

Exploring linkages between fast fashion and climate change

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Abstract:

This research explores the fast fashion industry and its climate and environmental impacts. It poses an investigation on the industry's carbon footprint and impact on climate change with both supply chains and the demand side of fast fashion, as well as how media have an obligation to now teach sustainability and conscious consumerism.

The platform for disseminating my research is a sustainable fashion blog website that aims to condense the research into an engaging discussion with pictures, data, and advice on how to shop sustainably. The blog also discusses the impacts of influencers and their "clothing hauls" and how the media pushes fashion trends with shorter lifespans. The goal of the site is to motivate people to act in their communities, families and their own lives. I hope to inspire my readers and call to mind the importance behind sustainable shopping and how collectively, smart shopping can and will help to save our earth.

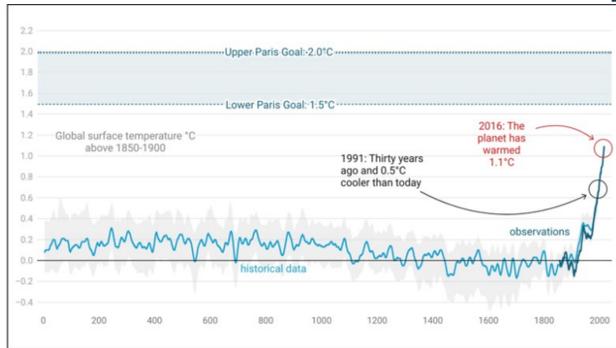


Figure 1: *Global Warming Thus Far*: Global temperatures remained mainly consistent over the course of 2,000 years, until the mid 20th century, where they began to exponentially increase. The earth is now 1.09°C higher than what it was between 1850-1900. Credit: J. Duncombe, EOS. Source: *IPCC* [2021]

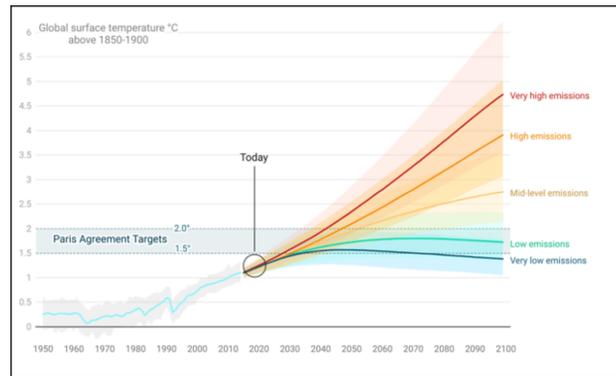


Figure 2: *Future Warming Pathways*: Future global temperatures will be determined by the amount of greenhouse gas emissions released by the end of the century. The two shared socioeconomic pathways that stay below 2°C require net zero emissions by mid to late century in addition to carbon removal. The graph shows 5 scenarios; very low emissions, low emissions, mid level emissions, high emissions, and very high emissions. Credit: J. Duncombe, EOS. Source: *IPCC* [2021]

Climate Change Links to Fast Fashion

Climate change has varying impacts on different species. Those unable to adapt to these changes or migrate to suitable habitats will see population declines. There is clear evidence in anthropogenic global warming trends since the Industrial Revolution (see figure 1), and humans have been creating greenhouse gasses ever since that contribute to the continued warming. A way to reduce your own emissions is to think and act sustainably. Fast fashion is cheap, trendy clothing that samples ideas from popular culture and then turns these ideas into garments at extremely high speeds to meet the demands of consumers, and it comes with a price. It has had a drastic impact on the planet and the labor force needed to keep up with the ever-changing trends. Global warming emissions can be attributed to the trends that sustain the fashion industry. With the rise in media, fashion trends have been changing fast, requiring an accelerated pace of production of clothing that is discarded as soon as the trend goes out of style and a new one comes in.

