

The **Circular Economy** is a production and consumption model that emphasizes practices such as sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products for as long as possible. This approach aims to prolong the life cycle of products. Currently, a mere 7.2 percent of used materials are reintegrated into our economies after their initial use, imposing a considerable environmental burden and contributing to crises in climate, biodiversity, and pollution. In practical terms, **the Circular Economy** seeks to minimize waste. When a product reaches the end of its life, efforts are made to retain its materials within the economy through recycling, allowing for their productive reuse and the creation of additional value.

This stands in contrast to the traditional linear economic model, characterized by a take-make-consume-throw away pattern. The linear model relies on large quantities of inexpensive, readily available materials, and energy. This involves intelligent product design, prolonged product use, recycling, and other practices that contribute to the regeneration of nature.



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## Difference between Linear and Circular Economy:

In a **linear economy**, raw materials are transformed into finished goods that are eventually discarded without an opportunity for further use or extension of life. In contrast, a **circular economy** is founded on principles of reuse, repair, refurbishment, and recycling, creating a systematic loop for ongoing reuse.

The objectives of these two approaches diverge as well. The linear economy prioritizes maximizing profit, often finding it more convenient and economical to dispose of a product rather than recycle it. Recycling and reusing products demand both time and financial investment. Conversely, the circular economy aims for sustainability, requiring additional effort. The associated costs may vary depending on the industry and the specific product involved.



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### Some Examples of Circular Economy:

In recent years, an increasing number of brands have adopted the principles of a **circular economy** to promote sustainable development and mitigate the environmental impact of human activities. Patagonia, a pioneer in the circular economy movement since committing to sustainability in 1986, has been actively working towards reducing its environmental footprint through various initiatives. One notable program is **The Worn Wear**, designed to encourage customers to repair, reuse, and recycle their garments. This initiative provides a repair service to address any damages to clothing and offers a trade-in option, where customers receive store credits for used Patagonia clothing. By implementing these measures, Patagonia has not only extended the lifespan of its products but has also significantly reduced waste. Additionally, the brand has launched a clothing line that incorporates recycled materials, emphasizing the use of organic cotton and other sustainable fibers. This commitment further underscores Patagonia's dedication to sustainable practices within the fashion industry.

The Swedish home-retail giant **IKEA** has advanced its commitment to circular economy and sustainability through three key initiatives: the Take-Back program, circular services, and investments in sustainable materials. Firstly, the Take-Back program enables IKEA customers to return their furniture for repurposing or recycling, contributing to the promotion of a circular economy. Additionally, IKEA allows customers to rent items or purchase refurbished furniture, actively encouraging product reuse and fostering sustainable shopping habits. Lastly, a significant portion of IKEA's products is crafted from FSC-certified wood and recycled plastic, aligning with the company's efforts to minimize its environmental impact.

**Unilever**, a global consumer goods corporation, has placed a strong emphasis on sustainability and circular economy initiatives, implementing diverse measures to propel its goals forward. Notably, all Unilever products incorporate sustainable ingredients, including ethically-sourced palm oil, in an effort to diminish their environmental footprint. Additionally, the company has committed to reducing packaging waste by 2025 and has initiated a recycling program to augment awareness, education, and overall recycling rates.

**Accenture** leverages cutting-edge technologies and collaborates with key partners such as Mastercard, Amazon Web Services, Everledger, and Mercy Corps to enhance its circular supply chain capabilities. The primary objective of this capability is to boost financial inclusion, advocate for sustainable practices, and empower consumers. By adopting this strategy, Accenture ensures that its clients attain their corporate sustainability objectives by optimizing resource planning and utilization.

**H&M**, the prominent fashion retailer, has demonstrated a substantial dedication to its ESG (Environmental, Social, and Governance) initiatives, emphasizing the reduction of waste and the promotion of sustainable practices. Among these endeavors is the garment collection program, allowing customers to return used clothing for recycling or repurposing. Furthermore, H&M is committed to incorporating sustainable materials, such as organic cotton and recycled polyester, into its products. This deliberate choice has not only lessened the environmental footprint of its offerings but has also actively fostered a circular economy.

**Adidas** serves as a notable illustration of how a large corporation can evolve, acknowledging its involvement in the plastic issue and committing to leverage its influence for a positive outcome. The sportswear giant introduced the '**Three Loop Strategy**', comprising three interconnected initiatives. The initial loop centers on recycling plastic waste, the second emphasizes creating shoes that are easily remade, and the third loop concentrates on regeneration. In this phase, Adidas strives to incorporate biodegradable materials that naturally break down in their environment.

