Assessing the Quality of Disclosure on Material Topics in Mandatory and Voluntary Reports

Study of the Oil and Gas, Exploration and Production Industry

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Any findings or conclusions presented in this thesis are those of the author, and do not necessarily reflect the above-mentioned organizations.

Abstract

This study examines the quality of mandatory and voluntary disclosure with respect to its materiality to the "reasonable investor". It evaluates the consistency between disclosures on ESG information and materiality according to SASB's definition of materiality for a sample of 26 companies in the Oil & Gas industry. The focus of this analysis is on 11 material topics identified based on the SASB framework. For each identified material topic, the analysis focuses on the quality of disclosure based on the following classifications: no disclosure; boilerplate statement; qualitative disclosure or quantitative disclosure. The analysis also includes a discussion about the seriousness of reporting, depending on if the company discusses progress on disclosed material topics or not. This analysis provide evidence that boilerplate statement is the dominant form of regulated reporting. More importantly, it demonstrates that while voluntary reporting uses more quantitative and industry tailored language, the disclosure is selective in terms of what material topics. In addition to providing evidence on the practice of selective disclosure and quality of disclosure, the paper also highlights the low level of reporting on progress against the companies targets which is an important indicator of disclosure quality and seriousness.

Keywords: Mandatory disclosure, Voluntary disclosure, CSR reporting, Materiality.

1. Introduction

Corporate Social Responsibility (CSR) reports have become more focused on reporting information regarding sustainability efforts. According to data from CorporateRegister.com, a repository of over 79,000 CSR reports by 13,610 different organizations are annually released. Sustainability reporting today is no longer only within the domain of corporations that belong to environmentally sensitive industries, but has become common practice for firms across all industries regardless of their ecological impact. However, considering that legally binding regulations on non-financial reporting are currently either non-standardized or missing in most sectors, corporations are exercising self regulation. This gap in regulation allows firms to grant themselves flexibility in determining both the quality, and quantity of their non-financial information disclosure. Therefore, this selective disclosure strategy might mislead users of this information, such as shareholders and consumers, especially if the non-disclosed information has a significant impact on its user assessment of the firm's non-financial (comprehensible) performance, and therefore the user's decision making.

The impact investing community has taken a stronger interest in sustainability reporting in recent years. It is indispensable for the investors to determine which environmental, social, and governance issues are most important in terms of their relevance to substantively influence shareholder assessment of an organization's ability to create value over short, and long-term time frames. Therefore, examining the consistency between disclosed information, and the materiality of this information in terms of its relevance to decision making by shareholders is needed.

This study employs the Sustainability Accounting Standards Board (SASB) framework to identify material topics. It also uses the SASB standards and accounting metrics to conduct quality analysis of each mandated and voluntary report. The analyzed sample includes 26 Oil & Gas companies that have either A, BBB, or BB ESG rankings for 2016 as listed by the MSCI Environmental, Social, and Governance (ESG) data. The focus of this analysis is on 11 material topics identified based on the SASB framework. For each identified material topic, the analysis focuses on the quality of disclosure based on the following classifications: no disclosure; boilerplate statement; qualitative disclosure or quantitative disclosure. The analysis also includes a discussion about the seriousness of reporting, depending on if the company discusses progress on disclosed material topics or not.

This study makes a contribution to the literature that examines the quality and consistency of reporting in both compliance-based and voluntary reports. The main findings are:

- Companies tend to use generic language in their legal reporting. The study found a significant difference in the average use of boilerplate language in Form 10-K's compared to CSR reports. However, quantitative disclosures in CSR reports are more selective in terms of material topics compared to legal reports where more than 80% of material topics are covered. These two conclusions confirm the practice of selective disclosure by companies in their voluntary reporting.

- Oil and gas E&P companies focus mainly on environmental, health, and safety disclosure in both mandatory and voluntary reports.
- Disclosure on human rights, and the impact on surrounding communities is generally ignored.
- The quality of reporting on business ethics and transparency of payments is significantly low, as it does not include any relevant information for shareholders.
- The level of seriousness of reporting on material topics is very low. This is because most companies don't report their level of progress.
- Companies focus mostly on direct emissions while reporting on GHG emissions.

The remainder of the paper is organized as follows. Section 2 overviews the relevant literature, and discusses the main question of the study. Section 3 describes the data, sample and methodology of the study. Section 4 describe the results of the analysis of both mandated and voluntary reporting. Section 5 concludes the paper.

2. Literature Review and Question

The concept of materiality has predominantly been associated with the auditing and accounting processes of financial reporting. The Financial Accounting Standards Board (FASB) defines information as material "if omitting or misstating it could influence decisions that users make on the basis of the financial information of a specific reporting entity." The Supreme Court defined materiality as "a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available".

