International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Shifting Sustainable Production and Consumption from a Niche Trend to a Mainstream Movement

Ms. Michaela Molina

Polygence Research Academy

Abstract

Production and consumption of unsustainable goods is at an all-time high. Since the COVID-19 pandemic, plastic garbage production is expected to reach 1.6 million tons a day, the highest it has ever been [1]. Thus, it is imperative that methods of production and consumption are shifted to become more sustainable.These methods must take into account the future of the environment, as well as stressing profits and societal gain. While a big shift like this is difficult to achieve, breaking it down into a methodology will assist society on a clear path forward. In this paper, these methods will be described and examples will portray the importance behind each step in the sequence. Through the synthesization of research, an ideal model will illustrate how to move sustainable production and consumption from a niche trend to a mainstream movement.

Keywords: Sustainable Consumption/Production, Circular Economy, Linear Economy, Recycling, Environment

1. Introduction

What is Traditional Production and Consumption?

To begin, traditional production and consumption must first be defined. It is a process in which the creation and use of a product follow a 'take-make-waste' pattern [2].

1. "Take" represents the action of the company in charge of production taking the necessary resources to create the product to the standard they have promised.
2. The "make" portion of the phrase represents the action of producing, using the taken resources to create something that can be distributed by the company.
3. And "waste" is referring to the end of the life of a product, when it is discarded.

The word traditional is used to describe this system because it is most commonly used in modern day production processes. Upwards of 90% of the current global economy is following a traditional linear path [3]. While this procedure of production and consumption can be efficient and profitable for the economy, it has negative effects on the planet. In addition, traditional production and consumption fail to take responsibility for the environmental impacts in depleting nonrenewable resources, emitting greenhouse gasses, etc.

To further explain, businesses capitalize on profit, running through resources while maximizing production opportunities. This is wreaking havoc on the planet by quickly deteriorating the stock of

resources. [4]. In addition, the excavation of these resources, as well as the use of them, also builds onto our already festering global warming issue as well as many others [5].

It is evident that production and consumption need to adopt more sustainable practices.The goal is to shift towards a world where consumers receive healthy, sustainable goods which benefit them and the planet.

Contrasting Definitions of Traditional and Sustainable Production and Consumption

Sustainable production and consumption (also called SPC) refers to the use of services and related products, which respond to basic needs and bring a better quality of life. They simultaneously increase quality while minimizing the use of natural resources/toxic materials as well as waste emissions, so as not to jeopardize the needs of future generations [6].

Sustainable production produces goods which acknowledge their effect on the environment, doing what is possible to reduce impact [7]. Meanwhile, the basic definition of sustainable consumption focuses on expanding the usable life of a product. Also, attention is given to the product's environmentally friendly disposal [8]. Both of these explanations heavily rely on the basis of protecting the future of the environment and planet. Therefore, this should be highlighted as the overall goal of shifting our ways to those of a sustainable system.

History of Sustainable Production and Consumption

While sustainability is majorly lacking in our modern methods of production and consumption, there is a brief history behind SPC (sustainable production and consumption).

To begin, in 1972 the United Nations (UN) held a conference on Human Environment [9]. This was one of the earliest forms of speaking out about the effects of unsustainable habits. The main idea communicated during the conference was that "Wrongly or heedlessly applied, the same power [power to produce and consume what we want] can do incalculable harm to human beings and human environment," and further, "To defend and improve the human environment for present and future generations has become an imperative goal for mankind," [9].

Then, in 1987, The UN World Commission on Environment and Development, highlighted imbalances in consumption and spoke about how growing population rates were going to quickly affect our low money rates in the economy, also how risky it will be for billions to start flowing into the economy with more and more people added to the population [9].

Following this, the 2002 world summit on sustainable development stated that larger companies also needed to transition towards more sustainable production regimes. This would directly influence how major industries viewed turning a profit.

All of these advocacy events made some progress, but they lacked in action. The necessary charge was taken finally at the 2003 Launch of the Marrakech Process on Sustainable Consumption and Production [9]. The process, which had origins from the UN, involved countries actively promoting SPC through policies and specifically set guidelines.

