Fur’s Dirty Footprint

Report on the environmental impacts of fur production
The international fur trade makes bold, unsubstantiated and highly questionable claims about its purported environmental credentials. In recent years, the British Fur Trade Association has made claims including “Natural fur: the most environmentally friendly material available” and “Natural fur is the most sustainable material available.” The fur trade’s international industry umbrella certification scheme, Furmark, claims it “guarantees animal welfare and environmental standards” and that fur production meets strict, strong and “exacting practices and standards—for the good of the animal, the environment, and the public.”

The fur trade has maintained such claims in public-facing communications and advertisements, in spite of having drawn scrutiny from the Advertising Standards Authority in the UK and in France, and having been ordered to withdraw adverts ruled as factually unsubstantiated and misleading.

The environmental costs of the fashion industry as a whole are a pressing global issue. Reports suggest that the fashion industry is responsible for “between 2% and 8% of global carbon emissions” and textile dyeing is a “major polluter of water.” Limiting the environmental impact of apparel consumption is vital for meeting international climate change commitments, as well as preventing the uncertain consequences of continued pollution and exploitation of the natural world.

In the context of this compelling need for action, the world of responsible fashion is becoming increasingly cognisant of the need to adhere to practices that promote environmental protection and sustainability and, further, of consumers’ expectation to have such practices and claims independently verified and audited. Against this backdrop, the fur trade’s greenwashing looks increasingly insubstantial and out of step.

Seeking to understand the facts behind the fur trade’s claims and soundbites, Humane Society International/UK commissioned Anya Doherty of greenhouse gas experts Foodsteps to conduct an analysis of fur production’s impact on the environment, using publicly available data from French fashion group Kering. The analysis reveals that fur’s environmental impacts considerably outweigh those of other materials across multiple impact factors.

At 309.91 kilograms CO₂-eq, the carbon footprint of 1 kilogram of mink fur was found to be 31 times higher than 1 kilogram cotton, 26 times higher than acrylic and 25 times higher than polyester.
The data allowed us to compare a range of different materials and included information from across the supply chain, such as raw material production, processing, manufacturing and assembly to store. The importance of raw materials to a company’s environmental footprint is clear: According to global management consultants McKinsey & Company, “More than 70 percent of the fashion industry’s GHG [greenhouse gas] emissions come from upstream activities, such as energy-intensive raw material production, preparation, and processing.”7

Whilst we recognise that all materials have a carbon footprint, and many have their own specific concerns, the aim of this report is to show just how large an impact fur production has on the environment and to dispel any notion that the breeding and killing of millions of carnivorous mammals each year can reasonably be described as “natural,” “eco-friendly” or sustainable.”

Companies and consumers need to be fully aware of the true environmental cost of fur, in addition to its devastating outcomes for animals and public health concerns related to zoonotic diseases, so they can stop using this resource-intensive, climate-damaging material and reduce their own environmental footprint.

This analysis also shows that banning the farming of animals for fur and the sale of animal fur are positive steps toward meeting objectives to lessen environmental harms and achieving climate change targets.

Motivated by the concerns of consumers, employees and investors, fashion companies across the globe are looking for ways to cut their greenhouse gas emissions and create products that are more environmentally friendly. While making commitments ranging from switching to energy-efficient lighting to improving packaging materials, companies are also looking to make impactful changes through the materials they source, such as organic cotton, recycled polyester and forest-friendly viscose. The desire to find new, and often animal-free, fabrics has resulted in the development of innovative next generation materials derived from plants and fungi, including pineapple leaves, mushrooms, cactus, corn, hemp and apples.

At the same time, the number of international fashion designers, brands and retailers ending their use of animal fur, and citing concerns including animal welfare, ethics and sustainability, has increased significantly in recent years.
THE PROBLEM WITH FUR

The annual farming of millions of carnivores such as mink, foxes and raccoon dogs requires large quantities of meat. A 2011 report found that 563 kilograms of food was required to produce just 1 kilogram of mink fur. Feeding animal products, such as fish and chicken offal, to other animals to produce fur is inefficient; it certainly could not be described as eco-friendly or sustainable.

The animals’ manure and urine produces emissions including nitrous oxide, phosphorus and ammonia. Phosphorus in manure can make its way into watercourses, where it can increase algae growth and deplete oxygen, creating “dead zones.” Concerns regarding the contamination of waterways near fur farms have been reported in North America and Europe, with a 2022 paper looking at areas around mink farms in Canada stating that persistent organic pollutants and metals “were likely transferred across ecosystems via mink diets and waste” and that “Mercury, PCBs, dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCH), and dieldrin were present in mink/aquaculture feed and mink waste, indicating they are potential contaminant sources.”

