



University of Pennsylvania  
**ScholarlyCommons**

---

Wharton Research Scholars

Wharton Undergraduate Research

---

2022

## A Model for Public Market Impact Investing: Measuring Corporate ESG Intentionality

Zachary M. Vlessing  
*University of Pennsylvania*

Follow this and additional works at: [https://repository.upenn.edu/wharton\\_research\\_scholars](https://repository.upenn.edu/wharton_research_scholars)

 Part of the [Business Law, Public Responsibility, and Ethics Commons](#), [Finance and Financial Management Commons](#), [Growth and Development Commons](#), and the [Portfolio and Security Analysis Commons](#)

---

Vlessing, Zachary M., "A Model for Public Market Impact Investing: Measuring Corporate ESG Intentionality" (2022). *Wharton Research Scholars*. 225.  
[https://repository.upenn.edu/wharton\\_research\\_scholars/225](https://repository.upenn.edu/wharton_research_scholars/225)

This paper is posted at ScholarlyCommons. [https://repository.upenn.edu/wharton\\_research\\_scholars/225](https://repository.upenn.edu/wharton_research_scholars/225)  
For more information, please contact [repository@pobox.upenn.edu](mailto:repository@pobox.upenn.edu).

---

# A Model for Public Market Impact Investing: Measuring Corporate ESG Intentionality

## Abstract

The Global Impact Investing Network (GIIN) lists intentionality as one of its four core characteristics of impact investing. It defines intentionality as an impact investor “intentional desire to contribute to measurable social or environmental benefit”.<sup>[1]</sup> Most importantly, it uses this core attribute of intentionality to differentiate true impact investing from ESG (Environmental, Social, Governance) investing strategies which it says only incorporates “impact considerations”.

This research paper rebuts the assertion that impact intentionality and ESG are mutually exclusive and proposes a solution for impact investing using ESG data. By surfacing companies who have shown dramatic improvement in their cumulative ESG score, investors are now able to isolate quantitatively the intentional actions undergone by companies to improve the positive societal impacts of their business. This paper puts forth a methodology on how to measure this Corporate ESG Intentionality and compares the incremental ESG performance of an intentionality portfolio against an alternative ESG portfolio and the US Equity benchmark.

The findings show that an ESG intentionality portfolio has a higher correlation between data providers than their overall score universes. This confirms that rating providers agree more on intentionality level improvements than overall scores, minimizing individual rater biases. It also finds an intentionality sample to outperform on impact measures such as GHG emissions per \$1M revenue and gender diversity compared to the benchmark and US industry. Lastly, a Scope 1 and 2 emissions model found just 91 companies showing GHG intentionality accounted for 87% of the total GHG reduction in the Russel 3000 universe over a 4 year period.

This paper sets the stage for a needed addition to the use cases of ESG data for investors to show impact intentionality: by measuring a corporation’s intention and resulting action to improve their non-financial impact on society through ESG data. Section 1 will analyze the background and current uses of ESG data. Section 2 will discuss the concepts of intentionality and additionality in bringing ESG to the impact investing space. Section 3 will discuss a proposed intentionality measurement methodology and highlight the findings. Section 4 will conclude and summarize the findings.

## Keywords

ESG, Impact Investing, Climate Change, Investing, Diversity, Intentionality

## Disciplines

Business Law, Public Responsibility, and Ethics | Finance and Financial Management | Growth and Development | Portfolio and Security Analysis

A Model for Public Market Impact Investing: Measuring Corporate ESG Intentionality

By

Zachary Vlessing

An Undergraduate Thesis submitted in partial fulfillment of the requirements for

Wharton Research Scholars

Faculty Advisor:

Chris Geczy

Adjunct Full Professor of Finance

THE WHARTON SCHOOL, UNIVERSITY OF PENNSYLVANIA

MAY 2022

**Abstract:**

The Global Impact Investing Network (GIIN) lists intentionality as one of its four core characteristics of impact investing. It defines intentionality as an impact investor “intentional desire to contribute to measurable social or environmental benefit”.<sup>1</sup> Most importantly, it uses this core attribute of intentionality to differentiate true impact investing from ESG (Environmental, Social, Governance) investing strategies which it says only incorporates “impact considerations”.

This research paper rebuts the assertion that impact intentionality and ESG are mutually exclusive and proposes a solution for impact investing using ESG data. By surfacing companies who have shown dramatic improvement in their cumulative ESG score, investors are now able to isolate quantitatively the intentional actions undergone by companies to improve the positive societal impacts of their business. This paper puts forth a methodology on how to measure this Corporate ESG Intentionality and compares the incremental ESG performance of an intentionality portfolio against an alternative ESG portfolio and the US Equity benchmark.

The findings show that an ESG intentionality portfolio has a higher correlation between data providers than their overall score universes. This confirms that rating providers agree more on intentionality level improvements than overall scores, minimizing individual rater biases. It also finds an intentionality sample to outperform on impact measures such as GHG emissions per \$1M revenue and gender diversity compared to the benchmark and US industry. Lastly, a Scope 1 and 2 emissions model found just 91 companies showing GHG intentionality accounted for 87% of the total GHG reduction in the Russel 3000 universe over a 4 year period.

---

<sup>1</sup> <https://thegiin.org/characteristics>

This paper sets the stage for a needed addition to the use cases of ESG data for investors to show impact intentionality: by measuring a corporation’s intention and resulting action to improve their non-financial impact on society through ESG data. Section 1 will analyze the background and current uses of ESG data. Section 2 will discuss the concepts of intentionality and additionality in bringing ESG to the impact investing space. Section 3 will discuss a proposed intentionality measurement methodology and highlight the findings. Section 4 will conclude and summarize the findings.

## **Section 1 – ESG Origins, Growth, and Uses**

### **ESG Background**

ESG (Environmental, Social, Governance) is a three-factor approach to measuring a company’s impact on society.<sup>2</sup> It is primarily used in investment processes as a way to measure a company’s non-financial practices and aligning stakeholders to their ethical standards. The environmental facets track indicators such as carbon emissions, waste and pollution, and water usage. The social indicators include labor practices, diversity within the company, and health and safety. Governance considerations include board structure, compensation equity, and corruption or anti-competitive practices.

