leather		
	Spider-silk protein fibers		

Selection Tips

1. Prioritize **renewable, biodegradable, and low-impact** fibers.
2. Use a **material matrix** to compare water use, GHG emissions, and end-of-life options.
3. Combine fibers (e.g., organic cotton + recycled polyester) to balance performance and sustainability.

3. Design Strategies

Strategy	Description	Implementation Tips
Zero-Waste Pattern Cutting	Layout patterns to leave no scrap fabric.	Use CAD nesting software; design garments with modular pieces.
Modular / Multi-Use Design	Garments that can be reconfigured (e.g., detachable sleeves).	Sketch interchangeable components; standardize seams and fasteners.
Durability-Focused Design	Reinforced seams, high-quality hardware, timeless silhouettes.	Test wear resistance; choose colorways that age well.
Design for Disassembly	Use single-type stitching, recyclable trims, and avoid permanent adhesives.	Document bill of materials (BOM) for each garment.
Digital Sampling	3D virtual prototypes replace physical samples.	Adopt CLO, Browzwear, or similar tools; reduce sample waste by >70%.

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4. Production & Manufacturing

Area	Sustainable Practices	Tools & Standards
Energy	• Renewable electricity (solar, wind) • Energy-efficient machinery	ISO 50001, ENERGY STAR
Water	• Closed-loop dyeing (e.g.,	