

# Selling Sustainability: Applying Green, Cross-Industry Case Studies to “Slow Fashion”

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## ABSTRACT

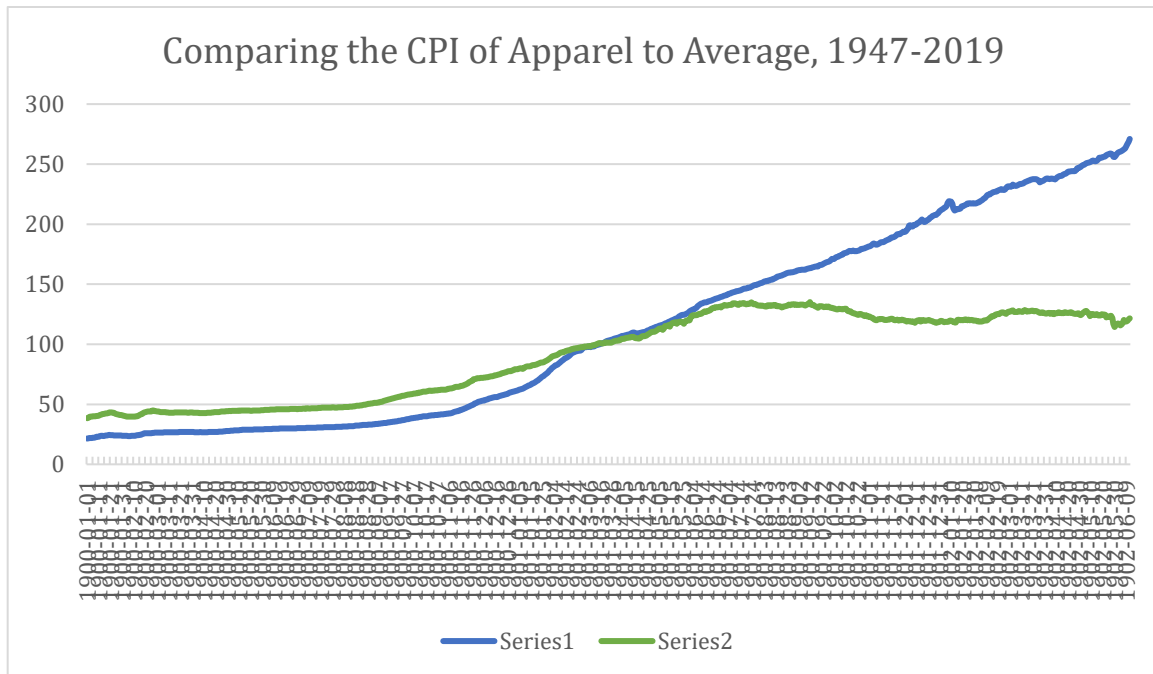
This study aims to evaluate the qualities required for sustainable clothing brands to succeed in an industry dominated by "fast fashion," an environmentally unfriendly manufacturing and distribution process. A number of cross-industry case studies were conducted, focusing on companies with sustainability built into their business models from several verticals. Our analysis found that the main reason for these businesses' commercial success was not the fact that they were sustainable, but that they brought an innovative and marketable product that helped consumers. Their sustainability was not a selling point; instead, their products' benefits were, and we believe that sustainable businesses fail to do so. By marketing "coolness," the health benefits, luxury appeal, and clothing quality of Whole Foods Market, Tesla, and Patagonia allowed these brands to build extremely successful businesses, with sustainability benefits tacked on as a very positive externality. Generalizing, we claim that a sustainable fashion brand must be inexpensive, marketable, innovative, and profitable to find success in the fashion industry. We concluded that fashion companies should use advanced technology such as blockchain technology and biomimicry to create sustainable products that are appealing to the masses, mirroring the case studies above by providing outsized environmental benefits.

## Introduction to Fast Fashion

Among discussions of climate change and pollution, one top contributor is often left out due to its firm hold on global markets and individual consumers— fast fashion. Fast fashion is a designing, manufacturing, and marketing process based on rapid production of cheap clothing. Fast fashion is a recent shift in clothing manufacturing towards the rapid production of inexpensive clothing to accommodate fast-changing trends. (Hayes, Investopedia). Though fast fashion has driven profits in the clothing industry, this manner of production emits more greenhouse gases and results in more manufacturing waste than traditional “slow fashion” methods, drawing much criticism from environmental activists. Environmentalists have called for a return to “slow fashion,” but industry inertia has complicated efforts to abandon a technique that is decidedly very beneficial to the bottom line.

