INVESTOR ENVIRONMENTAL HEALTH NETWORK

Clean Production Action

The Business Case for Addressing Environmental Justice

"**Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." (EPA)** This goal will be achieved when everyone enjoys: 1) the same degree of protection from environmental and health hazards, and 2) equal access to the decision-making process to have a healthy environment in which to live, learn, and work.[1]

– ENVIRONMENTAL PROTECTION AGENCY (AS QUOTED IN THE WASHINGTON POST)

Case Statement

Environmental justice is an increasingly material issue for companies, and therefore an important issue for investors to track. A new operating environment is emerging in which companies are expected to address and internalize the human and environmental impacts of their operations. Insufficient action can expose companies to regulatory and legal action, operational disruption, and brand damage. These risks are heightened by the growing visibility of environmental justice among lawmakers, civic leaders, customers, and investors. Companies that respond to these evolving expectations by proactively addressing environmental justice can mitigate emerging risks and strengthen the long-term sustainability and viability of their businesses.

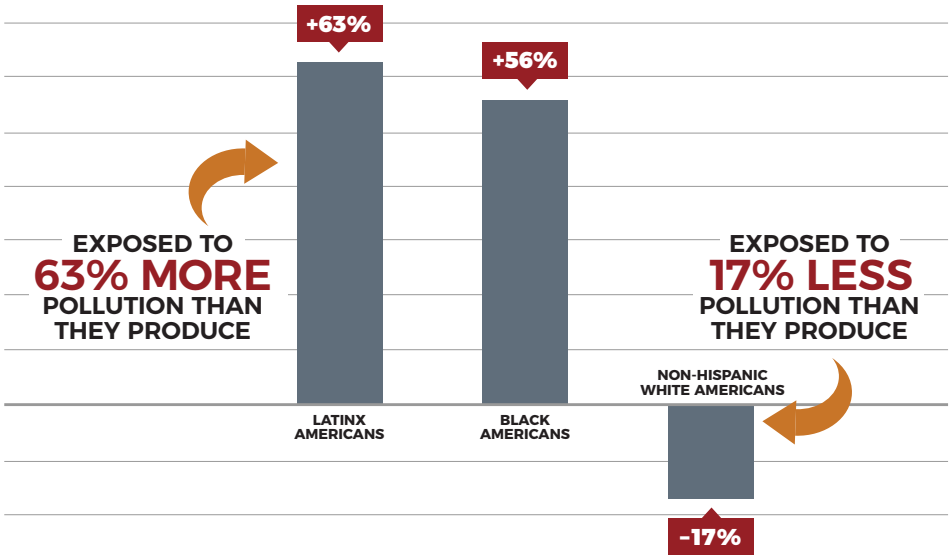
KEY BUSINESS RISKS

- **Policy and Regulation:** Public concern is growing around the health inequities arising from the release of emissions and effluents in communities predominantly populated by people of color. Emerging policy and regulation at federal and state levels aimed at integrating environmental justice considerations into permitting, contracting, and other operational decision-making can jeopardize a company's ability to operate if unprepared.
- **Litigation:** New technology and targeted funding are enabling communities to collect and assess localized pollution data that were previously difficult to obtain. Resulting litigation risk imposes new costs on companies that do not proactively address environmental justice risks associated with the production, use, and pollution of hazardous chemicals.
- **Community Resistance, Controversy, and Reputation:** Public resistance and environmental justice controversies can harm a company's reputation and jeopardize its social and legal license to operate.

Addressing environmental justice supports company commitments to pursue racial and social equity. Communities of color disproportionately carry the burden of pollution from industry and economic production in the United States, negatively affecting health outcomes. Ending existing sources—and avoiding future sources—of environmental injustice is crucial in achieving racial justice and health equity.

Pollution Exposure by Population

2003–2015



Source: Chirstopher W. Tessum *et al.*, "Inequity in consumption of good and services adds to racial-ethnic disparities in ari pollution exposure." Proceedings of the National Academy of Sciences (March 2019).

Introduction

In the United States, racial and ethnic minorities are exposed to higher levels of pollution than their white counterparts, contributing to higher rates of mortality and chronic disease.

A history of racial inequity and environmental injustice within the United States was perpetuated, in part, by government-sanctioned policies and practices, such as redlining and segregation. In the 1930s, neighborhoods across the country were categorized by their "desirability" based on characteristics like racial and ethnic composition, proximity to polluting industry, and economic class. This allowed lending institutions to deny borrowers access to credit based on the location of properties—a practice known as redlining. As a result, low-income people and people of color—and in particular, Black and Hispanic people—were systematically denied access to desirable locations and forced to live in neighborhoods deemed hazardous or declining, often alongside heavy industry.

