

Research Article

Plastic Packaging Waste Management by L'Oreal and Unilever: A Circular Economy Perspective

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Abstract

The discussion on environmental conservation cannot be separated from the discussion about plastic waste, which has contributed to environmental disaster. The Circular Economy (CE) concept is a new breakthrough in the discussion of environmental conservation that bridges the gap between the economy and the environment. Through the lens of CE, companies have the responsibility to handle plastic packaging waste. This study seeks to observe the strategies made by the beauty industry companies (L'Oréal and Unilever) in managing plastic packaging waste from CE perspectives and the collaboration between companies, the government, and the community as three important actors in encouraging the implementation of CE in Indonesia. This topic will be analyzed from CE perspectives through a literature review sourced from books, journal articles, company annual reports, company profiles, environmental NGO reports, online articles, and various other sources. This research found that the beauty industry companies (L'Oréal and Unilever) have various programs and strategies to implement CE through handling plastic packaging waste. However, the implementation of these programs has minimal adoption of CE principles. In addition, to implement CE in Indonesia, it is necessary to improve the interaction between the three actors. The Triple Helix model becomes a reference for the interaction model between the three actors which emphasizes circulation from one institution to another to encourage dialogue and better understanding.

Keywords: Circular Economy; L'Oréal; Unilever; Plastic Packaging; Collaboration

Introduction

Beauty industry products are usually packaged and distributed using plastic packaging and non-degradable materials, which, if not managed, will harm the environment. The massive amount of global consumption of beauty and personal care products has undoubtedly led to a high production of packaging. As confirmed by Zero Waste Week's report, in 2018 alone, beauty and personal care products resulted in 142 billion packaging units and more than 120 billion packaging units produced annually by the global cosmetic industry (Moore, 2019). Supported by the current dominant economic system, which is a linear system with a 'take, make, and dispose' pattern, it is projected that by 2050 there will be around 12 billion tons of plastic in landfills.

Based on these conditions, there are at least three reasons why the management of plastic packaging waste is becoming increasingly important and relevant to discuss and implement. First, environmental interests often clash with economic interests, resulting in a wide gap. Second, the narrative about environmental conservation that often puts the responsibility on consumers seems to turn a blind eye to the company's responsibilities as a

producer. Third, a linear economic system cultivated a 'take, make, and dispose' pattern that urges the current economic system to be replaced with the CE system.

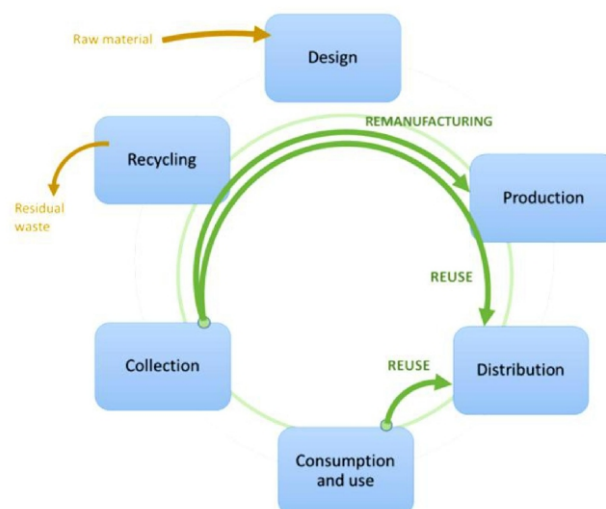
This research aims to discuss the beauty industry's strategies in responding to various environmental standards and management of ecological conservation regarding plastic packaging waste and examine the companies' commitment to implementing CE. The discussion cannot be separated from the role of the government and as consumers. This research also highlights the government as an agent that encourages the creation of beneficial relationships between the industry, the environment, and the community as a catalyst for industries to commit to plastic packaging waste management.

Beauty industry companies (L'Oréal and Unilever) have various strategies to implement CE along the value chain, from upstream to downstream, as a form of plastic packaging waste management. However, minimal efforts have been made to adopt the principles of CE. To successfully shift to CE, it is important to involve a Triple-Helix collaboration, and cannot be separated from politics and power relations. The bargaining power of companies, that sometimes tend to be greater than the government, allows companies to execute symbolic solutions. Thus, the government's position in leading the systemic shift, improving the regulatory and market framework, and determining incentive mechanisms are becoming increasingly relevant. Likewise, society has a vital position to participate in plastic waste management, requiring norm and habit shifts, that can be fostered through internalizing knowledge about the environment and opening access to environmental governance.

Literature Review

CE does not yet have a universally-agreed definition. Research conducted by Rizos, Tuokko, and Behrens (2017) comparing eleven descriptions of CE shows that resource management is the most common factor to achieve economic and environmental benefits. CE is an economic system that emphasizes new ways of designing, manufacturing, and using products-including sharing, leasing, reducing, reusing, repairing, renewing, and recycling various resources and products for as long as possible (European Parliament, 2018). Thus, the materials used produce higher value lasting for a longer time. Although by definition CE is close to recycling, simplifying CE as recycling misses the holistic nature of CE, highlighting the need for radical changes in how products are designed, distributed, and used (Uusitalo et al., 2020). CE is contrary to a linear economic system in which a product is produced for consumption and then discarded (Stahel, 2016). Linear economics assumes that natural resources are abundant and easily replaceable, assuming there will always be enough space for unwanted materials (Akenji and Bengtsson, 2019).

Figure 1. Circular Economy



Source: Uusitalo et al., 2020.

Figure 1 describes the main elements in CE, starting from raw material extraction, design, production, distribution, consumption, collection, reuse, repair, remanufacturing, and recycling. In CE, the design phase is critical as it contributes to the efficient use of raw materials (to minimize waste flow) and the entire product life cycle (Uusitalo et al., 2020). The characteristics of CE emphasize the company's role as a producer to design a long-lasting plastic life cycle from the early stages until it can be used and re-entered into the economic cycle. The role of industries (large enterprises, small and medium enterprises, SMEs) and research organizations in developing and transferring new technologies is becoming increasingly significant.

