FASHION FUTURES 2040
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We would like to thank our contributors who participated in conceptual development sessions and provided many rounds of feedback to shape this resulting publication.
Fashion and textile consumption represents the fourth most polluting household consumption area, after energy use, transportation, and food (EEA, 2019). Research indicates that fashion acquisition practices among the wealthiest 20% in affluent economies are the most significant driver of carbon emissions when it comes to fashion consumption today (Coscieme et al., 2022). Affluent consumers have an impact through their own consumption patterns and purchases of fast fashion. Some of these individuals are also part of the influencer culture that promotes frequent changes in fashion trends, encouraging the overconsumption of others. Fashion consumption practices associated with constant novelty seeking and a "disposable fashion" mentality are in the most urgent need for a transformation.

There are many ways in which our societies can evolve in light of the pressing environmental and social challenges associated with fashion production and consumption. A positive vector for industrial and societal development is unlikely to be a homogenous venture. Sustainable fashion consumption will manifest in diverse ways in the future. This report explores such diverse visions of the future with the use of some key parameters for ideation.

Four distinct, potential visions of the future explore possible evolutionary pathways for clothing consumption practice and the fashion system in which clothing users would conduct their practice in the future. The fashion system encompasses not only production processes but also the acquisition, use, and disposal phases of the clothing lifecycle. A year-long workshop series was conducted among a team of international scholars who belong to the International Research Network on Sustainable Fashion Consumption. The main focus of these visioning exercises was to imagine, not the fashion industry of the future, but different adaptations of fashion consumption that may align with climate and sustainability goals. As such, we intentionally prioritized the description of the clothing user’s daily life, experience, and practices. This includes the infrastructure or material arrangements users would navigate, the skills or competences these arrangements would require, and the norms and attitudes that would develop during practice, reflective of social practice theory (Figure 1).

Multiple normative frameworks have emerged recently to capture the need for both lower limits of consumption and the development necessary for equality. Defining a baseline for consumption and development that supports human well-being must also situate alongside a respect for the upper limits of planetary boundaries that are currently being maximized by the industrial complex. Some examples of such normative frameworks are the Doughnut Economics framework (Raworth 2017), fair consumption space (Akenji et al., 2021), and consumption corridors (Fuchs et al., 2021). The concepts of consumption corridors and fair consumption spaces have recently begun to be explored in the context of fashion (Coscieme et al., 2022; Vladimirrova, 2021), and the parameters of lower and upper limits as well as sustainable consumption agency and choice were central considerations in the ideation of scenarios developed in this report. The co-authors and some contributors to this report also participated in the development of a recent publication by the Hot or Cool Institute in Berlin, Germany titled, Unfit, Unfair, Unfashionable: Resizing Fashion for a Fair Consumption Space (Coscieme et al., 2022). This report provided extensive quantitative analyses to assess and compare efficiency and sufficiency approaches to change upstream and downstream operations of the fashion system and relate this to consumption choices. Notably, Hot or Cool has previously published two milestone reports on 1.5 Degree Lifestyles (Akenji et al., 2019; 2021), which utilize consumption-based emissions accounting to define how consumption should transform to meet the climate goals of the Paris Agreement across four lifestyle domains (energy use, mobility, food, and textiles). In this current work, Fashion Futures 2040, we qualitatively explore and imagine possible "futures" that align with some of the quantitative assessments of Hot or Cool.

Social Practice Theory (SPT) approach has been used widely to study (un)sustainable consumption practices in food, mobility, and household energy, other areas of sociology and anthropology work (Sahakian & Wilhite, 2014; Halkier, 2009; Shove & Walker, 2014). SPT builds on theoretical advances in sociology and philosophy (Schatzki, 1996; 2002; Reckwitz, 2002) to uncover why and in what ways people engage in certain ways of doing fashion. In the dominant definition, a practice is constituted of materials (infrastructure, material arrangements), meanings (social norms, repertoire, attitudes) and forms of competence (skills, know-how) that constitute a practice (Shove & Pantzar 2005). Social practice does not necessarily have to be routinized or habitual, but recognizable as social entities – and as containing the seeds of change (Warde 2017).
Throughout this report, the term clothing or fashion “user” is used as opposed to “consumer.” “User” underlines the capacity of individuals to engage in a multitude of commercial and non-commercial experiences and practices with fashion that contribute to the longevity of clothing, beyond purchasing. Reframing “consumers” as citizens and users of clothing who act with agency to make changes outside of the dominant capitalistic logic constitutes an essential element in redefining more sustainable patterns of fashion consumption.

Each vision was created by considering a driving force which initiates change (e.g., top-down or bottom-up) and a logic along which the change manifests (e.g., efficiency or sufficiency). Each scenario is considered the result of a recent “tipping point” rather than a fully established vision of the future. A tipping point occurs when there is a marked shift in conditions of a situation that prompts immediate and substantive action. We leave the precise definition of the tipping point that may propel one vision or another to the imagination, though generally speaking, these may be inspired by war, natural resource depletion, natural disasters, etc. Responsively, each scenario describes a beginning, including how that beginning manifested via a certain force and logic. These scenarios are designed to be thought provoking, to stimulate discussion and debate around how a sustainable future should manifest.
The term “fashion” is used throughout this report. In some places this term is used as a noun in reference to matters of “dress” or “appearance” or “adornment” that involve clothing and accessories. In other places, this term is used to as an adjective to characterize a system that facilitates newness and change, which is considered a fundamental human need that is often situated alongside creativity in the practice of dress. Neither use is intended to connote “trend” following, characteristic of the “fast fashion” system or to signal anything antithetical to sustainability.

