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INVESTING IN ENVIRONMENTAL AND CLIMATE JUSTICE



Houston Ship Channel. Image: Subcontractors USA

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Manager: Holly Sullivan

Deputy Manager: Julia-Grace Sanders

Team:

Kasturi Thorat	Hannah Harasaki
Eirlys Chui	Bevin Pan
Matteo Chiadò Piat	Morgan Lehman
Courtney Federico	Xinran Wu
Carrie Fernandes	

Report design and layout by Eirlys Chui and Kasturi Thorat.

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GLOSSARY

AUM - Assets Under Management

B2B - Business-to-Business

CAI - Climate Accountability Institute

CDP - Measures companies' environmental sustainability and provides a carbon disclosure rating

CJ - Climate Justice

DCP - Department of City Planning

EACOP - East African Crude Oil Pipeline

ECJ - Environmental and Climate Justice

EDF - Environmental Defense Fund

EPA - Environmental Protection Agency

EJ - Environmental Justice

ESG - Environment, Social, and Governance

EV - Electric Vehicle

FSB - Financial Stability Board

G7 - An intergovernmental political forum

GHG - Greenhouse Gas

GRI - Global Reporting Index

IPCC - Intergovernmental Panel on Climate Change

ISSB - International Sustainability Standards Board standards

Material - The importance or relevance of a metric to a company's finances

MHD - Medium- and Heavy-Duty

MPA-ESP - Master of Public Administration in Environmental Science and Policy, Columbia University

MSP - Maritime Shipping Provider

MSU - Maritime Shipping User

PRI - Principles for Responsible Investment

Risk - Threats to the stability of a company

ROI - Return on Investment

SBTi - Science Based Targets initiative

SEC - U.S. Securities and Exchange Commission

SIPA - School of International and Public Affairs, Columbia University

TCFD - Task Force on Climate-related Financial Disclosures

WBA - World Benchmarking Alliance

EXECUTIVE SUMMARY

The Environmental Defense Fund's EDF + Business branch deploys science, policy, and economic expertise to cultivate partnerships that catalyze environmental leadership and collaboration across companies and supply chains. The Sustainable Finance team at EDF advances this goal by encouraging capital toward projects with good environmental, social, and governance (ESG) investing. EDF's vision is that by 2025, leading investors will compete to promote climate leaders and scale investments in green solutions. EDF looks to incorporate diverse environmental and climate justice (ECJ) priorities into its investor engagement advocacy work. While ECJ is a crucial aspect of sustainability practices, the EDF team seeks additional tools and research to translate ECJ-ESG considerations into material risks **understood**, **appreciated**, and **acted upon** by investors. Therefore, EDF asked our team from Columbia University's Master of Public Administration in Environmental Science and Policy (MPA-ESP) program to further integrate environmental and climate justice into EDF's work to bring it to the forefront of conversations with investors. This project culminates in:

- A **review of ECJ definitions** and the development of a **common understanding** of ECJ
- A **comprehensive slide deck to use with potential investors** (talking points, case studies, and quantitative/qualitative analysis of ECJ considerations)
- **Recommendations** to EDF for engaging investors more fully in ECJ conversations

The results of this collaboration between our team and EDF are grounded in findings from research, interviews, and data analysis. Guided by a risk framework that incorporates regulatory, reputational, and transition risk, we provide recommendations for three priority EDF workstreams—transportation, finance & banks, and oil & gas—on how to effectively communicate to investors the risks and opportunities of ESG considerations. These recommendations include highlighting the importance of quantifying insights to investors and garnering policy support to improve impacts on local communities. Furthermore, we advise that investors prioritize risk management to monitor regulation and actively engage all stakeholders to reduce ECJ risks, as well as promote innovation and adaptation to help ensure a just and sustainable future. We hope that these recommendations can support EDF's existing efforts to facilitate informed decision-making on where capital allocation best aligns with investors' values to make a positive impact on communities.

INTRODUCTION

The concept that ESG can guide investment decisions has catapulted into the mainstream financial sector in recent years, driven by growing concerns about climate change, social inequality, and corporate misconduct. The case for ESG's value as an investment approach is clear: by adopting reporting standards, corporations can reduce the risk of regulatory fines, lawsuits, or reputational damage resulting from poor environmental, labor, and equity practices. Investors have accepted ESG's relevance: by 2050, Global ESG assets are projected to exceed \$50 trillion, representing more than a third of the projected total global assets under management (Taraldsen, 2021).

Current ESG frameworks provide a starting point for considering social risk—but they do not yet fully engage the different environmental and climate injustices in communities resulting from certain corporate activities. The “S” factors of widely-used voluntary frameworks and 2022 U.S. Securities and Exchange Commission (SEC) disclosure requirements assess inward-focused corporate labor and management practices but do not yet look externally at a company's effects on communities, and thus may expose corporations and their investors to growing social risks (Saul, n.d.).

For example, in Europe, mounting lawsuits against the French company TotalEnergies demonstrate this disconnect between ESG and implementing ECJ. The company, despite voluntary alignment with the Task Force on Climate-related Financial Disclosures (TCFD), a leading ESG disclosure tool, faced a 2022 lawsuit from the French government and a resolution by the European Parliament criticizing environmental and human rights violations caused by its new East African Crude Oil Pipeline through Uganda and Tanzania (Hill et al., 2021). Beyond litigation costs, TotalEnergies has faced demonstrations in front of its headquarters, disrupted annual meetings, and calls for civil disobedience (Garrić, 2022).

This case, and others like it, raises the question: **how can investors be encouraged to incorporate justice and equity into their investment strategies?** EDF asked our team of Columbia University MPA-ESP graduate consultants to translate environmental and climate injustices into material risks that investors can understand, care about, and act upon.

Through a literature review and interviews with experts from academia, industry, advocacy groups, and civil society, we conducted a landscape analysis of environmental and climate injustices in three economic sectors: transportation, finance & banks, and oil & gas. Based on this research, the team developed a comprehensive definition of Environmental and Climate Justice (ECJ) and explored the ramifications of injustice on business success. This research suggests the incorporation of ECJ into business practices can mitigate social risk, uncover opportunities, and bolster business stability.

The following report connects environmental and climate injustices to three categories of financial risk well-established in the financial industry: regulatory, reputational, and transition. This framework informs our recommendations of why and how investors should consider ECJ in their decision-making. Our interviews suggest most investors attribute a lack of emphasis on ECJ to the shortage of standardized data and metrics to measure such practices. It is no wonder—a statistical analysis of corporate social responsibility ratings by New York University found gaping disparities between social indicators among common ESG frameworks, reflecting the challenge of distilling social values across sectors and cultures. According to that research, only 8% of “S” ratings measure the external impact of company practice, while 92% measure internal company practices like diversity, equity, and inclusion policies and training programs. The frameworks capture what is easy to quantify, but miss the outward impact that creates injustice (Ruggie, 2019; Quick, n.d). Investors have an exciting opportunity to increase the ECJ component of their portfolio decision-making process. The following research illustrates the financial materiality of ECJ, then provides recommendations to help investors incorporate ECJ into ESG investing practices—including a suggested starting point for standardizing “S” metrics.

In June 2021, the United Nations Working Group on Business and Human Rights found that while many financial actors increasingly recognize their responsibility to respect human rights, they are interested in how these factors are relevant to investment returns (Ruggie, 2019). The report identified human rights as an essential component of environmental and climate justice and explored the material financial risk of leaving these issues unaddressed in investment strategy. EDF, as a leader in the sustainability field with relationships across private and public entities, has the opportunity to show how integrating community impact and engagement into business decisions makes good business sense. Our recommendations may help investors build portfolios free from unjust harms to local communities.

METHODOLOGY

Our research methodology (see Figure 1) focused on three investment categories of interest to EDF: transportation, finance & banks, and oil & gas—and examined how environmental and climate justice intersects with each. The team identified and interviewed key stakeholders to inform the development of a common understanding of ECJ and its application to each workstream. The research incorporated:

- Peer-reviewed academic literature and reputable news sources
- 5 sector-specific case studies
- 20 primary interviews representing industry, academia, and advocacy organizations
- Well-established ESG reporting frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD), the Global Reporting Index (GRI), and the International Sustainability Standards Board standards (ISSB)

We created a slide deck for use in investor communications, with talking points and quantitative/qualitative analysis of ECJ considerations for the three priority EDF workstreams. A combination of frameworks and case studies highlighting ECJ issues helped the team recommend strategies for quantifying risk and engaging investors in environmental justice conversations to bolster investor engagement advocacy.

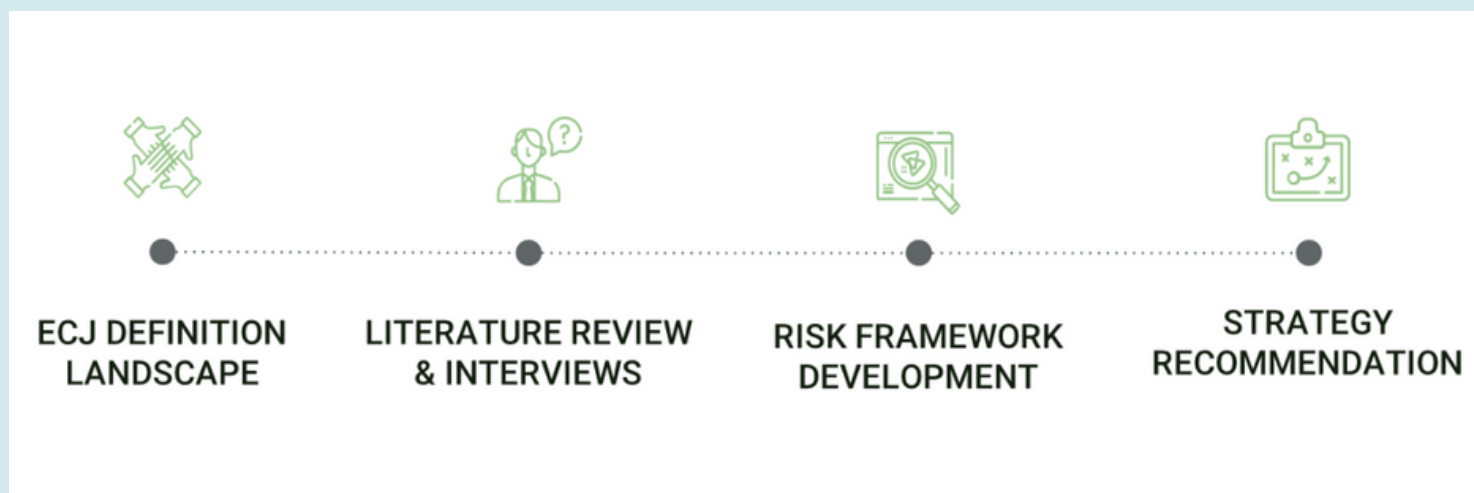


Figure 1. Our research methodology

ENVIRONMENTAL AND CLIMATE JUSTICE DEFINITION ANALYSIS

Although EDF has a working definition of ECJ, we reviewed other definitions to understand prevalent themes. The following definition of ECJ is informed by a review of the historical context of the environmental and climate justice movement, the current political climate, existing regulations and legislation, and the relationship between ECJ and ESG investing. Through our analysis (see Figure 2), we categorized key recurring themes from academic literature, online sources, and interviews to create a definition that integrates common threads (see Figure 3). This definition has the potential to reach a broader set of stakeholders and foster investor engagement through its greater focus on socio-ecological injustices.