The indicators measuring CE make it possible to evaluate a company's strategies for achieving a pro-environmental economy. Research conducted by Benz (2019), Mayer et al. (2019), Sassanelli et al. (2019), Lindgreen et al. (2020), and Walzberg et al. (2021) explained that several indicators could be used to assess CE commitment in the company's operations. The Ellen MacArthur Foundation uses some of these indicators to evaluate the level of business circularity using Circulytics. Circulytics assesses the readiness and circularity of a company through a set of questions divided into two broad categories, namely the enablers category and the outcome category. The Changing Markets Foundation uses a similar and simpler assessment to assess companies' voluntary commitment to dealing with plastic waste through indicators such as the company's support for the legislation, the scale of the company's ambitions, and accountability. Furthermore, based on this assessment, strategies by the company will be discussed to determine whether the company is using the strategy of "delay, distract, and derail". Based on the report, the indicators will be used to assess L'Oreal and Unilever's commitment to CE.

Figure 1 also implies that the entire operational environment is modified by public stakeholders at various levels, from regional and national to international levels, through policy-making and public procurement, and may also have a role as a funding agency (Uusitalo et al., 2020). In other words, regulations and government also greatly encourage a shift to CE. Although many studies state that the shift to CE will bring many potentials and advantages (Stahel, 2016; Mikroni, O., et al., 2022; Stuchtey, M., et al., 2016), there are systemic political aspects that should be highlighted, because they can hinder the process of transition to CE. Some aspects that can be identified include the lack of knowledge regarding CE by policymakers, lack of incentives, complex and overlapping regulations, and the lack of government support (Uusitalo et al., 2020). Ranta et al. (2018) emphasize the importance of broad engagement between social and economic stakeholders to implement CE successfully. To support the transition to CE, norms and culture are needed in addition to legislative and financial support. Based on the literature from Jesus and Mendonça (2018), the most mentioned drivers of CE implementation include institutions/regulations (36%) and economics/finance/markets (35%).

The community as consumers has realized the problems posed by plastic waste. They are more willing to be responsible for combating environmental challenges and learning that circular products and services provide environmental and non-environmental benefits for them (ING, 2021). In addition to the benefits to the environment, consumers can also pressure companies to deliver something they have long wanted: products that are designed and built to last. Consumers and companies must meet at one point to achieve CE. Consumers need a better understanding of the transition to CE and how the companies' new model can deliver the best results for them. Once again, collaboration and deep relationships between companies and communities are needed.

Methods

The research will use a qualitative research method and will be analyzed from CE perspectives. The collection of data will be conducted through a literature review sourced from books, journal articles, company profiles, environmental NGO reports, online articles, policies, research institutions, and company annual reports on sustainable programs.

Results and Analysis

1. Application of Circular Economy by Beauty Industry Companies in Indonesia

Indonesia supports the implementation of the Sustainable Development Goals (SDG). In carrying out its commitment to SDG number 12 (Responsible Consumption and Production), Indonesia, through the Ministry of Industry (*Kemenperin*), promotes the Green Industry (*Industri Hijau*) policy to encourage the creation of environmentally-friendly and competitive industries. Quoting the Minister of Industry, Agus Gumiwang Kartasasmita, the green industry is an industry that prioritizes the efficiency and effectiveness of sustainable use of resources in the production process, in line with the Making Indonesia 4.0 program. This principle can harmonize industrial development with the preservation of the environment and benefit the community. The green industry was formed on the legal basis of Law No. 3 of 2014, article 3 letter C, which reads "to create an independent, competitive, and advanced Industry, as well as a Green Industry," PP No. 14/2015 concerning the Master Plan for National Industrial Development 2015-2035, and PP No 2/2017 about the Development of Industrial Facilities and Infrastructure.

The green industry seeks to prevent emissions and waste through an industrial system that converts raw materials into products, and waste into more efficient by-products (Kartasasmita, 2021). This is closely related to the Company's Performance Rating Program in Environmental Management assessment results. Not only beneficial for the environment, but the implementation of a green industry is also considered to provide benefits to companies, including increasing profits, increasing reputation, facilitating funding, resource efficiency, opening new market opportunities, and preserving the environment.

a. L'Oréal Indonesia

In responding to various consumer concerns, L'Oréal Indonesia focuses on three pillars in its CE transition: performance (defined as providing quality and safety to consumers), profitability, and sustainability. L'Oréal Indonesia plans to use recycled plastic or bio-based plastic for all of its packaging. However, the challenge is to make sustainable products that don't increase the cost for consumers while keeping the company's profits in mind.

One of the efforts made by L'Oréal Indonesia is to reduce cellophane (plastic parts) in its product packaging under the Garnier brand to reduce the weight and size of plastic packaging (Wira, 2021). In addition, to respond to the current spike in online shopping, L'Oréal is collaborating with Shopee in a project to replace shipping packaging made of plastic with cardboard from responsible sources (Lintang, 2021). This collaborative project calls for eliminating plastic as an additional wrapper in packaging. The use of bubble wrap was also changed to flute liners made of paper, using paper tape instead of plastic, and using cardboard certified by the Chain of Custody (CoC) from the Forest Stewardship Council (FSC), which ensures that the raw materials in the production process come from safe and responsible sources. It is estimated that within one year of this collaboration, there will be 48 tons of plastic shipping packaging that can be replaced with more environmentally-friendly shipping packaging. This collaborative project has been applied to four L'Oréal official stores in Shopee, including Garnier, Garnier Men, Maybelline, and L'Oréal Paris. In addition to these efforts, information from Melanie Masriel, Communications, Public Affairs & Sustainability Directors from L'Oréal Indonesia, stated that the level of Product on Shelf (POS) usage in Indonesia is confirmed to be 92% sustainable because 95% of paper is FSC certified, and reduces lamination (Indonesia Business Council on Sustainable Development, 2018).

Not limiting itself to only the production and distribution stage; L'Oréal also focuses on the consumption stage, where L'Oréal also raises public awareness to sort and recycle waste. L'Oréal admits that educating sustainable lifestyles is the most difficult challenge because the process is

considered costly and must be effective. L'Oréal provides on-pack education or through brand socialization with marketing activities. L'Oréal hopes that this sustainable lifestyle education involve at least three pillars, namely a collaboration on academia, business, and government.

b. Unilever Indonesia

Unilever Indonesia has a vision of becoming a global leader in sustainable business. In 2010, Unilever started the Unilever Sustainable Living Plan (USLP) to become the most sustainable company in the world to promote a sustainable lifestyle (PT Unilever Indonesia Tbk, 2020). The USLP has three main goals: improve health and well-being, reduce environmental impacts, and improve livelihoods. The goal of reducing ecological impact is closely related to the management of plastic and packaging. In dealing with plastic packaging, Unilever Indonesia has quite ambitious targets, including:

- By 2025, Unilever will reduce 50% of virgin plastics, including an absolute reduction of 100,000 tonnes, and accelerate the use of recycled plastic.
- Designing 100% recyclable, reusable, and compostable plastic packaging.
- Collects and processes more plastic packaging than is sold.