What makes ESG so unique is the level of coverage and depth of data on so many “impact” factors. Researchers have identified at least 237 unique indicators in the ESG space, with over 100 data providers in the space all collecting and tracking the non-financial practices and outcomes of tens of thousands of companies around the world.<sup>3</sup> Once the various E, S, and

---

<sup>2</sup> <https://marketbusinessnews.com/financial-glossary/esg-definition-meaning/>

<sup>3</sup> [https://mdpi-res.com/d\\_attachment/sustainability/sustainability-12-10228/article\\_deploy/sustainability-12-10228-v2.pdf](https://mdpi-res.com/d_attachment/sustainability/sustainability-12-10228/article_deploy/sustainability-12-10228-v2.pdf)

G indicators are gathered, many providers, including the ones utilized in this paper, weight their scores by industry and produce various forms of summary level results on how companies stack up.

An industry weighted score offers a contextualized approach to tracking non-financial impact, honing in on the most important factors for each industry. For example, healthcare companies are weighted in ways that focus more on product safety and labor practices while food distributors might focus more on GHG emissions and animal rights.<sup>4</sup> This offers a nuance to quantitative measurements of impact that many other approaches lack, since what is considered your industries most important ESG metrics are more prominently reflected in your score.

Lastly, weighted scores allow all companies to compete on relative terms, allowing companies in potentially harmful industries to still display improvement. While inclusion of harmful industries is a hotly debated topic, measuring ESG intentionality through a weighted score process delivers a significantly different picture than many of the current ESG uses. Instead of focusing on relativity to others within their industry, impact intentionality shows companies that have undergone considerable change against their own standing just a few years ago. This moves the grading scale to focus on how seriously companies were in changing their business processes in favor of impactful results.

Most ESG scoring models seek to do 3 things; weight top ESG scoring companies more, screen out the worst performing ESG companies, and screening out entire industries that are socially irresponsible like oil or gambling. This paper adds a fourth measurement system focused on intentional improvement in ESG score, regardless of industry, as a means of surfacing impact investments within public markets.

---

<sup>4</sup> <https://www.sasb.org/standards/materiality-finder/find/>

## Recent Historic Growth of ESG

ESG is an outgrowth of SRI (Socially Responsible Investing) which was historically a qualitative measure used to determine positive or negative industries, such as such as avoiding the tobacco, firearms, or alcohol industry.<sup>5</sup> The term ESG was coined in the 2004 report titled *Who cares wins – Connecting Financial Markets to a Changing World* which sought to develop guidelines and recommendations for further adoption of non-financial metrics into the investment industry, sponsored by the United Nations Principles for Responsible Investing (UN PRI).<sup>6</sup> The report encouraged investment analysts to develop and incorporate these ESG factors into their investment process and urged companies to provide information and reporting related to ESG performance.

As a result, many frameworks determining how to report and classify ESG considerations have emerged in the aftermath of this new terminology, including the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), Climate Disclosure Standards Board (CDSB), and International Integrated Reporting Council.<sup>7</sup> While there still remains many active players, consolidation of frameworks has already begun with the merger of SASB and IIRC into the Value Reporting Foundation (VRF) in June 2021.<sup>8</sup>

In terms of overall interest in ESG, the turn of the decade showed a dramatic rise in exposure and popularity. In terms of United States search's for ESG, 2019 saw a major breakout in google search popularity and interest that has continued surging through 2021.

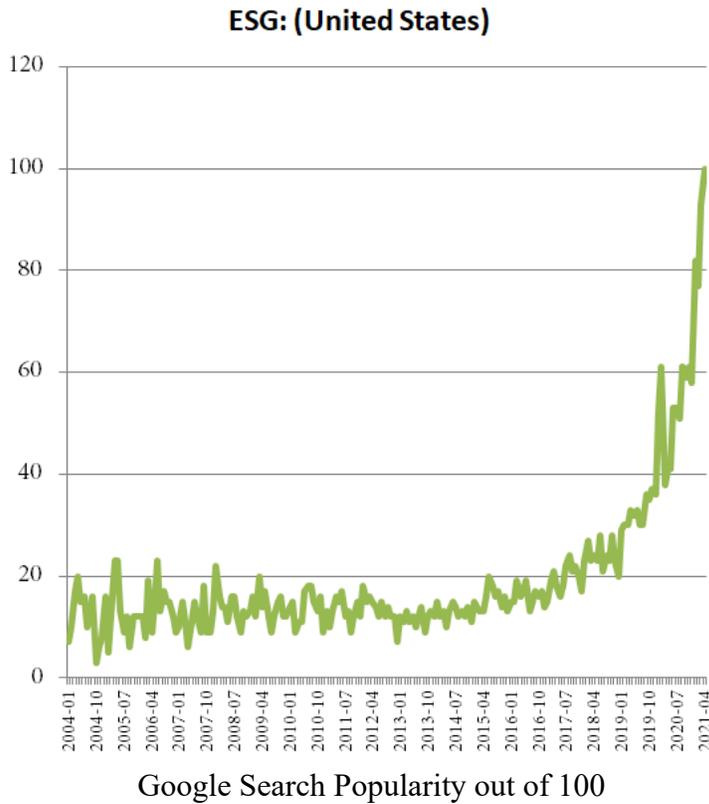
---

<sup>5</sup> <https://www.forbes.com/sites/betsyatkins/2020/06/08/demystifying-esgits-history--current-status/?sh=7d8e3e1c2cdd>

<sup>6</sup> [https://www.ifc.org/wps/wcm/connect/topics\\_ext\\_content/ifc\\_external\\_corporate\\_site/sustainability-at-ifc/publications/publications\\_report\\_whocareswins\\_wci\\_1319579355342](https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_report_whocareswins_wci_1319579355342)

<sup>7</sup> <http://www.perillon.com/blog/esg-reporting-frameworks>

<sup>8</sup> <https://www.accountingtoday.com/news/sasb-and-iirc-complete-merger-to-form-value-reporting-foundation>



This has come alongside an exponential increase of capital inflows into investment products linked to ESG and sustainability more broadly. Inflows remained relatively stagnant from 2013-2018, hovering around \$3-5 billion. However in 2019, inflows reached a little over \$20 billion, then hit \$51 billion in 2020, and \$120 billion in 2021.<sup>9</sup> As of the end of 2021, an estimated 1/3 of all assets are invested using ESG or sustainability related criteria.<sup>10</sup>