The emissions continue beyond the farm. Once the animals have been killed, their fur skins, or pelts, need to undergo a series of treatments to make them soft and supple and to stop them from rotting. The fur processing stage produces emissions of nitric oxide, nitrogen dioxide and carbon dioxide, and uses a large amount of water. The fur dyeing process uses chemicals, including chromium and formaldehyde.

FUR FAILS ALL COST-BENEFIT TESTS

In an increasingly environmentally conscious world, the use of materials is rightly viewed through the lens of cost-benefit analysis: is the use or exploitation of a natural resource (in the case of fur, a sentient animal) justified by serving a pressing human need, and one that cannot be met in less harmful or resource-intensive ways? Clearly, in the case of fur, the answer is no. There are plenty of fur-free materials on the market that provide warm and robust winter clothing, and nowadays animal fur is often used merely for decoration, such as a small piece of trim or as a pom-pom on shoes, fashioned into hairclips or earrings, or used to create other frivolous items such as keychains.

Taking animals’ lives to produce a product that is non-essential can certainly be defined as unethical, but this report shows that fur production is also an indefensible waste of valuable environmental resources.

Fur production involves multiple energy-intensive processes, each creating emissions. Animals must be confined for months and fed (other animals), the faces and urine they produce managed, their skins processed and treated with chemicals to prevent decay, and throughout all stages, transportation of animals, feed and/or products takes place.
DATA BACKGROUND AND METHODOLOGY

Fur has previously been identified as a high-impact material, but, due to a lack of data, few studies have quantified its impact on the environment. However, pressure on the fashion industry to acknowledge its environmental impact has opened up new data sources, most notably in the publication of Environmental Profit & Loss (EP&L) accounts by Kering, the owner of international luxury fashion houses such as Gucci, Alexander McQueen and Saint Laurent, which describes EP&L as an “innovative tool for measuring and quantifying the environmental impact of [its] activities.” Calling it “a tool for the greater good,” Kering shares its methodology “with other companies, in its own industry and beyond, to encourage a general movement toward greater sustainability.”

The EP&L collates data collected from suppliers and brands to measure the environmental impact of materials across the supply chain, taking into account raw material production, processing, manufacturing and assembly to operations. In the Foodsteps analysis, the 2018 EP&L accounts from Kering were used to investigate the environmental impact of fur from three animals—mink, fox and raccoon dog—in comparison to five other materials—cotton, lamb fur (shearling), leather, polyester and acrylic. The footprint of each material was compared across the six environmental impact metrics published by Kering—air emissions, greenhouse gas emissions, land use, waste, water consumption and water pollution.

RESULTS

The environmental impacts of fur considerably outweigh those of other materials, across multiple impact factors.

Among the eight materials considered, fur from mink, foxes and raccoon dogs had the highest air emissions, greenhouse gas emissions, water consumption and water pollution per kilogram. Mink fur also came out as having the highest waste per kilogram.

CARBON FOOTPRINT

(GREENHOUSE GAS EMISSIONS)

The difference in the carbon footprint (greenhouse gas emissions) of fur and the other materials was stark.

At 309.91 kilograms CO₂-eq, the carbon footprint of 1 kilogram of mink fur was found to be 31 times higher than 1 kilogram cotton, 26 times higher than acrylic and 25 times higher than polyester.

The results were similar for raccoon dog fur and fox fur, which had a carbon footprint per kilogram of 225.24 kilograms CO₂-eq and 221.21 kilograms CO₂-eq, respectively, making them approximately 18 times worse for the climate than polyester, and 23 times worse for the climate than cotton.

AIR EMISSIONS

Fur showed a substantially higher impact from air emissions relative to other materials.

Mink fur produced the greatest impact, at 13.34 kilograms air emissions per kilogram of fur. This was found to be nearly 150 times higher than air emissions from polyester, 215 times higher than air emissions from cotton, and 271 times higher than air emissions from acrylic.

Fox and raccoon dog fur had a similar impact on air emissions at 6.66 kilograms per kilogram. This was roughly 57 times the emissions of polyester, 83 times the emissions of cotton, and 104 times the emissions of acrylic.
RESULTS

WASTE
The average waste produced per kilogram of fur was found to be 1.26 kilograms, similar to the 1.37 kilograms produced by cotton but considerably higher than that produced by the other material types. For example, the waste produced by mink fur at 2.02 kilograms per kilogram of fur is approximately 12 times higher than that of acrylic and seven times higher than that of polyester.

WATER CONSUMPTION
The average water consumption of the three furs was found to be five times higher than cotton, 91 times higher than polyester, and 104 times higher than acrylic, measuring 29.13 m$^3$ or 29,130 litres per kilogram of fur produced.

WATER POLLUTION
The production of these three fur types was found to have a staggering impact on water pollution, when compared with alternative materials.