In sustainability reporting, the concept of materiality was first addressed in the Initiative for Responsible Investment (IRI) at Harvard University in a 2010 report entitled "From Transparency to Performance: Industry-Based Sustainability Reporting on Key Issues.[1]" This paper proposed a method for identifying key performance indicators on the sustainability (or social and environmental) impacts of U.S. corporations in specific industries. Steve Lydenberg et al. proposed a six-step method for assessing the materiality of a broad range of sustainability issues by industry. After, they hypothetically modeled the application of this method across six

[1] Lydenberg, S., Rogers, J., & Wood, D. (n.d.). From Transparency to Performance, Industry-Based Sustainability Reporting on Key Issues (Rep.). The Hauser Center for nonprofit organizations & Initiative for responsible investment.

industries: airlines, automobiles, diversified real estate investment trusts, conventional electricity, forest and paper products, and retail banks.

Based on this paper, and in accordance with the definition of materiality under federal securities laws, SASB developed a sector specific map on what sustainability issues are material to each sector. It is an interactive view of materiality issues called the SASB's Materiality Map. This map is based on three tests designed to prioritize issues on behalf of the "reasonable investor." The first test relies on evidence of investor interest. This evidence is determined by searching tens of thousands of industry-related documents such as Form 10-Ks, shareholder resolutions, CSR reports, media, and U.S. Security and Exchange Commission (SEC) comment letters. Within these documents, keywords related to 30 general sustainability issues are looked for that including: environmental, social capital, human capital, business model and innovation, and leadership and governance issues. Second, they run a test on the evidence of the financial impact of each issue by evaluating the quality of management of the issue on traditional corporate valuation parameters: profits (revenue and/or costs), assets and liabilities, or cost of capital. The third test is related to the forward-looking adjustment which acknowledges emerging issues that are not yet reflected in the first two evidence-based tests. These adjustments allowed SASB to correct for the imperfect state of sustainability reporting, particularly in Form 10-K's and CSR reports. SASB's ultimate goal is to have these materiality standards incorporated into the SEC rules for publicly traded companies. These rules would govern what sustainability information companies must disclose, and how to disclose it.

SASB maintains that current laws and rules require sustainability information to be disclosed per SEC regulations. From a legal point of view, under the U.S. Securities Act of 1933 that lays out reporting requirements for SEC filings used by public companies, regulations S-K requires a description of "any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed" (SEC, Regulation S-K). SASB believes that ESG information meets all of the above definitions of materiality, and thus should be disclosed in all Form 10-K's. A first step was made in early 2010, where the SEC issued guidance to U.S. corporations on their obligation to report on climate change-related data when it might be deemed material to an assessment of the firm's future financial outlook.

From an investing strategy point of view, institutional investors such as Calvert, Pax World, and Domini Social Investments are increasingly integrating ESG factors into their investment strategies[2], and advocating for increased disclosure in the United States. However, among the large and growing number of ESG data released, investors do not know which of these data are more or less material, and how that affects their investments. Mozaffar khan et al. presented on their Corporate Sustainability: First Evidence on Materiality[3] paper, that firms with good ratings on material sustainability issues significantly outperform firms with poor ratings.

Drawing on SASB framework for the materiality assessment of sustainability-related issues in the Oil & Gas industry, my goal is to assess the disclosed information with respect to its materiality to the "reasonable investor", or more specifically to the impact investing institutions. This paper will explore the question of the materiality of information disclosure by public traded companies in the Oil & Gas industry, by studying the consistency between disclosures on ESG information and materiality according to SASB's definition of materiality for a sample of 26 companies in the Oil & Gas industry.

3. Data and Methodology

Oil & Gas companies that have A, BBB, or BB ESG rankings for 2016 as listed by the MSCI ESG data were selected for study (Table I). I use the MSCI ESG rating because it allows investors to assess how well companies in a fund's portfolio are managing their ESG risks and opportunities. For most funds, the ratings serve as an initial screen for investors interested in sustainability and ESG factors. They are also a useful starting point for investors wanting to know more about a manager's investment process, and how it relates to sustainable investing.

Table I: Selected Oil & Gas companies from MSCI ESG Data

Company		Industry	ESG Rating
ANTERO RESOURCES CORPORATION	AR	Exploration & Production	BB
APACHE CORPORATION	APA	Exploration & Production	BB
CALLON PETROLEUM COMPANY	CPE	Exploration & Production	BB
CIMAREX ENERGY CO.	XEC	Exploration & Production	BB
COBALT INTERNATIONAL ENERGY, INC.	CIE	Exploration & Production	BB
CONOCOPHILLIPS	COP	Exploration & Production	A
DENBURY RESOURCES INC.	DNR	Exploration & Production	A

2 Sustainability Investing. (n.d.). Retrieved April 10, 2017, from http://www.sustainability-indices.com/sustainability-assessment/sustainability-investing.jsp

3 Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate Sustainability: First Evidence on Materiality. The Accounting Review, 91(6), 1697-1724. doi:10.2308/accr-51383

