



*Fast fashion is having a massive impact on the environment – The Green Consultancy’s report proves that Dylon can be part of the solution and is the evidence behind our ‘Re-dye don’t Re-buy’ campaign.”*  
*Rebecca Bland, Senior Brand Manager, Dylon Dyes*

# Case Study

**Client:** Henkel

**Services provided:** Environmental Life Cycle Review: Fast fashion versus DYLON fabric dyes

**Industry:** International chemical, adhesives, laundry, home care and beauty care products manufacturer

**Benefits achieved:** The report presented valuable data that demonstrated the benefits of dyeing rather than buying new which enabled Henkel to launch its ‘Re-Dye don’t Re-Buy’ initiative to help the textile industry lower its carbon emissions.

## Summary

The Green Consultancy (TGC), a division of JRP Solutions, was commissioned by The Henkel Group to undertake a review of published Life Cycle Assessment (LCA) information to determine the environmental impact of buying selected new clothes and household textiles, compared to the Life Cycle Assessment impact of using DYLON Machine Dye to re-dye existing garments, instead of buying new ones.

For the fashion review, the report looked at the most popular types of clothes in the UK and Ireland: jeans, t-shirts, trousers, and also household items like bed linen. From DYLON, which is produced by Henkel, the report looked at Intense Black Machine Dye and Navy-Blue Machine Dye, two of the top-selling dyes from the range. The study necessitated the development of a bespoke LCA for the machine dyes, obtaining information from each of Henkel’s UK and European manufacturers and suppliers.



This study was very timely given the increasing policy attention and criticism of the apparel sector’s environmental and related human health and social impacts.

A 2020 review by the United Nations Environment Programme describes these impacts at a global scale, confirming most clothing originates in Asia (India, China, Indonesia) dominated by fossil fuel energy sources and less rigorous environmental management compared to Europe and the UK.

Several recent studies of the UK clothing sector from 2012 to 2019 similarly quantify the impacts of the UK’s clothing sector. The Waste Resource Action Programme (WRAP) reports that UK consumers annually buy more clothing than European consumers, replacing items every 2-4 years on average.

The literature review revealed a paucity of published LCA information for cotton and viscose garment manufacture but was sufficiently robust to determine that each textile has a very similar greenhouse gas footprint expressed in terms of carbon dioxide equivalents. Cotton’s water footprint is substantive but highly variable, ranging from <5000 litres per 1 kg of cotton textile up to 20,000 litres. Both cotton and



viscose have wastewater eutrophication impacts on freshwater ecosystems but these are too localised to provide reliable average data. This study confirmed that transportation and disposal of fabrics are insignificant compared to fibre production, processing, textile manufacturing and garment tailoring.

The post-purchase consumer care phase, i.e. washing and drying after wearing, was removed from the results below because whether a garment is newly purchased, or is a faded item that is re-dyed, they both need to be washed and so will have the same 'in-use' footprint within a specific country.

The report used CO<sub>2</sub>e “carbon dioxide equivalent” as the outcome of the different emissions, energy use, and production impacts – this enables accurate comparison. Water use is not examined within the comparison because its consumption does not directly drive climate change and water usage varies extensively between products and countries.

## Results

The report presented valuable data that demonstrated the benefits of dyeing rather than buying new. Re-dyeing a pair of black jeans, for example, saves nearly 20 kilograms of carbon dioxide over buying a new pair. This equates to a significant impact when you consider that there are 70 million pairs of jeans sold in the UK every year. Last year, 2020, DYLON sold three million units of dyes in the UK alone. Henkel studies show that reviving jeans is the most common use for new buyers of fabric dye, and 44% of 20–44-year-olds use DYLON specifically to renew the colour of their favourite jeans.

The report has enabled Henkel to launch its 'Re-Dye don't Re-Buy' initiative in a bid to help the textile industry lower its carbon emissions. They have used the report to speak with consumers about the impacts of fast fashion and the environment and, using multi-media platforms, they are aiming to inspire consumers to make old clothes look brand new and colourful again, with a fresh fashion-led creative approach.

**“If just 10% of the 26 million adults in the UK aged between 20-50 years old decided to re-dye an existing pair of jeans, rather than buy a new pair, the potential saving in carbon dioxide output in only one year would equal 49 million kgs – the same as 15,500 round-trip flights from London to Hong Kong”**

~20 kg CO <sub>2</sub> e is the same as...	Source of data for comparisons
Driving 71 miles in a petrol-fuelled car	Using the Defra emissions factor for an 'average petrol car which is 0.28252kg CO <sub>2</sub> e per vehicle mile.
Return flight to Frankfurt from Heathrow	Using flight calculator totals 20kg CO <sub>2</sub> e for 1,306.46 kms travelled.
One way flight to Madrid from Heathrow	Using flight calculator totals 19kg CO <sub>2</sub> e for 1244.40 kms travelled.
Eurostar return from London to Amsterdam	21.4kg CO <sub>2</sub> e in total based on per passenger mile.
Six return trips London to Paris by international rail	Using the Defra emissions factor per passenger km which is 0.00497 for international rail travel from the UK
National Rail one way Taunton to Glasgow	Using the Defra emissions factor for emissions per passenger km which is 0.03694 CO <sub>2</sub> e and distance of 545km one way.
National Rail return trip from Newcastle-upon-Tyne to Holyhead (N. Wales)	Using the Defra emissions factor for emissions per passenger km which is 0.03694 CO <sub>2</sub> e and distance of 271km each way.
National Rail return trip from London to Sheffield	Using the Defra emissions factor for emissions per passenger km which is 0.03694 CO <sub>2</sub> e and distance of 271km each way.

*Table: Presents some example emissions (for the purpose of illustrating the impact of 20 kg CO<sub>2</sub>e saving) based on authoritative sources.*

**“TGC have been extremely helpful and easy to work with. They are approachable and have been great at providing a robust report that covers all our needs.”**  
**Rebecca Bland, Senior Brand Manager, Dylon Dyes**

**For more information about The Green Consultancy/JRP's services, call 0800 6127 567 or email [info@jrpsolutions.com](mailto:info@jrpsolutions.com)**