Then, in 2012, there was a UN Conference on Sustainable Development where they adopted the 10 year framework in order to establish development in emerging economies [9]. Since then, the globe has yet to see an episode of 'punctuated equilibrium' in our evolution of SPC. However, that can be changed by building off of what is already known and what has previously been done.

Introducing Main Schools of Thought in SPC

Several mechanisms already exist to encourage sustainable production and consumerism [10]. For example, the circular economy methodology is a cycloidal, as opposed to linear, version of the current system in place. The definition of a circular economy is an economic system based on the reuse and

regeneration of materials or products, especially as a means of continuing production in a sustainable or environmentally friendly way [11].

It is a system where no waste is emitted, everything is put back into the economy, creating a circular motion. With a similar structure to a life cycle, it represents the market as a whole and what should be done at different stages in order to stimulate healthier practices, reduce waste, and use resources efficiently [12]. It helps to decouple correlation of economic activity/production with the use of finite resources through the use of maintenance, reuse, refurbishment, remanufacture, recycling, and composting, which overall helps contribute to the 'circulation' [13].

All in all, the straight line of modern production needs to be shifted to a circle in which renewable and cleaner technologies fuel production. Simultaneously, overall use of energy should be reduced. An ideal mix of renewables and nonrenewables will help drive sustainable production by reducing carbon emissions.

The use of this methodology relies on not abusing what's already possessed. Therefore this circular economy can be used to help us capitalize on any opportunities to responsibly use the resources owned before the supply is completely exhausted.

Another tool used in sustainable development that will be further explored in this research is LCA. Standing for Life Cycle Assessment, it is defined as the systematic analysis of the potential environmental impacts of products or services during their entire life cycle [14]. Any measurable activity involving the product is taken into account by an LCA, making it a reliable and useful tool. The results of the use of this tool can also be incorporated into a cycle such as a circular economy, lessening the harmful effects associated with certain problems correlating between the life cycle of a product and the cycle of the market by systematically measuring the carbon footprint of production [15].

In general, carbon footprint analysis is a tool used in sustainable development. The concept of measuring carbon emissions is used to have an understanding of the effect of one singular product, service, or operation [16].The scientific imparities that will result in the outcome can be assessed [17]. This type of analysis is important because it can help us unmask the true affects behind our actions. A way to measure the difference between if we do or don't what may seem like a small deed can be a factor in helping the population make a more sustainable choice.

Summary

In summary, tools, methods, and prevailing ideas such as these can be incorporated into the methodology being built today. Furthermore, the following research will outline all aspects of sustainable production and sustainable consumerism–including the steps behind each individual process, how they work together to promote circulation, and how to implement them globally. These aspects will be discussed alongside some successful examples in order to properly illustrate the effects of implementation of these procedures. Shifting to these practices is imperative in order to mitigate environmental damage as well as make the future of humankind healthier.

2. Methods

To gather the research for this paper, search engines such as Google Scholar were used to find published research related to information on sustainable production and consumption strategies, as well as sustainable company case studies. In addition, articles, government websites, and company websites were utilized to pull supplementary information. These sources were found using keywords such as sustainable production, sustainable consumption, circular economy, and eco-labeling. All of the sources mentioned

were then synthesized into a coherent essay on sustainable consumption and production.

3. Literature Review

Traditional Production Steps

Traditional production follows a linear path–one in which the raw resources that are used to create a product will inevitably end up in a landfill [18]. Commonly referred to as the take-make-waste system, traditional production is a procedure where nonrenewable resources are extracted, re-formed, and manufactured into a product. The entire process of creating a product is referred to as its life cycle. A product's life cycle refers to the span of time between when a product is first created to until it has reached its end of use.

Furthermore, the term 'Cradle-to-grave' sheds more light on unsustainable production. It refers to a product's life span being non regenerative, or where materials continuously return to the 'cradle' stage, where they are new and ready to be used. The whole point of the title is to promote the motion of cycling the materials all the way back into the original form. This assessment considers impacts at each stage of a product's life-cycle, from the time natural resources are extracted from the ground and processed, through each subsequent stage of manufacturing, transportation, product use, and ultimately, disposal [19]. Cradle-to-grave methodology goes hand in hand with the traditional production system because it only evaluates from the cradle (birth of the product, when it is new) to the grave (death of the product, when it officially becomes waste). It doesn't take into account any recycling, repurposing, or reusing once the "life" of the product has terminated.