The fashion industry is not expected to lead transformation in any future scenario. While businesses have an important role to play and must be responsive to clothing user demands, it is unlikely that industry will lead radical transformation toward sustainability because of prevalent capitalist goals that prioritize profits over social fairness and environmental health. Alternatively, scenarios in this report explore government or user-led change.

Technology is relevant to advancing sustainable development in all visions included in the report; however, technology is deployed and engaged differently and by different stakeholders to drive change in each vision.

Visions presented are considered “ideal”, representing a positive, Utopian perspective. We have imagined together, at some level of detail, how a sustainable lifestyle could evolve four different ways, highlighting good practices and positive changes. We acknowledge that all futures will embody trade-offs and downsides, yet, we do not elaborate here. Further work could explore paths towards different visions, as well as possible negative implications of each vision and ways to overcome them. This work represents a starting point.
Each scenario describes a beginning of a very different future, including how this beginning follows a certain force and logic. During our year-long collaboration in the working group, the team first met to identify two major axes upon which to build future scenarios. Two axes were identified: the key actors who would drive change (Vertical) and the substance or logic of the change (Horizontal).

As illustrated below, the first axis (vertical) regards a specific stakeholder group that drives the change: bottom-up versus top-down. In the bottom-up scenarios, individual clothing users (loosely organized in social movements, etc.), communities (e.g., neighborhoods, work- or religion-related spaces, universities), and regional small-medium enterprises (SMEs) promote improved, socially-just and environmentally-friendly consumption practices. These efforts increase the demand for approaches that reduce the environmental and social externalities associated with fashion production and consumption that were prevalent in 2020. Demand for better products, amplified by advocacy groups and grassroots initiatives, as well as clothing users “voting with their dollars”, drives change in the fashion system as well as the products and services made available in the marketplace.

Top-down visions of the future, on the other hand, are driven primarily by government mandate. Transformational change is propelled by restraints imposed by government on the industry and/or individuals. The government drives changes in textile production and waste management practices through international, national, and local laws and regulations as well as market incentives that effectively eliminate unsustainable, unsafe, and unjust choices from the market. These changes trickle down to clothing users, who, consequently, must adapt their fashion consumption behavior and practices.

The second axis (horizontal) represents a logic along which each driver is proposed to evolve practice: efficiency versus sufficiency. From an efficiency standpoint, the system advances towards material and technological innovation, optimizing production and recycling processes. An efficient fashion system is consistently improving its material mix, moving away from virgin resources towards recycled fibers, looping post-consumer textile waste into a circular production model. Energy costs per unit are decreasing, while overall consumption levels remain at the levels of 2020. To cap the fashion system’s size, we have opted for the absolute levels of consumption and production of 2020 as an arbitrary benchmark for the efficiency-oriented scenarios.

Unlike efficiency, sufficiency logic suggests that overall volumes of production and consumption and associated pressures on natural resources are drastically reduced by 2040. Sufficiency scenarios are proposed to be compatible with reduction of absolute consumption levels by 50%, with the most affluent 20% of consumers reducing their consumption up to 75% or more, which was recently suggested in a think tank report (Coscieme et al., 2022). Sufficiency scenarios embody an increased application of indigenous wisdom to the fashion system by respect for limits, a greater awareness of our interrelationship with nature, and prioritizing well-being for all life. Significant constraints are imposed by the government or are voluntarily adopted in a way that pushes the industry to produce fewer and better garments over time, and fashion aesthetics evolve to be more reflective of their cultural origins.
Once the axes were determined, each of the four quadrants created by the directional axes were explored, according to each driver and logic while adopting a social practice lens. This exercise aimed to envisage potential future lifestyles with elements that may not exist today but could be imagined as desirable in twenty years. As such, it offers four ideal Utopian futures. There will be no “clear-cut” scenario in which only two forces shape sustainable fashion consumption; a collaboration of forces is arguably more realistic. Sustainable fashion consumption is naturally constituted of diverse practices among diverse groups of clothing users who reflect different needs and desires. The conceptual purpose of this project was to imagine diverse scenarios that highlight the many ways of “doing” sustainability when it comes to fashion consumption. Less detail is provided here about the role and future of the industry while more descriptiveness is devoted to how clothing users may experience the fashion system differently.

Each scenario provides a general context and factors that distinguish it from other scenarios in terms of the infrastructure and materials, skills and competencies, as well as attitudes and norms that evolve, from the clothing user’s standpoint. Each vision concludes with some discussion questions that are designed to stimulate creative and innovative thinking around the necessary re-imagining of the fashion system, including industry practice, for a more sustainable future.