"**Systemic racism has long influenced where major sources of pollution are located within communities.** Beginning in the early 20th century, White government planners in many municipalities drew redlining maps that identified Black and Latino neighborhoods as undesirable and unworthy of housing loans. Heavy industry was permitted to cluster in those places, adding a toxic dimension that persists today."[2]

– THIS IS ENVIRONMENTAL RACISM, THE WASHINGTON POST, 2021

A landmark report from 1987 found that race was the largest determining factor in the siting of hazardous waste facilities.[3]

Although overt redlining was outlawed in 1968, data show that the structure of segregation and economic inequality supported by the practice persists. Across the United States, 74% of areas graded "hazardous" (the worst categorization) 80 years ago are now considered low-to-moderate income, while 64% are majority-minority neighborhoods.[4] On the other hand, of areas graded "best" (the best categorization) 80 years ago, 91% are currently middle-to-upper income and 86% are white.[5] Furthermore, Black Americans are 75% more likely to live in communities that border a plant or factory than white Americans are,[6] and face the highest exposure to nearly all major emission sources in the United States.[7]

This disparity in environmental exposures contributes to higher mortality rates and higher rates of chronic health problems and disease among racial and ethnic minorities.

Studies have found that a person's zip code is more closely correlated to their quality and length of life than their genetic code is.[8]

In the early 1990s, the First National People of Color Environmental Leadership Summit laid out 17 principles for environmental justice.[9] These principles called for "respect and justice" and an end to the discriminatory practice of placing polluting industry and toxic sites in communities of color. They also called for more accountability from polluters.

In 2022, the UN General Assembly formally declared access to a clean, healthy, and sustainable environment a universal human right, signaling a growing consensus around the importance of a person's environment to their health and wellbeing. Public concern around the health inequities arising from disparate environmental exposures has also grown, leading to a new operating environment that companies must navigate.

This high-level primer provides demonstrative evidence of the ways that environmental justice is becoming a more financially material issue for companies, and thus why it should be considered by investors in their due diligence and engagement processes.

"**Environmental racism, characterized by the disproportionate impact of pollution on people of color**, came to the fore as another reason for the cry of "I can't breathe." And a nearly 40-year-old civil rights movement for environmental justice found new momentum."[10]

– THE RISE OF ENVIRONMENTAL JUSTICE, CHEMICAL & ENGINEERING NEWS

Business Case Overview

The consequences of community exposure to pollution and toxic substances resulting from industry have long been considered an economic externality, and thus not a priority. Increasingly, the costs of these externalities are being internalized through regulation, litigation, and the financial consequences of community resistance and other controversies.

In the past five years, federal and state governments and agencies have made unprecedented commitments around environmental justice.[11] Companies are increasingly subject to government actions—including fines, mandatory facility closures, required technology upgrades, or revoked, denied, or delayed facility and pollution permits—based on environmental justice indicators and outcomes. Governments are also increasing the availability of, and access to, localized pollution data, which can create an avenue for pollution attribution and subsequent litigation. The inclusion of environmental justice expectations into contracting decisions may also affect companies' ability to compete, operate, and grow.

Growing public recognition of the topic has led to increased coverage of controversies, which can damage a company's reputation and social and legal license to operate. Community opposition can further elevate litigation risk and result in a less productive, engaged workforce.[12]

On the other hand, companies that proactively work to prevent harm through pollution prevention strategies, investment in inherently safer processes, and deep community engagement programs may reduce their operational, financial, and reputational risks.

How Regulatory, Legal, Reputational Risk Can Develop into Business Risk

Business Risk: Policy and Regulation

Demands from the greater public to address equity issues, combined with the federal government's focus on the topic, has created new opportunities to make progress on justice across many environmental areas.[13]

Emerging policy and regulation aimed at integrating environmental justice considerations into permitting, contracting, and other operational decision-making may jeopardize a company's ability to operate if unprepared.

In January 2021, an executive order required that environmental justice considerations be addressed by every federal agency, thereby launching the most ambitious environmental justice agenda undertaken at the federal level to date. The White House Environmental Justice Advisory Council and the White House Environmental Justice Interagency Council were subsequently created to oversee such efforts. An April 2023 executive order further directed the EPA and other federal agencies to focus on disproportionate policy impacts on low-income and other disadvantaged communities.