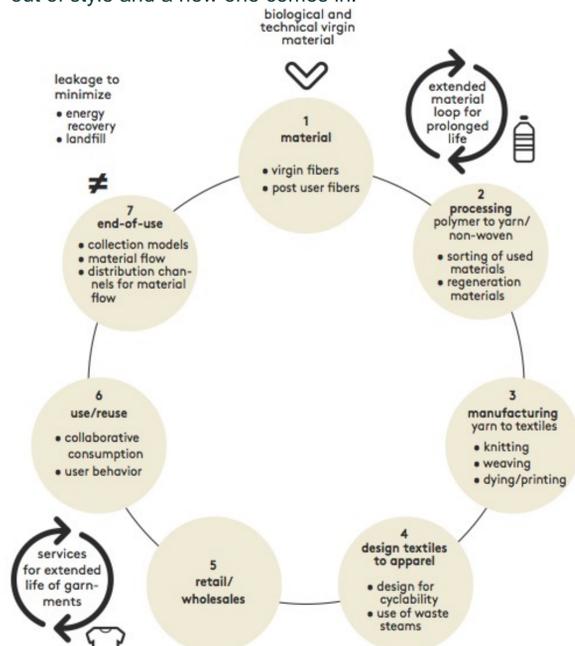


Figure 3: *Supply Chain Circular Economy*: This shows an envisioned change of our economy that is linear today. The circular model maximizes processes while limiting environmental impact as much as possible. Credit: S. Rauturier, Source: *GoodOnYou* [2022]

Changes to the Fast Fashion Industry

We need to start holding businesses accountable for their environmental impacts, otherwise the damage will continue to rise. Businesses need to start looking at alternatives in their materials that are more sustainable, such as paper, milk, soy, etc. Since fast fashion seems like it is here to stay, we need to do our part slowing the flow, shopping responsibly and thinking carefully about our purchases and what effect they are going to have.

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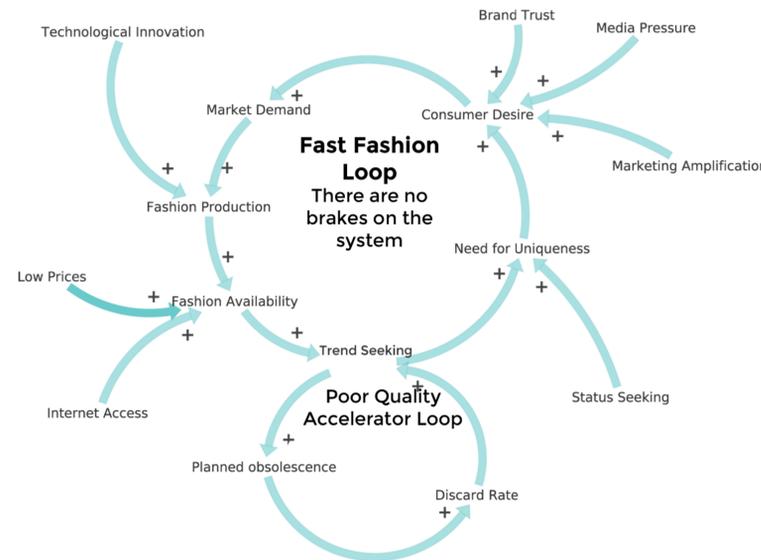


Figure 4: *Fast Fashion Loop*: This map visualizes the loop of fast fashion and all of its influences. Low quality garments are produced at high rates to keep up with the quick changing trends pushed on consumers by the media. Source: *DeMontfort University Leicester* [2019]

The Fast Fashion "Loop":

The fast fashion loop is a vicious and endless cycle. Consumerism has been increasing with the population growth we are experiencing, along with the economic development in our society. Taking media into consideration, with the rise of social media and "influencers", fashion trends are changing faster than ever before. When a new style circulates the media, everyone wants it. Once a new one comes in, the old one is out the window. This causes the need for an extremely fast paced production of clothes that is constantly trying to keep up with the trends and tosses most of their items into landfills when the desire is no longer there. As advancements are made with technology, the production of clothing increases in speed and decreases in quality, also leading to shorter lifespans of the products.