<sup>9</sup> <https://www.morningstar.com/articles/1019195/a-broken-record-flows-for-us-sustainable-funds-again-reach-new-heights>

<sup>10</sup> <https://www.fastcompany.com/90706552/esg-investing-continued-to-soar-in-2021-the-government-could-boost-it-even-more>

## Sustainable Funds Annual Flows and Assets



## ESG Current Use and Limitations

With the explosion in both interest and integration of ESG into the investing process, investors have utilized ESG data in a few key ways. The most robust studies done to date on the use of ESG data is from researchers at Oxford and Harvard Business School in 2017. They classified current ESG uses into 6 main categories: active engagement with firms, integration with valuation models, positive and negative screening, thematic investments, portfolio overlays, and risk factor investing which uses data in assessing systematic risks.<sup>11</sup> The study found that of these 6 uses, engagement with firms, full integration into individual stock valuation, and negative screening are the top 3 use cases. In terms of which is considered the most beneficial for financial performance, ESG integration into financial models is considered the most beneficial followed by direct engagement with companies on ESG issues. On aggregate, 82% of all asset

---

<sup>11</sup> Amel-Zadeh, Amir and Serafeim, George, Why and How Investors Use ESG Information: Evidence from a Global Survey (July 1, 2017). *Financial Analysts Journal*, 2018, Volume 74 Issue 3, pp. 87-103., Available at SSRN: <https://ssrn.com/abstract=2925310> or <http://dx.doi.org/10.2139/ssrn.2925310>

managers surveyed considered ESG information when making investment decisions, with the leading reason being that ESG information is material to investment performance.

While the uses of ESG data are distinct between different investors, the majority don't just use one data provider. A study conducted by Square well and highlighted in Harvard Law School Forum on Corporate Governance<sup>12</sup> in 2021 found that 38 of the top 50 managers (76%) use two or more ESG rating providers, with 30 (60%) of them using their own proprietary ESG ratings. Investors are thus acting as their own ESG aggregator, picking and choosing component parts of different scores to fit their ESG measurement objectives.

The reason for utilizing multiple datasets stems not only for a desire to customize scoring but from an innate flaw of current ESG measurement systems: ESG scores from different data providers vary significantly. Social Science Research Network's (SSRN) #1 downloaded ESG paper, titled *Aggregate Confusion: The Divergence of ESG Ratings*, discusses this very phenomena.<sup>13</sup> Published in August 2019, this foundational paper found significant disagreements among 6 of the largest ESG rating providers, with the average correlation of ESG scores to be a measly .54. This is considered a moderate to weak relationship, highlighting the major discrepancies between providers of ESG metrics.

---

<sup>12</sup> <https://corpgov.law.harvard.edu/2021/07/28/managing-esg-data-and-rating-risk/>

<sup>13</sup> Berg, Florian and Kölbel, Julian and Rigobon, Roberto, *Aggregate Confusion: The Divergence of ESG Ratings* (August 15, 2019). Forthcoming *Review of Finance*, Available at SSRN: <https://ssrn.com/abstract=3438533> or <http://dx.doi.org/10.2139/ssrn.3438533>

**Table 2**  
**Correlations between ESG Ratings**

Correlations between ESG ratings at the aggregate rating level (ESG) and at the level of the environmental dimension (E), the social dimension (S), and the governance dimension (G) using the common sample. The results are similar using pairwise common samples based on the full sample. SA, SP, MO, RE, KL, and MS are short for Sustainalytics, S&P Global, Moody's ESG, Refinitiv, KLD, and MSCI, respectively.

	KL SA	KL MO	KL SP	KL RE	KL MS	SA MO	SA SP	SA RE	SA MS	MO SP	MO RE	MO MS	SP RE	SP MS	RE MS	Average
ESG	0.53	0.49	0.44	0.42	0.53	0.71	0.67	0.67	0.46	0.7	0.69	0.42	0.62	0.38	0.38	0.54
E	0.59	0.55	0.54	0.54	0.37	0.68	0.66	0.64	0.37	0.73	0.66	0.35	0.7	0.29	0.23	0.53
S	0.31	0.33	0.21	0.22	0.41	0.58	0.55	0.55	0.27	0.68	0.66	0.28	0.65	0.26	0.27	0.42
G	0.02	0.01	-0.01	-0.05	0.16	0.54	0.51	0.49	0.16	0.76	0.76	0.14	0.79	0.11	0.07	0.30

The paper attributes the divergence of ratings into 3 main categories: different scope of categories, different measurement of categories, and different weights. Different scope refers to the ways data providers break down ESG indicators into different hierarchies, while measurement refers to different scores for the same indicator across providers, and different weights refers to how much they weight certain scores. Measurement divergence was the largest contribution of divergence at 56%, while scope divergence accounted for 38% and weight divergence accounted for only 6% of total divergence. This means that more than half of the rating divergence comes from rating agencies using different underlying data for the same category, while the weighting adds very marginal difference to the scores.

Not only do ESG providers disagree, but many believe that the use of ESG scores has created a harmful tool for greenwashing. This criticism came into focus at the heels of the Russian invasion of Ukraine in March 2022. A Bloomberg article on March 16 aptly starts with the line. “The concept behind ESG keeps getting harder to defend.”<sup>14</sup> It cites the hypocrisy of large ESG funds holding shares in the fossil-fuel industry, weapons manufacturing, mining, and

<sup>14</sup> <https://www.bloomberg.com/news/articles/2022-03-16/greenwashing-is-increasingly-making-esg-investing-moot-green-insight>

in the Russian economy in the leadup to the war. That has created significant claims of greenwashing – especially pointed towards large ESG passive indexes who mirror other large indices and who’s rigor of ESG screening clearly have not matched the expectations of clients who own these funds. Instead, many of the largest ESG financial products have taken a minimalist approach to using ESG data, largely mirroring their benchmarks.

While both data provider disagreement and lax application of ESG are significant impediments, measuring ESG intentionality offers a major solution to these limitations. As this paper will go on to prove, while correlations at an indicator or yearly level may differ, finding large intentionality level improvements across time tend to be more correlated between providers than each provider’s latest score.

