

Closing the Glamour Loop: A Paradigm Shift in Beauty through Circular Economy

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ABSTRACT

For decades, the beauty industry followed a linear "take-make-waste" model wherein the raw materials were extracted, products were sold, and packaging was eventually discarded. In the modern world, this model has begun raising eyebrows, and being characterized by the extraction of raw materials, reckless production, overconsumption, and low-effort disposal.

However, sustainability has become a critical business and societal priority, and brands across the world are being compelled to reimagine their conventional approach of being. Hence, today, we are witnessing a transformative shift toward a circular economy. This concept has emerged as a framework that seeks to eliminate waste, extend product lifecycles, optimize resource utilisation, and regenerate natural systems. This has given rise to a paradigm shift within the beauty sector in how raw materials are sourced, products are designed, manufactured, distributed, consumed and disposed of as their lives come to an end.

In the world where users are blinded by the reckless "greenwashing", consumers rarely question the material traceability, and the post-use whereabouts of the waste generated during the process.

This paper aims to investigate how the circular economy principles are reshaping practices by the beauty industry, and employing the Life Cycle Thinking Framework to understand impact and interventions from end-to-end processes, through the case studies of Well People, Forest Essentials, Kjaer Weis and L'Occitane India.

Keywords: Circular Economy Models, Beauty industry, Life Cycle Thinking, Greenwashing.

INTRODUCTION

The global beauty and personal care industry has long been associated with innovation, aspiration, and consumer self-expression. However, beneath its glamorous image lies a resource-intensive value chain characterized by high material consumption, complex packaging systems, and significant waste generation. Traditionally, the industry has operated on a linear “take-make-dispose” model, where virgin resources are extracted, transformed into products, consumed, and ultimately discarded. Growing concerns regarding climate change, resource depletion, plastic pollution, and landfill accumulation have intensified calls for a transition toward more sustainable business models. In response, the concept of the Circular Economy (CE) has emerged as a transformative framework that seeks to decouple economic growth from resource consumption by designing out waste, keeping materials in use for as long as possible, and regenerating natural systems.

The urgency of this transition is particularly evident in the beauty industry’s packaging challenge. Industry estimates indicate that the global cosmetics sector generates billions of packaging units annually, a substantial proportion of which are difficult to recycle due to mixed-material designs and small-format packaging. Furthermore, reports from the Ellen MacArthur Foundation reveal that a significant share of cosmetic packaging remains non-recyclable, highlighting the need for systemic redesign and circular business models. Refillable packaging systems, recycled materials, reusable containers, and innovative waste recovery initiatives are increasingly being adopted as practical solutions to address these concerns.

Within this context, the present study examines how circular economy principles are being integrated across the beauty value chain through a Life Cycle Thinking (LCT) perspective. Life Cycle Thinking extends beyond isolated sustainability initiatives by evaluating environmental impacts across every stage of a product’s journey—from raw material sourcing to end-of-life management. By adopting this holistic lens, the study explores how beauty brands are embedding circularity into their operations rather than treating sustainability as a standalone activity. The research categorizes circular initiatives into four interconnected phases of the product life cycle: sourcing and design, manufacturing, distribution and packaging, and post-consumer use.

To analyse these stages, the study employs the 5Rs Framework—Refuse, Reduce, Reuse, Repurpose, and Recycle—which serves as a practical tool for assessing circular practices within business operations. Unlike traditional waste management approaches that focus primarily on recycling, the 5Rs framework prioritizes waste prevention and resource optimization throughout the product life cycle. The framework aligns closely with circular economy principles by encouraging organizations to minimize resource extraction, extend product utility, and recover value from materials that would otherwise become

waste. This makes it particularly relevant for evaluating sustainability initiatives within the beauty sector, where packaging, ingredients, and consumption patterns significantly influence environmental outcomes.

The study investigates four beauty brands that demonstrate distinct approaches to circularity across different stages of the value chain. In the sourcing and design phase, **Well People** is examined for its use of upcycled agro-industrial side streams and naturally derived ingredients, illustrating how waste materials can be transformed into high-value cosmetic inputs. During the manufacturing phase, **Forest Essentials** provides insights into resource-efficient production through initiatives such as renewable energy adoption and water conservation practices. The distribution and packaging stage is represented by **Kjaer Weis**, a pioneer in refillable luxury beauty packaging that challenges the industry's dependence on single-use containers. Finally, the post-consumer use phase is explored through **L'Occitane India's** waste reduction and recycling initiatives, which focus on packaging recovery, responsible disposal, and landfill diversion. Together, these case studies demonstrate how circularity can be embedded throughout the beauty product life cycle rather than confined to a single operational stage.