For example, mink fur produces nearly 400 times the water pollution per kilogram of polyester, at 3.83 kilograms of water pollution per kilogram of mink fur.

The average water pollution of the three furs was found to be 3.08 kilograms per kilogram of fur, making them 100 times more water-polluting than cotton, and 75 times more water-polluting than acrylic for the equivalent weight in material.

LAND USE
Lamb and leather mask the finding that the main three fur types use a similar amount of land per kilogram as cotton—i.e., between 15 metres squared (m$^2$) and 20 metres squared (m$^2$). This is substantially higher than that required for the two synthetic materials, polyester and acrylic, which both use less than 1 metres squared (m$^2$) of land per kilogram of material.
Further analysis by Foodsteps using additional methodology illustrated that the carbon footprint of creating fur accessories considerably outweighs the impact of other material types used in accessories.

For example, a parka trim made of raccoon dog fur has a carbon footprint of 27.32 kilograms CO₂-eq, compared with an acrylic trim, which has an estimated impact of 1.42 kilograms CO₂-eq.

Similarly, a bobble made of raccoon dog fur on a hat has a carbon footprint nearly 20 times higher than an acrylic bobble, at 2.71 kilograms CO₂-eq compared with 0.14 kilograms CO₂-eq.

In terms of water use, creating accessories from raccoon dog fur uses nearly 100 times more water than creating the same accessories from acrylic. For example, 3,200 litres of water are used to create a raccoon dog fur bobble, compared with 34 litres for an acrylic trim. Similarly, a raccoon dog fur bobble on a hat uses an estimated 320 litres of water.

ENVIRONMENTAL BENEFITS OF STOPPING FUR PRODUCTION

By extrapolating the data and applying it to the total number of animals farmed for fur in Europe in 2021, the analysis showed that stopping the annual farming of foxes, mink and raccoon dogs for fur in Europe would save almost 300,000 tonnes of carbon dioxide equivalent, equivalent to cancelling the emissions of roughly 58,000 individuals in the UK (average emissions 5.15 tonnes per person in the UK). It would also save 3,700 tonnes of water pollution and 11,800 tonnes of air emissions.

CARBON FOOTPRINT COMPARISON WITH FOOD PRODUCTS

To better illustrate the environmental impact of fur, its carbon footprint was compared to commonly consumed goods, such as food, using global emissions values.

Mink fur has a particularly high carbon footprint of 309.91 kilograms CO₂-eq, comfortably exceeding that of high-carbon food products. For example, 1 kilogram of mink fur releases approximately seven times higher emissions than 1 kilogram of beef, and 34 times higher emissions than 1 kilogram of chicken. The carbon footprint of mink fur is especially high compared with lower-carbon ingredients, with 115 times the carbon footprint of tomatoes and 775 times the carbon footprint of potatoes.

In the last few years, a whole raft of international designers and brands, including Gucci, Prada, Chanel, Alexander McQueen, Michael Kors and Burberry, have dropped animal fur from their collections, joining the ranks of designers who have never used fur, such as Stella McCartney. In going fur-free, many designers have cited animal welfare and sustainability:

“Fur out, ethical fashion in … In recent months, a growing number of luxury fashion houses like Gucci and Michael Kors have announced a commitment to more ethical fashion practices. ... This new wave of major brands championing sustainable fashion marks a great leap forward for fashion.”
—Elle magazine article, October 2019

For many years, Kering has sought to take the lead in sustainability, guided by a vision of luxury that is inseparable from the very highest environmental and social values and standards. When it comes to animal welfare, our Group has always demonstrated its willingness to improve practices within its own supply chain and the luxury sector in general. The time has now come to take a further step forward by ending the use of fur in all our collections. The world has changed, along with our clients, and luxury naturally needs to adapt to that.

—François-Henri Pinault, chairman and CEO of Kering, announcing its remaining fur-using brands would follow the likes of Gucci, making the whole Group fur-free, September 2021

“Fur has never been part of the main pieces of Prada. ... People are always asking for a more sustainable approach from the company. ... [Consumers are] different from the past. They think everybody needs to do their part to have a more sustainable world and future.”
—Lorenzo Bertelli, head of marketing and communications, Prada Group, May 2019

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—Marco Gobbetti, chief executive officer, Burberry, September 2018
THE FUTURE FOR FUR: OUT OF SYNC WITH POLITICAL ASPIRATIONS AND CLIMATE GOALS

Experts see limiting the impact of apparel consumption as vital for meeting international climate change commitments, as well as preventing the uncertain consequences of continued pollution and exploitation of the natural world.