The flooring company **Interface** has adopted a robust commitment to sustainability and advancing a circular economy through a range of initiatives to reach its objectives. One noteworthy strategy is the implementation of a closed-loop manufacturing process, wherein recycled materials are utilized in the production of their carpet tiles. Once these tiles have reached the end of their lifespan, they are collected and repurposed into new products, effectively minimizing waste and promoting a circular economy.

For almost twenty years, **HP** has integrated circular practices into its operations through the collection of used ink cartridges. In recent times, the company has heightened its recycling endeavors by introducing the world's inaugural monitor and a complete PC constructed from plastics sourced from the ocean. HP's overarching objective is to achieve net-zero status by 2040, powered entirely by 100% renewable energy.

**TrusTrace** is dedicated to bringing transparency to both producers and consumers within the fashion industry, responsible for 10% of global carbon emissions. Through its innovative digital platform, the company seeks to increase awareness of individual responsibilities and advocate for best practices, amassing over 10,000 users. Recognizing its outstanding commitment to sustainability and the circular economy, TrusTrace has been honored with the prestigious Solar Impulse label.

**Mud Jean** employs recycled denim to craft new pairs of jeans, offering customers the option to

lease them for slightly under €10 per month. This program enables customers to sidestep the purchase of jeans that might see infrequent use, thereby supporting a closed-material loop. To join the Mud Jeans leasing initiative, customers can send in an old pair of jeans and receive their initial month of leasing at no cost. Afterwards, customers can opt to extend their subscription, receiving a new pair of Muds each month, or conclude their subscription after the introductory month.

### Importance of Circular Economy:

Current estimates indicate that we are surpassing Earth's available natural resources, and if present trends persist, we would require three planets by 2050.

Over the past two decades, global material consumption has surged by more than 65 percent, reaching 95.1 billion metric tons in 2019. In the same year, approximately 13 percent of food intended for human consumption was lost post-harvest, with an additional 17 percent wasted at the household, food service, and retail levels. Electronic waste amounted to 7.3 kilograms per capita in 2019, a substantial portion of which is improperly managed, posing environmental and health risks.

These statistics underscore the critical need to transform the way we utilize and respect our finite resources for the survival and well-being of both people and the planet. Research indicates that to revert to safe consumption levels, a one-third reduction in global material extraction and consumption is necessary. The transition to a circular economy will play a pivotal role in achieving this imperative goal.

### Benefits of Circular Economy:



Pic credit: [www.earth5r.org](http://www.earth5r.org)

### **1. Minimizes Greenhouse Gas Emissions**

The conventional linear economy significantly impacts the environment, with its waste ultimately deposited in landfills, decomposing and emitting greenhouse gases into the atmosphere. Adopting a circular economy has the potential to decrease carbon dioxide emissions and other greenhouse gases, mitigating the impacts of climate change. Transitioning to a circular economy could potentially cut carbon dioxide emissions in half by 2030 and lower greenhouse emissions by 7.4 million tonnes annually. This represents a substantial stride in addressing climate change and safeguarding the planet for generations to come.

### **2. Diminishes Initial Material Usage**

In a circular economy, there is a decrease in the consumption of primary materials, encompassing materials used in vehicles, construction, synthetic fertilizers, real estate land, and more. This reduction results from the design of circular economy products, which are intended for extended durability, reuse, or recycling, rather than being disposed of in landfills. Transition to a circular economy has the potential to slash primary material consumption by 32%. Such a reduction would have a noteworthy positive impact on the environment by lessening the need for extensive mining and drilling to extract these materials.

### **3. Preserves Land Productivity and Soil Well-being**

The linear economy, unsustainable over the long term, leads to the depletion of the Earth's resources, with land degradation incurring an estimated annual cost of 10.6 trillion. In contrast, a circular economy plays a role in safeguarding land productivity and soil health by incorporating recycled materials and minimizing waste.

### **4. Enhances Economic Expansion**

Economic growth is quantified through Gross Domestic Product (GDP), representing the overall value of all goods and services produced within a country. The adoption of a circular economy has the potential to stimulate GDP by prompting businesses to create products with extended lifespans that can be reused or recycled. Transitioning to a circular economy could result in a GDP increase of up to USD 700 billion by 2030. This positive economic impact could contribute to poverty reduction and enhance living standards globally.