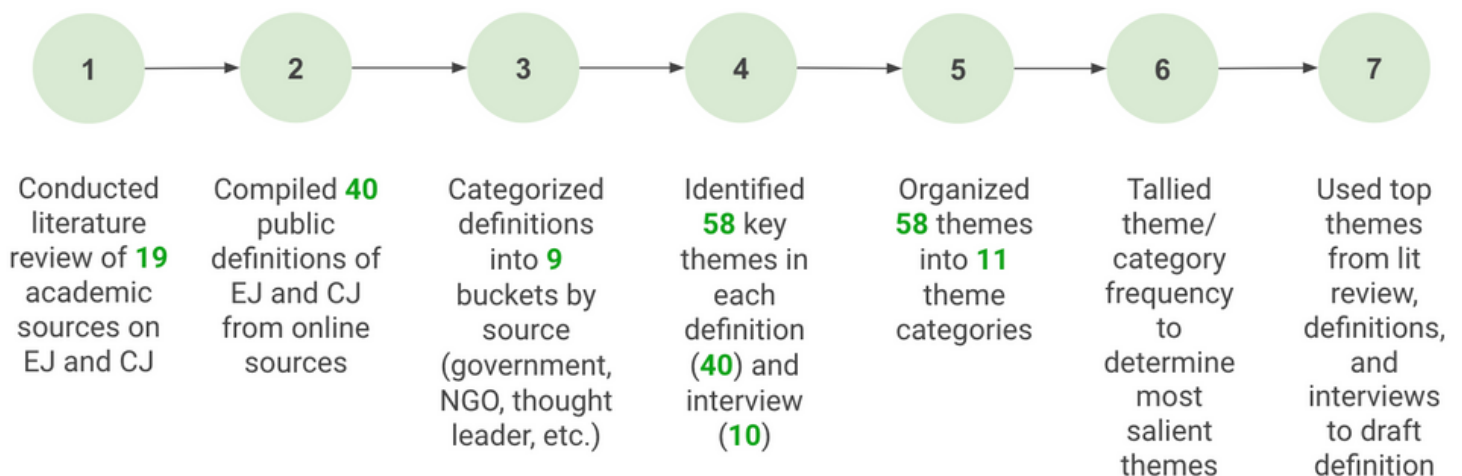


Figure 2. Workflow for ECJ definition analysis

ECJ DEFINITION AT EDF

“Environmental Justice means remedying environmental harms that have been purposefully or incidentally imposed on specific communities and preventing similar injustices from happening in the future” (EDF, n.d.).

SYNTHESIZED ECJ DEFINITION

“Environmental and climate justice is the protection of human rights through the equitable distribution of environmental and climate benefits—such as health and safety—and harms—such as pollution and climate change impacts—through engagement, inclusive decision-making, and the implementation and enforcement of policies.”

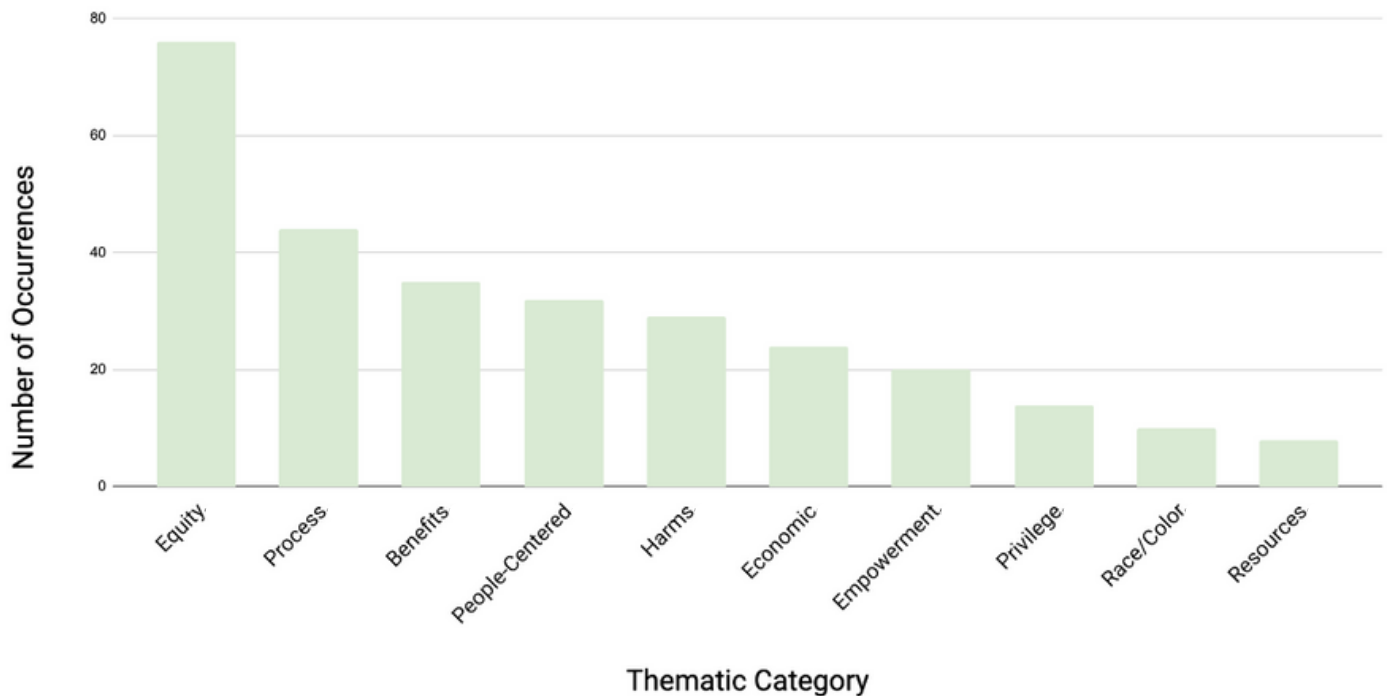


Figure 3. Most Prevalent Thematic Categories in ECJ Definitions

ENVIRONMENTAL AND CLIMATE JUSTICE

A key component of EDF's mission is to protect fundamental human rights by "pursuing solutions that advance justice and that end a pattern of abuse and inequity." EDF seeks to confront racism and oppressive systems and eliminate root causes of injustice through the context of its work by prioritizing input from impacted communities (EDF, n.d.). EDF sees an opportunity to further its ECJ progress by prompting investors in key sectors to consider ECJ issues as material risks and take action toward environmental equity. Given the overlaps between environmental justice and climate justice (see Figure 4), there are often misalignments and differences in definitions. As such, EDF tasked the team to synthesize existing ECJ definitions and shed light on how EJ and CJ may be understood together.

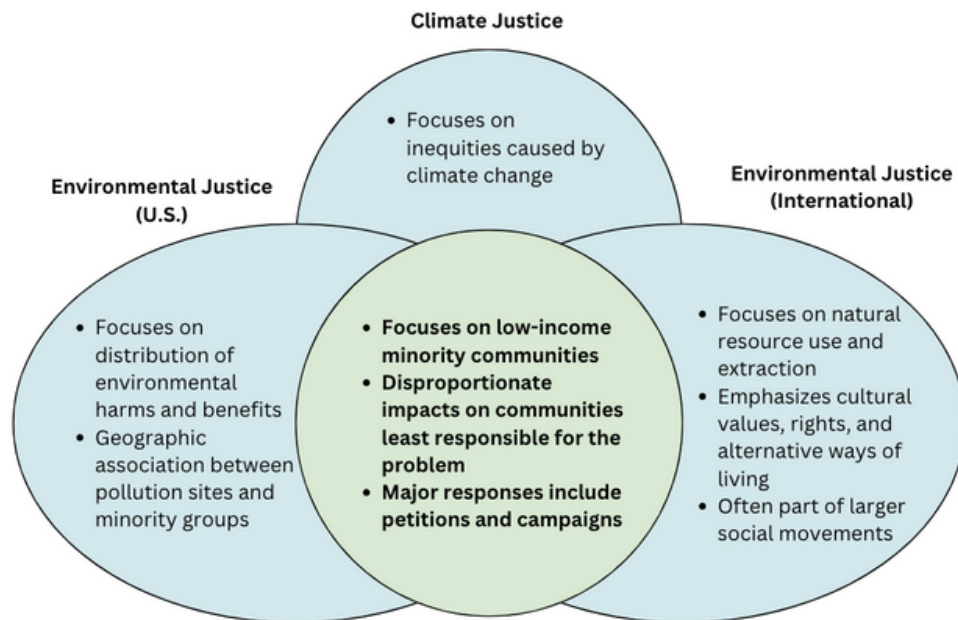


Figure 4. Venn diagram showing common themes in environmental and climate justice

Despite the increase of financial products and services catering to ESG, corporate engagement remains a challenge due to varying definitions of what "ECJ communities" encompass as well as unclear prioritization by investors. In addition, ESG criteria are presently unregulated in the U.S., meaning corporations can use their own standards for data collection, analysis, and communication with stakeholders. ESG is therefore often misunderstood, misused, and/or disregarded. Considering the scale of this rapidly growing sector, clarity and guidance are required to align regulators, investors, corporations, and the general public. With ESG-relevant risks increasingly influencing investors' decision-making, the demand for accurate ESG information is soaring. Integrating ECJ considerations is thus a significant opportunity to make ESG more impactful for businesses.