Unilever initiates partnerships with other organizations to realize its vision as a global leader in sustainable business. To solve problems around plastic and packaging, Unilever Indonesia became a member of the Packaging Recycled Association for Indonesia Sustainable Environment (PRAISE). PRAISE is an association that supports integrated, holistic, and sustainable packaging waste management in Indonesia. The strategy used by Unilever Indonesia is to give purpose to each of its trademarks. Through the Love Beauty & Planet brand, Unilever Indonesia carries a mission of environmental sustainability, starting with the #smallactsoflove campaign. The #smallactsoflove consists of selecting ethical and sustainable natural materials, using bottles made from 100% recycled and recyclable materials, and increasing the recycling rate for any personal care packaging in collaboration with Waste4Change.

Unilever Indonesia puts forward the CE approach as a form of waste-free strategy. The basis of Unilever Indonesia's entire waste-free strategy stems from the "less plastic, better plastic, and no plastic" framework. The framework aims to halve the use of virgin plastic, ensure all packaging is reusable, recyclable, or compostable, and increase the use of recycled plastic. Unilever also optimizes the weight and size of the packaging by changing the shape of the bottles and caps using material technology.

Various body care and beauty products containing scrub beads made of plastic are also eliminated. Unilever began to change the design of the business model by trying to implement product sales through refill stations to increase the reuse of a packaging. In 2020, Unilever in collaboration with Saruga, started a pilot project to sell products without packaging. Products from beauty and care lines such as Lifebuoy, Clear, Dove, Sunsilk, TRESemme, Love Beauty & Planet began to be traded in bulk.

Unilever Indonesia also seeks to increase community participation through a "Green and Clean" program that focuses on household waste management education. Unilever started implementing a waste bank (*bank sampah*) in 2008, equipped with better waste infrastructure utilizing the 'Google My Business' platform to improve the system for waste collection and sales. The goal is to make it easier for consumers to access the nearest waste bank through Google Search and Google Maps. Through activities at the waste bank, Unilever educates the public about recycling plastic packaging. Unilever has also initiated several other programs to increase community participation in plastic waste management, including:

- Collaborating with 3R Waste Processing Sites (TPS3R) in various regions in Indonesia to provide education to increase the capacity of Non-Governmental Organizations (KSM) and the sorting process.
- Providing several drop box facilities as points of collection for plastic packaging waste in various

public facilities. However, the drop box facility is still not getting many responses from consumers, which causes a low waste collection rate. This is due to inadequate public awareness, less strategic location, pandemic conditions, and social restrictions in 2020.

- Educating students from 18 Islamic boarding schools in Java about sorting and utilizing organic and inorganic waste.
- To increase the rate of waste recycling and increase the productivity of collectors, in 2020, Unilever identified and assisted several collectors in improving administration, providing working capital, and managing the recycling business.

Unilever also has a recycling facility named CreaSolv®, that is still in the pilot stage. Based on Unilever's report, from January 2019 to February 2021, CreaSolv® has recycled around 94,066 kilograms of sachet packaging waste and produced around 46,210 kilograms of RPE. It is estimated that CreaSolv® is capable of absorbing 3 tonnes of clean, flexible plastic packaging waste per day at commercial levels.

2. The Political Economy of the Application of a Circular Economy by Beauty Companies

The previous discussion explained that beauty companies, namely L'Oréal and Unilever, have adopted CE practices through various program initiatives. However, the fundamental question regarding the motivation and reasons of companies implementing CE needs to be questioned. L'Oréal and Unilever's annual sustainability report stated that the reason the two companies started implementing CE is that it is an effort to save the environment and provide incentives and long-term economic benefits for companies along with changes in design in the business model from upstream to downstream. It also boosts product innovation and the use of materials in a more effective and efficient production and distribution processes. But the political agenda seems to be the main driving force for beauty companies to start implementing CE.

CE is starting to become a hot topic on the political agenda at the national and global levels (ING, 2019). At the international level, CE has become a topic in various forums, one of which is the World Circular Economy Forum which was also attended by the United Nations Executive Secretary for Climate Change, Patricia Espinosa. Espinosa emphasized in the forum that CE plays a definitive role that must be developed to achieve carbon neutrality (UNFCCC, 2021). She also emphasizes that CE is crucial to attaining sustainable development and the Paris Agreement's goals. Countries should at least take stronger national climate action and include CE in Nationally Determined Contributions (NDC), a national climate action plan under the Paris agreement.

This political agenda began to turn into legislation. The shift to CE in Europe, for example, started when the European Union Commission adopted the principles of CE in June 2014 (ING, 2019) and adopted the EU SUP Directive in 2019, which prohibits problematic goods and stimulates effective recycling with the inclusion of 30% recycled content in plastic bottles and 90% separate collection by 2029 (Tangpuori et al., 2020). Adopting this regulation requires industries in Europe, including the beauty industry, to start implementing CE. Indonesia has also included the CE concept in Indonesia's Vision 2045 and has aligned it with the 2020-2045 National Medium-Term Development Plan (RPJMN) (Rudiyanto, 2020).

The implementation of CE in Indonesia is implemented using an assessment of green industry standards (SIH) conducted by the Ministry of Industry, an evaluation of company performance through the Public Disclosure Program for Environmental Compliance (PROPER) by the Ministry of Environment and Forestry (KLHK), and sustainable public procurement in Indonesia (Rudiyanto, 2020). As many as 895 companies have received the green industry awards, and 1,707 industries received the blue & gold certification ratings in PROPER from 2010-2019. In 2021, Unilever Indonesia received a blue certification, while L'Oréal did not appear in the document. A blue rating is given to companies that successfully achieved the minimum score on environmental management required by the KLHK provisions or regulations. According to Dr. Ir. Arifin Rudiyanto, M.Sc, Deputy Minister of Marine Affairs and Natural Resources, Ministry of National

Development Planning of the Republic of Indonesia, Indonesia still needs a more robust strategy to implement CE.