This federal focus has resulted in several funding mechanisms and directives:[14]

- **The American Rescue Plan Act of 2021 directed $100 million to the EPA to address health disparities from pollution and the COVID-19 pandemic.** It also designates $100 million to grants, contracts and other activities that identify and address disproportionate harms and risks on minority and low-income populations, and to monitor and improve air quality.
- **The Infrastructure Investment in Jobs Act of 2021 includes significant investments in environmental remediation**, including $21 billion to clean up Superfund and brownfield sites, reclaim abandoned mine land, and cap orphaned gas wells.
- **The Inflation Reduction Act, signed into law in August 2022, dedicates approximately $50 billion to environmental justice initiatives.** These include designated funding to: 1) expand community-based pollution monitoring efforts and increase access to fence-line emissions monitoring, 2) expand efforts to help communities better address the disproportionate and cumulative[i] impacts of pollution and climate change by reducing historic sources of pollution, 3) provide affordable and accessible sources of clean energy, and 4) support efforts to address quality of life issues.[15]

Federal attention on environmental justice has also resulted in regulatory action. For instance, the EPA has signaled that environmental justice will increasingly be a factor in access to permits, particularly as it relates to communities already dealing with "accumulated" impacts from pollution exposure. In 2022, EPA Administrator Michael Regan urged Chicago officials to deny a permit to a scrap metal recycling company in an area that was already burdened by 250 facilities, 75 of which were under investigation for violation of the Clean Air Act.[16] The permit application was ultimately denied.[17]

i Cumulative impact refers to the total exposure to pollution and environmental hazards that a single community may face from multiple sources. Addressing cumulative impact may require companies to expand their scope beyond any individual facility to consider the context in which that facility exists.

Government action on environmental justice often requires companies to:

- Implement new technologies to reduce emissions and pollution;
- Dedicate R&D spend to safer inputs and operational processes;
- Deploy capital to replace problematic inputs and processes;
- Establish more productive relationships with communities;
- Adhere to more complex logistical processes; and
- Compete with peers on environmental justice factors not previously considered.

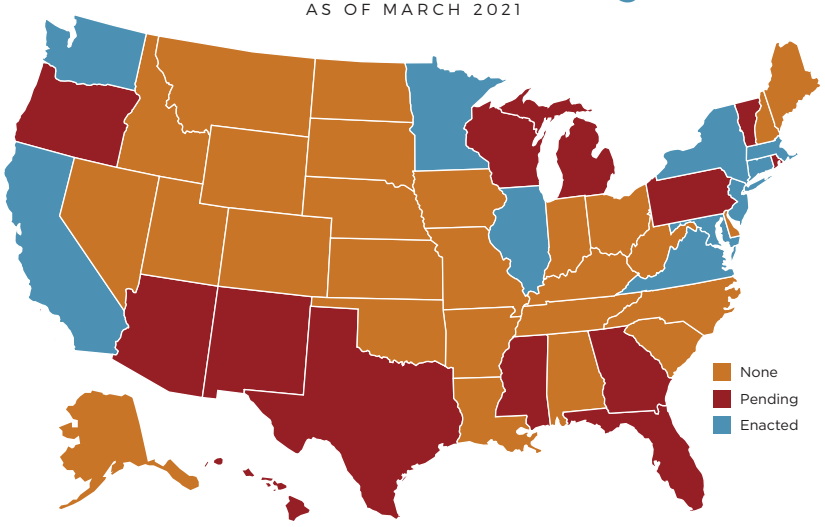
States have begun integrating environmental justice considerations into law, which are likely to withstand federal administration changes.

As of 2023, at least 19 U.S. states have enacted environmental justice legislation or executive orders, including California, New York, Pennsylvania, and Illinois.[ii] Exactly how environmental justice is addressed and incorporated varies by state, and includes the creation of dedicated state offices, commissions, and task forces; permitting and development reforms; cumulative impact assessment requirements; community engagement requirements; and the integration of environmental justice considerations into legislation spanning waste disposal, environmental cleanup, emissions, transportation, energy, housing, and workforce development.[18]

The strongest state law enacted thus far, New Jersey's Environmental Justice Law,[19] requires impacts on overburdened communities to be a deciding factor in major industrial permitting decisions. New Jersey's law also requires high-polluting facilities to address their cumulative human health impact, even if doing so falls outside the parameters of the permit in question.