By analysing circular practices through a lifecycle lens, this paper seeks to contribute to the growing discourse on sustainable beauty and circular business transformation. It argues that circular economy principles are no longer peripheral sustainability initiatives but strategic mechanisms capable of driving innovation, enhancing brand value, and reducing environmental impact. As consumer expectations, regulatory pressures, and environmental challenges continue to reshape the industry, closing the glamour loop may represent not only an ecological necessity but also the future direction of beauty itself.

METHODOLOGY

This paper follows a qualitative methodology to analyse how the “Business of Beauty” is slowly becoming ethically responsible by the adoption of the circular economy model. The research is based on secondary data collected from academic journals, industry reports, and credible online sources.

To understand the practical application of circularity, case studies of **Well People**, **Forest Essentials**, **Kjaer Weis**, and **L'Occitane India** were analysed. These brands were selected for their initiatives in sustainable sourcing, resource-efficient manufacturing, refill and reuse systems, and waste reduction.

Data was analysed using thematic analysis to identify recurring patterns and map circular practices across different stages of the product lifecycle. By integrating theoretical insights with industry examples, the study evaluates how beauty brands are transitioning from linear models to more circular and sustainable business practices.

To interpret the findings, the study applies a **Life Cycle Thinking (LCT)** framework, categorizing circular initiatives into four distinct phases:

Sourcing and Design: Examining the upcycling of agro-industrial side streams into high-value ingredients. (Well People)

Manufacturing: Analyzing resource optimization, such as "waterloop" factories and renewable energy use. (Forest Essentials)

Distribution and Packaging: Evaluating the transition toward refillable, reusable, or recyclable formats. (Kjaer Weis)

Post-Consumer Use: Assessing waste management strategies and landfill reduction efforts. (L'Occitane India)

ANALYSIS

Agro-Industrial Side Streams into High-Value Ingredients: Ethical Sourcing by Well People

WELL PEOPLE provides a relevant case of how sustainability can be integrated into cosmetic sourcing and product development through plant-based formulation, ingredient screening, ethical sourcing and environmentally conscious packaging. Founded in 2008, the brand was developed around the use of plant-powered ingredients while avoiding potentially harmful chemicals. Its formulation philosophy excludes more than 2,500 questionable or restricted ingredients, positioning ingredient selection as a central sustainability intervention rather than treating sustainability solely as a packaging issue. The brand's product portfolio also includes 100+ EWG Verified products, demonstrating the scale at which third-party ingredient verification has been incorporated into product development.

From a sourcing perspective, Well People prioritizes botanical and naturally derived materials such as aloe, broccoli seed oil, raspberry seed oil, pomegranate and other plant extracts. For example, its Bio Tint SPF 30 formulation contains 20% non-micronized zinc oxide, alongside broccoli seed and raspberry seed oils, illustrating how plant-derived ingredients are incorporated alongside functional mineral ingredients. This strategy potentially reduces dependence on certain petroleum-derived synthetic inputs while simultaneously responding to growing consumer demand for clean-label cosmetics. However, the environmental superiority of a plant-derived ingredient cannot automatically be assumed; cultivation, extraction, transportation and processing can also generate environmental impacts. Consequently, sustainability claims should ideally be supported by life-cycle assessment (LCA) rather than ingredient origin alone.

The brand also incorporates sustainability through packaging and responsible sourcing. Available evidence indicates the use of FSC-certified paper, recyclable materials and post-consumer recycled plastics in parts of its packaging portfolio. These measures address resource consumption and packaging waste, although they represent a relatively conventional form of sustainability compared with circular strategies such as refill systems, closed-loop packaging or material upcycling.

This distinction is particularly important when Well People is evaluated against emerging circular-economy research. A 2024 systematic literature review found that cosmetic circularity research is concentrated most heavily on input valorization, particularly the conversion of agri-food waste and by-products into cosmetic ingredients. Similarly, Hoxha et al. (2026) identify grape pomace, olive residues, apple pomace, tomato residues and other agro-industrial side streams as promising sources of polyphenols, antioxidants, fatty acids and other cosmetic bioactives.

Therefore, Well People can be characterized as strong in sustainable sourcing but comparatively less advanced in circular sourcing. Its current model reduces potentially harmful inputs and incorporates plant-based and recycled materials, but publicly available evidence does not demonstrate extensive use of agro-industrial side streams. Integrating ingredients derived from grape pomace, coffee by-products, fruit peels or seed residues could therefore represent the next stage of sustainability evolution—moving Well People from a “clean and responsible” model toward a genuinely circular product-development model.