In fact, the implementation of the CE carried out by L'Oréal and Unilever is not the same in all operational areas of the company around the world. The implementation of CE in Indonesia is still waste-oriented and has not touched the upstream chain. Meanwhile, in Europe, more advanced programs can be implemented, and there are even certain products manufactured with CE principles available only in Europe and not in other regions. The implementation of SIH and PROPER does not yet have an incentive and disincentive mechanism that can encourage companies to get involved (Rudiyanto, 2020). The absence of indicators, incentive and disincentive mechanisms, and suboptimal coordination across industries, government, and civil society is one possibility that has caused L'Oréal and Unilever Indonesia to not implement CE optimally. This shows that political agenda, legislation, and government readiness play a central role in encouraging beauty industry companies to implement CE.

3. Reviewing the Beauty Industry Companies' Circular Economic Policy Initiative

According to a report from the Changing Markets Foundation, voluntary commitments could be one of the company's tactics to provide counterfeit solutions that deviate from the actual solutions of plastic waste. The Changing Markets Foundation divides these tactics into "delay, distract, and derail." "Delay" is intended as a negotiation activity to delay the realization of less favorable policies for the company to maintain the status quo, so that the business can continue to run as it should. Simultaneously, "delaying" goes hand in hand with the tactic of "distract," which aims to divert attention from the actual responsibility companies must carry out. "Distract" tactics can emerge in the form of solutions that are much smaller than the real problem, such as cleaning up beaches, promoting recycling without waste collection, claiming that plastic products are more recyclable than they are, and touting the use of alternative single-use materials. The final tactic is "derail," which attempts to thwart the policy from being enforced.

To assess the commitment initiated by the company, there are three main areas to focus on, namely, support for progressive legislation, the scale of ambition, and transparency and accountability. Support for progressive legislation is important because, with the right mechanism for collection, clean waste streams of recyclable materials are created, stimulating the use of high-quality recycled content in companies' products. Separate-collection legislation, in combination with recycled-content targets, is an important step in the right direction. Companies calling for and supporting the implementation of such legislation would show their commitment to creating CE.

To measure the company's ambition, three criteria are being used. First, their targets and progress on reuse. This is because CE requires fundamentally rethinking business models. By reusing the packaging, the products can stay in use longer. Second, the assessment is based on whether companies are setting ambitious minimum recycled content and collecting targets for their plastic packaging. Whether companies go beyond existing EU legislation (the most ambitious legislation currently in place) and set their own minimum recycled-content targets of at least 50% for bottles and at least 30% for other plastic packaging by 2030. Finally, by assessing whether a company aims to reduce reliance on 'problematic' disposable plastic items. Companies should lead to redesigning a product or replacement with reusable alternatives.

Four indicators are being used to assess transparency and accountability for commitments and progress on tackling plastic pollution. First, we looked at whether a company reports its plastic footprint – the total volume of plastic packaging used. Second, we looked at whether a company talks about its progress against achieving an absolute reduction in the total number of single-use plastic-packaging units, which does not include lightweighting existing products. Third, we examined whether a company openly reports its progress on the total percentage of recycled content in its plastic packaging. Finally, we looked at whether commitments were applied consistently across all markets in which the company operates.

Table 1. Assessment of the Company's Commitment to the Circular Economy

| Company | Support for Progressive Legislation | Scale of Ambition | | | | Transparency and Accountability | | | |
|----------|---|--|--|---|--|---|---|--|--|
| | | Do they call for over 90% mandatory collection of plastic packaging globally? | Have they made significant progress on systems for refill and reuse? | Do they have a minimum recycled-content target of at least 50% for beverage bottles and 30% for plastic packaging by 2030? | Are single-use plastic items reduced or replaced with reusable alternatives (rather than replaced with single-use products in another material)? | Do they report the total volume of plastic packaging used? (Metric tonnes) | Do they report an absolute reduction in the total number of single-use plastic-packaging units? | Do they openly report progress on the total percentage of recycled content in their plastic packaging? | Are commitments applied consistently across all markets in which the company operates? |
| L'Oréal | Launched the Let's Recycle in Beauty program implemented in France and several other European countries. This program invites consumers to sort out products packaged in cardboard, glass, plastic, and aluminum. | One of L'Oréal's perfume brands, MY WAY, creates perfume bottles that can be refilled and reused. | 50% of L'Oréal product packaging will come from recycled or bio-based materials by 2025. | L'Oréal collaborates with other parties to develop packaging entirely from recycled materials and uses cardboard as cosmetic packaging. | 137,609 metric tons in 2021 (Ellen MacArthur Foundation, 2021). | Reducing the use of virgin plastic by 33% compared to 2019 or equivalent to 39,814 tons (Ellen MacArthur Foundation, 2021). | 15.1% in 2020. | Targets are implemented globally, but implementation differs in different regions. | |
| Unilever | Committed to help collect and process more plastic packaging than they sell by 2025. But not calling for mandatory policies. | Implementing refill stations for personal and beauty products in Brazil, India, Indonesia, Philippines, Russia, South Africa, Thailand, UK, and USA. | 25% target by 2025. | Some brands are starting to use completely recyclable plastics and substitute materials such as steel that make products reusable. | 690,000 metric tons (Ellen MacArthur Foundation, 2021). | Unilever is committed to reducing its use of virgin plastic by 50% by 2025. | 11% or equivalent to 750,000 tonnes in 2020 (Ellen MacArthur Foundation, 2021). | Implementations differ in different regions. In Asia, sachet packaging that uses multilayered plastic that is difficult to process is still circulating. | |

Source: Tanguatori, A. D., Zallio, X. P. B., Urbancic, N., Rolls, G. H. (2020), L'Oréal (2019)

From the data above, we know that L'Oréal dan Unilever only calls for separate collection in specific geographies and does not call for mandatory legislation. Recycling cannot be done without separate collection, especially if waste collection has not become a habit in the community and is not strictly regulated by the government. Based on the data that was obtained, only Unilever started a movement to collect waste through Green and Clean activities in Indonesia.

L'Oréal and Unilever are committed to replacing single-use plastics with alternative materials. L'Oréal is committed that by 2025, 50% of L'Oréal product packaging will come from recycled or bio-based materials, and 100% of L'Oréal product plastic packaging will be refillable, recyclable, and compostable (L'Oréal, 2019). In contrast to L'Oréal, Unilever has stated that it will switch to a bio-based alternative with a prerequisite if the bio-based plastic shows a life cycle impact that is equal to or better than fossil-based plastic, does not cause competition for land that can be used for food crops, and does not harm traditional recycling infrastructure (Unilever, 2020).