RISK FRAMEWORKS

Traditional approaches to risk management have been upended by climate change. Transition risks, which can intersect with regulatory and reputational risks (see Figure 5), are associated with the shift to a low-carbon economy, such as changes in policy and regulation. Changes in consumer preferences and losing consumer and public trust are also risks that fall under climate-related transition issues for businesses. Transition risks affect different sectors and companies depending on their exposure to carbon-intensive activities and adaptability to a changing environment. These may include:

- Reputational risks due to concerns over the environmental impact of fossil fuels and climate change.
- Increased competition from low-carbon technologies and energy sources, such as renewable energy, that can displace fossil fuels.
- Stranded assets, or the risk of investments in fossil fuel reserves becoming uneconomical or worthless due to the transition to a low-carbon economy.
- Changes in demand for fossil fuels due to policies and regulations aimed at reducing greenhouse gas emissions (Krane, 2017).

When companies intentionally or inadvertently omit ECJ considerations from their business strategies and sustainability reporting, they risk additional repercussions, including increased liability and litigation which can ultimately affect their firm's reputation, consumer trust, and bottom line. Individual firms may face increased scrutiny from investors, employees, customers, and the general public, who may demand they reduce more than just their direct emissions and environmental harms.

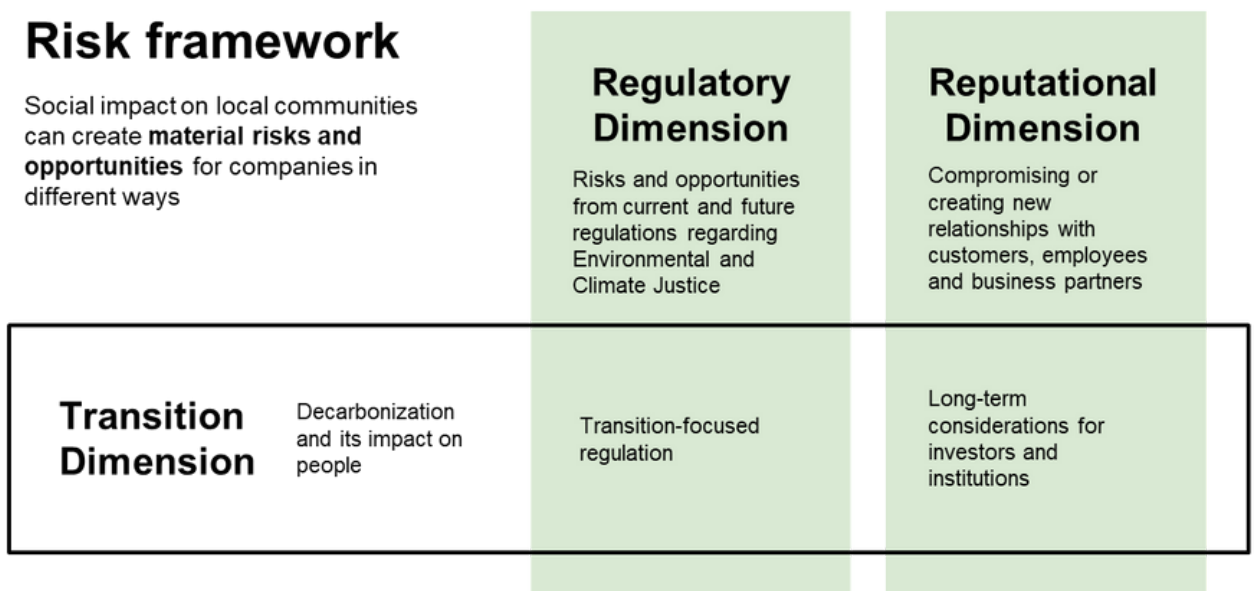


Figure 5. Risk framework integrating regulatory, reputational, and transition risk

TCFD AS A DISCLOSURE TOOL

The Financial Stability Board (FSB), an international body that monitors and makes recommendations about the global financial system, created the Task Force on Climate-related Financial Disclosures (TCFD) in 2017. The TCFD asks companies to disclose information on their climate-related risks and opportunities in the areas of governance, strategy, risk management, and metrics and targets. This framework encourages companies to provide information on the potential financial impacts of these risks and their plans for managing them so investors and stakeholders can better assess the company's exposure to climate-related risks and opportunities and its ability to transition to a low-carbon economy (Beerbaum, 2021). With ESG investments on the rise (see Figure 6), adopting such reporting standards can be integral to guiding investment decisions.

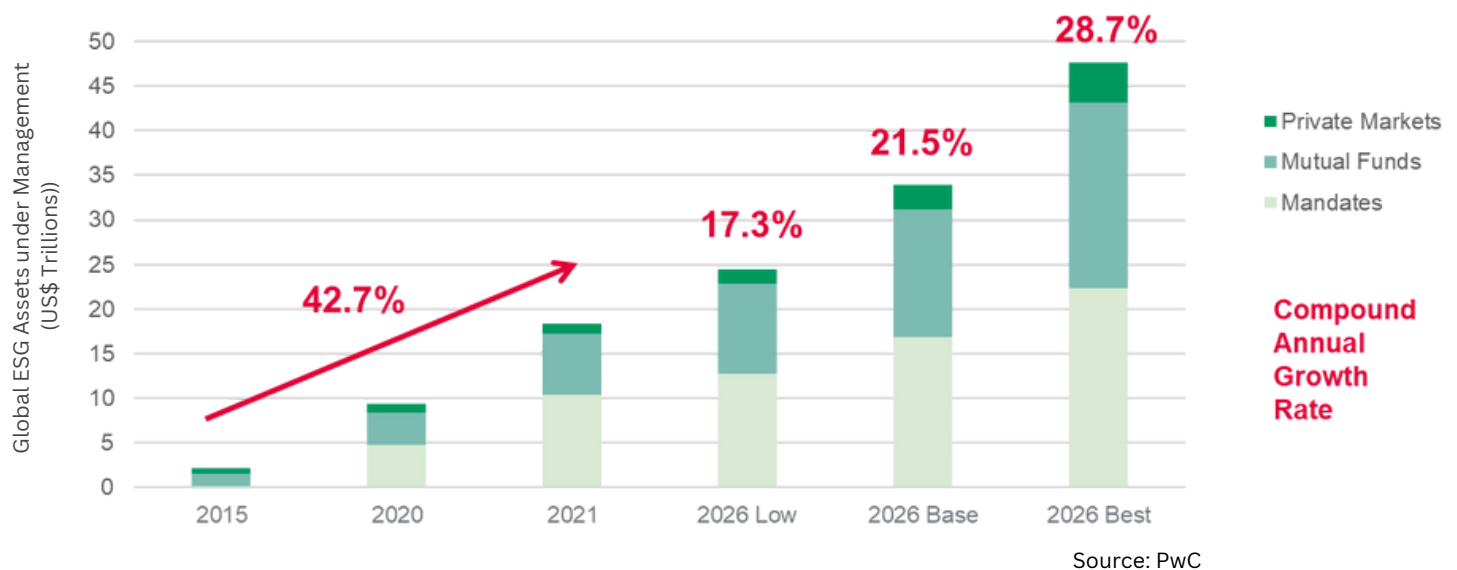


Figure 6. Historical and Projected Global ESG Assets

This project examines case studies through the lens of the TCFD framework to explain how climate-related risks can impact the organization's ability to create value. TCFD's influence is important given that it was started by and backed by governments. In June 2021, G7 endorsed making TCFD reporting mandatory, and the UN's Principles for Responsible Investment (PRI)—the world's largest ESG guidance framework—has endorsed TCFD-aligned reporting since 2020. Furthermore, its publication instigated a movement where C-Suite executives began to pay greater attention to these issues.

CASE STUDY: HOLCIM AND PULAU PARI

While aspects of environmental and climate justice overlap with ESG frameworks, existing enforcement mechanisms are insufficient to prevent environmental and climate injustices. For example, the Swiss cement company Holcim set the ambitious goal to decrease its carbon emissions by 43% by 2030 and 69% by 2040 compared to its 2019 emissions (Bertrand, 2023). These goals were approved by the Science Based Targets initiative (SBTi), and Holcim has been called a “sustainability leader” (Slavin, 2023).

Despite its intent to reduce emissions, however, the company is nevertheless facing a lawsuit by residents of the Indonesian island, Pulau Pari, over its contribution to global climate change and sea level rise (Slavin, 2023). Holcim, as the global market leader in the cement industry, is being targeted because of its contributions to greenhouse gas emissions. Indeed, Holcim is one of the top 50 largest CO₂ emitters of companies worldwide (Friends of the Earth International, 2023). Holcim’s current climate targets and business strategy are not in alignment with the goal established in the Paris Climate Agreement to limit global warming to 1.5 °C.

In addition, the SBTi methodology has been criticized for reinforcing the status quo by neglecting important considerations including equity principles, particularly historical responsibility and economic capability of large polluters (HEKS/EPER, 2023). The four Pulau Pari residents spearheading this suit against Holcim on behalf of their island seek compensation, funds for increased flood protection, and a commitment from Holcim to rapidly reduce its greenhouse gas emissions and be accountable to the millions—mainly in the Global South—threatened by climate change (Friends of the Earth International, 2023). This example suggests that even corporations that strive to uphold ESG standards may be held responsible for committing environmental and climate injustices.



POLICY ANALYSIS OF RECENT LEGISLATION

Emerging ESG and ECJ policy trends seek to protect vulnerable communities from the burdens of environmental harm (see Table 1). Presently, no cohesive framework exists to guide investment practices that confront the root causes of injustice (Reynolds and Ciplet, 2023). The U.S. SEC's pending recommendations on climate change disclosures are informed by and consistent with recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and are intended to provide standardization on ESG reporting and disclosure requirements. The pending SEC proposals are:

- **'Issuer Rule'**: Requires companies to disclose climate-related risks likely to have material financial impact on their business and operations as part of their periodic reports and financial statements. Essentially, the rule establishes guidelines on climate-related disclosures, requires GHG emissions reporting, and aids investors in making informed decisions based on climate risks. This will impact investors by allowing them to see company disclosures about environmental, social, and governance risks (SEC, 2022).
- **'Investor Rule'**: Requires investors, advisors, and business development companies to provide information on ESG practices. The proposal establishes much-needed transparency and accountability in ESG investing by requiring specific disclosures and proof that supports ESG impact claims (SEC, 2022).

