

BUYING LESS, BUYING BETTER.

What could fashion look like in the future?

Better materials. Longer lives. A different relationship with our clothes.



GreenFridays.org

What If Clothes Were Designed to Last?

It Starts With Design

For decades, much of fashion has followed a largely linear model:
MAKE → BUY → WEAR → DISCARD

But what if we designed clothes differently from the beginning?

Clothes can be designed to be durable, repairable and ultimately recyclable, with materials and construction chosen to help keep them in use. The Ellen MacArthur Foundation argues that a **circular fashion** system needs products designed to last longer, be repaired and be remade, supported by systems for resale, rental, repair and recycling.

The future of a garment, and where it will end up at the end of its use, should be considered before it is even made.



Can We Improve the Materials We Already Use?

Rethinking Familiar Fibres

Innovation doesn't always mean inventing a completely new material.

Cotton, for example, can have significant impacts on water, land and ecosystems. But different approaches are being explored by brands.

- **Organic cotton** avoids synthetic pesticides and fertilisers, which is important for both farm workers and local ecosystems ([The World Counts](#)).
- **Regenerative farming** aims to improve soil health and biodiversity while supporting more resilient farming systems ([Stella McCartney](#)).
- **Recycled cotton** gives existing fibres another life, although recycling shortens the fibres and can make them harder to reuse in new clothing ([Cotton Works](#)).



Old Fibres, New Attention

Hemp, Linen & Lyocell

Some lower-impact options aren't particularly new.

- **Hemp** grows quickly and generally requires relatively little water or pesticide input.
- **Linen**, made from flax, is strong and can last for years.
- And **lyocell**, including branded fibres such as TENCEL™, turns wood-derived cellulose into textile fibres. Some production systems recover and reuse most of the solvent used during manufacturing.

None is impact-free. But they show that a more sustainable fashion future could involve using established textiles more effectively, as well as inventing new ones.



How About Growing the Materials of the Future?

From Fermentation to Fashion

Some of fashion's most interesting innovations are happening before the fabric is even made. Japanese biotechnology company Spiber produces Brewed Protein™ fibres using a microbial fermentation process rather than livestock farming.

The technology is already moving into fashion. In 2026, Stella McCartney incorporated Spiber's Brewed Protein™ fibre into its Winter collection, while other brands are also experimenting with the material.



It is one example of a much bigger question: Can science help us make useful materials with less reliance on conventional fossil-fuel or animal-derived fibres? Innovation is promising, but new materials still need to demonstrate their environmental benefits as they scale.

What About Waste Becoming a Resource?

What Else Could Our Clothes Be Made From?

Researchers and companies are experimenting with materials made partly from agricultural waste, food-industry by-products, recycled textiles and other renewable resources.

One example is AppleSkin™, a material incorporating waste from apple processing that has been used as an alternative to conventional leather in fashion accessories.

Is all plant-based leather sustainable?

Not necessarily. In fact, many so-called plant-based leather alternatives are not entirely plant-based. They may also contain polyurethane or other synthetic and plastic based materials.



Recycling Plastic Into Clothes: Solution or Compromise?

The Recycled Polyester Problem

Turning plastic bottles into polyester clothing can reduce fashion's demand for virgin polyester and the oil that is most often used to make these textiles. But it doesn't create a circular fashion system.

Nearly all recycled polyester comes from plastic bottles rather than old clothes, and once made into clothing it releases microfibres when washed and worn and is unlikely to be recycled again.



So there is an important distinction:

Plastic bottle → T-shirt = recycling.

T-shirt → T-shirt → T-shirt = textile circularity.

That's much harder to achieve and not the usual outcome.

Can Old Clothes Become New Materials?

Closing the Loop

Less than 1% of material used to make clothing is currently recycled into new clothing ([Ellen MacArthur Foundation](#)).

But innovators are trying to change that. Companies such as [Circulose®](#) have developed technology that turns discarded cotton-rich textiles into recycled cellulose pulp.

Others are developing technologies to separate blended textiles and recover cotton, polyester and other fibres. The goal is ambitious:

Old clothes → new fibres → new clothes

If textile-to-textile recycling can operate successfully at scale, it could help turn fashion's waste into a resource.



