

Spring 5-1-2022

## Impact of the Quality of ESG Reporting on Profitability of Trucking and Oil Companies

Diane Meng

University of Connecticut, dmeng0611@gmail.com

Follow this and additional works at: [https://opencommons.uconn.edu/srhonors\\_theses](https://opencommons.uconn.edu/srhonors_theses)

 Part of the [Accounting Commons](#), [Business Analytics Commons](#), [Business Law, Public Responsibility, and Ethics Commons](#), and the [Corporate Finance Commons](#)

---

### Recommended Citation

Meng, Diane, "Impact of the Quality of ESG Reporting on Profitability of Trucking and Oil Companies" (2022). *Honors Scholar Theses*. 885.

[https://opencommons.uconn.edu/srhonors\\_theses/885](https://opencommons.uconn.edu/srhonors_theses/885)

**Impact of the Quality of ESG Reporting on Profitability of Trucking  
and Oil Companies**

**Diane Meng**

**University of Connecticut School of Business  
Department of Accounting  
Undergraduate Honors Thesis**

**Thesis Supervisor: Youli Zou  
Honors Advisor: Alina Lerman**

**April 2022**

### **Abstract**

A growing number of companies have been providing disclosures regarding ESG issues and goals in their financial reports. Studies have investigated the association between the quality of ESG reporting and the financial performance of various companies, which showed various results. However, the association between the two factors remains unclear. In this study, I examine the relationship between the quality of ESG reporting and the profitability of companies in the trucking and oil industries from 2011 to 2020. I predict that greater quality of ESG reporting results in higher profitability of companies in both industries. Overall, the results of this study are mixed. The results suggest that 1) no correlation exists between quality of ESG reporting and ROA of trucking companies; 2) increased length and specificity of ESG disclosures are associated with a decrease in the ROE and after-tax ROIC of trucking companies; and 3) increased ESG reporting quality correlates with increased EBITDA of trucking companies. My findings also reveal that 1) increased thoroughness of ESG reporting is associated with a decrease in ROE of oil and gas companies; and 2) the quality of ESG reporting has no effect on the ROA, after-tax ROIC, and EBITDA of the oil and gas companies.

Keywords: ESG Disclosure, ESG Ratings, Corporate Social Responsibility, Profitability

## I. INTRODUCTION

Environmental, social, and corporate governance (ESG) issues are very relevant to the business world today. The goal of ESG is to help companies consider not only their profitability but also their impact on society as a whole. It goes beyond providing goods and services to various consumers and employing individuals from different backgrounds. While ESG reporting is still optional rather than mandated, the growing concerns about climate change, poor worker safety, and lack of diversity in the workplace increased the focus on and expectations of informative ESG disclosures. Additionally, the recent COVID-19 pandemic has emphasized the connection between sustainable development and financial performance. These issues have prompted companies to become more mindful of the effect of their business processes on the environment.

While financial information serves as an important indicator of the business performance of a company, stakeholders are paying greater attention to non-financial information such as the integrity of a company as well as its management of social and environmental issues. For instance, a company's misrepresentation of true economic conditions undermines the quality of its financial reports. Firms may misreport their true economic conditions due to motivations such as increasing share prices and promoting compensation-based bonuses. Misleading information about the content of the financial information has led to financial scandals in large firms, which has escalated global concern about the quality of financial reports. This eventually led companies in various countries to adopt financial reporting regulations such as the Sarbanes–Oxley Act of 2002. Furthermore, the demand for information regarding a company's impact on society and the environment has increased significantly among stakeholders. Due to increased awareness of these issues, stakeholders want increased accountability of large firms for their impacts on

society and the environment. ESG information may enable companies to improve the quality of their financial reports by increasing their sensitivity to ethical issues. ESG reporting serves as a new measure of accountability that demonstrates the company's commitment to social and environmental goals, which further ensures trust among its stakeholders.

In this study, I research ten companies in the trucking industry and five companies in the oil and gas industry. I read the 10-K filings of each company and assess the quality of their ESG disclosure. I examine seven metrics that measure the quality of ESG disclosures in each 10-K filing. These metrics include word count, compactness, specificity of carbon neutrality or reduction goals, the impact of environmental laws and initiatives on financial performance, the impact of environmental responsibility on the company's reputation, direct disclosures about ESG matters, and descriptions of environmental matters. I give a score on each metric and compute the sum to calculate the total ESG quality score of each company. I examine the association between the total ESG quality scores and four profitability metrics: return on assets (ROA), return on equity (ROE), after-tax return on invested capital (ROIC), and earnings before interest, taxes, depreciation, and amortization (EBITDA). To research the profitability metrics, I download data on those metrics from Wharton Data Research Services (WRDS). I record the profitability metrics during each year from 2011 and 2020. I conduct a linear regression between ESG quality score and each of the four profitability metrics of the trucking and oil companies.

Results of my study overall are rather mixed. The regressions suggest that quality of ESG reporting has no impact on ROA of trucking companies. The regressions also show that increased length and specificity of ESG disclosures may lead to a decrease in ROE and after-tax ROIC of trucking companies. I find that increased ESG reporting quality associates with an increase in the EBITDA of trucking companies. The results of the oil and gas companies are

slightly different from those of the trucking companies. My results reveal that ESG disclosures that are longer in length and more specific about ESG issues and goals may result in a decline in the ROE of oil and gas companies. The results also suggest that no correlation exists between ESG reporting quality and after-tax ROIC of oil and gas companies. However, the results of the correlations between ESG quality and ROA as well as EBITDA are not statistically significant. Thus, the results suggest that quality of ESG reporting has no impact on the ROA and EBITDA of oil and gas companies.