Responsible Manufacturing by Forest Essentials

Forest Essentials provides a significant example of how sustainability can be incorporated into the design and operation of beauty manufacturing infrastructure, particularly through energy efficiency, renewable energy, water management and material reuse. Its Lodsi manufacturing facility in Uttarakhand was designed by Morphogenesis and completed as a 10,000 sq. ft. facility in 2019. Rather than treating sustainability as an add-on to conventional manufacturing, the facility incorporates passive architectural strategies to reduce resource consumption at source.

Energy optimisation is a central feature of the facility. The building uses its orientation, façade shading, window-to-wall ratio, thermal-mass materials and natural ventilation to reduce dependence on mechanical cooling and artificial lighting. Approximately 80% of the facility is naturally daylit, while operable windows and clerestory openings facilitate natural ventilation. The resulting building envelope has an Energy Performance Index (EPI) of 35 kWh/m²/year. In addition, a 50 kWp rooftop solar installation generates renewable electricity; the project documentation states that the installation is sufficient to offset the facility’s requirements and can generate surplus electricity for the state grid.

Water management demonstrates another dimension of resource optimisation. The Lodsi project incorporates a site-specific rainwater harvesting and storage system. Its documented annual terrace rainwater harvesting potential is approximately 740 m³ (740,000 litres), against a factory water requirement of approximately 30 m³ per day (30,000 litres). A 60 m³ storage tank, equivalent to roughly two days of the stated daily requirement, was incorporated into the design. The project documentation consequently describes the facility as net-zero in energy, water and waste at the building-design level.

Material circularity is also embedded within the facility. Construction leftovers were repurposed into functional components—for example, reclaimed wooden rafters became light fixtures, waste purlins were converted into tube-light holders, and stone chisels were reused as door handles. Facility by-products are reported to be either reused or composted.

From a circular-economy perspective, Forest Essentials therefore demonstrates a shift from a linear “take–make–dispose” manufacturing model towards resource conservation and closed-loop practices. However, an important limitation is the absence of publicly available, independently audited data on actual annual water savings, solar electricity generation, carbon emissions and waste diversion. Thus, the Lodsi facility provides strong evidence of sustainability-by-design, but its long-term operational performance cannot be quantified fully from publicly disclosed data. This distinction is consistent with circular-economy research, which emphasises measurable resource efficiency and lifecycle performance rather than sustainability claims alone (Geissdoerfer et al., 2017; Kirchherr et al., 2017).

Distribution and Packaging: Evaluating the transition toward refillable, reusable, or recyclable formats with Kjaer Weis

Kjaer Weis represents a significant case of circular packaging innovation within the luxury cosmetics industry, where packaging is traditionally designed for single-use consumption. Founded in 2010, the brand launched with a 100% refillable, plastic-free makeup line, making packaging reuse a central component of its business model rather than a later sustainability initiative. Its original Iconic Edition uses durable metal cases designed to be retained and repeatedly refilled, while the consumable cosmetic component is replaced separately. The brand subsequently expanded this model to mascara in 2013 and lipstick in 2016, demonstrating a progressive expansion of refillability across product categories.

The commercial significance of the refill model is particularly important. A life-cycle assessment study of cosmetic packaging reports that Kjaer Weis refills were approximately 30% cheaper than purchasing a new compact and that refillable products—including mascara, lip gloss and eyeliner—accounted for approximately 25% of the company's

annual revenue. Industry reporting subsequently indicated that refills represented approximately 25–30% of total business, suggesting that circular packaging had become commercially relevant rather than remaining a niche sustainability feature.

Kjaer Weis introduced its Red Edition in 2020 as a lighter alternative to its metal packaging. The Red Edition is manufactured from high-gloss paper and is designed to be filled up to three times, after which the packaging can be recycled or composted. This creates two distinct circular pathways: the Iconic Edition prioritises long-term reuse of a durable metal package, while the Red Edition combines limited reuse with end-of-life material recovery. The refill pans themselves are made from tin, while refill packaging uses recyclable paper and cardboard.

The brand has also progressively addressed distribution packaging. In January 2022, Kjaer Weis introduced fully recyclable shipping boxes and materials. It currently states that its products, packaging and shipping materials are 100% recyclable, compostable or refillable, with FSC-certified materials and water-based inks used across its packaging system.