## **Section 2: Impact Investing in Public Market - Adding Intentionality and Additionality**

According to the Global Impact Investment Network, “Impact investments are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return.”<sup>15</sup> It seeks to provide capital to address societal challenges including but not limited to climate change, affordable housing, nature conservation, education, and healthcare. Impact investors are a needed addition to traditional funding sources from philanthropies or governments. While Impact investors have a wide range of objectives, they agree that they are in the business of investing with the intent to generate positive impact alongside some form of financial returns.

---

<sup>15</sup> <https://thegiin.org/impact-investing/need-to-know/#who-is-making-impact-investments>

While impact investors agree they are in the business to fund impactful companies, their financial goals differ. In a 2020 Annual Impact Investor Survey of financial return expectations, 67% pursue risk-adjusted market rate returns, while 18% target below-market but closer to market rate, and 15% seek below-market closer to capital preservation.<sup>16</sup> These funds target companies at various stages in their maturity but who's business processes contribute to solutions for societal challenges where the pure financial incentives are lagging behind.

In understanding how impact investing and ESG investing are differentiated, two key concepts emerge: “intentionality” and “additionality”. The next section discusses their role in bringing ESG into the realm of impact investing.

## **Intentionality**

Intentionality in impact investing is the “intentional desire to contribute to social and environmental benefit”.<sup>17</sup> It is the first of GIIN's four key elements of impact investing, alongside using impact data in investment, managing impact performance, and contributing to the growth of the industry. GIIN uses the term intentionality to distinguish this ESG investing and impact investing. This is due to the fact that ESG today is being used extensively as a screening tool to weed out the poorly scored companies. By only using ESG to screen in or out of large indices, investors do not demonstrate a clear desire to create positive impact.

It is also clear that many of the top rated ESG companies aren't in the business of explicitly creating measurable impact. Companies like Microsoft, Apple, or Salesforce consistently top ESG ranking when they provide very little in creating measurable change on core impact issues. Instead, they just happen to operate in the technology industry which is

---

<sup>16</sup> <https://thegiin.org/impact-investing/need-to-know/#who-is-making-impact-investments>

<sup>17</sup> <https://thegiin.org/characteristics>

inherently low on environmental harm and ahead on social equity and governance. In addition, these companies are some of the largest in the US and can afford to implement aggressive ESG activities. As a result, it's clear a high ESG ranking alone does not make companies relevant for impact investors.

Measuring ESG intentionality has the potential to bring ESG into the impact space by highlighting companies that have made significant improvements to their ESG scores. This directly isolates firms who are actively changing their business model and linking their true intentions to real quantifiable outcomes. This avoids the innate greenwashing that classic ESG funds are plagued by because it surfaces companies at a change level and not at a score level. To be considered impact, there must be a contribution to society, not just a low risk to creating harms. This shifts the ESG scheme away from large tech companies who never had to make serious changes to their business in order to perform well on ESG. Instead, it shifts the lens to companies who have improved dramatically and shown the intentional desire to create societal impact through their business.

It is also essential to differentiate between investor and company intentionality. In GIIN's definition of impact investing intentionality, they are alluding to the investors intent to generate impact. While intuitive in theory, it begs the question of how meaningful an investors intent is in creating real impact. Investors simply give capital to other enterprises, so it essential that the companies themselves have a high degree of intention in creating impact. Whether or not an investor wants to create impact, an impact investment should be measured at the outcome level, not whether or not an investor was attempting to create impact. Investments are impactful can only if the company's executives match the same desire to "do good" as their investors.

While it seems intuitive to measure a company's intentionality, research or discussion of measuring company's intent is sparse. This is while the largest ESG mutual funds have nearly the exact same holdings as their benchmark indices with only slight weight differentiation.<sup>18</sup> Current ESG funds don't have company intentionality when it comes to really improving on their ESG attributes or producing excess impact over their benchmark. This poses serious issues for the ESG industry at large.

### **Additionality**

While ESG intentionality at the investor and corporate level is an essential ingredient for achieving impact in public markets, the most discussed and debated roadblock in public market impact investing is additionality. An article published in the *Stanford Social Innovation Review* defines additionality as when “An impact investor seeks to produce beneficial social or environmental outcomes that would not occur but for his investment.”<sup>19</sup> Impact Investment professionals rely on this core counterfactual test as a determinant if an investment can be counted as impact. That means disproving “the extent to which desirable outcomes would have occurred without public intervention”.<sup>20</sup> Simply put, to be considered impact investing, investors themselves must prove that their investment helped create impact in the company that wouldn't have occurred had they not made an investment. Since public equities are so liquid, it is virtually impossible to track impact outcomes from solely buying secondary shares on a market.

---

<sup>18</sup> <https://www.bloomberg.com/news/newsletters/2022-02-02/many-big-esg-funds-are-just-glorified-market-trackers>

<sup>19</sup> Brest, P., & Born, K. (2013). Unpacking the Impact in Impact Investing. *Stanford Social Innovation Review*. <https://doi.org/10.48558/7X1Y-MF25>  
[https://ssir.org/articles/entry/unpacking\\_the\\_impact\\_in\\_impact\\_investing#](https://ssir.org/articles/entry/unpacking_the_impact_in_impact_investing#)

<sup>20</sup> <https://impactmanagementproject.com/glossary/#a>

However, this traditionalist view is changing. The Global Impact Investing Network created a Listed Equities Working Group in 2020 to assess the potential of achieving impact in public markets. The working group published their first report in June 2021, outlining their revised view on impact investing in public markets:

“Listed equity impact strategies have the potential to help close the SDG funding gap and direct more capital toward solving social and environmental problems. Investors in listed equities seek to contribute by:

- 1) influencing the use of companies’ retained earnings;
- 2) lowering the cost of capital to enable company growth; and/or
- 3) engaging with portfolio companies to improve their performance.

Investors typically employ one or more approaches in their impact strategies. Views varied widely on the degree to which investors contribute to driving impact in listed companies, given that the ownership stake of the investor is through the purchase of securities on a secondary market. Further clarity, guidance, and measurement of investor contribution is needed within the market.” (GIIN, 10)

While additionality is highly contextual to a given investment situation, it’s clear that the measurable improvements in impact indicators can be achieved. These observed changes in creating additionality for public companies can be compartmentalized into 2 levels: the increasing scale of money from the financial markets and the increased demand from consumers.

#### Financial Market Additionality

As discussed above, the scale of inflows into ESG labeled strategies is immense. Just the top 5 equity funds that label themselves as ESG have over \$60 billion dollars under management.<sup>21</sup> With climate change becoming increasingly urgent and social causes like diversity and inclusion becoming core issues for businesses, the pace of change isn't slowing down.