The Material of the Future May Not Exist Yet

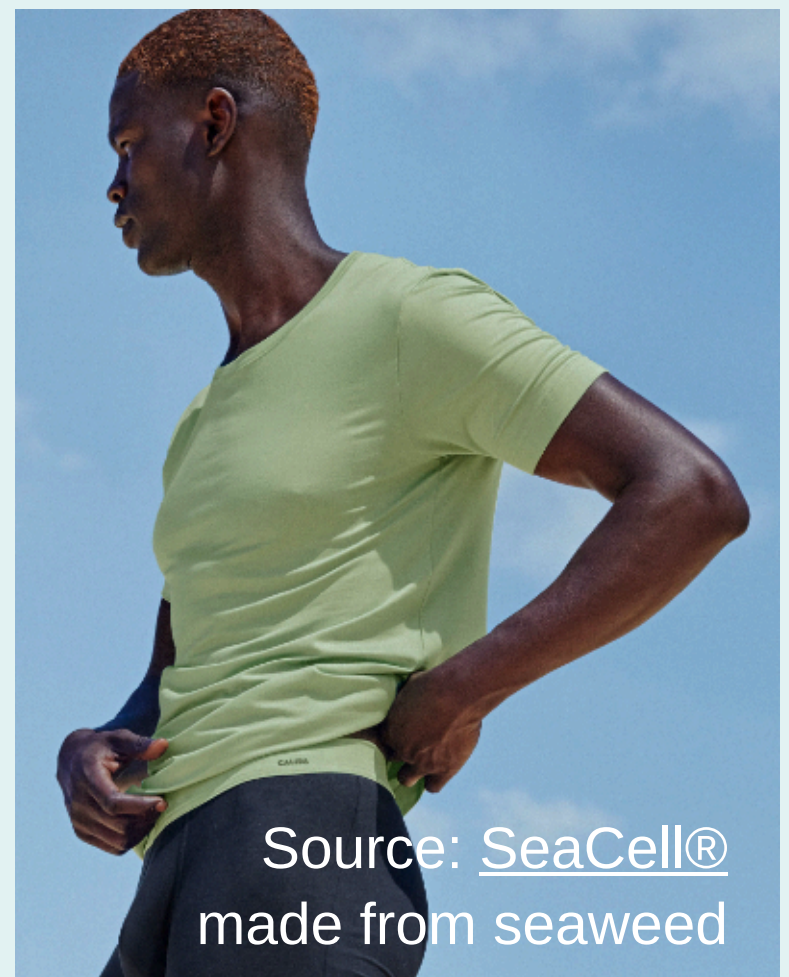
Fashion Meets Science

Scientists and textile innovators are exploring an extraordinary range of possibilities:

- Algae and seaweed-based textiles
- Fermentation-produced fibres
- Agricultural-waste materials
- Lab-grown materials
- New dyes and lower-impact processing
- Textile-to-textile recycling

Some of these technologies are already appearing in fashion. Others are still at an early stage.

Not every innovation will prove better for the environment once produced at scale. The real test will be its whole lifecycle, from the resources and energy needed to make it to how long it lasts and what happens at the end.



Can Policy Change Fashion Too?

Innovation isn't limited to fabrics and technology. The EU is introducing measures intended to make textiles more durable, repairable and recyclable, while increasing producer responsibility for what happens when clothes are no longer wanted (European Commission).

From 19 July 2026, large companies are prohibited, subject to certain exemptions, from destroying unsold clothing and footwear (European Commission).

EU rules are also introducing Extended Producer Responsibility for textiles, requiring producers to contribute towards the cost of collecting, sorting, reusing and recycling textile waste (European Commission).

The principle? The company that puts a garment on the market should share responsibility for what happens to it afterwards.



The Future May Already Be in Our Wardrobes

Keep Clothes in Use

New materials are exciting. But we don't have to wait for new technology to change fashion.

Repair it. Alter it. Resell it. Swap it. Share it. Buy pre-loved.

These approaches have one important thing in common: They make more use of clothes that already exist.

The Ellen MacArthur Foundation identifies resale, rental, repair and remaking as key circular business models because they keep products in use, while reducing dependence on producing new clothes.



Green Fridays Takeaway

*Sometimes innovation isn't about making something new. No new fibre can solve the problem if we simply keep producing and buying more and more clothes.
A better way is to use what we already have.*

Learn more, explore the sources and discover practical ways to help at GreenFridays.org/learn.



THE GREEN ROUTE