Weekly Brief June 23, 2026

The Circular Economy Dividend

With the geopolitical environment continuing to generate new shocks, your organization's resilience almost certainly feels like a top priority. So how can you fit sustainability in, alongside that pressure? How do you invest in decarbonization and other environmental benefits when your supply chains are fragile and your input costs are volatile?

There are a number of ways to address this challenge—from the perspective of renewables, the measurement and monetization of carbon reductions, the energy footprint of data centers, and more—and I expect to return to some of those themes in the months ahead. But I want to start with what I think is one of the clearest and most compelling illustrations of how sustainability and resilience can reinforce one another rather than compete: *circularity*.

Circularity means keeping materials and products in use for as long as possible. Too often, circularity gets framed as an environmental obligation—a cost of compliance and not a source of competitive advantage. A major new study by BCG and the Federation of German Industries (BDI) challenges that framing, and the numbers that a circular economy offers are striking.

The Scale of the Circularity Opportunity

The study examined five industries that together account for 62% of Germany's industrial output: mobility, mechanical engineering, construction, energy, and textiles. Germany is a useful proving ground because it has a large export-led industrial base built almost entirely on imported raw materials. The country processes more than 1.4 billion tons of materials a year and is the world's third-largest importer of raw materials. It currently imports close to 100% of the lithium, nickel, and rare earth materials needed for EV batteries, wind and solar, and defense systems.

If German industry pursues circular business opportunities through reuse, refurbishment, remanufacturing, and higher-quality recycling, the economic output generated could roughly double from €60 billion today to as much as €125 billion by 2045, unlocking cumulative gross value

added of €700 billion to €880 billion. That total prize is roughly half a year of Germany's entire industrial output, and it could be generated over two decades from business models that are largely viable today.

But the economic case is only half the story.

Circularity as a Resilience Strategy

The geopolitical pressures that stress supply chains are not dissipating. Lithium prices swung more than 400% between 2021 and 2022. Copper jumped more than 50% in a single year during COVID, and silver more than doubled in 2025.

Circularity is one of the few ways of addressing supply security and economics at the same time. The BDI-BCG study finds that by 2045, circular recovery could replace 20% to 40% of Germany's strategic raw material imports, including roughly 20% of rare earth and 10% of battery materials. Around 60,000 tons per year of lithium, nickel, manganese, cobalt, silver, and rare earths could be recovered domestically rather than imported. Consistent battery recycling alone could reduce import dependence for central battery materials by 10% to 15%.

Where the Business Value Lies

Across the sectors examined, four sources of value translate directly:

- **Margins.** Remanufacturing and refurbishment can cut manufacturing costs by 60% to 70%, versus producing the same component new, translating into EBITDA margins more than 5 percentage points higher than in traditional new production using virgin materials.
- **Material Costs.** Design for circularity, strategic sourcing, and process efficiency can reduce total material costs by around 10% to 15%.
- **New Markets.** The global market for recycling infrastructure and circular economy software is projected at more than €150 billion by 2045, growing at over 5% annually.
- **Energy Transition Savings.** Circularity can bring down the cost of the energy transition. In Germany specifically, reusing components across wind, solar, and grid infrastructure, as well as integrating second-life battery applications, could reduce the country's transition cost by up to €40 billion through 2045.

Here are three important starting points for leaders:

Concentrate on where the economics work first. Identify the two or three material or product clusters with the biggest exposure to import risk and price volatility.

Make circularity measurable. You need a handful of quantified goals with steerable metrics: recycled content, return rates, lifecycle margin.

And put circular business models on the executive agenda.

Scale digital enablers and build the ecosystem. Digital tools are critical for making circularity economically viable, enabling the necessary data visibility, tracking, and process integration. So is an ecosystem of suppliers, customers, recyclers, and sometimes competitors. One company's waste stream can become another's input.

In Germany, the investment required to capture the potential of circularity—roughly €20 billion cumulatively across the economy by 2045, concentrated in recycling and remanufacturing infrastructure—pays back in single-digit years. The same logic extends to any materials-intensive, import-dependent economy. That's a clear business case worth diving into.

Until next time,

Rich Lesser
Global Chair

Further Insights

Growth, Competitiveness, and Resilience: Opportunities of the Circular Economy for German Industry

Shifting to consistent reuse, refurbishment, remanufacturing, and higher-quality recycling increases resilience, economic gains, and sustainability.

CAPTURE CIRCULAR VALUE

How Dow Used the Carbon Footprint Ledger to Unlock a New Revenue Stream

BCG's Carbon Footprint Ledger created a new commercial reality for Dow, a credible solution for its customers, and a replicable model for the broader industry.

UNLOCK LOW-CARBON VALUE

BCG 2025 Annual Sustainability Report: Unlocked Potential, Transformative Impact

BCG combines strategic clarity and applied AI to turn ambition into outcomes, holding ourselves to the same high standards we set for others.

SEE OUR 2025 IMPACT

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