A study published in the *The Journal of Cleaner Production* explains how the climate impact of clothing and footwear consumption rose from 1.0 to 1.3 Gt carbon dioxide equivalent from 2015-2020, the same time frame as the rise of fast fashion fascination within the media. This is a massive increase in carbon dioxide given that it is essential we achieve net zero emissions very soon.

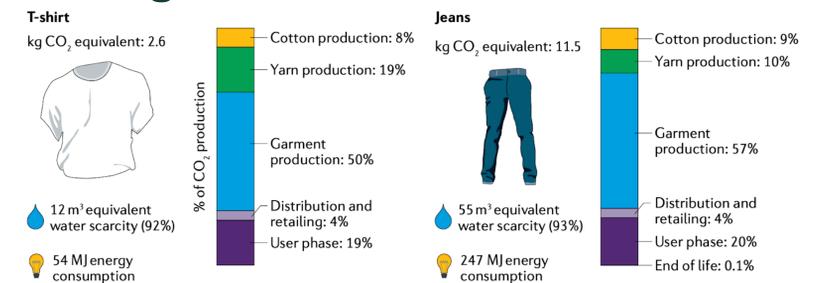


Figure 5: *Clothing Life Cycle*: This graphic shows how much carbon dioxide is emitted into the atmosphere during each phase of the life cycle.

Clothing Life Cycle:

Many different parts of the fast fashion life cycle contribute to its environmental impacts. This includes

- Fiber production
- Yarn production
- Garment production
- Distribution and retailing
- User phase

From a production perspective, garment production accounts for nearly half of the total CO2 emissions produced during the life cycle. Fast fashion has provided a reason for total fiber production to approximately double from 2000 to 2018.

In 1995: 7.6 kg fibers/person
In 2018: 13.8 kg fibers/person

These numbers exemplify an 82% increase in fiber production globally. Cotton is problematic due to the heavy use of water, pesticides and fertilizers, and polyester is also harmful because it is derived from finite fossil resources. The distribution and user phase, along with the end-of-life process from the industry are responsible for approximately 35% of microplastic pollution in our oceans, releasing around 190,000 tons per year. Dyes, toxic waste, and inhumane treatment of workers all impact ecosystems. Therefore, every step of production has both environmental and social impacts. CO2 is even emitted during the user phase, signifying our firsthand contributions to climate change.

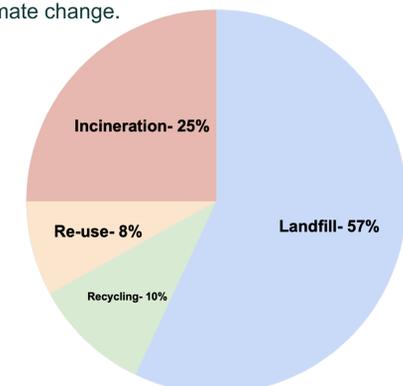


Figure 6: *Global Waste Statistics*: This chart shows that as of 2018, 57% of clothing waste ends up in landfills every year. 25% is incinerated, and the remaining waste is either reused or recycled. Source: *CommonObjective*

Clothing End of Life:

There are many things that happen to the clothing when it is decided it is no longer wanted or needed. The common options we use to get rid of clothing include donating it, selling it, or just throwing it away. Many people tend to believe that most clothing is resold through donations or recycled, but this is not the case. Over half of all clothing produced ends up in landfills, and a quarter of it is incinerated. Even when clothing is donated, which most people view as a good thing, it is either sold or re-sold to the used-clothing industry. From here, they are sorted into piles based on the type of clothing that it is and then it is determined where they should be sent. This process is labor intensive since it is all done by hand. The clothes are then distributed all over the world, but most end up in African countries like Ghana, Kenya, and Benin. This process is great for the people who buy the donated clothes, but not so great for the importing countries since it destroys their textile industries.

Blog Purpose:

The purpose of this blog is to educate on the impacts that fast fashion has on climate change, and how it is therefore affecting the planet we live on. While it may feel impossible to be a conscious consumer in a capitalist driven society, our everyday choices, no matter how small, can decide the future we'll see for our planet. My upcoming blogs will contain the research I have done on the specifics of the impacts and what we can do to eliminate fast fashion!