State Environmental Justice Legislation[20]

AS OF MARCH 2021



Sources: Bloomberg Law and Bloomberg Government

ii As of 2023, states with enacted environmental justice legislation or executive orders include: CA, CO, CT, DE, HI, IL, MA, MD, ME, MI, NJ, NY, OR, PA, RI, SC, VA, VT, and WA.

Similarly, environmental justice performance may affect contracting decisions, especially for contracts with government agencies and municipalities. For example, Minnesota updated its Environmental Justice Framework in 2022 with new guidance for companies on best practice for community engagement. This includes expectations that companies involve environmental justice communities in decisions and actions that impact them and address these concerns early in the permitting process.[21] Cities including Houston, Texas have begun including environmental justice as a priority in long-term city development and planning, which can also affect contracting decisions.[22]

Companies that proactively integrate an environmental justice lens into measures taken now, in anticipation of evolving legislation, may be better positioned to comply with new regulation and compete under new expectations by avoiding urgent, costly changes and developing futureproof solutions that contribute to the longevity of their businesses.

Business Risk: Litigation

New technology and targeted funding are enabling communities to collect and assess localized pollution data that were previously difficult to obtain.

The emergence of low-cost sensors and government-funded community mapping tools has allowed the public to more easily measure and access data regarding pollution sources, concentrations, and subsequent health effects.

In 2015, the EPA released the first public version of a national environmental justice mapping and screening tool, known as the **EJScreen**, allowing anyone access to a nationally consistent dataset of environmental, demographic, and socioeconomic indicators for the first time. Since then, additional tools and datasets, including the **Climate and Economic Justice Screening Tool** and the **CDC's Environmental Justice Index** have been made available to the public. States, including Maryland, Wisconsin, and Vermont, have also developed their own environmental justice screening tools to inform decisions and increase awareness of communities with high accumulated risks.[23]

> **The University at Massachusetts' Political Economy Research Institute (PERI) uses government-reported data to publish annual lists of the country's most toxic corporate air[24] and water[25] polluters. Rankings are based on the chronic human health risks from air pollutants and water pollutants, respectively, released from company facilities, and are presented alongside an environmental justice profile for each company.**

Not only are citizen science initiatives being mobilized to collect environmental justice data, but frontline communities are becoming better funded to use these data to influence permitting and siting decisions. For instance, Bloomberg Philanthropies' Beyond Petro-chemicals campaign is investing $85 million into community-based environmental justice initiatives to block the expansion of over 120 proposed petrochemical and plastic projects.

This initiative will provide resources directly to community groups, enabling them to collect and use data to influence litigation, government policy, and public opinion.

With better data access and transparency, it may become easier to attribute health outcomes to pollution exposure from specific companies, increasing litigation risk.

Growing litigation risk imposes new costs on companies that do not proactively address environmental justice risks associated with the production, use, and pollution of hazardous chemicals.

The production, use, and disposal of chemicals of concern and hazardous chemicals have led to numerous high-profile controversies, including most recently around per- and poly-fluoroalkyl substances (PFAS), ethylene oxide (EtO), asbestos, and lead. Increased access to pollution data and the related disproportionate negative health outcomes in affected communities can bolster litigation and assist plaintiffs in establishing corporate liability.

Manufacturers and downstream users of PFAS, also known as "forever chemicals," are facing significant and growing liabilities due to the chemical's environmental persistence and toxicity to human health. Chemical manufacturer 3M reached a $10 billion settlement in June 2023 with over 300 U.S. public drinking water systems over PFAS contamination levels.[26] Facing legal pressure to address the harms caused by PFAS as early as 2010, 3M announced that it would begin phasing out the chemical in 2020, and in 2023, announced that it would end all PFAS production by year-end 2025. However, its delay in addressing harms and adopting safer substitutes for its PFAS product portfolio is likely to continue to cost the company. Meanwhile, DuPont and its spin-offs reached a $4 billion settlement to resolve PFAS liability issues in 2021.[27]

Forthcoming EPA actions, including the expected designation of PFAS as a hazardous substance and a new drinking water rule that will reduce allowed PFAS concentrations, indicate that these initial liabilities are only the beginning. Litigation is expected to significantly increase across three main categories in the coming years: drinking water contamination, direct and indirect CERCLA costs, and personal injury claims related to contamination exposure and resulting health impacts. A *Time Magazine* analysis concluded that PFAS lawsuits may eclipse the $200 billion paid by the Big Tobacco Settlement.[28] UBS estimates that the total market capitalization of companies who will be impacted by PFAS regulations is an estimated US $30 trillion.[29]

