

TURNING SUSTAINABILITY RISK INTO OPPORTUNITY

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Sustainability has grabbed the attention of mainstream global businesses and economic leaders, emerging as a leading topic at the 2020 Davos World Economic Forum. While many publicly traded companies have been reporting on their sustainability performance, a discernable shift is underway, driven, increasingly, by a push to manage risk and capitalize on opportunity.



“ Climate risk is investment risk. Over time, companies and countries that do not respond to stakeholders and address sustainability risks will encounter growing skepticism from the markets, and in turn, a higher cost of capital. ”

— Larry Fink,
*BlackRock Chairman and
Chief Executive Officer*

This push extends to many aspects of sustainability, including supply chains, workforce, corporate structure and governance, and a myriad of environmental issues. However, the risks and opportunities presented by climate change are quickly emerging as a key focus.

Projecting forward with even the most tepid projections of climate impacts, our world in the future will present a very different landscape for business leaders. Climate change will impact supply chains, policies and regulations, customer demand, and even access to capital.

“Climate risk is investment risk,” says Larry Fink, BlackRock Chairman and Chief Executive Officer, in his most recent annual letter to CEOs. “Over time, companies and countries that do not respond to stakeholders and address sustainability risks will encounter growing skepticism from the markets, and in turn, a higher cost of capital.”

A sizable portion of corporate climate and sustainability risk is intertwined with materials management. In its broadest and most fundamental basis, materials management extends from the procurement of materials all the way from their initial extraction to final disposition. Truly, cradle to grave. Climate and sustainability risks pervade the entire value chain, from the methane emissions caused by oil and gas extraction, to the availability of rare earth metals that are so critical to the technological needs of our future low-carbon economy, to the climate and land impacts of landfilling.

The U.S. EPA has estimated that the provision and disposition of materials in waste are responsible for roughly **40% of greenhouse gas emissions.**¹



Ideally, these systemic risks would be addressed through a circular economy, in which all materials are added back into the economy at the end of their lifecycle. That ideal is a long way off.

Today, only about **6% of global materials** are recycled and returned to the economy.²

This linear approach is unsustainable and causing significant impact and risks to the climate, natural resources, supply chains and even corporate bottom lines. Not only does waste and excess material cost money to dispose of, they represent lost revenue in the form of a finished product.

Big impacts beget big opportunity. Considering the impacts on the environment, resources and finances, sustainable material management is a natural place for business leaders to address sustainability and risk.

At the same time, waste- and material-related goals can provide a tangible aspect of sustainability for employees, customers and investors. Reducing waste and optimizing processes is in our business DNA.

Those already engaged in this battle, like Subaru,³ GM and J&J Flooring,⁴ are starting with the solid waste management hierarchy, which places waste management approaches in order of environmental impacts. At the top of the hierarchy is waste reduction – the only form of waste and materials management

that has no environmental impact. Recycling is the next best option. Recycling returns materials back into the economy, typically providing for significant savings of energy inputs and reductions in greenhouse gas emissions relative to generating new materials from virgin inputs. For what cannot be recycled, putting these materials through the Waste-to-Energy process where energy is recovered and returned to the power company, offers a preferred, more sustainable alternative to landfilling. Numerous companies have set ambitious zero landfill or zero waste-to-landfill goals to avoid the lowest rung on the hierarchy.

Adherence to the solid waste management hierarchy is what has made the European approach to solid waste management so successful. Applied globally, the waste hierarchy could reduce greenhouse gas emissions by 1 billion tonnes of carbon equivalent per year by mid-century, equal to closing 1,000 large coal-fired power plants.⁵

However, success is more than just recycling more. Recent actions by China to restrict inbound shipments of mixed and contaminated recyclables have demonstrated the need for businesses to pay attention to quality and the markets for recyclables just as they would for their products and services. Buyers of recyclables become another customer. Better recyclable quality will make it more likely that materials sent for recycling achieve the best environmental outcomes through incorporation into new products. What we try to avoid is downcycling, or the use of recycled inputs in lesser-quality products.

The most advanced companies incorporate lifecycle thinking and analysis into their planning. Lifecycle analysis is a powerful way to assess the environmental impacts of a product or service from creation to disposal.



Applied to waste management, lifecycle analysis can assess the environmental impacts and trade-offs of different management approaches. Such analysis can help prioritize action, ensuring that we focus on the materials and downstream processes that offer the greatest environmental returns and/or the lowest risk. Lifecycle analysis can also prevent “burden shifting” or the inadvertent increase in environmental impacts elsewhere in the value chain (e.g., transportation across great distances).

Increasingly, downstream material and waste processors are taking steps to minimize potential risks and maximize opportunities. For example, paper companies in the U.S. have responded to China’s restrictions on inbound shipments of mixed paper by building recycling capacity domestically and installing new cleaning equipment to better manage mixed paper and contamination. Additionally, Waste-to-Energy operators are refining and expanding their metal recycling capabilities by installing new and more advanced equipment to remove increasingly smaller pieces of metal from the ash remaining after the combustion process. Other endeavors focus on mining the leftover ash from the incineration process for its resource potential, further augmenting process capabilities to enhance metal recovery and converting process byproducts into usable commodities for the construction industry.

There is little doubt that our future will be carbon-constrained. Customers, financial markets and governments will demand it. In fact, we are already moving in that direction – coal companies are paying premiums in the bond markets, sustainability reporting among companies large and small is the expectation rather than the exception and institutional investors are increasingly equating climate risk with business risk. With so much of their carbon footprints tied up in their supply chains, companies that optimize their approach to materials and waste management will invariably be leaders in managing the risks and leveraging the opportunities provided by a low-carbon future.



1 Source: U.S. Environmental Protection Agency; “Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices,” September 2009

2 Source: Journal of Industrial Ecology, “How Circular is the Global Economy? An Assessment of Material Flows, Waste Production, and Recycling in the European Union and the World in 2005,” 2015

3 Source: Covanta; “Case Study: Helping Subaru go zero landfill,” 2019

4 Source: Covanta; “Case Study: J+J Flooring’s zero waste-to-landfill solution” 2019

5 Source: Columbia Engineering, The Fu Foundation School of Engineering and Applied Science, “Integrated waste management as a climate change stabilization wedge,” 2009