From a circular-economy perspective, the strategy is significant because it prioritises reuse before recycling. Academic LCA research on cosmetic packaging found that reuse can provide substantially greater environmental benefits than recycling when products are actually reused multiple times. However, Kjaer Weis does not publicly disclose sufficient product-level data on average number of refills per compact, packaging weight saved per refill, or lifecycle carbon emissions. Therefore, while the brand demonstrates strong design-for-reuse, its precise environmental impact cannot yet be independently quantified.

Saving What's Left for the Best: Landfill Reduction at L'Occitane India

L'Occitane India provides a strong example of addressing sustainability at the post-consumer stage, where cosmetic packaging would otherwise enter the municipal waste stream. In FY 2022, L'Occitane launched its “Big Little Things” recycling programme in India in partnership with Saahas Zero Waste, an Indian organisation working in waste management and social inclusion. The programme was positioned as the first beauty-industry recycling initiative in India to accept PET packaging from other beauty brands, rather than restricting collection to L'Occitane products. To create initial consumer awareness, the launch involved 22 influencers and reached 310,904 people across India.

The programme operates through participating L'Occitane boutiques and accepts full-sized, clean and dry beauty, skincare and haircare packaging from any brand. The eligibility criteria cover multiple categories, including face-care containers from 15 ml

to 150 ml+, depending on product type; body-care packaging generally from 50 ml to 250 ml+; 500 ml shampoo, conditioner and shower-product refill packs; and fragrance containers of 50 ml or above. This broad acceptance criterion is important because it expands the programme from brand-specific take-back to a more inclusive multi-brand collection system.

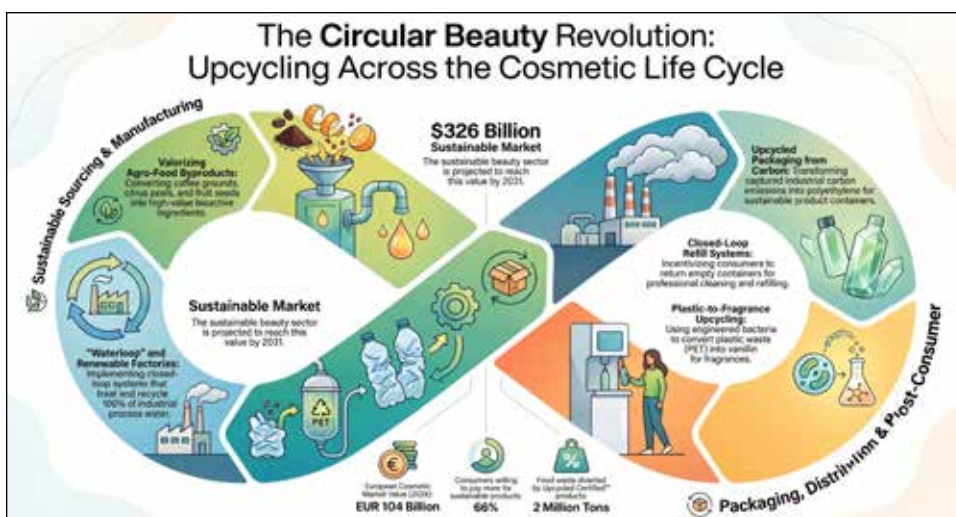
Consumer incentives are built directly into the collection mechanism. Customers receive one reward for every 10 eligible empties returned, creating a measurable behavioural intervention: recycling 100 qualifying packages generates 10 rewards. Customers must clean and dry containers before collection, reducing contamination and improving their recyclability. The programme is designed as a long-term initiative, rather than a temporary campaign.

The programme forms part of a wider L'Occitane waste-reduction strategy. As of 2025, the L'Occitane Group reported that 61% of its bottles contained recycled plastic, 58% of its plastic packaging was recyclable or reusable, and 85% of its company-owned stores offered a recycling service. The Group has also developed refill formats; its Eco-Refills can use up to 90% less packaging than conventional bottles, and L'Occitane reports that this initiative prevents more than 121,000 kg of packaging from reaching landfills annually.

The strategy therefore combines collection, consumer incentives, recycled materials and source reduction. However, India-specific data on the total tonnes of packaging collected through Big Little Things, the percentage successfully recycled versus rejected, and the exact quantity diverted from Indian landfills are not publicly disclosed. Consequently, the programme demonstrates a credible post-consumer circularity mechanism, but its India-level environmental impact cannot yet be quantified independently. This data gap is important when critically evaluating corporate sustainability claims.