"The lesson from these giant fines and penalties is clear: **the era of tolerance for corporate crime has ended and going back to business-as-usual is not an option**. Public and media attention, programs that reward whistleblowers, and multi-jurisdictional information sharing by national enforcement agencies means that global companies are under more regulatory scrutiny than ever before."[30]

– THE BIGGEST CORPORATE FINES IN HISTORY AND HOW THEY CHANGED BUSINESS, MANAGEMENT TODAY, 2019

According to a Swedish-based NGO, ChemSec, PFAS represented only 0.5% of total chemical production globally in 2022. Yet, the group estimates that the societal cost of using PFAS across the global economy totals $17.5 trillion annually. Factoring in these societal costs, the price of PFAS increases from its market price of approximately $21/kg to $20,457/kg.[31]

Evidence of cancer hotspots in industrial areas, which are often in communities of color, have been found to be clustered around facilities emitting EtO, a cancer-causing chemical used in a variety of processes including medical device sterilization.[32] The EPA is in the process of updating standards for facilities that emit EtO, which, if enacted, will greatly increase community transparency on pollution levels. This follows years of growing tensions, including forced plant closures due to elevated EtO emissions and a new requirement for facilities to track and report EtO emissions. In August 2022, the EPA published a list of 23 high-risk sterilization facilities that pose elevated cancer and health risk to nearby communities. Soon after, a jury ordered Sterigenics, an industrial sterilization company owned by Sotera Health, to pay an individual $363 million for cancer caused by long-term exposure to EtO from a sterilization plant that closed in 2019.[33] Months later, Sterigenics settled more than 870 lawsuits against the same plant for $408 million.[34] Sotera Health's stock price dropped almost 50% following the news of the first lawsuit.

Other examples demonstrate how companies that fail to act proactively, or that are slow to address harmful impacts, make themselves vulnerable to litigation and loss of trust. Johnson & Johnson chose to not decisively act on evidence of the presence of asbestos in its signature baby powder product for decades, a decision that may cost the company upwards of $9 billion after it tried and failed to limit the financial cost through a bankruptcy maneuver, which was rejected in federal court.[35] The company was sued in 2021 for deceptive marketing toward Black women despite internal concerns that the product might be harmful, leading to a $2.1 billion settlement.[36] The company ultimately discontinued the product in 2020. Once a trusted brand, Johnson & Johnson's reputation has fallen considerably, demonstrating the compounding nature of reputational, litigation, and business risks.[37]

AT&T, Verizon, and other telecom companies are grappling with lawsuits after a July 2023 *Wall Street Journal* article uncovered the companies' continued reliance on lead cables across the U.S., which may be poisoning communities living in their vicinity.[38]

The increasing probability of facilities being damaged in extreme weather events can lead to costly, unintentional releases of chemical pollution into fenceline communities.

Extreme weather events and other climate impacts are exacerbating pollution impacts in communities, particularly as facilities release fuels and chemicals before shutting down and/or pollution controls fail. Such disasters expose companies to litigation and fines and may increase the price point for underwriting insurance and loans, making environmental justice a compounding factor in rising rates. For refineries and chemical companies that have records of controversies and/or accidents, for instance, insurance rates for property damage and business disruptions have risen in some cases by 100%.[39]

When a tornado touched down in Texas in 2023, power outages disrupted pollution control technology in one refinery neighborhood.[40] At least seven refineries and chemical plants discharged known toxins, such as benzene and nitrogen oxides, into local communities.[41] Similar instances have occurred in the past, leading the EPA to publish a report in 2019 citing the need for improvements in emergency planning to better address air quality concerns during disasters.[42]

With more conclusive science and data, governments and civil courts are imposing larger fines for corporate wrongdoing. Experts are noting that this is fundamentally changing business as usual. Given trends on regulation, litigation, and public concern, companies that design out pollution and waste in their production processes and products will benefit from a playing field that favors safer, more sustainable chemistries.

Business Risk: Community Resistance, Controversy, and Reputation

A company's reputation in the communities in which it operates can impact its social and legal license to operate, while brand damage from controversy can threaten shareholder value.