There are also current U.S. domestic efforts to prioritize and advance environmental and climate justice through regulation. These include:

- **Executive Order 14008: Tackling the Climate Crisis at Home and Abroad** (January 27, 2021): Places climate change at the forefront of foreign policy and national security planning and emphasizes a whole-of-government approach to environmental justice.
- **Executive Order 14030: Climate-Related Financial Risk** (May 20, 2022): Explicitly connects ECJ and ESG to develop a government-wide strategy to identify and disclose climate-related financial risks to government programs while also "accounting for and addressing disparate impacts on disadvantaged communities and communities of color" (Redd et al., 2021).

In addition to U.S.-focused legislation that seeks to prevent environmental and climate injustice, European nations are implementing laws focused on social impacts based on the UN Guiding Principles on Business and Human Rights. Under these guidelines, businesses are required to 1) commit to protecting human rights, 2) regularly assess corporations' human rights impacts, 3) integrate commitment and results of assessment throughout business practices, and 4) monitor and report data (Chambers, 2023). France, Germany, and Norway have all passed laws based on these guidelines. The establishment of these laws gives regulatory backing to the "social" element of ESG, providing clear guidance to businesses about how to justly operate in a community. While it will take time to see the impact of these regulations, they signal a shift toward greater integration of ECJ considerations into ESG frameworks and strategies.

CURRENT AND PROPOSED ENVIRONMENTAL AND CLIMATE JUSTICE RELATED POLICIES WORLDWIDE

NORTH AMERICA	EUROPE	ASIA-PACIFIC
IN FORCE		
California Transparency in Supply Chains Act 2010	EU Non-financial Reporting Directive	Australian Modern Slavery Act 2018
U.S. Dodd-Frank Act Section 1502 (Conflict Minerals Rule)	EU Conflict Minerals Regulation	Hong Kong Stock Exchange ESG Reporting Requirements
U.S. Federal Acquisition Regulation: Ending Trafficking in Persons	French Corporate Duty of Vigilance Law	Singapore Prevention of Human Trafficking Act
U.S. SEC Guidance Regarding Disclosure Related to Climate Change	UK Modern Slavery Act	
PROPOSED (NOT YET EFFECTIVE)		
Canadian Modern Slavery Act and Amendment to Customs Tariff	Dutch Child Labour Due Diligence Act 2019	Hong Kong Modern Slavery Bill 2017
Updated SEC Guidance Regarding Disclosure Related to Climate Change	EU Corporate Due Diligence and Corporate Accountability Directive	New South Wales Modern Slavery Act 2018
	EU Non-financial Reporting Directive (Amended as Corporate Sustainability Reporting Directive)	New Zealand Climate Risk Reporting
	German Legislation on Corporate Due Diligence in Supply Chains	
	Swiss Responsible Business Initiative	
	UK Climate-Related Financial Disclosures	

Table 1. Redesigned based on: Addressing environmental justice as part of ESG initiatives (Redd, Halliday, & Glickstein, 2021).

TRANSPORTATION

At EDF, the Sustainable Finance team focuses on investors with the capital power to affect the behavior of commercial freight carriers and shippers (excluding private vehicles). Carriers are the vehicle owners and operators who manage commercial fleets, which presents an opportunity to choose low-emission vehicles. Shippers are enterprises that rely heavily on the carriers for the delivery of their products (Howell & Malek, 2022).

Within the transportation sector, prevalent injustices include air pollution and the disproportionate public health impacts of freight transportation on vulnerable communities near major transportation hubs. Transitioning to clean freight transportation can paradoxically further the negative impacts on these vulnerable communities (see ECJ in Transportation section). The freight and carrier transportation industries are largely divided into the following subcategories:

Trucking: According to the American Trucking Association, the trucking industry moves 72% of U.S. goods. The key stakeholders in this sector are the shippers, receivers, carriers, and agents. Our project focuses on medium- and heavy-duty trucks because of their significant presence and impact in the industry.

Maritime Industry: The maritime industry consists of the maritime shipping providers (MSPs), their customers (the maritime shipping users, or MSUs), and the on-shore infrastructure (i.e. shipyards, ports, and fuel producers). Notably for our research, the MSPs have the ability to influence the shipping infrastructure to innovate and consider social justice policies. As an example, the Clean Ports Programs in the Inflation Reduction Act includes \$3 billion in incentives towards zero emissions port equipment. Both ports, often run by municipalities, and their private partners can apply together for these grants (Nunez & Davenport, 2023).

Aviation: Similarly to the maritime industry, domestic aviation includes airplane manufacturers, commercial and shipping airlines, their customers, and the on-ground infrastructure involved (airports and fuel producers).

Railway: Railway freight accounts for less than 2% of transportation greenhouse gas emissions (Federal Railroad Association, 2022). This sector was not a focus of our project due to time constraints.

ECJ IN TRANSPORTATION

While the transportation industry is currently undergoing a radical transformation in conjunction with the energy transition away from fossil fuels, ECJ concerns are also evolving.

Trucking: The medium- and heavy-duty (MHD) trucking industry is responsible for a quarter of transport-related GHG emissions. Truck warehouses and highways are usually located near low-income areas, worsening the air pollution burden. EDF's Proximity Mapping tool integrates socioeconomic factors and truck warehouse locations to visualize the disproportionate proximity of low-income communities to warehouses (Nowlan, 2022). In the U.S., more than 20,000 premature deaths occur annually due to pollution from highway vehicles (Howell & Malek, 2022). Particulate matter and toxic fumes from MHD trucks pose serious health risks such as asthma, cardiac attack, and chronic bronchitis. In August 2021, EPA launched the Clean Trucks Plan to increase regulation on MHD trucks to reduce GHG emissions (US EPA, 2021).

Maritime Industry: Coastal ports affect the living standards of the areas around them. The industry therefore faces regulatory risks, as well as risks of litigation and therefore delays in development. A study using the U.S. Environmental Protection Agency's EJScreen tool found that communities living within two miles of ports commonly qualify as low-income, have less formal education, and include primarily minority populations (Greenberg, 2021). These communities are closer to hazardous waste sites and are more exposed to toxic chemicals and air pollution, additionally exacerbated by the increased trucking traffic. The EPA recommends strategies of community engagement in order to address common problems between local groups and ports, and offers successful examples such as the Baltimore Port Alliance and the Harbor Community Benefit Foundation in Los Angeles (US EPA, 2019).

Aviation: The aviation industry, similar to the maritime sector, mostly impacts communities surrounding the major airline hubs. Air pollution (NOx's and particulate matter) and noise pollution cause negative health effects (Bendtsen et al., 2021). Although only 10% of transportation emissions come from aviation, the largest portion of emissions is caused by a small number of high-income people. Identifying communities suffering from this phenomenon is particularly difficult, as most emissions happen at high altitude (Brasseur et al., 2016).

ECJ IN TRANSPORTATION

Potential injustices caused by the energy transition: As decarbonization gains more traction, it is critical to assess the negative impacts that this transition has on vulnerable populations. For instance, the mining of rare materials for electric vehicle (EV) batteries is under scrutiny for the effects on workers and nearby communities (Fecht, 2022). In the same sector, the current lack of secondary markets for EVs, tied with tightened regulation on emission standards, creates a situation where smaller corporations which lack the capital investment to upgrade their vehicles might be forced out of the market. In the aviation industry, a similar effect might occur from the high cost of sustainable aviation fuels, making the price to fly or purchase products delivered through the aviation industry a barrier to entry. More research is required to investigate the ECJ implications of the energy transition.

The freight trucking, maritime, and aviation industries have had a significant impact on vulnerable communities in the past and continue to pose inequity challenges throughout the energy transition. The next section breaks down the risks ECJ presents to the transportation industry, specifically freight transportation.

MATERIAL RISK OF ECJ IN TRANSPORTATION

The freight transportation industry is uniquely situated between consumer and producer, and therefore has incentive mechanisms to address environmental and climate injustice.

Material risks for the transportation sector generally include climate change, weather events, traffic, demand volatility of fuel prices, and safety (Dwyer, 2018). Climate change causes extreme weather events that have impacted routes for freight trucking, maritime, and aviation transportation industries. The volatility of fuel prices caused by climate change, overexploitation, and geopolitical issues have created additional risk. Specific risks associated with the trucking, maritime, and aviation industries include:

- **Trucking:** driver shortages, deteriorating infrastructure, regulatory oversight, and theft (Solistica, 2022; Dwyer, 2018).
- **Maritime:** sea and weather conditions, aging vessels, autonomous vessels, trade protectionism, and cyber threats (Reynolds, 2019).
- **Aviation:** system failures, pilot shortages, pandemics, financial crises, supply chain, business strategy, and social/environmental issues (Satair, 2022).

INJUSTICES IN THE TRANSPORTATION SECTOR

Trucking: Medium- and heavy-duty trucking is responsible for a large portion of GHG emissions while disproportionately causing more respiratory concerns for low-income areas due to warehouse locations (see Figure 7). This environmental injustice can be tied to driver shortages and impacts of regulatory oversight. Freight drivers work long hours for low salaries and the demographics of the drivers reflect the communities most impacted by the industry (Goodman, 2022). Improving working conditions could lead to greater employment and retention.

Maritime and Aviation: Communities near ports face negative health impacts such as exposure to toxic chemicals and air and noise pollution, additionally exacerbated by the increased trucking traffic.

A specific material risk that relates to ECJ concerns for the aviation industry are pilot shortages. While this is not directly an ECJ issue, investor interest in ESG could be a leverage point for companies to gain and retain employees. A 2018 study conducted by Boeing found that roughly 50% of pilots were on the verge of retirement while demand was expected to increase by 100% (Garcia, 2018). While the pandemic slowed down demand, air travel is quickly rebounding to pre-pandemic levels (World Economic Forum, 2022). As the aviation industry picks back up, the lack of pilots will be a significant risk for airlines, and it can be addressed by adopting ESG strategies because millennials are more inclined to work for companies with a double bottom line, which focuses not only on financial profit, but also positive social impact.