The next generation of “slow fashion” companies that will prove competitive— and, ultimately, that will prove critical to slowing the effects of climate change— is beginning to emerge. Those winning companies will appeal to enough consumers to challenge the incumbent fast fashion players, produce that appeal while maintaining a rigorous and watertight business model, and drive innovation in their industry to offer a truly differentiated product. We claim that these accessible, profitable, and innovative companies will serve as the next leaders in the fashion industry broadly, and will also serve as the focus of this essay: first, we will walk through the characteristics of the incumbent fast fashion industry, turning then to several case studies of successful, environmentally-friendly challengers in other industries, and will then conclude with a case study of a slow fashion company of our own, highlighting the qualities of a company that might rise to dominate in the next chapter of fashion.

Though it has a firm foothold in the fashion industry today, fast fashion is only a very recent appearance. Until the 1800s, fashion was not a commercial industry at all; instead, it was common for families to make their own clothes from home-grown materials like wool or cotton. The industrial revolution in the second half of that century



changed everything: new technology, like the sewing machine, entered the fashion industry, overhauling the production of clothing. Clothes suddenly became very quick and inexpensive to make, and it became common to buy clothes from catalogs and department stores instead. (Stanton, *The Good Trade*). These methods of rapid production were further honed through the 20th century but stores typically kept to the seasonal model of clothing production, where new collections would only appear every new season.

Fig. 1: The comparison of the Consumer Price Index (CPI) for apparel to the average of all goods. The CPI gives an idea of how much the price of goods has changed over time, with the value on the chart representing the relative price of goods compared to 1982-1984, which are marked as 100, or 100%. The data show that apparel was comparatively more expensive than the average good until the mid-1980s, at which point the growth of prices of all goods took off while apparel prices remained mostly constant. This demonstrates that the cost of goods has comparatively decreased dramatically in the last 30 years, very likely in part thanks to innovations in fast fashion. **But at what cost?**

Data from the Federal Reserve Economic Database (FRED)

By the turn of the 21st century, however, fast fashion began to accommodate faster-changing trends in consumer demand. Zara was the first brand to change the four-season pattern by implementing bi-weekly deliveries of new clothing. Other brands quickly followed in fear of losing business, resulting in the production of massive amounts of clothing as a sort of clothing arms race. (Stanton, *The Good Trade*). Before long, the industry had divided the year into 52 micro-seasons, each with its own new collection of dozens of garments. (Stafford, *Green America*). The fashion industry was forever changed. Brands such as H&M, Topshop, and early player Zara could take design elements and iterate upon them quickly and cheaply as current trends demanded. Consumers flocked to these stores to purchase the latest, driving revenues that are then invested into the next round of cheap garments produced in a process that chokes the environment.

## The Fast Fashion Manufacturing Process

Fast fashion clothing is manufactured in a process that takes in low-cost, low-quality materials and outputs cheap clothes quickly. It is the epitome of modern mass production. New developments in supply chain management have

allowed suppliers to manufacture and sell products in an efficient and economically advantageous way. (Hayes, Investopedia). Large manufacturing plants located across the world produce millions upon millions of tons of textiles every year— last year alone, over 100 billion garments were produced. (Clean Clothes Campaign). To produce fast fashion clothes, manufacturers use materials such as polyester and oil-based synthetics, all soaked in chemical baths and dyed with bleaches. Though these processes seem convoluted to outsiders, fast fashion manufacturing is a finely tuned art, organized around the cheapest materials to keep costs low. Quality control is rarely a priority— buttons are often forgotten, zippers are often broken, and clothes often come with holes. The manufacturing process of producing a lot for a little does maximize profit, but at what cost?

