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RESEARCH-ARTICLE

Setting a Higher Standard to Get Rid of Greenwashing

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As a globally influential standards development organization working in partnership with national and regional stakeholders around the world, UL Standards & Engagement (ULSE) is dedicated to incorporating sustainability and sustainable practices into our diverse portfolio of standards and documents. Our sustainability program strives to provide a higher level of focus for our contribution to, and impact on, global sustainability through standardization while also proactively addressing industry trends and emerging technologies.

One specific trend on which we have focused in recent years is "circular economy" - a term often used to describe the sustainability efforts of companies as they shift away from a linear production approach in favor of a circular model to mitigate the effects on the triple planetary crises of climate change, biodiversity erosion, and pollution. This circular model keeps materials and products in a looped system longer to help reduce waste, reuse materials, and lower the emission of greenhouse gases caused by the energy needed to make these products.

In the past, it has been difficult for companies to quantify their circular performance. This has often led to "greenwashing," which occurs when companies advertise incorrect or generic environmental claims of a product's circular performance. To help prevent greenwashing and provide consumers with a reliable metric for analyzing a company's sustainable practices and products, ULSE collaborated with industry stakeholders to develop and publish *UL 3600, the Standard for Measuring and Reporting Circular Economy Aspects of Products, Sites, and Organizations*.

HOW UL 3600 CAN HELP COMPANIES SUBSTANTIATE SUSTAINABILITY CLAIMS

UL 3600 is the first standard that assists companies in evaluating their circular economy efforts and measuring corporate sustainability at the site, product, and/or company level. The standard provides a gauge of the circularity of a company's material flows and social governance as well as a comprehensive assessment of a company's circular economy initiatives of material flow and corporate social responsibility elements. These elements include worker safety and health as well as diversity, equity, and inclusion (DE&I) in the company's workforce. UL 3600 thus helps encourage continuous improvement and reporting on environmental, social, and corporate governance (ESG) to stakeholders.

The UL 3600 assessment creates a framework for a company to publicly share its sustainability and safety performance, enabling consumers and stakeholders to assess the