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SCENARIO 1: Green new Garments (GnG)

In this scenario, EFFICIENT forms of fashion consumption are created, actively promoted, and made the default choice as a result of government interventions, effectively implementing a reduction in the social and environmental impacts of the fashion system. States agree on a global treaty and regional regulations to eradicate modern slavery and externalization of environmental costs and national governments impose environmental and social regulations on the industry operating within national borders. Government regulations ensure transparency in fashion value chains and accountability of different stakeholders via use of mandatory participation in sustainability reporting (e.g., Environmental Sustainability Index), product certification systems (e.g., Cradle to Cradle) and labels (e.g., Global Organic Textile Standard). Many certifications and labeling schemes that were voluntary in 2020 have been adopted as mandatory and enforced carefully through governmental oversight. Clothing users follow the lead. The new circular fashion system strives towards higher levels of material and technological innovation, both production-oriented and consumer-facing, while maintaining fast-paced fashion consumption patterns. The goal of the system is to optimize production and recycling processes to reduce the fashion industry’s use of primary resources, including land, water, and fossil fuels. In line with the full circularity approach, material innovations reduce the carbon footprint and resource intensity of new garments entering the market.
The Fashion System

Fashion brands offer clothing users a variety of different options and styles produced through circular value chains. Supply chains have been shortened by various trade regulations. The amount of manual labor required for fiber, fabric, and garment production has been minimized through automation and mechanization processes (e.g., 3D-knitted apparel). Jobs in fashion value chains are well remunerated above living wage across different geographical contexts.

Block chain technology ensures transparency along all the life cycle of garments, including production and post-consumer phases, aiding in authenticating the product as it passes through many hands. Production and consumption innovations are led by consumer data, demand, sentiment, and behavior, which is being tracked and measured better than ever before. Second-hand resale, swapping, and renting are scaled regionally via digital resale platforms, with a focus on local transactions, providing access to affordable second-hand garments that satisfy the demand for “newness”.

Retailers and fashion brands are subject to extended producer responsibility (EPR). Compostability and disassembly come to the forefront in design and production decision-making, to ensure fiber-to-fiber recycling at the end-of-life of products. Material and design innovations - supported and encouraged by the state and funded through EPR schemes - allow to increase the use of recycled materials and recycle up to 90% of used garments back into material flow. Larger firms are transitioning towards a fully circular offering, using take back schemes for their own textile products as inputs for creating recycled materials for future collections. Producers of fibers, manufacturers and retailers use 100% renewable energy to run their facilities. A circular fashion system continues to transform all of the excess clothing from the previous fast fashion era through recycling and large-scale reuse.

Most garments are bought online, from e-commerce platforms, social media or virtual reality channels - where clothing users learn about new fashion styles. Smooth online shopping experiences allow clothing users to purchase the style they like in a few clicks but customizable according to the user’s personal body type and dimensions. Customization is easy because users’ dimensions and data is saved in the databases of their favorite retailers. Fitting technologies and 3D body scan options help make more informed decisions when buying a garment, reducing the number of returns. Garments are on demand (made-to-order) but thanks to shortening and optimizing supply chains, waiting time is short.

Occasionally, consumers also try garments on at a physical shop and then order a tailored version online. E-commerce has optimized production and customization, as well as product returns. Physical shops of fashion brands are about experiences, mostly merging with virtual worlds, rather than being a warehouse where people can buy garments right away. Physical shops also accept worn out garments returned by consumers through buy-back and take-back schemes, helping close the loop. A substantial part of consumers also buy virtual garments for the Metaverse, as avatars for social media, etc., which feeds the need for “newness” but reduces demand for physical garments.
In this scenario, people are involved in the market more as consumers and less as citizens. Clothing users regularly (depending on their budget) buy new (first-hand), secondhand, and recycled clothes to stay on top of fashion trends created by celebrities in real and virtual worlds. Repeating outfits of famous people has been scaled but in a customizable manner. Tailored and personalized garments are a norm and so are frequently changing fashion trends. Clothing users, however, can choose how to express themselves in these trends, alternating between physical and digital garments based on the occasion. Conspicuous consumption (understood as a display of attributes to indicate higher social status through clothing) continues but the indicator of social status is now tied to better materials and a lower carbon footprint from production.

Considering that government interventions, including subsidies and other market incentives, have edited out socially and environmentally harmful choices from the market, a new hierarchy of brands has emerged, with a range of responsibly-produced circular products offered to different consumer segments. A resale market is booming, abating income and class inequalities. Clothing users constantly renew their wardrobes through resale, partially compensating for the higher prices of new garments. Rental of special occasion garments and long-term (year-long) leasing of good quality high-tech staples is a regular practice. There is a rise in services such as a “wardrobe techniti”, who sorts, repairs, tends, resells, or otherwise disposes of one’s garments.

Thanks to material innovation, there is no need to wash garments as often as before. Dry brushing, spot cleaning, and airing garments is a common practice enabled by detailed instructions from retailers. At the end of life, consumers have many options to dispose of garments responsibly: either drop off at a shop or at a local recycling center where fiber-to-fiber recycling transforms 90%-100% of textile waste back into material for new clothes.

“I need a new outfit to look fresh and different and I don’t have anything to wear [that looks good]. I will buy a new dress made out of 100% recycled modal. Once I’m tired of the dress, I will put it into a recycling basket of the brand I bought it from or in my local waste management center and get a new one for next season.”