This paper focuses on the impact of the extent of ESG disclosures on the financial performance of companies in the trucking and oil/gas industries. Increased awareness of social and environmental issues as well as increased adherence to social governance standards have allowed numerous companies to generate a positive impact on their communities while reaping high profits. However, the relationship between the quality of ESG reporting and financial performance is still unclear. It is possible that extraneous factors may have enabled these companies to increase their profitability. The aim of this research is to determine the association between quality of ESG reporting and profitability of each company.

## **II. BACKGROUND**

### **Current ESG Initiatives**

Recently, numerous public companies have been involved in initiatives that aim to address ESG issues. PricewaterhouseCoopers (PwC) is one of the leaders in environmental initiatives and corporate social responsibility. The firm is involved in a variety of initiatives that advocate for greater diversity and inclusion in the workplace. For instance, PwC co-founded the CEO Action for Diversity and Inclusion, the largest CEO-driven commitment to advance

diversity in the workplace.<sup>1</sup> The pledge was signed by more than 1,200 CEOs of companies around the world. PwC is also dedicated to supporting the well-being of all its employees. The firm offers a range of benefits aimed at meeting the personal and financial well-being of employees, such as comprehensive medical coverage, life insurances for business travels, and credential bonuses to employees who obtain their CPA early. In October 2021, the firm expanded its virtual job options so that employees have the flexibility to work anywhere in the US.

PwC strives to promote greater awareness of ESG issues. The firm posted numerous episodes in its ESG podcast series, where various PwC specialists discussed today's most gripping accounting and financial reporting issues. The firm also posted various articles on its website that inform the public on ESG research and insights. For instance, Bhushan Sethi, a People & Organization Joint Global Leader of PwC, posted the article "ESG - Climate change strategy as a differentiator for talent."<sup>2</sup> The article describes tips on how to encourage the workforce to implement a strategy for reducing carbon emissions and drive positive climate change. Moreover, in December 2021, PwC and Workiva expanded their alliance to promote a tech-powered approach to ESG reporting issues. When companies gain access to profession-leading practices in ESG strategy and technology-enabled reporting, data-driven insights go deeper and the quality of ESG data increases significantly.<sup>3</sup>

---

<sup>1</sup> "Building on a Culture of Belonging." <https://www.pwc.com/us/en/about-us/diversity.html>

<sup>2</sup> "ESG - Climate change strategy as a differentiator for talent." <https://www.pwc.com/us/en/services/esg/library/climate-change-talent-strategy-activation.html>

<sup>3</sup> "PwC and Workiva Expand Alliance to Help Businesses Produce Reliable, Tech-Enabled ESG Reporting." [https://ca.finance.yahoo.com/news/pwc-workiva-expand-alliance-help-174606082.html?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuYmluZy5jb20v&guce\\_referrer\\_sig=AQAAAHPnbJYz7YM5jlEp0ir7y8vLlwOsmzwp92ALTln-XeA-G3a05oPO-bXZmuFyn8Vmor-d6GmzoAiRAiWIwApCz-SA3Kw48UbaHUvgIh8Q2n0z0QvZ1hksXkwS6pKK4sdcH6q5nsJ30L9sly-l7iVjsPXhf4FaxMo7UVPPFFgiS9F](https://ca.finance.yahoo.com/news/pwc-workiva-expand-alliance-help-174606082.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuYmluZy5jb20v&guce_referrer_sig=AQAAAHPnbJYz7YM5jlEp0ir7y8vLlwOsmzwp92ALTln-XeA-G3a05oPO-bXZmuFyn8Vmor-d6GmzoAiRAiWIwApCz-SA3Kw48UbaHUvgIh8Q2n0z0QvZ1hksXkwS6pKK4sdcH6q5nsJ30L9sly-l7iVjsPXhf4FaxMo7UVPPFFgiS9F)

Another company that advocates for more focus on ESG issues is Microsoft Corporation. Its corporate responsibility website reveals that the company is involved in numerous initiatives that promote human rights of its employees, greater diversity and inclusion, increased online safety, and greater environmental sustainability.<sup>4</sup> On the website, Microsoft includes a webpage that encourages its employees to speak about concerns regarding human rights and build greater trust in one another. Microsoft has invested an ample amount of money and time in initiatives that advocate for increased diversity and inclusion in its workplaces. Microsoft plans to invest \$150 million in initiatives that aim to strengthen inclusion and double the number of African American, Hispanic and Latinx managers and senior leaders by 2025. The company has also built various accessibility features in its software to allow people with vision, hearing, and mobility disabilities to utilize them. Moreover, Microsoft has been running the initiative DigiGirlz for over 20 years. DigiGirlz is a program that educates female students in middle school and high school about careers in computer science and technology. The program aims to support girls who want to pursue a career in technology and further close the gender gap in this industry.

Microsoft runs several different initiatives that promote and increase online security of its software and the Internet. Every year, Microsoft runs the Digital Civility Challenge, an initiative in which the company conducts surveys on the views and concerns regarding Internet safety. The company conducted its most recent surveys from April 23, 2021 to May 8, 2021 in 22 countries, polling adults aged 18-74 and teens aged 13-17.<sup>5</sup> The surveys ask respondents about their exposure to online risks and how those experiences impacted their perceptions of online civility.

---

<sup>4</sup> “Microsoft Corporate Social Responsibility.” <https://www.microsoft.com/en-us/corporate-responsibility>

<sup>5</sup> *Civility, Safety & Interaction Online*. (Report No. 6). 1-4.