These pools of money can have outsized sway for companies who meet their criteria for achieving strong ESG intentionality. As highlighted in GIIN's Working Group on Impact in Listed Equities, large public market investments affect the cost of capital for businesses. A McKinsey study analyzed more than 2,000 academic studies and found that ESG scores translates to about a 10% lower cost of capital.<sup>22</sup> The cost of capital additionality argument is poised to be a lot greater if institutional managers align on public market impact investment going to companies who show significant ESG improvement as the number of ESG impact investors increase.

While the arguments for ESG lowering the cost of capital applies to all companies, the effects on small and mid-cap companies are much more apparent. Smaller publicly traded companies don't have the same cash on the balance sheet or access to capital sources as their large cap peers. These characteristics, alongside larger stock price volatility for smaller companies makes them prime target for creating additionality in public markets. A single large public market investment, which scaled to the largest ESG mutual funds could reach upwards of \$100 million, could land an ESG investor in the top 10 holders of the stock. This can create sizeable additionality, reflected in the company's cost of capital, increased ability bring on other large shareholders, and create direct engagement with the company to create further impact.

---

<sup>21</sup> <https://www.msci.com/documents/1296102/24720517/Top-20-Largest-ESG-Funds.pdf>

<sup>22</sup> <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/why-esg-is-here-to-stay>

Lastly, investors can yield additionality but lowering the expected cost of improving ESG characteristics. While improving ESG lowers the cost of capital in the long run, the existence of large institutional impact managers increases the financial viability of embarking on major ESG-related projects. Rules based impact managers who assess objective, outcome-oriented metrics-offers companies direct financial reward for engaging on ESG issues. This lowers the cost of ESG change, creating industry wide additionality by setting up the right structures to financially encourage ESG adoption.

### Firm Additionality

Creating an investment doesn't just affect the companies' financials. In isolating the most impactful ESG attributes and companies making the biggest improvements, the firms competitiveness increases as well. After a large investment based on ESG characteristics, many of the functions within the business get a boost. It directly affects the firms marketing efforts, highlighting the reports and ESG measures that they are leading on as a banner for their efforts and notoriety as leaders in the impact economy. It can help create a competitive advantage that customers are increasingly conscious of, creating branding efforts that can hone a competitive advantage over competitors. It affects the human capital of its employees, who are increasingly vocal that they want purpose in their work and want to believe in the social actions of their business. Caring and acting on ESG issues undeniably has positive outcomes for a business's success, especially in a world that is demanding these changes.

Large investors who invest for the main purpose of creating impact through their investment become advocates for their portfolio companies and produce additionality that don't just affect financials. They are vocal advocates who bring their portfolio companies into the

spotlight. While many in the disruptive innovation space have these figures, such as Ark Investments' Cathie Woods, public market investors seeking impact have yet to gain the same spotlight.

While the scale of the market is rapidly increasing, using the same old counterfactual of whether an action would have happened without intervention, especially when it comes to public market investment, seems outdated. Direct attribution of impact's cause and affect should not be the barometer of impact investing for public markets. Instead, impact investors should be concerned with identifying measurable change and action on ESG issues. Using the scale and depth of ESG data, public market impact data can be used to isolate strong winners and bring both financial and firm level additionality to portfolio companies through impact investment.

## **Section 3: Intentionality Methodology and Results**

### Intentionality Methodology

The analysis was done using data from 3 companies: Refinitiv, S&P Global, and Impact-Cubed. This included standard ESG data packages from Refinitiv and Impact-Cubed and 2 distinct datasets from S&P Global. The S&P Global aggregate ESG scores were from their Compustat-Capital IQ dataset which uses their SAM Corporate Sustainability Assessment (CSA) model. The specific indicator climate and emissions data is from Trucost Environmental scores dataset. Both S&P and Refinitiv data were obtained through WRDS subscription and Impact-Cubed was obtained through a research trial contract.

To construct an “intentionality” sample of companies who have shown both significant improvement and consistency across data providers, a base list was constructed of eligible companies for this study. To source a large pool of investible and easily tradable equities within

the United States, the Russel 3000 was chosen as a base list and run against the cumulative ESG scores from Refinitiv and S&P. Using the 2021-2022 Russel 3000 company list which rebalances every May,<sup>23</sup> a match was run for all Russel 3000 companies in the S&P and Refinitiv ESG database. This list was then screened to ensure full data coverage from the last 5 years and coverage in both S&P and Refinitiv providers. From an initial total list of 2743 equities in the Russel index, 1926 tickers had complete data from both providers in a 5 year lookback period between 2016-2021.

### S&P and Refinitiv Correlation Results

To test for correlation consistency with previous research papers, the correlation between the S&P and Refinitiv datasets for the Russel sample was run in 2 separate ways. The first was a correlation between the S&P and Refinitiv datasets for the 2021 assessment year and the second for the combined 2016 and 2021 assessment years. The 2021 correlation within the Russel 3000 sample between Refinitiv and S&P are .53 and for the 2016 and 2021 years are .60. This verifies the analysis done by researchers in 2019 about the correlations between S&P and Refinitiv ESG scores, which they found to be .62, in line with the results from 2016 and 2021 of .60.

An agreement matrix between data providers was also constructed within the Russel 3000 sample, looking at placement agreement of given companies in their score universe.

The Null hypothesis states:

There is no discernable difference in agreement between the different portions of the S&P and Refinitiv universes.

---

<sup>23</sup>[https://www.reuters.com/business/ftse-russell-says-annual-indexes-reconstitution-occur-late-june-2022-03-02/#:~:text=On%20the%20last%20Friday%20every,make%20up%20the%20Russell%203000%20\(](https://www.reuters.com/business/ftse-russell-says-annual-indexes-reconstitution-occur-late-june-2022-03-02/#:~:text=On%20the%20last%20Friday%20every,make%20up%20the%20Russell%203000%20()

The S&P and Refinitiv data was split into 5 groups respectively, representing what % of universe they are found. For example, the top 20% of Refinitiv scores got a score of 5 and the top 20% of S&P scores got a 5, then the next 20% of scores from each provider were in group 4, etc. until the final group 1 which were scores in 0-20% range. Then this scale was compared between the two data providers to generate % agreement within the 20% groupings of their universe, or the times when they Refinitiv and S&P agree on the relative ESG scores of companies within their universe. The results are shown in the table below.