DEVON ENERGY CORPORATION	DVN	Exploration & Production	BBB
ENERGEN CORPORATION	EGN	Exploration & Production	BBB
EOG RESOURCES, INC.	EOG	Exploration & Production	BB
EP ENERGY CORPORATION	EPE	Exploration & Production	BB
EQT CORPORATION	EQT	Exploration & Production	BBB
EXCO RESOURCES, INC.	XCO	Exploration & Production	BBB
GULFPORT ENERGY CORPORATION	GPOR	Exploration & Production	BB
HESS CORPORATION	HES	Exploration & Production	AA
LAREDO PETROLEUM, INC	LPI	Exploration & Production	BB
LINN ENERGY, LLC	LINEQ	Exploration & Production	BBB
MARATHON OIL CORPORATION	MRO	Exploration & Production	BBB
NEWFIELD EXPLORATION COMPANY	NFX	Exploration & Production	BBB
NOBLE ENERGY, INC.	NBL	Exploration & Production	A
OASIS PETROLEUM, INC.	OAS	Exploration & Production	BB
PDC ENERGY, INC	PDCE	Exploration & Production	
PIONEER NATURAL RESOURCES COMPANY	PXD	Exploration & Production	BB
QEP RESOURCES, INC.	QEP	Exploration & Production	BB
SM ENERGY COMPANY	SM	Exploration & Production	BB
SOUTHWESTERN ENERGY COMPANY	SWN	Exploration & Production	BB

For each material subject on the materiality map, I will examine its disclosure on both the Form 10-K and the sustainability report of the selected companies. This study will help identify what type of information Oil & Gas companies disclose, and in which type of reporting. Another contribution to the sustainability reporting and selective disclosure literature would be the identification of the type of disclosure exercised by companies in the Oil & Gas industry. Namely, the study will indicate if the disclosure is one of the following statements: a "Boilerplate Statement" which means the firm is only using generic language about their sustainability issues; a "Qualitative Statement" which means the company is addressing sustainability issues using the industry standards; or a "Quantitative Statement" if the company is using quantifiable metrics in its disclosure statements.

A Framework Comparison of Compliance-based and Voluntary reporting

Given the framework differences between voluntary and mandatory reporting, understanding these differences is the first step in evaluating the quality and consistency of reporting. A regulated reporting combines the qualities of comparability, objectivity, and standardization, while a voluntary reporting is a more flexible process and has a higher scope for innovation. The following table shows the main differences between the two frameworks of reporting:

Approach to Mandatory Disclosure (10-K)	Approach to Voluntary Disclosure
Legal obligation to disclose material topics Legal obligation to disclose risks and risk factors Standardization Equal treatment of investors Comparability Mostly generic statements of non-financial information and risks	Incentive for innovation Flexibility Collective interest of industry Ability to select what to disclose Incentive for more accurate disclosure using the company's own metrics or existing standard metrics

The Approach of Data Collection from Regulated and Non-Regulated Reports

I reviewed 2016 Form 10-K filings and the latest available CSR reports[4] for the 26 selected companies in the Exploration & Production (E&P) industry, categorizing disclosures on material subjects as defined by SASB according to their quality.

The first step was to identify and assess information contained in the SEC's statements related to each material topic. The 11 material topics that were analyzed are explained in the following table that uses the standards of SASB accounting metrics[5]:

Topic	Accounting Metric	Category	Unit of Measure
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under a regulatory program, percentage by hydrocarbon resource	Quantitative	Metric tons CO2-e, Percentage (%)
	Amount of gross global Scope 1 emissions from: (1) combustion, (2) flared hydrocarbons, (3) process emissions, (4) directly vented releases, and (5) fugitive emissions/leaks	Quantitative	Metric tons CO2-e
	Description of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a
Air Quality	Air emissions for the following pollutants: NOx (excluding N_2O), SOx, volatile organic compounds (VOCs), and particulate matter (PM)	Quantitative	Metric tons (t)

4 The terms 'sustainability', 'integrated', 'non-financial', or 'corporate social responsibility' (CSR) reporting are all used interchangeably, to describe reports with different degrees of focus on environmental, social or corporate governance issues.