### **5. Generates Employment Opportunities**

As previously highlighted, the implementation of a circular economy contributes to economic growth by generating new jobs across diverse sectors such as manufacturing, engineering, design, and recycling. These roles typically involve well-compensated, skill-intensive positions that are



resistant to outsourcing. According to the Global Climate Action Summit, transitioning to a circular economy has the potential to generate up to 65 million new jobs by 2030, providing positive prospects for economies grappling with elevated unemployment rates.

## **6. Enhances Cost Savings for Producers**

Within a linear economy, manufacturers must consistently acquire new materials for product creation, often treating waste as a disposable expense. In this system, businesses commonly perceive waste as a cost associated with disposal. Contrastingly, in a circular economy, companies recognize waste as a valuable resource that can be repurposed for creating new products. Consequently, producers realize savings both in terms of raw materials and disposal costs. Moreover, producers operating within the circular economy are less susceptible to fluctuations in raw material prices, as they can opt for recycled materials instead of virgin ones. This increased resilience positions them well during economic downturns and enhances their competitiveness in global markets. There is a potential for material costs to decrease by up to 50% by 2030 if a transition to a circular economy occurs.

## **7. Consumers Gain Access to Safer Products**

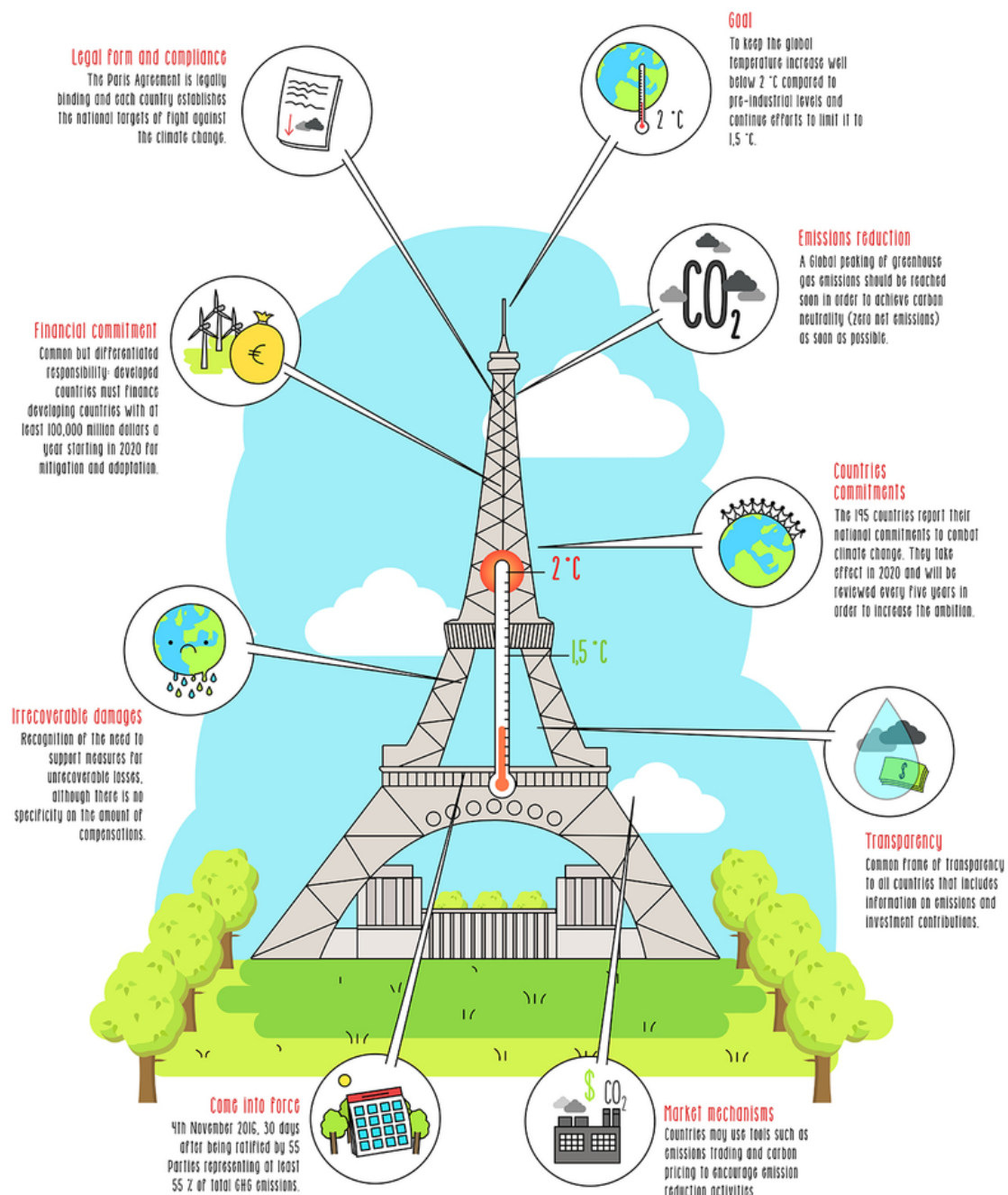
Traditionally, manufacturers incorporate harmful chemicals and toxins into their products to reduce costs and simplify production processes. Nevertheless, these chemicals may seep into the environment, leading to pollution, and may also find their way into our food and water sources, posing health risks to consumers. In a circular economy, producers are inclined to utilize recycled materials that undergo thorough cleaning and purification processes. Additionally, there is an incentive to employ organic and natural materials that pose no harm to the environment or human health. This practice contributes to the creation of a safer living environment for all.