1) What are the implications of the automation and the use of technologies (Within this scenario we see) for the social and natural environment? (e.g., energy use, jobs)

2) What kind of places would be best for returns of garments (If they could be easily recycled) in order to avoid current challenges, such as unwanted items being disposed of in clothing collection bins?

3) What other ways could technology support this scenario?

4) What are the implications of a government initiative-led approach, thinking of current aspects of globalization and supply chains?
Scenario 2: People Powered Progress (P³)

Context

The environmental and social impacts of clothing production and consumption are reduced in this scenario through material EFFICIENCY and improved industry practices due to the pressure from citizen-consumers. NGOs, community, and educational organizations spearhead a social movement towards a more sustainable fashion system by advocating for better quality products that are consistent with climate and sustainability goals and made in compliance with ethical production practices. These products make use of innovative, recycled, and reused materials and have a longer material life span than garments twenty years before. Citizen consumers unite in their love of fashion and concern for the planet by supporting these efforts, thereby creating consumer demand for more responsibly-made garments that do not harm the environment. Brands begin to respond to changing consumer demand and social pressure with enhanced transparency in their value chains. They adopt the principles of extended producer responsibility (EPR), becoming responsible for the destiny of produced garments until the end of their life span. The market continues to be dominated by large retailers, but their offerings have changed dramatically to accommodate the new consumer demand for better options.
The fashion marketplace is dominated by enterprises that have managed to implement and scale new, circular business models and foster material innovation. Selling garments made out of virgin materials in 2040 represents only a minor revenue stream, with brand resale, rental, and other collaborative consumption schemes and experiential activities generating primary profits for fashion brands. By doing so, these companies have achieved drastic reductions in their material and carbon footprint and managed to decouple revenue from material resource use. All fashion brands adopt EPR commitments to design for circularity. Despite the global prevalence of some large players, consumer demand aligned with sustainability concerns calls for shorter, regional value chains consistent with lower carbon footprints. These short, circular material flows, facilitated by technology, are established by enterprises of all sizes that cater not only to the sustainability-related concerns of clothing users but the diverse regional cultural aesthetics and preferences. To regain trust after a decades-long practice of greenwashing, brands opt for full transparency in their value chains, backed by independent and unbiased third-party certification schemes. There is no overproduction or unsold merchandise, due to sophisticated market projections and AI-enabled prediction technologies that rely on Big Data.

Collection of post-consumer textile waste has been made easy and convenient. For clothes that are no longer in a usable condition, brands offer collection points at their physical stores and through EPR-funded collection points alongside glass, paper, and plastic recycling containers. Secondhand clothing collection and sharing has become a commonplace feature of local community events. Going to a farmer’s market or a local political rally always includes clothes collection booths that make it easy to drop off items that are ready for a second life. The use of primary resources in this scenario is reduced to the minimum, with most clothing produced with innovative, fiber-to-fiber recycled post-consumer textiles, including waste from the early 2000s. In this efficient fashion system, what used to be post-consumer textile waste in 2020 became a valuable resource that is looped back into the production of new garments. No textiles are incinerated or thrown into a landfill. Efficiency is enhanced by high-capacity, semi-automated sorting and recycling facilities where multi-material garments are disassembled quickly and at a high precision level.

Subscribing to a consumer advocacy group is very common among clothing users. Apps have been created to monitor more environmentally-friendly and socially-just options available on the market and to help clothing users support businesses and other organizations that are creating change. Product and material labeling evolves, driven by NGOs who monetize “consumer reports” that provide comparative data to inform the most efficient consumption decisions. These labels are utilized by retailers, relevant to their product assortment. Shoppers can easily scan the labels to quickly learn about the garment’s carbon footprint and its benefits to the environment and society. Secondhand resale is booming, with sharing, reselling, and rental platforms becoming as efficient and smooth in terms of user experience as any e-commerce offering new garments. Regional chains of fashion libraries offer curated secondhand selections and also engage in upcycling and redesign activities to maintain a constantly changing assortment. Libraries evolve to coordinate the circulation of goods across the region and use their organizational prowess to host regular clothes swapping meet-ups and other events as ways to meet the demand for both rental and resale. Apps are designed to connect clothing wearers within regional communities by size and expressive goals to make clothes swapping more convenient. National or regional networks ensure “safe” swapping and trust in secondhand goods. Technology is deployed in this scenario to scale access to reuse options and to spread knowledge about innovative materials and circular solutions.
While clothing users will not compromise when it comes to their desire for new and more fashion, they are aware of and do not accept environmental hazards or human rights violations as a natural cost of doing fashion business. Most clothing users are well informed about the dark past of the fashion system, thanks to the tireless efforts of advocacy groups and education organizations. By voting with their dollar, citizen-consumers express their collective demand for a more efficient, socially just, and environmentally-friendly fashion system. Clothing wearers boycott brands that do not provide take-back programs, offer little transparency about their textile collection and recycling practices, and ultimately do not benefit or engage with their local communities. These citizen-activists are politically active in their local communities and hold local politicians to the circularity task: No circularity = no vote.