The cradle-to-grave mythology contrasts with sustainable production. The differences lie along each step of the production chain [20]. Sustainable production requires analysis, evaluation, and continuation of the life cycle of a product. A product's lifecycle not only includes death and birth, but also recycling, repurposing, and reuse. More attention is also given to sustainably sourcing raw materials and promoting prosperity for the economy and society for years to come.

Sustainable production's goal is to utilize a product's raw materials to their fullest potential. Then the component materials of a product are again circulated into the system, replacing landfill disposal as an end-of-life step.

Sustainable Production Steps

Many of the coresteps are similar to the traditional process, but specific nuances transition the model from wasteful to sustainable for generations to come.

1. Sustainable sourcing of raw materials
2. Sustainable manufacturing of the product(s)
   (2B) Consideration of renewable and sustainable energy sources for production
3. Sustainable packaging and distribution of the product(s)
4. Focused advertising and marketing in order to promote sustainable production and enhance potential profits [21][22]

To explain, raw materials are first extracted or sourced. It is important that the resources used minimize greenhouse gas emissions and unethical or unsustainable extraction [23]. If the resource's excess output isn't gentle with our atmosphere and environment, it's no better than typical non renewable materials. What makes a product sustainable is having a flourishing supply that regenerates quickly, as well as being able to decompose naturally or be recycled without harmful gasses being released in the process.

When sourcing raw materials, it is also important to evaluate ease of extraction and durability. Extraction

can refer to any process that sources a raw material–like mining, harvesting, or synthetic creation. Durability is a product's potential to withstand wear. An example of a company manufacturing a product using sustainable raw materials is By HumanKind. According to their website, they are "a personal care brand that cares," [24]. Having dedicated themselves to reducing the use of harmful single-use plastic around the globe, they create personal care products "healthier for your body and our planet," [24].

Humankind designed a toothbrush made 100% out of bamboo, which is one of Earth's fastest growing natural fibers and is biodegradable–fully decomposing somewhere between 2-6 months [24]. This biodegradability helps regenerate the material, and this helps contribute to the motion of a circular economy.

Moving on, once the raw materials are obtained, manufacturing begins. The main way to transition a traditional, wasteful manufacturing process to a sustainable one is by leveraging renewable energy [25]. It is very beneficial because without harmful emissions, the carbon footprint of every manufactured good drastically decreases [26].

A case study done by the Michigan Agency for Energy illustrated how Black Star Farms reduced the carbon footprint of their goods by shifting to solar energy. A transition to renewable energy for both big and small companies is a bold move, but this example shows the payoff. The farm's customers, employees, animals, and environment all benefited from this change towards sustainability

The farm turned to solar energy implementation through the installation of 7,232 square feet of solar panels, as well as the proper technology needed in order to use the sun's rays to power routines on the farm [27]. The chief financial officer and director of operations at Black Star Farms stated "If I build a system that doesn't pay for itself and doesn't have longevity, then I'm building waste…" [27]. He did not build waste, in fact he built something that is not only an investment for the prosperity of the farm, but also the planet. And the company was able to continue to produce their products as they had done so for years before. Taking initiatives like this farm results in a universal positive outcome, especially for the future of our planet.

Moving on, once the product is manufactured, it is necessary to package the product so that it is suitable for distribution to customers. A large percentage of packaging consists of plastic, and is single use [28]. However, an alternative and arguably better option is PET. Polyethylene terephthalate, or PET for short, is a type of versatile yet durable plastic [29]. It is "Infinitely recyclable, lightweight and low greenhouse gas emissions," says AMCOR [30].

Another type of packaging that is commonly used is cardboard, however corrugated cardboard is the better choice as opposed to the other options [31]. It is strong and sturdy, allowing for high weight capacity. Durability is an important quality of a sustainable material. It is versatile due to its customization abilities, and most importantly, disposal is easy. It is not only biodegradable, but recyclable, making it a very sustainable packaging option.