5 S. (2014). OIL & GAS EXPLORATION & PRODUCTION Sustainability Accounting Standard (pp. 8-10, Rep.). SASB.org.

Water and Waste Water Management	Total fresh water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic meters (m3), Percentage (%)
	Volume of produced water and flowback generated; percentage (1) discharged, (2) injected, (3) recycled; hydrocarbon content in discharged water	Quantitative	Cubic meters (m3), Percentage (%),Metric tons (t)
	Percentage of hydraulically fractured wells for which there is public disclosure of all fracturing fluid chemicals used	Quantitative	Percentage (%)
	Percentage of hydraulic fracturing sites where ground or surface water quality deteriorated compared to a baseline	Quantitative	Percentage (%)
Biodiversity Impact	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a
	Number and aggregate volume of hydrocarbon spills, volume in Arctic, volume near shorelines with ESI rankings 8-10, and volume recovered	Quantitative	Number, Barrels (bbls)
	(1) Proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	Million barrels (MMbbls), Million standard cubic feet (MMscf)
Human Rights and Community Relations	(1) Proved and (2) probable reserves in or near areas of conflict	Quantitative	MMbbl MMscf,
	(1) Proved and (2) probable reserves in or near indigenous land	Quantitative	MMbbl MMscf,
	Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Discussion and Analysis	n/a
	Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	n/a
	Number and duration of non-technical delays	Quantitative	Number, Days
Employee Health, Safety and Wellbeing	(1) Total Recordable Injury Rate (TRIR), (2) Fatality Rate, and (3) Near Miss Frequency Rate for (a) full-time employees, (b) contract employees, and (c) short-service employees	Quantitative	Rate
	Process Safety Event (PSE) rates for Loss of Primary Containment (LOPC) of greater consequence (Tier 1)	Quantitative	Rate
Environmental, Social Impact on Assets and Operations	Discussion of how price and demand for hydrocarbons and/or climate regulation influence the capital expenditure strategy for exploration, acquisition, and development of assets	Discussion and Analysis	n/a

	Estimated carbon dioxide emissions embedded in proved hydrocarbon reserves	Percentage	n/a
	Sensitivity of hydrocarbon reserve levels to future price projection scenarios that account for a price on carbon emissions	Quantitative	U.S. Dollars ($)
Accident and Safety Management	Discussion of management systems used to integrate a culture of safety and emergency preparedness throughout the value chain and throughout the exploration and production lifecycle	Discussion and Analysis	n/a
Business Ethics and Transparency of Payments	(1) Proved and (2) probable reserves in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	MMbbl MMscf,
	Description of the management system for prevention of corruption and bribery throughout the value chain	Discussion and Analysis	n/a
Regulatory Capture and Political Influence	Amount of political campaign spending, lobbying expenditures, and contributions to tax-exempt groups including trade associations	Quantitative	U.S. Dollars ($)
	Five largest political, lobbying, or tax-exempt group expenditures	Quantitative	U.S. Dollars $ by recipient

Supply chain management is also considered a material topic according to SASB materiality map. This topic was evaluated individually however, since the metrics related to other disclosure topics incorporate a consideration of an E&P company's policies about its suppliers, contractors, and business partners. The issues covered by these disclosure topics include: Human rights and community relations; Employee health, safety and well-being; Accident and safety management; and business ethics and transparency of payments. Additionally, metrics related to the topics discussed under the Environment category are also influenced by the performance of the company in engaging with its contractors and suppliers[6].

In order to evaluate the quality of the statement, each identified disclosure statement was classified based on the following categories:

No Disclosure: The company does not provide disclosure relevant to the topic under analysis.

Boilerplate: The company uses generic language that could be applicable to most, if not all companies in the industry, and sometimes even outside of the industry. The disclosure statement would not help the investor evaluate the company's performance, future goals, and risk/opportunity management strategies. This type of statement generally includes descriptions of regulations affecting the industry. These statements are of course inadequate for investment

[6] SASB Materiality Map™ http://materiality.sasb.org/?hsCtaTracking=28ae6e2d-2004-4a52-887f-819b72e9f70a%7C160e7227-a2ed-4f28-af33-dff50a769cf4

decision-making, yet they show the company is recognizing the existence of this risk, and taking a first step toward more tailored and quantitate disclosure. The following excerpt from the SEC filings that were the subject of this study illustrates this category of disclosure.

Topic: Greenhouse Gas Emissions
Company: XCO
Excerpt from 10-K:

"Our domestic activities are subject to regulations promulgated under federal statutes and comparable state statutes. We also are subject to regulations governing the handling, transportation, storage and disposal of naturally occurring radioactive materials that are found in our oil and natural gas operations. Administrative, civil and criminal penalties, as well as injunctive relief, may be imposed for non-compliance with environmental laws and regulations. Additionally, these laws and regulations may require the acquisition of permits or other governmental authorizations before we undertake certain activities, limit or prohibit other activities because of protected areas or species, restrict the types of substances used in our drilling operations, impose certain substantial liabilities for the clean-up of pollution, impose certain reporting requirements, regulate remedial plugging operations to prevent future contamination, and require substantial expenditures for compliance. We cannot predict what effect future regulation or legislation, enforcement policies, and claims for damages to property, employees, other persons and the environment resulting from our operations could have on our activities."

Qualitative: The company uses tailored language that is specific to the industry. The disclosure statement provides significant information to the investor about the company's management strategies, and policies in the context of its specific industry. This type of statement generally includes a discussion of the company's risks and management policies. The following excerpt from the SEC filings that were the subject of this study illustrates this category of disclosure.

Topic: Water and Waste Water Management / Supply Chain Management
Company: SWN
Excerpt from 10-K:
"Our producing properties are geographically concentrated in the Fayetteville Shale in Arkansas and the Appalachian Basin in Pennsylvania and West Virginia. At December 31, 2015, 47% of our total estimated proved reserves were attributable to properties located in the Appalachian Basin and 53% in the Fayetteville Shale. As a result of this concentration in two primary regions, we may be disproportionately exposed to the impact of regional supply and demand factors, delays or interruptions of production from wells in this area caused by governmental regulation, state politics, processing or transportation capacity constraints,

market limitations, availability of equipment and personnel, water shortages or interruption of the processing or transportation of natural gas, oil or natural gas liquids."