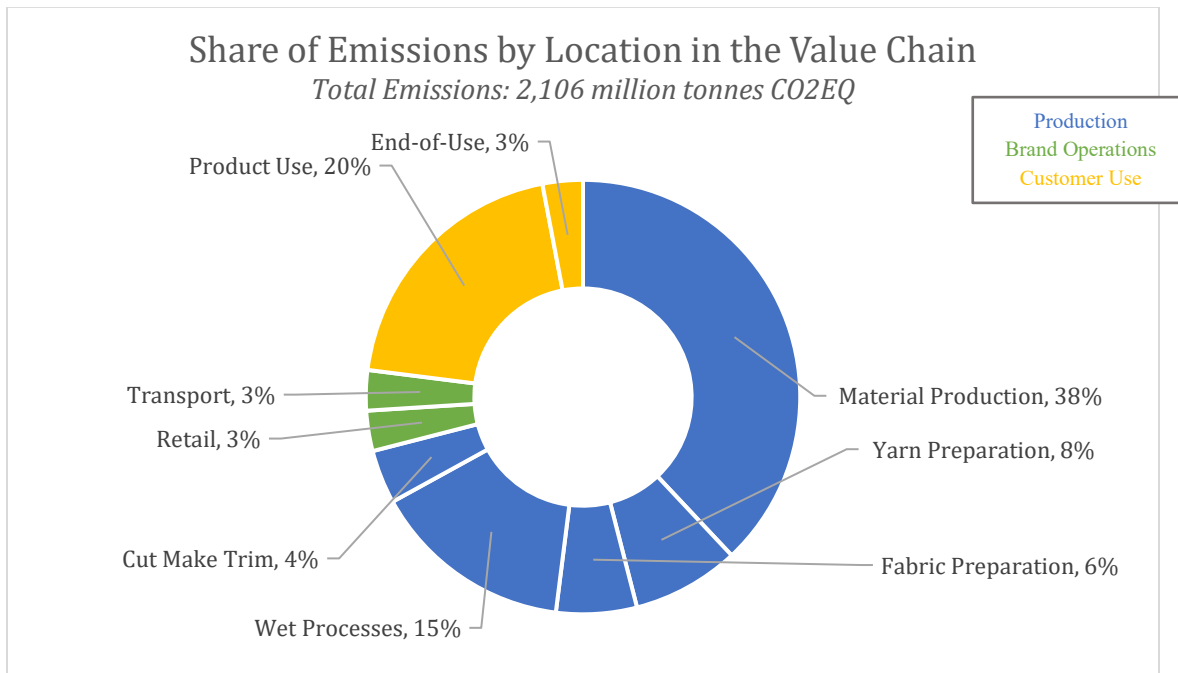


Fig. 2: The representation of which parts of the fashion value chain produce the most emissions. The data demonstrate that production and manufacturing make up the vast majority of greenhouse gas (GHG) emissions, with material production (the farming or synthesizing of thread for fabrics) and wet processes (water-intensive stages of manufacturing, such as dyeing or washing) making up over half of total GHG emissions. All the same, product use, including product washing and drying, make up a sizeable portion of emissions as well. Thus, we can see that **companies and customers alike share responsibility to decrease emissions.**

Data from McKinsey’s 2020 “Fashion on Climate” report, available publicly

Fast fashion benefits from a cycle of production and consumption that always demands *more*. More trends created mean more clothing produced, which means more profits, and more trends thereafter. Companies can make a lot for a little, but this rapid production process harms the environment in ways never seen in the industry. Waste and pollution are commonplace, and the micro-seasonal nature of trends means factories produce tons of new clothes every week to replace old garments that are poor quality or out of fashion. Per The Good Trade, Over \$500 billion is wasted every year due to clothing that is thrown away. (Hepburn, The Good Trade). The fast fashion industry is also the second largest polluter of water globally. (Assoune, Panaprium). 700 gallons of water are needed to produce one cotton shirt, and this water is then dumped into streams and rivers after being mixed with industrial dyes and bleaches. Synthetic fabrics, the main component of fast fashion garments, consist of synthetic fibers like nylon and polyester, which are derived from fossil fuels and take hundreds of years to biodegrade. When they wear, garments are then thrown into landfills, where they release toxins into the air, increasing greenhouse gas emissions and making the fast fashion industry a strong contender for the largest greenhouse gas emitting industry. (Stanton, The Good Trade).