The last step of sustainable production is advertising the product in a way that highlights its unique sustainable characteristics. Most companies will highlight the environmentally friendly attributes of the product, especially as this can assist in attracting niche customers who value eco friendly products. It is important that companies partake in putting their product in a position to succeed by having it catch the eyes of consumers in place of traditional products. This also fights the larger battle of educating consumers about sustainable production and providing competition to traditionally produced products.

For example, "The Timberland Company is escalating its green marketing activities with the launch of its biggest and most environmentally-focused marketing campaign yet — Nature Needs Heroes" [32]. In

2010 this campaign was launched in order to help convey a message to the consumers that society needs to take action regarding the environmental crisis. The use of commercials, window displays, and graphics worked toward the goal of "[engaging] consumers in a broader effort to care for the environment," [32]. This type of action fell under the category of advocacy, reaching out and touching hearts in order to inspire. And not only did they spread the word, they also took action by using the profits to plant 50 million trees by 2025, directly fighting the effects of climate change [33]. This campaign not only markets a product, but it also provides education and funds for direct impact.

Sustainable Production and its relation to Cradle to Cradle

Sustainable production fits like a puzzle piece into schools of thought such as the circular economy and cradle-to-cradle methodologies. While consumption will be discussed in the second half of this essay, the promotion of circulation can already be seen in the steps of sustainable production. For example, it was discussed that raw materials, and using ones that are quickly replenished and biodegraded, can contribute to the cycling of inputs back into the start of a circular process. It also shows that in industries such as packaging and marketing, sustainable production techniques both allow and educate consumers on more sustainable buying and disposal/recycling habits.

Fully integrating sustainable production into all of society's supply chains would result in massive upheaval–but it is upheaval that is necessary. If we continue using the traditional system in place, human and planet health will continue to decline. The sooner we start with momentum, the better our future outlook.

Sustainable Consumerism

With its roots sprouting from The Industrial Revolution and the ignition of a mass production economy, traditional production and consumption have shaped the global economy for many decades [34]. However, these methods aren't beneficial to our planet. At least 45% of greenhouse gas emissions are from the production and then rapid consumption of goods, contributing to the decline in our planet's health [35].

In fact, the traditional view of consumerism assumes that ever increasing consumption of goods and services is a desirable goal. It also contends that a person's well-being and happiness depend fundamentally on obtaining these consumer goods and material possessions [36]. However, this isn't true because the increase in consumption only ends in an increase of problems, because our methods of consumption aren't following healthy guidelines.

In summary, transitioning from traditional production and consumption to sustainable practices is imperative not only to mitigate environmental damage but also to ensure a viable future for both our planet and future generations.

Traditional Consumption Steps

The baseline steps for traditional consumption are simple. The customer purchases the item, putting profit in the hands of the supplier. Then the product is used to the customer's satisfaction, and finally disposed of. Once this item has been discarded, not only is it useless but the materials used to create it are useless, too. More often than not, all the materials end up in a landfill [37].

These traditional steps resonate heavily with the cradle to grave methodology. The life of the materials used to make the products terminates indefinitely at the end of the term of customer use [38]. There are precious metals, certain plastics, papers, and a plethora of other materials that should be recycled, reused, and could contribute to a circular economy[38].

Sustainable Consumption Steps

These traditional steps differentiate from sustainable consumerism because they do not display concern

for the future. Sustainable consumption promotes a cycle motion in the economy. Recycling and reuse allow for future products to reuse materials and respect the planet's future.The steps for sustainable consumption consist of three parts, adapted from the traditional steps.

1. Sustainable Procurement

The sequence begins with sustainable procurement. This refers to the purchase and acquisition of an eco-friendly product. Ecolabeling is a practice of certifying and labeling environmental performance of certain products [39]. It helps signify superiority of certain products over others and allows for customers to be better educated and aware of responsibly produced goods ready for consumption.

From 2013-2017, the Sustainable Public Procurement and Ecolabelling Project (SPPEL) ran in Vietnam, Brazil, Mongolia, Morocco, Costa Rica, Ecuador, Colombia, Peru, Argentina and Chile [40]. The main goal was to enhance each country's ecolabelling abilities by adopting internationally recognized pre-existing methods [41]. By the end of the term in 2017, sustainable consumption goods were further enabled and readily available for consumers.