Fashion lovers still acquire new garments frequently to keep up with fashion trends. Clothing users do not get emotional or create attachments to clothing. Rather, it is about “loving the one you’re with” and then allowing that item to receive a new life. They shop well-merchandised, circular collections for redesigned finds and become savvy to find the latest circular trends and fiber innovations using social media, apps, and vlogs that promote secondhand “hauls” and the best secondhand assortments. Clothing wearers renew their looks by buying the newest circular fashion from responsible brands, buying second hand, renting, and swapping.

Celebrity culture continues to some extent, with trends influenced by regional and national-level influencers, including those from indigenous communities that promote unique and expressive aesthetic movements that are rooted in the region. Influencers use social media and virtual reality channels to communicate to clothing wearers. Influencers and stylists also provide updates about the latest circular fiber innovations and share new ways to wear secondhand finds while also calling out irresponsible brands and practices. Status is derived from wearing the most innovative, culturally expressive, and environmentally-benign garments, which has encouraged the emergence of a plethora of responsible brands providing a “stamp of quality” visible through their labels and other visual characteristics. The homogenization typical to the multinational fast fashion brands of 2020 has been disrupted in favor of diverse regional trends and aesthetics.

Laundry routines remain similar to 2020 but have become dramatically more efficient because consumers have taken the initiative to equip their homes with waterless and energy efficient appliances. Clothing users have demanded residential renewable energy programs and washing machines that use gray water, and they push their local industry and government to consider doing the same. Repair is rarely deployed with the exception of high-end, expensive garments, as it is more desirable to fold a broken garment back into the local fashion system to be transformed for its next life. Dropping off used garments at a local retailer, organization, or event has become as routine as checking the mail.
Clothing users are well aware of the fashion industry’s dark past. They are environmentally knowledgeable, understanding how industry practice directly impacts the quality of the air, soil, and water necessary for their lives and livelihoods. They are also conscious of the social inequities born of the Industrial Revolution, and they know how to find reliable information about industry practice. These clothing wearers heavily rely on emerging technological tools such as labeling schemes, consumer reports, and social media communities to stay up-to-date on social and environmental issues impacting their quality of life. This requires technological savvy to stay current and skillful with emerging technologies. Politically engaged, clothing users actively articulate what they expect to their local politicians.

For Discussion

1) With what types of actions could consumers take in this scenario to show their political support fair social and environmental conditions?

2) How might fashion itself become a way to communicate that clothing users are ‘in-the-know’?

3) How might the job force require skills necessary to support industry innovation in this scenario?

4) What are potential limitations or drawbacks of people-powered progress toward sustainable fashion consumption?
SCENARIO 3: Fair share Consumption (FsC)

In this scenario, SUFFICIENCY principles are imposed by the state on all stakeholders, including the fashion industry and clothing users. Governments have become more attuned to indigenous wisdom while collaborating with diverse cultural communities locally and globally to determine sufficient production and consumption levels responsive to planetary needs. With this wisdom, local and state governments routinely enforce strict rationing provisions to ensure that primary resources are used in the most equitable and sustainable manner, respecting planetary boundaries. Consuming less is made the default option by the state in the form of personal carbon budgets that remain within a “fair consumption space” or “consumption corridor” in which required consumption levels more equitably provide what is needed for a good life for all without exceeding planetary limits. To assure widespread societal adherence to sufficiency principles, states use education as the key tool to transition behavior. Capitalism is on shaky ground. The world economic system has moved away from growth-oriented indicators towards those that measure human well-being and ecosystems and within specific cultural, geographical, economic, and technological contexts. Developed countries have adopted a slow growth or steady-state economic view while developing countries focus on economic progress that is interrelated with meaningful work, good health, the protection of local and global ecosystems, and access to education.
The Fashion System

In the fashion system, absolute volumes of production and consumption are halved compared to the 2020 levels, following government regulations imposed on the industry. State-sponsored advertisement promotes avoidance of conspicuous consumption and longer use times for clothing. Brand-sponsored advertisements highlight timelessness and the emotional and physical durability of garments. Dates and scope of sales are regulated and restricted by national and local laws. Fashion has slowed down, making room for more mindful creative processes and production practices that help support a good life for both makers and consumers.

Retailers/brands are applying models of degrowth that accommodate narrower profit margins and extended producer responsibility (EPR). Local reuse is blossoming. Companies and municipalities provide infrastructure for these exchanges, including local secondhand commercial centers, rental, and swapping facilities. If a garment is no longer in use, government-run facilities funded through EPR schemes redistribute unwanted clothes after thorough cleaning, repairing, and upcycling services. Garments that are no longer repairable or reusable are deposited for fiber-to-fiber recycling at local recycling facilities. Reuse of recovered materials from old clothes is expanding rapidly. Garments are cut up and reused in making new or upcycled garments. Textiles are no longer permitted in landfills or incinerators.

Fewer and higher quality garments are produced globally, with durability and recycle-ability at the end-of-life in mind.