Quantitative: The company uses quantitative indicators that are based on its internal data. This type of statement generally includes rates and percentages that shows the company's performance on the considered material topic. The following excerpt from the SEC filings that were the subject of this study illustrates this category of disclosure.

Topic: Water and Waste Water Management
Company: LPI
Excerpt from 10-K:
"Commenced operations of our water treatment facility in the second half of the year that provided 1.2 million barrels of recycled water for completion operations in the second half of the 2015 and 800,000 barrels during the last seven weeks of the year."

Topic: Greenhouse Gas Emissions
Company: MRO
Excerpt from CSR 2015:
"In 2015, the Company's gross production of hydrocarbons increased by 3 percent. However, the reduced capital spending program resulted in lower activity and production in many assets, which contributed to a 5 percent increase in our global GHG emission intensity. Global CO2 emissions increased by 8 percent, and methane emissions increased by 11 percent."

4. Findings and Results Discussion

Regulated disclosure on SEC filings

The SEC filings analysis uncovered the following major points:

- ✓ The most common form of disclosure was generic boilerplate language, which is inadequate for investment decision-making. Such vague, non-specific information was used on average 48 percent of the time when companies addressed a material topic.

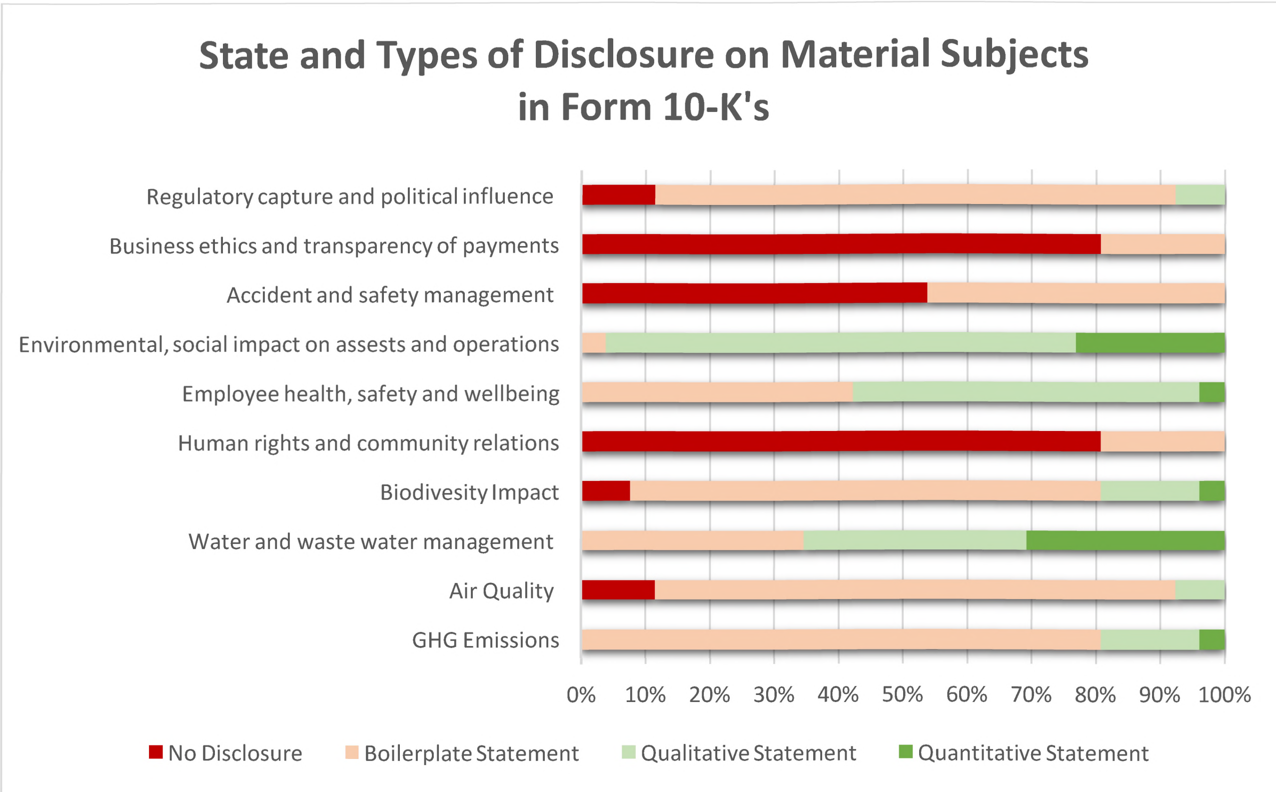
- ✓ Overwhelmingly, companies have recognized the importance of environmental and social impact on assets and operations. 73 percent of companies in the analysis disclosed industry specific information on this material topic in 2016, and 23 percent disclosed quantitative information. For most of the companies, the quantitative information for this specific subject included the costs of cleaning up Superfund sites. Few companies disclosed information about the percentage of recycled water during the last two fiscal years.