Furthermore, Microsoft is involved in various initiatives that aim to create a more sustainable environment. In 2021, the company released its report titled “2021 Environmental Sustainability Report,” where it described its initiatives that promote a healthier environment.<sup>6</sup> The company has set a goal to become carbon negative by 2030. The company sets annual carbon emission reduction targets for Scopes 1, 2, and 3 emissions. The company has been utilizing alternative energy sources such as kinetic energy to further reduce its carbon emissions. Additionally, the company is involved in several projects that remove excess carbon from the atmosphere, such as Root’s Communitree reforestation project in Nicaragua and investment in Climateworks’ Orca air capture plant in Iceland. Microsoft also aims to be water positive by 2030 by expanding access to clean water and replenishing its projects. The company sets annual water usage reduction goals across its operations in order to reduce its overall water footprint. In order to replenish more water than it consumes, the company has invested in projects that protect watersheds, restore wetlands, and improve infrastructure.

## **Prior Literature**

Various prior literatures show preliminary evidence that increased ESG reporting and attention to ESG issues improves the financial performance of many companies. Whelan, Atz, Van Holt, and Clark (2021) survey over 1,000 research papers from 2015-2020 to study the relationship between ESG reporting and financial performance. They divided the articles into those that focused on corporate financial performance and those that focused on investment performance. Results of this study show a positive relationship between ESG and financial performance for 58% of the corporate studies and 59% of the investment studies. Overall, the

---

<sup>6</sup> 2021 *Environmental Sustainability Report*. 16-60.

results indicate that good corporate social management leads to improved financial performance of numerous companies.

Another study conducted by Şeker and Şengür (2021) in Turkey show a positive correlation between ESG scores and financial performance. The authors of this study investigated 16,072 firm-year observations from 35 countries from the year 2010 to 2017. ESG performance was measured by calculating the ESG score of each company. The ESG score was calculated by taking the average of the ESG scores reported on databases such as ASSET4, KLD, and Bloomberg. To measure the financial reporting quality (FRQ) of each company, several researchers developed various proxies to calculate the FRQ score. The results indicate that higher ESG scores increase FRQ, which suggests that firms do not use ESG reporting for misleading purposes.

While some studies show preliminary evidence of a positive correlation between ESG reporting and financial performance, there are others that suggest the opposite. In their study, Christenson, Serafeim, and Sikochi (2021) find that greater ESG disclosure results in greater ESG disagreement among ESG rating agencies. This greater ESG disagreement correlates with higher stock return volatility, larger absolute price movements, and decreased likelihood of issuing external financing. The authors of this study obtained ESG ratings from three ESG rating agencies: Morgan Stanley Capital International's Intangible Value Assessment, ASSET4, and Sustainalytics.<sup>20</sup> The authors also obtained ESG disclosure scores provided by Bloomberg to examine the extent of firms' ESG disclosures.

A different study reveals similar results. Serafeim and Yoon (2022) find that firms with low ESG disagreement result in increased stock price reaction results. This may be because firms with low ESG disagreement are more likely to create stronger expectations about future ESG

news, which increases the predictiveness of ESG ratings. The authors utilized an empirical model to examine how the ESG ratings of multiple ESG rating agencies perform in predicting ESG news. The ESG rating agencies include MCSI Rating, Sustainalytics Rating, and Thomson Rating. Then, the authors formed long and short stock portfolios to predict future stock returns. Results show that the presence of ESG disagreement correlates with little market reaction to ESG news. In fact, the results suggest that more predictive ESG ratings lead to higher stock reaction results.

As discussed earlier in this paper, increased awareness of ESG issues enables companies to be more mindful of their social and environmental impact on society. ESG disclosures that are longer in length and more specific about social and environmental goals suggest that the firm is more mindful of its impact on its stakeholders compared to the majority of other firms. If a firm is more aware of its impact on its stakeholders, then it can provide more accurate and reliable information to financial statement users. This increased quality of financial reporting may contribute to increased future financial performance of that firm. Thus, I predict that higher quality of ESG reporting increases the profitability of companies in the trucking and oil industries. In fact, I predict that increased length and thoroughness of ESG disclosures would enable companies to generate increased profits.

### **III. DATA AND METHODOLOGY**

I estimate the following linear regression model for the trucking industry and the oil and gas industry, respectively:

$$FinancialResults_{i,t} = \alpha_0 + \alpha_1 * ESG_{i,t} + \alpha_2 * BTM_{i,t} + \varepsilon_{i,t} \quad (1)$$

I research ten companies in the trucking industry and five companies in the oil and gas industry. Companies from those industries emit the most carbon dioxide into the atmosphere, so they are more likely to include ESG disclosures in their financial statements. Companies in the trucking industry in this research include UPS, FedEx, Landstar System, XPO Logistics, Knight-Swift Transportation Holdings, and Old Dominion Freight Line. Companies in the oil and gas industry in this research include Enterprise Products, Kinder Morgan, Eversource Energy, Occidental Petroleum, and Energy Transfer. I manually collect data on the extent of ESG reporting and the financial performance metrics of each company from 2011 to 2020.

My main variable of interest *ESG* captures the extent of ESG related disclosures of my sample firms. I analyze and record information about the ESG disclosures from 10-K filings of each company. I utilize the following keywords to search for the ESG reports in the 10-K filing: “environmental,” “carbon,” “emission,” “greenhouse,” “GHG,” “neutrality,” “2030,” “2050,” and “ESG.” To measure word count, I use the Word Counter website (<https://wordcounter.net>) to count the number of words in the ESG disclosures containing any of the above keywords. To measure compactness of each firm, I count the number of areas the ESG disclosure is located in throughout the 10-K filing.

To measure the specificity of the firm’s carbon neutrality or reduction goals, I give a score on the thoroughness of those disclosures. I look for details such as the year when the firm aims for carbon neutrality or reduction, the percentage of carbon emissions it plans to reduce, and initiatives it is involved in or plans to implement to reduce carbon emissions. I give higher scores to firms with a higher number and specificity of statements regarding their carbon neutrality or reductions plans.