Fast fashion's problems do not stop with the environment: labor advocates also criticize the industry's treatment of its underpaid and overworked workers, and for good reason. Fast fashion relies heavily on the globalized production network, where companies produce their goods in numerous countries to cut costs. Brands distribute the production of their base ingredients, like dyes, fabrics, and chemicals, to local companies, who are not apparently affiliated with that brand. As a result, brands are often able to escape their ethical or legal obligations to ensure that working condition standards are being met. Due to lack of strict regulations in the countries where production takes place, workers are often underpaid and overworked. (Hepburn, *The Good Trade*). To keep up with constant changing trends, workers must work hard to reach aggressive supply demands, and factories often shirk requirements to provide breaks and to keep hours low. On top of this, workers are exposed to the many harmful dyes and chemicals are used to produce clothing, leading to detrimental health outcomes, like skin disease and cancer (Rudenko, *Sharecloth*). With the onset of the Coronavirus pandemic, brands have begun to cancel orders and not pay for them, even though the products have already been produced— and local workers often foot the bill. (Stanton, *The Good Trade*) The situation seems bleak: fast fashion hurts the environment and hurts the people who produce garments, but there are solutions in sight.

“Slow Fashion”:

Fast fashion encourages consumption, which only encourages worse practices in fast fashion— the natural fix to this cycle, then, is to slow consumption. “Slow fashion” was devised as a widespread reaction to the fast fashion industry, advocating against uncontrolled mass production in favor of an industry that places people and the planet above profit. Consumers are encouraged to build wardrobes around long-lasting and sustainably produced clothing instead of following weekly trends, wherever they may lead. (Maiti, *Earth.org*). Slow fashion is often produced locally, cutting out a section of the supply chain that requires massive container ships crisscrossing the globe and belching out pollutants all the while. Nearby production leads to easier oversight of production processes, letting advocates see when labor and environmental standards are broken. Slow fashion also implies a circular economy, albeit a different one where clothes are donated and recycled when they are no longer needed, reducing the waste driven in trucks to landfills. In recent years, slow fashion has become a well-established and well-resourced alternative to fast fashion, but activists are nonetheless surprised to see that it has not replaced its competitor. (Stanton, *The Good Trade*).

The slow adoption of slow fashion is closely linked to fast fashion's inherent appeal to consumerism. Fast fashion has made the buying of clothes into a satisfying and social activity, and these are not easy habits to break. There is a psychological aspect to panning through a dozen brands' websites and finding two dozen pieces to buy cheap; fast fashion is built upon this satisfaction. Micro-seasonal fashion ties to our inner sense of FOMO: the faster we can buy clothes, the more closely we can meet the fleeting trends that mark status. (Mageean, *WhichPLM*). At the same time, fast fashion brands can push labels of green and upcycled and “conscious” production, seemingly absolving them of environmental guilt. In reality, many of these conscious clothes are produced in ways not particularly different from the status quo, with maybe ten percent of their fabric sourced from recycled materials. (Dixon, *CNN*). A large part of the problem, then, might be that sustainability is hard to find. The paradox, however, lies in the fact that an even larger part of the problem: sustainability simply isn't “cool.”

A rethinking of the fashion industry might just solve this problem. It won't be easy for the next generation of fashion companies— who hopefully espouse some version of “slow fashion”— to disrupt their industry of highly profitable fast fashion incumbents. However, these challengers can look to successful environmentally friendly companies in other industries that are disrupting their own status quo, and they might just see the underlying qualities they need to succeed. They'll see that the winners, regardless of their industry, are managing to unite an innovative business model, successful economics, and a “cool” factor that makes the business's products accessible to the mass market. We'll now walk through a few such companies; then, we'll investigate the progress they've made and the insights we can pull out to build our own “winning” slow fashion company.

## Case Study I: Whole Foods Market

Whole Foods Market is a highly successful seller of organic food, which has taken a hold on upmarket grocery sales for its purported benefits to health and the environment. Organic food is produced with processes that minimize the use of synthetic resources; organic vegetables are grown without synthetic fertilizers or pesticides, and organic animal products come from animals that do not receive antibiotics or growth hormones. These products are generally very beneficial for the environment, with their production tied to better soil quality, reduced pollution from runoff, better soil absorption leading to fewer floods, and increased crop yield during times of drought. These benefits are valuable to be sure, but organic farming is generally more expensive than conventional farming, at least from a strict dollars-and-cents perspective. As a result, Whole Foods Market charges higher prices than other grocers, but this has not led to an expected reduction in demand; instead, the store has seen an explosive expansion that has sparked a broader cultural movement, largely due to clever marketing and customer targeting.