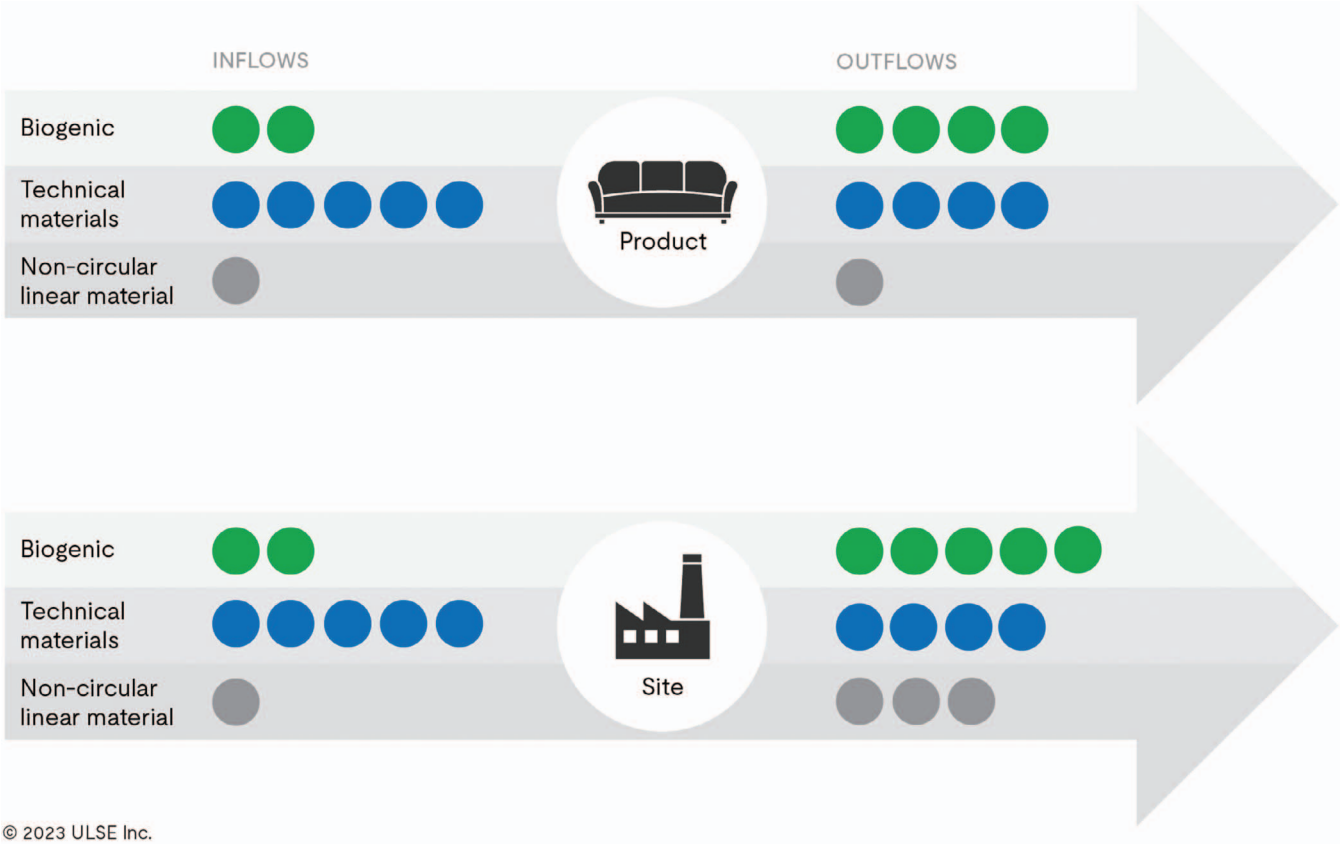

Figure 1. ***Material Inflows and Outflows for a Product and for a Site*** *Circular classification options for material inflows and outflows are defined for both technical material and biogenic material streams. An example of biogenic and technical material flow within the wood carbon life cycle is shown in Figure 2.*

company's commitment to the circular economy and its impact on the environment and human health. It also provides a benchmark for a company to compare its performance against its peers, which can help it differentiate itself from competitors and build a reputation as a leader in sustainability and safety.

The circular economy report is compiled using methods and metrics outlined in UL 3600. Aspects include, but are not limited to, material flows and the impacts of those flows. The standard is split into two major parts: measuring the material flows (measurement methods) and measuring the impacts of those flows (analytics). The metrics and measures are focused on materials and the flow of those materials as a result of the activities of an organization and any products manufactured by the organization.

In addition to the materials and flows, activities and impacts from those materials and flows in other parts of the supply chain should be included where they represent a significant impact and will be used as a modifier on the material flows. By addressing both flows and impacts, UL 3600 seeks to address progress toward sustainability in a more holistic way.

MEASURING OVERALL CIRCULARITY

The overall circularity is determined by measuring upstream and downstream material flows, or inflows and outflows. Materials are grouped into product flows and site flows when determining inflows and outflows. Figure 1 represents the flow of materials through a site and/or product and includes materials that become products, along with