Brands produce limited capsules of functional clothes that fulfill many different needs. Construction of some garments is more adaptable. For example, clothes with adjustable features that grow with children or to accommodate for weight fluctuation during various phases of life are more common. Shops focus on styling options and services, and all brands, secondhand shops, and swapping facilities offer in-store alterations and personalization services. An age of mass customization in which consumers are involved in co-designing their garments begins to emerge. Personalization manifests through less environmentally-intensive activities in contrast to buying new clothes. While consumers do not engage on a large scale in personalizing garments themselves, a groundswell of skilled work and craftsmanship emerges to meet these needs.

At school, children learn about energy-saving care practices, such as sun-drying, less frequent washing, spot-cleaning, etc. To help individuals stay within their carbon budgets, the government offers clothing users an app - which also tracks their carbon footprints from food, mobility, and energy consumption. This allows individuals to understand, measure, track, improve, and share clothing users’ progress. The app is linked to a “social credit” to reward the most sustainable practices through gamification (e.g. getting a badge of honor for not buying anything new for a year).
Promoted by governments, new narratives for a good life around consumption emerge that encourage frugality and the emotional durability of garments. These new values reject constant novelty-seeking and the use of modernist, capitalistic aesthetics that promote change for the sake of only the bottom line. Instead, the values of long use, aging, and high-quality clothes, are celebrated and appreciated like a fine wine. Frequent changes of trends are a thing of the past; clothing wearers who were used to repeating outfits now customize them. They are deliberate about their fashion purchases due to the high carbon price of garments. Clothing users buy less frequently out of necessity: one has to plan their purchases to stay within an allocated personal carbon budget. Clothing users understand the negative impacts associated with fashion production and about the origin of their clothes through value chain transparency schemes enforced by the government. Consumption data is available at an aggregated level, to ensure rationing production of garments to fit demand, and at an individual level, to track personal consumption levels. Clothing wearers prioritize acquisition options that allow them to get the highest value for their allocated carbon budget. Local reuse, therefore, becomes the most practical and low-carbon solution. Carbon-smart consumers also buy new garments from local/regional small and medium retailers which produce clothing in limited numbers and by pre-order (and pre-financing), to avoid overproduction. Any accidental excess is redistributed locally by charities working directly with people in need of clothes in the area. Buying a new garment is more carbon intensive than buying secondhand, so clothing users need to ensure a good fit and do all necessary alterations at the time of purchase to avoid unnecessary shipping and returns. To this end, one may use highly evolved and accurate digital/virtual dressing and fitting services or go to a local physical store. Since most production happens on-demand in this scenario, shops carry only limited numbers of readymade garments, and is primarily for the purpose of trying them on in-person. E-commerce platforms of brands recommend a size based on the wearer’s dimensions and body type to avoid wasteful purchases. Clothing users buy garments that are adjustable - one size fits all with minimum alterations. These garments are attractive thanks to innovative design and construction methods. This flexibility in sizing eliminates discard of garments that no longer fit due to consumer size fluctuation. Owning and using fewer garments goes hand-in-hand with less washing and drying. Using communal energy-efficient washing facilities has become a norm, as well as repair services that are easily available and affordable. Social status and the meaning of fashion in this scenario are linked to scarcity-inspired creativity in a world of rationing. Frequent changes of outfits are considered in poor taste, and celebrities who do not creatively repeat outfits lose public appreciation. Public figures, celebrities, and influencers are encouraged to be creative with what they already have and to share their practices to educate the public about the values of frugality central to sustainability. The concept of ‘fashion’ that relies on constant renewal of garments in one’s wardrobe for the sake of marketing-induced, short-term trends is abandoned in this scenario, but that does not mean that people do not dress well. “Dressing well” is less about being in line with the latest trends and more about developing one’s own style that people maintain or change slowly during their lifetime. Changes in wardrobes follow natural life evolution as opposed to marketing pressure or the Fear of Missing Out. Individuals continue to express their personality and to experiment through clothes, but this practice requires much fewer virgin resources and generates little waste.
At school, students learn how to take care of clothes, shoes, and accessories, including repair, care, laundering, and storage practices. They also learn about functional and fun capsule wardrobes that only contain a limited number of garments (e.g., 33 garments for 4 seasons), exploring how to mix and match garments and to accessorize for different occasions. Local authorities also support and run similar skills-based workshops for adults, to keep their skills and competences up-to-date.

**For Discussion**

1) Imagine the emotional value that clothing users may now associate with their clothes in this scenario?

2) What are risks of imposing carbon budgets on clothing users? What trade-offs or drawbacks might you anticipate?

3) For clothing users implementing a capsule wardrobe, what might be the implications for other areas of modern life in the home (e.g., size of home, furniture, laundry routines)?