The packaging of beauty products from L'Oréal that uses bio-based plastic materials are still not yet found in Indonesia and is mainly found in Europe due to the EU SUP Directives policy, which prohibits the use of single-use plastics with a reasonably high standard. According to research conducted by Changing Markets Research, bio-based plastic is one of the single-use alternatives, so it is not the primary solution to the plastic problem. This is because bio-based plastics are partially or entirely made from biological resources, not fossils. Bio-based plastics are not necessarily compostable or biodegradable. Bio-based plastics may contribute to reducing the use of fossil resources but are not fully capable of solving the problem of plastic waste (European Commission, 2022). These conditions make the solutions offered through bio-based plastics considered a distracting strategy (Tangpuori et al., 2020).

Lightweighting, or reducing the plastic content used in packaging to make it lighter, is implemented by both L'Oréal and Unilever. Lightweighting is a solution that has been used by plastic industry companies, especially in the Fast-Moving Consumer Goods (FMCG) and beauty industries. Lightweighting cannot be relied on as a solution, as the beauty industry companies continue to do business as usual and produce as much single-use plastic as ever. Reducing the plastic content in packaging and making it lighter can make plastics more difficult to manage at the end of their lifecycle. These plastics become less suitable for reuse and hard to recycle due to its inadequacy in producing quality recycled plastic (Scriba, 2016). Unilever, which operations in Southeast Asia include Indonesia, even has products in sachets, to make it easier for the public to access. Plastic in sachet packaging is more difficult to manage due to its multi-layered nature, so it requires special treatment and is very difficult to reprocess. Although Unilever already has CreaSolv® technology, which has been running in Indonesia since 2019, the technology is still in the pilot project stage.

4. Company Relations with the Government in the implementation of a Circular Economy

The tactics of delay, distract, and derail have provided information about the company's relationship with the government. According to research conducted by the Changing Markets Foundation, some of the largest plastic production companies committed to dealing with plastics are involved in trade associations that have direct access to governments to influence or even disrupt ambitious policies so as not to disturb business operations. The authors found no information regarding the involvement of L'Oréal and Unilever in such associations.

Various studies suggest that shifting to CE requires effective engagement between policymakers and industries. Legislative provisions are needed that encourage companies to protect the environment from the upstream to downstream chains. Countries with more significant concern and commitment to the environment tend to attract more commitment from beauty companies to implement CE. So, public policy has considerable power to encourage the implementation of CE. However, information on how to operationalize policy implementation is rarely presented. Whalen, Milios, and Nussholz (2018) suggest

several policy initiatives that can promote the implementation of CE, including extended producer responsibility (EPR), tax incentives, skills development, the need to provide spare parts, and the obligation to provide product information to repairers, support innovative business models with a focus on CE, a legal framework to facilitate trade in repaired and refurbished goods, and reduced value-added tax (VAT) for refurbished products.

Indonesia, which has adopted CE in Indonesia's 2045 vision and developed green industry standards and PROPER, needs to design a strategy to involve more industries to participate and be involved by developing incentive and disincentive mechanisms. Indonesia needs to improve SIH and PROPER frameworks so that they can be implemented in every type of industry. The government can try to implement policies where companies are required to be responsible for the goods they sell, known as Extended Producer Responsibility (EPR) (Kunz and Wassenhove, 2018). EPR is believed to be a game-changer in the fight against plastic waste. EPR makes it possible to improve recycling systems, ensure money is invested in the right places, hold businesses accountable for the packaging choices they make, and as a result, enable CE. EPR incentivizes manufacturers to design products with product life cycles in mind. EPR requires stakeholders—in particular, manufacturers, retailers, trade associations, consumers, recyclers, regional heads, and national authorities to engage in implementing CE.

EPR has generally been implemented extensively in Europe. However, Indonesia's neighbor in Southeast Asia, namely Thailand, has also begun to implement this mechanism. It is developing laws against Waste Electrical and Electronic Equipment (WEEE) and encouraging 3R in EPR and CE (Akenji and Bengtsson, 2019). Indonesia could finalize a ministerial regulation on the EPR roadmap to prevent and reduce product and packaging waste from brand owners, manufacturers, retailers, and industries that serve food/beverages (Akenji and Bengtsson, 2019).

5. Company Relations with Society and Community

Apart from relations with the government, the community also plays a significant role. It is the public that asks for environmentally-friendly products that have contributed to the emergence of voluntary initiatives from companies to deal with plastic waste. Industry and society in practice will significantly influence each other's behavior. Public awareness of responsible consumption has put pressure on, and indirectly encouraged, companies to start implementing CE (Shalmont, 2020). On the other hand, companies can provide environmental incentives that motivate consumers to buy environmentally friendly products and help implement programs initiated by companies.

Suppose you pay attention to consumer consumption patterns based on age. In that case, the millennial generation shows a higher sensitivity to the importance of sustainability issues in packaging and the entire value chain due to the increased flow of information and technological developments that provide easy access to learning and sharing information through social media (Cheng, 2019). A survey shows that 90% of millennials are willing to pay a higher price for environmentally friendly products compared to 61% of baby boomers (Nielsen IQ, 2018). Another survey that examines consumer behavior in the cosmetics market in Hungary shows that 68% of survey participants are willing to pay extra for cosmetics in packaging made from natural ingredients. However, sensitivity to environmental issues is still not in line with efforts to manage plastic packaging waste. Data from the Ministry of Environment and Forestry shows that the household sector contributes 48% of trash, making it the most significant waste contributor (Septiadi and Kartini, 2018). Additionally, based on data from the Ministry of Environment and Forestry, in 2017, the types of plastic waste reached 16%. The primary sources of plastic waste come from shopping bags, food, and beverage packaging, consumer goods packaging, and other goods packaging (Burhan and Setyowati, 2020). Although Indonesia already has PP No. 81 of 2012, which regulates the management of household waste and similar household waste, a survey conducted by the Katadata Insight Center on 354 respondents

in five cities in Indonesia, namely Bandung, Jakarta, Yogyakarta, Surabaya, and Semarang, shows that as many as 50.8% of households do not conduct separate collection of waste. The reason is that waste sorting is considered a hassle and eventually will get mixed up in the landfill (Al Ayyubi, 2019). In addition, this can also be due to the absence of incentives, sanctions, and the low level of implementation of regulations that can encourage people to carry out waste management and reduction.