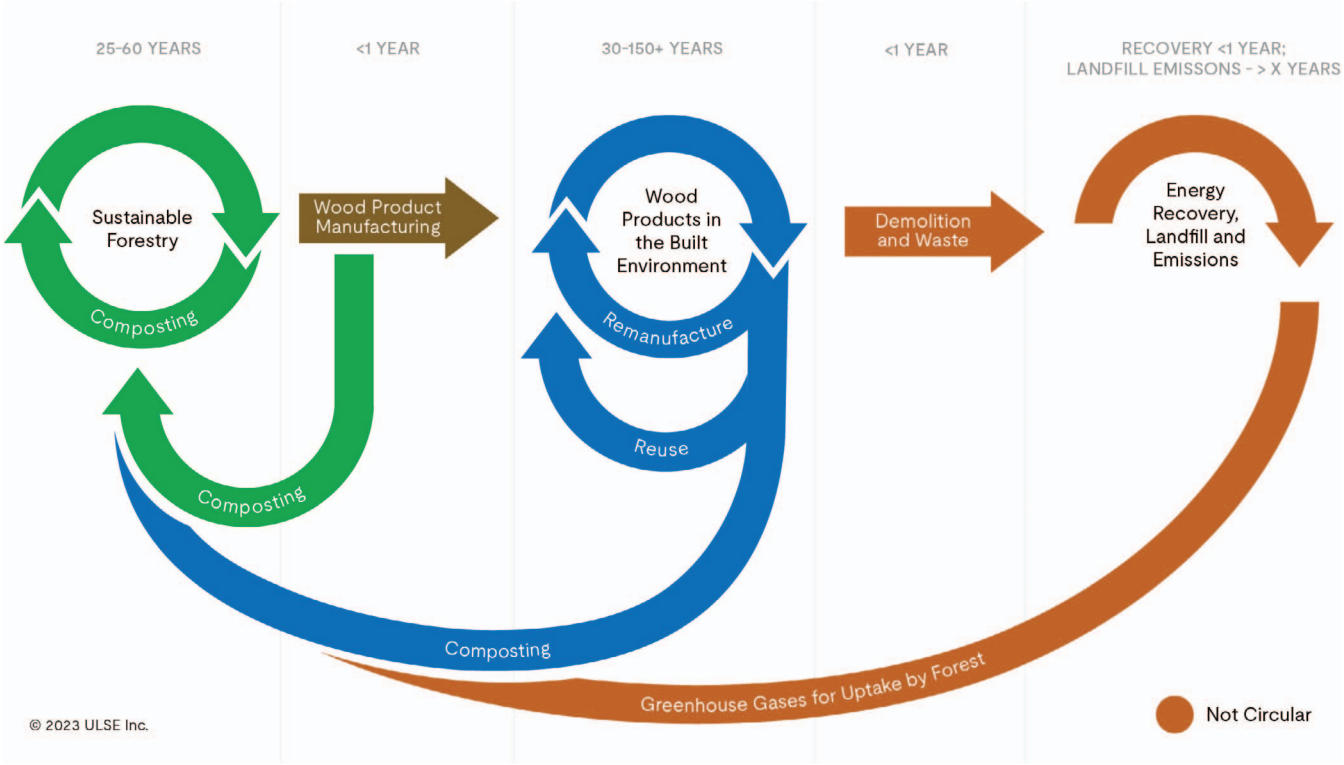

Figure 2. *Biobased and Technical Material Flows Within the Wood Carbon Life Cycle NOTE: Circular materials are subdivided into biogenic (green) and technical materials (blue); non-circular flows are orange; transition between biogenic and technical flow is shown in brown.*

the ancillary materials that are used at the site but are not shipped with the product. The material categories defined in the inflow side of the diagram can either be single materials or those contained in a component, product, or subassembly from an earlier stage in the material flow.

Biogenic inflows include new and recycled biobased materials; biogenic outflows include biochemical sources, composted materials, anaerobic digestion, biofuels, and recycled biobased content (all of which contribute to the regeneration of natural systems). Technical material inflows and outflows are those that are recycled, reused, refurbished, or circulated in a closed loop (along with byproducts), with the objective of keeping these materials in use rather than discarding them. Non-circular linear materials are composed of parts or components that do not meet any of the circular categories and are disposed at landfills, incinerated, or used for thermal processing with energy recovery after use.

Through the evaluation criteria and reporting methods listed above, UL 3600 can help to quantify the circular economy efforts of companies as they aim to eliminate waste, reuse and/or repurpose materials, and regenerate natural resources through their processes. As sustainability awareness continues to gain momentum and drive consumer behaviors, UL 3600 can serve as a valuable tool for companies looking to promote the sustainability and safety of their circular economy initiatives (without greenwashing) and can also help them improve their performance, increase transparency, and differentiate themselves in a competitive marketplace.

Caitlin D'Onofrio is the sustainability program manager for UL Standards & Engagement, a nonprofit organization dedicated to advancing the discovery and application of scientific knowledge. In her work, Caitlin collaborates with industry experts in sustainability and individuals from balanced standards development consensus bodies. She drives and manages ULSE's Sustainability Portfolio.