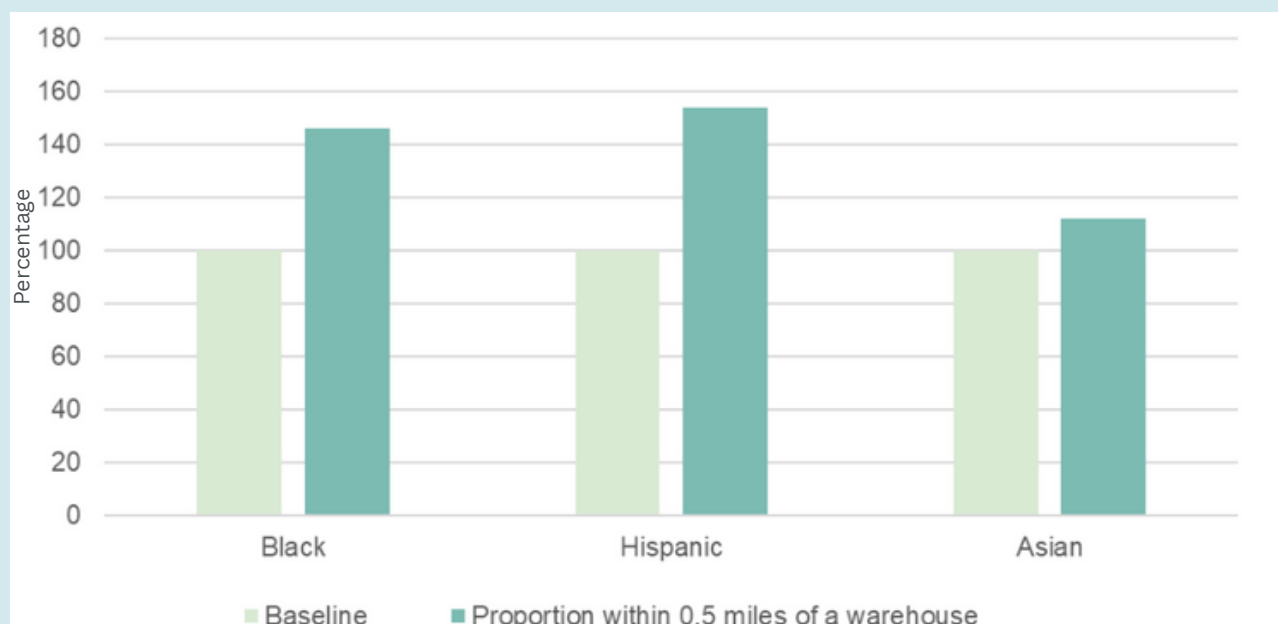


Figure 7. Minority Population Near Truck Warehouses vs Average State Minority Population in 10 U.S. states

MATERIALITY OF IDENTIFIED INJUSTICES

Reputational risk and regulatory risk are the main motivators for the transportation industry to incorporate ECJ into their practices.

Reputational risk is an active incentive for corporate action, but only mainly in the business to consumer market like commercial aviation. Freight transportation at scale is a B2B enterprise. Public awareness and ideology has less impact on the behavior of the transportation sector, as they are further removed from the end user. The exception to this consideration is commercial aviation, which is directly related to consumer behavior.

- Employee relationship: People are more inclined to work for companies that share values on social issues such as ECJ. Caring about environmental and climate injustices draws in more talent and retains employees. Happy employees lead to more efficient operations, which lead to better relationships with consumers and increased revenue (Pers. Comm., Anonymous).
- Consumer relationship: Advocacy groups, employees, or customers could boycott a company if their practices do not align with ECJ, resulting in reduced revenue and potential lawsuits. On the other hand, positive media attention could increase customers and revenue (Pers. Comm., Anonymous).

Regulatory risk is the strongest motivator for action in the transportation sector. There is an upward trend in political discussion around ECJ issues, and regulations are likely to follow suit. For example, the California Air Resource Board has recently added an EJ-dedicated office, signaling intent to include this criterion into their future regulation. This prompted transportation/fuel related industries to consider ECJ concerns in their governance and decision-making process, planning ahead for future compliance and reducing risk.

- ESG scores and frameworks play a small role in motivating environmental justice action as a regulatory risk. International adoption of regulation such as the UN Human Rights Due Diligence Directive demonstrates increasing regulatory attention on corporate social impact. While common ESG frameworks currently do not consider outward social impact, preemptive reporting on ECJ issues will mitigate risk and preempt future incorporation (United Nations, n.d.). In the transportation industry, CDP scores are generally low, and there is little pressure from competitors to improve this. The FedEx case study that follows shows this in detail.
- Legal liability is a strong regulatory risk and motivator. If companies do not follow regulations, they are susceptible to lawsuits. Notable cases exist of legal risk, such as NRDC v. Port of Los Angeles, and likely soon the catastrophic incident in East Palestine, Ohio which are linked to legal liability for the companies and entities involved in transportation that are damaging local communities. Critically, however, by definition, these cases involve a disproportionate amount of impact on disadvantaged communities, which at the same time, according to one of our interviewees working at the California Air Resource Board, are the least likely to be able to mobilize and create legal complaints (Pers. Comm., Anonymous).

CASE STUDY: FEDEX AND NEW YORK CITY REGULATION

FedEx, a publicly traded company, is a major player in the aviation, shipping, and trucking transport services. In the Transport Benchmark released by World Benchmarking Alliance (WBA) in partnership with CDP, FedEx ranks similarly to its competitors such as United Parcel Service which scored a total of 29.7/100 on the WBA Transport Benchmark. It received a B rank in the CDP 2022 report, indicating that while it is taking actions on climate issues, it does not employ current best practices in the sector (World Benchmarking Alliance, 2023). FedEx shows commitment to net zero by 2024 through set targets, but it failed to achieve its 2020 target of reducing Scope 1 emissions by 30% by 2020 (Herr, 2021). Furthermore, FedEx invests in sustainable energy use and fleet electrification, but does not provide compelling disclosure on core social issues, just transition plans, or stakeholder engagement.

Lack of action and disclosure can lead to business risks. One example is ‘last-mile’ trucking facility regulation. Last-mile facilities such as warehouses increase truck traffic in low-income neighborhoods such as Red Hook, Sunset Park, and Hunts Points neighborhoods in New York which were classified manufacturing districts and already bear a disproportionate burden of air pollution (Maldonado, 2021). Black, Hispanic, and Asian people suffer from the impact of air pollution related health problems more than non-Hispanic white people.

In September 2022, the Last-Mile Coalition, a New York City-based coalition of environmental justice and public health advocates, called on the NYC Department of City Planning (DCP) to adopt a proposed zoning resolution amendment that last-mile trucking facilities such as warehouses acquire a special city permit for construction which would allow input and engagement from affected communities (Cuba et al., 2022). Investors may favor companies that adopt these zoning policies faster.



FedEx truck. Image: Bannon Morrissy

Another regulatory approach towards combating environmental injustice related to warehouse pollution in cities is the Indirect Source Rule (ISR). The Indirect Source Rule requests that warehouses over a certain size (this varies based on different state proposals) disclose their emissions and that emissions coming from incoming and outgoing trucks be considered in their disclosures; and that these warehouses create a reduction and mitigation plan to demonstrate their efforts. These initiatives would force warehouse owners to put additional pressure on warehouse operators (shipping companies) to reduce their vehicle emissions, creating further cost to transition to less polluting fuels and technologies. In New York, this has been proposed at the State Assembly, modeling a similar regulation already active throughout Southern California.

This case shows that while FedEx has established a net zero target, it must set clear environmental justice goals in consultation with stakeholders and provide disclosure on its impact to better inform investors. Setting clear environmental justice goals can help avoid future instances of regulatory and legal risks and also improve the company's reputation in the freight transportation sector.

Regulatory Risk

- New legislation such as the zoning resolution in New York will cause shipping companies to apply for new permits for their current warehouses and, in extreme cases, relocate.
- Compliance with these regulations might create operational inefficiencies in last-mile deliveries, thereby increasing the cost of service.
- Non-compliance with new warehouse-zoning regulations exposes companies to legal liability.

Reputational Risk

- Non-compliance with regulation and/or lack of corrective action can lead to push back from environmental advocacy groups. This can taint the company image in the media.

Transition Risk

- Proposals like the Indirect Source Rule will push warehouse owners to get shipping companies to curb their emissions and implement cleaner technologies, therefore increasing cost in the short term.

ECJ OPPORTUNITIES IN TRANSPORTATION

A more proactive approach to investing opportunities in the transportation industry is through positive investments that benefit overburdened communities and minimize environmental and climate injustices. One example of this is the IdleAire Technologies Corp. system established at a truck stop in Knoxville, Tennessee, which provided heat, air conditioning, telephone, TV, and internet through a hookup allowing truck drivers to turn off their engines during breaks. This reduced emissions at truck stops. Reduced emissions resulted in reduced noise and air pollution and health risks in vulnerable communities and provided a better working environment for truck drivers. Aside from the environmental and social benefits of this service, there was a financial benefit of roughly \$4-6 an hour of savings in fuel costs during the stops (Payne, 2006). Proactively investing in opportunities to minimize environmental and climate injustices reduces reputational risk and could increase profits while also benefiting the environment and communities.



*Truck stop in Knoxville, TN.
Image: Wade Payne*

FINANCE AND BANKS

Although the operations of the financial sector contribute little directly to emissions, they finance countless large and small projects with strong negative impacts, particularly on overburdened communities. For this reason, our research focused on how the financial sector views ECJ and how it can be incorporated into material risk in this sector. Our ultimate goal was to leverage risk—a concept investors are familiar with—to convey ECJ impacts.