For a long time, the pattern of waste management policies has shaped people's minds that waste is useless, so it is immediately thrown away. The conventional way of handling waste to minimize the cost of collection has resulted in persisting linear economic practices. Meanwhile, in CE, there are different ways of thinking to maximize the value of a product at each stage in the product life cycle. Companies can fill this gap by developing systems that help consumers understand how to treat their products when they are used, worn out, or damaged. Based on what L'Oréal and Unilever have conveyed in their sustainability reports, only Unilever has tried to provide access to plastic packaging waste management through collaboration with waste banks in several regions in Indonesia, and through collaboration between the Love Beauty & Planet brand and Waste4Change to place drop boxes at several Farmers Market outlets. L'Oréal also has a program named Let's Recycle in Beauty that encourages separate collection, but the program is still only implemented in Europe.

6. Three-Actor Collaboration through the Triple Helix Interaction Model

The triple helix is a model of interaction between three actors to encourage knowledge-based socio-economic development. Generally, triple helix interactions occur between government institutions, industries, and universities. The development of the triple helix seeks to increase interaction through the ability of individuals in each institution to circulate from one to another. Such development can be achieved by increasing academic capacity and encouraging elite circulation among the three institutions. The triple helix emphasizes the importance of the existence of universities as a source of development (Etzkowitz and Dzisah, 2008). In this research, the university becomes part of the community.

To support a CE, the triple helix interaction scheme can be used as a reference for the collaboration model of the three actors, where the three actors are required to circulate from one institution to another to encourage dialogue and better understanding. The triple helix interaction scheme can occur by encouraging knowledge about the CE, which is still concentrated in large industries and spread among small and medium enterprises (SMEs) (Stahel, 2016). Understanding of the CE needs to be expanded to various levels and actors by bringing the concept into academic and vocational training. Environmentalists and economists are needed to assess the environmental impact and benefits of a product. More research is required to convince businesses and governments that a CE is possible. The amount of plastic waste that is mixed with other materials and complicates waste management processes such as recycling is a big challenge that scientists need to answer to find a way how a molecule can be broken down into atoms that can be recycled. This is an opportunity for interaction between experts and companies to encourage more research that promotes the development of a CE. Companies can help to fund research that focuses on managing plastic packaging waste with the principle of a CE.

Community involvement in managing plastic waste, especially in beauty products, is still not very significant. Information about the environmental impact produced by plastic waste has been on the radar of the community, which needs to be fostered through increasing awareness by the government and industry as well as by providing incentives and disincentives that can encourage community participation. People need to educate themselves and use the beauty industry's products more wisely. Not only focusing on the content of a product but also paying attention to the impact of a product on the environment and how beauty companies contribute to implementing a CE.

The government also needs to emphasize the implementation of existing waste management policies by providing incentives and sanctions. The low public awareness of the plastic waste and the current regulations need to be improved by improving the information system on the environment and the CE. One thing that can be calculated to do is to provide environmental education in the formal education sector. Changing strategies and patterns of information dissemination, for example, by disseminating knowledge from journals into fashion and beauty magazines and beauty channels.

Waste management policies should be decentralized; local governments at the provincial, district and city levels are required to have regional policies and strategies to deal with waste and implement a CE by collaborating with the beauty industry, waste management companies, and the community. Governments can also apply carbon taxes and credits. Taxes should be raised on the consumption of non-renewable resources, not on renewable resources. Value-added tax should be levied on value-added activities such as mining, construction, and manufacturing, not on management that preserves the value of reuse, repair, and remanufacture (Stahel, 2016).

Industry can play a huge role by designing reusable, recyclable, and durable products. Innovative designs in consumer goods products can encourage people to reuse plastic packaging. When product development becomes a collaborative process, more profitable breakthroughs are likely to occur. In addition, collaborative processes help companies focus on consumer needs rather than product specifications so that when creating a product, the first thing to consider is design thinking (Stuchtey, Swartz and Vanthournout, 2016).

Companies can also make business model changes, for example, by utilizing the Deposit-Return System (DRS). DRS is a mechanism for collecting bulk containers for high-quality recycling or refill-reuse systems. This system can increase community participation in collecting and sorting waste and help manage clean materials for recycling which can be the answer to the problem of recycled plastic, which is considered low quality. Companies can work with waste collectors and recycling organizations to select environmentally friendly recycling options and develop better plastic sorting and processing technologies.

Conclusion

Beauty industry companies, namely L'Oréal and Unilever, have various programs and policies to change the way the two companies do business and implement CE. Both companies have been involved in various international commitments to implement CE at the global level. Beauty companies have shown a good level of attention to CE but have not fully implemented the principles of CE. The solutions offered by L'Oréal and Unilever indicate a 'delay' and 'distraction' strategy. These indications come from the assessment of the programs carried out by the two companies, such as supporting the implementation of reuse and recycling without encouraging the collection and separation of plastic packaging waste, setting targets globally but not accompanied by the performance of global programs, not replacing plastic packaging with alternatives but still use other disposable packaging alternatives. The company also applies lightweighting to plastic packaging, making the packaging less desirable for recycling. Unilever still sells products in sachets made of multi-layered plastic, which is difficult to recycle. Meanwhile, they are developing new technology, namely CreaSolv® as a tool for recycling, specifically for sachet packaging. Yet the effectiveness of the technology has yet to be ascertained.

Close collaboration between industry, government, and society is needed as a catalyst for implementing CE in Indonesia. Collaboration between the three can be carried out with a triple helix interconnection scheme that encourages interaction through the ability of individuals in each institution to circulate from one institution to another. Collaboration with triple helix interaction enables government, industry, and society to have better dialogue and advance strategies to implement CE. Governments with more extraordinary ability and readiness to implement CE tend to attract more commitment from companies. Efforts to implement CE in European

countries are more advanced than in Indonesia, in line with the government's considerable attention and support in the field of legislation on CE. Indonesia needs to review its policies to be more robust and strategic and provide incentive and disincentive mechanisms that can attract industries to comply with regulations and contribute to implement CE.