Projects and movements like these make purchasing sustainably easy for consumers. In fact, 55% of consumers are willing to pay for more eco-friendly brands, and 84% of consumers will turn away from brands that openly use poor environmental practices [42]. This shows that customers want to consume sustainably, and the service of clearly highlighting preferred options makes shopping sustainable more feasible. .

2. Sustainable Usage

After a consumer has purchased a sustainably produced or sourced material, it is up to the consumer to use the product sustainably. This includes the use of materials "in a way and at a rate that does not lead to the long-term decline" of our environment [43]. Our world is one where half of our plastics go straight to the landfill after one use [44]. This is one of many examples of global lack of usage in a manner that doesn't decelerate the decline of the Earth. Therefore, making sure that the materials can be handled correctly, and that the materials can go through the circular economy lifespan again, is sustainable usage and needs to be practiced more often.

One company taking said action is Patagonia. They are all around sustainable companies and use recycled polyester from water bottles in their backpacks [45]. They promote extending products' use through a trading network, so that consumers can actively and easily participate in sustainable usage.

Moreover, in 2017 they launched their program "Worn Wear," and as of 2019, sold 120,000 products as part of the program [46]. The program allows you to trade in, repair, and buy used Patagonia apparel [47]. According to the stats, an individual's apparel carbon footprint is reduced up to 60% in CO2 if a used garment is purchased over a new one [48].

Truly sustainable use would result in products which can be infinitely reused or reformed into valuable goods. Both producers and consumers are responsible to enable this future.

3. Sustainable Disposal

If a product must be disposed of, there are more sustainable methods of waste management compared to today's traditional systems. Disposal refers to how the product is treated after the term of use. There are different ways this step can go and that is dependent on many factors like the resources used to make it, the companies' policies, the category of the product itself, and many others create a plethora of possible substitutions for the product ending up in a landfill once its term of use is over. The consumer's responsibility is to dispose of the product using one of these three methods: reuse, recycle, or compost.

a. Reuse -

Firstly, reuse. This may be the most simple course of action to take because it means that the product stays within the domain of use of the consumer. Finding either creative or practical ways to reuse everyday goods can aid in decreasing carbon footprints. For example, wine corks. These are a relatively common item in a household, and once they are done being used as a cork, they can then be used as a non toxic fire starter. If the corks soak in an old jar with 90% rubbing alcohol for about a week, it creates a flammable option that also prevents the breathing in of synthetic fumes [49].

Reuse is also done in an industrial environment, where the company can use scraps of resources left over from a previous batch in the next one. This works towards preventing the accumulation of wasted material [50].

Reuse is a simple option that works to a dramatic effect across the tons of household goods.

b. Composting -

There is also composting, which is another option mainly in the hands of the consumer. "Composting is a controlled, aerobic (oxygen-required) process that converts organic materials into a nutrient-rich, biologically-stable soil amendment or mulch through natural decomposition," [51]. This is a good thing for the environment because it enriches the soil and helps build a healthy environment for crops to flourish. While turning to composting may result in the need to invest in certain tools, it is worth it to have a safe and healthy way to help the circulation of materials. While it can be done both on a community as well as individual scale, it is a viable option for end of life management for your product, depending on its materials.

c. Recycling -

The final option for waste management is recycling. While this process is partially in the hands of the consumer considering that they are the ones disposing of the product, it also involves the producer because they are responsible for taking the materials of the product and re-circulating them into the cycle.

How the steps fit into Cradle to Cradle

These steps fit into the cradle to cradle or the circular economy methodology because they promote the circulation of materials. At the end of the term of use, the same resources used to create the first product are either put to rest in a responsible manner, or turned into a new opportunity for use. Therefore the cycle is continued and the product is returned to the cradle stage where it is waiting to be re-made into something new of value.

4. Discussion

This project was an eye opening piece, especially as the writer. As you progress through the paragraphs, the potential story of a singular type of product unfolds: a sustainably sourced, produced, and consumed product. While it was necessary to first break down the background of certain terms and how they contrast with each other, the most important part of this paper is the end result, which points toward a circular motion economy.