To measure the specificity of the disclosures regarding the impact of environmental laws and initiatives on financial performance, I look for statements about potential environmental cleanup costs and liabilities, increased operating costs from compliance with environmental regulations, fines and penalties from violations of those regulations, and fluctuations in fuel prices. I give higher scores to firms with a higher number and specificity of statements regarding the impact of environmental laws and initiatives on their operations and financial condition.

The following three ESG reporting quality variables are scored based on their presence in the 10-K filing: 1) disclosures about the impact of environmental responsibility on the company's reputation; 2) direct disclosures about ESG matters; and 3) environmental matters. In order to qualify as a presence of a disclosure regarding the impact of environmental responsibility on the company's reputation, the keywords "environmental" and "reputation" must be present in the same sentence or paragraph. To qualify as a presence of direct disclosures of ESG matters, the keyword "ESG" or "corporate social responsibility" must be present. To qualify as a presence of disclosures of environmental matters, the phrase "environmental matters" must be present.

To calculate the total ESG quality score, I score each of the seven ESG reporting quality metrics based on factors such as its length and specificity. I implement a grading system that rates each ESG quality metric. Each company receives 1 point for every 100 words in its ESG disclosure and 1 point for every area it is located throughout the 10-K filing. The specificity of carbon neutrality or reduction goals is graded on a scale of 1 to 10, with 1 indicating the lowest specificity and 10 indicating the highest specificity. The specificity of the disclosures about the impact of environmental laws and initiatives on financial performance is also graded on a scale of 1 to 10, with 1 indicating the lowest specificity and 10 indicating the highest specificity. The other three metrics that measure the quality of the ESG disclosures are disclosures about the

environmental responsibility on the company's reputation, direct disclosures about ESG matters, and descriptions of environmental matters. The presence of these three disclosures in the 10-K filing is worth 5 points per type of disclosure; 0 points are awarded for the absence of each type of disclosure. The total ESG quality score of the company is the sum of all the points received for the ESG reporting quality metrics. I record the total ESG quality scores of each company into my data tables.

To obtain information about the financial results of each company, I download data of the ROA, ROE, after-tax ROIC, and EBITDA of all the companies from COMPUSTAT. The date range of the data collected is during the past ten years, from 2011 to 2020. I record the profitability metric during each of the ten years into my data tables.

The control variable in my study is the book-to-market (BM) ratio of each company. I download data of the BM ratios from 2011 to 2020 from COMPUSTAT. I record the BM ratio during each of the ten years into my data tables.

Figure 1 displays descriptive statistics of the seven quality of ESG reporting metrics and the four financial performance metrics for the ten trucking companies. Figure 2 presents descriptive statistics of the seven quality of ESG reporting metrics and the four financial performance metrics for the five oil and gas companies.

**FIGURE 1: Descriptive Statistics of Regression Variables of Trucking Companies**

<b>Variables</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>25%</b>	<b>75%</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Word Count</b>	<b>15.02</b>	<b>8.03</b>	<b>13.31</b>	<b>8.32</b>	<b>20.26</b>	<b>3.83</b>	<b>35.37</b>
<b>Compactness</b>	<b>4.51</b>	<b>1.84</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>10</b>
<b>Specificity of Carbon Neutrality/Reduction Goals</b>	<b>3.68</b>	<b>2.66</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>10</b>
<b>Disclosures About the Impact of Environmental Laws, Initiatives, etc. on Financial Performance</b>	<b>7.62</b>	<b>2.69</b>	<b>8</b>	<b>6</b>	<b>10</b>	<b>2</b>	<b>10</b>
<b>Disclosures About Impact of Environmental Responsibility on the Company's Reputation</b>	<b>0.65</b>	<b>1.69</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>Direct Disclosures about ESG matters</b>	<b>0.25</b>	<b>1.10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>Environmental Matters</b>	<b>0.70</b>	<b>1.74</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>
<b>ROA</b>	<b>0.20</b>	<b>0.07</b>	<b>0.21</b>	<b>0.17</b>	<b>0.25</b>	<b>-0.08</b>	<b>0.35</b>
<b>ROE</b>	<b>0.13</b>	<b>0.11</b>	<b>0.12</b>	<b>0.07</b>	<b>0.17</b>	<b>-0.23</b>	<b>0.39</b>
<b>ROIC</b>	<b>0.11</b>	<b>0.08</b>	<b>0.10</b>	<b>0.06</b>	<b>0.15</b>	<b>-0.09</b>	<b>0.34</b>
<b>EBITDA</b>	<b>961.69</b>	<b>1960.80</b>	<b>236.26</b>	<b>129.98</b>	<b>549.74</b>	<b>-22.35</b>	<b>9040</b>

**FIGURE 2: Descriptive Statistics of Regression Variables of Oil & Gas Companies**

<b>Variables</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Median</b>	<b>25%</b>	<b>75%</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Word Count</b>	67.69	38.01	54.04	41.04	76.65	26.43	167.42
<b>Compactness</b>	10.38	4.15	9	7.25	11	6	26
<b>Specificity of Carbon Neutrality/Reduction Goals</b>	6.28	3.43	6	2.5	10	2	10
<b>Disclosures About the Impact of Environmental Laws, Initiatives, etc. on Financial Performance</b>	10	0	10	10	10	10	10
<b>Disclosures About Impact of Environmental Responsibility on the Company's Reputation</b>	0.7	1.75	0	0	0	0	5
<b>Direct Disclosures about ESG matters</b>	1.3	2.22	0	0	3.75	0	5
<b>Environmental Matters</b>	5	0	5	5	5	5	5
<b>ROA</b>	0.07	0.06	0.07	0.03	0.08	-0.07	0.26
<b>ROE</b>	0.05	0.13	0.07	0.03	0.13	-0.51	0.19
<b>ROIC</b>	0.05	0.06	0.06	0.04	0.08	-0.18	0.16
<b>EBITDA</b>	5227.47	3391.13	4685.30	2725.81	6490.73	-4171	14168