## **Connection between Circular Economy and Climate Change:**

Embracing a circular economy is crucial in the fight against climate change. Presently, 70 percent of global greenhouse gas (GHG) emissions result from material extraction and utilization. To significantly curb emissions, it is imperative to target unsustainable consumption and production "hot spots" in high-impact sectors such as industry, buildings and construction, and agriculture. Research indicates that by adopting circular economy strategies in just four key industrial materials—cement, steel, plastics, and aluminum—we could potentially achieve a 40 percent reduction in global GHG emissions by 2050. Expanding circular approaches to the food system could further contribute to an overall 49 percent reduction in global GHG emissions.



As part of the Paris Agreement, countries are making climate pledges, known as Nationally Determined Contributions (NDCs), to decrease GHG emissions and enhance resilience against extreme weather and natural disasters. By integrating circular economy approaches into these commitments, countries can expedite the transition to a low-carbon economy, safeguard the natural environment, and foster the creation of green, decent, and dignified jobs. According to the International Labour Organization (ILO), implementing more circular activities like recycling, repair, rent, and remanufacture worldwide could generate 6 million jobs by 2030.



Pic credit: [www.activesustainability.com](http://www.activesustainability.com)



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### Challenges/Barriers in transitioning to a Circular Economy:

Achieving a more circular world is feasible, but the transition is not without its complexities, with several challenges to navigate. The first hurdle is a lack of widespread knowledge. Not every country is aware of the potential of a circular economy or has a comprehensive strategy in place to establish it. A deeper understanding of the benefits and repercussions of circular economy measures, especially concerning climate and biodiversity, is essential.

Businesses, particularly **small and medium-sized enterprises (SMEs)**, along with other **organizations and stakeholders**, often face difficulties in securing adequate financing for the shift from linear to circular business models or systems. For instance, the transition from conventional cotton production to organic cotton production for a smallholder farmer is estimated to take around three years, and adopting circular, regenerative practices can be an equally lengthy process, if not longer. This transition necessitates not only sufficient investment and financial support but also knowledge transfer, community-building, and training throughout the transition period.

Even if the implementation or mainstreaming of circular economy practices were more straightforward, assessing their impact could still pose a challenge. Consequently, tracking and reporting progress often become intricate.

**For example**, monitoring reductions in "**scope 3**" emissions (indirect emissions that an organization or company is responsible for up and down its value chain) faces difficulties due to issues such as supply chain transparency, limited direct connections with various tiers of suppliers, and intricate accounting processes, among other factors.





## Way Forward for Circular Economy:

In spite of the pressing need to transition to a circular economy, there is an annual increase in material extraction, accompanied by a decline in circularity—from 9.1 percent in 2018 to 7.2 percent in 2023. This trend indicates a growing reliance on virgin materials and a heightened level of wastefulness.

Countries should capitalize on their national climate pledges, known as **Nationally Determined Contributions (NDCs)**, by incorporating circular economy measures. As of May 2023, only 27 percent of NDCs include circular economy initiatives, leaving ample room for proactive measures. Throughout this journey, it is crucial for governments to involve a diverse array of stakeholders across various value chains and stages, ensuring that all perspectives, especially those of the most marginalized and vulnerable, are considered. This inclusive approach aims to prioritize the best solutions in NDCs, making them comprehensive, inclusive of all affected parties, and locally owned for effective implementation.

With the next round of NDC revisions mandated for 2025, the current period provides an opportune moment to delineate circular economy measures for inclusion in NDCs, facilitating the acceleration of the transition towards a more circular and regenerative world.

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