

Bringing  
transparency  
to the circular  
economy



Empowering Trust™



# Executive Summary

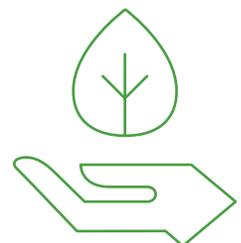


John Elkington, author and thought leader who in 1994 coined the term “triple bottom line,” issued a recall of his own phrase on its 25th anniversary because, he said, it has been diluted by accountants and reporting consultants. Triple bottom line’s goal from the outset, Elkington wrote in a recent article in the Harvard Business Review, “was system change ... with a focus on breakthrough change, disruption, asymmetric growth (with unsustainable sectors actively sidelined), and the scaling of next-generation market solutions.”

But, despite his current sentiments, the philosophy behind the triple bottom line lives on, as organizations seeking to make real-world impacts are increasingly adopting a different philosophical perspective to the economics of their business practices. Instead of continuing to follow a traditional “take-make-waste” approach to production, companies seeking to increase the effectiveness of their sustainability efforts are embracing a “circular” mindset, in which products are “made to be made again,” and in which sustainability practices also contribute to a strengthening of their organization’s overall health. Indeed, viewing business and economic activity through the lens of circularity can contribute to a tangible and practical approach to sustainability leading to even greater synergy between profitability and environmental progress.

But what business practices contribute to environmental sustainability in the context of a circular economy? What new types of business metrics do we need to measure that contribution, and how do we objectively assess the effectiveness of our efforts? Finally, how do we communicate the environmental impact of those practices and activities in an honest and objective way?

In this UL white paper, we examine the potential of a circular economy philosophy to transform environmental sustainability efforts in business, as well as the real-world issues that challenge its broader acceptance. We also discuss how UL is working with companies to help them evaluate and improve their circularity efforts and to improve overall confidence and trust in their sustainability claims.



## Embracing sustainable practices in business

For many organizations, the Sustainable Development Goals (SDGs) developed by the United Nations (U.N.) Global Compact Initiative and adopted by world leaders in 2015 have served as a starting point for how they engage on the issue of sustainability. The 17 SDGs, supported by 169 individual targets and more than 200 indicators, present an expansive but integrated view of sustainability and touch on issues as diverse as “No Poverty” and “Zero Hunger” (SDGs Nos. 1 and 2), “Affordable and Clean Energy” (SDG No. 7), “Climate Action” (SDG No. 13), and “Peace, Justice and Strong Institutions” (SDG No. 16). The SDGs also address sustainability issues in which business and industry have a direct and important role to play, including SDG No. 8 (“Decent Work and Economic Growth”), SDG No. 9 (“Industry, Innovation and Infrastructure”) and SDG No. 12 (“Responsible Consumption and Production”).

The SDG framework is gaining significant traction not just with global corporations but also with companies of all sizes seeking to implement a comprehensive approach to sustainability in their businesses. The Global Reporting Initiative (GRI), a leading global organization on sustainability reporting, estimates that 75 percent of the companies participating in the U.N. Global Compact Initiative, which include small

and medium-sized enterprises (SMEs) as participants, have plans to engage with the goals of the SDG. The GRI also reports that investors “are increasingly interested in directing funds toward businesses that are leading the way on responsible business,” clearly signaling that the adoption of sustainable practices has the potential to provide important economic advantages to companies as well as their shareholders.

SDG No. 12 has become a particular focus for many companies trying to understand the environmental impacts of their production processes and identifying which strategies may best mitigate their negative consequences. Specific targets within SDG No. 12 are ambitious, such as target 12.5 that states, “By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.” Achieving these targets represents nothing less than a massive undertaking but also demonstrates the potential opportunities provided in circular economy.

As yesterday’s waste becomes tomorrow’s production input, data from the World Bank Group’s consumption and waste generation databases indicate that implementation of a circular economy could displace approximately a third of virgin inputs. However, the benefits potentially extend even further. According to one source, the circular economy could have a positive economic impact of \$4.5 trillion, contributing to global economic growth while supporting efforts to help ensure a sustainable future for the world.

## Sustainability challenges for business

Although the march toward adopting more sustainable practices is strong, traditional approaches to sustainability are not without their challenges. For

example, access to many recycling options is becoming more and more limited, as participants begin to fully appreciate the complexity behind effective recycling operations as well as the limits imposed by the increased use of materials that are more difficult to recycle. These issues were brought into sharp focus in 2017 and 2018 when China, previously one of the world’s largest markets for recyclable materials, implemented regulations that now significantly restrict the importation of contaminated used paper and plastics.