CONCLUSION

The analysis establishes that the transition towards a circular beauty industry is not a single-point intervention but a life-cycle transformation spanning raw-material sourcing, manufacturing, packaging, consumption and end-of-life management. This transition is increasingly important because the conventional linear model continues to generate substantial material losses. Globally, only approximately 14% of plastic packaging was historically collected for recycling, while an estimated 95% of the economic value of plastic packaging material—approximately US\$80–120 billion annually—was lost after a single-use cycle. The Ellen MacArthur Foundation further estimates that replacing only 20% of single-use plastic packaging with reusable alternatives represents an economic opportunity of at least US\$10 billion. These figures demonstrate that circularity is not merely an environmental objective but also a resource-efficiency and business opportunity.



Using the Life Cycle Thinking (LCT) framework, the four case studies reveal how different circular interventions can collectively address this linearity. At the sourcing and design stage, Well People demonstrates the movement towards plant-derived, screened and responsibly sourced ingredients. However, the analysis highlights a critical distinction between *clean beauty* and *circular beauty*: the use of natural ingredients does not automatically constitute circularity. Unless agricultural residues, by-products or other secondary resources are demonstrably incorporated into formulations, the model remains predominantly one of responsible sourcing rather than resource regeneration. This represents an important opportunity for the Repurpose component of the 5 Rs.

At the manufacturing stage, Forest Essentials demonstrates how resource efficiency can be embedded into infrastructure itself. Its Lodi facility combines a 50 kWp solar installation, an Energy Performance Index of 35 kWh/m²/year, approximately 740,000 litres of annual rainwater-harvesting potential, and a 60,000-litre storage capacity. These interventions illustrate the Reduce and Reuse principles by lowering energy demand, substituting renewable energy and retaining water within the production system. However, the absence of independently verified annual operational data means that design capacity should not automatically be interpreted as equivalent to actual environmental savings.

The strongest evidence of Reuse occurs at the distribution and packaging stage through Kjaer Weis. Its refillable metal Iconic Edition challenges the conventional single-use compact, while its Red Edition allows packaging to be used up to three times before recycling or composting. This is significant in a sector where packaging is one of the most visible manifestations of the linear economy. Importantly, the Ellen MacArthur Foundation argues that recycling alone is insufficient: reuse models should be prioritised wherever feasible because they retain products and packaging at a higher value within the system.

At the post-consumer stage, L'Occitane India demonstrates the importance of extending producer responsibility beyond the point of sale. Its Big Little Things programme, launched in India in FY2022, uses a 10-empty-to-one-reward mechanism and accepts eligible packaging from multiple beauty brands. At the Group level, the scale of circularity has expanded further: in 2024, L'Oréal reported that 49% of its plastic packaging was refillable, reusable, recyclable or compostable, while 53% of water used in industrial processes came from recycled or reused water, 76% of industrial-site waste was recycled or reused, and 97% of operated sites used renewable energy. These broader industry benchmarks demonstrate that circularity is increasingly moving from isolated pilots towards measurable operational targets.

When mapped against the 5Rs—Refuse, Reduce, Reuse, Repurpose and Recycle—the four cases reveal an uneven hierarchy of circularity. Reduce and Reuse are relatively well represented through Forest Essentials and Kjaer Weis, while Recycle is evident through L'Occitane India. Repurpose remains comparatively underdeveloped in the selected cases, particularly in relation to large-scale agro-industrial side-stream valorisation. Most significantly, Refuse—the elimination of unnecessary materials, products and consumption altogether—remains the least developed intervention. This mirrors the wider plastics challenge: the Ellen MacArthur Foundation estimates that around 30% of plastic packaging would not be reusable or recyclable without fundamental redesign and innovation.

The LCT perspective therefore changes the central question from “Is this beauty product sustainable?” to “Where, across its entire life cycle, is value being lost and how effectively is it being recovered?” A refillable package may reduce material demand, but its benefits depend on actual consumer reuse; recycled packaging may reduce virgin-material demand, but only if collection and reprocessing infrastructure exists; and plant-based ingredients may reduce dependence on certain synthetic inputs, but their cultivation and processing still carry environmental impacts. Circularity must therefore be evaluated through measurable material flows, energy consumption, water use, recovery rates, lifecycle emissions and actual consumer behaviour, rather than individual sustainability claims.

Ultimately, the four cases suggest that the future of the beauty industry lies not in making the existing linear model marginally “greener”, but in redesigning the value chain so that waste becomes an input, products remain in use for longer, and resources circulate at their highest possible value. The industry has begun closing the glamour loop, but the loop remains incomplete. The next stage of circular beauty will depend on moving from isolated initiatives towards integrated, transparent and independently measurable closed-loop systems across sourcing, production, packaging and post-consumer recovery.

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