



Wool
Circle

Camira
Wool Circle
Group 4



A pioneering circular textile

camira | orangebox



A pioneering, upholstery textile that's made by re-manufacturing Orangebox's offcuts of Blazer and Synergy felted wool fabrics from Camira.

Using state of the art textile reprocessing equipment, wool upholstery offcuts are transformed into beautiful new creations, saving waste and reducing the carbon footprint of the re-manufactured fabric.

Made using 50% recycled content, Wool Circle makes textile-to-textile recycling a reality. The take-back system between Orangebox and Camira provides a completely circular solution, re-imagining offcut waste as a valuable new resource. The process reduces the need for new material inputs and creates a 2nd-life textile with a much lower carbon footprint.

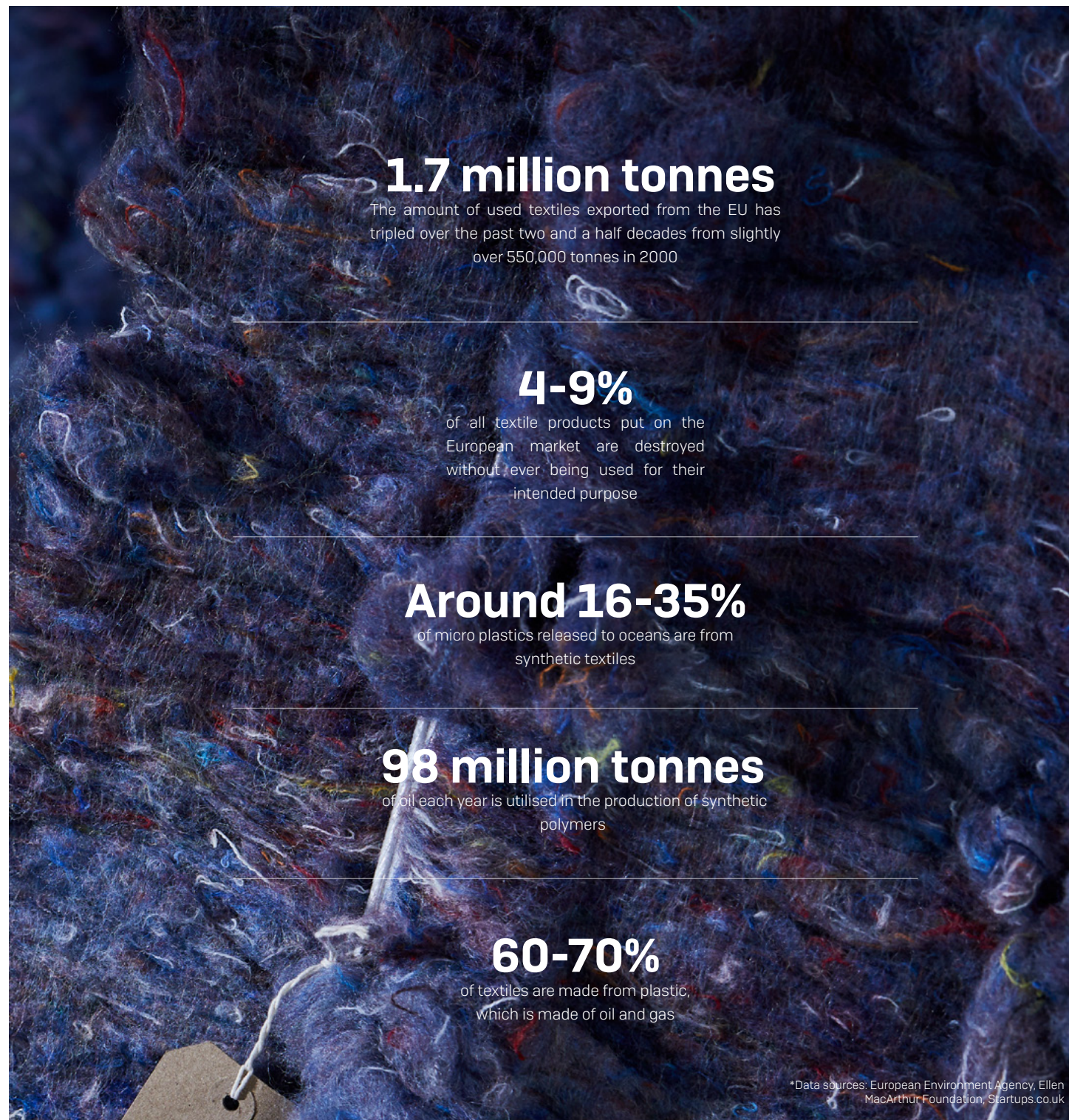
Orangebox works hard to reduce operational waste at its factory HQ in South Wales, but fabric scrap is an inherent part of making upholstered covers. Working in partnership with Camira to turn this waste into a new textile closes the loop and reduces the impacts for both companies.