An equally important role comes from academics and experts who are responsible for disseminating knowledge about CE and convincing both companies and the public to start internalizing CE values in their daily lives. Diversification of the dissemination of information is essential to reach every level of society. Although the role of industry and government is significant, they open up greater access for community contribution in implementing CE. Thus, the community must also be able to equip themselves with knowledge about the environment and CE.

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References

- Akenji, L. and Bengtsson, M., 2019. Circular Economy and Plastics:: A Gap-Analysis In ASEAN Member States. Institute for Global Environmental Strategies, pp.14-20. [Accessed 14 May 2021].
- Akenji, L. and Bengtsson, M., 2019. Towards A Circular Economy For Plastics In Asean I: A Gap-Analysis In Asean Member States. Institute for Global Environmental Strategies, pp. 27-33. [Accessed 14 May 2021].
- Akenji, L. and Bengtsson, M., 2019. PLASTICS AND RELATED POLICIES IN ASEAN. Institute for Global Environmental Strategies, [online] pp.21-26. Available at: <<http://www.jstor.com/stable/resrep21872.7>> [Accessed 14 May 2021].
- Al Ayyubi, S., 2019. Pengelolaan Sampah Plastik di Indonesia Belum Optimal | Kabar24 - Bisnis.com. [online] Bisnis.com. Available at: <<https://kabar24.bisnis.com/read/20191127/15/1174822/pengelolaan-sampah-plastik-di-indonesia-belum-optimal>> [Accessed 21 January 2022].
- Benz, O.A., 2019. Measuring the Circular Economy. Developing a Circular Economy Assessment for Company Level. Utrecht University. [online] Available at: <<https://dspace.library.uu.nl/handle/1874/379822>> [Accessed 10 March 2022].
- Burhan, F. and Setyowati, D., 2020. Startup Pengolah Limbah RI Waste4Change Disuntik Modal 3 Investor Artikel ini telah tayang di Katadata.co.id dengan judul "Startup Pengolah Limbah RI Waste4Change Disuntik Modal 3 Investor" , <https://katadata.co.id/desysetyowati/digital/5e9a470c2ab81/startup-pengolah-limbah-ri-waste4change-disuntik-modal-3-investor> Penulis: Fahmi Ahmad Burhan Editor: Desy Setyowati. [online] KataData. Available at: <<https://katadata.co.id/desysetyowati/digital/5e9a470c2ab81/startup-pengolah-limbah-ri-waste4change-disuntik-modal-3-investor>> [Accessed 24 January 2022].
- Cheng, M., 2019. 8 Characteristics Of Millennials That Support Sustainable Development Goals (SDGs). [online] Forbes. Available at: <<https://www.forbes.com/sites/margueritacheng/2019/06/19/8-characteristics-of-millennials-that-support-sustainable-development-goals-sdgs/?sh=53de80c029b7>> [Accessed 20 January 2022].
- de Jesus, A., & Mendonça, S. (2018). Lost in transition? drivers and barriers in the eco-innovation road to the circular economy. *Ecological Economics*, [online], 145, pp. 75–89. Available at: <<https://doi.org/10.1016/j.ecolecon.2017.08.001>> [Accessed 20 March 2022].
- Ellen MacArthur Foundation . (n.d.). Signatory reports. Global Commitment 2021 Signatory Report. Retrieved March 20, 2022, from <https://ellenmacarthurfoundation.org/global-commitment-2021/signatory-reports/ppu/loreal>

- European Commission. 2022. Bio-based, biodegradable and compostable plastics. [online] Available at: <https://ec.europa.eu/environment/topics/plastics/bio-based-biodegradable-and-compostable-plastics_en#:~:text=Bio%2Dbased%20plastics%20are%20fully,not%20necessarily%20compostable%20or%20biodegradable.&text=Biodegradable%20and%20compostable%20plastics%20biodegrade,from%20fossil%2Dfuel%20based%20materials.> [Accessed 23 January 2022].
- European Parliament. 2018. Circular economy: definition, importance and benefits.
- Etzkowitz, H. and Dzisah, J., 2008. Rethinking development: circulation in the triple helix. *Technology Analysis & Strategic Management*, [online] 20(6), pp.653-666. Available at: <<https://doi.org/10.1080/09537320802426309>> [Accessed 18 June 2021].
- ING, 2019. A clear business case for the supply chain will spur the transition to circular economy. Show me the value. [online] Amsterdam. [Accessed 8 January 2022].
- ING, 2021. Learning from consumers: How shifting demands are shaping companies' circular economy transition. *A Circular Economy Survey*. ING, pp.2-40.
- Indonesia Business Council on Sustainable Development, 2018. Green Lifestyle Initiative for Responsible Consumption and Production in Indonesia. *Laporan Green Lifestyle*. [online] Jakarta: IBCSD, pp.7-15. Available at: <<http://researchinstitute.penabulufoundation.org/wp-content/uploads/2019/11/Green-Lifestyle-Initiative-for-Responsible-Consumption-and-Production-in-Indonesia-2019.pdf>> [Accessed 13 October 2021].
- Kartasasmita, A., 2021. Kemenperin: Wujudkan Daya Saing Global, Kemenperin Akselerasi Penerapan Industri Hijau. [online] kemenperin.go.id. Available at: <<https://kemenperin.go.id/artikel/22572/Wujudkan-Daya-Saing-Global,-Kemenperin-Akselerasi-Penerapan-Industri-Hijau>> [Accessed 22 December 2021].
- Kunz, N. and Wassenhove, L., 2018. Stakeholder Views on Extended Producer Responsibility and the Circular Economy. *California Management Review*, 60(3), pp.45-60.
- Lindgreen, E., Salomone, R., Reyes, T., 2020. A Critical Review of Academic Approaches, Methods and Tools to Assess Circular Economy at the Micro Level. *Sustainability* 12(12), [online] Available at: <<https://doi.org/10.3390/su12124973>> [Accessed 13 March 2022].
- Lintang, E., 2021. Demi Mengurangi Sampah Plastik, L'Oréal Hadirkan Kemasan Pengiriman yang Ramah Lingkungan. [online] journal.sociolla.com. Available at: <<https://journal.sociolla.com/beauty/loreal-realisasikan-kemasan-pengiriman-ramah-lingkungan>> [Accessed 22 December 2021].
- L'Oréal, 2019. 2019 Progress Report Sharing Beauty With All. *The L'Oréal Sustainability Commitment*. Clichy: L'Oréal, pp.13-22.
- Mayer, A., Haas, W., Wiedenhofer, D., Krausmann, F., Nuss, P., Blengini, G.A., 2019. Measuring progress towards a circular economy: A monitoring framework for economy-wide material loop closing in the EU28. *Journal of Industrial Ecology*, [online] 23(1), pp. 62-76. Available at: <<https://onlinelibrary.wiley.com/doi/epdf/10.1111/jiec.12809>> [Accessed 13 March 2022].
- Mikroni, O., Fontoulakis, G., Vouros, P. and Evangelinos, K., 2022. *Circular economy in the cosmetics industry: An assessment of sustainability reporting*. 1st ed. Amsterdam: Elsevier, pp.609-617.
- Moore, K., 2019. New Ways The Beauty Industry Is Testing Sustainable Practices. [online] *Forbes*. Available at: <<https://www.forbes.com/sites/kaleighmoore/2019/06/11/new-ways-the-beauty-industry-is-testing-sustainable-practices/?sh=7aaf4b67eb55>> [Accessed 26 May 2021].
- Nielsen IQ. 2018. Was 2018 the year of the influential sustainable consumer?. [online] Available at: <<https://nielseniq.com/global/en/insights/analysis/2018/was-2018-the-year-of-the-influential-sustainable-consumer/>> [Accessed 23 January 2022].
- PT Unilever Indonesia Tbk, 2020. *Laporan Keberlanjutan 2020 Sustainability Report*. [online] Tangerang: PT Unilever Indonesia Tbk, p.65. Available at: <<https://assets.unilever.com/files/92ui5egz/production/bafbadd48715daa10c465efb9021a3c39205bd9e.pdf/sustainability-report-2020-pqldla.pdf>> [Accessed 10 December 2021].