An underdeveloped recycling infrastructure can also compound the challenge of finding a sufficient supply of materials that conform with sustainability objectives. Using plastics as an example, the Organisation for Economic Co-operation and Development (OECD) estimated that the current global recycling rate for plastic materials is only between 14-18 percent of the total volume produced. Further, the 46 million tons of recycled plastic resin produced every year represents at most just 12 percent of the total volume of plastic resin produced globally.

These findings are supported by a report by the nonprofit Green Alliance which calculated that the United Kingdom (U.K.) currently has capacity to recycle only 9 percent of the more than 3.3 million tons of plastics consumed annually in that country. The report further notes that the U.K. could supply nearly three-quarters of its domestic demand for plastic materials for products and packaging simply by increasing the country’s recycling capacity. Clearly, the current state of recycling capacity for plastics and many other types of materials may limit the amount of recycled product available for production in some cases; this makes them a more expensive material option even for well-intentioned producers and further impacting demand.



Another sustainability challenge concerns the validity of recyclability claims made by some suppliers. Today's global supply chains are long and complex, which can make it difficult to accurately trace every aspect of material production. In addition, some supply partners may lack the requisite knowledge or skill required to consistently produce materials that conform with the expectations of their customers.

A final, and fundamental, challenge inhibiting the effectiveness of many current corporate sustainability efforts is their continuing lack of alignment with the overall strategy of the business itself. Despite numerous examples that validate the link between strong sustainability efforts and increased market valuation, far too many organizations still view sustainability programs as ancillary to their primary focus on key financial metrics. The potential impact of sustainability on an increase in shareholder value is viewed as tenuous at best, so little effort is made to fully explore innovative business models and practices that could result in a radical transformation on both fronts. And change of any magnitude requires an investment of money, time and resources, creating a further barrier to sustainability implementation.

## The concepts of circularity and the circular economy

For those organizations seeking to address these and other challenges and willing to re-evaluate their current approaches to sustainability, the concept of circularity holds significant promise. At its most basic level, circularity presents an approach to economic activity that is fundamentally different from the traditional make-use-dispose linear model, in which resources are processed into products that are used and then disposed of at

the end of their useful life. Instead, economic activity based on circularity adheres to three principles:

- Eliminate waste and pollution from product design
- Extend the longevity of material use and/or reuse products and materials
- Regenerate natural resources and systems used in the process

In economic activity that embraces the concept of circularity, the focus is on disconnecting the consumption of resources from economic growth in order to build and rebuild both systemic and economic sustainability and health. As such, circularity is not just about reducing the negative impacts associated with linear economic activity but also about making economic systems more resilient and less susceptible to resource and material shortages. Ultimately, applying the concept of circularity can lead to the development of innovative business practices that can improve an organization's financial performance as well as its competitive position in the global marketplace.

The number of organizational efforts built on the circularity concept has grown at an increasingly rapid rate in just a few short years. The Circular Economy Club reported that its circular economy database, an open source project intended to map circular economy efforts around the globe, is currently tracking approximately 3,000 individual circularity efforts in 100 cities and 60 countries. The majority — 71 percent — of these efforts have been initiated by private sector entities in a wide range of industries, such as fashion, real estate and energy.

By many accounts, the potential of circularity to transform the world's environment and economy is truly staggering. For instance, a 2018 report by the World Business Council for

Sustainable Development and the Boston Consulting Group estimated that reducing worldwide resource use by only 1 percent could save approximately 840 million tons of metals, fossil fuels, minerals and biomass each year, as well as 39.2 trillion liters of water. Transition to the circular economy could unlock USD \$4.5 trillion of GDP growth worldwide by 2030.

Evidently, applying a circular economy perspective to current commercial and industrial activities can offer transformative solutions for reversing the world's rapidly diminishing supply of natural resources and regenerating the critical assets necessary to shelter, feed and clothe the world's growing population. But circularity is not just good for the environment. It can also help organizations implement innovative solutions that can help them to become more self-sufficient while also reducing their overall risk from external variables.

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THE BOSTON CONSULTING GROUP ESTIMATED **reducing worldwide resource use** by **ONLY 1 PERCENT** could save approximately **840 MILLION TONS** of metals, fossil fuels, minerals and biomass *each year*



# UL's approach to supporting the circular economy and circularity efforts

Organizations seeking to apply the concept of circularity to their operations must begin by answering several key questions, as follows:

- First, which aspects of our operations represent potential focal points for the application of solutions that can support the circular economy?
- Second, what metrics can we use that will directly measure the impact of our circularity efforts on both the environment and on our financial performance?
- And finally, how can we bring objectivity and transparency to our circularity efforts?

To support organizations in their efforts to answer these critical questions, UL's Environment & Sustainability division has introduced UL 3600, Outline of Investigation for Measuring and Reporting Circular Economy Aspects of Products, Sites and Organizations. Because materials are an essential aspect of circularity, UL 3600 focuses primarily on both the inflow and outflow of materials at the product, facility and enterprise levels respectively. Assessments conducted under the scope of the Certification Document evaluate specific aspects of material sustainability, including the use of recycled content, bio-based content, recyclability, waste minimization and zero waste to landfill.