4) What spillover effects might occur from changed fashion consumption practice to other areas of life?
SCENARIO 4: Enough is Enough (EiE)

Individual clothing users have decided that enough is enough, forming a powerful collective. Having grown tired of waiting for government or industry to take action, individuals have taken matters into their own hands, consciously implementing rigorous, self-imposed constraints on their consumption that allow them to focus on the things that truly matter in life: time, relationships, personal growth, community, and creativity; not things (materiality) or wealth generation. The preceding decades of turbulence have inspired clothing users to make personal investments in their mental health, spiritual growth, and relationships. They are motivated to protect the environment and society, and this will require a greater sense of SUFFICIENCY. Clothing wearers have become especially attuned to the ways in which previous production and consumption excesses affected indigenous and marginalized communities, and they recognize that tempering their own desire is an essential component to supporting well-being for all. These clothing users are motivated to simplify in solidarity with a collective mindset that highly values people and planet; a deep sense of connection to the Earth and other living things shapes a new fashion system that is not characterized by excess consumption and accumulation. They devote more time to increasing their level of consciousness: body, mind, soul. They have an elevated understanding of how clothing contributes to an outwardly expressed identity and also an inwardly experienced self in the body, neither of which requires frequent updating or a large quantity of fashion items. These clothing users are focused less on economic progress and more on finding meaningful work, improving their health, increasing their access to education, and being in community with others. Responsively, a dramatic reduction in demand for material things has occurred; after all, things cannot provide enduring life satisfaction.
Clothing users in this scenario recognize the loss of meaning inherent in superfluous consumption and withdraw from the fashion marketplace. They share their prized garments, take up the craft of re-use, and invest in the long-term wear, care, and repair of clothes. A home upcycling movement emerges around this practice, and the fashion industry leaps to provide service-oriented and craft-focused businesses to support this movement. The fashion industry of 2020 has contracted significantly due to the dramatic decrease in demand for new things, brands quickly shifted their production capacity to service-oriented business intelligence. What retail remains is circular and experiential, with the acquisition of new products now a tertiary source of profits. Clothing users can purchase a “house party” package from a local business who provides a crafts person to demonstrate the latest upcycling or visible mending strategies and a catered assortment of locally-sourced treats. “Party goers” can enjoy cocktails, hors d’oeuvres, and community gossip while learning a new way to reinvent a long-loved garment. Others host redesign or recycling parties in their home where new garment styles or even new materials are created in small batches. Re-wear or “who’s styled it best?” competitions and re-styling workshops have become entertaining activities in which social interaction is a central feature. Clothing has become a reason to connect with one another.

Garments are designed for multi-function and to withstand many lives. Clothing is (re)sourced in diverse ways. High-quality and bespoke garments are created with reused and recycled materials. Crafted with unique fiber mixes and redesign strategies, these garments are created to allow the user to make them their own over time, supporting a long life in one person’s wardrobe. Rooted in stories, clothes and the materials used to make them are reflective of their geographic and cultural origins, including who made or donned them and how they were once worn. Brands become “material raconteurs,” labeling clothes with clues about the garment’s origins.

But material considerations of a garment are only a beginning. Fit technology evolves to offer clothing users ways to modify and customize garments to improve the wearer’s experience in their own body. Garment satisfaction extends beyond functional quality to also include the extent to which it becomes a natural second skin, a reflection of both mind and body. Made via short, local, and highly transparent supply chains, clothes accurately reflect the social and environmental costs of production. These unique, high-quality collections of innovative, locally-sourced recycled and reused materials that are built to withstand iterations of recycling and generations of reuse. It is not uncommon for brands to offer lifetime warranties or repair services with the cost of a new garment.