The United Nations Sustainable Development Goals call on “governments and all citizens to work together to improve resource efficiency, reduce waste and pollution” to ensure responsible consumption and production (SDG12)24 and to take urgent action to combat climate change and its impacts (SDG13).25

According to global management consultants McKinsey & Company, “Reducing emissions from upstream operations [such as energy-intensive raw material production, preparation and processing] has the potential to deliver 61% of the accelerated abatement potential, but requires the fashion industry to decarbonize material production, material processing and garment manufacturing.”26

A number of the industry’s most high-profile fashion brands have committed to the Fashion Industry Charter for Climate Action with its mission to “drive the fashion industry to net-zero Greenhouse Gas emissions no later than 2050 in line with keeping global warming below 1.5 degrees.”27 The charter recognizes that the fashion industry has “a role to play in reducing climate emissions...with an awareness that the majority of climate impact within the industry lies in manufacturing of products and materials”28 and that “all companies within fashion...have opportunities to take actions that will result in a measurable reduction in greenhouse gas (GHG) emissions.”29

The new “science-based targets for biodiversity and nature conservation,” released recently by the Science Based Targets Network, include guidance on freshwater that requires companies to target “an absolute reduction in the quantity of freshwater used, and an absolute reduction in nitrogen and phosphorus pollution.” The guidance notes that the latter has “major implications for fashion’s agricultural supply chain: fertiliser use and other common farming practices in industrial agriculture have led to the nutrient pollution—skyrocketing levels of nitrogen and phosphorus in particular—that is responsible for ‘dead zones’ in coastal waters around the world.”30

Photos (clockwise):
Poor waste management on fur farms contributes to the industry’s negative environmental impact.
Filthy conditions on a fur farm.
Fur farming has devastating outcomes for animals and the environment, and creates risks to public health too.
Conclusions and recommendations

Intensively farming millions of waste-producing animals, feeding them other animals (primarily chicken and fish) and treating their skins with a cocktail of toxic chemicals to produce a non-essential product can in no way be described as an environmentally sound proposition, nor a sustainable endeavour.

Not only does the production of fur raise serious animal welfare concerns and public health risks, but also it is clear from the analysis of Kering’s data that fur production causes significant and unnecessary harm to the climate and environment.

HUMANE SOCIETY INTERNATIONAL/UK RECOMMENDS:

- **Companies and consumers:** Be fully aware of the true environmental cost of animal fur, scrutinise very carefully sensationalist environment credentials claimed by the fur trade and take action to reduce their environmental footprint by no longer using, buying, selling or advertising animal fur.

- **Financial institutions:** Be fully aware of the animal welfare and environmental issues associated with animal fur, and include its production, manufacture, trade and sale in their exclusion policies.

- **Sustainability champions:** Clearly and unambiguously recognise animal fur as the high-resource material it is, as well as its negative impact on animal welfare and our planet.

- **Political leaders:** Expedite bans on farming of animals for fur and introduce bans on the import and sale of animal fur, in light of both the unacceptable animal welfare inherent to fur factory farms and the significant and completely unnecessary environmental damage it causes.
The environmental impact of mink fur production Delft. CE Delft.


A complaint by the British Fur Trade Association to the Advertising Standards Authority of France in 2018 https://www.24presse.com/wp-content/uploads/2020/03/FURMARK-Executive-Summary-17.02_COMPRESSED.pdf


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References

1 British Fur Trade Association tweet, 31 March 2021. https://twitter.com/ BritishFur/status/1377242714690726720

2 British Fur Trade Association tweet, 1 April 2021. https://twitter.com/ BritishFur/status/1377559123502653464


5 An advert by the International Fur Federation published in Vogue Paris (edition 900, September 2018) was declared “misleading and inaccurate” by the Advertising Standards Authority of France in 2018 https://www.24presse.com/fur-industry-s-advertising_declared_misleading-9920787.html

2FD-LX8QJ In 2012 the UK Advertising Standards Authority banned a magazine advert from the European Fur Breeders Association titled ‘Why it’s eco-friendly to wear fur’ and included claims that fur ‘biodegrades’ and can be ‘recycled easily’, in banning the advert the ASA stated “because we did not consider that we had seen sufficient evidence that the product would cause no environmental damage, taking account of the full life cycle of the product from manufacture to disposal, we concluded that the ad was likely to mislead.” https://www.theguardian.com/media/2012/mar/21/eco-friendly-fur-ad-banned


12 The environmental impact of mink fur production Delft. CE Delft. January 2011


18 Elle, October 2019. https://www.walle.com/fashion/19/702518/fashion-brands-that-are-going-fur-free


29 Ibid

Our mission

Advancing the welfare of animals in more than 50 countries, Humane Society International works around the globe to promote the human-animal bond, rescue and protect dogs and cats, improve farm animal welfare, protect wildlife, promote animal-free testing and research, respond to disasters and confront cruelty to animals in all of its forms.