As shown in Figure 1, the average score of the word count in ESG disclosures of trucking companies is approximately 15 points. The word count score has a standard deviation of about 8 points. The scores for word count of these ESG disclosures range from about 4 to 35 points. The average score for compactness of the ESG disclosures of trucking companies in my sample is approximately 5 points. The score for compactness ranges from about 1 to 10 points. The average score of the specificity of carbon neutrality or reduction goals of the trucking companies is 3.68, and the average score regarding the extent and specificity of disclosures about the impact of environmental laws on financial performance is 7.62. The average score regarding the thoroughness of ESG impact of environmental responsibility on the company's reputation is 0.65. The average score regarding the inclusion of direct disclosures about ESG matters is 0.25, and the average score regarding the inclusion of a description of environmental matters is 0.70.

The average ROA of trucking companies in my sample is 0.20, with a standard deviation of 0.07. The ROA of these trucking companies ranges from -0.08 to 0.35. The average ROE of the trucking companies is 0.13, with a standard deviation of 0.11. The ROE of these companies ranges from -0.23 to 0.39. The average after-tax ROIC is 0.11, which has a standard deviation of 0.08. The highest after-tax ROIC of these companies is 0.34 and the lowest is -0.09. The average EBITDA is 961.69, which has a standard deviation of 1960.80. The highest EBITDA of these companies is 9,040 and the lowest is -22.35.

According to Figure 2, the average score for word count of the ESG disclosures of oil and gas companies in my sample is approximately 68 points. The standard deviation is approximately 38 points. The highest word count score is about 167 and the lowest is about 26. An average oil and gas company in my sample has an average score for compactness of approximately 10. The highest score for compactness is 26 and the lowest is 6. The average score of the specificity of

carbon neutrality or reduction goals of the oil and gas companies is 6.28, and the average score regarding the extent and specificity of disclosures about the impact of environmental laws on financial performance is 10. The average score regarding the thoroughness of ESG impact of environmental responsibility on the company's reputation is 0.70. The average score regarding the inclusion of direct disclosures about ESG matters is 1.3, and the average score regarding the inclusion of a description of environmental matters is 5.

The average ROA of oil and gas companies in my sample is 0.07, with a standard deviation of 0.06. The ROAs of these oil and gas companies range from -0.07 to 0.26. The average ROE of the oil and gas companies is 0.05, with a standard deviation of 0.13. The highest ROE is 0.19 and the lowest is -0.51. The average after-tax ROIC is 0.05, which has a standard deviation of 0.06. The highest after-tax ROIC is 0.16 and the lowest is -0.18. The average EBITDA is 5,227.27, which ranges by 3,391.13. The EBITDA values range from -4,171 to 14,168.

After collecting the data, I separate the companies by industry and then separate the results further by profitability metric. As a result, I create two sets of data tables; each set includes four tables, which compares ESG quality score with each of the four profitability metrics. In each set of data tables, I combine all the ESG quality scores and all the ROA values from 2011 to 2020. I repeat this process for the ROE, after-tax ROIC, and EBITDA comparison tables. To control for BM ratio, I combine all the BM ratios from 2011 to 2020 into an additional column in each of my tables. Using the Data Analysis Toolpak on Microsoft Excel, I run a regression to compare the total ESG quality scores and BM ratios of all trucking and oil companies with their financial performance metrics: ROA, ROE, after-tax return on invested capital, and EBITDA. I create a total of eight regression summary outputs. More specifically, I

create two sets of regressions; one set compares the trucking companies and the other set compares the oil & gas companies. Each of the four regressions in the set compares the ESG quality scores with each of the four financial performance metrics.

## **IV. EMPIRICAL RESULTS**

### **Trucking Companies**

Figure 3 displays the results of the ten trucking companies. In Regression A, the coefficient of ESG quality score controlled by BM ratio is approximately 0. The coefficient reveals that after taking BM ratio into account, there is no relationship between quality of ESG reporting and ROA of the trucking companies. This finding suggests that the thoroughness of ESG reporting has no impact on the profitability of the trucking companies regarding their usage of their assets. The p-value of this regression is approximately zero, indicating that the results are statistically significant. The p-value in Regression A reveals a very low probability of achieving the observed results, assuming that the null hypothesis is true. The p-value shows very strong evidence that no correlation exists between the quality of ESG reporting and ROA of the trucking companies. The adjusted R-squared value of Regression A indicates that approximately 19.2% of the ROA values can be explained by the ESG quality scores and BTM ratios of the trucking companies.

In Regression B, the coefficient of ESG quality score is -0.002, which shows a negative relationship between the ESG quality scores and ROE. These findings suggest that after controlling for BM ratio, greater quality of ESG reporting may lead to a slight decrease in the ROE of those companies. It shows that ESG disclosures that are longer in length and more detailed about ESG issues and goals correlate with lower profitability in relation to the trucking

companies' usage of shareholders' equity. The p-value is near zero, which shows that the results are statistically significant. Similar to the p-value of Regression A, the p-value of Regression B shows very strong evidence that the negative correlation between ESG quality and ROE of the trucking companies is true. The adjusted R-squared value of Regression B reveals that approximately 43% of the ROE values can be explained by the ESG quality scores and BM ratios of the trucking companies.

The coefficient of ESG quality score in Regression C is -0.001. The coefficient reveals a negative correlation between ESG quality score and after-tax ROIC of the ten trucking companies. This finding shows that increased thoroughness of ESG disclosures correlates with a decrease in the trucking companies' profitability in relation to the amount of capital invested by its shareholders. The p-value is near zero, which indicates that the results are statistically significant. This p-value reveals a very high probability that the negative correlation between ESG quality scores and after-tax ROIC of the trucking companies is true. The adjusted R-squared value of Regression C indicates that approximately 35.6% of the after-tax ROIC values can be explained by the ESG quality scores and BM ratios of the trucking companies.