Whole Foods Market’s winning strategy for selling their environmentally friendly food was never to market it as attractive for its environmental benefits. Instead, they harnessed social trends around health and wellness (which, conveniently for them, were popular among the market’s heavy spenders) and pitched organic food as a healthier, purer diet choice with nutritional benefits over conventional foods. Their “Real Food” marketing campaign has been a hit, and this strategy has paid off— Whole Foods’ profit margins are consistently top-of-market, leading to a healthy \$13.7 billion acquisition by Amazon in 2017. (Campbell, Grocery Store Guy). The better they perform, the more we all reap the benefits of food grown with fewer pesticides and less runoff. Sustainability is just a bonus to the other benefits that organic food promises, but marketing organic food to be “cool” has brought us that bonus anyway.

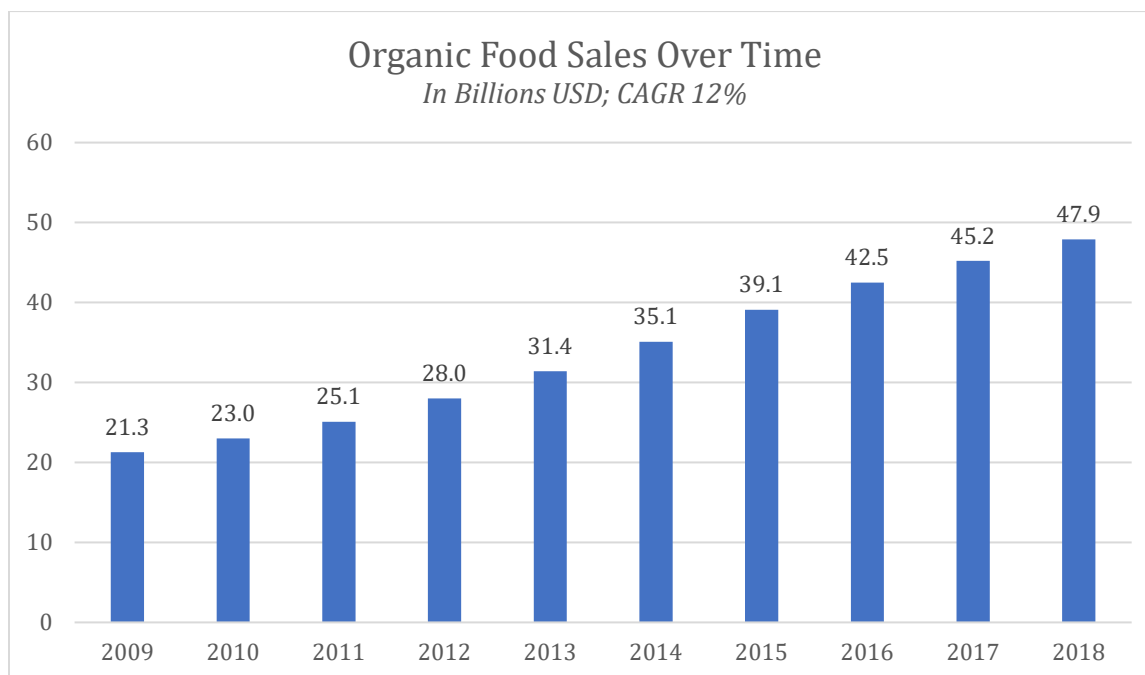


Fig. 3: The growth in sales of organic food over time. It is clear that organic food is growing at an astounding rate, having doubled in size in the 7 years between 2009 and 2016. This growth is likely due to the cheaper costs of buying organic coupled with the marketing successes of organic grocers such as Whole Foods Market. Altogether, growth in sales averaged 12% per year over this period, or almost **five times the GDP growth rate over the same period**. Data from the Organic Trade Association’s 2019 “Organic Industry Survey”

Whole Foods has managed to unite an innovative business model— organic-first grocery stores— with remarkable profitability— as high as 30% in some years— and a contagious “Real Food” reputation that has been a hit when advertised to upper segments of the market, leading to a smash-success business that remains sustainable, all things considered. (Downie, Investopedia). However, their products are only slowly expanding to the rest of the market.