Clothing users expect to do more socializing and co-creating than buying at local stores that offer engaging creative services. One may visit with a personal “re-stylist” to reinvent their capsule wardrobe. A “repairologist” may be used to strategize the long wear of a beloved garment. A “fiber concierge” may be hired to connect the customer to designer artisans and recycled fiber manufacturers to create one-of-a-kind wardrobe investments. The need for frequent purchases and even rental is less prevalent today since no one would ever wear a garment only once. Most importantly, the clothing user in this scenario is far more conscious of a garment’s reflection not only of a contrived identity outside the body but how the garment integrates into their lived experience and confidence in one’s body, which is fundamental to life satisfaction.
The focus of clothing use is less about frequently updating one’s appearance and more about having a wardrobe that integrates into a meaningful life. People have also become more conscious of the emotional, physical, and psychological value that clothing contributes to their lives, including how a garment feels on the body they have been naturally gifted. It is less about wearing a look fresh off a celebrity’s Instagram and more about having a wardrobe that integrates into a meaningful life. Garments are a long-term endeavor; considered storied objects that symbolize a connection between people. Intergenerational clothes sharing has become common-place, preserving garments and the stories they hold for younger siblings, nieces and nephews, and grandchildren. As these garments wear with years of love, the craft of reuse extends the life of these materials and the stories they hold. Individuals use elaborate craft techniques to customize, upcycle, and reuse before gifting garments to the next generation. Visible mending has become a method of marking each generation’s experience in the garment before it is passed along to the new owner. Families develop their own approaches to visible mending and share stories of how these came to be at the local hangout. To wear a storied garment that has been passed down from one generation to the next - carefully worn and experienced, cared for, and repaired - carries prestige rooted in the meaning of family. Likewise, a weathered and well-traveled garment steeped in meaning from many years of ownership provides status. Social clout may also be gained through the creative expression achieved through the craft of reuse, visible mending techniques, and fit techniques that provide a more comfortable felt sense of the body. In the rare purchase of a new garment, consumers hold themselves to strict “return on investment” guidelines to ensure they are yielding a high rate of utilization and achieving their unique expression goals. They skillfully curate capsule wardrobes that provide multiple functions for whatever level of novelty they desire. Laundry practices are augmented to extend the life of garments that will one day be transformed into other lives. Since garments are worn intensely and a natural patina is now a sign of status, laundering is viewed as a threat to garment preservation. It is not uncommon to find garments airing out on the front porch or receiving antimicrobial sunning in the backyard. Since every day is a “special occasion” to be lived to the fullest, there are generally fewer societal expectations around dress, and dress codes are a thing of the past. For example, constant rotation of outfits into the office (i.e., not to wear the same outfit twice in a row) is frowned upon as a relic of the past. There are no expectations for ‘special event attire’ such as for job interviews, weddings, graduation, etc. Any appetite for novelty or newness is satisfied by sharing and borrowing garments within one’s social circle or family as a way to connect and create stories together. Social media is no substitute for person-to-person interactions and relationship-building, and clothing has become a conduit for community-making. Finding multiple purposes for each garment stimulates exploration in personal style. A great attunement to one’s connection to self and nature and creativity are the hallmarks of sustainable fashion in this scenario. Status has been decoupled from frequent fashion change and accumulation of possessions. The meaning of fashion no longer revolves around new prescriptions of colors, styles, silhouettes, etc. Instead, fashion is about authentic expression, a more confident experience in the body, moving beyond purely visual stimulus. It is an embodied practice of new type of materialism. It is signaled by durability, repair, reuse. New aesthetics of simplicity, minimalism, and natural beauty take precedent. Nature is inspiration for new ideals of aesthetics, practice, and processes that respect limits and celebrates rebirth.
Clothing users are highly skilled at simply being in their garments. They are conscious of the outward story they portray with garments and also the felt experience of the body inside a garment. When it comes to garment construction as well as repair and maintenance practices, they understand how to achieve and augment fit, how to embed meaningful stories in materials, and how to preserve these qualities over time. They engage their own creativity to preserve, repurpose, and re-story the garments of their lives. They are knowledgeable about how clothing care practices in their home directly affect energy consumption and other environmental impacts. These garment owners are attuned to nature’s limits and the implications of this for their own consumption. These clothing wearers are also socially connected within their communities and utilize their capacity for communication and creativity to gather others around the topic and task of sustainable fashion.

For Discussion

1) What influence might a greater connection to nature and/or one’s spirituality on clothing aesthetics in this scenario?

2) What kind of clothing-relevant skills may be enhanced by spirituality and mindfulness?

3) What are the implications for the fashion industry, responsive to a dramatically changed consumer attitude and temperament?

4) With a greater appreciation for diverse appearances in this scenario, what (new) stigmas may emerge around certain types of clothing?
The various visions of the future that have been articulated in this report were designed as “ideal” contexts that emphasize good practice and positive change. A sustainable future will realistically reflect aspects of all four scenarios, perhaps within different consumer groups, cultures, countries, or government regimes. Each scenario reflects the four corners or outer bounds of what could be made possible through governmental action or a citizen-led evolution. Some of these scenarios heavily embody attributes of the current industrial system (e.g., top-down efficiency) while others reflect a more revolutionary change by challenging the value of growth, scale, and social competition (e.g., bottom-up sufficiency). These scenarios are instructive in that they represent entry points to new cultural pathways along which clothing acquisition, use, and circular user practice could more positively contribute to well-being as a social practice. The goal is assuredly not to drive government, industry, or clothing users into one particular vision of the future but to invite a diversity of experiences with fashion, all of which could facilitate a fashion system with fewer casualties and externalities.

For Fashion Brands

- Determine a fashion future that aligns with your brand identity and create initiatives and goals to move toward that vision of the future.
- Choose a particular type of customer described in a scenario, then work backwards to develop branded initiatives to respond to this customer’s attitude, clothing needs, etc.
- Future-proof your strategies by considering the tradeoffs that could occur for your brand, customer, government stakeholders in each scenario.
- Adapt to the possible future of fashion which includes the craft of reuse alongside digitalized fashion experiences to create various options for circular garments.
- Reflect on the different business modalities reflected in each scenario and develop innovative (new, secondhand) clothing acquisition methods, given your current business.

For Policymakers

- Explore policy pathways that impact consumers; supportive mechanisms that encourage change in user behavior.
- Explore potential trade-offs reflective of a “hands-off” (bottom-up) versus top-down policy approaches used to shape improved consumer behavior.
- Determine regulations that could promote value chains to encourage sustainability innovations.
- Define policies (e.g., market incentives, regulation) for brands and retailers that could contribute to the user behavior among customers.
- Enhance stakeholder buy-in by identifying the opportunities and barriers to more sustainable fashion consumption, based economic status.

For Educators

- Select and use a scenario as design inspiration to develop a clothing line appropriate for the scenario’s clothing user.
- Identify educational initiatives that may support user practice in each scenario.
- Incorporate user behavior in everyday life of students through a variety of projects.
- Map a fashion industry supply chain for each scenario and compare the potential environmental and social implications of each.
- Challenge learners to imagine “a day in the life” of each scenario, identifying various stigmas or cultural meanings that currently drive the consumption of fast fashion that could present barriers to making the scenario a reality in the future.
REFERENCES