<b>2021 Agreement</b>	
Scale	% Agreement
5	48%
4	28%
3	31%
2	29%
1	44%

These results establish an interesting finding about the agreement of data providers on the very bottom and very top of their score universes. It is clear that there is statistically a higher agreement on scores within the top 20% and bottom 20% of companies compared to the middle of their score universes. This is an important finding in establishing a connection between bottom and top companies, where there is significantly more agreement on the worst and best performers. Since intentionality seeks to identify companies who were once poor and now performing highly, this further solidifies that there is more agreement on these characteristics than the middle of their score universes.

After confirming relative correlations between the large sample, an “intentionality” sample was constructed on top of the Russel 3000 ESG sample. To surface significant improvement and consistency across data providers, 2 filters were put on the datasets. The first was to filter for 100% improvement in ESG score in both datasets on a 5-year lookback window between 2016 and 2021. This 100% improvement, or doubling, of ESG scores was then filtered to be consistent across both providers, so that both agreed that a company had doubled their score between 2016 and 2021. The second filter required that a company’s 2021 score was above 50% of all companies evaluated, in that they were in the top 50% of all Russel 3000 companies evaluated. This screened out the companies who doubled their score but were still underperforming half of the index. After these filters were put in place, 54 companies fit the characteristics of companies who have exhibited “intentionality” level improvement across both ESG universes.

The Null hypothesis states:

There is no difference in correlation between data providers in the intentionality sample compared to the broader Russel 3000 sample

This correlations between data providers in the “intentionality” sample were compared against the overall Russel 3000 universe. The 2021 scores for the intentionality sample between data providers had a correlation of a measly .10. This can be attributed to the difference in raw scoring measurement systems of the two data providers across a small sample. However, in comparing the sample data of 2016 and 2021 together between the two providers, the correlation for the intentionality sample is .69. This “intentionality” sample correlation of 2016 and 2021

values of .69 outperforms the larger Russel 3000 sample of .60 of the 2016 and 2021 values, establishing a correlation outperformance of the “intentionality” sample against the larger the Russel 3000 sample, as well as the previous correlation values in the 2019 study which found the correlation between Refinitiv and S&P to be .62. This proves that seeking “intentionality” level improvements across data providers yields a higher correlation than looking at the entire universes.

### ESG Intentionality in Producing Impact Alpha

The “intentionality” sample described in the previous section was then compared to Impact-Cubed’s universe of impact indicators. Unlike other major ESG data providers, Impact Cubed does not generate a cumulative ESG score, instead opting for a multi-indicator approach that allows users to analyze companies based on specific outcome-oriented indicators. As a proxy for ESG, data on ESG was broken down into a core indicators for each E, S, and G. Carbon efficiency, measured in tones of Scope 1&2 GHG emissions per \$1M revenue, was measured for E. Gender equality, measured in percentage of women in boards and top management, represented the S score. Governance, measured in independent board members, represents the governance score.

A benchmark was also introduced to determine comparison in improvements across different indicators. The largest index based ESG ETF, MSCI’s ESG Aware USA ETF, ticker (ESGU) was used as a benchmark.<sup>24</sup> MSCI’s ESG Aware USA ETF is a mutual fund with exposure to large- and mid-cap U.S. stocks, tilting towards those with favorable environmental,

---

<sup>24</sup> <https://www.msci.com/documents/1296102/24720517/Top-20-Largest-ESG-Funds.pdf>

social and governance (ESG) ratings.<sup>25</sup> The Russel 3000 is a capitalization-weighted stock market index that seeks to be a benchmark of the entire U.S stock market. The results were then tested against these two benchmarks to determine how much more improvement in these indicators occurred, according to Impact-Cubed data, between my “intentionality” sample, ESGU’s score sample, and the larger Russel 3000 universe. The results are shown below:

<b>Average % Change between 2016-2021</b>			
<b>*Indicator</b>	<b>Russel 3000</b>	<b>ESGU</b>	<b>Intentionality Sample</b>
GHG emissions	-13.35%	-23.70%	-24.58%
Gender Diversity	68.75%	63.77%	101.27%
Independent Board	4.77%	4.56%	3.69%

\*GHG emissions: tonnes of GHG (Scope 1&2) emissions per \$1Mrevenue

\*Gender Diversity: percentage of women in boards and top management

\*Independent Board: # of independent board members

The results show ESGU and the intentionality sample have significantly better performance than the broader Russel 3000 index on average decrease in GHG emissions/\$1M revenue, with a slight overperformance from the intentionality sample. In improvement of gender representation in management, ESGU actually underperformed the Russel 3000 in the average change in women in management in the last 5 years, with the intentionality sample drastically beating out both ESGU and Russel 3000. Lastly, the governance indicator is largely similar across the sample with all 3 percent changes hovering around 4%. Thus, in measuring even the top ESG mutual funds, measuring a much smaller sample of companies creating intentional improvements can create impact outperformance over both the major benchmarks. This occurs even when looking at a third-party data source, in this case Impact-Cubed, which verified that there is outperformance on 2 of the 3 measures highlighted.

<sup>25</sup> <https://www.blackrock.com/us/individual/products/286007/ishares-esg-aware-msci-usa-etf>

### GHG Intentionality Example

The measurement of intentionality isn't limited to just overall ESG. For investors most concerned about specific ESG issues, such as GHG emissions, measuring corporate intentionality to make significant improvements on emissions targets can also create significant impact alpha compared to the benchmark. Companies who have displayed massive intentional improvements to reduce their company's carbon footprint, measured by the historical change in emissions, should be characterized as companies displaying intentionality in GHG emissions reduction.

The Null hypothesis states:

The Russel 3000, MSCI's ESG Aware USA ETF, and a "GHG Intentionality" sample have no discernable difference in total and average change of GHG emissions.