Advances in production caused the gap between the cost of organic and conventional food products to shrink by 17% in just four years, but one dollar spent on organic food in 2018 could still buy \$1.25 of conventionally grown groceries. (Associated Press). In order to make organic food mainstream and serve as an analog for our hopeful “slow fashion” winner, Whole Foods will need to take advantage of new technologies and business practices alike to make its food cheaper. Nonetheless, they serve as a very valuable example of how new narratives around sustainable products can lead to marketing home runs and big wins in traditional metrics of business success.

## Case Study II: Tesla

Another example of sustainability wins brought about by creative marketing and the riding of trends is Tesla, the meteoric electric car company led by the eccentric Elon Musk. Electric cars use electricity rather than petroleum products to move, bringing big potential benefits in emissions and opening the door for mass transportation to be powered by renewable resources. Opponents argue that the electricity required to fuel an electric car outweighs the benefits, but research conducted by the European Energy Agency found that carbon emissions from an electric car are still 17-30% fewer than those of a combustion car, even considering power outputs. By producing no direct emissions of carbon dioxide, air pollution decreases significantly— by driving an electric car rather than combustion for a year, one person can save 1.5 million grams of CO<sub>2</sub> from entering the air, enough to offset four round trips from London to Barcelona. (EDF Energy). Just like organic food, though, the technology needed to produce these cars is expensive, but Tesla, too, has incorporated that reality into their own business model to achieve success.

Tesla’s main selling point is not that their cars can let their drivers take guilt-free plane trips across Europe. Instead, the company targets wealthy, tech-savvy buyers with a campaign pitching their electric cars as synonymous with a digital, tech-focused future. Their cars have flashy and intelligent electronic displays complete with Netflix functionality and draw the idolization of the “tech bro” archetype with promises that future models will carry full self-driving features. Tesla is now part-and-parcel grouped together with the “cool” FAANG tech companies of tomorrow and quite separately from Toyota or Chevrolet, (in)famous for their less-popular and at-times “uncool” Prius and Volt lines, respectively. (Morris, Forbes). Nonetheless, every Tesla purchased in the name of fulfilling a sci-fi fantasy brings fewer emissions in the long run, meaning that the company has successfully made sustainability “cool” in their own way.

So, Tesla has also united the three components of a successful green company: an innovative business model, the ability to rise to exceptional profitability, and a “cool” ethos that has transfixed the market. Tesla’s main hurdle going forward will be the ability to bring their attractive product to the mass market with tangible environmental benefits, a goal hampered by the high price they ask and the high carbon cost of traditional fossil fuel-based energy. The cars’ lithium-ion batteries remain the main environmental and economic cost to lower in the future but advances in technology and economics are making that goal more achievable by the day. Even though the manufacturing of one battery equates to about one third of the total lifetime emissions created by the vehicle, various manufacturing tactics have begun to emerge to develop to combat these issues. (Homer, MotorBiscuit). Additionally, as green energy becomes more widespread, the ongoing environmental costs of powering Teslas will necessarily lower, too. Price, too, remains a factor limiting Tesla’s vision of sustainable energy from being realized— if electric cars are too expensive for everyday drivers to use, then petroleum will continue to dominate. Nonetheless, batteries, the largest contributors to the price of electric cars, are continuing to decrease in price, with L-I batteries predicted to drop in price by 77% by 2030, largely due to continued investments on the part of manufacturers. (Morris, Forbes). With new technologies and manufacturing techniques developing, electric cars are sure to replace traditional vehicles as the most economical and environmentally friendly ways to move.

## Case Study III: Patagonia

Patagonia is one of the leading sustainable clothing brands, having been named the 2019 UN Champion of the Earth for Entrepreneurial Vision. Per their mission statement, they are “in business to save our home planet.” Once restricted to a few offerings for rock climbers, Patagonia has risen to be a leader in the outdoors and casual clothing markets. An astounding 70% of Patagonia’s products are made from recycled materials, such as plastic bottles, and they seek to bring that number to 100% by 2025. (Byars, Patagonia Works). Patagonia’s core business model is to offer expensive clothes sourced in “slow fashion,” which ideally last much longer and need to be replaced much less frequently than competitors’ clothes and thus which prove more economical to buy in the long run. According to Inger Andersen, Executive Director of the United Nations Environment Programme (UNEP), “Patagonia offers a perfect example of how the private sector can join the battle against climate change,” making them an excellent case study for considering the intersection of environmentalism and good business. (UN Environment).