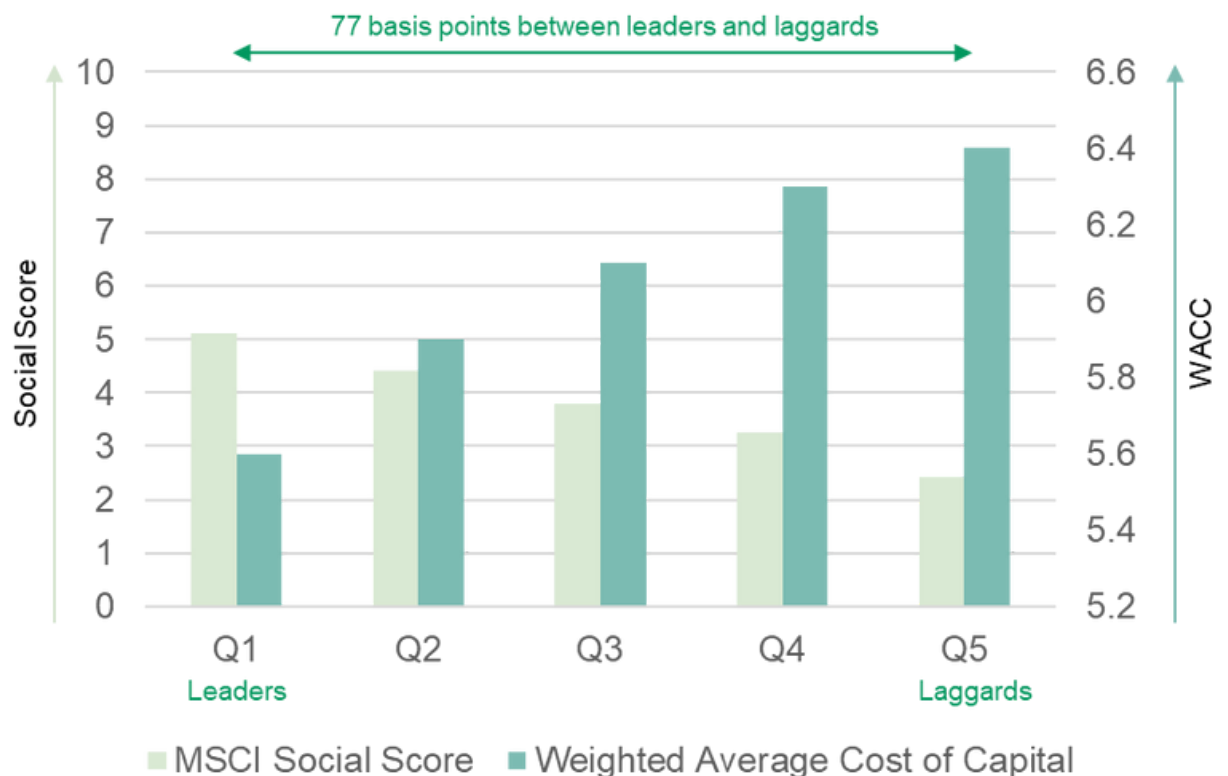
Much of the work in the financial sector is completed in an office setting with few direct emissions (Reghezza et al., 2022). Banks do not directly operate any factories or power plants to emit pollutants or greenhouse gases. However, many of these institutions facilitate the operation of highly polluting industries through their services, including the extension of credit, underwriting insurance, and direct investment (Mésonnier, 2022). Because polluting industries depend upon support from banks, investors, and insurance agencies to maintain their operations, ESG investing presents an opportunity to help them shape their industry toward best practices.

In 2020 alone, global banks provided \$750 billion in financing for the oil and gas industry (Nauman and Morris, 2021). The Rainforest Action Network conducted a study that showed that the French bank BNP Paribas had the largest absolute increase in funding for fossil fuel companies, with a 41% rise to \$41 billion. U.S. banks were the largest financiers of fossil fuel companies (Nauman and Morris, 2021).

The six largest U.S. banks, including JPMorgan Chase, Citi, Wells Fargo, Bank of America, Morgan Stanley, and Goldman Sachs, have all committed to reducing their “financed emissions.” Pressure groups and institutional investors pushing for environmental, social, and corporate governance believe banks still are not doing enough to support the Paris climate accord (Mésonnier, 2022). For example, the British bank, HSBC was involved in \$23 billion of fossil fuel financing in 2020, down from \$28 billion the year before, for a total of \$111 billion since 2016. In addition to the lack of action on climate risk, banks have yet to incorporate ECJ into their risk analyses.

MATERIAL RISK OF ECJ IN FINANCE AND BANKS

The Intergovernmental Panel on Climate Change (IPCC) has repeatedly presented robust evidence that society must make significant changes to curb severe climate-related risks to achieve sustainable development. Lack of progress toward the Paris Agreement goals could incur an estimated \$23 trillion in economic losses worldwide over the next 80 years, with dire consequences for all financial market actors. These consequences include significant loss of agricultural productivity, sea level rise with property and land damage, and increased negative health effects (Kompas et al., 2018). Embedded within these climate-induced risks are ECJ considerations, which can help investors make informed decisions that reduce risk and earn profits while ensuring equitable access to resources. As shown in Figure 8, the cost of capital is cheaper for responsible companies, demonstrating the business case for prioritizing social impact.



Source: BCG Analysis, MSCI, Refinitiv Eikon WACC

Figure 8. Weighted Average Cost of Capital In Relation To Social Impact

CASE STUDY: TEXAS GULF COAST

The Texas Gulf Coast has one of the highest concentrations of petrochemical plants and oil refineries in the U.S., many of which emit cancer-causing benzene at concentrations higher than federal standards (Flores et al., 2020). The majority of these plants is close to predominantly lower-income African American and Latinx communities (Flores et al., 2020). According to the University of Texas School of Public Health, “children living within two miles of the Houston ship channel are 56% more likely to contract leukemia than those living farther away” (WECAN, 2022). Studies show that air and water pollutants from flares have significant impacts on the nervous and endocrine systems, women’s reproductive systems, and an increased likelihood of certain cancers (Flores et al., 2020).

From 2016-2021, JPMorgan Chase and Bank of America supplied TotalEnergies—the petroleum company operating at the Port Arthur Refinery along the Texas Gulf Coast—with \$2.8 billion in corporate financing and \$2.1 billion in project financing. As of spring 2022, Vanguard and BlackRock are the two largest shareholders of Marathon Petroleum, yet another oil company in the area. Bank of America and Bank of Canada are also significant shareholders in it (WECAN, 2022.). Below, we outline some risks of this investment.



Petrochemical and refining facilities by the Texas Gulf Coast. Image: Dave Fehling

Regulatory Risk

- The banks financing these projects risk their portfolio performance because of litigation by local communities and federal consequences for polluting above permitted limits.
- Additionally, concerns over emissions can slow, or even stop, the permitting process for some projects. In this specific case, banks may lose money on their investments or loans while oil companies wait for permits to be issued.
- Lastly, banks can face the risk of abatement fees and costs associated with projects, which could add up to a significant material financial loss.

Reputational Risk

- Banks financing these projects are vulnerable to bad press and public outrage when the health impacts of these refineries are publicized.
- As more individuals consider companies' diversity, equity, and inclusion and ESG policies, there can be increased employee turnover from reputational damage. This is an additional material risk to banks. The average cost of onboarding an employee is approximately \$4,000 and takes three to six weeks, depending on the position and business, so employee retention is in a bank's best interest (Vasconcellos, 2023).
- If a bank is viewed as having a negative impact on climate change, the reputational risk may produce negative media coverage, loss of customers, or damage to the bank's brand. For instance, in the Marathon Petroleum example above, BlackRock's reputation for adherence to sustainability principles may lose credibility in the face of financing oil projects that have negative impacts on ECJ communities.

Transition Risk

- Transition risks banks face include stranded assets, meaning investments that are no longer profitable due to changing demand and regulation in the transition to a green economy.
- In the above-mentioned case study, this may be a bank loaning money to finance an oil project and then having that asset become stranded as the world moves toward renewables.

ECJ OPPORTUNITIES IN FINANCE AND BANKS

There is a growing opportunity for investments that support ECJ and provide strong returns on investment (ROI) for companies focusing on pollution abatement, carbon accounting/management, and clean energy (Pers. Comm., Anonymous). By funding these industries, investors are able to indirectly aid communities that are impacted by significant local pollution, while also investing in companies that are high performing financially and with ESG.

An example of an institution capitalizing on this investment opportunity is the Green Bank of New York which is funding an Inclusive Prosperity Capital project to make clean energy available and affordable for lower and middle-income communities (NYSERDA, n.d.). Providing these communities with clean energy will increase resiliency and improve health outcomes by minimizing local pollution and dependence on fossil fuels (NYSERDA, n.d.). Banks that finance large-scale projects can mitigate risk by simultaneously investing in smaller-scale, solution-oriented projects. They can also operate with public/private partnerships on these projects to hedge their potential litigation and public opinion risks.



One of NY Green Bank's community solar initiatives.
Image: Brendan McDermid

OIL AND GAS

The value chain for oil and gas operations permeates our current economy, from exploration, to shipping, processing, storage, marketing, and sales (Library of Congress, n.d.). The harmful byproducts and carbon emissions produced by the oil and gas industry make this industry a significant contributor to environmental and climate injustice in the U.S. and around the world (McKenzie et al., 2016).

Research has shown that communities of color and low-income communities are more likely to be located near oil and gas facilities. These communities are more likely to experience their negative impacts, including air and water pollution, land disturbance, and additional environmental degradation (McKenzie et al., 2016). Surrounding communities are often exposed to high levels of air and water pollution, producing increased rates of respiratory problems, cancer, and other life-threatening illnesses (McKenzie et al., 2016). Additionally, the affected communities often lack the political power and resources to effectively advocate for their rights and interests, so their voices are often not adequately represented in decision-making processes related to the industry (McKenzie et al., 2016).

More than 12 million people live within 0.5 miles of the 1.2 million individual oil and gas facilities in the U.S., and air pollution from these facilities has resulted in a 13% increase in respiratory, cardiovascular, and other related diseases in these communities (The Wilderness Society, 2023). The construction of infrastructure used in oil and gas extraction is also disruptive to natural ecosystems, removing critical habitats for wildlife and people to live and thrive on (The Wilderness Society, 2023). The oil and gas industry has a long history of environmental injustices, with low-income communities and communities of color disproportionately affected by the negative impacts of oil and gas production. Investor engagement can promote environmental justice and increase transparency and accountability, resulting in concrete steps taken by companies to address the negative impacts of their operations.

MATERIAL RISK OF ECJ IN OIL AND GAS

Investors in the oil and gas industry may face various risks related to environmental and climate injustices.

Reputational risks arise when investors support a project that is perceived to contribute to climate change, violate Indigenous rights, or endanger biodiversity. Such support may result in backlash from stakeholders, customers, or the public, leading to a loss of trust and credibility. Additionally, investors may be accused of greenwashing or concealing the true impacts of their investments (Beerbaum, 2021).

Regulatory risks stem from legal challenges, fines, or sanctions that investors may face from regulators or courts for failing to disclose or mitigate environmental and social risks associated with their investments. Future regulations or policies may further limit investors' access to resources, markets, or financing (Akinkugbe and Majekolagbe, 2022).

Transition risks involve stranded assets, reduced returns, or increased costs as the world shifts to a low-carbon economy and demand for fossil fuels decreases. Investors may also face competition from cleaner energy sources and technologies that could disrupt their business models or erode their market share (Akinkugbe and Majekolagbe, 2022).