As previously stated, circular economy refers to an economic system which regenerates materials and goods with minimal environmental impact. In fact, if you connect the tail end with the start, you are left with a circular model of aproduct's sustainable lifespan.

This process begins with the bare, raw materials used to create the product. Some examples of sustainable attributes are harvestability, durability, and reusability. If it contributes to the goal of minimal environmental impacts and is designed to endure over time, then it is a viable source for the makeup of a

product.

Then,these materials are refined and shaped to create a product; but in order for it to remain a sustainable operation, the energy used must be clean–meaning that it emits little to no greenhouse gas emissions and/or includes renewable and carbon-free sources [52].

A product is then packaged. However, traditional packaging practices are the largest end-use market segment accounting for just over 40% of total plastic usage [53]. This means that nearly 500 billion plastic packaging bags are used annually.. It is crucial that packaging become better sourced, manufactured, and recycled to ensure product packaging sustainability.

Once it's packaged, it is necessary to market the product in a way that will attract customers looking to lower their carbon footprint. This means clearly displaying the positive effects of purchasing a product. Methods like eco-labelling fall under a more formal category, however even just a simple design that advocates for the product's beneficial qualities fits the requirements. Then once the product is in the consumers hands, the second half of the cycle is initiated.

First, usage. Using a product to its full ability is a major part in being a sustainable consumer. Throwing away a shampoo when it's half full because you aren't fond of the smell is not sustainable, however, finishing a mason jar full of pickles and reusing the jar afterwards to pot flowers is a great example of sustainable use. By taking advantage of the full potential of a product and its components, a consumer not only decreases waste but also decreases carbon footprint and helps to prevent the need for a new purchase. Recycling is another option for end of life management of a product that includes making sure the product is in the right position to be regenerated by the company.

And lastly, composting. Composting can be a tedious process involving the purchase of new tools, the benefits are more supplementary. Its abilities to increase growth within plants while also preventing erosion makes it the best friend of a gardener [54]. After this point, the materials within the product are thrown back to the beginning of the cycle, as long as every step is carried out correctly, resulting in a fluid and sustainable motion.

Each step mentioned forms the circular economy--a method without end or beginning

Considering the benefits a circular economy has on people and the environment, it should be more widely practiced. Luckily, certain communities are starting to shift their practices to fall under these guidelines, paving the way as an example for other locales.

While “no country is operating a completely perfect circular economy, " several countries have presented roadmaps to get close [55]. Places such as Finland, France, Slovenia, and Germany have all begun to fall within the lines of this methodology.

Finland has taken a leadership role in the process of shifting towards sustainability. The population stresses sustainable design, waste reduction, and resource efficiency. While the roadmap has been adopted with the goal of being a “carbon-neutral circular economy society” (meaning carbon footprints decrease with the recirculation of materials) by 2035, they are already touching upon each of the steps of a sustainable product’s lifespan.

They work with the first step, raw materials, aiming to “cap consumption of primary raw materials at 2015 levels” [56]. Reduction of the use of non-renewables, and the shift to using renewables helps the makeup of a product come from a sustainable origin.

Then, the creation of their products is with renewable energy. A combination of solar, wind power, hydropower, and geothermal energy is used [57]. The share of solar power capacity in Finland grew over 60% in 2022. At the end of the same year, 1,393 turbine generators were installed, with a total capacity of

5677 MW. “Emission-free electricity generated by hydropower presented 16.3 percent of the total share of electricity generation in 2022” [57], with the capacity being 3,200 MW. And geothermal energy use has boosted over the last five years, with an influx of Ground Source Heat Pumps to come.

Finland uses many natural materials for the distribution and packaging of their products and helps sell those products using ecolabelling [58]. Then, the product is placed into the hands of the consumer, and the procurement and usage of these products is up to the population. However, the country does promote a responsible disposal of the materials. While store bought bottles are made out of a sturdy material that can be reused, there are convenient machines where you can recycle reusable cans, as well as bottles, for money [59].

Finland seems to be an ideal portrayal of the circular economy methodology in its early stages, so how can the rest of the globe follow in Finland's footsteps? The key is policy. The United Nations are big when it comes to working on sustainable policies, considering that shifting to responsible production and consumption is one of their 17 Sustainable Development Goals [60].