Current state of play

The current system for producing, distributing and using textiles operates in an almost completely linear fashion, with less than 1% of all textiles worldwide being recycled into new product.

Whilst clothing, with the modern culture of fast fashion, is a large contributor to the textile waste mountain, furniture textiles also add to the increasing amount of fabric in landfill. It's estimated that 25% of the fabric used in the furniture manufacturing process ends up on the cutting table floor as offcuts, destined for landfill, downcycling or incineration.

To reduce the environmental impacts of textiles, a shift towards circular business models, including circular design, is crucial.





Wool is an incredibly valuable resource. It's a natural and renewable product with a long lifespan. Not only is wool biodegradable, but wool production has a relatively low environmental impact compared to synthetic materials. Sheep farming practices contribute to the management of natural landscapes and support biodiversity. Furthermore, farmers actively work to protect the natural environment, enhancing the sustainability of the wool industry to enable future generations to benefit from this natural material.

During the recycling process, the colour within wool can be re-used and recycled through skilled craftsmanship. With finely honed colour competency, mixing and blending multiple colour inputs, Camira creates a new commercially focused palette for Wool Circle. This process is undertaken by Camira's specialist wool recycling capability called *iinouiiio*.



iinouio.

iinouio is an acronym for “it is never over until it is over”. Founded by Dr John Parkinson, who has three decades of experience in textile recycling, iinouio specialises in wool and cashmere recycling, serving both Camira and the wider UK textile manufacturing industry.

iinouio, is inspired by a local and traditional technique of wool recycling known as “shoddy” manufacturing, first invented in Yorkshire in the 1800s. The “shoddy” process saw waste wool textiles collected and recycled to create new yarn and fabric. It was incredibly popular until the advent of synthetic materials, such as polyester, then the explosion of fast fashion caused it to become almost entirely obsolete by the end of the twentieth century.

Now, recycling is not only back in fashion, but is driving new business models based on circular economy principles.



**This is the
Orangebox factory,
home to a great
team of people
who design and
manufacture
innovative furniture.**

Circularity in Action

Wool fabric scrap from Orangebox's factory HQ in South Wales is segregated, weighed & packed ready for the journey back to Camira

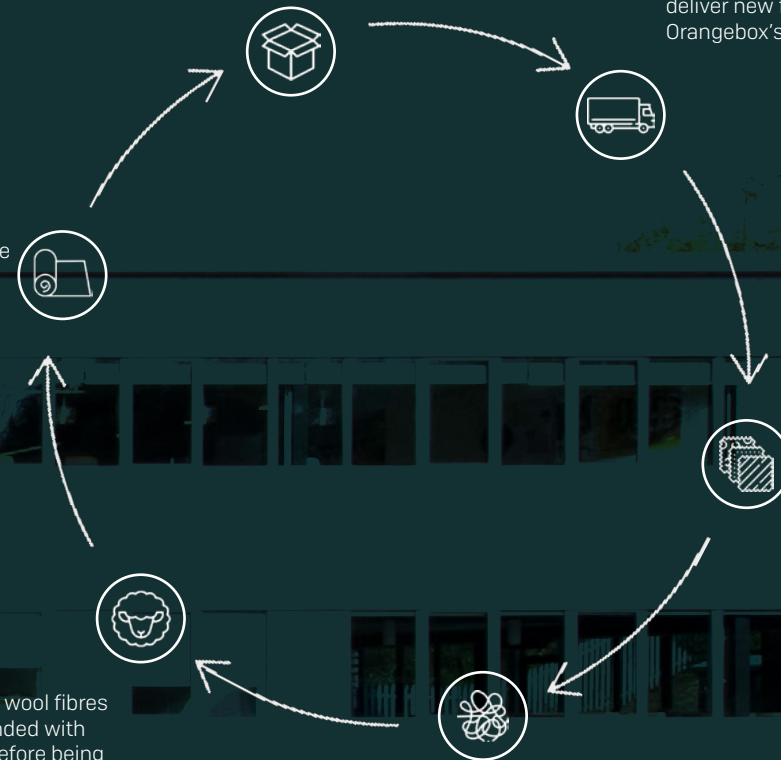
The scraps are returned to Camira in West Yorkshire using the same vehicles that deliver new fabric rolls for Orangebox's production

The final product is milled to recreate the felted finish and produce contract performance new fabric suitable for furniture applications

The fabric is manually sorted into colour groups by Camira's textile recycling specialists, iinouio

The recycled wool fibres are then blended with virgin wool before being carded, spun and woven into fabric

The wool scraps are mechanically pulled apart, shredded, and stripped back into raw fibre form.