Patagonia is a prime example that sustainability can make economic and business sense and has proven time and again that consumers can be interested in more than the price of an item. Patagonia promotes quality over quantity, asking its customers to reflect on the necessity of the clothing items they buy— a stark departure from the buy, buy, buy mentality that permeates fast fashion. They are famous for their “Don’t buy this jacket” ad campaign, that simply showed a picture of a popular jacket with the tagline below. The ad then followed with many details about the environmental impact of their clothing production, such water consumption and gas emissions. (Farre, Medium). This ad was meant to inform and encourage consumers to think about the environmental effects of consumerism and the fast fashion industry. Fortunately for the firm, however, this ad was an abject failure: Patagonia’s sales rose by 30% that year. (Stock, Bloomberg). This marketing success had raised tremendous awareness about the environmental effects of the fashion industry and had also created business success. This ad incentivized consumers to buy for long-term sustainable value, which Patagonia had. By marketing smart and proving that it could be trendy to buy green, Patagonia created impressive value for themselves and their customers alike.

Patagonia, too, then, has checked the three boxes of a successful green business, but their clothes are still too expensive to reach mass-market appeal. On the one hand, their value proposition is that their expensive clothes will prove to be worth it in the long run; nonetheless, they are still expensive, and the linchpin for their environmental mission will be making their products more affordable, investment value aside. We have seen in countless industries that excited investments in sustainable production generally make products cheaper, and we only need that same energy in fashion. Tesla has maintained that its goal is to bring electric cars to everyone and is making continued business investments to significantly decrease the cost of their vehicles in pursuit of that goal. Consumers are eager to buy sustainable clothes, and, as soon as sustainable clothes become affordable, they will start to do so.

## Analysis

Among each of these companies, an underlying recipe for success has been present. Each unites an innovative and disruptive business idea with a solid business model that’s destined to make good profits, while following consumer trends to sell a product that feels attractive enough to justify, to an extent, asking a higher price. By using high quality to convince customers to switch to their products, which happen to be more environmentally friendly than their traditional competitors, we all reap the benefits of sustainability. However, each of these businesses also shares an underlying flaw, that their products are currently too expensive to appeal to the mass market. This flaw ensures that we will not benefit from widespread changes to consumption and thus will not see sweeping changes to our environmental footprint until sustainability becomes affordable. The true winners of tomorrow will combine these three qualities of a successful sustainable business while also lowering prices, achievable most easily by adopting new and innovative technologies of tomorrow into their business models.

Slow fashion companies can follow the broader market and adopt new technologies to streamline their businesses and unlock economic benefits, thus ensuring that their sustainable models are economically advantageous compared to conventional products. Blockchain technologies, new materials science encouraging biomimicry, and automatic intelligence and machine learning (AI/ML) technologies are all cutting-edge innovations that warrant future

research but which undoubtedly serve as a jumping-off point for businesses. Blockchain technology, which leverages a public ledger of information, could allow customers to keep suppliers accountable about where and how their materials made it into the clothes they wear, reducing waste and ensuring thorough accountability. (Gerretsen, CNN). Biomimicry leverages advances in materials science to borrow elements from nature when designing new technologies and products, driving innovations such as self-repairing or self-cleaning fabrics, naturally hydrophobic fabrics, UV-resistant or energy-conserving fabrics, and more. (Biomimicry, MOTIF). Finally, AI/ML can allow fashion companies to better target their intended audience with personalized recommendations and products, driving customer satisfaction while also ensuring business results remain positive. (Wolhuter, WeAreBrain). These technologies are only the beginning— by harnessing excitement around innovation and encouraging an open mind, slow fashion companies will be able to take advantage of positive business models while ensuring their sustainable products win in the long run.