A study by Deloitte and Forbes Insights noted brand reputation as the highest strategic risk area for a company, finding that it ranks above factors like business model, competition, and impact of economic trends.[43] In fact, most large companies' intangible value now far exceeds its tangible value by a factor of 9 to 1.[44]

Environmental injustice created or perpetuated by a company can jeopardize its reputation, lessening its intangible value. As the mainstream appetite for coverage of environmental justice and other social equity topics grows, and with social media lending global platforms to individuals, reputational harm sparked by controversy can carry more financial weight and business risk than it has in the past.

"**(Reputational damage) harms client and investor trust, erodes your customer base and hinders sales.** A poor reputation also correlates with increased costs for hiring and retention which degrades operating margins and prevents higher returns. Furthermore, reputation damage increases liquidity risk which impacts stock price and ultimately slashes market capitalization."[45]

— **REPUTATION MANAGEMENT, AS QUOTED BY SCOTT BAMFORD, MITRATECH HOLDINGS, INC.**

Community resistance can also directly disrupt operations by affecting permitting and contracting decisions. In late 2022, a campaign by local activists in St. James Parish, Louisiana (colloquially known as Cancer Alley[iii]) stalled the building of a $9.4 billion plastics and petrochemical industrial complex by Formosa Plastics, one of the world's largest plastics producers. A judge canceled the air permits for Formosa's "Sunshine Project" on the grounds of environmental justice concerns, recognizing that the permits would have allowed Formosa to emit more than 800 tons per year of toxic pollution into a predominantly Black, low-income community.[46] Formosa is leveraging all legal options to move forward with the plastics factory despite known risks.[47]

Residents of St. James have since filed a landmark federal lawsuit against St. James Parish raising allegations of civil rights and environmental justice violations. Residents are seeking remedies for injustice, invalidation of permits for factories underway, and changes to land use regulations that currently allow for placement of polluting factories in Black districts.[48] While a federal judge dismissed the lawsuit in late 2023 on procedural grounds, the decision stated that ". . . this court cannot say that [plaintiffs'] claims lack a basis in fact or rely on a meritless legal theory." Plaintiffs are likely to appeal.[49]

"**ESG controversies can be especially costly and long lived, and even highly regarded companies are subject to such reputational risk**. In fact, we estimate more than $600bn of market cap for S&P 500 companies has been lost to "ESG controversies," such as data privacy issues or governance failures, in the last seven years alone. And controversies are a long-lived overhang—the average stock doesn't recover from a controversy until almost a year has passed, based on our analysis of recent controversies for S&P 500 companies. So, we think investors of all stripes—not just ESG-focused investors—can use ESG controversy data to better manage risk."[50]

– SAVITA SUBRAMANIAN, HEAD OF ESG RESEARCH AT BANK OF AMERICA SECURITIES

iii Cancer Alley is a stretch of the Mississippi River home to more than 150 oil refineries, plastics plants, and chemical facilities where low-income Black and Brown fenceline communities bear a disproportionate burden from increased risks to diseases such as cancer. https://law.tulane.edu/news/tulane-study-louisianas-severe-air-pollution-linked-dozens-cancer-cases-each-year

Conclusion

Many companies and investors alike have long considered the consequences of community exposure to pollution and toxic substances resulting from business operations to be an economic externality, and thus lacking financial materiality. Increasingly, these externalities are being internalized, whether through policy and regulation, litigation, community resistance, or headline and brand risk.

Companies that meaningfully and proactively address environmental justice risks to, and from, their operations may be better positioned to compete and succeed in an evolving regulatory and competitive environment. Integrating environmental justice into business strategies can uncover blind spots and futureproof solutions, aiding in operational efficiency and resiliency, community relations, and long-term business sustainability.

Furthermore, transparency into a company's management of environmental justice risks can support investors in making more informed risk assessments and investment decisions, thereby better preserving long-term shareholder value.

A 2023 paper detailing the investment case for sustainable chemistry outlines the business benefits as well as case examples of companies positioning themselves for competitive advantage in this space.[iv]

For more information on investor efforts to address environmental justice, please visit www.iehn.org.

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DISCLAIMER

The views and analysis presented in this document do not necessarily represent the positions or perspectives of every member of the Investor Working Group, IEHN, ICCR, or the contributors and firms noted above.

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INVESTOR ENVIRONMENTAL HEALTH NETWORK

A project of Clean Production Action, the Investor Environmental Health Network (IEHN) is a leadership network of investors reducing the financial risks of chemical pollution while leveraging the economic value of green chemistry.

www.iehn.org

Clean Production Action

Clean Production Action designs and delivers strategic solutions for green chemicals, sustainable materials and environmentally preferable products.

www.cleanproduction.org