

Camden Council Deputation Request—Environmental Impact of School Uniforms Children, Schools and Families 11 November 2024 Meeting

Hugo Keane and Alexandra Milenov, No Plastic Uniforms

We request the opportunity to address the Council on the environmental pollution caused by polyester school uniforms in Camden, the risks they pose to children's health, and steps to transition to sustainable uniforms within family budgets.

Most school uniform items are now made of polyester, a type of plastic made from oil. Extracting fossil fuel to make polyester, and its manufacture, both release carbon. Hugo Keane, a William Ellis student now in Year 11, calculated how much carbon his Year 7 cohort releases when they buy a polyester blazer, PE t-shirt and shorts. It is the equivalent of melting 3m² of Arctic ice every year. Across Camden's students in Year 7, these three items alone¹ will generate over **11,500kg of CO₂** every year, or melt over 33m² of Arctic ice. Polyester is a major source of carbon, and phasing it out of school uniforms will contribute meaningfully to Camden's net zero goals.²

Polyester also releases tiny microplastic fibres in laundry machines and in the air.³ They are everywhere, including our water and food.⁴ In addition to eating and drinking their uniforms through the circuitous route they take from the wash to the table, students are also inhaling them directly as they move around.⁵ Peer-reviewed studies have found microplastics in our liver, kidneys, blood, placenta, breast milk, men's reproductive organs, heart and brain.⁶ Studies have also found that they cause cell damage,⁷ may be linked to inflammatory bowel disease,⁸ and increase the risk of heart attack, stroke and death.⁹ These health risks are why recycled polyester, made from plastic bottles,¹⁰ which may release less carbon than virgin polyester,¹¹ is not the "eco" solution that uniform providers are increasingly marketing: it releases the same amount of fibres as new polyester.¹² Hugo calculated that his Year 7 cohort alone releases at least 6.4 billion fibres, about half the microplastics that Camden's population consumes annually. Camden's Year

¹ Non-branded school uniform items, such as shirts and trousers, are also largely polyester.

² In London, about 2 million tons of CO₂ comes from clothing, which is same as all home energy usage for the City of London, Hackney and Islington for an entire year. "London's fashion footprint: An analysis of clothing material flows, emissions and levers for climate action in London," *ReLondon*, June 2023, p.9.

³ Karen Raubenheimer, "Scientists reviewed 7,000 studies on microplastics. Their alarming conclusion puts humanity on notice," *The Conversation*, 19 September 2024.

⁴ Isabelle Gerretsen, "How microplastics are infiltrating the food you eat," BBC, 4 January 2023.

⁵ Alan Williams, "New study suggests wearing clothes could release more microfibrils to the environment than washing them," University of Plymouth, 10 March 2020.

⁶ Damian Carrington, "Microplastics found in every human testicle in study," *The Guardian*, 20 May 2024.

⁷ "Microplastics found to be harmful to human cells," University of Hull, 10 December 2021.

⁸ Natalia Zolotova, et. al., "Influence of Microplastics on Morphological Manifestations of Experimental Acute Colitis," *National Library of Medicine*, 25 August 2023.

⁹ Grace Wade, "Microplastics linked to a greater risk of heart attack and stroke," *New Scientist*, 6 March 2024.

¹⁰ The term "recycled polyester" can be misleading, as it suggests that the garment is made from recycled fabric. It is not: only 1% of fabrics are made from recycled fabrics. In the school uniform industry recycled polyester refers exclusively to garments made from plastic bottles.

¹¹ Recycled polyester is marketed as having a lower carbon footprint than virgin polyester. Often cited is the claim that it lowers carbon emissions by over 70%. We have not found an independent study to confirm this. The Swiss Federal Office for the Environment estimates that recycled polyester requires 59% less energy, and WRAP estimates that it reduces CO₂ emissions by 20%. There is also an academic study that found that recycled polyester had a ten times greater carbon footprint than virgin polyester.

¹² Manqi Gao, et. al., "Differences in the release of microplastic fibers and fibrils from virgin and recycled polyester textiles," *Science Direct*, August 2024.

7 students release between **60 and 370 billion each year**. Microplastic pollution is a serious threat and is part of current negotiations on a Global Plastics Treaty to be concluded in 2025.

Polyester school uniforms contain chemical dyes for their colour, and finishes to make them stain and wrinkle-resistant. School children absorb the chemicals in their clothes both through their skin,¹³ and by ingesting microplastic fibres.¹⁴ Thousands of chemicals are used in the garment industry, without studies confirming their safety,¹⁵ and there is concerning evidence of negative health effects from groups who wear uniforms.¹⁶ However, it is impossible for Camden schools, who owe a duty of care to their pupils, to assess the risk to children's health because headteachers and governors do not know what is in their uniforms:¹⁷ providers do not list the chemicals used in the dyes or finishes. After repeated attempts to find out what chemicals are in Hugo's uniform, we received chemical content on one item—the shirts, which contain formaldehyde, a known carcinogen.¹⁸ The presence of hazardous chemicals in microplastics is also to be addressed by the Global Plastics Treaty.

What Hugo's efforts to quantify the environmental impact of his school uniform show is that their carbon emissions contribute materially to the climate crisis, they cause significant microplastic pollution, and there is good reason to be concerned about exposure to harmful chemicals. As a Student Councillor, Hugo advocated for change for over three years. However, this issue is bigger than one school. By alerting Camden's schools to these hazards, and helping them to reimagine the school uniform, the Council can provide the leadership schools need to solve these problems. In doing so, the Council will also have a valuable case study for how to deal with the same issues on a much larger scale in the fashion industry that will benefit the UK as a whole.