The coefficient of ESG quality score in Regression D is 60.514, which displays a positive relationship between ESG quality score and EBITDA of the ten trucking companies. This suggests that increased length and specificity of ESG disclosures may lead to an increase in EBITDA of those trucking companies. The p-value of this regression is 0.039, which is less than 0.05. This shows that the results are statistically significant. The p-value provides strong evidence that the positive correlation between ESG quality and EBITDA is true. The adjusted R-squared value of Regression D shows that approximately 15.8% of the EBITDA values can be predicted by the ESG quality scores and BM ratios of the trucking companies.

**FIGURE 3: Effect of the Quality of ESG Reporting on Profitability of Trucking Companies**

**Regression A**

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.457
R Square	0.208
Adjusted R Square	0.192
Standard Error	0.063
Observations	100

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.103	0.051	12.774	0.000
Residual	97	0.391	0.004		
Total	99	0.494			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.257	0.018	14.059	0.000	0.220	0.293	0.220	0.293
ESG Quality Score	0.000	0.000	-0.687	0.494	-0.001	0.001	-0.001	0.001
BM Ratio	-0.081	0.017	-4.806	0.000	-0.114	-0.047	-0.114	-0.047

**Regression B**

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.665
R Square	0.442
Adjusted R Square	0.430
Standard Error	0.081
Observations	100

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.508	0.254	38.375	0.000
Residual	97	0.642	0.007		
Total	99	1.151			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.285	0.023	12.163	0.000	0.238	0.331	0.238	0.331
ESG Quality Score	-0.002	0.001	-3.090	0.003	-0.003	-0.001	-0.003	-0.001
BM Ratio	-0.162	0.022	-7.519	0.000	-0.204	-0.119	-0.204	-0.119

**Regression C**  
SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.608
R Square	0.369
Adjusted R Square	0.356
Standard Error	0.068
Observations	100

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.260	0.130	28.407	0.000
Residual	97	0.444	0.005		
Total	99	0.704			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.215	0.019	11.053	0.000	0.176	0.254	0.176	0.254
ESG Quality Score	-0.001	0.001	-2.040	0.044	-0.002	0.000	-0.002	0.000
BM Ratio	-0.121	0.018	-6.778	0.000	-0.157	-0.086	-0.157	-0.086

**Regression D**  
SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.418
R Square	0.175
Adjusted R Square	0.158
Standard Error	1799.661
Observations	100

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	66466545.17	33233273	10.261	0.000
Residual	97	314161755.8	3238781		
Total	99	380628301			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-434.180	517.719	-0.839	0.404	-1461.708	593.349	-1461.708	593.349
ESG Quality Score	60.514	13.984	4.327	0.000	32.759	88.269	32.759	88.269
BM Ratio	-992.717	475.537	-2.088	0.039	-1936.527	-48.907	-1936.527	-48.907

## Oil and Gas Companies

Figure 4 shows results of the five oil and gas companies. In Regression E, the coefficient of ESG quality score is near zero. The coefficient shows that there is no correlation between quality of ESG reporting and ROA of the oil and gas companies. This finding suggests that

increased thoroughness of ESG disclosures may lead to a decline in profitability in relation to the oil and gas companies' usage of its assets. The p-value of this regression is 0.397, which is greater than 0.05. The p-value shows that the results are not statistically significant. Assuming that the null hypothesis is correct, there is a rather high probability of obtaining the observed results. Thus, I determine that no relationship exists between ESG quality score and ROA of the oil and gas companies. The adjusted R-squared value of Regression E shows that approximately 0.5% of the ROA values can be predicted by the ESG quality scores and BM ratios of the oil and gas companies.

The coefficient of ESG quality score in Regression F is -0.001, which reveals a negative relationship between ESG quality score and ROE of the five oil and gas companies. This shows that after controlling BM ratio, increased quality of ESG reporting correlates with lower profitability of those oil and gas companies in relation to their usage of shareholders' equity. The p-value of this regression is approximately zero, indicating that the results are statistically significant. The p-value shows that there is a low probability of obtaining results at least as strong as the observed results. This provides strong evidence that the negative relationship between ESG quality score and ROE of the oil and gas companies is true. The adjusted R-squared value of Regression F shows that approximately 22.1% of the ROE values can be explained by the ESG quality scores and BM ratios of the oil and gas companies.

The coefficient of ESG quality score in Regression G is approximately zero. This coefficient shows that no correlation exists between ESG reporting quality and after-tax ROIC of the oil and gas companies. The coefficient suggests that extent and specificity of ESG reporting has no effect on the oil and gas companies' profitability in relation to their usage of capital invested by their shareholders. The p-value is 0.004, which is less than 0.05. This shows strong

evidence that no association exists between quality of ESG reporting and after-tax ROIC. The adjusted R-squared value of Regression G indicates that approximately 17.2% of the after-tax ROIC values can be predicted by the ESG quality scores and BM ratios of those companies.

In Regression H, the coefficient of ESG quality score is 10.220, which reveals a positive correlation between ESG quality score and EBITDA of the five oil and gas companies. This finding suggests that ESG disclosures which are longer in length and more specific about ESG issues and goals correlate with an increase in the EBITDA of those companies. The p-value is 0.057, which is greater than 0.05. This shows that the results are not statistically significant. There is a rather high probability of generating results at least as extreme as the observed results. Thus, the p-value fails to provide strong evidence that the positive relationship between ESG quality and EBITDA of the oil and gas companies is true. I determine that no relationship exists between ESG quality score and EBITDA of the oil and gas companies. The adjusted R-squared value of Regression H shows that approximately 7% of the EBITDA values can be predicted by the ESG quality scores and BM ratios of those companies.