S&P Trucost's environment data was used to measure absolute GHG Scope 1 and Scope 2 emissions. A model was constructed of the Russel 3000, ESGE, and Intentionality Sample based on the emissions data. These emissions classifications are defined as, "Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles). Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling."<sup>26</sup>

The model for all 3 samples included companies with full coverage of S&P's emissions data and included calculations of the total and average emissions change over a 4 year period

---

<sup>26</sup> <https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>

between 2016-2020. The intentionality sample was constructed by finding companies within the broader Russel 3000 universe that have decreased both their Scope 1 (S1) and Scope 2 (S2) emissions from 2016-2020 by at least 50%. This halving of S1 and S2 emissions yielded an GHG intentionality sample of 91 companies from the original Russel 3000 list.

The 3 portfolio models were compared based on their change in GHG emissions:

<b>Russel 3000 GHG Emissions 2016-2020</b>		
Emissions Type	Total Change in GHG/tons	Average Change in GHG/tons (*n=1796)
Scope 1	-177,446,268	-98,801
Scope 2	-14,954,183	-8,326
<b>Total Change</b>	<b>-192,400,452</b>	<b>-107,127</b>

<b>ESGU GHG Emissions 2016-2020</b>		
Emissions Type	Total Change in GHG/tons	Average Change in GHG/tons (*n=274)
Scope 1	-40,189,906	-146,678
Scope 2	1,706,652	-5,557
<b>Total Change</b>	<b>-38,483,254</b>	<b>-152,235</b>

<b>Intentionality Sample GHG Emissions 2016-2020</b>		
Emissions Type	Total Change in GHG/tons	Average Change in GHG/tons (*n=91)
Scope 1	-138,451,162	-1,521,441
Scope 2	-29,301,939	-321,999
<b>Total Change</b>	<b>-167,753,101</b>	<b>-921,720</b>

\*n= number of companies in test sample

A few key findings jump out immediately. The first is that while the average Russell 3000 company decreased their scope 1 and 2 emissions by 110,000 tons, the average ESGE, which is tilted much more to larger companies who have touted aggressive emission targets, only compare slightly better to the entire US market at around 150,000 tons of GHG emission reduced. The intentionality sample, which looks at the companies who have drastically cut Scope 1 and Scope 2 emissions, outperforms both the Russell 3000 sample and MSCI ESG ETF sample, with the average change per company at nearly 9x more than the average company in the Russell benchmark and 6x the average in the MSCI ESG index. Most interestingly, these 91 companies represented in the “GHG intentionality” sample comprised nearly 87% of the total reduction in GHG of the entire US equity market represented by the Russell 3000 index. That means that just holding these 91 companies would account for nearly 90% of the entire overall reduction in GHG emissions by all companies in the Russell 3000 index.

This “GHG intentionality” sample of companies come from all major industries, including most prominently Consumer Discretionary, Health Care, Real Estate, Tech and Software, and Financial Services. It also includes a handful of highly intentional Oil & Gas companies who have made significant strides over the past 4 years to reduce their emissions at a Scope 1 and 2 level. Just 2 of them, American Electric Power and DuPont De Nemours Inc., have reduced nearly 100 million tons of GHG emissions. American Power cut 55% of Scope 1 and 96.35% of Scope 2, while Dupont slashed and 75% of Scope 1 and 79% of Scope 2 emissions. The GHG Intentionality sample also includes many recognizable companies such as

Hilton Grand Vacations, Macy's, Norwegian Cruise Line, and even fan favorite AMC Entertainment.

In financing a 0-carbon future, it is essential that investors and the public alike incentivize intentional improvements by company management to drastically reduce their carbon footprint. These drastic actions, which are now bearing out in quantifiable data, can give a tool for the investors and the public alike to compare changes and support the capital structure of businesses who are leading that change at an outcome level, not just through their posturing and marketing efforts. Intentionality in the context of GHG emissions should also be used to dispel the myth that having a high ESG score or low emissions means you are doing the most to help our transition. Instead, intentionality calls on the financial industry to invest in companies who are making the necessary actions to slash their emissions and be a beacon for others to do the same.

## **Conclusion**

As ESG considerations becomes a major force in the business and finance world, measuring ESG intentionality can merge ESG investing with impact investing. Companies that exhibit intentional improvements and see a dramatic increase in their ESG score should be rewarded, especially when the result is becoming an ESG leader among their peers. This paper argues that showing significant improvements, that is doubling their ESG score or reducing their GHG emissions by more than 50%, highlights companies demonstrating impact intentionality within their business.

This form of ESG intentionality should meet the recognized definition of impact investing because it surfaces corporations who have made measurable change in their environmental and societal impact. By accepting this methodology as an impact investing

strategy, the investor community can generate additionality for these companies, benefiting their portfolio companies by reducing the cost of capital and altering the cost benefit analysis of future companies who are deciding whether to embark on an aggressive ESG strategy.

The results from an intentionality model in listed equities displayed definitive impact outperformance. The intentionality sample is more correlated than the overall Russel 3000 universe between the Refinitiv and S&P ESG datasets, producing a correlation of .69 compared to .60. This shows a higher degree of agreement about intentionality than the broader universe. The sample also generated higher emissions reductions and increased gender diversity on average compared to both the Russel 3000 and MSCI's ESG Aware USA ETF. Lastly, a GHG intentionality sample produced 9x the emissions reduction on average compared to the Russel 3000 and nearly 6x more than MSCI's. The 91 companies in the GHG sample represented 87% of the total reduction in Scope 1 and Scope 2 emissions of the entire Russel 3000 universe over a 4 year period, showing just how much of an impact a small list of companies had on the broader emissions landscape.

As the Global Impact Investing Network and ESG professionals alike decide on how to integrate ESG in the investment process, public markets offer a new and unique opportunity to create measurable impact. This paper hopes to shed light on a new view that brings ESG into the realm of impact investment through measuring intentionality. Future research on intentionality measurement as well as the financial performance of intentionality-oriented portfolios is needed.