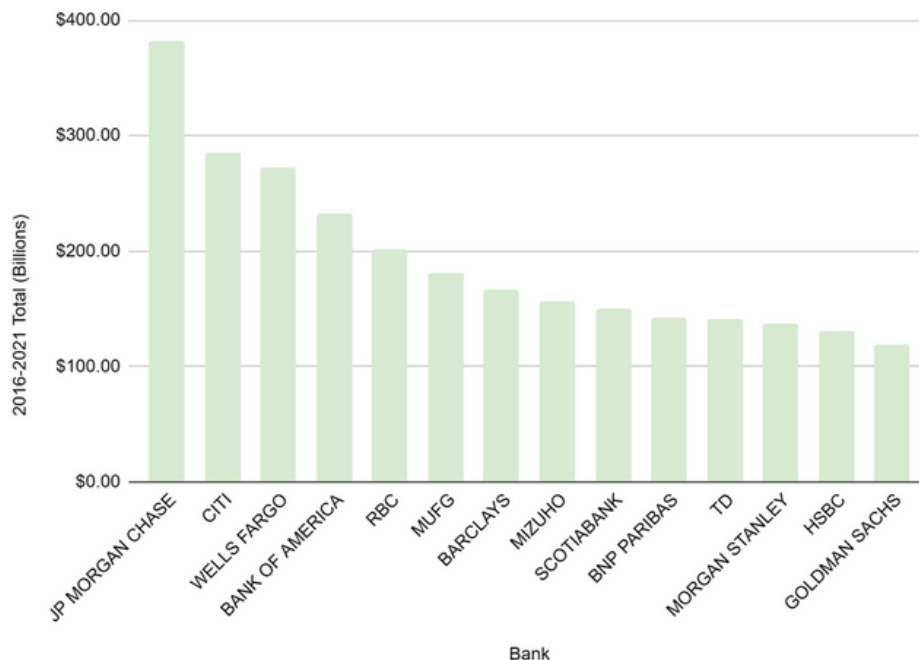


Figure 9. Financing for Fossil Fuel Companies by Bank, 2016-2021

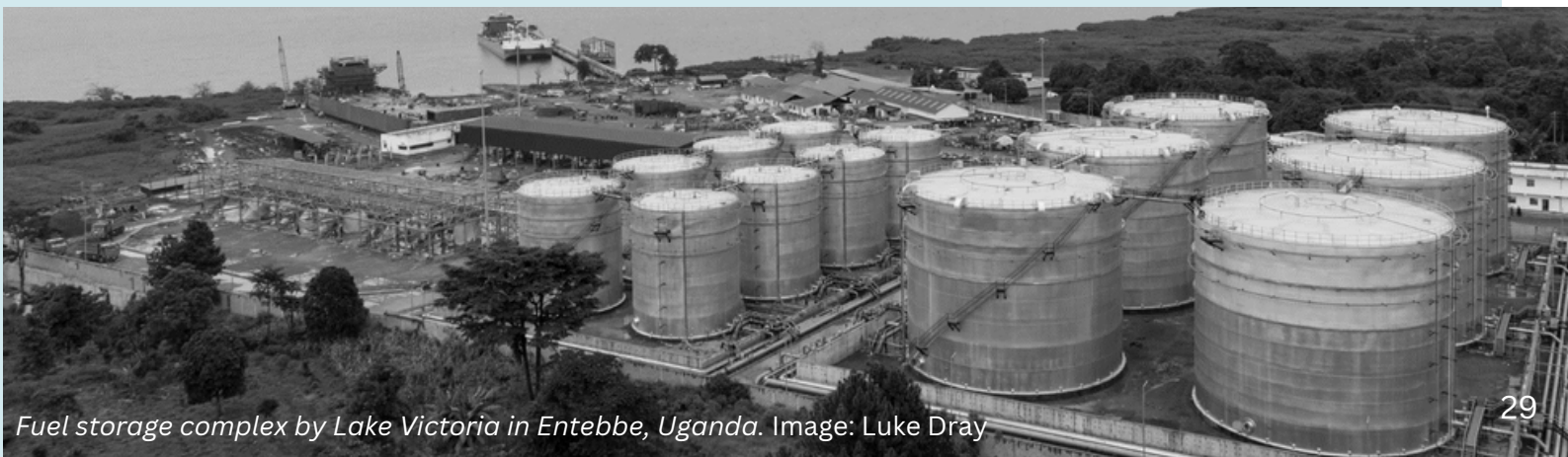
These risks are not theoretical, as evidenced by lawsuits filed against oil and gas companies seeking compensation for climate change damages and demanding action to reduce emissions. The SEC is expected to issue new rules on climate disclosure requirements for companies and investors, and some major investors have already divested from fossil fuels or committed to aligning their portfolios with the goals of the Paris Agreement (see Figure 9). The following section details such an instance where an oil and gas project was subject to these risks.

CASE STUDY: TOTALENERGIES AND THE EAST AFRICAN CRUDE OIL PIPELINE

The French energy company TotalEnergies has been a participant in the TCFD guidelines since 2017. In 2021, Total changed its name to TotalEnergies to reflect its new ambition of becoming a major player in the energy transition and achieving net zero emissions by 2050 (Bernard, 2020). Despite these commitments to the TCFD framework, Total's pipeline project in Uganda and Tanzania, called the East African Crude Oil Pipeline (EACOP), threatens to unjustly impact surrounding communities and contribute to global climate change. EACOP faces opposition from the European Union, which issued a resolution that the project will violate the human rights of residents in Tanzania and Uganda (European Parliament, 2022). The resolution highlights “the wrongful imprisonment of human rights defenders, the arbitrary suspension of NGOs, arbitrary prison sentences and the eviction of hundreds of people from their land” (European Parliament, 2022).

Environmental and climate justice groups have pressured 24 banks and 18 insurers to pledge not to support the EACOP project, including Goldman Sachs, Bank of America, and Citi (EACOP, 2022). The Climate Accountability Institute (CAI) found that the assessments used to gain approval for the project failed to consider the emissions that will result from international transport, refining, and burning of the 848 million barrels of oil that the project will carry over its 25-year lifespan (Bernard, 2020). CAI's analysis calculated that EACOP will be directly linked to 379 million tonnes of carbon emissions—more than 25 times the current annual emissions of Uganda and Tanzania (Hill et al., 2021).

The pipeline project threatens 170 villages along the pipeline's route, and according to EACOP's shareholders (which includes TotalEnergies) more than 25,000 Ugandans will be impacted (Kazibwe, 2023). An EU Parliament resolution puts that number much higher, suggesting that 100,000 people in Tanzania and Uganda are at risk of displacement and that they lack “proper guarantees of adequate compensation” (Just Finance, 2022; European Parliament, 2022). EACOP countered that only 203 people will be displaced and about three-quarters of the people have already been relocated and compensated (Kazibwe, 2023).



Fuel storage complex by Lake Victoria in Entebbe, Uganda. Image: Luke Dray

Furthermore, international advocacy organization Just Finance claims that people who are disabled and elderly have lacked access to meetings with pipeline companies and have, along with women heads of households and landowners, been overlooked by EACOP (Just Finance, 2022). In addition, landowners have been compensated with cash instead of land, which falls short of a resettlement option given the low levels of financial literacy in the region (Just Finance, 2022). Displacement and economic threats go hand in hand, as many residents located along the pipeline's route earn their living through farming (Just Finance, 2022). The pipeline also threatens freshwater sources like Lake Albert, the headwaters of the Nile River, and numerous other rivers, wetlands, and lakes critical to farming and drinking (Environmental Finance, 2021).

EACOP clearly illustrates environmental and climate injustice given the fact that it displaces low-income residents and accusations of inadequate compensation abound; it violates the human rights of residents, activists, and human rights defenders; it threatens the health and safety of their natural environment by posing a risk to their freshwater sources; and the project will lead to enough oil—that will not be used by either Uganda or Tanzania—that is worth 25 times their combined annual emissions.

TotalEnergies and its investors face several regulatory, reputational, and transition risks due to environmental and climate injustices related to EACOP:

Regulatory Risk

- Violation of human rights and lack of proper compensation to residents in Tanzania and Uganda may result in legal action and fines against TotalEnergies and its investors.
- The European Union resolution opposing the project may lead to regulatory action against TotalEnergies and its investors.
- Future political changes may threaten the viability of the project if new leaders take office and oppose this controversial project.

Reputational Risk

- TotalEnergies' participation in the TCFD and commitment to achieving net-zero emissions by 2050 may be undermined by its involvement in EACOP.

Transition Risk

- EACOP's significant potential carbon emissions and localized harms to communities along its route make it harder for TotalEnergies to transition to a low-carbon future.
- By investing in EACOP, TotalEnergies may be forced to commit to long-term investments in a project that may not be able to compete in the future, as renewable energy becomes cheaper and fossil fuel demand and prices decrease.
- Opposition to the project by environmental and climate justice groups may impact TotalEnergies' ability to attract investors who prioritize sustainability and social responsibility.

ECJ OPPORTUNITIES IN OIL AND GAS

Because of the deleterious impacts of the oil and gas sector on local communities, including displacement and degradation of natural resources as seen in the EACOP case study, the oil and gas sector holds significant capacity for environmental and climate justice improvement. One way to achieve this is through the transition to renewable energy, which eliminates the risk of air pollution and the exposure to dangerous chemicals.

One company that has successfully transitioned from fossil fuels to renewable energy is Ørsted. Ørsted is a Danish energy company with operations around the world, including in the U.S. When the company was established in 2006, 85% of the energy it produced came from fossil fuels, particularly coal, the dirtiest energy source of all (Ørsted, 2021). However, over a decade ago, the company made a strategic decision to transition to renewable energy, particularly through the development of offshore wind energy, because it identified climate change as a political priority in the EU. Ørsted also recognized concern from stakeholders regarding its use of coal (Ørsted, 2021).

Together, these motivations, driven by regulatory and reputational pressure, prompted Ørsted to accelerate its transition to renewable energy (Ørsted, 2021). The company set ambitious targets to flip its fossil fuel to renewable energy ratio to 85% renewable energy and 15% fossil fuel usage by 2040 (Ørsted 2021). Ørsted has seen successful business growth as a result, with offshore wind earnings surpassing that of fossil fuel in 2016, resulting in such success that the company went public in the same year (Ørsted, 2021).



Offshore wind project. Image: Ørsted

RECOMMENDATIONS FOR INVESTORS

1 Conduct strategic engagement rather than divesting from assets. By collaborating and meeting with portfolio companies, rather than divesting, investors can influence business decisions. We recommend investors include ECJ factors in expectations, and press for disclosures and benchmarking to track improvement. By asking portfolio companies to implement proactive disclosure strategies, investors can monitor company activities and reduce reputational and regulatory risk. Such strategies should align with the Equator Principles and/or the UN Human Rights Due Diligence framework.