**FIGURE 4: Effect of the Quality of ESG Reporting on Profitability of Oil & Gas Companies**

**Regression E**

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.214
R Square	0.046
Adjusted R Square	0.005
Standard Error	0.062
Observations	50

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.009	0.004	1.130	0.332
Residual	47	0.183	0.004		
Total	49	0.192			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.063	0.032	1.962	0.056	-0.002	0.127	-0.002	0.127
ESG Quality Score	0.000	0.000	1.029	0.309	0.000	0.001	0.000	0.001
BM Ratio	-0.019	0.023	-0.855	0.397	-0.065	0.026	-0.065	0.026

**Regression F**

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.503
R Square	0.253
Adjusted R Square	0.221
Standard Error	0.119
Observations	50

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.225	0.112	7.960	0.001
Residual	47	0.663	0.014		
Total	49	0.888			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.253	0.061	4.169	0.000	0.131	0.376	0.131	0.376
ESG Quality Score	-0.001	0.000	-1.730	0.090	-0.002	0.000	-0.002	0.000
BM Ratio	-0.168	0.043	-3.879	0.000	-0.255	-0.081	-0.255	-0.081

**Regression G**

## SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.454
R Square	0.206
Adjusted R Square	0.172
Standard Error	0.058
Observations	50

## ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	0.041	0.021	6.093	0.004
Residual	47	0.158	0.003		
Total	49	0.199			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.147	0.030	4.938	0.000	0.087	0.206	0.087	0.206
ESG Quality Score	0.000	0.000	-2.300	0.026	-0.001	0.000	-0.001	0.000
BM Ratio	-0.064	0.021	-3.051	0.004	-0.107	-0.022	-0.107	-0.022

**Regression H**

## SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.328
R Square	0.108
Adjusted R Square	0.070
Standard Error	3270.802
Observations	50

## ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2	60675389	30337695	2.836	0.069
Residual	47	502812893	10698147		
Total	49	563488283			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	6019.907	1673.587	3.597	0.001	2653.085	9386.729	2653.085	9386.729
ESG Quality Score	10.220	11.117	0.919	0.363	-12.144	32.585	-12.144	32.585
BM Ratio	-2325.872	1189.831	-1.955	0.057	-4719.504	67.759	-4719.504	67.759

**Limitations and Recommendations for Future Studies**

One potential concern regarding these results is that the determination of the ESG qualities scores is subjective. The score of each of the seven ESG reporting metrics is based on

how thorough I believe it should be. It is possible that the subjectiveness of each of the seven scores contributed to inaccurate results of both trucking and oil companies. To mitigate this risk in future studies, my scores of the ESG quality should be averaged with ESG scores from several other websites such as Bloomberg and ASSET4.

In addition to subjectivity, the number of ESG quality metrics is also inadequate. In this study, only seven ESG quality metrics were examined. The quality metrics measure the length and specificity of the ESG disclosures. It is possible that there are other metrics that influence the quality of ESG reporting. Factors such as the inclusion of charts detailing environmental reserves and descriptions of ESG committees may influence the quality. ESG disclosures not included in 10-K filings may also influence the quality of ESG disclosures, such as disclosures on the company's corporate social responsibility website. Factors such as the inclusion of the corporate social responsibility website, specificity of ESG initiatives on the website, and extent of data and research on ESG issues may affect the quality of ESG reporting of the company.

Furthermore, the number of financial performance metrics examined is insufficient. I have only examined profitability metrics in this study. Thus, my results cannot be generalized to all financial performance metrics. The number of profitability metrics researched in this study is also inadequate. The profitability metrics I have examined in this study are ROA, ROE, after-tax return, and EBITDA. However, other profitability metrics such as revenue and net profit were not researched. It is unknown how the quality of ESG reporting impacts those metrics. Results from this study cannot be generalized to all profitability metrics. In addition, the impact of quality of ESG reporting on financial metrics beyond profitability is unknown. I encourage future studies to research more on the effect of thoroughness of ESG reporting on financial performance metrics such as sales growth, cash flow, and expense reduction.

The number of control variables is also inefficient. The only control variable used in this study is the BM ratio. The BM ratio alone cannot ensure that the correlations between ESG reporting quality and profitability of the trucking and oil companies are valid. It is possible that other factors such as size and leverage ratio may impact the profitability of those companies. Future studies should control these factors by investigating their association with quality of ESG reporting.

Another concern is that the time period may impact the quality of ESG reporting of the trucking and oil companies. The combination of ESG reporting quality and profitability data from 2011 to 2020 may be an issue, as it is possible that the quality of ESG disclosures improved over time as more stakeholders have become concerned about ESG matters in recent years. In future studies, the ESG reporting quality and profitability results should be separated by year so that the variable of time can be controlled for.

Furthermore, the number of companies observed in each industry may be inadequate. Only ten companies in the trucking industry were researched in this study. Results from this study cannot be generalized to companies in the general trucking industry. Additionally, only five companies in the oil and gas industry were examined, which may further decrease the generalizability of results of companies in this industry. In future studies, a significantly higher number of companies in both industries should be researched so that results are more representative of the general industry.

## **V. CONCLUSION**

The number of companies that have given disclosures regarding ESG issues in their 10-K filings has increased significantly in recent years. Various studies have shown evidence

suggesting that increased quality of ESG reporting leads to increased financial performance. However, there is inadequate evidence that solidifies this positive correlation. In this paper, I have documented empirical evidence on the extent that increased quality of ESG reporting correlates with improved financial performance.