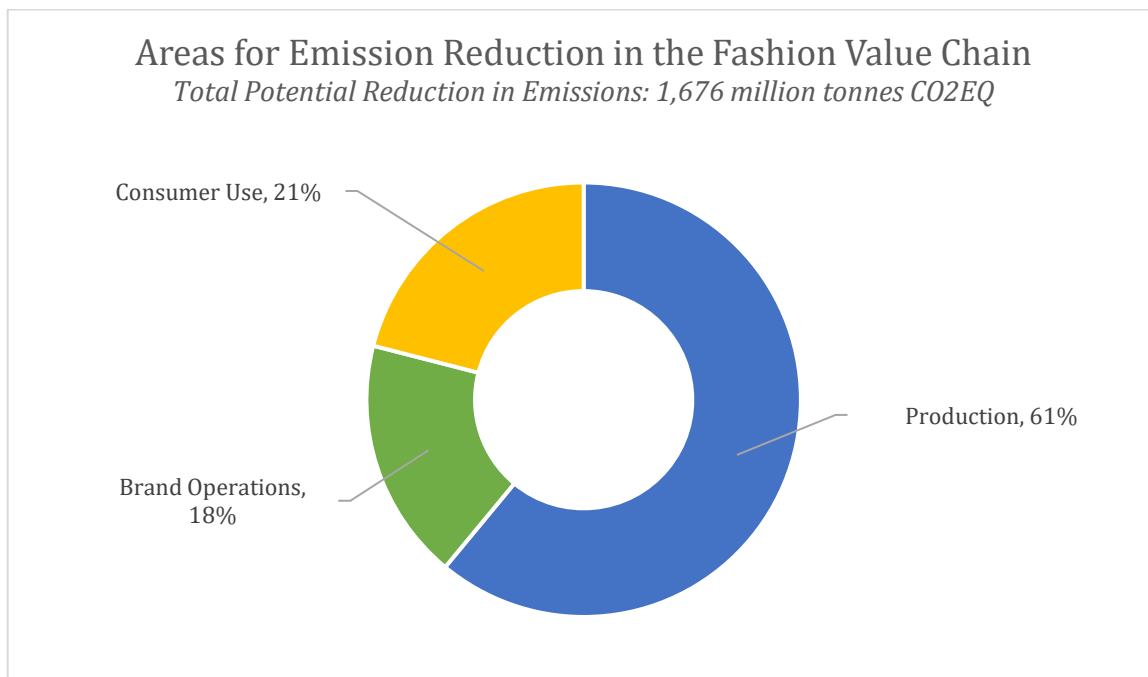


Fig. 4: McKinsey projects that carbon emissions from the fashion industry will grow 30% over the next 10 years, to 2,740 million tonnes of CO<sub>2</sub> equivalent, if not abated. This is far greater than the 1,064 tonnes per year goal that would help to limit global warming to just 1.5 degrees Celsius, so McKinsey worked to develop a climate action framework for the industry. This framework claims that production process improvements, mostly surrounding how fabrics and other materials are produced and processed with a lower carbon footprint, could make up a very large share of reductions. Per McKinsey, overproduction is a large contributor to brands’ carbon footprints, so advanced technologies as described above could make a large difference here; the company also proposes that consumers adopt reuse philosophies and circular business models while reducing their washing and drying, which would make up an enormous share of potential cutbacks. As we have claimed throughout this paper, **the responsibility falls on all of us to cut back on our carbon footprints, and the future could well be hopeful.**

Data from McKinsey’s 2020 “Fashion on Climate” report, available publicly

The fast fashion industry is unimaginably complex. We have allowed for it to grow and mold our lives, but the environment and the industry’s front-line workers are paying for it. At the same time, the COVID-19 pandemic, in its disruption of every corner of our lives, has also slowed the fast fashion industry considerably. It is in this pause that we can look within and see that our love for clothes has gotten out of hand. Global carbon emissions decreased by 6.4% in 2020, but that slowdown will certainly not last long. (Tollefson, Nature News). The world will rebound back once the pandemic is under control unless change is applied to the system now. Major industries and producers



are being put on hold, giving policymakers the perfect chance to step in and understand that the world has enough clothes, but not enough resources. Fashion companies will need to follow companies like Whole Foods Market, Tesla, and Patagonia in their campaigns to “sell” their sustainability and limit the damage done to the environment, or else the damage will never stop. Changing clothing stores is complicated, with new sizes, new styles, and new brands all over, but when you decide to take the leap, you might find that you love the way green looks on you.

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