In 2003 the UN launched the “Marrakech Process on Sustainable Consumption and Production,” which was a global initiative to promote sustainable consumption and production practices by bringing together governments, businesses, and civil society to develop policies and programs supporting this goal [61]. Its aim was to start a trend of minimal environmental impact, while human needs are simultaneously being met. Resource efficiency as well as reduction in rates of waste was discussed and embedded into their developmental version of a ten year framework. The goal was to implement SCP movements over the span of a decade.

This comprehensive framework was discussed at the 2012 UN Conference on Sustainable Development, also known as Rio+20. Here, countries formally adopted this ten year framework, officially titled “10-Year Framework of Programmes on Sustainable Consumption and Production Patterns.” In its final draft, it covered the motion behind promotion of sustainable practices across a variety of fields such as energy production, waste management, and good production [62].

At this same conference, the UN established the “One Planet Network,” a community spread across the globe of expert practitioners and policymakers which could facilitate the implementation of this project. This framework was largely focused on sustainable consumption methods and was one step closer to uniting the world in sustainable development.

However, in both of these conferences where exertion of policy was stressed, the overwhelming similarities in the content was that these were umbrella policies. They were attempts to throw a blanket over an international fire; however, other types of policies focusing on one specific area at a time can sometimes attack said fire in a more efficient manner.

For example, in France during 2020, the Anti-waste for a Circular Economy law (AGEC) was introduced, which encompasses a range of measures to promote circularity and sustainability, limiting the amount of waste in order to preserve biodiversity and natural resources [63].This policy attacked more specific issues and thus had more direct impact.

The reason behind the assessment of this research is to recognize and understand approaches to take when it comes to shifting to sustainability. However, piecing together the framework behind circularity, and how this methodology is the best to follow, happens to be the easy part. We can do all the reading up on sustainable articles we want. However, informing ourselves about what needs to get done, doesn’t mean it's going to get done. So the reading of this paper, and other pieces similar to mine shouldn’t be what you see as a job getting done. Because the goal of this is to motivate as many as possible, lighting a fire beneath

them in order to make them get up and get to work. Actions make things happen, and more action is exactly what we need.

5. Conclusion

To summarize, sustainability is a circular process broken down into a variety of steps. These steps need to be integrated into our routine process behind production and consumption in order to preserve our planet for as many generations as possible. For the sake of our futures, and our kids' futures, it is necessary that we shift sustainability from a niche trend to a mainstream movement.

6. References

1. Ganguly R.K., Chakraborty S.K., "Plastic waste management during and post Covid19 pandemic: challenges and strategies towards circular economy", National Library of Medicine, February 2024
2. "What is the Linear Economy", Ellen MacArthur Foundation, February 2023, https://www.ellenmacarthurfoundation.org/what-is-the-linear-economy#:~:text=The%20linear%20economy%20linear%20economy,extracted%20to%20make%20products%20that
3. Timmermans F., Hughes K., "The Circularity Gap Report (2023)", Circle Economy Foundation, January 2023
4. "How Can Factories Affect The Environment?", Field Org UK, 2018
5. "Food and the Environment", FoodPrint, 2024
6. "Sustainable consumption and production policies", UN Environment Programme, 2024
7. "Sustainable Production Defined", UMASS Lowell, 2023
8. "Sustainable Consumption and Production", Sustainable Development Goals Knowledge Platform, 2024
9. "Timeline: A brief history of sustainable consumption", World Economic Forum, 2013
10. "Schools of that that inspired the circular economy", Ellen MacArthur Foundation, March 2023
11. "What is a circular economy?", Ellen macArthur Foundation, 2023
12. "What is a Circular Economy?", United States Environmental Protection Agency, August 2024
13. "Decoupling (emissions from economic growth)", Foresight, May 2022
14. "What is Life Cycle Assessment (LCA)?", Golisano Institute for Sustainability, July 2020
15. "Life Cycle Assessment for the circular economy", Ellen MacArthur Foundation, April 2022
16. "Carbon Footprint Analysis", Bureau of Compliance Support and Pollution Prevention, 2023
17. Dyott I.S., Ladiwala S., "Carbon Footprint Analysis", Neuberger Berman Group, 2017
18. "Why Is The Linear Economic Model No Longer Sustainable?", Rome Business School, November 2023
19. "Cradle to Grave", European Environment Agency, 2023
20. "Cradle to Cradle", Sustainability Guide, 2018
21. "Sustainable Consumption and Production", United Nations Environment Programme, 2015
22. Weiss D., "Step-by-Step Guide to Sustainable Supply Chain Management", Federal Ministry for the Environment, Nature Conservation, Building, and Nuclear Safety Public Relations Division, 2017
23. "Sustainable Raw Materials", Clariant
24. ByHumankind, 2024
25. "Five ways to jumpstart the renewable energy transition now", United Nations, 2022