- ✓ Water, and waste water management is also a topic that was addressed by many companies in their SEC filings. The study shows that this topic has the highest percentage of quantitative statements, as most companies disclosed the expenses related to the regulations of waste water management, especially the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulation.

- ✓ Business ethics and transparency of payments, and human rights and community relations were the two-material topic that were ignored by most of the analyzed companies. 81 percent of companies did not disclose any information about these two topics, and 19 percent used generic boilerplate language.

- ✓ All of the companies analyzed included some form of disclosure about greenhouse gases emissions, which is a clean indication that E&P companies acknowledge the risk of Climate Change and its impact on their business. Although 81 percent of the companies disclosed only boilerplate statements for this topic, a majority of companies clearly stated that they expect GHG emissions are most probable to have a significant material impact on their business in the future.

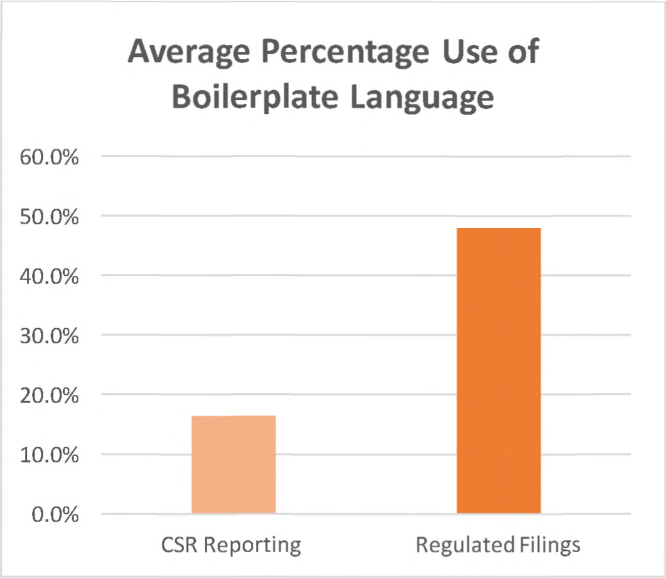
The following graph shows the state of disclosure on material topics in SEC filing according to the study of 2016 SEC filings of 26 Oil & Gas E&P companies:



Voluntary Disclosure on CSR Reports

The CSR reports analysis uncovered the following major points:

- ✓ Unlike regulated reporting where boilerplate language was the dominant form of disclosure, companies tend to avoid using a generic language when it comes to CSR reporting. Boilerplate statements were used on average 16.5 percent in CSR reporting, compared to 48 percent in regulated filings as shown in the following graph:



- ✓ In order to test the significance in difference between the two means, a 2 sided t-test was used on the sample of 26 companies. The test was found to be significant as the t-test result was significantly high (5.11) at a 5% level of confidence.

- ✓ While companies adopt a quantitative, or at least qualitative language in their disclosure, they pick and choose what topic(s) to disclose in their annual report. This is mostly due to the lack of reporting standards which leads to selective disclosure. In addition to the lack of standards, sustainability reports target a wide and diverse range of non-shareholding stakeholders in addition to shareholders. Therefore, a different set of motivations is driving the decision to proceed with such disclosures compared to the set of motivations driving traditional financial reporting.