At the heart of UL 3600 are detailed methods for measuring circularity. The results of the application of these measurement methods are then used to calculate a circularity rating for each of several specific performance metrics and are then averaged into a single, composite circularity score. All calculated performance metrics and the final circularity score are then assembled into a comprehensive Circularity Facts™ Report that provides a detailed visual representation of an organization's circularity efforts.

The application of UL 3600 can be customized to address the current scope of an organization's circularity efforts and can be modified to address additional aspects of a newly expanded circularity effort. For example, an organization may first seek to assess the circular performance of only wholly owned and operated organization assets, and later expand their assessment to include direct suppliers and contract manufacturers. To help ensure complete transparency with stakeholders, the scope and limitations of any assessment under UL 3600 are clearly noted in the Circularity Facts Report.

The circularity performance metrics evaluated and reported under UL 3600 are closely aligned with the sustainability targets identified under SDG 12, "Responsible Consumption and Production." This means that organizations that successfully complete an assessment to UL 3600 can use the Circularity Facts Report as evidence of their efforts to meet relevant SDGs as specified by the U.N.'s Global Impact Initiative. And, although UL 3600 applies as written to manufacturers and suppliers of tangible products, for example, cell phones, appliances, automobiles, etc., assessments to the Certification Document can also be applied to retailers, service organizations and government agencies, where the product might be distribution operations, garbage removal or consulting hours.



*Corporations and companies can play a central role in global efforts to eliminate the wasteful use of valuable natural resources*



Corporations and companies can play a central role in global efforts to eliminate the wasteful use of valuable natural resources while also helping to ensure the sustainability of our planet and the well-being of the world's population. By integrating the principles of circularity into their strategic priorities, organizations can not only make critical contributions to these efforts but can also help to make their companies more resilient in addressing supply and demand variations that can adversely affect financial performance and return on investment.

For those organizations that embrace the potential values and benefits of a circular economic approach, validating the results of their circular efforts is essential in assessing the effectiveness and limitations of those programs while also identifying areas requiring further attention. As the first tools available to assess material circularity, UL 3600 and the UL's Circularity Facts program provide organizations of all types with an objective method for benchmarking the results of their circularity efforts as well as the economic value of the elimination of waste, helping them to achieve their circularity goals and objectives while also providing a path for continuous improvement.

**For additional information about UL 3600 and UL's Circularity Facts program, visit [UL.com/environment](https://www.ul.com/environment). Or connect with us via Twitter, LinkedIn or Facebook.**

## End Notes

1. “25 years ago I coined the phrase ‘triple bottom line.’ Here’s why it’s time to rethink it,” Harvard Business Review, June 25, 2018. Web, 8 November 2018. <https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>.
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3. “Business reporting on the SDGs: An analysis of the goals and targets,” a report by the Global Reporting Initiative, 2017. Web, 8 November 2018. <https://3blmedia.com/News/Business-Reporting-SDGs-Analysis-Goals-and-Targets-Launched/>
4. Based on a UL analysis of data available through the World Bank’s Global Consumption Database. Web, January 2019. <http://datatopics.worldbank.org/consumption/>.
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6. “Improving markets for recycled plastics: Trends, prospects and policy responses,” a report by the Organisation for Economic Co-operation and Development, May 2018. Web, 8 November 2018. <https://www.oecd.org/environment/waste/Policy-Highlights-Improving-Markets-for-Recycled-Plastics.pdf>.
7. “Recycled plastic could supply three-quarters of UK demand, report finds,” The Guardian, June 14, 2019. Web, 8 November 2018. <https://www.theguardian.com/environment/2018/jun/14/recycled-plastic-could-supply-three-quarters-of-uk-demand-report-finds>.
8. The circularity principles as presented here are based on those presented on the website of the Ellen MacArthur Foundation. See Note No. 2 above.
9. “Circular Economy Club announces launch of global, open-sourced circular economy database,” a press release by the Circular Economy Club, 30 April 2018. Web, 8 November 2018. <https://docs.google.com/document/d/18Pqm80TeFRSF9gR9yAhRWDXJFgJTvE4QTaxFuEbnnHw/edit>.
10. “The New Big Circle: Achieving growth and business model innovation through circular economy implementation,” a report by the World Business Council for Sustainable Development and the Boston Consulting Group, January 2018. Web, 8 November 2018. [https://docs.wbcsd.org/2018/01/The\\_new\\_big\\_circle.pdf](https://docs.wbcsd.org/2018/01/The_new_big_circle.pdf).





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