This study reveals interesting findings. My findings reveal that increased length and specificity of ESG reporting has no correlation with the ROA of trucking companies. My findings also suggest that increased ESG reporting quality associates with a decline in ROE and after-tax ROIC of trucking companies. Moreover, my regressions show that increased quality of ESG reporting correlates with an increase in the EBITDA of the trucking companies. My results of the oil and gas companies are more interesting. The results suggest that greater quality of ESG reporting may lead to a decline in ROE. Results also show strong evidence that no relationship exists between ESG reporting quality and after-tax ROIC. However, the correlations showing the impact of ESG reporting quality on ROA and EBITDA of the oil and gas companies are not statistically significant. Thus, my findings suggest that the quality of ESG reporting has no impact on the ROA and EBITDA of companies in the oil and gas industry.

A portion of my observed results are not statistically significant, which fail to provide strong evidence that the observed correlations are true. More extensive research is necessary in order to better clarify the impact of the extent of ESG reporting on financial performance of trucking and oil companies. Future studies should compare ESG quality scores of different ESG rating companies to increase the objectiveness of the overall ESG quality score of each company. A larger number of ESG reporting quality metrics, financial performance metrics, and control variables should also be examined. Time period may also impact the quality of ESG reporting of trucking and oil companies, so this variable should also be examined. More importantly, a

greater number of companies in both industries should be researched in future studies so that the results are more representative of all companies in each industry. This study represents preliminary stages of the examination of the relationship between quality of ESG reporting and profitability.

The findings of this study are important because they can further facilitate businesses when making decisions regarding ESG issues. In fact, the findings help businesses decide whether greater attention to ESG will enable them to generate greater profits in the long run. Although results of this study display early evidence of the relationship between quality of ESG reporting and profitability, there is still much to learn about this relationship. Future research should investigate this correlation further.

## REFERENCES

- Admin. (2021). What Is ESG and Why Is It Important? Retrieved from <https://www.esgthereport.com/what-is-esg-and-why-is-it-important/#:~:text=Why%20is%20ESG%20important%20in%20business%3F%201%20It,all%20kinds%20of%20new%20opportunities%20More%20items...%20>.
- Casey, C. (2021). ESG and FINANCIAL PERFORMANCE: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 – 2020. Paper presented at New York University, New York, NY.
- Castner, J. (2022). Why esg reporting could be your company's next winning move. Chron. Retrieved from <https://www.chron.com/business/article/Why-ESG-Reporting-Could-Be-Your-Company-s-Next-16743355.php>
- Edgecliffe-Johnson, A. (2021). Big Four Accounting Firms Rush to Join the ESG Bandwagon. Retrieved from <https://www.ft.com/content/4a47fb4a-4a10-4c05-8c5d-02d83052bee7>
- Energy Transfer LP ROA 2010-2021 | ET. (n.d.). Retrieved from <https://www.macrotrends.net/stocks/charts/ET/energy-transfer-lp/roa>
- Enterprise Products Partners Price to Book Ratio 2010-2021 | EPD. (n.d.). Retrieved from <https://www.macrotrends.net/stocks/charts/EPD/enterprise-products-partners/price-book>
- Enterprise Products Partners ROA 2010-2021 | EPD. (n.d.). Retrieved from <https://www.macrotrends.net/stocks/charts/EPD/enterprise-products-partners/roa>
- Eversource Energy ROA 2010-2021 | ES. (n.d.). Retrieved from <https://www.macrotrends.net/stocks/charts/ES/eversource-energy/roa>
- Microsoft Corporation. (2021). 2021 Environmental Sustainability Report. 16-60.
- Microsoft Corporation. (2021). Civility, Safety & Interaction Online. (Report No. 6). 1-4.
- Microsoft Corporation. (2022). Microsoft Corporate Social Responsibility. Retrieved from <https://www.microsoft.com/en-us/corporate-responsibility>
- News Direct. (2021). PwC and Workiva Expand Alliance to Help Businesses Produce Reliable, Tech-Enabled ESG Reporting. Retrieved from [https://ca.finance.yahoo.com/news/pwc-workiva-expand-alliance-help-174606082.html?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuYmluZy5jb20v&guce\\_referrer\\_sig=AQAAAHPnbJYz7YM5jlEp0ir7y8vLlwOsmzwp92ALTln-XeA-G3a05oPO-bXZmuFyn8Vmor-d6GmzoAiRAfWIwApCz-SA3Kw48UbaHUvgh8Q2n0z0QvZ1hksXkwS6pKK4sdcH6q5nsJ30L9sly-17iVjsPXhf4FaxMo7UVPFFgiS9F](https://ca.finance.yahoo.com/news/pwc-workiva-expand-alliance-help-174606082.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuYmluZy5jb20v&guce_referrer_sig=AQAAAHPnbJYz7YM5jlEp0ir7y8vLlwOsmzwp92ALTln-XeA-G3a05oPO-bXZmuFyn8Vmor-d6GmzoAiRAfWIwApCz-SA3Kw48UbaHUvgh8Q2n0z0QvZ1hksXkwS6pKK4sdcH6q5nsJ30L9sly-17iVjsPXhf4FaxMo7UVPFFgiS9F)
- PricewaterhouseCoopers. (2021). Building on a Culture of Belonging. PwC. Retrieved from <https://www.pwc.com/us/en/about-us/diversity.html>
- PricewaterhouseCoopers. (2021). Environmental, Social, and Governance (ESG) services and strategy. PwC. Retrieved from <https://www.pwc.com/us/en/services/esg.html>
- Şeker, Y. (2021). The Impact of Environmental, Social, and Governance (ESG) Performance on Financial Reporting Quality: International Evidence. *Ekonomika*. 100(2), 190-212.
- Sethi, B. (n.d.). ESG - Climate change strategy as a differentiator for talent. Retrieved from <https://www.pwc.com/us/en/services/esg/library/climate-change-talent-strategy-activation.html>