- Unilever (n.d.) Unilever's position on bioplastics [online] Available at: <https://www.unilever.com/Images/bioplastics-position-statement-typo-amends-nov-2015_tcm244-423101_en.pdf>.
- Ranta, V., Stenroos, L. A., Ritala, P., & Makinen, S. J. (2017). Exploring institutional drivers and barriers of the circular economy: A cross-regional comparison of China, the US, and Europe. *Resources, Conservation and Recycling*, 135, pp. 70–82. Available at: <<https://doi.org/https://doi.org/10.1016/j.resconrec.2017.08.017>> [Accessed March 10, 2022].
- Rizos, V., Tuokko, K., Behrens, A., 2017. CEPS Energy Climate House. Available at: https://www.researchgate.net/publication/315837092_The_Circular_Economy_A_review_of_definitions_processes_and_impacts [Accessed March 10, 2022].
- Rudiyanto, A., 2020. The Circular Economy Agenda in Indonesia.
- Sassanelli, C., Rosa, P., Rocca, R., Terzi, S., 2019. Circular economy performance assessment methods: A systematic literature review. *Journal of Cleaner Production*, [online] 229, pp. 440–453, Available at: <<https://doi.org/10.1016/j.jclepro.2019.05.019>> [Accessed 13 March 2022].
- Scriba, M., 2016. Lightweighting Plastic Packaging and Recyclability. [online] Mtm-plastics.eu. Available at: <http://mtm-plastics.eu/fileadmin/user_upload/MichaelScriba_Recyclability_2016.pdf> [Accessed 24 January 2022].
- Septiadi, A. and Kartini, D., 2018. Pemerintah tetapkan kebijakan pengelolaan sampah nasional. [online] kontan.co.id. Available at: <<https://nasional.kontan.co.id/news/pemerintah-tetapkan-kebijakan-pengelolaan-sampah-nasional>> [Accessed 21 January 2022].
- Shalmont, J., 2020. Sustainable Beauty: Kesiapan Konsumen di Indonesia dalam Mengintegrasikan Konsep Keberlanjutan dalam Pengelolaan Sampah Kemasan Plastik Produk Industri Kecantikan. *Law Review*, [online] 20(2), pp.138-168. Available at: <https://www.researchgate.net/publication/350516753_SUSTAINABLE_BEAUTY_KESIAPAN_KONSUMEN_DI_INDONESIA_DALAM_MENGINTEGRASIKAN_KONSEP_KEBERLANJUTAN_DALAM_PENGELOLAAN_SAMPAH_KEMASAN_PLASTIK_PRODUK_KECANTIKAN_Sustainable_Beauty_Indonesian_Consumers'_Readin> [Accessed 18 January 2022].
- Stahel, W., 2016. Circular Economy. *Nature*, [online] (531), pp.435-438. Available at: <<https://www.nature.com/articles/531435a.pdf?origin=ppub>> [Accessed 10 January 2022].
- Stuchtey, M., Swartz, S. and Vanthournout, H., 2016. A new plastics economy: From linear value chain to circular system. *The circular economy: Moving from theory to practice*. McKinsey & Company, pp.17-21.
- Tangpuori, A. D., Zallio, X. P. B., Urbancic, N., & Rolls, G. H. (2020). (rep.). *Talking Trash: The Corporate Playbook of False Solutions to the Plastic Crisis*. Changing Markets Foundation.
- Uusitalo, T., Saarivirta, E., Hanski, J., Toivanen, M., Myllyoja, J. and Valkokari, P., 2020. Policy Instruments and Incentives for Circular Economy - Final report. RAW Materials.
- Walzberg, J., Lonca, G., Hanes, R., Eberle, A., Carpenter, A., Heath, G.A., 2021. Do we need a new sustainability assessment method for the circular economy? A critical literature review. *Frontiers in Sustainability*. [online] Available at: <<https://doi.org/10.3389/frsus.2020.620047>> [Accessed 13 March 2022].
- Whalen, K. A., Milios, L., & Nussholz, J. 2018. Bridging the gap: Barriers and potential for scaling reuse practices in the Swedish ICT sector. *Resources, Conservation and Recycling*, [online] 135, pp. 123–131, Available at: <<https://doi.org/10.1016/j.resconrec.2017.07.029>> [Accessed 20 March 2022].
- Wira, N., 2021. L'Oréal Indonesia plans to use recycled plastics for all its packaging. [online] The Jakarta Post. Available at: <<https://www.thejakartapost.com/life/2020/07/04/loral-indonesia-plans-to-use-recycled-plastics-for-all-its-packaging.html>> [Accessed 22 December 2021].

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