2 Use shareholder resolutions to motivate portfolio companies to create and deploy a community engagement plan. This plan should identify and involve key external stakeholders with the planning of the project. The World Benchmarking Alliance's Just Transition framework can serve as a baseline for this plan. In particular, Just Transition Indicator 1 outlines the fundamentals of social dialogue and stakeholder engagement. Frequent benchmarking must be completed to ensure implementation and continued success of the plan.

3 Require ESG disclosure and anticipate future ECJ incorporation. While this report demonstrates that ESG disclosures are not enough to address ECJ, lack of ESG disclosure leaves portfolio companies open to regulatory and transition risk. We recommend aligning with the TCFD guidelines, as the SEC is due to release regulations rooted in this framework. Staying ahead of regulation allows portfolio companies to make a smoother transition. After meeting the baseline ESG regulatory requirements, investors should push for further inclusion of ECJ considerations in ESG reporting of portfolio companies. Investors can manage regulatory risk by working with portfolio companies to consider international and U.S. policy trends related to human rights, environmental justice, and business.

4 Advocate for the creation of prepared and tested community-focused crisis response. This plan must anticipate and mitigate potential external impacts corporate actions may have on surrounding communities. To do so, companies must actively engage the community to understand concerns and incorporate key stakeholders in decision-making. In addition to incident-specific corrective action, plans should include monitoring and responding to any negative feedback from customers, media, investors, community members, or activists. This approach encourages adaptation to unexpected physical risks and helps mitigate reputational risks.

5 Actively participate in environmental and climate justice policy-making. State and Federal regulators are approaching the energy transition using market mechanisms such as tax incentives, including the Inflation Reduction Act. By actively participating in the policy-making process—either by partnering with advocacy firms or through direct lobbying—and by demonstrating willingness to embrace just business practices, corporations can push for regulation that is incentive-based instead of command-and-control, improving conditions of disadvantaged communities and creating business opportunities at the same time. For example, the Clean Ports Program within the IRA includes grants available to port authorities and their private partners to upgrade to zero-emission equipment, improving air quality concerns in areas surrounding the U.S. major ports.

6 Use impact tools and metrics to evaluate portfolio companies. By not participating in community-focused projects, investors miss the opportunity to fund the just, green transition and to realize the associated positive returns. Investors can make more informed decisions by considering which companies align with ESG+ECJ goals if they use guidelines such as the Equator Principles.

RECOMMENDATIONS FOR CIVIL SOCIETY

- 1 Conduct research to quantify the cost to businesses of environmental injustice-related lawsuits filed against corporations.** Putting a value on the risk tied to noncompliance with environmental justice-related regulations will materialize the costs of environmental and climate injustice in relation to both regulatory and reputational risk (Rosemain and Hernandez, 2023). We recommend exploring a partnership with organizations that specialize in climate policy, such as Columbia University's Sabin Center for Climate Change Law or the EPA's ECHO, which track U.S. and global climate change litigation and compliance.
- 2 Create screening tools and metrics for investors to reference when making investment decisions.** Reducing the research work for investors incentivizes the allocation of capital to climate-positive action and may lead to positive returns. Many companies, including those focusing on pollution abatement, carbon accounting and management, and clean energy, have found success and financial opportunities by considering ECJ (Horton and Jessop, 2022).
- 3 Launch lobbying campaigns to encourage state-level action on ESG-ECJ legislation.** This will encourage governors and state legislatures to incorporate elements of President Biden's environmental and climate justice Executive Orders and the SEC's rulings into policy. The passage of this legislation in key states will help preclude environmentally- and socially-minded legislation from political volatility at the federal level. This helps create consistency for businesses in understanding their reporting and process requirements.
- 4 Lobby for U.S. adoption of the proposed UN Human Rights Due Diligence Policy.** With the adoption of the EU's directive on corporate sustainability due diligence in 2022, this UN policy has emerged as a leading international effort to standardize methods of evaluating social impact. It requires corporations to assess and act upon negative impacts to human rights as a result of their business activities. U.S. corporations that choose to preemptively adopt these standards could qualify for the screening tool mentioned in recommendation 2.

CONCLUSION

Integration of community needs into investment decisions is integral to achieving more just business practices and robust communities. This synthesis found both social and financial reasons to incorporate environmental and climate justice into investment decisions. Businesses that consider ECJ are by and large safer, more stable investments.

Each sector of focus—transportation, finance & banks, and oil & gas—faces regulatory, reputational, and transition risks when they inadvertently or actively choose to disregard the communities surrounding their operations and the impacts companies may have. While the case studies provide a snapshot of the consequences of environmental and climate injustice, this report far from encapsulates the numerous instances in which both company and community suffered due to risky operations.

Investors have the potential to be drivers of change in each of these sectors. Companies that adopt new guidelines like the Equator Principles, work in conjunction with communities, and adhere to the UN's Human Rights Due Diligence Principles can benefit both themselves and communities by reducing exposure to various risks.

We believe this project will inform efforts to advance ECJ engagement strategies among concerned investors. Our work identifies unexplored routes and suggests further developments. Through continued research and investor engagement, we hope to inspire a larger shift in favor of more holistically sustainable and just investment practices.

OUR TEAM



Holly Sullivan

Prior to the MPA-Environmental Science and Policy program, Holly received a Bachelor of Science from Cornell University in Biological Sciences with a concentration in Ecology and Evolutionary Biology along with a double minor in Climate Change and Public Policy. Her previous experience includes ecological research, agrivoltaic research, communications, and teaching. She is most passionate about climate change and climate policy, but has a strong interest in a wide variety of topics including ESG, environmental justice, material circularity, and public-private partnerships.



Julia-Grace Sanders

Julia-Grace is a former environmental journalist, program manager, grant writer, and graduate of Columbia's Master of Public Administration in Environmental Science and Policy program. She is looking to leverage her experience distilling complex scientific information, building a \$360 million grants program, managing project-based teams, and developing grant funding strategies for environmental clients to pursue a role in sustainability strategy. Her interests include energy decarbonization, corporate sustainability, and scaling climate tech solutions.



Eirlys Chui

Eirlys is pursuing an MPA in Environmental Science and Policy at Columbia University's School of International and Public Affairs. Her academic background is in Environmental Studies and English with concentrations in public health and creative writing. She is experienced in writing, editing, publication, project management, and interdisciplinary teamwork. She seeks to apply her research skills and interests in climate policy, ESG, and environmental justice to inform decision-making and enhance health, equity, and sustainability.



Kasturi Thorat

Kasturi is an MPA in Environmental Science and Policy candidate at Columbia University's School of International and Public Affairs. She has academic background in global health and professional experience in policy analysis, management, scientific research, and entrepreneurship. The intersections of public health and climate change drive her to work towards a healthy, equitable, and sustainable planet. Her interests include a broad range of topics such as sustainable food systems, transport electrification, and urban sustainability.

OUR TEAM



Matteo Chiadò Piat

Before joining Columbia SIPA, Matteo was a business development professional in the software industry. Passionate about the climate cause and its socioeconomic implications, his mission is to understand how the private and public sectors can work together to shape a cleaner and carbon neutral future. He holds a triple Bachelor Degree in Business Administration from the University of Southern California, Università Luigi Bocconi and Hong Kong University of Science and Technology.



Courtney Federico

Courtney is pursuing her MPA in Environmental Science and Policy at Columbia SIPA and the Climate School. For the last ten years, she has built a career as a political and advocacy professional with experience in campaign strategy, strategic communications, and relationship management. Courtney has worked at party committees, including the 2016 Democratic National Convention where she helped lead the drafting process for the Democratic Party's Platform as Deputy Director of the Office of Party Affairs and Delegate Selection; at the political action committee EMILY's List, which works to elect pro-choice Democratic women; and in environmental and abortion-rights advocacy. Her recent experience includes directing nearly \$40 million in paid political communications and serving in director-level positions on Senator Kirsten Gillibrand and Vice President Kamala Harris' presidential campaigns.



Carrie Fernandes

Carrie is a graduate student pursuing a Master of Public Administration in Environmental Science and Policy from Columbia University's School of International and Public Affairs. She earned a Bachelor's degree in Ecology and Evolutionary Biology with a minor in English from the University of California, Los Angeles, and has spent the past five years working in Business Administration and Human Resources functions at Boston Consulting Group, where she co-led the BCG LA Green Team. Carrie's passion for the environment and sustainability stems from an upbringing in Southern California, where she witnessed climate change firsthand as temperatures have risen, drought worsens, and wildfires and other intense weather events increase. She is seeking a career in which she can enact informed policy that drives positive, lasting change to the environment.

OUR TEAM



Hannah Harasaki

Hannah has experience working in international affairs and foreign policy, primarily in think tanks and non-profit organizations. She received her bachelor's degree from UC Santa Barbara, where she studied international relations with a concentration in environmental studies. Hannah is currently pursuing her MPA in Environmental Science and Policy at Columbia University's School of International and Public Affairs to strengthen her knowledge of the scientific components of climate change to serve as a foundation for working on international climate initiatives.



Morgan Lehman

Morgan is a MPA candidate at Columbia University studying Environmental Science and Policy. She joined the program with a background in Art History and work experience at galleries and an Auction house, primarily focused in Asian art. Two years ago, she transitioned to editing at Climate & Capital Media, where she learned about ESG and impact investing. Despite her love of art, she realized her true passion lies in sustainability and environmentalism, specifically relating to the ocean. Her interests include oceanography and international policy regarding ocean health and sustainability.



Bevin Pan

Bevin is a current student in the MPA-ESP program. Prior to beginning his graduate studies, he worked at Reflect Ventures, a venture capital firm focusing on digital infrastructure companies in emerging markets. In that role he sourced investments and conducted due diligence on potential investees. He obtained his undergraduate degree at Carnegie Mellon University where he double-majored in Business Administration and International Relations. He has a keen interest in Climate-Tech, especially when it comes to adaptation-focused business and technological solutions. At Columbia, he has focused his coursework on topics such as ESG analysis and impact assessment.



Xinran Wu

Xinran graduated from the University of California, Santa Barbara with a BS degree in Psychological and Brain Sciences in March 2022. She is currently a student in the MPA in Environmental Science and Policy program at Columbia University. She worked at Ernst & Young as an intern consultant and Yingda Securities as an investment assistant. Her goal is to apply her knowledge and expertise she gained from learning psychology and brain sciences and combine that with the practical skills provided in the MPA program to create a more well-rounded and effective result to any problem.

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