Environmental Benefits



Conserves natural resources and virgin raw materials



Provides a circular textile solution, providing a new life for upholstery offcut waste



Decreases waste generation and saves textiles ending up in landfill



By re-using the original colouration of wool fabrics, Wool Circle removes the need for dyeing, eliminating an energy intensive process which uses chemical dyestuffs.



Reduces key environmental impacts compared to using virgin wool, as evidenced by lifecycle assessment





A second-life born of craft & design

Carefully crafted to meet the highest performance standards, Wool Circle is perfect for task and soft seating applications in commercial, residential and hospitality settings.

It's available in ten beautiful colourways, seven of which have been curated exclusively for Orangebox by designer Rhonda Drakeford.

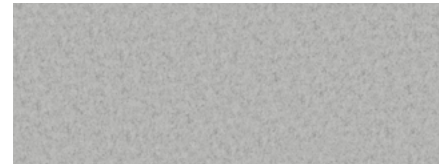
This innovative collaboration between Orangebox and Camira sees fabric offcuts as a valuable resource and defines an important step forward in our industry's transition toward the circular economy.

"A core aim of the circular economy is keeping the materials invested in our products at their highest quality, for the longest time possible. Moving towards this aim with innovations like Wool Circle reduces both our carbon impact, and our reliance on the Earth's limited resources."

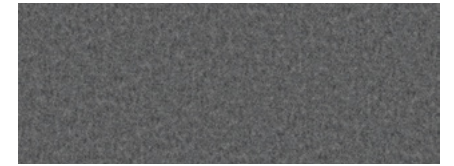
Gareth Banks
Orangebox Head of Sustainability

Fabric Colourways

Breathing new life into textile offcuts, Wool Circle is a beautifully felted recycled wool fabric available in ten colourways, seven of which are exclusive to Orangebox



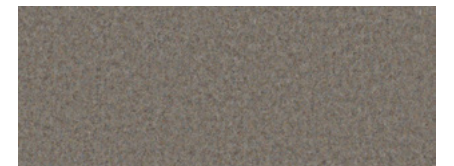
Light Grey
EWC01



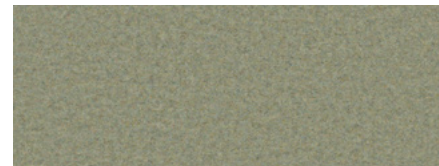
Dark Grey
EWC02



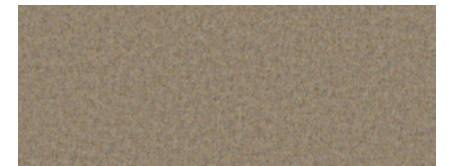
Light Beige
EWC03



Dark Beige
EWC07



Green
EWC08



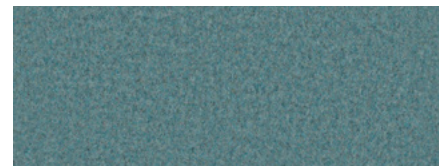
Yellow
EWC09



Orange
EWC10



Pink
EWC11



Light Blue
EWC12



Dark Blue
EWC13

Lifecycle Assessment

Lifecycle assessment was carried out by Huddersfield University's School of Applied Sciences from "cradle to gate", meaning from the production of raw materials, to the finished fabric, ready for shipping. Actual primary data was provided for Camira Manufacturing, while secondary data was used for upstream processes from the Ecoinvent database. The cut-off method was used to include the impact of the waste wool, as this method has been widely applied for recycled products. Re-using the waste wool offcuts removed the impacts associated with sheep farming and wool scouring, giving significant environmental benefits compared to using virgin wool.

Impact Category	100% virgin wool	50% virgin, 50% recycled wool	Percentage reduction
Carbon footprint (GWP) - kgCO ₂ e	15.2	6.4	58%
Fossil fuel depletion (ADP) - MJ	92.3	38.5	58%
Water Footprint (WDP) - m ³	4.97	1.10	78%

Figures shown are per kg of fabric

Technical Information

Suitable for:

Task seating, soft seating

Composition:

50% virgin wool, 47.5% recycled wool, 2.5% recycled nylon

Pricing Group:

Group 3

Cleaning:

Vacuum regularly. Wipe clean with a damp cloth or shampoo using proprietary upholstery shampoo

Abrasion Resistance:

Heavy duty/10 year guarantee
Independently certified to $\geq 45,000$ Martindale cycles

Flammability:

EN1021 - 1 (cigarette)
EN1021 - 2 (match)
BS7176 Low Hazard
The Furniture and Furnishing (Fire Safety) regulations 1988 (UK domestic cigarette and match)

Light Fastness:

4-6 (ISO 105-B02)

Fastness to Rubbing:

Wet:4, Dry: 4 (ISO 105-X12)

For more specific details, please reach out directly to Camira via info@camirafabrics.com.

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