## Work Cited

1. “Core Characteristics of Impact Investing | The GIIN.” *The GIIN*, <https://thegiin.org/characteristics>. Accessed 5 Nov. 2022.
2. “What Is ESG? Definition and Meaning.” *Market Business News*, 1 May 2022, <https://marketbusinessnews.com/financial-glossary/esg-definition-meaning/>.
3. Veenstra, E.M.; Ellemers, N. ESG Indicators as Organizational Performance Goals: Do Rating Agencies Encourage a Holistic Approach? *Sustainability* **2020**, *12*, 10228. <https://doi.org/10.3390/su122410228>
4. “Materiality Finder” SASB, <https://www.sasb.org/standards/materiality-finder/find/?lang=en-us>
5. Atkins, Betsy. “Demystifying ESG: Its History & Current Status.” *Forbes*, 8 June 2020, <https://www.forbes.com/sites/betsyatkins/2020/06/08/demystifying-esgits-history--current-status/>.
6. *Who Cares Wins — Connecting Financial Markets to a Changing World*. [https://www.ifc.org/wps/wcm/connect/Topics\\_Ext\\_Content/IFC\\_External\\_Corporate\\_Site/Sustainability-At-IFC/Publications/Publications\\_Report\\_WhoCaresWins\\_\\_WCI\\_\\_1319579355342](https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Publications/Publications_Report_WhoCaresWins__WCI__1319579355342). Accessed 5 Nov. 2022.
7. Niemoller, John. “ESG Reporting Frameworks: Comparing CDP, GRI & More.” *Perillon - a Lisam Company*, 8 June 2021, <http://www.perillon.com/blog/esg-reporting-frameworks>.
8. Cohn, Michael. “SASB and IIRC Complete Merger to Form Value Reporting Foundation.” *Accounting Today*, 9 June 2021, <https://www.accountingtoday.com/news/sasb-and-iirc-complete-merger-to-form-value-reporting-foundation>.
9. Hale, Jon. “A Broken Record: Flows for U.S. Sustainable Funds Again Reach New Heights.” *Morningstar, Inc.*, 28 Jan. 2021, <https://www.morningstar.com/articles/1019195/a-broken-record-flows-for-us-sustainable-funds-again-reach-new-heights>.
10. Visram, Talib. “ESG Investing Continued to Soar in 2021. The Government Could Boost It Even More.” *Fast Company*, 28 Dec. 2021, <https://www.fastcompany.com/90706552/esg-investing-continued-to-soar-in-2021-the-government-could-boost-it-even-more>.
11. Amel-Zadeh, Amir and Serafeim, George, Why and How Investors Use ESG Information: Evidence from a Global Survey (July 1, 2017). *Financial Analysts Journal*,

2018, Volume 74 Issue 3, pp. 87-103., Available at  
SSRN: <https://ssrn.com/abstract=2925310> or <http://dx.doi.org/10.2139/ssrn.2925310>

12. Anna Hirai and Andrew Brady. “Managing ESG Data and Rating Risk.” *Managing ESG Data and Rating Risk*, Harvard Law School Forum on Corporate Governance; 28 July 2021, <https://corpgov.law.harvard.edu/2021/07/28/managing-esg-data-and-rating-risk/>.
13. Berg, Florian and Kölbel, Julian and Rigobon, Roberto, Aggregate Confusion: The Divergence of ESG Ratings (August 15, 2019). Forthcoming Review of Finance, Available at SSRN: <https://ssrn.com/abstract=3438533> or <http://dx.doi.org/10.2139/ssrn.3438533>
14. Quinson, Tim. “Greenwashing Is Increasingly Making ESG Moot.” *Bloomberg*, 16 Mar. 2022, <https://www.bloomberg.com/tosv2.html?vid=&uuid=5ad9b59f-d15f-11ec-b97c-6d734e6b516e&url=L25ld3MvYXJ0aWNsZXMvMjAyMi0wMy0xNi9ncmVlbndhc2hpbmctaXMtaW5jcmVhc2luZ2x5LW1ha2luZy1lc2ctaW52ZXN0aW5nLW1vb3QtZ3JlZW4taW5zaWdodA==>.
15. “What You Need to Know about Impact Investing.” *The GIIN*, <https://thegiin.org/impact-investing/need-to-know/>. Accessed 5 Nov. 2022.
16. “What You Need to Know about Impact Investing.” *The GIIN*, <https://thegiin.org/impact-investing/need-to-know/>. Accessed 5 Nov. 2022.
17. “Core Characteristics of Impact Investing | The GIIN.” *The GIIN*, <https://thegiin.org/characteristics>. Accessed 5 Nov. 2022.
18. Quinson, Tim. “Many Big ESG Funds Are Just Glorified Market Trackers.” *Bloomberg*, 2 Feb. 2022, <https://www.bloomberg.com/tosv2.html?vid=&uuid=b87d0509-d15f-11ec-b92d-7673684f7941&url=L25ld3MvbmV3c2xldHRlcnMvMjAyMi0wMi0wMi9tYW55LWJpZy1lc2ctZnVuZHMtYXJlLWp1c3QtZ2xvcmlmaWVhcnVlc2ctaW52ZXN0aW5nLW1vb3QtZ3JlZW4taW5zaWdodA==>.
19. Brest, P., & Born, K. (2013). Unpacking the Impact in Impact Investing. *Stanford Social Innovation Review*. <https://doi.org/10.48558/7X1Y-MF25> [https://ssir.org/articles/entry/unpacking\\_the\\_impact\\_in\\_impact\\_investing#](https://ssir.org/articles/entry/unpacking_the_impact_in_impact_investing#)
20. Impact Management Project, Glossary, <https://impactmanagementproject.com/glossary/#a>
21. Mahmood, Rumi. “The Top 20 Largest ESG Funds — Under the Hood.” *MSCI*, 29 Apr. 2021, <https://www.msci.com/documents/1296102/24720517/Top-20-Largest-ESG-Funds.pdf>.
22. Bernow, Sara. “Why ESG Is Here to Stay.” *McKinsey & Company*, 11 May 2022, <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/why-esg-is-here-to-stay>.

23. Reuters. “FTSE Russell Says Annual Indexes Reconstitution to Occur in Late June.” *Reuters*, 2 Mar. 2022, <https://www.reuters.com/business/ftse-russell-says-annual-indexes-reconstitution-occur-late-june-2022-03-02/>.
24. Mahmood, Rumi. “The Top 20 Largest ESG Funds — Under the Hood.” *MSCI*, 29 Apr. 2021, <https://www.msci.com/documents/1296102/24720517/Top-20-Largest-ESG-Funds.pdf>.
25. “iShares ESG Aware MSCI USA ETF | ESGU.” *BlackRock*, 30 Apr. 2022, <https://www.blackrock.com/us/individual/products/286007/ishares-esg-aware-msci-usa-etf>.
26. “Scope 1 and Scope 2 Inventory Guidance | US EPA.” *US EPA*, 14 Dec. 2020, <https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>.