We, therefore, request that Camden Council guide and support schools to change uniforms to sustainable natural fabrics and to seek transparency on the chemicals used in school uniforms from the suppliers. To this end, we request that Camden Council take the following actions:

1. **Acknowledge** that polyester school uniforms are an environmental problem and health risk;
2. **Commit** to taking actions to help schools make school uniforms sustainable and to protect school children from the health risks described above;
3. **Inform** Camden schools about the environmental pollution and health risks posed by polyester school uniforms and support their efforts to detoxify supply chains;
4. **Challenge** schools to commit to a sustainability transition pathway;
5. **Support** schools in their efforts to transition to a sustainable school uniform;
6. **Advocate** for the Department for Education and Defra to present regulations to Parliament to require schools/governing boards to transition to sustainable school uniforms by 2030.

¹³ Carry Sommers, "What's In My School Uniform?" Fashion Revolution. See also, Kurunthachalan Kannan and Krishnamoorthi Vimalkumar, "A Review of Human Exposure to Microplastics and Insights Into Microplastics as Obesogens," PubMed, National Library of Medicine, 2021.

¹⁴ "Do Clothes Make Us Sick? Fashion, Fibers and Human Health," Plastic Soup Foundation, October 2022, p.20.

¹⁵ Alden Wicker, "Are your clothes making you sick? The opaque world of chemicals in fashion," The Guardian, 3 July 2023.

¹⁶ Ibid.

¹⁷ A study of school uniforms bought in Canada and the US found high levels of PFAS in 65% of school uniforms. PFAS are known as 'forever chemicals' because they do not break down naturally. Tom Perkins, "What are they thinking?: toxic 'forever chemicals' found in school uniforms," The Guardian, 21 September 2022.

¹⁸ The shirts contain a "Low formaldehyde of DMDHEU urea based" finish. DMDHEU is Dimethylol dihydroxy ethylene urea, a widely used anti-wrinkle agent. It can cause dermatitis in those allergic to the chemical. It also releases formaldehyde, a known carcinogen, into the environment during wear. It is difficult to conclude that any amount of formaldehyde is justified for the alleged convenience of not having to iron. A study found that consumers do not wash or iron clothes less if they have an anti-stain or wrinkle finish.

Polyester School Uniform Carbon Emissions

14.2kg of CO₂ is released to make 1kg of polyester. Calculations are based on Year 7 boys' sizing, and 1140 Camden state school students who wear uniforms. Transportation from factories in Asia to the UK is not included. For more information see the [No Plastic Uniforms](#) website.



Making my school's PE kit releases
3.93KG of CO₂ per uniform.

That's **491.5KG of CO₂**
for 125 year 7 students each year.



And making each blazer releases
6.28KG of CO₂.

That's **785KG of CO₂** each
year if everyone in year 7 bought one.

Total William Ellis School: 1276.5KG of CO₂

Total Camden State Schools: 11,639.4kg of CO₂

Polyester School Uniform Microplastic Fibre Emissions

Between 700 and 4,000 microfibrils are released per gram in a single wash. Three times as many are released in the air. Calculations based on year 7 sizing, washing PE kit twice per week and blazer once per month over one year.



In Water



In Air

13-77 million fibres/student

1.4-9 billion fibres/year group

40-230 million fibres/student

5-28 billion fibres/year group

Total minimum microfibre release in air and water William Ellis Year 7:

1.4 + 5 = 6.4 billion fibres

Total minimum microfibre release in air and water Camden Year 7:

(13+40 million) x 1140: **60.42 billion**

Cost Comparison of Polyester and Natural Fabrics: Uniform Provider vs High Street Providers

Compiled by the William Ellis Parents Association, available at: https://docs.google.com/spreadsheets/d/1ktzy512KSOQCZEGt-u4upXu_UKzgOaYwkM4VaFYo7ic/edit?gid=0#gid=0

WESPA Uniform Suggestions for WES 2023								
File Edit View Insert Format Data Tools Extensions Help								
View only								
A1	Items	colours	fabric	store	price			
2	Shirts	white	organic cotton	John Lewis	£13 - £17/ 2pk			
3			sustainable cotton	M&S	£10 - £15/ 2pk			
4			organic cotton	The Gap	£35 / 3pk			
5			polyester	SWI	£13.90-£20.95 / 2pk			
6	Jumpers	grey	organic cotton	Next	£16			
7			sustainable cotton	M&S	£11- £16/ 2 pk			
8			organic cotton	The Gap	£16			
9	Trousers	grey	organic cotton	Eco Outfitters	from £22			
10		black						
11		black or grey				cotton	John Lewis	£ 10 - £16
12		Black				polyester	SWI	£12 - £14
13	PE shirt	royal blue	organic cotton	Workwear Express	£7.96			
14			organic cotton		£8.65			
15			polyester	SWI	£15.40 - £17.60			
16	PE shorts	royal blue	sustainable cotton	M&S	£3.50 - £6.50			
17		black	organic cotton	Eco Outfitters	£16			
18		royal blue	polyester	SWI	£11.30 - £13.20			
19	Class shorts	black or grey	organic cotton	Eco Outfitters	£19-£23			
20		black or grey	cotton	Workwear Express	£19.32			