26. “Local Renewable Energy Benefits and Resources”, United States Environmental Protection Agency, March 2024
27. Thelen J., Thomas A., Go. A,“Solar Implementation Case Study”, Michigan Agency for Energy, 2017
28. “Non-Recyclable Plastics”, RecycleSpot, 2024
29. “What is PET?”, American Beverage, February 2024
30. “Plastic Bottles - Surprisingly Sustainable”, AMCOR, 2024
31. “Environmental Advantages of Using Corrugated Cardboard Boxes”, CustomBoxes Now, 2024
32. “Plastic Bottles - Surprisingly Sustainable”, AMCOR, 2024
33. Wheldon N., “Timberland ‘Nature Needs Heroes’ Campaign”, Environmental Impact Awareness, May 2021
34. Hayes A., “Consumerism: Definition, Economic Impact, Pros and Cons”, Investopedia, July 2024
35. Marsh J., “Consumerism and the Environment: is shopping sustainable?, Environment, January 2024
36. Hayes A., “Consumerism: Definition, Economic Impact, Pros and Cons”, Investopedia, July 2024
37. “National Overview: Facts and Figures on Materials, Waste, and Recycling”, United States Environmental Protection Agency, November 2024
38. Nelson K., “Landfill Waste: an Overview”, Smart Solve, March 2024
39. “What is EcoLabelling?”, Ukrainian
40. “Sustainable consumption and production policies”, UN Environment Programme
41. “Sustainable Public Procurement and Ecolabelling”, One Planet Handle With Care, December 2017
42. “The Green Shift: The World Moves Towards a Sustainable Future”, The Business Standard, December 2024
43. “Sustainable Use”, IPBES
44. Ritche H., Samborska V., Roser M., “Plastic Pollution”, Our World in Data
45. “Polyester”, Patagonia
46. Salpini C., “Patagonia opens first Worn Wear store”, Retail Dive, November 2019
47. Used Patagonia® Clothing & Gear | Worn Wear – Patagonia Worn Wear®
48. Batten C., “Patagonia’s Worn Wear Collection is Saving the Planet”, The Manual, April 2021
49. “20 Reusable Everyday Items - Toad&Co”, Toad&Co, January 2019
50. “National Overview: Facts and Figures on Materials, Wastes and Recycling | US EPA”, Environmental Protection Agency (EPA), November 2024
51. “Composting At Home”, Environmental Protection Agency (EPA), September 2024
52. “What’s Clean Energy?”, SanJose Clean Energy
53. “Plastic Pollution Facts”, Plastic Oceans International
54. “Compost and Mulch”, CalRecycle, 2024
55. Thomas J., “This Country Has The Best Circular Economy…”, Medium, September 2024
56. Mowbray S., “Lessons from Finland’s attempt to transition to a circular economy”, Mongabay, January 2024
57. “International Trade Administration”, Finland - Energy, December 2024
58. “All Ecolabels in Finland”, Ecolabel Index, 2024
59. Bogdanov E., “Circular Economy Success: Finland’s Recycling Programme Keeps Bottles and Cans off the Streets”, This is Finland, June 2021
60. “THE 17 GOALS | Sustainable Development”, Sustainable Development Goals

61. “Paving the way for Sustainable Consumption and Production - The Marrakech Process and Progress Report”, UNEP, 2011
62. “10YFP - 10 Year Framework of Programmes on Sustainable Consumption and Production Patterns”, UN Environment Programme
63. “The Circular Economy in France: Making Mendability Mainstream, HKTDC Research, December 2023