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On Literal Reduction of Carbon Footprint

By Geneve Lau

When buying apparel, there are pieces that never grow out of either size or style. You can keep a handbag for many years, or a gold necklace.

Inevitably, there are pieces that can't be reworn. Although efforts such as handing clothing items down amongst family members and neighbors have helped in reducing immediate waste and disposal of outgrown clothing items, the eventual fate of clothing is inevitable—to landfill.

Additionally, it can be difficult to pass certain clothing pieces down, if they tend to wear easily, due to daily use. Shoes are a popular example of this.

In 2010, the oldest shoe in the world was found in a cave in Armenia. The leather shoe was believed to be over 5,000 years old.

In landfills, leather shoes take up to 40 years to decompose fully, and rubber soles up to 80 years. Depending on the type of shoe, if ethylene vinyl acetate, a main material in running shoes, is present, it could stay in a landfill for as long as 1,000 years.

Footwear waste begins as early as the production process, as the patterns cut into the material shoes are made of leave about 30% automatically in landfills. In addition to material waste, chemical waste in the production of footwear such as glues and dyes are also released into the environment. Furthermore, not every shoe manufactured makes it to a shelf for consumer purchase, for purposes such as flaws or defects.

The US is the leading country in pairs of shoes per person capita each year, in a study completed in 2017.

On average, Americans throw away at least 300 million pairs of shoes annually, while 20 billion pairs are being produced globally.

There are many shoes produced by companies worldwide who strongly emphasize sustainable methods, while the actual shoes produced are not recyclable. Materials that are not recyclable is not a justification to not carry out sustainable means as a company, however. Organizations like Soles4Souls serves as a great community partner for stores to offer a recycling bin for customers. The organization donates shoes to those in need all around the world.

Popular footwear brands are beginning to take notice and delivering their stance on sustainability efforts. In 2013, Crocs released their first sustainability report; workplace, environmental protection, product innovation, and community engagement were all areas of emphasis.

One of the vital achievements of the year was the reuse of Croslite material scraps, 5% per shoe produced. As far as packaging efforts go, approximately 640,000 pounds of waste was reduced, the equivalency of over 900,000 pairs of shoes.

Scott Crutchfield, CFO of Crocs, emphasized, "Sustainability is a core priority at Crocs." He adds that "health and the well-being of our people" are also a priority for the company.

Some future goals of the company include iterations of models with improved environmental impact, diminishing the use of harmful materials such as glue and cement in the crafting of shoes. There is also an emphasis towards creating soles out of recycled Croslite material, taking a stance on elimination of material waste footwear production.

In a study done at MIT, it was found that the energy needed to produce a pair of shoes is that of keeping a 100-watt light bulb on for a week.

Popular brand TOMS is changing the industry by reusing materials like plastic bottles and rubber to create pieces in their company line. Athletic sneaker brand Brooks is attempting to reduce the use of oil and energy in the production of their sneakers.

One unexpected way to increase environmental consciousness is the reduction of colors offered, thereby practicing more energy effective methods of production. Adidas mentioned taking on this effort in a recently released sustainability report.

Origin of production is a large determinant in how ethical the manufacturing process is. Crocs, for example, are produced in Italy and Mexico, and New Balance in the United States. Brands are moving away from unethical sweatshops and moving towards factories providing employment opportunities as well as workers' benefits.

Other brands will repurpose shoes in an interesting new way. Nike took on a program about two decades ago, known as the "Reuse-A-Shoe", to grind worn athletic sneakers and reuse the material for courts, turf, and running tracks.

Sustainable fashion has taken the industry by storm. *Harry Potter* star Emma Watson emphasized, "I will work for anyone for free if they're prepared to make their clothing fair trade and organic." Other celebrities that have modified purchases to ethical and fair trade pieces include Jessica Alba, Olivia Wilde, and Stella McCartney.

More collegiate athletic teams are seeing the integration of ethical footwear into their programs. The University of Pikeville women's bowling team. Mallory Liversedge, a sophomore on the team, recalled the idea coming from her coach after seeing other teams on campus with them. "Firstly, they come in a variety of colors, so we wanted the orange to match our uniforms. We saw a lot of teams wearing them, and rather than buying a pair of slide-on flip flops each season that were probably going to get worn out, Crocs were a way better option."

Croslite is one of many materials on the market that last at least 40% longer than standard shoes of similar style. This makes them a popular option for consumers who don't want to continually repurchase shoes each season due to wear.

Drew Barrymore, a recent collaborator with Crocs, expresses her take on sustainable footwear. "Most of the time, we want the best of both worlds: comfort and style. That can be hard to find, so we buy shoes to serve each function. I crafted this collection with the intent that each pair can fill both purposes in the wardrobe of the owner. When you find a pair of shoes you really love, you'll always wear them."

Shoes are such a quintessential component of everyday life, whether it be from a fashion or a practical standpoint. The average American woman will spend \$20k on shoes during a lifetime.