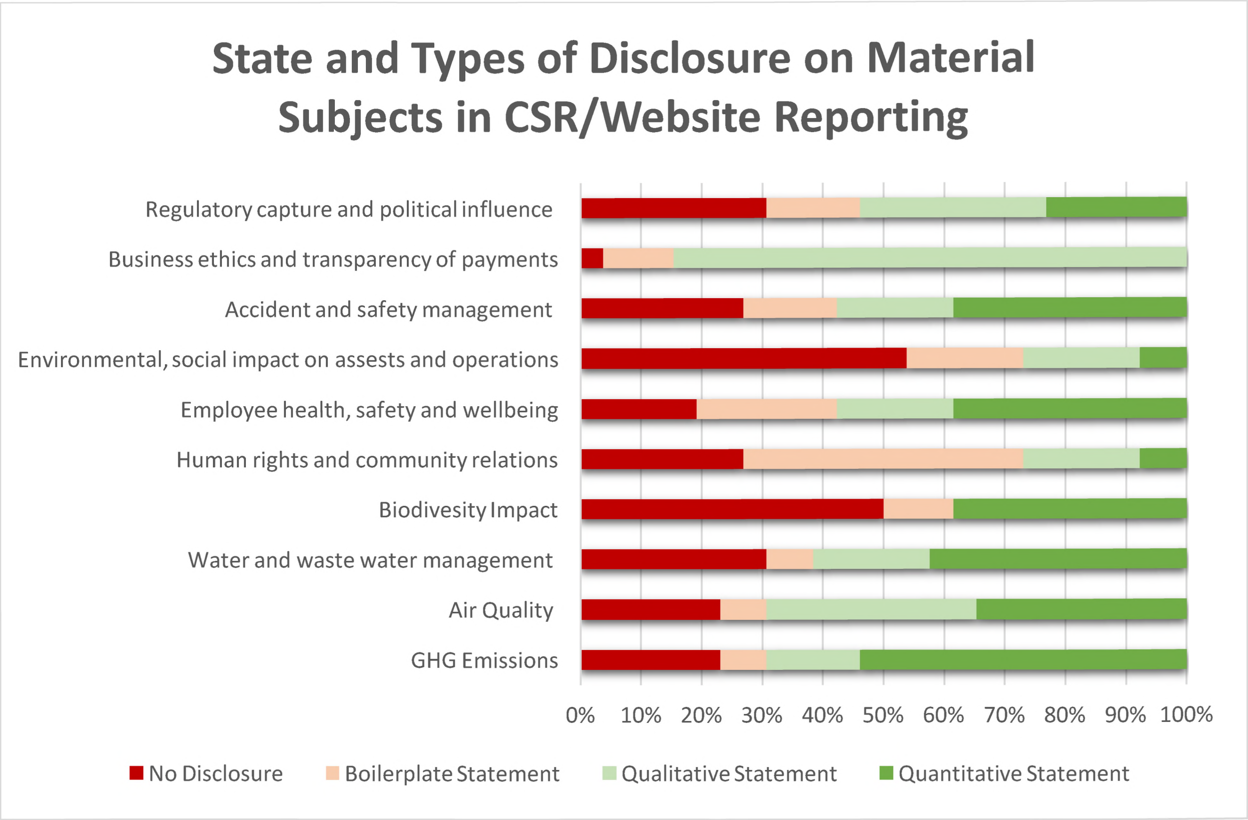
- ✓ While the "No Disclosure" category percentage (30 percent) is relatively higher in CSR reporting, and the disclosure is selective, the quality of information is significantly more detailed. Specifically, 28.5 percent of the analyzed firms disclosed quantitative information, and 26 percent used a qualitative language in their reporting.

- ✓ The analysis indicates that E&P companies support an emphasis on environmental, health, and safety disclosure including safety management, employee health, air quality, water and waste management, biodiversity impact, and GHG emissions which had the highest quantitative disclosure (54 percent).

- ✓ Disclosure on human rights, and the impact on surrounding communities was in 73 percent of the companies either ignored or reported using generic language.

- ✓ The adoption and reporting about the code of ethics and other governance codes by 96 percent of the companies indicates this material topic is not ignored in CSR reporting compared to financial reporting. However, the quality of reporting on business ethics and transparency of payments is still significantly low as long as companies do not report on their proved and probable reserves in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index; an important information source for shareholders.

The following graph shows the state of disclosure on material topics in sustainability reports according to the study of the latest CSR reports of 26 Oil & Gas E&P companies:

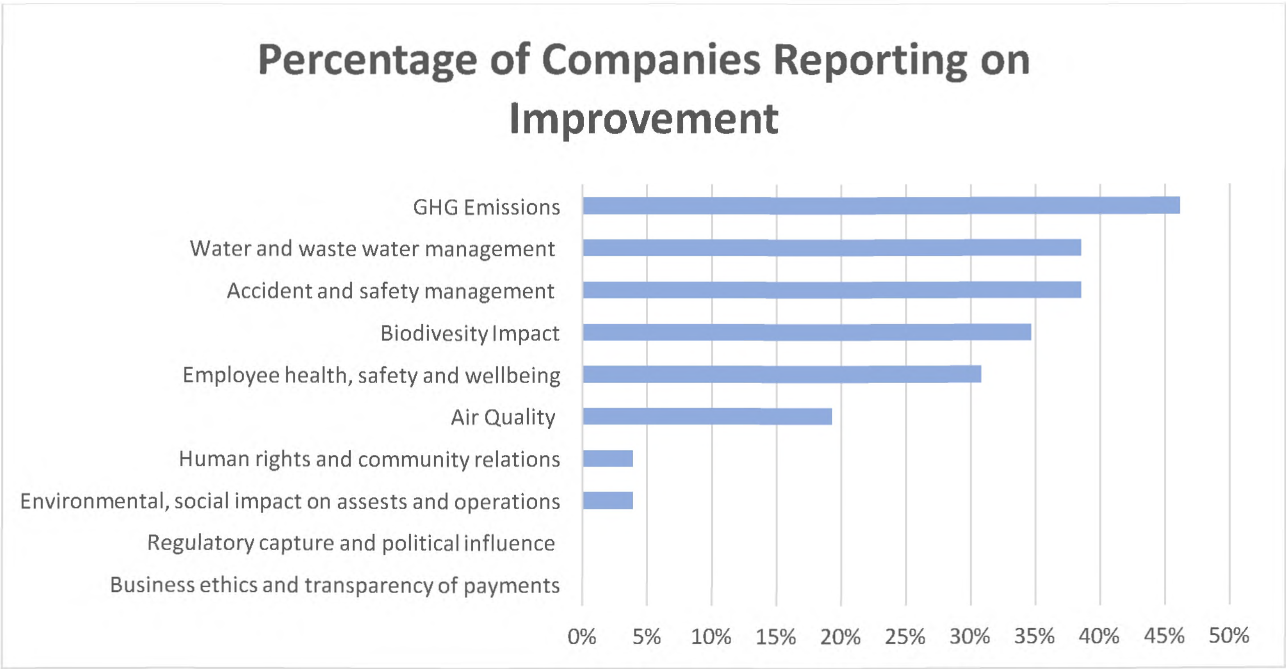


In the previous analysis, I assessed the quality of reporting based on the category of disclosure, considering that a quantitative or qualitative disclosure is an indication for higher quality of reporting. Another quality metric to assess the consistency and seriousness of disclosure is a clear communication of the company's performance and progress against their targets, including data on the baseline date and in the last reporting years.

Disclosing data on the company's progress is paramount because, without this information (e.g. reducing carbon emission levels), such an analysis would lack value for investors and other stakeholders, and could be seen as arbitrary and lacking strategic thought.

Among the 26 companies studied, an average of 21.5 percent publish sufficient information regarding their improvement. However, this seemingly negative result needs to be put into context, given that reporting on environmental and safety issues were between 35 and 57 percent against an average of two percent of reporting on human rights, political influence, ethics and transparency. GHG emissions is the material topic with the highest percentage (46 percent) of reporting on the company's progress. However, more than 80 percent of the reported emissions are limited to scope 1 (direct emissions of the company). Only two companies reported on the three scopes of emissions and three companies reported on both scope 1 and 2 (direct and indirect emissions).

The following graph shows the percentage of companies that report on progress in sustainability reports according to the study of the latest CSR reports of 26 Oil & Gas E&P companies:



5. Conclusion:

Mandated financial reporting and voluntary disclosure are two important tools for disseminating information to stakeholders, and the public which serves an organization's dual purpose of communicating ESG information and being accountable. Despite the increase in the number of such reports, their quality varies significantly. CSR reports do not always provide complete data that shareholders need, which in turn intensifies the problem with the evaluation and comparison of the company's results achieved in this scope.

This paper is an attempt to perform a quantitative and qualitative comparative analysis of corporate sustainability reporting, and regulated reporting practices on ESG material topics. The paper identifies the differences in the quality and level of detail that considers the mandatory and voluntary model of disclosure.

This study included the latest CSR reports, as well as annual 2016 10-K reports of 26 oil and gas companies. This study also used the SASB accounting standards and metrics in the examination of individual reports. It also employed the SASB materiality map to identify the material topics that should be subject of the examination. The following 11 material topics were identified and analyzed:

- Greenhouse Gas Emissions
- Air Quality
- Water and Waste Water Management
- Biodiversity Impact
- Human Rights and Community Relations
- Employee Health, Safety and Wellbeing
- Environmental, Social Impact on Assets and Operations
- Accident and Safety Management
- Business Ethics and Transparency of Payments
- Regulatory Capture and Political Influence

In writing this paper, I have reached a number of conclusions about legal and voluntary disclosure of ESG material issues:

- Companies tend to use generic language in their legal reporting. The study found a significant difference in the average use of boilerplate language in Form 10-K's compared to CSR reports. However, quantitative disclosures in CSR reports are more selective in terms of material topics compared to legal reports where more than 80% of material topics are covered. These two conclusions confirm the practice of selective disclosure by companies in their voluntary reporting.

- Oil and gas E&P companies focus mainly on environmental, health, and safety disclosure in both mandatory and voluntary reports.
- Disclosure on human rights, and the impact on surrounding communities is generally ignored.
- The quality of reporting on business ethics and transparency of payments is significantly low, as it does not include any relevant information for shareholders.
- The level of seriousness of reporting on material topics is very low. This is because most companies don't report their level of progress.
- Companies focus mostly on direct emissions while reporting on GHG emissions.

The findings indicate the level of quality of these reports are generally low, and thus there is significant opportunity for improvement. The relevance of the information provided in the assessed reports is at a higher level than its quality and consistency, which might negatively impact the shareholders' decision-process. Further studies on the impact of selective disclosure on stocks would prove a more accurate answer to this question.

A further characteristic of quality relates to the setting of targets, reporting quantitative data against those targets, and an honest recognition of limitations in the reporting and/or in the environmental performance itself.

Substantial work has already been done in defining quantitative metrics, and qualitative criteria for the material topics. Additional work needs to be done to develop metrics for consistency and seriousness of reporting.

Increased uptake in voluntary reporting, with a move towards mandatory reporting using the SASB accounting metrics, is ultimately necessary to fill varying disclosure needs of the impact investing community and complete the convergence of financial and sustainability reporting.

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